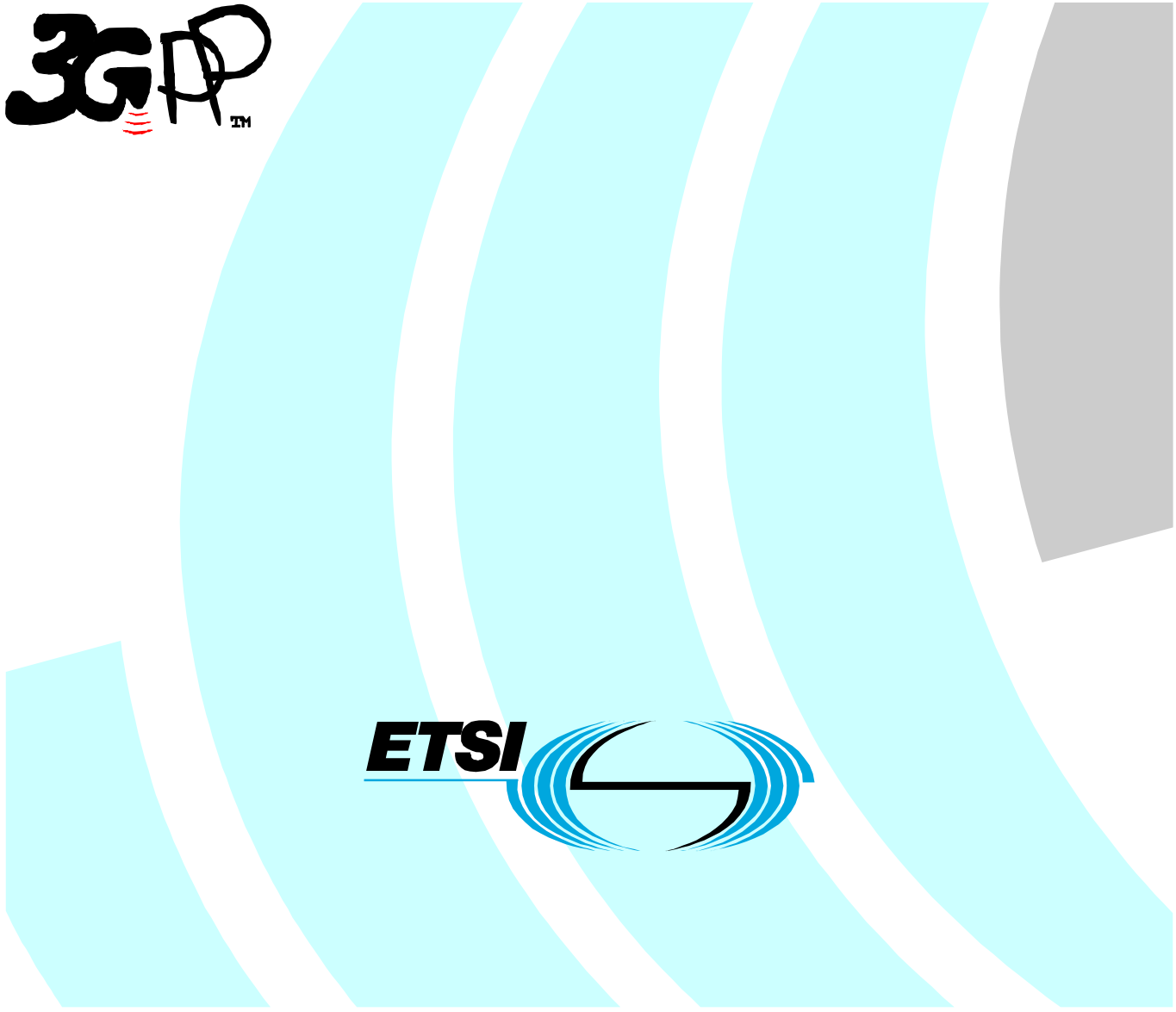
# ETSI TS 134 123-3 V6.2.0 (2007-03)

*Technical Specification*

**Universal Mobile Telecommunications System (UMTS);**
**User Equipment (UE) conformance specification;**
**Part 3: Abstract test suites (ATSs)**
**(3GPP TS 34.123-3 version 6.2.0 Release 6)**



Reference
RTS/TSGR-0534123-3v620

Keywords
UMTS

***ETSI***

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

# Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (http://webapp.etsi.org/IPR/home.asp).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

# Foreword

This Technical Specification (TS) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under http://webapp.etsi.org/key/queryform.asp.

# Contents

Intellectual Property Rights ..... 2
Foreword ..... 2
Foreword ..... 12
Introduction ..... 12
1 Scope ..... 13
2 References ..... 13
3 Definitions and abbreviations ..... 16
3.1 Definitions ..... 16
3.2 Abbreviations ..... 16
4 Requirements on the TTCN development ..... 16
5 ATS structure ..... 17
5.1 Modularity ..... 17
5.1.1 Module structure ..... 18
5.1.2 Contents of the modules ..... 19
5.1.3 Example of a working platform ..... 19
6 Test method and testing architecture ..... 20
6.1 Test method ..... 20
6.2 Testing architecture ..... 21
6.2.1 Lower Tester (LT) ..... 21
6.2.2 Configuration and initialization ..... 21
6.2.3 Upper Tester (UT) ..... 22
6.2.4 TTCN ..... 22
6.2.5 Model extension ..... 22
6.2.6 Multiplexing of RLC services ..... 22
6.3 NAS test method and architecture ..... 22
6.3.1 Test configuration ..... 22
6.3.2 Routing UL NAS massages in SS ..... 23
6.4 RRC and RAB test method and architecture ..... 24
6.4.1 Test configuration ..... 24
6.4.2 RAB test method ..... 25
6.4.2.1 Sending data on the same TTI ..... 25
6.4.2.2 Sending continuous data on consecutive TTIs ..... 25
6.5 RLC test method and architecture ..... 26
6.5.1 Testing architecture ..... 26
6.5.2 Test method ..... 27
6.5.2.1 Handling SUFIs in TTCN ..... 30
6.5.2.2 Void ..... 31
6.6 SMS test method and architecture ..... 31
6.6.1 SMS CS test method and architecture ..... 31
6.6.2 SMS PS test method and architecture ..... 31
6.6.3 SMS Cell broadcasting test method and architecture ..... 31
6.7 MAC test method and architecture ..... 31
6.7.1 Testing architecture ..... 31
6.7.2 Test method ..... 32
6.7.2.1 Abnormal decoding situations ..... 32
6.7.2.2 MAC_es/e test method (Rel-6 or later) ..... 32
6.8 BMC test method and architecture ..... 34
6.8.1 BMC test architecture ..... 34
6.8.2 BMC test method ..... 34
6.9 PDCP test ..... 37
6.9.1 PDCP test architecture ..... 37

6.9.2 PDCP test method ..... 37
6.10 Multi-RAT Handover Test Model ..... 38
6.10.1 Overview ..... 38
6.10.2 ASP function description ..... 39
6.10.2.1 Identities ..... 39
6.10.2.2 Cell configuration and control ..... 39
6.10.2.3 L1 (GERAN) configuration and control ..... 39
6.10.2.3.1 Basic physical channel configuration ..... 40
6.10.2.3.2 Multislot configuration for circuit or packet switched channels ..... 40
6.10.2.3.3 Frame in the near future ..... 41
6.10.2.3.4 L1 header ..... 41
6.10.2.4 L2 configuration and control ..... 41
6.10.2.4.1 Don't response to some handover access bursts ..... 41
6.10.2.4.2 No UA reply to SABM ..... 41
6.10.2.5 System Information sending ..... 41
6.10.2.6 Paging ..... 42
6.10.2.7 Generic procedures for GPRS signalling ..... 42
6.10.2.7.1 GPRS generic attach procedures and ciphering mode control ..... 42
6.10.2.7.2 Cell change order within a TBF ..... 47
6.10.2.8 Generic configuration procedure for GSM ciphering mode control ..... 50
6.10.2.9 L|H bits convention and bit padding in DL ..... 50
6.10.2.9.1 GERAN DL RLC/MAC message bit padding ..... 50
6.10.2.9.2 GSM DL message spare padding ..... 50
6.10.2.9.3 L | H convention in rest octets of GSM DL messages ..... 51
6.10.2.9.4 Spare Bits ..... 51
6.10.2.9.5 GSM System Information messages on SACCH ..... 51
6.10.2.9.6 GSM Measurement Information messages on SACCH ..... 51
6.11 DCH-DSCH model (R99 or Rel-4) ..... 53
6.12 DCH with HS-DSCH model (FDD, Rel-5 or later) ..... 54
6.12a DCH with HS-DSCH model for 1.28 Mcps TDD (Rel-5 or later) ..... 55
6.13 E-DCH model (Rel-6 or later) ..... 55
6.14 MBMS model (Rel-6 or later) ..... 58

7 PCO and ASP definitions ..... 60
7.1 NAS PCO and ASP definitions ..... 60
7.1.1 NAS PCO Definitions ..... 60
7.1.2 Primitives used at Dc PCO ..... 60
7.2 Ut PCO and ASP definitions ..... 61
7.2.1 Ut PCO Declarations ..... 61
7.2.2 Primitives used at Ut PCO ..... 61
7.3 RRC PCO and ASP definitions ..... 62
7.3.1 AM/UM/TM PCO and ASP definitions ..... 62
7.3.1.1 SAP and PCO for data transmission and reception ..... 62
7.3.2 Control PCO and ASP ..... 63
7.3.2.1 SAP and PCO for control primitives transmission and reception ..... 63
7.3.2.2 Control ASP Type Definition ..... 64
7.3.2.2.1 CPHY_AICH_AckModeSet ..... 64
7.3.2.2.2 CPHY_Cell_Config ..... 65
7.3.2.2.3 CPHY_Cell_Release ..... 66
7.3.2.2.3a CPHY_Cell_TimingAdjust ..... 66
7.3.2.2.3b CPHY_Detect_TFCI ..... 66
7.3.2.2.4 CPHY_Ini ..... 67
7.3.2.2.5 CPHY_Cell_TxPower_Modify ..... 68
7.3.2.2.6 CPHY_Frame_Number ..... 68
7.3.2.2.6a CPHY_MBMS_MICH_CFN (Rel-6 or later) ..... 69
7.3.2.2.6b CPHY_MBMS_MICH_q (Rel-6 or later) ..... 69
7.3.2.2.6c CPHY_MBMS_NI (Rel-6 or later) ..... 73
7.3.2.2.7 CPHY_Out_of_Sync ..... 74
7.3.2.2.8 CPHY_PRACH_Measurement ..... 74
7.3.2.2.9 CPHY_RL_Modify ..... 75
7.3.2.2.10 CPHY_RL_Release ..... 76
7.3.2.2.11 CPHY_RL_Setup ..... 77

7.3.2.2.12 CPHY_Sync ....84
7.3.2.2.12a CPHY_HS_DPCCH_AckNack (Rel-5 or later) ....84
7.3.2.2.12b CPHY_HS_DPCCH_CQI (Rel-5 or later) ....85
7.3.2.2.12c CPHY_HS_DSCH_CRC_Mode (Rel-5 or later) ....86
7.3.2.2.13 CPHY_TrCH_Config ....87
7.3.2.2.14a CPHY_ UL_PowerModify ....90
7.3.2.2.14 CPHY_TrCH_Release ....91
7.3.2.2.15 CMAC_BMC_Scheduling ....91
7.3.2.2.16 CMAC_Ciphering_Activate ....92
7.3.2.2.17 CMAC_Config ....93
7.3.2.2.17a CMAC_MAChs_TFRCconfigure (Rel-5 or later) ....96
7.3.2.2.17b CMAC_MACe_Config (Rel-6 or later) ....98
7.3.2.2.17c CMAC_MACe_NodeB_CellMapping (Rel-6 or later) ....99
7.3.2.2.17d CMAC_MACes_Config (Rel-6 or later) ....99
7.3.2.2.17e CMAC_MACe_AG (Rel-6 or later) ....101
7.3.2.2.17f CMAC_MACe_AckNack (Rel-6 or later) ....102
7.3.2.2.17g CMAC_MACe_E_TFC_Restriction (Rel-6 or later) ....102
7.3.2.2.17h CMAC_MACe_RG (Rel-6 or later) ....103
7.3.2.2.17i CMAC_MACes_SI_IND ....104
7.3.2.2.17j CMAC_MACes_SI_Config (Rel-6 or later) ....104
7.3.2.2.17k CMAC_MBMS_ConfigInfo (Rel-6 or later) ....104
7.3.2.2.18 CMAC_PAGING_Config ....105
7.3.2.2.19 CMAC_Restriction ....106
7.3.2.2.20 CMAC_SecurityMode_Config ....107
7.3.2.2.21 CMAC_SequenceNumber ....107
7.3.2.2.22 CMAC_SYSINFO_Config ....107
7.3.2.2.22a CRLC_Bind_TestData_TTI ....108
7.3.2.2.22b CRLC_BindTestDataInOneMAChs_PDU (Rel-5 or later) ....109
7.3.2.2.23 CRLC_Ciphering_Activate ....109
7.3.2.2.24 CRLC_Config ....110
7.3.2.2.25 CRLC_Integrity_Activate ....112
7.3.2.2.26 CRLC_Integrity_Failure ....113
7.3.2.2.26a CRLC_MAC_I_Mode ....113
7.3.2.2.26b CRLC_NotAckNxtRxSDU ....113
7.3.2.2.26c CRLC_ProhibitRLC_Ack ....114
7.3.2.2.27 CRLC_Resume ....114
7.3.2.2.27a CRLC_RRC_MessageSN ....115
7.3.2.2.28 CRLC_SecurityMode_Config ....116
7.3.2.2.28a CRLC_SetRRC_MessageSN ....116
7.3.2.2.28b CRLC_Set_Count_I ....117
7.3.2.2.29 CRLC_SequenceNumber ....117
7.3.2.2.29a CRLC_SendContinuousData_TTI ....118
7.3.2.2.30 CRLC_Status ....119
7.3.2.2.31 CRLC_Suspend ....119
7.3.2.2.31a CRLC_UM_MTCH_Scheduling (Rel-6 or later) ....120
7.3.2.2.32 CBMC_Config ....121
7.3.2.2.32b DEC_PERbitstring ....121
7.3.2.2.33 RLC_TR_DATA ....122
7.3.2.2.34 RLC_AM_DATA ....122
7.3.2.2.34a RLC_UM_ACCESSinfo (Rel-6 or later) ....124
7.3.2.2.34b RLC_UM_CriticalMCCHMsg (Rel-6 or later) ....125
7.3.2.2.35 RLC_UM_DATA ....125
7.3.2.2.35a RLC_UM_MSCH_Msg (Rel-6 or later) ....126
7.3.2.2.36 RLC_TR_MACesDATA_IND (Rel-6 or later) ....127
7.3.2.3 Specific ASP and IE definitions for 1.28 Mcps TDD (Rel-4 or later) ....128
7.3.2.3.1 Specific ASP definitions ....128
7.3.2.3.2 Specific IE definitions ....130
7.3.3 TTCN primitives ....133
7.3.3.1 UTRAN TTCN primitives ....133
7.3.4 GERAN PCO and ASP definitions ....134
7.3.4.1 PCO Type definitions ....134
7.3.4.1.1 PCO type for data transmission and reception in GERAN ....134

7.3.4.1.2 PCO type for configuration and control in GERAN....134
7.3.4.2 PCO definitions....134
7.3.4.2.1 PCOs for data transmission and reception in GERAN....134
7.3.4.2.2 PCOs for control primitives transmission and reception in GERAN....135
7.3.4.3 GERAN ASP Definitions....136
7.3.4.3.1 ASPs for data transmission and reception in GERAN....136
7.3.4.3.2 ASPs for control primitive transmission and reception in GERAN....149
7.3.5 A-GPS Upper tester, PCO and ASP definitions....167
7.3.5.1 Upper tester....167
7.3.5.2 SV PCO....167
7.3.5.3 A-GPS Primitives....167
7.3.5.3.1 Control ASP Type Definition....168
7.3.5.3.2 Data ASP Type Definition....168

8 Design Considerations....170
8.1 Channel mapping....170
8.2 Channel and RB identity....170
8.2.1 Physical channels....174
8.2.2 Transport channels....176
8.2.3 Logical Channels....176
8.2.4 Radio bearers....177
8.2.5 Scrambling and channelization codes....179
8.2.6 MAC-d....182
8.2.6.1 MAC-d configuration examples....182
8.2.7 Configuration of compressed mode....183
8.2.7.1 UE Side....183
8.2.7.2 SS Side....183
8.2.8 Use of U-RNTI and C-RNTI....183
8.3 Channels configurations....184
8.3.1 Configuration of Cell_FACH....184
8.3.2 Configuration of Cell_DCH_StandAloneSRB....185
8.3.3 Configuration of Cell_DCH_Speech....186
8.3.4 Configuration of Cell_DCH_64kCS_RAB_SRB....186
8.3.5 Configuration of Cell_DCH_57_6kCS_RAB_SRB....188
8.3.6 Configuration of Cell_RLC_DCH_ RAB....189
8.3.7 Configuration of Cell_FACH_BMC....190
8.3.8 Configuration of PS Cell_DCH_64kPS_RAB_SRB and Cell_PDCP_AM_RAB....191
8.3.9 Configuration of Cell_Two_DTCH....191
8.3.10 Configuration of Cell_Single_DTCH (CS)....192
8.3.11 Configuration of PS Cell_PDCP_UM_RAB....193
8.3.12 Configuration of PS Cell_PDCP_AM_UM_RAB....193
8.3.13 Configuration of Cell_2SCCPCH_BMC....194
8.3.14 Configuration of Cell_Four_DTCH_CS_PS, Cell_Four_DTCH_PS_CS....195
8.3.15 Configuration of Cell_Two_DTCH_CS_PS, Cell_Two_DTCH_PS_CS....196
8.3.16 Configuration of Cell_Four_DTCH_CS....198
8.3.17 Configuration of Cell_DCH_MAC_SRB....199
8.3.18 Configuration of Cell_FACH_MAC_SRB....200
8.3.19 Configuration of Cell_FACH_MAC_SRB0....201
8.3.20 Configuration of Cell_FACH_2_SCCPCH_StandAlonePCH....202
8.3.21 Configuration of PS Cell_DCH_2AM_PS....202
8.3.22 Configuration of PS Cell_DCH_2_PS_Call....203
8.3.23 Configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg1....204
8.3.24 Configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg2....205
8.3.25 Configuration of Cell_FACH_3_SCCPCH_3_FACH_CTCH....206
8.3.26 Configuration of PS Cell_DCH_DSCH_PS_RAB....207
8.3.27 Configuration of Cell_DCH_DSCH_CS_PS....207
8.3.28 Configuration of Cell_FACH_2_SCCPCH_StandAlonePCH_2a....208
8.3.29 Configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1....209
8.3.30 Configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2....209
8.3.31 Configuration of Cell_FACH_3_SCCPCH_3_FACH_CTCH_2a....210
8.3.32 Configuration of Cell_DCH_HS_DSCH (Rel-5 or later)....211
8.3.33 Configuration of cell_One_DTCH_HS_DSCH_MAC (Rel-5 or later)....212

8.3.34 Configuration of Cell_ 2UM_3AM_DCH_HS_DSCH (Rel-5 or later) ....212
8.3.35 Configuration of Cell_DCH_Speech_WAMR (Rel-5 or later)....213
8.3.36 Configuration of PS Cell_Four_DTCH_HS_CS and Cell_Four_DTCH_CS_HS (Rel-5 or later) ....214
8.3.37 Configuration of PS Cell_Two_DTCH_HS_CS (Rel-5 or later)....215
8.3.38 Configuration of PS Cell_DCH_64kPS_RAB_SRB_HS (Rel-5 or later) ....215
8.3.39 Configuration of PS Cell_DCH_2AM_HS_DSCH (Rel-5 or later) ....216
8.3.40 Configuration of Cell_Three_DTCH_5SRB (Rel-5 or later)....217
8.3.41 Configuration of Cell_Five_DTCH_CS_HS (Rel-5 or later) ....218
8.3.42 Configuration of Cell_DCH_E_HS (Rel-6 or later) ....218
8.3.43 Configuration of Cell_DCH_dlSRB_E_HS (Rel-6 or later)....219
8.3.44 Configuration of Cell_E_HS (Rel-6 or later)....219
8.3.45 Configuration of PS Cell_Four_DTCH_E_HS_CS and Cell_Four_DTCH_CS_E_HS (Rel-6 or later) ..220
8.3.46 Configuration of Cell_2DCH_2AM_dlSRB_E_HS (Rel-6 or later) ....220
8.3.47 Configuration of Cell_E_HS_MAC_TM_RAB (Rel-6 or later)....221
8.3.48 Configuration of Cell_2DCH_MAC_2TM_dlSRB_E_HS (Rel-6 or later)....222
8.3.49 Configuration of Cell_2DCH_1AM_1UM_E_HS (Rel-6 or later)....223
8.3.50 Configuration of Cell_3DCH_2AM_1UM_E_HS (Rel-6 or later)....223
8.3.51 Configuration of Cell_Four_DTCH_CS_E_HS_5SRB (Rel-6 or later)....224
8.3.52 Configuration of Cell_Four_DTCH_HS_5SRB (Rel-5 or later) ....224
8.4 System information blocks scheduling....226
8.4.1 Grouping SIBs for testing....226
8.4.2 SIB configurations....226
8.4.3 Test SIB default schedule ....227
8.4.3.1 Test SIB schedule for idle mode, measurement and Inter-RAT UTRAN to GERAN test cases ....227
8.4.4 Test SIB special schedule ....228
8.4.4.1 Test SIB schedule for two S-CCPCH or two PRACH ....228
8.4.4.2 Test SIB schedule for Inter-Rat Handover from GERAN to UTRAN Test....229
8.4.5 Handling the transmission of SIB....229
8.4.5.1 Delivery of System Information content....230
8.4.5.2 Scheduling of system Information blocks....230
8.4.5.3 Example of usage....230
8.5 Security in testing....231
8.5.1 Authentication....231
8.5.2 Ciphering ....231
8.5.3 Integrity ....233
8.5.4 Test security scenarios....233
8.5.4.1 Start security function ....234
8.5.4.1.1 Start integrity protection without start of ciphering....234
8.5.4.1.2 Start both integrity protection and ciphering ....234
8.5.4.1.3 Void....235
8.5.4.2 RB setup....235
8.5.4.2.1 AM / UM RB....235
8.5.4.2.2 TM RB....236
8.5.4.3 RB Reconfiguration for AM RAB modification of RLC size....236
8.5.4.3.1 "RB mapping info" in CELL UPDATE CONFIRM ....237
8.5.4.3.2 "RB mapping info" in RB RECONFIGURATION / RELEASE ....237
8.5.4.4 Security modification....237
8.5.4.4.1 Integrity started, ciphering not started....237
8.5.4.4.2 Integrity and ciphering started....238
8.5.4.5 SRNS relocation....239
8.5.4.5.1 Void....239
8.5.4.5.2 Presence of "Integrity protection mode info" but absence of "Ciphering mode info" ....239
8.5.4.5.3 Presence of "Integrity protection mode info" and "Ciphering mode info" IE ....242
8.5.4.6 CELL/URA update....245
8.5.4.6.1 RLC re-establish (RB2, RB3, RB4) ....245
8.5.4.6.2 RLC re-establish (RAB) ....245
8.5.4.7 Inter RAT handover to UTRAN....245
8.5.4.7.1 ciphering has not been activated....245
8.5.4.7.2 ciphering has been activated....246
8.5.4.8 Hard handover....246
8.5.5 Test USIM configurations ....247
8.5.5.1 Test USIM for Idle mode tests ....247

8.6 Downlink power setting in SS ..... 249
8.7 Test suite operation definitions ..... 250
8.7.1 Test suite operation definitions in the module BasicM ..... 250
8.7.1.1 Specific test suite operation for RLC defined in BasicM ..... 261
8.7.1.1.1 Pseudocode in a C like notation ..... 261
8.7.2 Specific test suite operation definitions for Multi RAT Handover testing ..... 263
8.7.3 Specific test suite operation for Multi RAB testing ..... 265
8.7.4 Specific test suite operation for InterSystem Handover testing ..... 266
8.7.5 Specific test suite operation for RAB_HS testing ..... 267
8.7.6 Specific test suite operation for Intersystem HS Testing ..... 268
8.7.7 Specific test suite operation for A-GPS testing ..... 269
8.7.8 Specific test suite operation for E-DCH Testing ..... 272
8.7.9 Specific test suite operation for E-DCH and MBMS testing ..... 272
8.8 AT commands ..... 272
8.8.1 AT command lists in ATSs ..... 273
8.8.1.1 AT commands in IR_U ATS: ..... 273
8.8.1.2 AT commands in MAC and RLC ATS: ..... 273
8.8.1.3 AT commands in NAS ATS: ..... 274
8.8.1.4 AT commands in RAB ATS: ..... 275
8.8.1.5 AT commands in RRC ATS: ..... 275
8.8.1.6 AT commands SMS ATS: ..... 276
8.8.1.7 AT commands in HSDPA ATS (Rel-5 or later): ..... 277
8.8.1.8 AT commands for E-DCH testing (Rel-6 or later) ..... 277
8.8.2 AT Command Handling in TTCN ..... 277
8.8.2.1 AT Command Interface ..... 277
8.8.2.2 AT Command Dialogues ..... 278
8.8.2.3 AT Response Types ..... 278
8.8.2.3.1 'OK' Response ..... 278
8.8.2.3.2 Name String ..... 278
8.8.2.3.3 Error strings ..... 278
8.8.2.4 AT Command Parameters And Options ..... 278
8.9 Bit padding ..... 279
8.9.1 Requirements for implementation ..... 279
8.10 Test PDP contexts ..... 279
8.10.1 Mapping of Quality of service and AT command for HSDPA testing ..... 280
8.10.2 Mapping of Quality of service and AT command for E-DCH testing ..... 281
8.11 DCH-DSCH Configurations ..... 281
8.11a DCH with HS-DSCH Configurations (Rel-5 or later) ..... 282
8.11b HS-DSCH Configuration Verification ..... 284
8.12 Pre- and postambles for GERAN to UTRAN tests ..... 284
8.12.1 Preamble for GERAN to UTRAN tests ..... 284
8.12.2 Postamble for GERAN to UTRAN tests ..... 284
8.12.2.1 GERAN to UTRAN handover in CS ..... 284
8.12.2.2 GERAN to UTRAN cell change in PS (in PMM-CONNECTED) ..... 286
8.12.2.3 GERAN to UTRAN DTM test cases ..... 286
8.13 E-DCH configurations (Rel-6 or later) ..... 287
8.13.1 DPCH (SRB) and E-DCH (RAB) configuration ..... 287
8.13.1.1 Serving E-DCH cell ..... 287
8.13.1.2 SHO - addition of E-DCH RL in a serving RL cell (intra node B) ..... 290
8.13.1.3 SHO – addition of E-DCH RL in a non-serving RL cell (inter node B) ..... 290
8.13.2 DPCH/HS-DSCH/E-DCH setup and release order ..... 291
8.14 Guidelines of MBMS implementations ..... 292
8.14.1 MCCH scheduling implementation ..... 292
8.14.2 MSCH scheduling and service data on MTCH ..... 293

**Annex A (normative): Abstract Test Suites (ATS) ..... 295**

A.1 Version of specifications ..... 295

A.2 NAS ATS ..... 295
A.2.1 The TTCN Graphical form (TTCN.GR) ..... 298
A.2.2 The TTCN Machine Processable form (TTCN.MP) ..... 298

A.3 SMS ATS ..... 298
A.3.1 The TTCN Graphical form (TTCN.GR) ..... 298
A.3.2 The TTCN Machine Processable form (TTCN.MP) ..... 298

A.4 RRC ATS ..... 299
A.4.1 The TTCN Graphical form (TTCN.GR) ..... 302
A.4.2 The TTCN Machine Processable form (TTCN.MP) ..... 302

A.5 RLC ATS ..... 303
A.5.1 The TTCN Graphical form (TTCN.GR) ..... 303
A.5.2 The TTCN Machine Processable form (TTCN.MP) ..... 303

A.6 MAC ATS ..... 304
A.6.1 The TTCN Graphical form (TTCN.GR) ..... 304
A.6.2 The TTCN Machine Processable form (TTCN.MP) ..... 304

A.7 BMC ATS ..... 304
A.7.1 The TTCN Graphical form (TTCN.GR) ..... 304
A.7.2 The TTCN Machine Processable form (TTCN.MP) ..... 304

A.8 PDCP ATS ..... 304
A.8.1 The TTCN Graphical form (TTCN.GR) ..... 305
A.8.2 The TTCN Machine Processable form (TTCN.MP) ..... 305

A.9 RAB ATS ..... 306
A.9.1 The TTCN Graphical form (TTCN.GR) ..... 307
A.9.2 The TTCN Machine Processable form (TTCN.MP) ..... 307

A.10 IR_U ATS ..... 308
A.10.1 The TTCN Graphical form (TTCN.GR) ..... 308
A.10.2 The TTCN Machine Processable form (TTCN.MP) ..... 308

A.11 AGPS ATS ..... 309
A.11.1 The TTCN Graphical form (TTCN.GR) ..... 309
A.11.2 The TTCN Machine Processable form (TTCN.MP) ..... 309

A.12 HSD_ENH ATS ..... 310
A.12.1 The TTCN Graphical form (TTCN.GR) ..... 312
A.12.2 The TTCN Machine Processable form (TTCN.MP) ..... 312

A.13 HSU_ENH ATS ..... 313
A.13.1 The TTCN Graphical form (TTCN.GR) ..... 313
A.13.2 The TTCN Machine Processable form (TTCN.MP) ..... 314

**Annex B (normative): Partial IXIT proforma ..... 315**

B.0 Introduction ..... 315

B.1 Parameter values ..... 315
B.1.1 BasicM test suite parameter declarations ..... 315
B.1.2 L3M test suite parameters declarations ..... 318
B.1.3 NAS test suite parameters declarations ..... 319
B.1.4 SMS test suite parameters declarations ..... 320
B.1.5 RRC_M test suite parameters declarations ..... 321
B.1.6 PDCP test suite parameters declarations ..... 321
B.1.7 BMC test suite parameters declarations ..... 323
B.1.8 RRC test suite parameters declarations ..... 323
B.1.9 RAB test suite parameters declarations ..... 323
B.1.10 RLC and MAC test suite parameters declarations ..... 324
B.1.11 Multi RAT test suite parameters declarations ..... 325
B.1.12 MMI questions ..... 325
B.1.13 A-GPS test suite parameters declarations ..... 327
B.1.14 HSD_ENH test suite parameters declarations ..... 328

**Annex C (informative): Additional information to IXIT ..... 329**

C.1 Identification Summary ..... 329

C.2 Abstract Test Suite Summary ..... 329
C.3 Test Laboratory ..... 329
C.3.1 Test Laboratory Identification ..... 329
C.3.2 Accreditation status of the test service ..... 330
C.3.3 Manager of Test Laboratory ..... 330
C.3.4 Contact person of Test Laboratory ..... 330
C.3.5 Means of Testing ..... 330
C.3.6 Instructions for Completion ..... 331
C.4 Client ..... 332
C.4.1 Client Identification ..... 332
C.4.2 Client Test Manager ..... 332
C.4.3 Client Contact person ..... 332
C.4.4 Test Facilities Required ..... 332
C.5 System Under Test ..... 333
C.5.1 SUT Information ..... 333
C.5.2 Limitations of the SUT ..... 333
C.5.3 Environmental Conditions ..... 334
C.6 Ancillary Protocols ..... 335
C.6.1 Ancillary Protocols 1 ..... 335
C.6.2 Ancillary Protocols 2 ..... 335
**Annex D (informative): PCTR Proforma ..... 336**
**Annex E (informative): TTCN style guide for 3GPP ATS ..... 337**
E.1 Introduction ..... 337
E.2 ETR 141 rules and applicability ..... 337
E.2.1 Multiple words are separated by upper case letters at the start of each word ..... 338
E.2.2 Identifiers shall be protocol standard aligned ..... 339
E.2.3 Identifiers shall be distinguishing (use of prefixes) ..... 340
E.2.4 Identifiers should not be too long (use standard abbreviations) ..... 342
E.2.5 Test suite operations must not use global data ..... 345
E.3 3GPP ATS implementation guidelines ..... 348
E.3.1 Test case groups shall reflect the TSS&TP document ..... 349
E.3.2 Test case names correspond to the clause number in the prose ..... 349
E.3.3 Use standard template for test case and test step header ..... 349
E.3.4 Do not use identical tags in nested CHOICE constructions ..... 350
E.3.5 Incorrect usage of enumerations ..... 351
E.3.6 Structured type as OCTETSTRING should not be used ..... 351
E.3.7 Wildcards in PDU constraints for structured types should not be used ..... 351
E.3.8 TSOs should be passed as many parameters as meaningful to facilitate their implementation ..... 352
E.3.9 Specification of Encoding rules and variation should be indicated ..... 352
E.3.10 Use of global data should be limited ..... 353
E.3.11 Limit ATS scope to a single layer / sub-layer ..... 353
E.3.12 Place system information in specially designed data structures ..... 353
E.3.13 Place channel configuration in specially designed data structures ..... 353
E.3.14 PICS / PIXIT parameters ..... 353
E.3.15 Dynamic vs. static choices ..... 354
E.3.16 Definition of Pre-Ambles and Post Ambles ..... 354
E.3.17 Use test steps to encapsulate AT and MMI commands ..... 355
E.3.18 Use system failure guard timers ..... 355
E.3.19 Mapping between prose specification and individual test cases ..... 355
E.3.20 Verdict assignment ..... 355
E.3.20.1 General ..... 355
E.3.20.2 Test cases ..... 356
E.3.20.3 Test steps ..... 357
E.3.20.4 Defaults ..... 358
E.3.21 Test suite and test case variables ..... 358

E.3.22 Use of macros is forbidden ..... 359
E.3.23 Support for future Radio Access Technologies ..... 359
E.3.24 Managing multiple representations of the same information ..... 359
E.3.24.1 Predefined types ..... 359
E.3.24.2 Simple types ..... 360
E.3.24.3 Structured types ..... 360
E.3.24.4 Conversion responsibility ..... 360
E.3.24.5 Option 1: Calling party conversions ..... 360
E.3.24.5.1 Advantages ..... 360
E.3.24.5.2 Disadvantages ..... 361
E.3.24.6 Option 2: Called party conversions ..... 361
E.3.24.6.1 Advantages ..... 361
E.3.24.6.2 Disadvantages ..... 361
E.3.25 Assignment using constraint ..... 361
E.3.26 Guidelines for use of timers when tolerances are applicable ..... 361
E.3.26.1 Specific situations ..... 361
E.3.26.2 Example situations ..... 361
E.3.26.2.1 Example of situation 1 ..... 362
E.3.26.2.2 Example of situation 2 ..... 362
E.3.26.2.3 Example of situation 3 ..... 363

**Annex F (informative): Void ..... 364**

**Annex G (informative): Recommendation of an unique ICS/IXIT electronic exchange format ..... 365**

G.1 Syntax ..... 365

G.2 Examples ..... 366

**Annex H (informative): A-GPS ASN.1 module ..... 367**

**Annex I (Informative): Guidance on test execution ..... 375**

I.1 Guidelines on CS/PS domain execution ..... 375
I.1.1 L2 test ..... 375
I. 1.2 RRC test ..... 375
I.1.3 RAB, NAS, SMS, A-GPS and Idle Mode Tests ..... 375
I.1.4 InterRAT test ..... 375

I.2 FDD Band VI test execution ..... 376

I.3 Inter band HO test execution ..... 376

**Annex J (informative): Change history ..... 377**

History ..... 408

# Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

# Introduction

The present document is part 3 of a multi-part conformance test specification for UE. The specification contains a TTCN2 design frame work and the detailed test specifications in TTCN for UE at the Uu interface.

3GPP TS 34.123-1 [1]: "User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".

3GPP TS 34.123-2 [2]: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".

**3GPP TS 34.123-3: "Abstract Test Suite (ATS)". (the current document)**

# 1 Scope

The present document specifies the protocol conformance testing in TTCN for the 3GPP User Equipment (UE) at the Uu interface.

The present document is the 3rd part of a multi-part test specification, 3GPP TS 34.123. The following TTCN test specification and design considerations can be found in the present document:

- the overall test suite structure;
- the testing architecture;
- the test methods and PCO definitions;
- the test configurations;
- the design principles, assumptions, and used interfaces to the TTCN tester (System Simulator);
- TTCN styles and conventions;
- the partial PIXIT proforma;
- the TTCN.MP and TTCN.GR forms for the mentioned protocols tests.

The Abstract Test Suites designed in the document are based on the test cases specified in prose (3GPP TS 34.123-1 [1]).

The present document is valid for UE implemented according to 3GPP Release 1999, 3GPP Release 4, 3GPP Release 5 or 3GPP Release 6.

# 2 References

The following documents contain provisions, which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.
  - For a Release 1999 UE, references to 3GPP documents are to version 3.x.y, when available.
  - For a Release 4 UE, references to 3GPP documents are to version 4.x.y, when available.
  - For a Release 5 UE, references to 3GPP documents are to version 5.x.y, when available.
  - For a Release 6 UE, references to 3GPP documents are to version 6.x.y, when available.

[1] 3GPP TS 34.123-1: "User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".

[2] 3GPP TS 34.123-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".

[3] 3GPP TS 34.108: "Common test environments for User Equipment (UE) conformance testing".

[4] 3GPP TS 34.109: "Terminal logical test interface; Special conformance testing functions".

[5] 3GPP TR 21.905: "Vocabulary for 3GPP specifications".

[6] 3GPP TS 23.003: "Numbering, addressing and identification".

[7] 3GPP TS 23.101: "General UMTS architecture".

[8] 3GPP TS 24.007: "Mobile radio interface signalling layer 3; General aspects".

[9] 3GPP TS 24.008: "Mobile radio interface layer 3 specification; Core network protocols; Stage 3".

[10] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[11] 3GPP TS 24.012: "Short Message Service Cell Broadcast (SMSCB) support on the mobile radio interface".

[12] 3GPP TS 25.214: "Physical layer procedures (FDD)".

[13] 3GPP TS 25.224: "Physical layer procedures (TDD)".

[14] 3GPP TS 25.301: "Radio interface protocol architecture".

[15] 3GPP TS 25.303: "Interlayer procedures in connected mode".

[16] 3GPP TS 25.304: "User Equipment (UE) procedures in idle mode and procedures for cell reselection in connected mode".

[17] 3GPP TS 25.321: "Medium Access Control (MAC) protocol specification".

[18] 3GPP TS 25.322: "Radio Link Control (RLC) protocol specification".

[19] 3GPP TS 25.323: "Packet Data Convergence Protocol (PDCP) specification".

[20] 3GPP TS 25.324: "Broadcast/Multicast Control (BMC)".

[21] 3GPP TS 25.331: "Radio Resource Control (RRC) protocol specification".

[22] 3GPP TS 27.005: "Use of Data Terminal Equipment - Data Circuit terminating Equipment (DTE-DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)".

[23] 3GPP TS 27.007: "AT command set for 3G User Equipment (UE)".

[24] 3GPP TS 27.060: "Packet domain; Mobile Station (MS) supporting Packet Switched services".

[25] 3GPP TS 33.102: "3G security; Security architecture".

[26] 3GPP TS 51.010-1: "Mobile Station (MS) conformance specification; Part 1: Conformance specification".

[27] ETSI TR 101 666 (V1.0.0): "Information technology; Open Systems Interconnection Conformance testing methodology and framework; The Tree and Tabular Combined Notation (TTCN) (Ed. 2++)".

[28] ITU-T Recommendation X.691 (1997) "Information technology - ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)".

[29] ISO/IEC 8824 (all parts): "Information technology - Abstract Syntax Notation One (ASN.1)".

[30] IETF RFC 2507: "IP Header Compression".

[31] 3GPP TS 45.002: "Multiplexing and multiple access on the radio path".
3GPP TS 05.02: "Digital cellular telecommunications system (Phase 2+); Multiplexing and multiple access on the radio path".

[32] 3GPP TS 44.060: "General Packet Radio Service (GPRS); Mobile Station (MS) - Base Station System (BSS) interface; Radio Link Control/Medium Access Control (RLC/MAC) protocol".
3GPP TS 04.60: "Digital cellular telecommunications system (Phase 2+); General Packet Radio Service (GPRS); Mobile Station (MS) - Base Station System (BSS) interface; Radio Link Control/Medium Access Control (RLC/MAC) protocol".

[33] 3GPP TS 44.064: "Mobile Station - Serving GPRS Support Node (MS-SGSN) Logical Link Control (LLC) layer specification".

[34] 3GPP TS 23.038: "Alphabets and language-specific information".

[35] 3GPP TS 23.040: "Technical realization of Short Message Service (SMS)".

[36] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".

[37] ETSI ETR 141: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; The Tree and Tabular Combined Notation (TTCN) style guide".

[38] ETSI TR 101 101: "Methods for Testing and Specification (MTS); TTCN interim version including ASN.1 1994 support [ISO/IEC 9646-3] (Second Edition Mock-up for JTC1/SC21 Review)".

[39] ITU-T Recommendation X.680: "Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation".

[40] 3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".

[41] ISO/IEC 9646 (all parts): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework".

[42] 3GPP TS 44.006: "Mobile Station - Base Stations System (MS - BSS) Interface Data Link (DL) layer specification".

[43] 3GPP TS 44.018: "Mobile radio interface layer 3 specification; Radio Resource Control (RRC) protocol".
3GPP TS 04.18: "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 specification; Radio Resource Control (RRC) protocol".

[44] 3GPP TR 25.925: "Radio interface for Broadcast/Multicast Services".

[45] ITU-T Recommendation O.153: "Basic parameters for the measurement of error performance at bit rates below the primary rate".

[46] IETF RFC 1144: "Compressing TCP/IP headers for low-speed serial links".

[47] ITU-T Recommendation V.42bis: "Data compression procedures for data circuit-terminating equipment (DCE) using error correction procedures".

[48] ITU-T Recommendation V.44: "Data compression procedures".

[49] 3GPP TS 44.008: "Mobile radio interface layer 3 specification".
3GPP TS 04.08: "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 specification".

[50] 3GPP TS 24.080: "Mobile radio interface layer 3 supplementary services specification; Formats and coding"

[51] 3GPP TS 29.002: "Mobile Application Part (MAP) specification"

[52] ITU-T Recommendation Q.773: "Signalling System No. 7 - Transaction Capabilities Formats and Encoding"

[53] ITU-T Recommendation X.880: "Information Technology - Remote Operations: Concepts, Model and Notation"

# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 34.123-1 [1] apply.

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TS 34.123-1 [1], 3GPP TS 24.008 [9], 3GPP TS 25.331 [21] and TR 101 666 [27] apply.

# 4 Requirements on the TTCN development

A number of requirements are identified for the development and production of TTCN specification for 3GPP UE at Uu interface.

1. Top-down design, following 3GPP TS 34.123-1 [1], 3GPP TS 34.108 [3] and 3GPP TS 34.109 [4].
2. A unique testing architecture and test method for testing all protocol layers of UE.
3. Uniform TTCN style and naming conventions.
4. Improve TTCN readability.
5. Using TTCN-2++ (TR 101 666 [27]) for R99, Release 4, Release 5 and Release-6, avoid the use of the TTCN 2 features TTCN 3 does not support.
6. TTCN specification feasible, implementable and compilable.
7. Test cases shall be designed in a way for easily adaptable, upwards compatible with the evolution of the 3GPP core specifications and the future Releases.
8. The test declarations, data structures and data values shall be largely reusable.
9. Modularity and modular working method.
10. NAS ATS should be designed being independent from the radio access technologies.
11. Minimizing the requirements of intelligence on the emulators of the lower testers. Especially the functionality of the RRC emulator in the TTCN tester should be reduced and simplified, the behaviours should be standardized as the TTCN RRC test steps in the TTCN modular library.
12. Giving enough design freedom to the test equipment manufacturers.
13. Maximizing reuse of ASN.1 definitions from the relevant core specifications.

In order to fulfil these requirements and to ensure the investment of the test equipment manufacturers having a stable testing architecture for a relatively long period, a unique testing architecture and test method are applied to the 3GPP UE protocol tests.

# 5 ATS structure

The total TTCN specification for the UE testing is structured in a number of separate layered ATSs. The number of ATS being produced corresponds to the number of the 3GPP core specifications referred. The separation of ATSs reduces the size of ATSs. The layer-specific test preambles and test data can be confined to one test suite and parallel development of test suites can be facilitated. The separation of ATSs enables also easily to follow the evolution of the core specifications.

- NAS ATSs:
  1) GSM MAP L3 ATS including MM, CC, GMM, SM test groups;
  2) SMS ATS;
  3) A-GPS ATS
- AS ATSs:
  1) RRC ATS including Singlecell and multicell test group;
  2) RLC ATS;
  3) MAC ATS;
  4) BMC ATS;
  5) PDCP ATS;
  6) RAB ATS;
  7) IR_U ATS
  8) HSD_ENH ATS (Rel-5 or later)
  9) HSU_ENH ATS (Rel-6 or later).

## 5.1 Modularity

The modular TTCN approach is used for the development of the 3GPP ATS specification work. Three modules, BasicM, RRC_M and L3M are installed.

### 5.1.1 Module structure

The module structure is shown in figure 1.

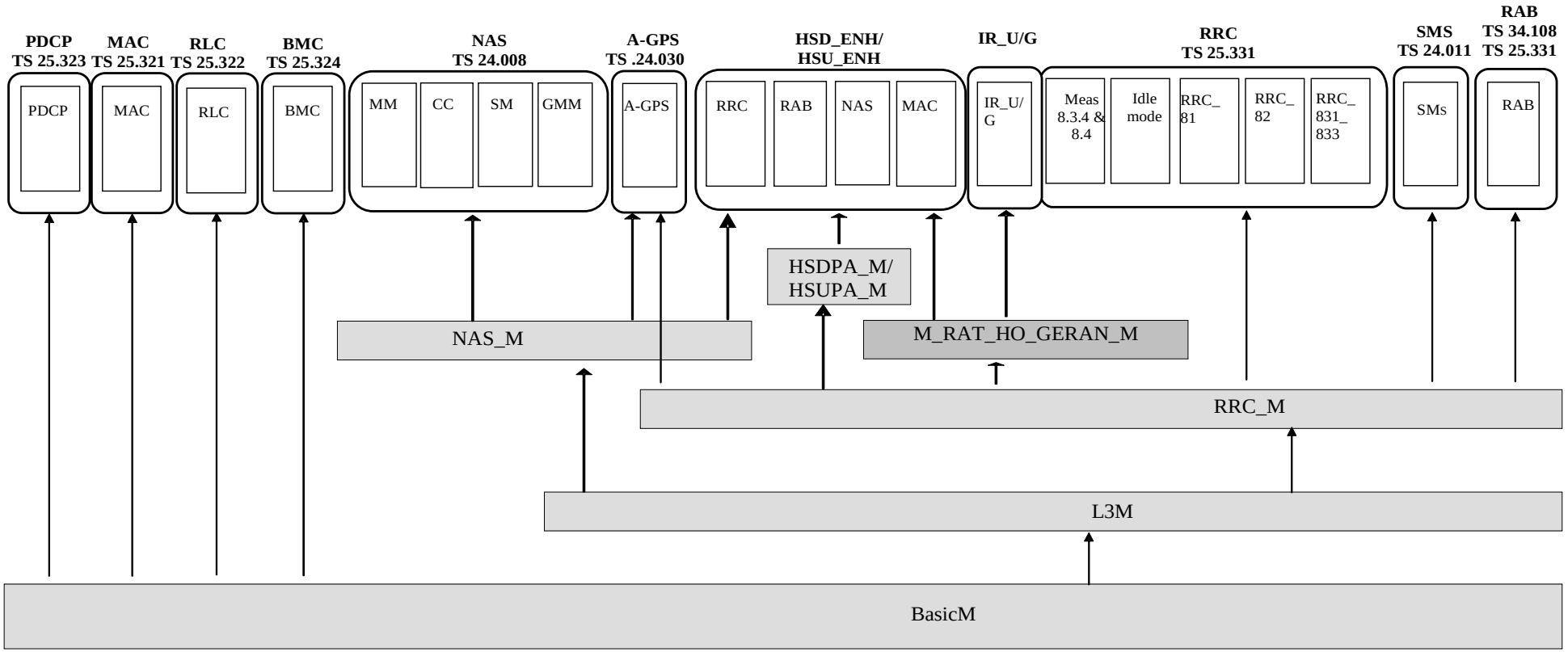



**Figure 1: Module structure**

The BasicM (**Basic M**odule) is a minimum module commonly for the layer 2 and layer 3 testing. The L3M (**L**ayer **3 M**odule) contains all the items to be shared by the RRC, NAS,SMS, RAB, IR_U/G, A-GPS, HSD_ENH and HSU_ENH ATSs. NAS is applied to the NAS, A-GPS, HSD_ENH and HSU_ENH ATSs. The RRC_M is a module containing common object for RRC, RAB, IR_U/G, SMS, A-GPS, HSD_ENH and HSU_ENH ATSs.

### 5.1.2 Contents of the modules

The BasicM module includes objects related to the RRC, the layer 2 and the physical layer. It includes also all test steps needed by the layer 2 and layer 3 test cases for configurations and all objects related to the definition of the steps:

- Common test steps and default test steps defined as generic procedures in 3GPP TS 34.108 [3];
- RRC declarations related to the steps: types, timers, PDU types, ASP type, PCOs, TSOs, constants;
- Related ICS and IXIT parameters needed for testing and respectively defined in 3GPP TS 34.123-2 [2] and the present document;
- Defaults constraints based on the default message contents defined in 3GPP TS 34.108 [3];
- MMI PCO and ASPs;
- All TTCN objects related to the SS configuration, e.g. PCOs, declaration of the components.

The L3M module includes the NAS configuration steps and all related TTCN objects:

- Common test steps and default test steps defined as generic procedures in 3GPP TS 34.108 [3];
- NAS declarations related to these steps: types, PDU, ASP, PCOs, TSOs, constants;
- Related ICS and IXIT parameters needed for testing and respectively defined in 3GPP TS 34.123-2 [2] and the present document;
- Default constraints based on the default message contents defined in 3GPP TS 34.108 [3].

The RRC_M module includes the RRC steps common to RRC and RAB test cases and all related TTCN objects.

### 5.1.3 Example of a working platform

Figure 2 shows the working platform for the user that is writing the SMS test cases.

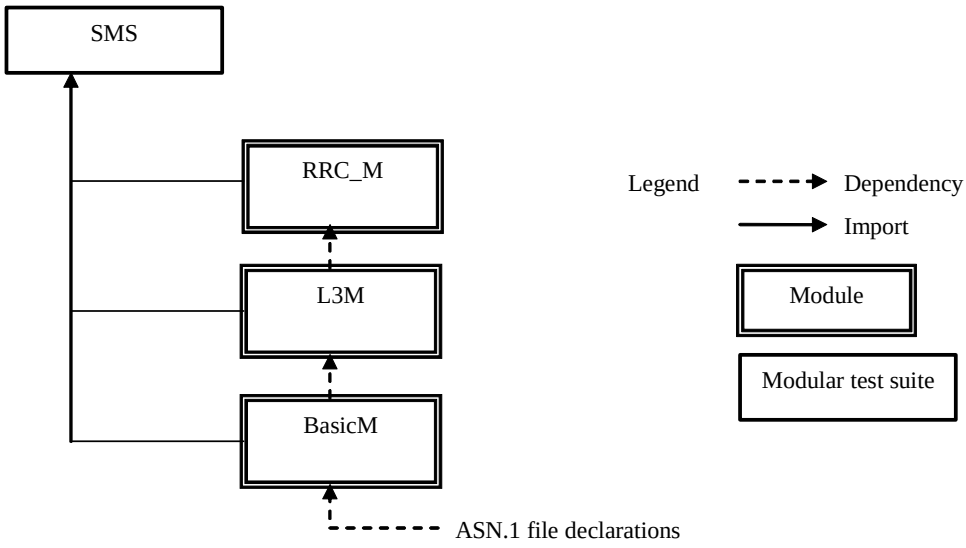



**Figure 2: An example of working platform for SMS**

# 6 Test method and testing architecture

## 6.1 Test method

The distributed single party test method is used for the UE testing. The lower tester configures the emulator and communicates with the UE under test via the emulator. An upper tester interfaces UE as (E)MMI.

All common parts in 3GPP TS 34.108 [3], 3GPP TS 34.109 [4] and 3GPP TS 34.123-2 [2] are developed in a TTCN library including the declarations, default constraints, preambles and postambles. They have the following characteristics:

- Very complex;
- Worked in different layers;
- Including data representing the radio parameters for SS setting and the data representing the UE capabilities (PICS parameters);
- Including the generic procedures to bring the UE into certain test states or a test mode (C-plane);
- Setting RABs at U-plane and SRBs in C-plane;
- Being used by every test cases no matter which layer the test case belongs to;
- No affect on the test verdict of PASS or FAIL.

The layer-specific test cases have the characteristics:

- relatively simple and straight forward;
- having narrow test scope and test purposes;
- test scenarios in a single layer (one PCO);
- assigning the test verdict.

# 6.2 Testing architecture

A unique testing architecture is shown in figure 3.

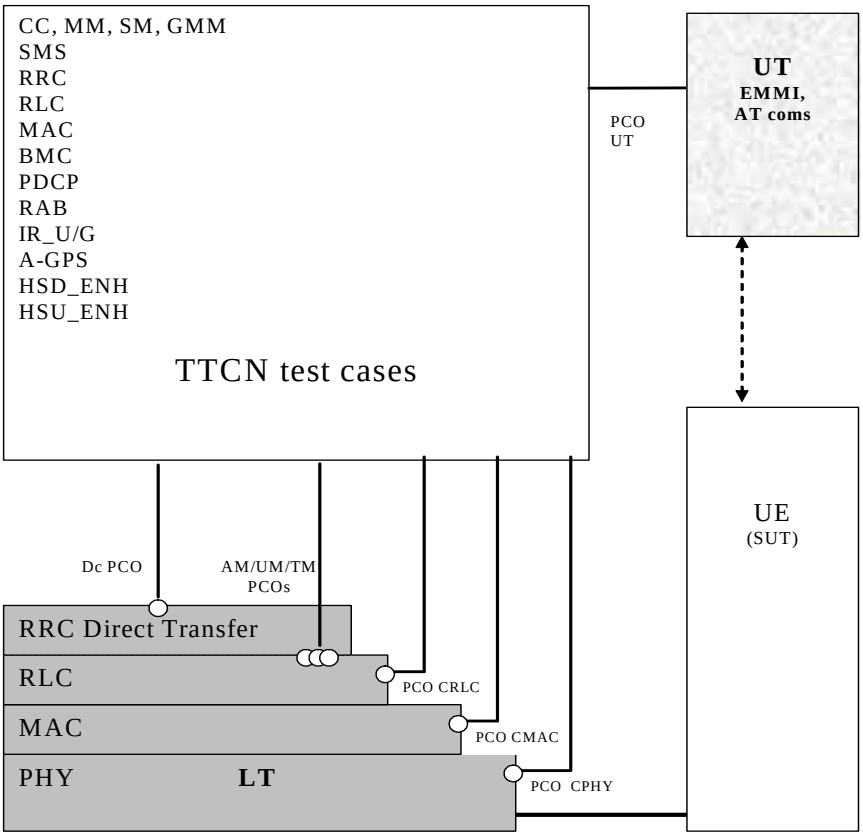



**Figure 3: A unique testing architecture**

## 6.2.1 Lower Tester (LT)

The Lower Tester (LT) provides the test means for the execution of the test cases for CC, SM, MM, GMM, SMS, RRC, RLC, MAC, PDCP, BMC, RAB, IR_U/G, A-GPS, HSD_ENH or HSU_ENH. The LT provides also the RLC, MAC and PHY emulators to communicate with the UE. The configuration and initialization of the emulators are control by the TTCN via ASPs.

## 6.2.2 Configuration and initialization

A number of TTCN test steps are designed for the generic setting.

1) Configuration of L1 of the tester, such as the cells, Physical channels and common transport channels via CPHY-PCO, configuration of MAC via CMAC-PCO and configuration of RLC layer via CRLC-PCO.

2) Sending system information via TR-PCO.

3) Establishment RRC connection via AM or UM-PCO.

4) Assigning a radio bearer via AM-PCO.

5) MM /GMM registration via Dc-PCO.

6) Establishment of a CS call or a PDP context via Dc-PCO.

7) Setting security parameters and control of integrity via CRLC- and ciphering via CRLC- and CMAC-PCO.

### 6.2.3 Upper Tester (UT)

An Upper Tester (UT) exists in the test system. The UT interfaces toward UE with any optional EMMI (3GPP TS 34.109 [4], clause 7). TTCN communicates with the UT by passing coordination primitives via a Ut PCO. The primitives can either contain AT commands aiming at the automatic tests, or some informal commands as MMI, in order to request the UE for certain actions and to provide simple means for observations of UE.

### 6.2.4 TTCN

TTCN is used as specification language based on TR 101 666 [27] (TTCN 2++). The importation of ASN.1 modules and modular TTCN are two of the most important features used in the design of the ATSs.

The TTCN test suites have been designed to maximize the portability from the language TTCN 2 to TTCN 3.

### 6.2.5 Model extension

If a test case needs to handle a concurrent situation two or more LTs can be configured at the same time. The following test scenarios identified may require multiple testers in the test configuration.

### 6.2.6 Multiplexing of RLC services

For the RRC and NAS testing, the TTCN RRC test steps (on RB1 and RB2) and the RRC emulator (on RB3 and RB4 for the NAS messages) share the same service access point (AM SAP). The RLC emulator shall provide separate message queues (buffers) for the TTCN RRC test steps and the RRC emulator for the TTCN NAS test cases, according to the signalling radio bearer identities.

## 6.3 NAS test method and architecture

### 6.3.1 Test configuration

The NAS test method is shown in figure 4.

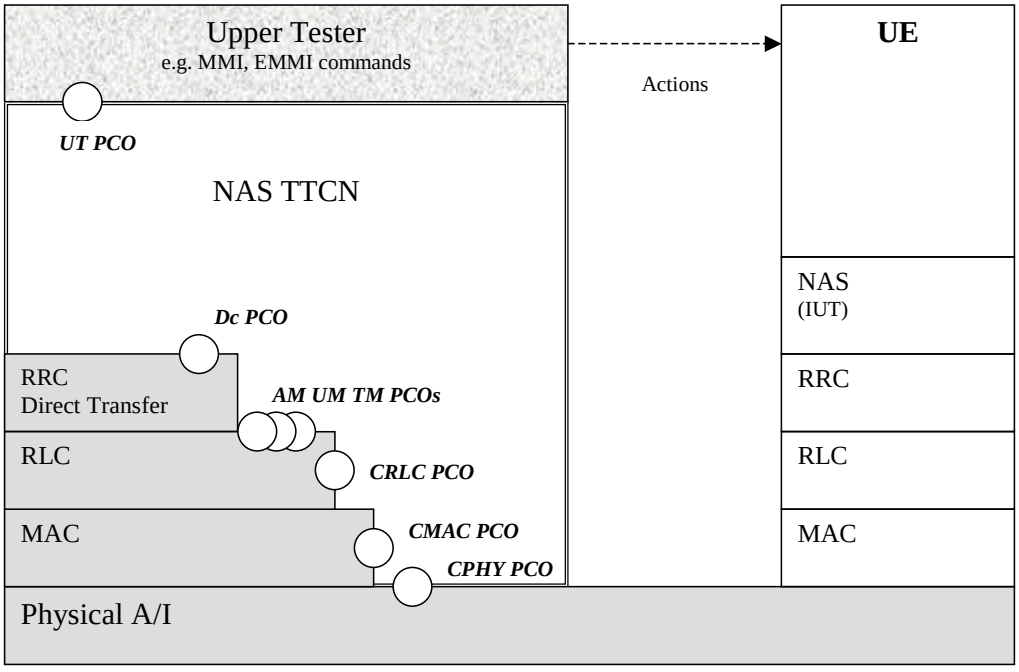



**Figure 4: NAS testing architecture**

The single layer distributed test method is used.

The Point of Control and Observation (PCO) are defined as the Dc (Dedicated control) SAP. The NAS test verdicts are assigned depending on the behaviours observed at the PCO.

The TTCN tester provides the NAS TTCN test cases and steps with a simple RRC direct transfer function which buffers the NAS PDU data, converts the data from the NAS TTCN table format into ASN.1, or in reverse way, and delivers all lower layer services of AM-SAP for RB3 and RB4.

The NAS TTCN test cases make also intensively use of the RRC TTCN test steps, in order to:

- Configure, initialize and control the L2 emulator;
- Initialize the UE for testing.

The RRC test steps, which are called by the NAS test cases or steps, interface with the RLC PCOs (UM, AM and TR), the control PCOs CRLC, CMAC and CPHY.

The General control (Gc) SAP and the Notification (Nt) SAP are not applied. Messages exchanged via these SAPs will be replaced with the corresponding RRC TTCN test steps.

The Ut PCO (so called logical interface [4]) is served as the interface to the UE EMMI to allow a remote control of operations, which have to be performed during execution of a test case such as to switch the UE on/off, initiate a call, etc.

### 6.3.2 Routing UL NAS massages in SS

The UL NAS messages are embedded in RRC messages INITIAL / UL DIRECT TRANSFER. In the UE test, the received UL NAS messages can either be routed to the Dc PCO and verified at the NAS message level, or routed to AM PCO and verified at the RRC message level.

1) RBid =3 at the SS side indicates that the UL NAS high priority messages to be routed to Dc PCO. RB3 applies to RRC_DataInd/Req.

2) RBid= -16 at the SS side indicates the received messages to be routed to RLC AM PCO. RB-16 applies to RLC_DataInd/Req.

The RB3 and RB-16 do not coexist. The TTCN writer uses the MAC and RLC reconfigurations to re-map the RB and the corresponding logical channels. If RB3 has been configured, but a test case needs to re-map the logical channel from RB3 to RB-16 the following way is to replace RB3 with RB-16.

- CMAC_CONFIG_REQ (reconfiguration, RB-16).

Re-mapping on RB-16 which appears in the transport channel and logical channel mapping list.

- CRLC_CONFIG_REQ (reconfiguration, RB-16).

RB-16 appears in the routing info, in order to replace the original mapping on RB3.

Mapping from RB-16 to RB3 is done in the reverse way.

# 6.4 RRC and RAB test method and architecture

## 6.4.1 Test configuration

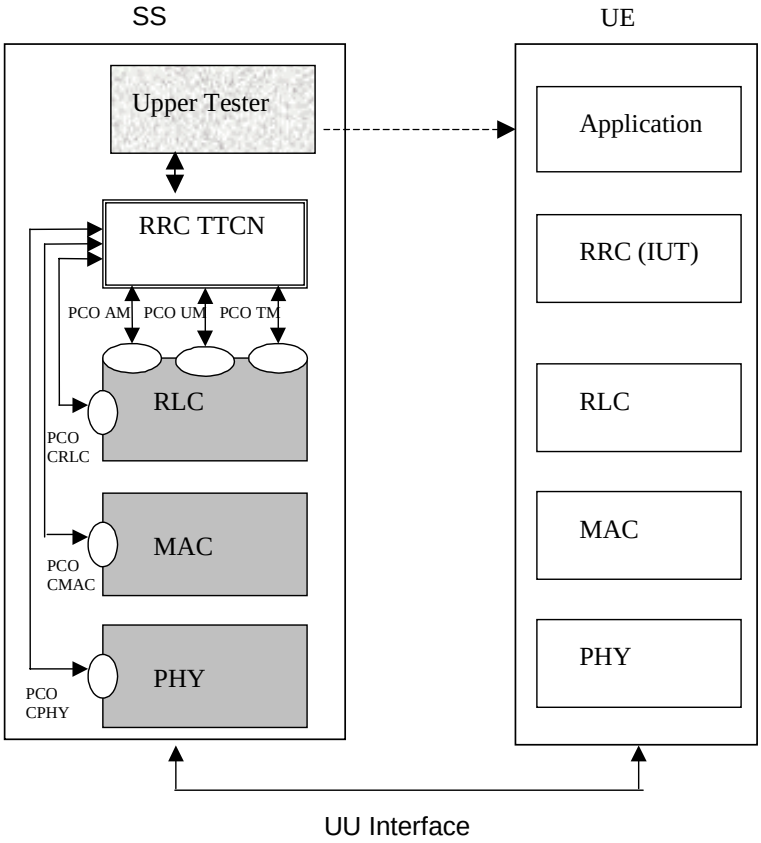



**Figure 5: RRC testing architecture**

The single layer distributed test method is used.

The PCOs are defined as the AM (Acknowledged Mode), UM (Unacknowledged Mode) and TM (Transparent Mode) SAPs. The RRC test verdicts are assigned depending on the behaviours observed at the PCO. The RRC TTCN interface also with the control PCOs CRLC, CMAC and CPHY, for the configuration, initialization and control of the System Simulator.

The RRC TTCN test cases also make use of the NAS TTCN test steps in order to:

- Bring UE to Idle state;
- Bring UE to state U10.

The NAS test steps, which are called by the RRC test cases or steps, interface with the Dc PCO.

The Ut PCO (so called logical interface [4]) is served as the interface to the UE EMMI to allow a remote control of operations, which have to be performed during execution of a test case such as to switch the UE on/off, initiate a call, etc.

According to 3GPP TS 25.331 [21], clause 12.1.1, the encoding of RRC PDUs is obtained by applying UNALIGNED PER to the abstract syntax value as specified in ITU-T Recommendation X.691 [28]. The two tables below show the declaration of the encoding rule and an example of the use in the definition of an RRC PDU.

**Table 1: PER_Unaligned Encoding Rule**

| | |
|---|---|
| **Encoding Rule Name** | PER_Unaligned |
| **Reference** | ITU-T Recommendation X.691 [28] |
| **Default** | |
| **Comments** | Packet encoding rules (ITU-T Recommendation X.691 [28]) unaligned and with adapted padding |

**Table 2: Definition of the RRC ASN.1 DL_DCCH_Message type by reference**

| | |
|---|---|
| **PDU Name** | DL_DCCH_Message |
| **PCO Type** | DSAP |
| **Type Reference** | DL-DCCH-Message |
| **Module Identifier** | Class-definitions |
| **Enc Rule** | PER_Unaligned |
| **Enc Variation** | |

## 6.4.2 RAB test method

### 6.4.2.1 Sending data on the same TTI

The RAB test requires a specific test method to send the test data on the same TTI. The TFC restriction method is used in this case. A specific TFC subset is allowed to ensure the test data are sent on different RBs on the same TTI. The downlink restriction can be used to ensure that the SS uses a specific TFC for transmission of data, by only allowing the "No data" TFC, and the "desired" TFC. It may also be necessary to include one or more "signalling only" TFCs to allow signalling to occur. The uplink restriction can be used to verify that the UE has used a specific TFC. Any data received by the SS using a forbidden TFCI shall be discarded.

### 6.4.2.2 Sending continuous data on consecutive TTIs

The RBS ATS is developed using the tabular TTCN notation. In order to test of multiple-RB combinations and simultaneous signalling, the SS shall be capable of sending continues test data in every TTI using the downlink transport format combination under test. A specific TSO is designed to request the SS sending continuous data. The information about the number of RLC SDUs and their sizes for each RAB will be provided to the system simulator through TSO.

# 6.5 RLC test method and architecture

## 6.5.1 Testing architecture

Figure 6 illustrates a typical realization of the RLC ATS.

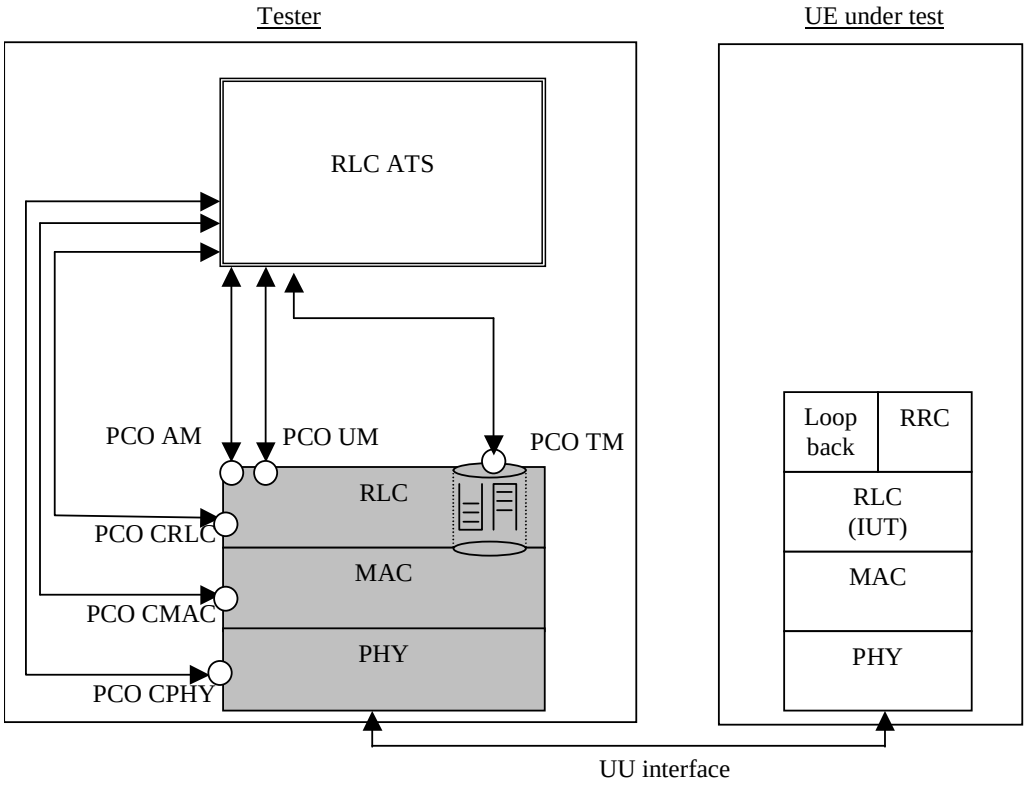



**Figure 6: RLC ATS single party test method**

The single party test method is used for RLC testing.

Separation of TTCN test cases from the configuration of the tester and initialization of the UE is achieved by using test steps. For each RLC test case, common test steps will be used to perform the configuration of the tester and the appropriate generic setup procedures as described in 3GPP TS 34.108 [3]. These test steps will make use of PCOs AM, UM, TM, CRLC, CMAC, and CPHY.

Three PCOs are provided at the top of the RLC emulation in the tester, one corresponding to each of the available RLC modes: acknowledged, unacknowledged, and transparent. Routing information for different radio bearers used at these PCOs will be provided in ASP parameters.

The queues shown in the RLC emulation in figure 6 indicate that normal RLC transmit and receive buffering will be used to isolate the TTCN test suite from the real time issues involved if messages are sent directly to the MAC layer.

The RLC TTCN test cases make also use of the NAS TTCN test steps in order to bring UE to Idle state. The NAS test steps, which are called by the RLC test cases or steps, interface with the Dc PCO.

## 6.5.2 Test method

Figure 7 illustrates an example configuration for downlink UM testing. Uplink and AM tests will use similar configurations. A Tr-Entity is established on the tester side using a CRLC-CONFIG-REQ. A corresponding UM-Entity is created in the UE by sending a Radio Bearer Setup PDU. RLC PDUs are specified in the TTCN test suite, and sent to TM PCO. These PDUs shall be carefully designed so that the Tr-Entity will not perform any segmentation. The system simulator is responsible for direct encoding the abstract representation of transmitted PDUs into a bitstring to be sent by the Transmitting Tr entity. Direct encoding is performed by concatenation of all of the present fields in the abstract representation. It is the TTCN author's responsibility to ensure that the PDU is valid. To test reassembly in the UE side, the segmentation must be explicitly coded in TTCN. To test various aspects of the RLC header (e.g. sequence numbering, length indications, etc.), the RLC header must be explicitly coded in TTCN. Ciphering will not be tested using this approach, and will be disabled in the UE UM Entity.

The segmentation block in the SS Tr-entity is shown in grey to indicate that the functionality is present in the SS, but the test cases shall be carefully designed to ensure that segmentation is not used in the SS Tr-entity for RLC testing.

The deciphering block in the UE UM-entity is shown in grey to indicate that the functionality may be present in the UE, but shall be disabled for RLC testing.

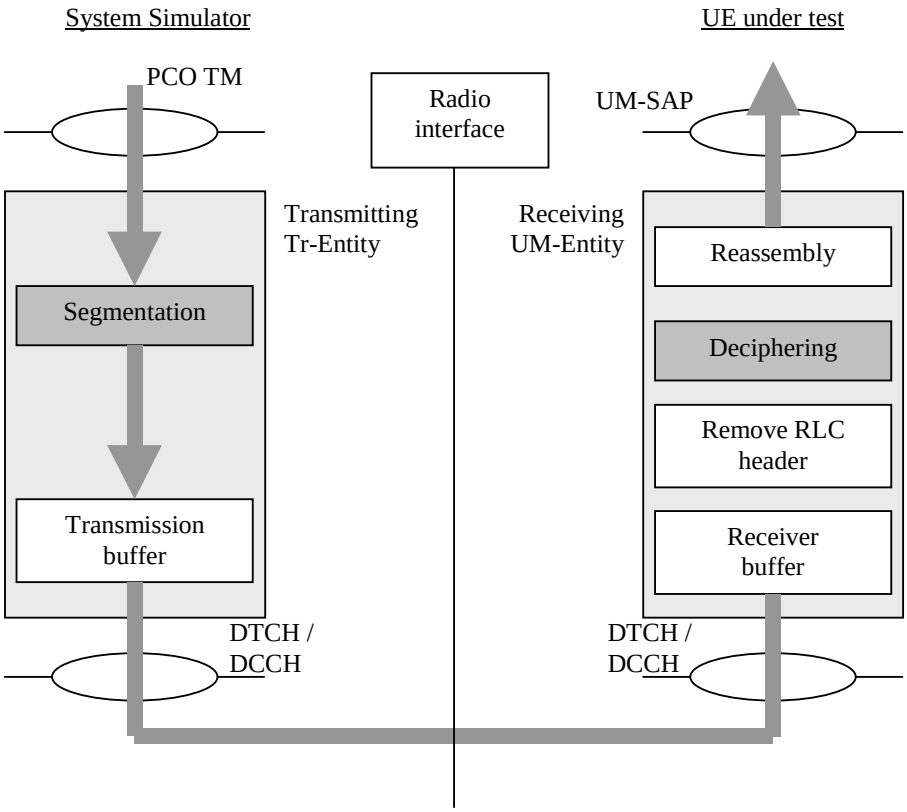



**Figure 7: Example configuration for downlink RLC UM testing**

The TFCS used for RLC testing must guarantee that Tr mode segmentation will not occur. This is to prevent transmission of more than one Tr PDU per TTI.

All RLC tests that require uplink data will make use of the UE test loop mode 1 defined in 3GPP TS 34.109 [4]. The UE test loop mode 1 function provides all Upper Tester (UT) functionality required, so an UT PCO is not required for RLC tests. Test Loop mode 1 is only available in the user plane, so all RLC tests will be performed in the user plane, using DTCH and DCCH logical channels mapped to DCH transport channels.

Ciphering will be disabled for all RLC test cases. Ciphering will be tested implicitly by other test cases that have ciphering enabled.

Figure 8 illustrates an example configuration for uplink UM testing, and reception of an example UMD PDU. Figure 9 illustrates an example configuration for uplink AM testing, reception of an example STATUS_PDU, and the use of the superFields and superFieldsRec fields.

The ciphering and deciphering blocks in the UE RLC entities are shown in grey to indicate that the functionality may be present in the UE, but shall be disabled for RLC testing.

The reassembly blocks in the SS Tr-entities are shown in grey to indicate that the functionality is present in the SS, but the test cases shall be carefully designed to ensure that reassembly is not used in the SS Tr-entity for RLC testing.

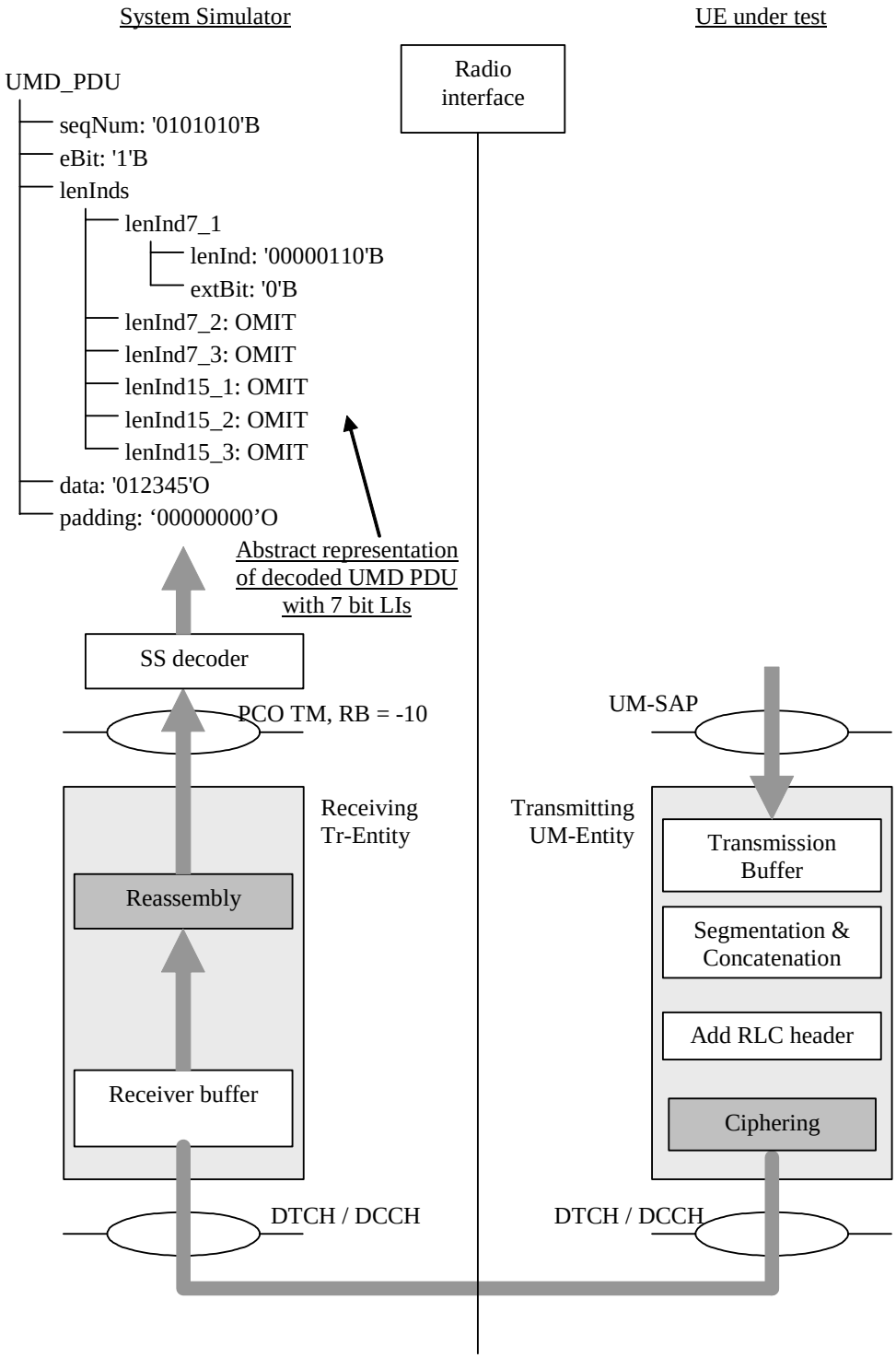



**Figure 8: Example configuration for uplink RLC UM testing**

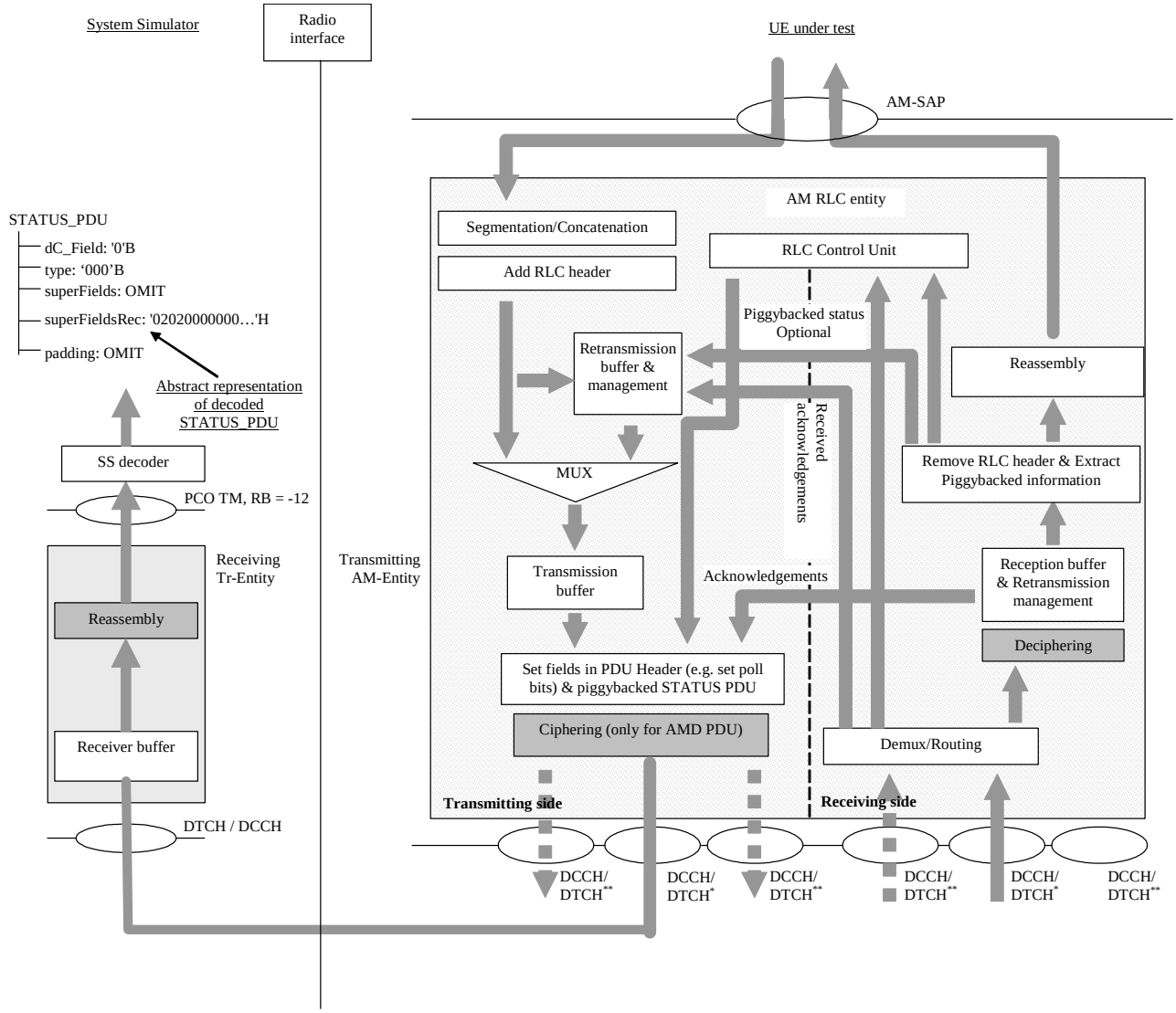



**Figure 9: Example configuration for uplink RLC AM testing**

Uplink data uses a similar approach to downlink, but the received data must be decoded in the correct way, depending on the current UE configuration. In the example in figure 8, the SS must decode the data received at the TM PCO into an abstract representation of the structure defined in the TTCN for a UMD_PDU, using 7 bit length indicators. This structure is then compared with an abstract representation of the expected data to see if the receive event is successful. Refer to TR 101 666 [27], clause B.5.2.10 for more information.

For RLC testing, the following RB Ids are used within the system simulator, depending on the RLC mode, and length indicator size being simulated.

| RLC mode | LI Size | RB Id |
|---|---|---|
| UM | 7 | -10 |
| UM | 15 | -11 |
| AM | 7 | -12 |
| AM | 15 | -13 |

The SS decoder can use the RB Id to determine which abstract structure to create during the decode process. The SS decoder must also understand the RLC peer-to-peer protocol enough to determine which fields are present.

EXAMPLE 1: The semantics of LI extension bits must be known to determine how many LIs are present.

EXAMPLE 2: The contents of the LIs must be interpreted to determine how many octets of data, and how many octets of padding are present.

The SUFI list and any subsequent padding in a received STATUS_PDU or PiggyBackedSTATUS_PDU shall be decoded as a HEXSTRING, and put in the 'superFieldsRec' field of the abstract representation of the STATUS PDU. The "superFields" and "padding" fields shall be omitted for received STATUS PDUs. This is illustrated in figure 9.

As in downlink testing, the TFCS must be defined to guarantee that the Tr entity does not perform any reassembly. This is to prevent reception of more than one Tr PDU per TTI so that the TTCN does not need to manage possible interleaving problems due to multiple PDUs received at the same time (i.e. they may be placed on the PCO queue in any order).

#### 6.5.2.1 Handling SUFIs in TTCN

The SUFIs are a very flexible set of information elements contained in the RLC protocol. The order of the fields varies, the existence of a field may depend upon the presence of another one. A field can be present multiple times. For matching received SUFIs, it is convenient to define the SUFIs as a HEXSTRING which is treated by a TSO **o_SUFI_Handler**.

Depending upon which SUFIs and which aspects of SUFIs are to be checked, the TSO is provided with the information (**SUFI_Params**) on what checking it is expected to perform. If the check is successful the result TRUE will be returned, otherwise FALSE. Additionally the TSO will return an object which is structured as the SUFIs used in transmission (SuperFields). This will allow to make use of information received and needed to establish SUFIs to be transmitted.

The input parameters to **o_SUFI_Handler** to be used as checking criteria are collected in tabular data structure **SUFI_Params** which is filled each time before the TSO is called. These data are to allow the checking of the presence and the value of SUFIs. All entries shall be set to well-defined values if these are to be used by **o_SUFI_Handler**. As a principle values specifically set are used as criteria for checking, values omitted are used as AnyOrOmit values. The resulting SUFI list is established by **o_SUFI_Handler** and can be retrieved in the data structure returned by the TSO. Details have to be defined in the TSO itself.

Tasks **o_SUFI_Handler** has to perform:

- Transfer the SUFIs received into the structure of SuperFields; this is the SUFI list structure existing today.
- If multiple occurrences of SUFI are found then use the **last** one to fill the SuperFields structure. The LIST SUFI is an exception: multiple SUFIs may be used to transfer the complete LIST information.
- Check for all parameters in SUFI_Params set to a specific expected value that one of the SUFIs using this value is present and that the value received matches the specific expected value.
- Check that if SUFIs are received for which an expected value of Any is specified, the SUFI is consistent if that SUFI is received.
- Check that if SUFIs are received for the presence of which no entry is specified in SUFI_Params, the SUFI is consistent.
- Check that sequence numbers are in the range between LB and UB if specific values are set.

Entries in **SUFI_Params**.

| Element Name | Significance | Comment |
|---|---|---|
| **LB** | Lower bound of sequence number range | Lowest SN for checking SNs acknowledged |
| **UB** | Upper bound of sequence number range | Highest SN for checking SNs acknowledged |
| **WSN_presence** | Window Size SUFI present | To check the presence of the Window Size SUFI |
| **MRW_presence** | Move Receive Window SUFI present | To check the presence of the MRW SUFI |
| **Nack1** | SN of 1st PDU negatively acknowledged | For the NackList to check SN to be negatively acknowledged |
| **Nack2** | SN of 2nd PDU negatively acknowledged | For the NackList to check SN to be negatively acknowledged |
| **Nack3** | SN of 3rd PDU negatively acknowledged | For the NackList to check SN to be negatively acknowledged |

More entries may be required in the future if specific SUFI field values are to be checked. The concept allows to add more fields easily.

6.5.2.2 Void

# 6.6 SMS test method and architecture

## 6.6.1 SMS CS test method and architecture

The test method used for SMS CS tests is the same as the NAS test method, see clause 6.3, and the same ASPs, see clause 7.1.2.

## 6.6.2 SMS PS test method and architecture

The test method used for SMS PS tests is the same as the NAS test method, see clause 6.3, and the same ASPs, see clause 7.1.2.

## 6.6.3 SMS Cell broadcasting test method and architecture

The test method used for SMS CB tests is the same as the BMC test method, see clause 6.8, and the same ASPs, see clause 7.3.1.1.

# 6.7 MAC test method and architecture

## 6.7.1 Testing architecture

Figure 10 illustrates a typical realization of the MAC ATS.

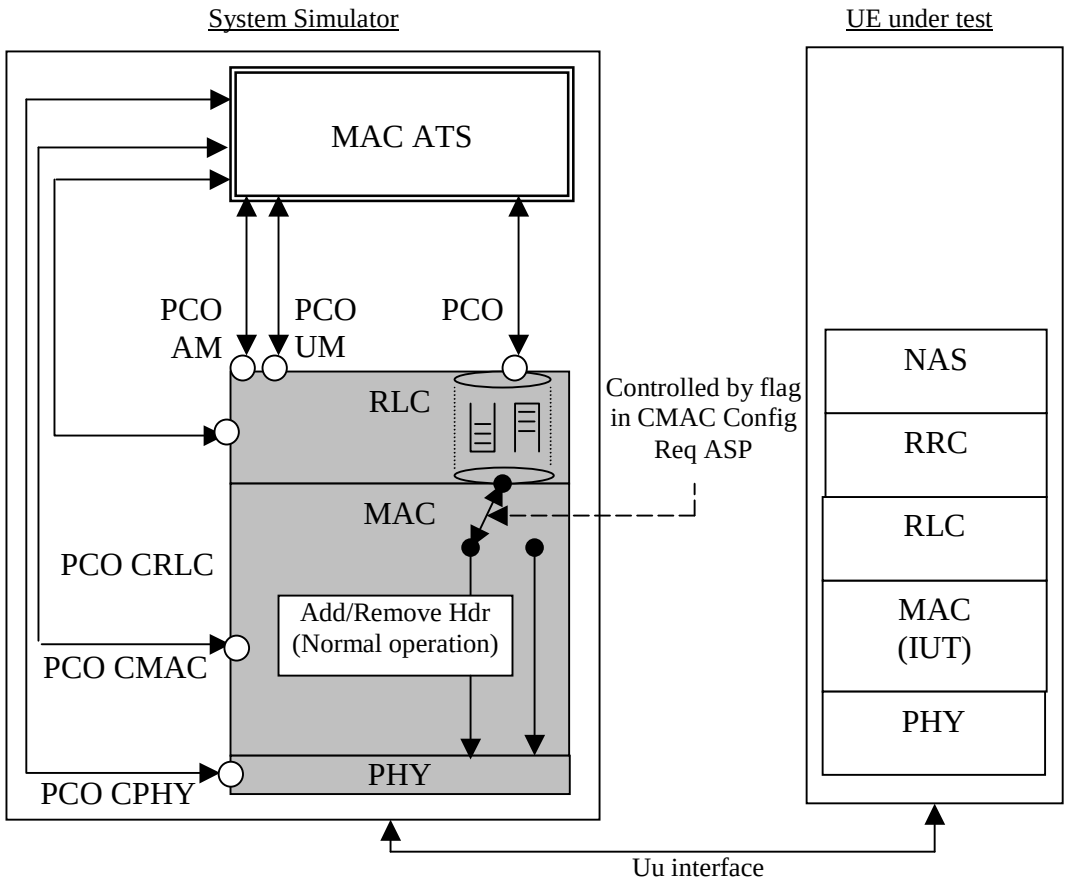



**Figure 10: MAC ATS single party test method**

## 6.7.2 Test method

The single party test method is used for MAC testing.

Separation of TTCN test cases from the configuration of the tester and initialization of the UE is achieved by using test steps. For each MAC test case, common test steps will be used to perform the configuration of the tester and the appropriate generic setup procedures as described in 3GPP TS 34.108 [3]. These test steps will make use of PCOs AM, UM, TM, CRLC, CMAC, and CPHY.

Three PCOs are provided at the top of the RLC emulation in the tester, one corresponding to each of the available RLC modes: acknowledged, unacknowledged, and transparent. Routing information for different radio bearers used at these PCOs will be provided in ASP parameters.

The queues shown in the RLC emulation in figure 8 indicate that normal RLC transmit and receive buffering will be used to isolate the TTCN test suite from the real time issues involved if messages are sent directly to the MAC layer.

A flag is required within the CMAC Config Req to indicate that the SS MAC emulation must not add or remove any MAC header information, even if header fields should be present according to the configured channels. This flag shall allow control of the MAC header on a per logical channel basis. For example, it shall be possible to configure 4 DCCHs and a DTCH mapped to a DCH, such that the MAC will add / remove header information for the DCCHs, but not for the DTCH.

The MAC TTCN test cases make also use of the NAS TTCN test steps in order to bring UE to Idle state. The NAS test steps, which are called by the MAC test cases or steps, interface with the Dc PCO.

For MAC testing, the following RB Ids are used for the high priority NAS RB within the system simulator depending on the MAC configuration being simulated.

| RB Id | Simulated configuration |
|---|---|
| -14 | DCCH mapped to FACH |
| -15 | DCCH mapped to DCH |
| -18 | CCCH mapped to FACH |

The SS decoder can use the RB Id to determine which MAC header fields are present, and create the appropriate abstract structure during the decode process. The SS decoder must understand enough of the MAC peer-to-peer protocol to determine which fields are present.

For example, the semantics of the UE Id Type field must be known to determine how many bits should be present in the UE Id field.

The MAC PDUs for MAC testing will always contain an AM RLC PDU (data or status) using 7 bit length indicators. See the RLC test method for further information on the SS decoder requirements for RLC PDUs.

Ciphering shall be disabled for all MAC tests.

### 6.7.2.1 Abnormal decoding situations

If the SS decoder cannot convert the received data into the supported structure, the SS shall terminate the test case immediately and indicate that a test case error has occurred.

### 6.7.2.2 MAC_es/e test method (Rel-6 or later)

MAC test method for MAC_es/e is depictured in the following figure. In the UE side the RLC entity is AM mode, in the SS the mode of RLC in downlink direction is TM, the AM mode functions are implemented in TTCN. In the uplink direction, only the mapping between RB identity and logical channel identity (i.e. the sS_rlc_Info in RBInfo is OMITTED) is configured in the RLC entity, the RLC entity passes any data block received on the logical channel to the RB identified by tsc_RB_DTCH_E_DCH_MAC(value is -20), tsc_RB_DTCH_E_DCH_MAC1(-21), or tsc_RB_DTCH_E_DCH_MAC2(-22). Whenever a RLC pdu received through one of the specified RB identifiers, the TTCN shall generate a RLC ack for it and send it on the downlink direction.

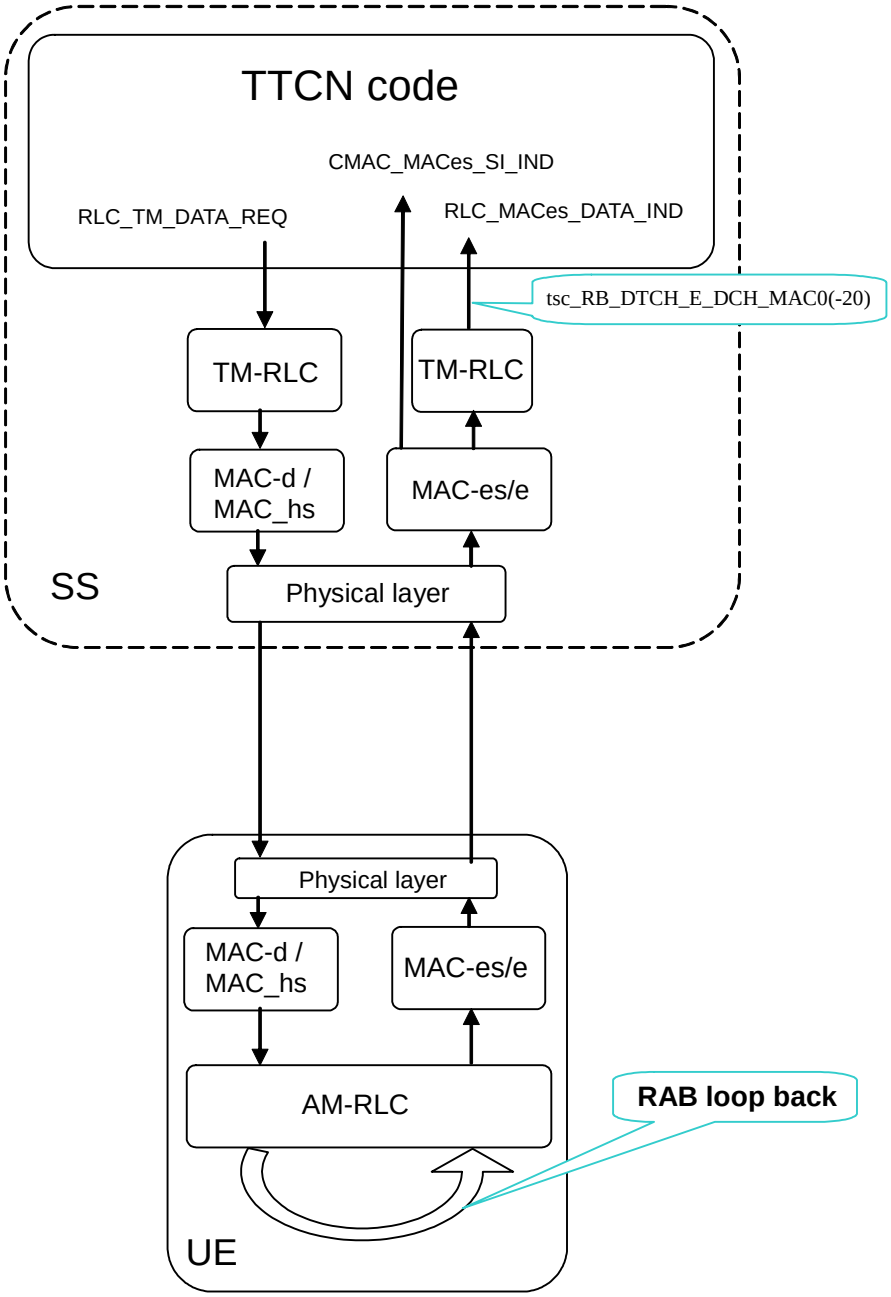



**Figure 11: MAC_es/e testing model**

# 6.8 BMC test method and architecture

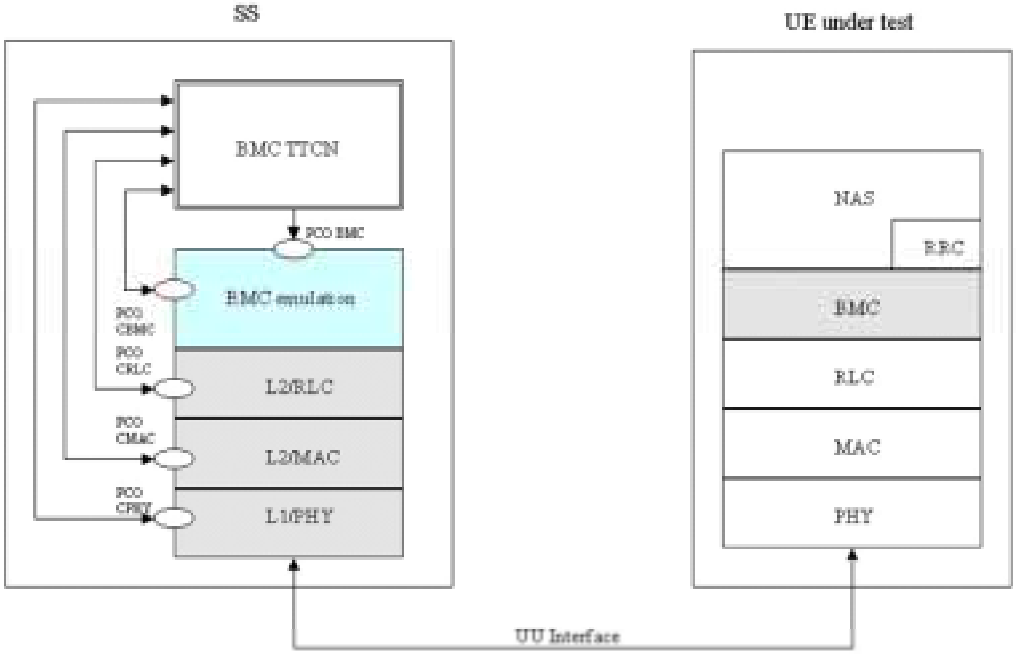



**Figure 12: BMC testing architecture single party method**

## 6.8.1 BMC test architecture

The single party test method is used for BMC testing, i.e. it does not exist an Upper Tester. BMC emulation is used as shown in figure 12. The BMC emulation makes use of two PCOs. The CBMC PCO is defined, to pass configuration information for a BMC entity. The BMC PCO is defined for BMC message data transfer.

Separation of TTCN test cases from the configuration of the tester and initialization of the UE is achieved by using test steps. For BMC test cases, common test steps and newly defined test steps for BMC configuration will be used to perform the configuration of the tester and on UE side. These test steps make use of PCOs, CRLC, CMAC, and CPHY.

The UE shall be able to activate and deactivate a certain CB MessageID according CB data to be sent while testing.

BMC messages are sent in BMC message blocks on the CTCH. For sending BMC messages (BMC Scheduling Message (Level 2, DRX) and BMC CBS Message ) a configuration in downlink direction shall be performed to map the CTCH (RB#30) onto the FACH - S-CCPCH.

## 6.8.2 BMC test method

For BMC testing, only PS Cell Broadcast Service as distributed BMC service is applied. CBS Messages and BMC Schedule Messages are only sent in downlink direction. No uplink is used for BMC testing. The BMC test data with necessary CBS information shall be given by PIXIT parameter with a description of the indication on the display.

This test method uses BMC primitives as defined in 3GPP TS 25.324 [20]. There are two level of BMC scheduling, Level 1 for CTCH configuration and Level 2 for DRX. The BMC scheduling information is conveyed to both BMC and MAC layer.

Level 1 scheduling is used configure the CTCH on the S-CCPCH. For BMC testing Release 99 (FDD), the Level 1 scheduling parameter $M_{TTI}$ contains one radio frame in the TTI of the FACH used for CTCH. Therefore, only Level 1 scheduling information N (period of CTCH allocation on S-CCPCH) and K (CBS frame offset to synchronize to the SFN cycle (0 to 4 095 frames per cycle)) are necessary to configure the CTCH onto the S-CCPCH.

The Level 1 scheduling is done in the SS MAC layer, therefore this information is given by using the primitive "CMAC_BMCscheduling_REQ" to inform the MAC on SS side about K and N. The Level 1 scheduling information, K and N, is broadcast as system information in SIB 5 and SIB 6. After having performed the CTCH configuration as Level 1 scheduling, the SS is configured to send BMC messages and the UE has to listen to each CTCH for a BMC message.

Segmentation of BMC messages is performed by RLC in UM. A RLC segment shall contain BMC message payload as configured in RB#30 with a maximum number of 57 octets. The 57 octets payload is used to calculate the BMC inband scheduling Level 2 in the BMC TTCN (TSO).

If only one CB data as BMC CBS message is sent and repeated for a BMC test case, Level 1 scheduling is adequate, i.e. no BMC Scheduling Message (Level 2) is needed. Therefore, no level 2 scheduling information are included in the "CMAC_BMCscheduling_REQ" primitive. If more then one BMC CBS message are transmitted and repeated, BMC scheduling Level 2 message shall be performed.

Level 2 scheduling is used to predict the sent event of the next BMC message blocks and the BS index contents.

BMC scheduling Level 2 predicts exactly, which information is contained on a certain CTCH block set with an aligned Block Set index number and how many spare CTCH blocks are given as offset, before the next BMC message block will be sent. Figure 13 shows an example, how the message flow shall be done for BMC scheduling Level 2.

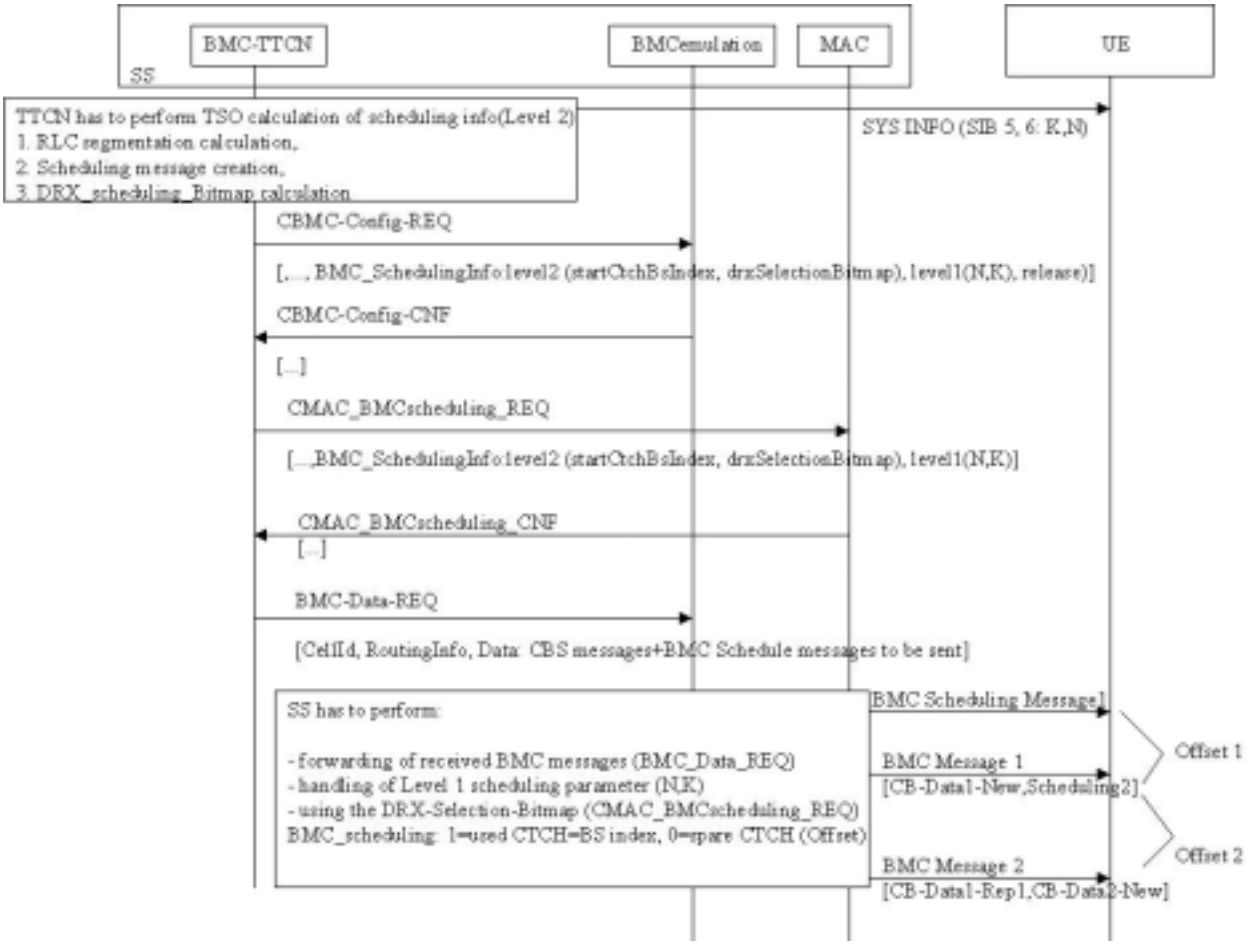



**Figure 13: BMC Scheduling**

The BMC test method makes use of the primitive: "BMC-Data-REQ" to transmit the BMC Messages to RLC. If BMC Scheduling Level 2 is used, an entire BMC message, including BMC CBS PDUs and a BMC Schedule PDU, to be transmitted is created by the BMC TTCN and forwarded to the BMC emulation. The transmission of BMC PDU is confirmed through the primitive BMC-Data-CNF. The segmentation of the BMC PDU is done at the RLC layer.

According to the K and N value, the MAC layer at SS side determines the CTCH blocks for the BMC use. The CTCH blocks are indexed (i = 1 ... 256). If BMC DRX is needed, the BMC scheduling Level 2 information figures out the occupancy / spare of the available CTCH blocks by using a DRX_Selection_Bitmap. In the bitmap each bit, set to '1', corresponds to an actually available CTCH block belonging to the DRX period for the SS transmission. The all occupied consecutive CTCH blocks constitutes a BMC DRX period, whilst the consecutive spared blocks indicate the DRX offset as spare CTCH slot.

Following the DRX_Selection_Bitmap, the segmented BMC messages are transmitted. Each "BMC-Data-REQ" primitive has its own aligned "CMAC_BMCscheduling _REQ" primitive, where all BMC scheduling information is predicted. An initial CTCH block index is given (startCtchBsIndex) as a start index offset.

An octet string is defined whereas each bit describes one assigned CTCH block, i.e. one BS index on the S-CCPCH.

Bitmap value:

1 (binary) = indicates a used/occupied BS index (CTCH frame, with a payload size of 57 octets) to send BMC message segments for a message block.

0 (binary) = indicates a spare BS index, i.e. unused CTCH frame, to give an UE supporting DRX the necessary information.

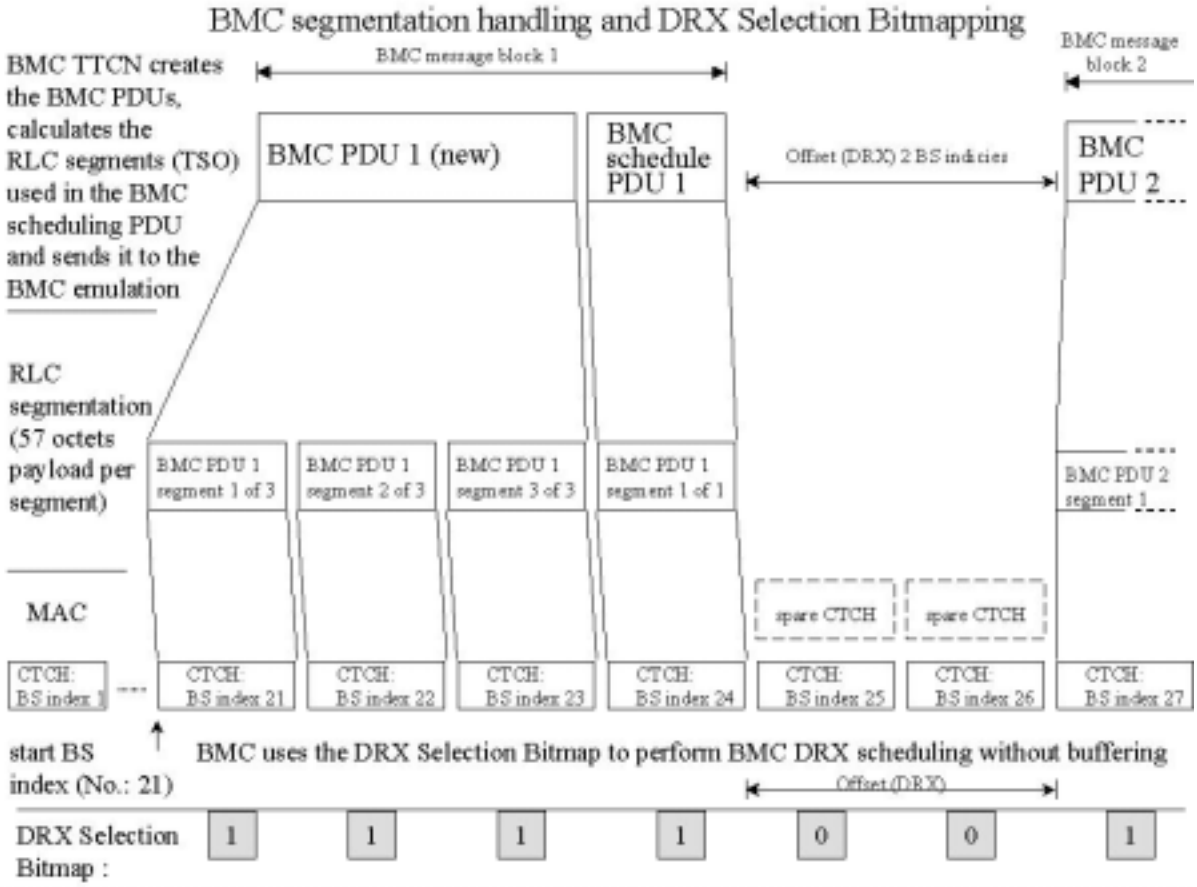



**Figure 14: BMC DRX scheduling: segmentation handling**

# 6.9 PDCP test

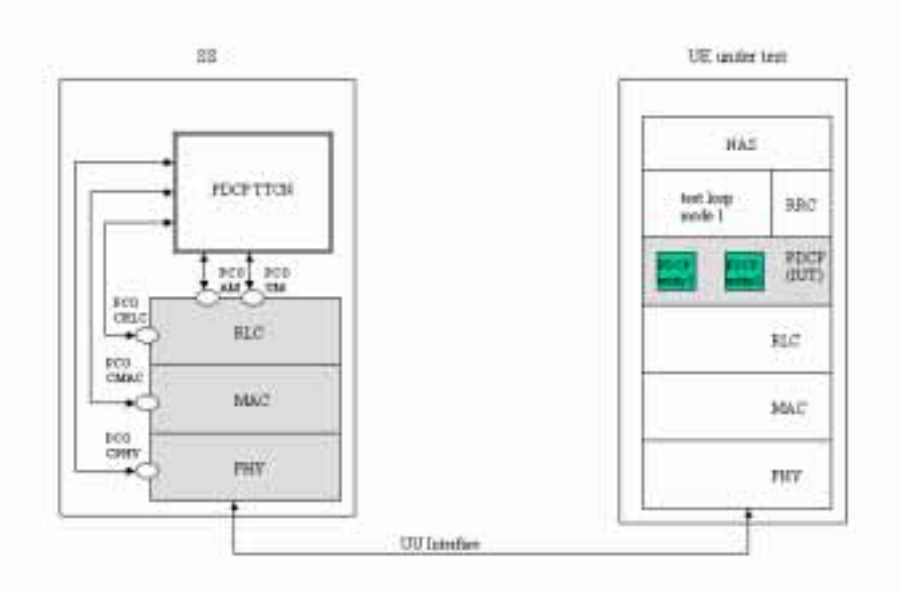



**Figure 15: PDCP testing architecture 1: single party test method, with test loop mode 1**

## 6.9.1 PDCP test architecture

The single party test method is used for PDCP testing. All PDCP tests that require uplink data will make use of the UE test loop mode 1 defined in 3GPP TS 34.109 [4]. Test Loop mode 1 is only available in the user plane, so all PDCP tests will be performed in the user plane, using the same logical channels mapped to transport channels as defined in RLC test cases, except for test case, clause 7.3.2.2.4, where a configuration of combined radio bearers used only for this test case is defined.

Separation of TTCN test cases from the configuration of the tester and initialization of the UE is achieved by using test steps. For PDCP test cases, common test steps and newly defined test steps for PDCP configuration will be used to perform the configuration of the tester and the appropriate generic setup procedures as described in 3GPP TS 34.108 [3] and in clause 7.4 of 3GPP TS 34.123-1 [1]. These test steps will make use of PCOs RLC AM, RLC UM, CRLC, CMAC, and CPHY.

The PDCP TTCN test cases make also use of the NAS TTCN test steps in order to setup a PS session.

For PDCP testing, the IP Header Compression protocol as described in RFC 2507 [30] is used as optimization method. The IP header compression and decompression mechanisms as described in RFC 2507 [30] is not part of PDCP TTCN. PDCP testing make use of uncompressed, compressed and decompressed TCP/IP header packets of a certain packet stream and uncompressed, compressed and decompressed UDP/IP header packets of a certain generation. This parameters are given as test parameter (PIXIT information).

PDCP testing includes transmission/reception of compressed/decompressed IP header packets, PDCP sequence numbering while lossless SRNS relocation and PID assignment rules as well as PDCP configuration tests as described in 3GPP TS 25.323 [19], Release 99. It does not test optimization specific protocol behaviour as error recovery and packet reordering as described in RFC 2507 [30].

## 6.9.2 PDCP test method

For PDCP testing, the RB test mode is used with test loop mode 1. After establishing a PS session with RB in RLC UM or/and AM, the UE is configured to support a negotiated PDCP configuration. UDP/IP header packets are used as Non-TCP/IP header packets as PDCP test data.

There are different input parameter as PIXIT values necessary for PDCP testing.

For TCP/IP header packets, uncompressed TCP/IP header packets shall be defined as PIXIT input parameter. In addition, there are the corresponding RFC 2507 [30] FULL_HEADER packet, COMPRESSED_TCP packet and COMPRESSED_TCP_NONDELTA packet given for each TCP/IP header packet as PIXIT information.

For UDP/IP header packets, uncompressed UDP/IP header packets shall be defined as PIXIT input parameter. In addition, there are the corresponding RFC 2507 [30] FULL_HEADER packet and COMPRESSED_NON_TCP packet given for each UDP/IP header packet as PIXIT information.

To check the use of certain PID values assigned to IP compressed header types, a given IP header packet (PIXIT) will be sent to the UE. The UE shall return a appropriate valid IP header packet type, which corresponds to the previous sent IP header packet. The usage of valid compressed/uncompressed IP header packets shall be checked by comparing the given PIXIT IP header packet types for each IP header packet previously sent.

The IP header packet order as described in RFC 2507 [30] shall be applied within a test case.

If for example an TCP/IP header packet of type "COMPRESSED_TCP" shall be sent, the TTCN uses the given TCP/IP header packet (PIXIT) for transmission to the UE. The UE shall decompress the received packets appropriate, afterwards it will be returned by the loop back entity and it shall be sent by applying IP header compression rules as described in RFC 2507 [30] and as configured. Then, the SS receives returned IP header packets and compares it with all valid IP header packets given as PIXIT parameter corresponding to the previously sent IP header packet. It is checked, whether or not the IP header packet with assigned PID is valid and a configured PDCP PDU where used for transmission. In this way, it is checked, that the UE performs IP header compression as configured and is able to assign the correct PID values.

# 6.10 Multi-RAT Handover Test Model

## 6.10.1 Overview

The test model is shown in figure 16. The SS in the model consists of UTRAN emulation part and GERAN emulation part, GERAN emulation part includes protocol emulation modules for GSM CS services and protocol emulation modules for GPRS service. Protocol stack L1 (GERAN), L2 is for GSM CS service function emulation, protocol stack L1, RLC/MAC, LLC, SNDCP is for GPRS service function emulation. SNDCP emulation model and relevant PCO's can be removed if "traffic channel gets through" is not tested.

L1 (GERAN) provides necessary physical layer functionality for both GSM and GPRS. A control PCO and a set of ASP's are defined for configuring and controlling its protocol behaviour required in the test cases. L1 (GERAN) provides services to L2 and RLC/MAC emulation modules, the interfaces between them are not specified in this test model, it is implementation dependent and shall follow the relevant GSM and GPRS specifications.

L2 emulates necessary GSM L2 protocol functionality used in testing. A data PCO and a set of ASP's are defined for this module and used for transmitting and receiving layer 3 signalling messages and use data. The definition of the PCO and these ASP's are based on the logical channel concept of GSM specification. A control PCO and related ASP's are also defined for L2, they are used to introduce abnormal layer 2 behaviour required by the test purposes.

RLC/MAC is emulation module for GPRS Radio Link Control/Medium Access Control protocol. Two PCO's and related ASP's are defined for the module. Control PCO is used to set TBF and assign physical resources to it, actual physical resources (packet channels) are created by L1 (GERAN) ASP's beforehand. Data PCO is for transmitting and receiving RLC control messages (RLC control block). Before any RLC data or control block, except RLC control block on PCCCH or PRACH, or PBCCH, is sent (or received) a proper TBF shall be configured. In addition RLC/MAC module provides service to LLC emulation module, the interface between them is determined by implementation and shall be compliant with relevant core specification.

LLC performs GPRS Logical Link Control protocol emulation. Its data PCO and ASP's are used for exchange GMM signalling messages between TTCN and the UE under test. The current defined ASP's on control PCO are subset of the primitives defined in core specification, they are used to assign, un-assign TLLI and ciphering parameters, or get status report.

## 6.10.2 ASP function description

### 6.10.2.1 Identities

- Within the SS, a cell is identified by cell identifier (cellId), which is of TTCN type CellId (INTEGER).
- Within a cell, a basic physical channel is identified by physical channel identifier (physicalChId), which is of TTCN type PhysicalChId (INTEGER). In multislot configuration a basic physical channel is identified by physical channel identifier (physicalChId) and timeslot, which is of TTCN type TN (INTEGER).
- Within a physical channel, logical channel is identified by logical channel type (g_LogicChType), which is of TTCN type G_LogicChType (INTEGER). When multiple logical channels of same type are carried by (mapped to) the same basic physical channel, they are differentiated by sub-channel number (subChannel), which is of TTCN type SubChannelNumber (INTEGER).
- At the top boundary of L2 emulation module two service access points (SAP) are available, they are identified by SAPI. SAPI=3 is used for short message service; SAPI=0 is used for L3 signalling messages and user data.

EXAMPLE: If G_L2_DATA_REQ ASP has the following parameter setting:

- cellId = tsc_CellA;
- sAPI = tsc_SAPI_0;
- physicalChId = tsc_PhyCh0;
- g_LogicChType = tsc_SDCCH4; and
- sunChannel = tsc_SubChannel1;

it sends PDU on the SDCCH4(1) logical channel which is carried by the physical channel tsc_PhyCh0 in cell A.

### 6.10.2.2 Cell configuration and control

In GSM each base station has a base station identity code BSIC, it consists of network colour code and base station colour code (NCC + BCC). BSIC is continuously broadcasted on the SCH channel, and it shall be used as the training sequence code for broadcast and common control channels.

In the test model the function of G_CL1_CreateCell_REQ ASP is to create a cell and pass parameter BSIC to it. This ASP establishes the cell identifier which shall be used in the ASP's related to this cell.

This is the first step to configure L1 (GERAN) emulation module of the SS.

### 6.10.2.3 L1 (GERAN) configuration and control

Configuration and control functions identified for L1 (GERAN) of a cell are:

- creation of basic physical channels;
- creation of multislot configuration;
- release of basic physical channel;
- modifications of channel mode, ciphering parameters and transmission power level;
- reporting of L1 header of SACCH channel;
- pickup a frame in near future, which can carry L3 message.

#### 6.10.2.3.1 Basic physical channel configuration

A basic physical channel uses a combination of frequency and time domain resources, therefore, the definition of a particular basic physical channel consists of a description in the frequency domain and a description in the time domain. In time domain the resource is called Time Slot, there are 8 time slots in one frame, numbered from 0 to 7. In frequency domain a basic physical channel may use only one frequency or may use multiple frequencies in frequency hopping.

Basic physical channel carrying FCCH + SCH + BCCH + CCCH (PCH, AGCH, RACH) or FCCH + SCH + BCCH + CCCH + SDCCH4 logical channels shall be located in time slot 0, and uses single frequency (non-hopping). The basic physical channel carrying additional BCCH, CCCH (PCH, AGCH, RACH) logical channels shall be located in time slot 2, 4, 6 and uses the same single frequency as the frequency used by the physical channel carrying FCCH, SCH.

GSM specification defines 24 permitted combinations of different logical channels, which can be mapped on to a basic physical channel. The combination defines which logical channels are carried by a basic physical channel, and it is also an indication of which modulation (GMSK or 8PSK) is used for the basic physical channel.

Training Sequence Code (TSC) is another parameter needed by physical channel. Common control and broadcast channel have to use BCC as its TSC.

Dedicated control channel and dedicated traffic channel need more parameters to configure. Parameter "Channel Mode" is needed to specify channel coding (therefore the user data rate). Ciphering related parameters are required to define the ciphering behaviour of the channel.

Common control channels need parameters to configure where in the 51-multiframe paging and access grant blocks are located.

Transmission power level is provided as per physical channel parameter, power level of each physical channel can be controlled independently.

The function of ASP G_CL1_CreateBasicPhyCh_REQ is to create a basic physical channel which has the required property defined by all the parameters mentioned above.

In the process of L1 (GERAN) configuration, calling the ASP is the next step after calling G_CL1_CreateCell_REQ.

#### 6.10.2.3.2 Multislot configuration for circuit or packet switched channels

Multislot configuration for circuit switched connection consists of multiple circuit switched traffic channels, in L1 point of view these traffic channels are independent basic physical channels with the same frequency parameters (ARFCN or MA, MAIO, HSN) and the same training sequence code but located in different time slots, one of the basic physical channels is the main channel of the configuration carrying the main signalling (FACCH, SACCH, IACCH) for the configuration. The main channel shall be bi-directional channel and with channelCombanition TCH/F+FACCH/F+SACCH/M or E-TCH/F+E-IACCH/F+E-FACCH/F+E-SACCH/M. When transmitting user data (not signalling message) stream is divided into substreams, each substream is transmitted independently on a channel in the configuration. At the receiving side all substreams are combined back to user stream.

According to the test model creation of a multislot configuration for circuit switched connection needs two ASP calls. Firstly, G_L1_CreatedBasicPhyCh_REQ is called to establish the main channel, then G_L1_CreateMultiSlotConfig_REQ is called to allocate more timeslots to the channel established by the previous ASP. A substream of a multislot configuration is identified with the physicalChId and timeslot.

Multislot configuration for packet switched connection consists of multiple PDCHs which can carry PDTCH/Us or PDTCH/Ds. All these PDCHs use the same frequency parameters (ARFCN or MA, MAIO, HSN) and the same training sequence code, but are located on different timeslots.

Similarly, a multislot configuration for packet switched connection is created with two ASP calls. First G_L1_CreatedBasicPhyCh_REQ is called to establish the first PDCH channel, then G_L1_CreateMultiSlotConfig_REQ is called to allocate more timeslots to the channel established by the previous ASP. All data ASP on packet data channel use physicalChId and timeslot to address the physical channels.

#### 6.10.2.3.3 Frame in the near future

ASP G_CL1_ComingFN_REQ is defined to request L1 (GERAN) return the reduced frame number (FN modulo 42432) which is far enough in the future from current frame number and is able to carry L3 message on the specified channel. "far enough" means that there is enough time left for TTCN to prepare a L3 message to be sent on that frame. When calculating startingTime, this ASP could be useful. The starting time usually is set to a frame number in a time distance from current frame number. TTCN writer can use G_CL1_ComingFN_REQ to get a frame number in the future then add a certain number of frames as time distance to it and use the result as the value for startingTime.

#### 6.10.2.3.4 L1 header

The layer 1 header of SACCH from UE to network carries information of timing advance and UE uplink transmission power level, verifying L1 header contents is required in some test cases, ASP G_CL1_L1Header_REQ and G_CL1_L1Header_CNF are defined for fulfilling this requirement.

### 6.10.2.4 L2 configuration and control

For normal operation there is no parameter configurable in L2. Some abnormal L2 behaviours are required in test cases. In the test model two ASP's are currently defined to introduce abnormal L2 behaviour. When creating a dedicated channel the initial SACCH header is set to the values in powerLevel and timingAdvance fields of DedCH_Info.

#### 6.10.2.4.1 Don't response to some handover access bursts

In non-synchronized handover procedure UE/MS, having received handover command, sends handover access bursts on the target channel repeatedly till it receives PHYSICAL INFORMATION message from network or T3124 times out. Normally network replies PHYSICAL INFORMATION as soon as it receives handover access burst. Some test cases require that the SS ignores several incoming handover access bursts then responses to the one that follows. ASP G_CL2_HoldPhyInfo_REQ is defined for fulfilling this requirement. It is used together with and before a data ASP sending PHYSICAL INFORMATION message. When SS receives the G_CL2_HoldPhyInfo_REQ, it does not transmit the PHYSICAL INFORMATION message until n handover access bursts have been received.

#### 6.10.2.4.2 No UA reply to SABM

GSM L2 protocol is adapted from LAPD (HDLC subset). The multiframe operation mode is established through exchange of supervisory frame SABM and unnumbered frame UA between peer entities, and SABM is always sent by UE/MS, UA is always sent by network. UE/MS will repeatedly transmit SABM till it receives UA or retransmission counter is reached. Some handover test cases require that the SS does not response to the incoming SABM, so handover fails. G_CL2_NoUAforSABM_REQ is used for such purpose, it commands the SS not to send UA response to the UE when SABM is received.

### 6.10.2.5 System Information sending

There are 17 different SYSTEM INFORMATION messages on BCCH and 4 different SYSTEM INFORMATION messages on SACCH defined for circuit switched services in GSM specification. In a particular test case not all of them are required. SYSTEM INFORMATION messages on BCCH shall be broadcasted periodically by the SS, SYSTEM INFORMATION TYPE 5, 6 and optionally 5bis and 5ter messages shall be sent on SACCH by the SS when nothing else has to be sent on that channel.

G_L2_SYSINFO_REQ is defined to deliver a SYSTEM INFORMATION message and its type SysInfoType to the SS, SS shall store the SYSTEM INFORMATION and transmit it periodically according to the scheduling rules specified in 3GPP TS 45.002 [31] clause 6.3.1.3. SYSTEM INFORMATION message newly delivered shall override the same type SYSTEM IFORMATION message previously stored in the SS.

SYSTEM INFORMATION message type 18, 19, 20 are scheduled by scheduling information in SYSTEM INFORMATION type 9. ASP for scheduling these messages has not been defined yet because these messages are not required in current test cases.

### 6.10.2.6 Paging

Paging message for a particular UE/MS shall be sent on the right CCCH_GROUP (or PCCCH_GROUP) and PAGING_GROUP which are determined by IMSI of the UE/MS and other parameters. In the test model TTCN code is responsible to calculate the value of CCCH_GROUP (or PCCCH_GROUP) and the value of PAGING_GROUP.

TTCN selects the right channel according to the value of CCCH_GROUP (or PCCCH_GROUP), then PAGING REQUEST message and the value of PAGING_GROUP are passed to the SS by using:

- ASP G_L2_Paging_REQ in case of UE/MS in idle mode or the UE/MS not supporting SPLIT_PG_CYCLE on CCCH when it is in GPRS attached mode and PCCCH is absent; or
- G_RLC_ControlMsg_REQ in case of UE/MS supporting 3GPP TS 45.002 [31] clause 6.5.6 when it is in GPRS attached mode and PCCCH is present.

The SS shall determine the position where the paging block is located using the value PAGING_GROUP and other CCCH (or PCCCH) parameters configured by G_CL1_CreateBasicPhyCH_REQ, then send the PAGING REQUEST message according the parameter pagingMode in the ASP:

- send the message on the paging block determined by PAGING_GROUP if pagingMode = "normal paging";
- send the message on the paging block determined by PAGING_GROUP and the "next but one" position on the PCH or in the third block period on PCCCH where paging may occur (PPCH) if pagingMode = "extended paging";
- send the message on all paging blocks if pagingMode ="paging reorganization".

### 6.10.2.7 Generic procedures for GPRS signalling

Two channel combinations are applied to configure a GERAN cell for the GPRS signalling:

- The channel combinations 5 + 13, (FCCH + SCH + BCCH + CCCH + SDCCH/4(0..3) + SACCH/C4(0..3)) + (PBCCH+PCCCH+PDTCH/F+PACCH/F+PTCCH/F), are considered as default at the interRAT tests.
- The channel combinations 5 + 11, (FCCH + SCH + BCCH + CCCH + SDCCH/4(0..3) + SACCH/C4(0..3)) + (PDTCH/F+PACCH/F+PTCCH/F), are applied to the clause 42.4.7.

The following generic procedures show the usages of GPRS ASP's for the GPRS generic attach procedures, the generic cell change order within a TBF and the GSM ciphering procedure.

#### 6.10.2.7.1 GPRS generic attach procedures and ciphering mode control

##### 6.10.2.7.1.1 GPRS attach procedure in channel combinations 5 and 13

| Direction | ASP | message | Comments |
|---|---|---|---|
| SS | G_CL1_CreateCell_REQ | | Create the cell |
| SS | G_CL1_CreateBasicPhyCh_REQ | | Create the physical channel combination 5 for FCCH+SCH+BCCH+CCCH+SDCCH/4(0..3)+SACCH/C4(0..3) |
| SS | G_CL1_CreateBasicPhyCh_REQ | | Create the physical channel combination 13 for PDTCH/F+PACCH/F+PTCCH/F |
| SS -> MS | G_L2_SYSINFO_REQ | SYSTEM INFORMATION TYPE1, SYSTEM INFORMATION TYPE2, SYSTEM INFORMATION TYPE2quater, SYSTEM INFORMATION TYPE3, SYSTEM INFORMATION TYPE4, SYSTEM INFORMATION TYPE13 | Broadcast system information messages : SI 1~4; SI 13 |

| Direction | ASP | message | Comments |
|---|---|---|---|
| SS | G_CRLC_CreateRLC_MAC_REQ | | Create RLC/MAC emulation entity |
| SS | G_CLLC_CreateLLE_REQ | | Create LLC emulation entity |
| SS | MMI_CmdReq | | Power on the UE/MS |
| MS-> SS | G_L2_ACCESS_IND | CHANNEL REQUEST | RACH, TBF establishment with Establishment Cause = one phase packet access. |
| SS | G_CRLC_UL_TBF_Config_REQ | | Set up uplink TBF in RLC/MAC entity in SS, this TBF is corresponding to what indicated in IMMEDIATE ASSIGNMENT. |
| SS -> MS | G_L2_UNITDATA_REQ | IMMEDIATE ASSIGNMENT | Assign the uplink resources (uplink TBF) to MS. Polling bit and Starting Time are set |
| MS -> SS | G_RLC_ControlMsg_IND | PACKET CONTROL ACKNOWLEDGEMENT | |
| SS | G_CLLC_ Assign_REQ | | Assign TLLI, ciphering key and algorithm. The ciphering algorithm = "ciphering not used". The value of ciphering key shall be the one generated in the following authentication procedure. If there is no user data traffic in acknowledged mode before authentication procedure the ciphering algorithm may be set to one of the GPRS ciphering algorithm, and the late G_CLLC_Assign_REQ shall be not used. |
| MS -> SS | G_LLC_UNITDATA_IND | ATTACH REQUEST | MS uses the assigned uplink TBF to transmit the L3 message to SS, the SS manages the operation of the TBF without TTCN intervention and releases the TBF automatically according the countdown procedure. The SS reassembles the received data blocks into the L3 message and passes it to the LLC DATA PCO G_LLC. |
| SS | G_CRLC_DL_TBF_Config_REQ | | Set up downlink TBF in RLC/MAC entity in SS |
| SS -> MS | G_L2_Paging_REQ | IMMEDIATE ASSIGNMENT | Downlink TBF establishment |
| SS -> MS | G_LLC_UNITDATA_REQ | AUTHENTICATION AND CIPHERING REQUEST | |
| MS-> SS | G_L2_ACCESS_IND | CHANNEL REQUEST | RACH, TBF establishment with Establishment Cause = one phase packet access. |

| Direction | ASP | message | Comments |
|---|---|---|---|
| SS | G_CRLC_UL_TBF_Config_REQ | | Set up uplink TBF in RLC/MAC entity in SS, this TBF is corresponding to what indicated in IMMEDIATE ASSIGNMENT. |
| SS -> MS | G_L2_UNITDATA_REQ | IMMEDIATE ASSIGNMENT | Assign the uplink resources (uplink TBF) to MS. Polling bit and Starting Time are set |
| MS -> SS | G_RLC_ControlMsg_IND | PACKET CONTROL ACKNOWLEDGEMENT | |
| SS | G_CLLC_ Assign_REQ | | Assign TLLI, if changed |
| MS -> SS | G_LLC_UNITDATA_IND | AUTHENTICATION AND CIPHERING RESPONSE | |
| SS | G_CLLC_ Assign_REQ | | Keep TLLI unchanged, ciphering algorithm = one of the GPRS ciphering algorithm. The value of ciphering key shall be the one generated in the authentication procedure. If no user data traffic in acknowledged mode before authentication procedure, this ASP is not needed. |
| SS | G_CRLC_DL_TBF_Config_REQ | | Set up downlink TBF in RLC/MAC entity in SS |
| SS -> MS | G_L2_Paging_REQ | IMMEDIATE ASSIGNMENT | Downlink TBF establishment |
| SS -> MS | G_LLC_UNITDATA_REQ | ATTACH ACCEPT | SS uses the established downlink TBF to transmit the L3 message to MS, the SS manages the operation of the TBF without TTCN intervention and releases the TBF automatically after all data blocks of the L3 message are transmitted |
| MS-> SS | G_L2_ACCESS_IND | CHANNEL REQUEST | RACH, TBF establishment with Establishment Cause = one phase packet access. |
| SS | G_CRLC_UL_TBF_Config_REQ | | Set up uplink TBF in RLC/MAC entity in SS |
| SS -> MS | G_L2_UNITDATA_REQ | IMMEDIATE ASSIGNMENT | Assign the uplink resources (uplink TBF) to MS. Polling bit and Starting Time are set |
| MS -> SS | G_RLC_ControlMsg_IND | PACKET CONTROL ACKNOWLEDGEMENT | |
| SS | G_CLLC_ Assign_REQ | | Assign new TLLI |
| MS -> SS | G_LLC_UNITDATA_IND | ATTACH COMPLETE | MS uses the assigned uplink TBF to transmit the L3 message to SS, the SS manages the operation of the TBF without TTCN intervention and releases the TBF automatically according the countdown procedure |
| SS | G_CRLC_DeleteRLC_MAC_REQ | | Release resources in the SS for RLC/MAC emulation entity |
| SS | G_CLLC_DeleteLLE_REQ | | Release resources in the SS for LLC emulation entity |

| Direction | ASP | message | Comments |
|---|---|---|---|
| SS | G_CL1_DeleteChannel_REQ | | Release SS resources of channel combination 13 |
| SS | G_CL1_DeleteChannel_REQ | | Release SS resources of channel combination 5 |
| SS | G_CL1_DeleteCell_REQ | | |

6.10.2.7.1.2 GPRS attach procedure in channel combinations 5 and 11

| Direction | ASP | message | Comments |
|---|---|---|---|
| SS | G_CL1_CreateCell_REQ | | Create the cell |
| SS | G_CL1_CreateBasicPhyCh_REQ | | Create the physical channel combination 5 for FCCH+SCH+BCCH+CCCH +SDCCH/4(0..3)+SACCH/C 4(0..3) |
| SS | G_CL1_CreateBasicPhyCh_REQ | | Create the physical channel combination 11 for PBCCH+PCCCH+PDTCH+ PACCH |
| SS -> MS | G_L2_SYSINFO_REQ | SYSTEM INFORMATION TYPE1, SYSTEM INFORMATION TYPE2, SYSTEM INFORMATION TYPE2quater, SYSTEM INFORMATION TYPE3, SYSTEM INFORMATION TYPE4, SYSTEM INFORMATION TYPE13 | Broadcast system information messages: SI 1~4; SI 13 |
| SS -> MS | G_L2_SYSINFO_REQ | SYSTEM INFORMATION TYPE1, SYSTEM INFORMATION TYPE2, SYSTEM INFORMATION TYPE2quater, SYSTEM INFORMATION TYPE3, SYSTEM INFORMATION TYPE4, SYSTEM INFORMATION TYPE13 | Broadcast system information messages: SI 1~4; SI 13 |
| SS | G_CRLC_CreateRLC_MAC_REQ | | Create RLC/MAC emulation entity |
| SS -> MS | G_RLC_PSI_REQ | PACKET SYSTEM INFORMATION TYPE1, PACKET SYSTEM INFORMATION TYPE2, PACKET SYSTEM INFORMATION TYPE3, PACKET SYSTEM INFORMATION TYPE3bis, PACKET SYSTEM INFORMATION TYPE5 | Broadcast packet system information messages: PSI 1~3bis and if measurement order tests PSI5 |
| SS | G_CLLC_CreateLLE_REQ | | Create LLC emulation entity |
| SS | MMI_CmdReq | | Power on the UE/MS |
| MS-> SS | G_RLC_ACCESS_IND | PACKET CHANNEL REQUEST | PRACH, TBF establishment with MM procedure |
| SS | G_CRLC_UL_TBF_Config_REQ | | Set up uplink TBF in RLC/MAC entity in SS, this TBF is corresponding to what indicated in PACKET UPLINK ASSIGNMENT next |
| SS -> MS | G_RLC_ControlMsg_REQ | PACKET UPLINK ASSIGNMENT | Assign the uplink resources (uplink TBF) to MS. S/P bit set |
| MS-> SS | G_RLC_ControlMsg_IND | PACKET CONTROL ACKNOWLEDGEMENT | |

| Direction | ASP | message | Comments |
|---|---|---|---|
| SS | G_CLLC_ Assign_REQ | | Assign TLLI, ciphering key and algorithm. The ciphering algorithm = "ciphering not used". The value of ciphering key shall be the one generated in the following authentication procedure.<br>If there is no user data traffic in acknowledged mode before authentication procedure the ciphering algorithm may be set to one of the GPRS ciphering algorithm, and the late G_CLLC_Assing_REQ shall be not used. |
| MS -> SS | G_LLC_UNITDATA_IND | ATTACH REQUEST | MS uses the assigned uplink TBF to transmit the L3 message to SS, the SS manages the operation of the TBF without TTCN intervention and releases the TBF automatically according the countdown procedure. The SS reassembles the received data blocks into the L3 message and passes it to the LLC DATA PCO G_LLC. |
| SS | G_CRLC_DL_TBF_Config_REQ | | Set up downlink TBF in RLC/MAC entity in SS |
| SS -> MS | G_RLC_ControlMsg_REQ | PACKET DOWNLINK ASSIGNMENT | Downlink TBF establishment<br>S/P bit is set |
| MS-> SS | G_RLC_ControlMsg_IND | PACKET CONTROL ACKNOWLEDGEMENT | |
| SS -> MS | G_LLC_UNITDATA_REQ | AUTHENTICATION AND CIPHERING REQUEST | |
| MS-> SS | G_RLC_ACCESS_IND | PACKET CHANNEL REQUEST | PRACH, TBF establishment with MM procedure |
| SS | G_CRLC_UL_TBF_Config_REQ | | Set up uplink TBF in RLC/MAC entity in SS, this TBF is corresponding to what indicated in PACKET UPLINK ASSIGNMENT next |
| SS -> MS | G_RLC_ControlMsg_REQ | PACKET UPLINK ASSIGNMENT | Assign the uplink resources (uplink TBF) to MS. S/P bit is set |
| MS-> SS | G_RLC_ControlMsg_IND | PACKET CONTROL ACKNOWLEDGEMENT | |
| SS | G_CLLC_ Assign_REQ | | Assign TLLI, if changed |
| MS -> SS | G_LLC_UNITDATA_IND | AUTHENTICATION AND CIPHERING RESPONSE | |
| SS | G_CLLC_ Assign_REQ | | Keep TLLI unchanged, ciphering algorithm = one of the GPRS ciphering algorithm. The value of ciphering key shall be the one generated in the authentication procedure.<br>If no user data traffic in acknowledged mode before authentication procedure, this ASP is not needed. |

| Direction | ASP | message | Comments |
|---|---|---|---|
| SS | G_CRLC_DL_TBF_Config_REQ | | Set up downlink TBF in RLC/MAC entity in SS |
| SS -> MS | G_RLC_ControlMsg_REQ | PACKET DOWNLINK ASSIGNMENT | Downlink TBF establishment S/P bit is set. |
| MS-> SS | G_RLC_ControlMsg_IND | PACKET CONTROL ACKNOWLEDGEMENT | |
| SS -> MS | G_LLC_UNITDATA_REQ | ATTACH ACCEPT | SS uses the established downlink TBF to transmit the L3 message to MS, the SS manages the operation of the TBF without TTCN intervention and releases the TBF automatically after all data blocks of the L3 message are transmitted |
| MS-> SS | G_RLC_ACCESS_IND | PACKET CHANNEL REQUEST | PRACH, TBF establishment with MM procedure |
| SS | G_CRLC_UL_TBF_Config_REQ | | Set up uplink TBF in RLC/MAC entity in SS |
| SS -> MS | G_RLC_ControlMsg_REQ | PACKET UPLINK ASSIGNMENT | Assign the uplink resources (uplink TBF) to MS. S/P bit is set |
| MS-> SS | G_RLC_ControlMsg_IND | PACKET CONTROL ACKNOWLEDGEMENT | |
| SS | G_CLLC_ Assign_REQ | | Assign new TLLI, ciphering key and algorithm unchanged |
| MS -> SS | G_LLC_UNITDATA_IND | ATTACH COMPLETE | MS uses the assigned uplink TBF to transmit the L3 message to SS, the SS manages the operation of the TBF without TTCN intervention and releases the TBF automatically according the countdown procedure |
| SS | G_CRLC_DeleteRLC_MAC_REQ | | Release resources in the SS for RLC/MAC emulation entity |
| SS | G_CLLC_DeleteLLE_REQ | | Release resources in the SS for LLC emulation entity |
| SS | G_CL1_DeleteChannel_REQ | | Release SS resources of channel combination 11 |
| SS | G_CL1_DeleteChannel_REQ | | Release SS resources of channel combination 5 |
| SS | G_CL1_DeleteCell_REQ | | |

### 6.10.2.7.2 Cell change order within a TBF

#### 6.10.2.7.2.1 Cell change order procedure in channel combinations 5 and 13

| Direction | ASP | message | Comments |
|---|---|---|---|
| SS | G_CL1_CreateCell_REQ | | |
| SS | G_CL1_CreateBasicPhyCh_REQ | | Create the physical channel combination 5 for FCCH+SCH+BCCH+CCCH+SDCCH/4(0..3)+SACCH/C4(0..3) |
| SS | G_CL1_CreateBasicPhyCh_REQ | | Create the physical channel combination 13 for PDTCH/F+PACCH/F+PTCCH/F |

| Direction | ASP | message | Comments |
|---|---|---|---|
| SS -> MS | G_L2_SYSINFO_REQ | SYSTEM INFORMATION TYPE1, SYSTEM INFORMATION TYPE2, SYSTEM INFORMATION TYPE2quater, SYSTEM INFORMATION TYPE3, SYSTEM INFORMATION TYPE4, SYSTEM INFORMATION TYPE13 | Broadcast system information messages: SI 1~4; SI 13 |
| SS | G_CRLC_CreateRLC_MAC_REQ | | Create RLC/MAC emulation entity |
| SS | G_CLLC_CreateLLE_REQ | | Create LLC emulation entity |
| SS | G_CLLC_ Assign_REQ | | Assign TLLI, ciphering key and algorithm |
| MS | | | MS is GPRS attached, PDP context activated, then trigger MS to send two SNDCP PDU on LLC SAPI 3, each with 500 bytes user data. |
| MS-> SS | G_L2_ACCESS_IND | CHANNEL REQUEST | RACH, TBF establishment with Establishment Cause = one phase packet access. |
| SS | G_CRLC_UL_TBF_Config_REQ | | Set up uplink TBF in RLC/MAC entity in SS, this TBF is corresponding to what indicated in the next IMMEDIATE ASSIGNMENT. The USFRate is set to 5 USF per second. |
| SS -> MS | G_L2_UNITDATA_REQ | IMMEDIATE ASSIGNMENT | Assign the uplink resources (uplink TBF) to MS |
| MS -> SS | G_LLC_UNITDATA_IND | User data on SAPI 3, the first SNDCP PDU | The TBF shall not be in countdown process |
| SS -> MS | G_RLC_ControlMsg_REQ | PACKET MEASUREMENT ORDER | This is within the TBF established above, which is in the process handling the second SNDCP PDU<br>REPORT_TYPE = 1 |
| MS -> SS | G_RLC_ControlMsg_IND | PACKET MEASUREMENT REPORT | MS sends the PACKET MEASUREMENT REPORT |
| SS -> MS | G_RLC_ControlMsg_REQ | PACKET CELL CHANGE ORDER | This is within the TBF established above<br>what follows are in UTRAN cell, not present here |

6.10.2.7.2.2 Cell change order procedure in channel combinations 5 and 11

| Direction | ASP | message | Comments |
|---|---|---|---|
| SS | G_CL1_CreateCell_REQ | | |
| SS | G_CL1_CreateBasicPhyCh_REQ | | Create the physical channel combination 5 for FCCH+SCH+BCCH+CCCH +SDCCH/4(0..3)+SACCH/C 4(0..3) |
| SS | G_CL1_CreateBasicPhyCh_REQ | | Create the physical channel combination 11 for PBCCH+PCCCH+PDTCH+ PACCH |

| Direction | ASP | message | Comments |
|---|---|---|---|
| SS -> MS | G_L2_SYSINFO_REQ | SYSTEM INFORMATION TYPE1, SYSTEM INFORMATION TYPE2, SYSTEM INFORMATION TYPE2quater, SYSTEM INFORMATION TYPE3, SYSTEM INFORMATION TYPE4, SYSTEM INFORMATION TYPE13 | Broadcast system information messages: SI 1~4; SI 13 |
| SS | G_CRLC_CreateRLC_MAC_REQ | | Create RLC/MAC emulation entity |
| SS -> MS | G_RLC_PSI_REQ | PACKET SYSTEM INFORMATION TYPE1, PACKET SYSTEM INFORMATION TYPE2, PACKET SYSTEM INFORMATION TYPE3, PACKET SYSTEM INFORMATION TYPE3bis, PACKET SYSTEM INFORMATION TYPE5 | Broadcast packet system information messages : PSI 1~3bis, and PSI 5 |
| SS | G_CLLC_CreateLLE_REQ | | Create LLC emulation entity |
| SS | G_CLLC_ Assign_REQ | | Assign TLLI, ciphering key and algorithm |
| MS | | | MS is GPRS attached, PDP context activated, then trigger MS to send two SNDCP PDU on LLC SAPI 3, each with 500 bytes user data. |
| MS-> SS | G_RLC_ACCESS_IND | PACKET CHANNEL REQUEST | PRACH, TBF establishment with one phase or two phase access |
| SS -> MS | G_RLC_ControlMsg_REQ | PACKET UPLINK ASSIGNMENT | PCCCH, Single block allocation |
| MS -> SS | G_RLC_ControlMsg_IND | PACKET RESOURCE REQUEST | |
| SS | G_CRLC_UL_TBF_Config_REQ | | Set up uplink TBF in RLC/MAC entity in SS, this TBF is corresponding to what indicated in PACKET UPLINK ASSIGNMENT next. The USFRate is set to 5 USF per second. |
| SS -> MS | G_RLC_ControlMsg_REQ | PACKET UPLINK ASSIGNMENT | Assign the uplink resources (uplink TBF) to MS |
| MS -> SS | G_LLC_UNITDATA_IND | User data on SAPI 3, the first SNDCP PDU | The TBF shall not be in countdown process |
| SS -> MS | G_RLC_ControlMsg_REQ | PACKET MEASUREMENT ORDER | This is within the TBF established above, which is in the process handling the second SNDCP PDU REPORT_TYPE = 0 |
| MS -> SS | G_RLC_ControlMsg_IND | PACKET ENHANCED MEASUREMENT REPORT | MS sends control message |
| SS -> MS | G_RLC_ControlMsg_REQ | PACKET CELL CHANGE ORDER | This is within the TBF established above<br>what follows are in UTRAN cell, not present here |

### 6.10.2.8 Generic configuration procedure for GSM ciphering mode control

| Direction | ASP | message | Comments |
|---|---|---|---|
| | . . . | | Other necessary configuration ASP's |
| SS | G_CL1_CreateBasicPhyCh_REQ | | Create a dedicated physical channel, e.g. combination 1 with ciphering not started: This ASP download Kc and ciphering algorithm to the SS with startingCiph = 0 in cipherMode. If there is no authentication procedure before CIPHERING MODE COMMAND, the value of Kc in this ASP shall be the one generated in previous authentication procedure, otherwise the value of Kc shall be the one generated by forthcoming authentication procedure. |
| | . . . | | Any other signalling message sending/receiving or configuration ASP's |
| SS | G_CL1_CipheringControl_REQ | | rcvCipherMode ='1' , the SS starts ciphering on receiving |
| SS | G_CL1_CipheringControl_CNF | | |
| SS -> MS | G_L2_DATA_REQ | CIPHERING MODE COMMAND | Sent without ciphering |
| SS | | | Before this point both transmitting and receiving in the SS are not ciphered. |
| MS -> SS | G_L2_DATA_IND<br><br><br><br>. . . | CIPHERING MODE COMPLETE | After receiving this message the SS shall start ciphering on transmitting, The CIPHERING MODE COMPLETE is ciphered Any signalling message or user data sending/receiving in ciphered mode |

### 6.10.2.9 L|H bits convention and bit padding in DL

#### 6.10.2.9.1 GERAN DL RLC/MAC message bit padding

The length of a GPRS RLC/MAC control messages is an integer number of RLC/MAC control blocks. Padding bits are necessary to fill the message up to the desired length. The padding bits may be the 'null' string. Otherwise, the padding bits starts with bit '0', followed by "spare padding". The padding sequence used for "spare padding" in this specification, is a repetition of octet '00101011', starting on an octet boundary.

< padding bits > ::= { null | 0 < spare padding >

"<spare padding> ::= <spare L> {null | < spare padding>}"

In the TTCN a specific encoding variation - encoding rule 1 - is defined according to the rules described above. This shall be used in the definition of the message itself. No 'padding bits' field will be defined in the TTCN. The implementation shall ensure that after encoding the message contents defined in the TTCN, the remainder of the message shall be filled with 'padding bits'.

#### 6.10.2.9.2 GSM DL message spare padding

A number of GPRS information elements are defined in the rest octets of certain GSM DL messages, for instance, IA Rest Octets, SI 2quater Rest Octets, SI 3 Rest Octets, SI 4 Rest Octets, SI 13 Rest Octets, etc. These rest octets were filled in a repetition of bit padding '00101011' or '2B'O, starting on an octet boundary to a certain length.

In the TTCN, a second encoding variation - encoding rule 2 - shall be used in the definition of the message itself, which shall be of a fixed length (always 23 octets). No "spare padding" field will be defined in the TTCN. The implementation shall ensure that after encoding the message contents defined in the TTCN, the remainder of the message, up to the defined fixed length, shall be filled with "spare padding".

#### 6.10.2.9.3 L | H convention in rest octets of GSM DL messages

A number of GPRS information elements are defined in the rest octets of certain GSM DL messages. The special notations "L" and "H" are used to denote respectively the bit's logical value corresponding to the padding spare bit for that position, and the other value. The actual value of the bit transmitted by SS therefore depends upon its position within the octet - this involves counting bits.

In the TTCN a third encoding variation - encoding rule 3 - is defined for this purpose. This encoding variation is applied to those specific TTCN Rest Octets definitions which contain the L|H convention.

#### 6.10.2.9.4 Spare Bits

Where the IE definition of RLC/MAC blocks contains bits defined to be 'spare bits', these bits shall set to the value '0' by the TTCN writers, according to the defined length indicator.

#### 6.10.2.9.5 GSM System Information messages on SACCH

Certain GSM System Information messages, for instance, SI 5 and SI 6 are sent as a B4 frame on the SACCH. These messages are defined in 3GPP 44.006 [42], clause 8.8.3, to have a maximum of 19 octets.

In the TTCN a fourth encoding variation - encoding rule 4 - shall be used in the definition of the message itself. The implementation shall ensure that after encoding the message contents defined in the TTCN, the remainder of the message, up to the fixed length of 19 octets, shall be filled with "spare padding".

#### 6.10.2.9.6 GSM Measurement Information messages on SACCH

The GSM Measurement Information message is sent as a Bter UI frame on the SACCH. This messages is defined in 3GPP 44.006 [42], clause 8.8.3 to have a maximum of 21 octets.

In the TTCN a fifth encoding variation - encoding rule 5 - shall be used in the definition of the message itself. The implementation shall ensure that after encoding the message contents defined in the TTCN, the remainder of the message, up to the fixed length of 21 octets, shall be filled with "spare padding".

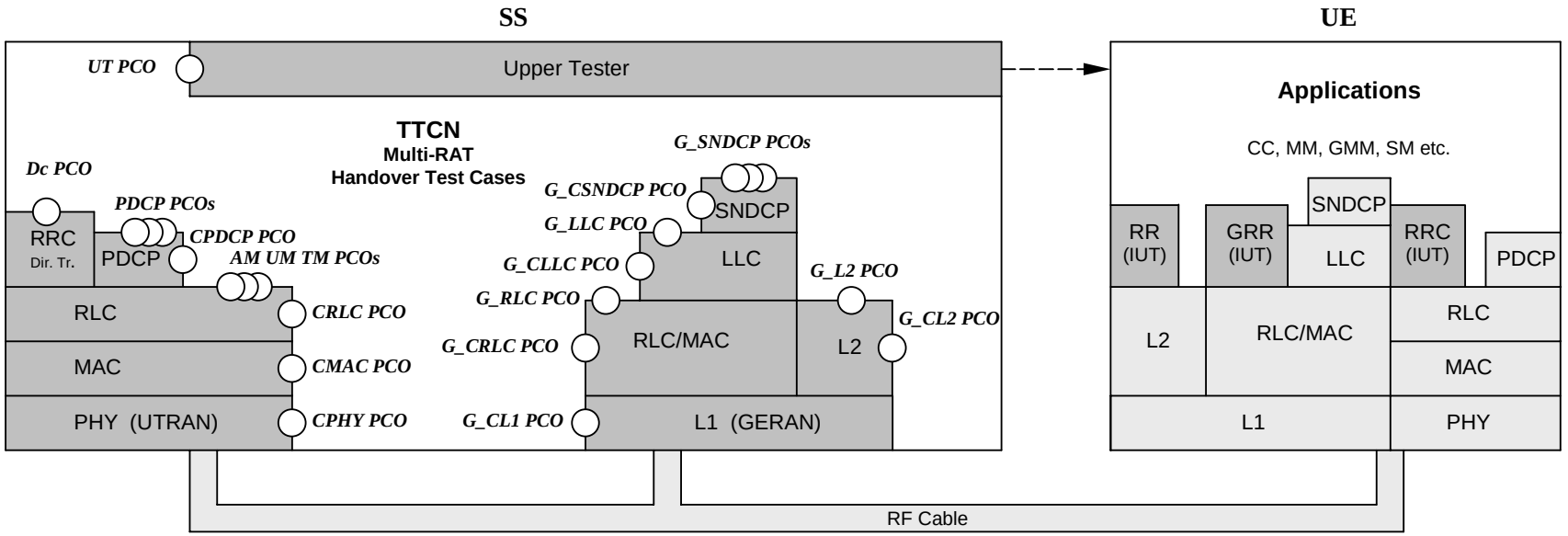



Figure 16: The model of multi-RAT handover testing

# 6.11 DCH-DSCH model (R99 or Rel-4)

The model illustrates the relationship between various channels from logical channel to physical channels. DCH are associated with DSCH.

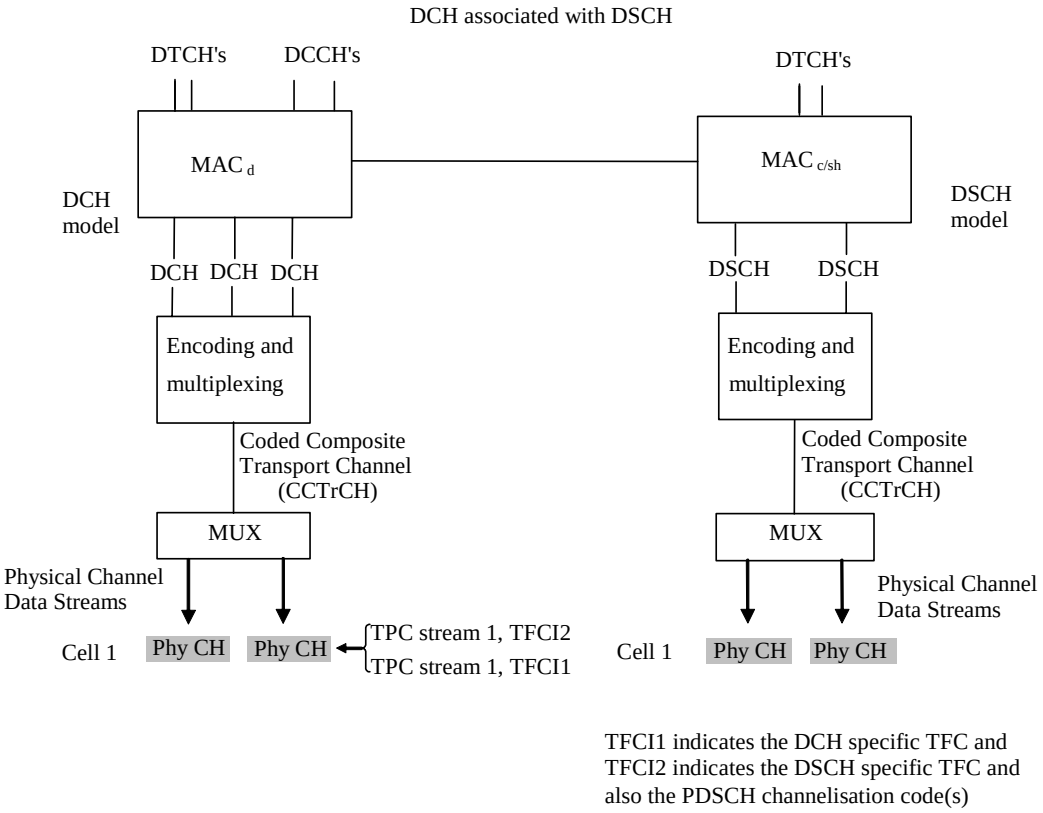



**Figure 17: Associated DCH-DSCH model**

The model associating DCH with DSCH enable in the SS:

- to define DSCH transport channel;
- to define TFCI(field2) for DSCH;
- to configure PDSCH;
- to define DSCH-RNTI value.

# 6.12 DCH with HS-DSCH model (FDD, Rel-5 or later)

The test model illustrates the relationship between various channels from logical channels to physical channels. All DCH are associated with a single HS-DSCH.

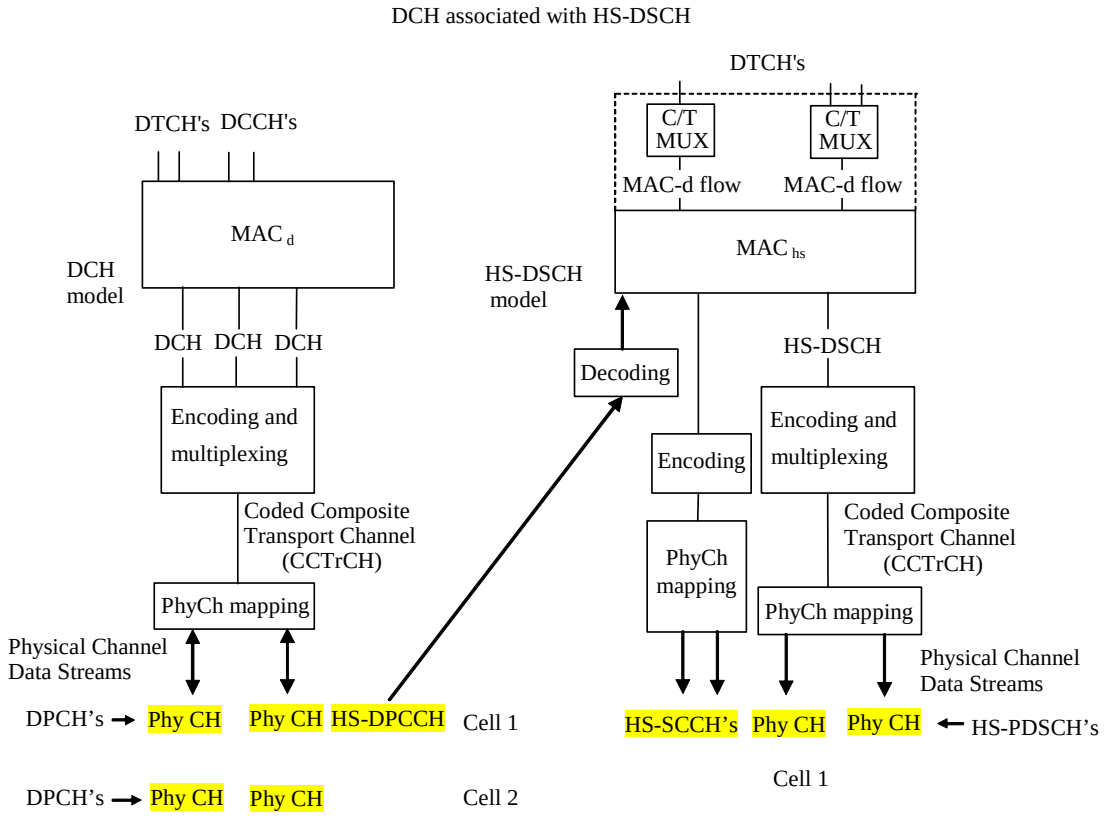



**Figure 18: Associated DCH with HS-DSCH model**

Associating DCH with HS-DSCH, the model enables in the SS:

- to define MAC-hs and multiplexing of logical channels DTCHs onto MAC-d flows;
- to configure HS-DSCH transport channel and MAC-d flows;
- to configure HS-PDSCHs and HS-SCCHs;
- to define the H-RNTI value.

# 6.12a DCH with HS-DSCH model for 1.28 Mcps TDD (Rel-5 or later)

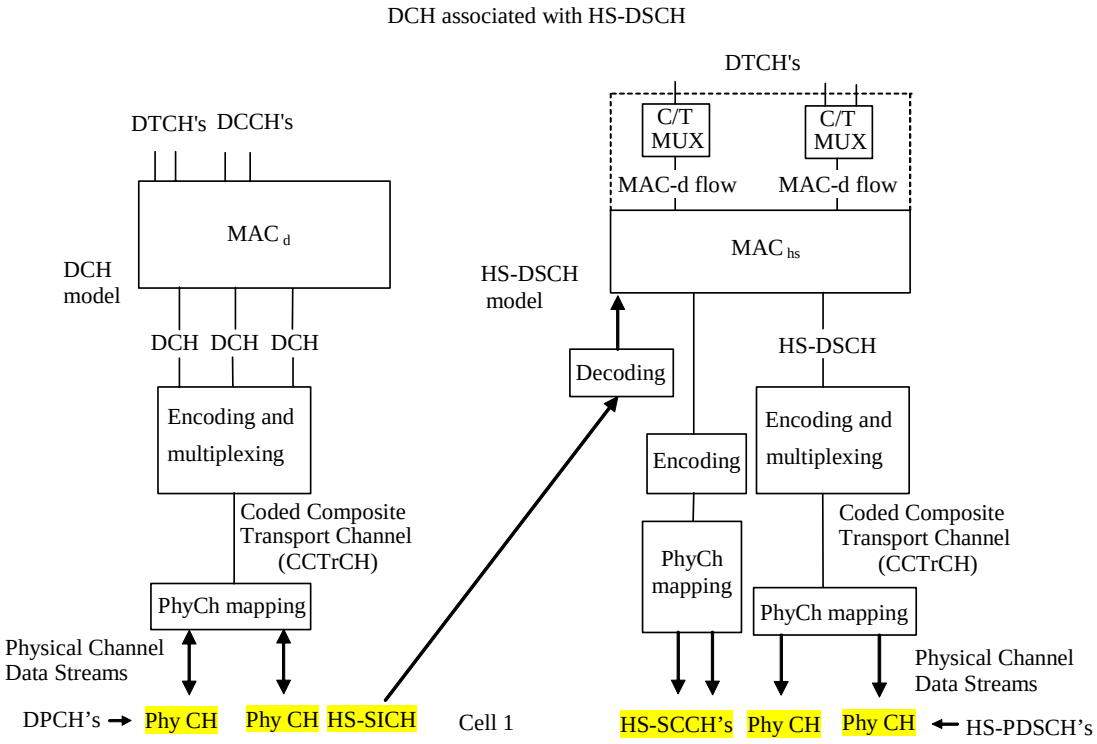



**Figure 19: Associated DCH with HS-DSCH model for 1.28Mcps TDD**

Associating DCH with HS-DSCH, the model enables in the SS:

to define MAC-hs and multiplexing of logical channels DTCHs onto MAC-d flows;

to configure HS-DSCH transport channel and MAC-d flows;

to configure HS-PDSCHs and HS-SCCHs;

to define the H-RNTI value.

# 6.13 E-DCH model (Rel-6 or later)

The E-DCH model illustrates the relationship between various channels from logical channel to physical channels. In this model the TTCN writer can:

define MAC-e/es and multiplexing of logical channels onto MAC-d flows;

configure E-DCH transport channel and MAC-d flows;

configure E-DPDCH, E-DPCCH, E-HICH, E-RGCH and E-AGCH.

MAC-es and the served RLC are cell-independent and are configured by using the cell-id = -1. During reconfigurations, cell changes and state transitions, the relevant counters in the RLC are maintained.

For the reason of simplicity, the E-DCH testing model does not shown the relation between E-DCH and related DCH and HS-DPCH, however the TTCN writer shall understand that the E-DCH active set is a subset of the DCH active set, when configuring E-DCH in the SS the TTCN writer shall keep this requirement respected.

During the active set updating (soft handover), the test case configurations may involve more than one cell. Those cells are under the control of the same Node B (intra-node) or under several Node B"s (inter-node). For the signalling testing no macro diversity is required in the SS. In such test configurations only one E-DPDCH is necessary to be configurued (together with corresponding E-DCH) for each Node B. Preferably, the E-DPDCH in the serving E-DCH cell controlled by the serving Node B is chosen for the configuration. In the inter-node soft handover cases, the E-DPDCH in a Non-serving RL cell of another Node B may require to be configured, instead of the one in the serving E-DCH cell. When the configuration involves several Node B"s only one MAC-e (Node B) is necessary to be connected to the MAC-es. All possible connections are represented by dashed line and the preferable connection is the connection between MAC-es and the Node B controlling the serving E-DCH cell.

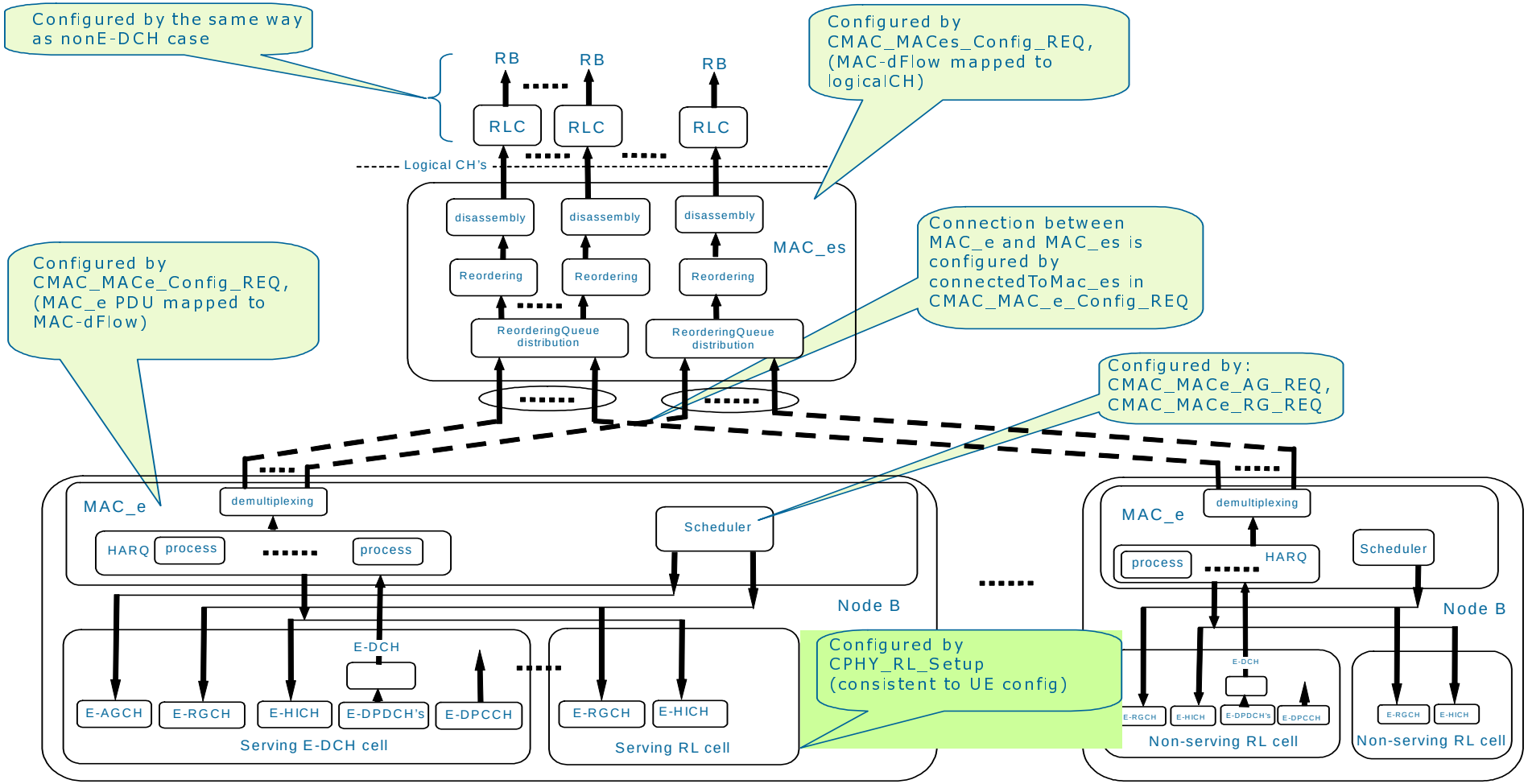



**Figure 20: The model of E-DCH testing**

## 6.14 MBMS model (Rel-6 or later)

The MBMS test model illustrates the relationship between various channels, from logical channel to physical channels applied to the MBMS test. The MBMS-dedicatend stand-alone SCCPCH, MICH, MAC-m, MCCH, MSCH and MTCH are configured by the TTCN.

During softcombining, MTCHs which have the same logical channel identity but in different cells are connected to the same UM RLC.

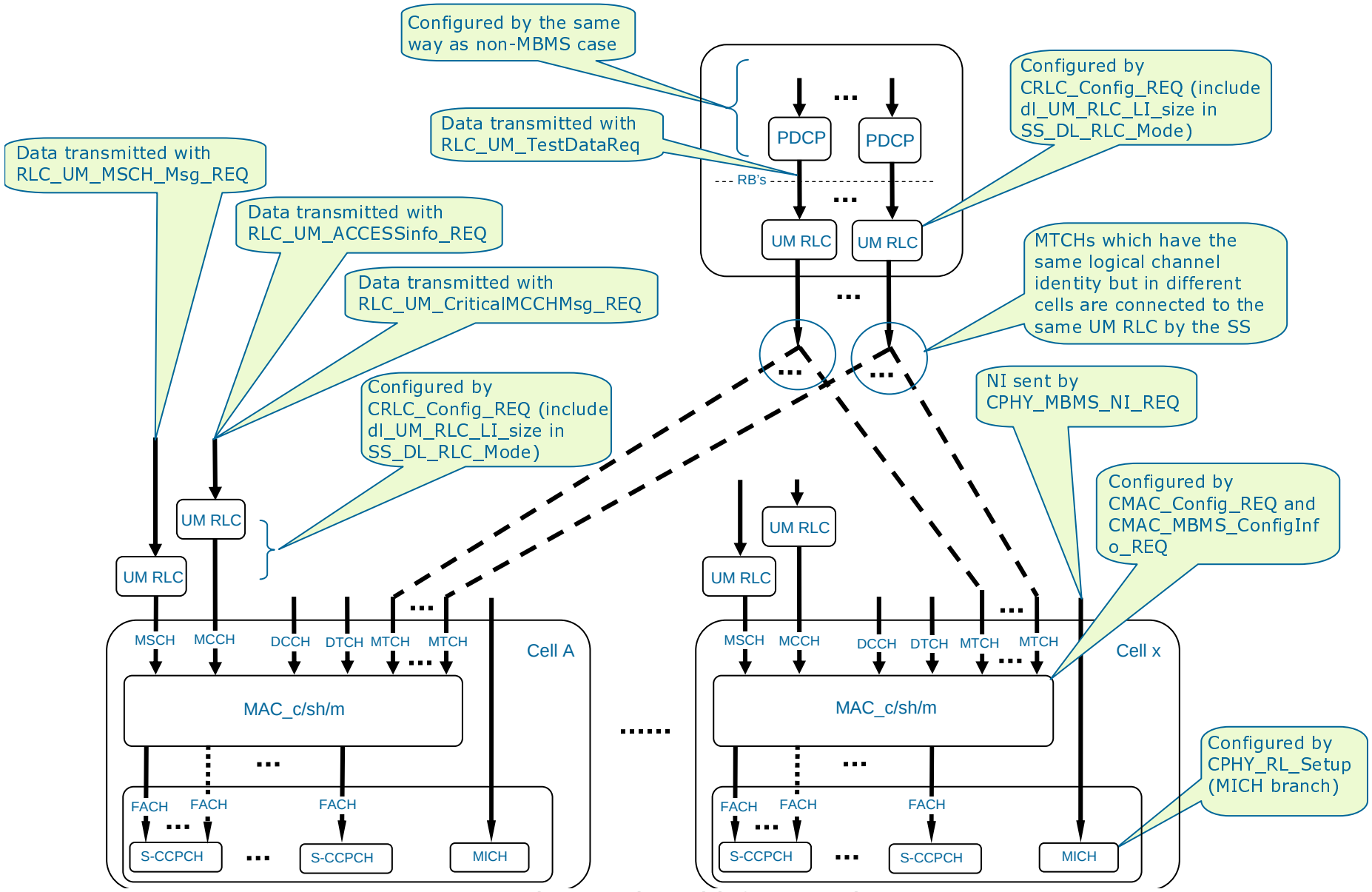



**Figure 21: The model of MBMS testing**

# 7 PCO and ASP definitions

## 7.1 NAS PCO and ASP definitions

### 7.1.1 NAS PCO Definitions

**Table 3: Dc PCO Type Declarations**

| PCO Type Declarations | |
|---|---|
| **PCO Type** | Dc_SAP |
| **Role** | LT |
| **Comments** | The PCO type for NAS testing |

**Table 4: Dc PCO Declarations**

| PCO Declarations | |
|---|---|
| **PCO Name** | Dc |
| **PCO Type** | Dc_SAP |
| **Role** | LT |
| **Comments** | Carry transmission and reception of NAS messages |

### 7.1.2 Primitives used at Dc PCO

The Dc PCO is used to transmit and receive NAS (MM, CC, SM, SS) messages. Two categories of primitives are operated at the Dc PCO:

- RRC_DataReq for transmission of a NAS PDU;
- RRC_DataInd for reception of a NAS PDU.

These primitives are declared in TTCN tabular form, see table 21.

**Table 5: Primitives used at the Dc PCO**

| Primitive | Parameters | Use |
|---|---|---|
| RRC_DataInd | Cell identity<br>INTEGER (-31 ... 32)<br>LogicChGSM<br>SapId<br>CN domain id<br>START<br>NAS message | The ASP is used to indicate the receipt of a NAS message using acknowledged operation |
| RRC_DataReq | Cell identity<br>INTEGER (-31 ... 32)<br>LogicChGSM<br>SapId<br>CN domain id<br>NAS message | The ASP is used to request the transmission of a NAS message using acknowledged operation |

The RB Identity and CN domain parameters defined in the primitives are mandatory for UTRAN and not applicable for GERAN.

The START parameter is mandatory in INITIAL DIRECT TRANSFER; each time when it is received the new START shall be downloaded to the SS to reinitialize counters-C and counters-I.

The LogicChGSM and SapId parameters are mandatory for GERAN and not applicable for UTRAN. They are defined because they may be used for future TTCN test cases.

Except the initial, uplink and downlink direct transfer procedures, the NAS TTCN specification uses the TTCN test steps to realize all RRC functions for testing. The single layer test concept is kept for the NAS tests.

A simple RRC emulation shall be maintained for the NAS tests. It has four functions:

- Emulate the three direct transfer procedures;
- Convert the NAS downlink messages defined in 3GPP TS 24.008 [9] in table format to the NAS message in ASN.1 octet string specified in 3GPP TS 25.331 [21]. Convert the NAS uplink message in the reverse way;
- PER encoding and decoding;
- Have the integrity protection.

RB3 and RB4 are specifically used for the NAS signalling. When an uplink message entered the receiving buffer at AM-SAP from the RLC emulation, either an RRC test step if running will take it out; or the RRC emulation if running will pick the received message from the buffer. Activation of any RRC test steps and activation of any NAS test steps at the same time shall be excluded in TTCN (no concurrency between them).

# 7.2 Ut PCO and ASP definitions

## 7.2.1 Ut PCO Declarations

The Ut PCO is served as the interface to the UE EMMI for remote control of operations, which have to be performed during execution of a test case such as to switch the UE on/off, initiate a call, etc.

**Table 6: Declaration of the uppertester PCO type**

| PCO Type Declarations | |
|---|---|
| **PCO Type** | MMI |
| **Role** | UT |
| **Comments** | The PCO type for MMI or EMMI of the upper tester |

**Table 7: Declaration of the Ut PCO**

| PCO Declarations | |
|---|---|
| **PCO Name** | Ut |
| **PCO Type** | MMI |
| **Role** | UT |
| **Comments** | Carry transmission commands and reception of results for the upper tester |

## 7.2.2 Primitives used at Ut PCO

The Ut PCO is used to indicate to the upper tester actions and to receive the acknowledgement of these actions. The AT commands are used wherever the suitable commands exist within 3GPP TS 27.007 [23], 3GPP TS 27.005 [22] and 3GPP TS 27 060 [24]. An MMI command is used, when AT commands does not exit for the action to performed. The primitives used at the Ut PCO, are declared in TTCN tabular form, see the table 21.

**Table 8: Primitives used at the Ut PCO**

| Primitive | Parameters | Use |
|---|---|---|
| AT_CmdReq | Command: IA5String<br>SMS_BlockMode: HEXSTRING | Request an AT command to the upper tester. |
| AT_CmdInd | Command: IA5String<br>SMS_BlockMode: HEXSTRING | Indication of a result from the upper tester. |
| AT_CmdCnf | Result: BOOLEAN<br>ResultString: IA5String<br>SMS_BlockMode: HEXSTRING | Return a positive or negative result from the command previously sent. Both the Boolean result and String parameter are optional. |
| MMI_CmdReq | Command: IA5String | Request a command to the upper tester. |
| MMI_CmdCnf | Result: BOOLEAN<br>ResultString: IA5String | Return a positive or negative result from the command previously sent. The String parameter is optional. |

The AT_CmdReq primitive for sending AT commands is mostly used to trigger electronically an uplink access, such as initiating of a call, attaching or detaching, starting packet data transfer etc. The MMI_ primitive is defined mainly for observation of some test events via a test operator, such as checking DTMF tone or checking called party number, etc.

The AT_CmdInd primitive for receiving AT commands is mostly used to transfer unsolicited result codes from the UE to the lower tester.

The SMS_BlockMode parameter is used to control and observe the Block mode procedure for SMS. This parameter is not yet used; it is defined for future development. The Command and SMS_BlockMode parameters are mutually exclusive

For the Command in the AT_CmdReq and AT_CmdInd primitives, the verbose format is used as defined in 3GPP TS 27.007 [23]. For the Command in MMI_CmdReq, just a descriptive IA5 string line, like "Check DTMF tone" is used.

# 7.3 RRC PCO and ASP definitions

## 7.3.1 AM/UM/TM PCO and ASP definitions

### 7.3.1.1 SAP and PCO for data transmission and reception

**Table 9: Declaration of the RRC PCO Type**

| PCO Type Definition | |
|---|---|
| **PCO Type** | DSAP |
| **Role** | LT |
| **Comment** | DATA transmission and reception |

**Table 10: PCO TM declaration**

| PCO Type Definition | |
|---|---|
| **PCO Name** | TM |
| **PCO Type** | DSAP |
| **Role** | LT |
| **Comment** | Carry Transparent Mode RLC PDU |

**Table 11: PCO AM declaration**

| PCO Type Definition | |
|---|---|
| **PCO Name** | AM |
| **PCO Type** | DSAP |
| **Role** | LT |
| **Comment** | Carry Acknowledged Mode RLC PDU |

**Table 12: PCO UM declaration**

| PCO Type Definition | |
|---|---|
| **PCO Name** | UM |
| **PCO Type** | DSAP |
| **Role** | LT |
| **Comment** | Carry Unacknowledged Mode RLC PDU |

**Table 13: PCO BMC declaration**

| PCO Type Definition | |
|---|---|
| **PCO Name** | BMC |
| **PCO Type** | DSAP |
| **Role** | LT |
| **Comment** | Provide Unacknowledged Mode BMC data transmission service |

## 7.3.2 Control PCO and ASP

### 7.3.2.1 SAP and PCO for control primitives transmission and reception

**Table 14: SAP declaration**

| PCO Type Definition | |
|---|---|
| **PCO Type** | CSAP |
| **Role** | LT |
| **Comment** | Control primitives transmission and reception |

**Table 15: PCO CPHY**

| PCO Definition | |
|---|---|
| **PCO Name** | CPHY |
| **PCO Type** | CSAP |
| **Role** | LT |
| **Comment** | Control Physical Layer |

**Table 16: PCO CRLC**

| PCO Definition | |
|---|---|
| **PCO Name** | CRLC |
| **PCO Type** | CSAP |
| **Role** | LT |
| **Comment** | Control RLC Layer |

**Table 17: PCO CMAC**

| PCO Definition | |
|---|---|
| **PCO Name** | CMAC |
| **PCO Type** | CSAP |
| **Role** | LT |
| **Comment** | Control MAC Layer |

**Table 18: PCO CBMC**

| PCO Definition | |
|---|---|
| **PCO Name** | CBMC |
| **PCO Type** | CSAP |
| **Role** | LT |
| **Comment** | Control BMC Layer |

**Table 19: ContainingDecoder declaration**

| PCO Type Definition | |
|---|---|
| **PCO Type** | ContainingDecoder |
| **Role** | LT |
| **Comment** | Control decoder primitives transmission and reception |

**Table 20: PCO CDec**

| PCO Definition | |
|---|---|
| **PCO Name** | CDec |
| **PCO Type** | ContainingDecoder |
| **Role** | LT |
| **Comment** | Control asn.1 CONTAINING decoder |

### 7.3.2.2 Control ASP Type Definition

#### 7.3.2.2.1 CPHY_AICH_AckModeSet

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_AICH_AckModeSet_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request for setting of AICH Acknowledge Mode |
| **Type Definition** | |

```
SEQUENCE    {
            cellId              INTEGER(0..63),
            routingInfo         RoutingInfo,
            ratType             RatType,
            aICH_Mode           AICH_Mode
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_AICH_AckModeSet_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm setting of AICH Acknowledge Mode |
| **Type Definition** | |

```
SEQUENCE    {
                cellId                  INTEGER(0..63),
                routingInfo             RoutingInfo
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | AICH_Mode |
| **Comment** | Normal operation: The AICH will operate as normal, and will acknowledge or negatively acknowledge on all UE RACH transmission attempts, appropriately.<br>No Acknowledge: The AICH shall not transmit acknowledge or Negative Acknowledge on all UE RACH transmission attempts.<br>Negative Acknowledge: The AICH shall transmit Negative Acknowledge on all UE RACH transmission attempts |
| **Type Definition** | |
| ENUMERATED {<br>normal (0),<br>noAck (1),<br>negACK (2)<br>} | |

### 7.3.2.2.2 CPHY_Cell_Config

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_Cell_Config_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to setup the cell parameter |
| **Type Definition** | |
| SEQUENCE {<br>cellId INTEGER(0..63)<br>} | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_Cell_Config_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to setup the cell parameter.<br>The unit of tcell is chip; the unit of sfnOffset is frame number. The sfnOffset is defined as the number of frames the SFN shall be shifted, i.e the frames lagging behind or in advance, in comparison to a system reference time. The both interpretations are valid for the test.<br>The primary scrambling code number of the cell is 16*primaryScramblingCode_SS; the unit of dLTxAttenuationLevel is dB. |
| **Type Definition** | |
| SEQUENCE {<br>cellId INTEGER(0..63),<br>tcell INTEGER(0..38399),<br>sfnOffset INTEGER(0..4095),<br>frequencyInfo FrequencyInfo,<br>primaryScramblingCode_SS INTEGER(0..511),<br>cellTxPowerLevel CellTxPowerLevel,<br>dLTxAttenuationLevel INTEGER(0..30),<br>frequencyBandIndicator FrequencyBandFDD<br>} | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CellTxPowerLevel |
| **Comment** | The defaultCellTxPowerLvl is a default setting and is used for the most signalling tests. The real total cell DL Tx power level equals to the sum of the DL Tx power of the individual physical channels configured.<br>The totalCellTxPowerLvl applies to e.g. the idle mode tests in a non-default multi-cell radio environment. |
| **Type Definition** | |
| CHOICE {<br>defaultCellTxPowerLvl NULL,<br>totalCellTxPowerLvl DL_TxPower<br>} | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | FrequencyBandFDD |
| **Comment** | The frequency band indicator indicates how to interpret the radio frequency broadcast. |
| **Type Definition** | |

```
CHOICE {
        frequencyBandIndicator      RadioFrequencyBandFDD,
        frequencyBandIndicator2     RadioFrequencyBandFDD2
}
```

### 7.3.2.2.3 CPHY_Cell_Release

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_Cell_Release_CNF |
| **PCO Type** | CSAP |
| **Comment** | The confirmation to the CPHY_Cell_Release_Req |
| **Type Definition** | |

```
SEQUENCE {
            soft_Reset          BOOLEAN,
            cell_ID_List        SEQUENCE (SIZE (1..8)) OF INTEGER(0..63)    -- cell IDs
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_Cell_Release_REQ |
| **PCO Type** | CSAP |
| **Comment** | 1. This Primitive with "Soft_Reset" flag ON gives a common known starting point/state of SS for a test case. The SS performs the following whenever it receives this primitive with "Soft_Reset" flag ON: Releases all configured Channels and cells (if any) irrespective of Cell ID list IE.<br>2. Releases the associated Memory Buffers (if any).<br>3. Cancels all active timers (if any)<br>With "Soft_Reset" flag OFF:<br>1. Releases cells listed in IE Cell_ID_List and associated configured Channels (if any)<br>2. Releases the Memory Buffers(if any) associated with Cells listed in IE Cell_ID_List<br>3. Cancels all active timers (if any) associated with Cells listed in IE Cell_ID_List. |
| **Type Definition** | |

```
SEQUENCE {
            soft_Reset          BOOLEAN,
            cell_ID_List        SEQUENCE (SIZE (1..8)) OF INTEGER(0..63)    -- cell IDs
}
```

### 7.3.2.2.3a CPHY_Cell_TimingAdjust

tbd

### 7.3.2.2.3b CPHY_Detect_TFCI

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_DetectTFCI_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to CPHY_DetetTFCI_REQ |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                          INTEGER(0..63) ),
            routingInfo                     RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_DetectTFCI_REQ |
| **PCO Type** | CSAP |
| **Comment** | To set the mode of the SS for detecting whether the specified list of TFCI values occurred.<br>Usage:<br>At the SS initialisation, the default mode is stop.<br>When the mode is set to start, the SS shall detect whether the specified list of TFCI values (tfci_List) happens on the specified uplink physical channel. When happened the SS generates a CPHY_TFCI_Detected_IND and stop further detection. Otherwise keeps monitoring until a CPHY_DetectTFCI_REQ with mode = stop received. |
| **Type Definition** | |
| SEQUENCE { | |
| cellId | INTEGER(0..63), |
| routingInfo | RoutingInfo, |
| mode | ENUMERATED{start(0), stop(1)}, |
| tfci_List | TFCI_List |
| } | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_TFCI_Detected_IND |
| **PCO Type** | CSAP |
| **Comment** | To indicate the TFCI value specified in the CPHY_DetectTFCI_REQ has been detected. |
| **Type Definition** | |
| SEQUENCE { | |
| cellId | INTEGER(0..63), |
| routingInfo | RoutingInfo, |
| tfciValue | INTEGER (0..1023) |
| } | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | TFCI_List |
| **Comment** | |
| **Type Definition** | |
| SEQUENCE ( SIZE (1..1024)) OF INTEGER (0..1023) | |

### 7.3.2.2.4 CPHY_Ini

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_Ini_REQ |
| **PCO Type** | CSAP |
| **Comment** | Request to initialize the test |
| **Type Definition** | |
| ENUMERATED { | |
| defaultRadioEnvironment(0), | |
| nonDefaultMultiCell(1) | |
| } | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_Ini_CNF |
| **PCO Type** | CSAP |
| **Comment** | Confirm the test initialization |
| **Type Definition** | |
| SEQUENCE { | |
| confirmation | NULL |
| } | |

### 7.3.2.2.5 CPHY_Cell_TxPower_Modify

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_Cell_TxPower_Modify_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to change the DL power |
| **Type Definition** | |

```
SEQUENCE    {
            cellId              INTEGER(0..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_Cell_TxPower_Modify_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to change the DL power<br>If the Tx attenuation level value is set to 123, the cell becomes a non-suitable off cell (CPICH_Ec ≤ -122 dBm/3.84 MHz of an off cell). |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(0..63),
            dLTxAttenuationLevel        INTEGER(0..40|123)
}
```

### 7.3.2.2.6 CPHY_Frame_Number

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_Frame_Number_CNF |
| **PCO Type** | CSAP |
| **Comment** | To return the requested connection frame number. The routingInfo indicates a physical channel. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(0..63),
            routingInfo                 RoutingInfo,
            frameNumber                 INTEGER (0..255)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_Frame_Number_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request the physical layer to return a connection frame number on which the next message can be sent at the specified PCO on the specified logical channel. The return frame number shall leave time from current frame number in order to leave some execution time for TTCN preparing next message. The routingInfo indicates a physical channel |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(0..63),
            routingInfo             RoutingInfo
}
```

### 7.3.2.2.6a CPHY_MBMS_MICH_CFN (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_MBMS_MICH_CFN_CNF |
| **PCO Type** | CSAP |
| **Comment** | To return the requested connection frame number of MICH. The routingInfo indicates the MICH physical channel. The MICH Connection Frame Number (CFN) corresponds to the Cell SFN of the frame in which the start of the S-CCPCH frame is located |

**Type Definition**

```
SEQUENCE    {
            cellId                  INTEGER(0..63),
            routingInfo             RoutingInfo,
            frameNumber             MICH_CFN
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_MBMS_MICH_CFN_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request the physical layer to return a MICH connection frame number on which the next modification period starts. The return frame number shall leave time from current frame number in order to leave some execution time for TTCN preparing next message. The routingInfo indicates the MICH physical channel. The MICH Connection Frame Number (CFN) corresponds to the Cell SFN of the frame in which the start of the S-CCPCH frame is located |

**Type Definition**

```
SEQUENCE    {
            cellId              INTEGER(0..63),
            routingInfo         RoutingInfo
}
```

### 7.3.2.2.6b CPHY_MBMS_MICH_q (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_MBMS_MICH_q_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm CPHY_MBMS_MICH_q_REQ. The routingInfo indicates the MICH physical channel. |

**Type Definition**

```
SEQUENCE    {
            cellId              INTEGER(0..63),
            routingInfo         RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_MBMS_MICH_q_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request the physical layer to transmit MBMS notification Indicators on the MICH physical channel. The transmission shall start on the SFN specified by the parameter mICHCFN and be continued for one modification period indicated by parameter modiCoefficent. The routingInfo indicates the MICH physical channel. The notification indicators to be transmitted are specified by the parameter indicatorList. |

**Type Definition**

```
SEQUENCE    {
            cellId                  INTEGER(0..63),
            routingInfo             RoutingInfo,
            mICHCFN                 MICH_CFN,
            modiPeriodCoefficent    INTEGER(7..10),
            indicatorList           MBMS_q_List
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MBMS_q_List |
| **Comment** | The maximum number of notification indicators per frame for the nn18 alternative is 18.<br>The maximum number of notification indicators per frame for the nn36 alternative is 36.<br>The maximum number of notification indicators per frame for the nn72 alternative is 72.<br>The maximum number of notification indicators per frame for the nn144 alternative is 144 |
| **Type Definition** | |
| CHOICE {<br>nn18 Q_List18,<br>nn36 Q_List36,<br>nn72 Q_List72,<br>nn144 Q_List144<br>} | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | Q_List18 |
| **Comment** | This type is a list which holds 128 or 256 or 512 or 1024 values of ListOf18q, each value of ListOf18q is also a list of (1..18) values of INTEGER. The first value of ListOf18q is corresponding to the MICH frame which starts the modification period, the second value of ListOf18q is corresponding to the next MICH frame in the modification period and so on, the last value of ListOf18q is corresponding to the last MICH frame of the modification period. Be noted that for different modification period configurations the number of values of ListOf18q are different and shall match the configuration.<br>The SS sets the bits {b0, …, b287} of the MICH frame according to the INTEGER values in the ListOf18q corresponding to the MICH frame. (see TS25.211 subclause 5.3.3.15) |
| **Type Definition** | |
| CHOICE {<br>fRM128 SEQUENCE SIZE(128) OF ListOf18q,<br>fRM256 SEQUENCE SIZE(256) OF ListOf18q,<br>fRM512 SEQUENCE SIZE(512) OF ListOf18q,<br>fRM1024 SEQUENCE SIZE(1024) OF ListOf18q<br>} | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | ListOf18q |
| **Comment** | This type holds (1..18) values of the 'q' for a MICH frame which MICH CFN = the SFN of the P-CCPCH radio frame during which the start of the MICH radio frame occurs The values of q are calculated by TTCN according to formula:<br>$q = \left\lfloor \left( \left( C \times \left( \mathrm{NI} \oplus \left( \left( C \times SFN \right) \bmod G \right) \right) \right) \bmod G \right) \times \frac{Nn}{G} \right\rfloor$<br>where: G = 216, C = 25033;<br>NI = Notification Indicator (0..65535) is computed by the TTCN for each TMGI according to the formula:<br>$NI = \left( TMGI + \left\lfloor TMGI / G \right\rfloor \right) \bmod G$ where G = 216;<br>the number of TMGI could be 1 to 18;<br>SFN = the SFN of the P-CCPCH radio frame during which the start of the MICH radio frame occurs;<br>Nn = the number of notification indicators per frame: |
| **Type Definition** | |
| SEQUENCE SIZE(1..18) OF INTEGER (0..17) | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | Q_List36 |
| **Comment** | This type is a list which holds 128 or 256 or 512 or 1024 values of ListOf36q, each value of ListOf36q is also a list of (1..36) values of INTEGER. The first value of ListOf36q is corresponding to the MICH frame which starts the modification period, the second value of ListOf36q is corresponding to the next MICH frame in the modification period and so on, the last value of ListOf36q is corresponding to the last MICH frame of the modification period. Be noted that for different modification period configurations the number of values of ListOf36q are different and shall match the configuration.<br>The SS sets the bits {b0, …, b287} of the MICH frame according to the INTEGER values in the ListOf36q corresponding to the MICH frame. (see TS25.211 subclause 5.3.3.15) |
| **Type Definition** | |

```
CHOICE {
        fRM128      SEQUENCE SIZE(128) OF ListOf36q,
        fRM256      SEQUENCE SIZE(256) OF ListOf36q,
        fRM512      SEQUENCE SIZE(512) OF ListOf36q,
        fRM1024     SEQUENCE SIZE(1024) OF ListOf36q
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | ListOf36q |
| **Comment** | This type holds (1..36) values of the 'q' for a frame which MICH CFN = the SFN of the P-CCPCH radio frame during which the start of the MICH radio frame occurs<br>The values of q are calculated by TTCN according to formula:<br>$q = \left\lfloor \left( \left( C \times \left( \mathrm{NI} \oplus \left( \left( C \times SFN \right) \bmod G \right) \right) \right) \bmod G \right) \times \frac{Nn}{G} \right\rfloor$<br>where: G = $2^{16}$, C = 25033;<br>NI = Notification Indicator (0..65535) is computed by the TTCN for each TMGI according to the formula:<br>$NI = \left( TMGI + \left\lfloor TMGI / G \right\rfloor \right) \bmod G$ where G = $2^{16}$;<br>the number of *TMGI* could be 1 to 36;<br>SFN = the SFN of the P-CCPCH radio frame during which the start of the MICH radio frame occurs;<br>Nn = the number of notification indicators per frame: |
| **Type Definition** | |

```
SEQUENCE SIZE(1..36) OF INTEGER (0..35)
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | Q_List72 |
| **Comment** | This type is a list which holds 128 or 256 or 512 or 1024 values of ListOf72q, each value of ListOf72q is also a list of (1..72) values of INTEGER. The first value of ListOf72q is corresponding to the MICH frame which starts the modification period, the second value of ListOf72q is corresponding to the next MICH frame in the modification period and so on, the last value of ListOf72q is corresponding to the last MICH frame of the modification period. Be noted that for different modification period configurations the number of values of ListOf72q are different and shall match the configuration.<br>The SS sets the bits {b0, …, b287} of the MICH frame according to the INTEGER values in the ListOf72q corresponding to the MICH frame. (see TS25.211 subclause 5.3.3.15) |
| **Type Definition** | |

```
CHOICE {
        fRM128      SEQUENCE SIZE(128) OF ListOf72q,
        fRM256      SEQUENCE SIZE(256) OF ListOf72q,
        fRM512      SEQUENCE SIZE(512) OF ListOf72q,
        fRM1024     SEQUENCE SIZE(1024) OF ListOf72q
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | ListOf72q |
| **Comment** | This type holds (1..72) values of the 'q' for a frame which MICH CFN = the SFN of the P-CCPCH radio frame during which the start of the MICH radio frame occurs The values of q are calculated by TTCN according to formula:<br>$q = \left\lfloor \left( \left( C \times \left( \mathrm{NI} \oplus \left( \left( C \times SFN \right) \bmod G \right) \right) \right) \bmod G \right) \times \frac{Nn}{G} \right\rfloor$<br>where: G = $2^{16}$, C = 25033;<br>NI = Notification Indicator (0..65535) is computed by the TTCN for each TMGI according to the formula:<br>$NI = \left( TMGI + \lfloor TMGI / G \rfloor \right) \bmod G$ where G = $2^{16}$;<br>the number of *TMGI* could be 1 to 72;<br>SFN = the SFN of the P-CCPCH radio frame during which the start of the MICH radio frame occurs;<br>Nn = the number of notification indicators per frame: |
| **Type Definition** | |
| `SEQUENCE SIZE(1..72) OF INTEGER (0..71)` | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | Q_List144 |
| **Comment** | This type is a list which holds 128 or 256 or 512 or 1024 values of ListOf144q, each value of ListOf144q is also a list of (1..144) values of INTEGER. The first value of ListOf144q is corresponding to the MICH frame which starts the modification period, the second value of ListOf144q is corresponding to the next MICH frame in the modification period and so on, the last value of ListOf144q is corresponding to the last MICH frame of the modification period. Be noted that for different modification period configurations the number of values of ListOf144q are different and shall match the configuration.<br>The SS sets the bits {b0, …, b287} of the MICH frame according to the INTEGER values in the ListOf144q corresponding to the MICH frame. (see TS25.211 subclause 5.3.3.15) |
| **Type Definition** | |
| `CHOICE {`<br>`  fRM128  SEQUENCE SIZE(128) OF ListOf144q,`<br>`  fRM256  SEQUENCE SIZE(256) OF ListOf144q,`<br>`  fRM512  SEQUENCE SIZE(512) OF ListOf144q,`<br>`  fRM1024  SEQUENCE SIZE(1024) OF ListOf144q`<br>`}` | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | ListOf144q |
| **Comment** | This type holds (1..144) values of the 'q' for a frame which MICH CFN = the SFN of the P-CCPCH radio frame during which the start of the MICH radio frame occurs The values of q are calculated by TTCN according to formula:<br>$q = \left\lfloor \left( \left( C \times \left( \mathrm{NI} \oplus \left( \left( C \times SFN \right) \bmod G \right) \right) \right) \bmod G \right) \times \frac{Nn}{G} \right\rfloor$<br>where: G = $2^{16}$, C = 25033;<br>NI = Notification Indicator (0..65535) is computed by the TTCN for each TMGI according to the formula:<br>$NI = \left( TMGI + \lfloor TMGI / G \rfloor \right) \bmod G$ where G = $2^{16}$;<br>the number of *TMGI* could be 1 to 144;<br>SFN = the SFN of the P-CCPCH radio frame during which the start of the MICH radio frame occurs;<br>Nn = the number of notification indicators per frame: |
| **Type Definition** | |
| `SEQUENCE SIZE(1..144) OF INTEGER (0..143)` | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MICH_CFN |
| **Comment** | Subclause 9.2.1.46a of TS 25.433 |
| **Type Definition** | |
| `INTEGER (0..4095)` | |

### 7.3.2.2.6c CPHY_MBMS_NI (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_MBMS_NI_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm CPHY_MBMS_NI_REQ. The routingInfo indicates the MICH physical channel. |
| **Type Definition** | |

```
SEQUENCE    {
        cellId                  INTEGER(0..63),
        routingInfo             RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_MBMS_NI_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request the physical layer to transmit MBMS Notification Indicators on the MICH physical channel. The transmission shall start on the SFN specified by the parameter startingTime and be continued for one modification period indicated by parameter modiPeriodCoefficent. The routingInfo indicates the MICH physical channel. The notification indicators to be transmitted are specified by the parameter indicatorList.<br>If value of invert is TRUE, all notification indicators Nq are set to '0' and all other indicators are set to '1'. |
| **Type Definition** | |

```
SEQUENCE    {
        cellId                  INTEGER(0..63),
        routingInfo             RoutingInfo,
        startingTime            NI_StartingTime,
        modiPeriodCoefficent    INTEGER(7..10),
        nIList                  MBMSIndicatorList,
        invert                  BOOLEAN DEFAULT FALSE
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | NI_StartingTime |
| **Comment** | |
| **Type Definition** | |

```
CHOICE{
    nextModiPeriod          NULL,
    mICHCFN                 INTEGER(0..4095)
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MBMSIndicatorList |
| **Comment** | The TTCN calculates Notification Indicator (NI, 0..65535) for each TMGI according to the formula:<br>$NI = (TMGI + \lfloor TMGI / G \rfloor) \bmod G$ where G = $2^{16}$ and sends these NI to the SS by the MBMSIndicatorList;<br>The SS shall calculate the q values for every MICH frame of a modification period according to formula:<br>$q = \left\lfloor ((C \times (\mathrm{NI} \oplus ((C \times SFN) \bmod G))) \bmod G) \times \frac{Nn}{G} \right\rfloor$<br>where: G = $2^{16}$, C = 25033;<br>SFN = the SFN of the P-CCPCH radio frame during which the start of the MICH radio frame occurs;<br>Nn = the number of notification indicators per frame:<br>Then the SS sets the bits {b0, …, b287} of the MICH frame according to the calculated q values which corresponds to the MICH frame. (see TS25.211 subclause 5.3.3.15) |
| **Type Definition** | |

```
CHOICE {
    nn18    SEQUENCE SIZE(1..18) OF SEQUENCE { nI   INTEGER (0..65535)},
    nn36    SEQUENCE SIZE(1..36) OF SEQUENCE { nI   INTEGER (0.. 65535)},
    nn72    SEQUENCE SIZE(1..72) OF SEQUENCE { nI   INTEGER (0.. 65535)},
    nn144   SEQUENCE SIZE(1..144) OF SEQUENCE { nI  INTEGER (0.. 65535)}
}
```

### 7.3.2.2.7 CPHY_Out_of_Sync

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_Out_of_Sync_IND |
| **PCO Type** | CSAP |
| **Comment** | To report that the physical channel synchronization (in FDD mode, sync with uplink DPCCH) was lost as detected by the SS receiver. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(0..63),
            routingInfo             RoutingInfo
}
```

### 7.3.2.2.8 CPHY_PRACH_Measurement

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_PRACH_Measurement_CNF |
| **PCO Type** | CSAP |
| **Comment** | To Confirm PRACH Measurement Req |
| **Type Definition** | |

```
SEQUENCE    {
            cellId              INTEGER(0..63),
            routingInfo         RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_PRACH_Measurement_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request for Start or Stop of PRACH Measurements to be done every PRACH PREAMBLE or MESSAGE received. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(0..63),
            routingInfo             RoutingInfo,
            ratType                 RatType,
            pRACH_MeasurementInd    PRACH_MeasurementInd
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | PRACH_MeasurementInd |
| **Comment** | 1) StartMeas: The SS shall start the sending PRACH parameters Measurement report on CPHY PCO, for each PRACH Preamble or MESSAGE received from the UE by primitive CPHY_PRACH_Measurement_Report_IND on CPHY PCO.<br><br>2) StopMeas: The SS shall stop sending of PRACH parameters Measurement report on CPHY PCO, for each PRACH Preamble or MESSAGE received from the UE by primitive CPHY_PRACH_Measurement_Report_IND on CPHY PCO. |
| **Type Definition** | |
| ENUMERATED { startMeas (0), stopMeas (1) } | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_PRACH_Measurement_Report_IND |
| **PCO Type** | CSAP |
| **Comment** | SS indicates a PRACH parameters measurement report for each PRACH Preambles or MESSAGE received from the UE |
| **Type Definition** | |
| SEQUENCE { cellId INTEGER(0..63), routingInfo RoutingInfo, ratType RatType, measurementReport PRACH_MeasurementReport } | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | PRACH_MeasurementReport |
| **Comment** | |
| **Type Definition** | |
| SEQUENCE { usedPRACH_AcessSlot INTEGER (0..14), usedPRACH_Signature INTEGER (0..15) OPTIONAL } | |

### 7.3.2.2.9 CPHY_RL_Modify

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_RL_Modify_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to modify the Radio Link |
| **Type Definition** | |
| SEQUENCE { cellId INTEGER(0..63), routingInfo RoutingInfo } | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_RL_Modify_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to modify the Radio Link<br>HardHandover (PhysicalChannelReconfig)<br>ChannelizationCodeChange<br>FrequencyChange<br>PhysicalChannelModifyForTrCHReconfig<br>CompressedMode( PhysicalChannelReconfig)<br>Re_Synchronized HardHandover<br>Softhandover |

**Type Definition**

```
SEQUENCE        {
                cellId                  INTEGER(0..63),
                routingInfo             RoutingInfo,
                ratType                 RatType,
                modifyMessage           CphyRlModifyReq
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CphyRlModifyReq |
| **Comment** | |

**Type Definition**

```
SEQUENCE    {
    activationTime                  SS_ActivationTime,
    physicalChannelInfo
        CHOICE {
            dpch_CompressedModeStatusInfo       Dpch_CompressedModeStatusInfo,
            secondaryCCPCHInfo          SecondaryCCPCHInfo,
            pRACHInfo                   PRACHInfo,
            dPCHInfo                    DPCHInfo,
            dPCHInfo_r5                 DPCHInfo_r5OrLater, -- Rel-5 or later
            hS_PDSCHInfo                HS_PDSCHInfo_r5OrLater, -- Rel-5 or later
            e_DPCHInfo                  SS_E_DPCH_Info, -- Rel-6 or later
            e_AGCHInfo                  SS_E_AGCH_Info, -- Rel-6 or later
            e_HICHInfo                  SS_E_HICH_Info, -- Rel-6 or later
            e_RGCHInfo                  SS_E_RGCH_Info, -- Rel-6 or later
            mBMS_MICHInfo               MBMS_MICHConfigurationInfo_r6 -- Rel-6 or later
            },
        trchConfigToFollow                  BOOLEAN         DEFAULT TRUE
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_ActivationTime |
| **Comment** | |

**Type Definition**

```
CHOICE {
        activationCFN                   ActivationTime,
        activateNow                     NULL
}
```

### 7.3.2.2.10 CPHY_RL_Release

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_ RL_Release_CNF |
| **PCO Type** | CSAP |
| **Comment** | PHY emulator confirms that a specified physical channel has been released. |

**Type Definition**

```
SEQUENCE    {
            cellId                  INTEGER(0..63),
            routingInfo             RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_RL_Release_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to release the Radio Link |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(0..63),
            routingInfo                 RoutingInfo,
            activationTime              SS_ActivationTime
}
```

### 7.3.2.2.11 CPHY_RL_Setup

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_RL_Setup_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to setup the Radio Link |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(0..63),
            routingInfo                 RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_RL_Setup_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to setup the associated transport channels and the Radio Link itself. |
| **Type Definition** | |

```
SEQUENCE     {
            cellId                      INTEGER(0..63),
            routingInfo                 RoutingInfo,
            ratType                     RatType,
            setupMessage                CphyRlSetupReq
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CphyRlSetupReq |
| **Comment** | To request to setup the Radio Link |
| **Type Definition** | |

```
SEQUENCE    {
        physicalChannelInfo         CHOICE      {
            primaryCPICHInfo            PrimaryCPICHInfo,
            secondaryCPICHInfo          SecondaryCPICHInfo,
            primarySCHInfo              PrimarySCHInfo,
            secondarySCHInfo            SecondarySCHInfo,
            primaryCCPCHInfo            PrimaryCCPCHInfo,
            secondaryCCPCHInfo          SecondaryCCPCHInfo,
            pRACHInfo                   PRACHInfo,
            pICHInfo                    PICHInfo,
            aICHInfo                    AICHInfo,
            dPCHInfo                    DPCHInfo,
            pDSCHInfo                   PDSCHInfo,
            dPCHInfo_r5                 DPCHInfo_r5OrLater, -- Rel-5 or later
            hS_PDSCHInfo                HS_PDSCHInfo_r5OrLater, -- Rel-5 or later
            e_DPCHInfo                  SS_E_DPCH_Info, -- Rel-6 or later
            e_AGCHInfo                  SS_E_AGCH_Info, -- Rel-6 or later
            e_HICHInfo                  SS_E_HICH_Info, -- Rel-6 or later
            e_RGCHInfo                  SS_E_RGCH_Info, -- Rel-6 or later
            mBMS_MICHInfo               MBMS_MICHConfigurationInfo_r6 -- Rel-6 or later
    },
        activationTime              SS_ActivationTime
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | PrimaryCPICHInfo |
| **Comment** | |

**Type Definition**

```
SEQUENCE    {
            dl_TxPower_PCPICH           DL_TxPower_PCPICH,
            tx_diversityIndicator       BOOLEAN
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SecondaryCPICHInfo |
| **Comment** | |

**Type Definition**

```
SEQUENCE {
            scramblingCode              INTEGER(0..15),
            dl_ChannelizationCode       SF512_AndCodeNumber,
            dl_TxPower                  DL_TxPower
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | PrimarySCHInfo |
| **Comment** | |

**Type Definition**

```
SEQUENCE {
            tstdIndicator               BOOLEAN,
            dl_TxPower                  DL_TxPower
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SecondarySCHInfo |
| **Comment** | |

**Type Definition**

```
SEQUENCE    {
            tstdIndicator               BOOLEAN,
            dl_TxPower                  DL_TxPower
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | PrimaryCCPCHInfo |
| **Comment** | |

**Type Definition**

```
SEQUENCE    {
            sttd_Indicator              BOOLEAN,
            dl_TxPower                  DL_TxPower
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SecondaryCCPCHInfo |
| **Comment** | The range for powerOffsetOfTFCI_PO1 and powerOffsetOfPILOT_PO3 is 0 dB to 6 dB, 0.25 dB per step.<br>mbms_softCombTimingOffset is present when L1-combination applies<br>When configuring SCCPCH for MBMS 'positionFixedOrFlexible' shall be set to Flexible, and sCCPCHSlotFormat shall be chosen to the one without pilot bits |

**Type Definition**

```
SEQUENCE {
        scramblingCode              INTEGER(0..15),
        dl_ChannelizationCode       SF256_AndCodeNumber,
        sCCPCHSlotFormat            SCCPCHSlotFormat,
        timingOffset                INTEGER (0..149),
        positionFixedOrFlexible     PositionFixedOrFlexible,
        sttd_Indicator              BOOLEAN,
        dl_TxPower                  DL_TxPower,
        powerOffsetOfTFCI_PO1       INTEGER (0..24),
        powerOffsetOfPILOT_PO3      INTEGER (0..24),
        mbms_softCombTimingOffset   MBMS_SoftComb_TimingOffset OPTIONAL –-Rel-6 or later
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | PRACHInfo |
| **Comment** | |

**Type Definition**

```
SEQUENCE {
            fdd_tdd                 CHOICE  {
            fdd
                SEQUENCE   {
                    preambleSignature               AvailableSignatures,
                    spreadingFactorForDataPart      SF_PRACH,
                    preambleScramblingCode          PreambleScramblingCodeWordNumber,
                    puncturingLimit                 PuncturingLimit,
                    accessSlot                      AvailableSubChannelNumbers
                },
            tdd
                SEQUENCE   {
                    -- timeSlot                    TimeSlot,
                    -- spreadingCode               SpreadingCode,
                    -- midambleCode                MidambleCode,
                }
            }
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | PICHInfo |
| **Comment** | |

**Type Definition**

```
SEQUENCE    {
            pichinfo                    PICH_Info,
            dl_TxPower                  PICH_PowerOffset,
            sccpchId_associated         INTEGER (0..31)
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | AICHInfo |
| **Comment** | |

**Type Definition**

```
SEQUENCE    {
            aichinfo                    AICH_Info,
            dl_TxPower                  AICH_PowerOffset
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | DPCHInfo |
| **Comment** | At least one of the fields shall be present. |

**Type Definition**

```
SEQUENCE    {
            ul_DPCHInfo             UL_DPCH_Info    OPTIONAL,
            dl_DPCHInfo             DL_DPCHInfo     OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | DL_DPCHInfo |
| **Comment** | |

**Type Definition**

```
SEQUENCE    {
            dl_CommonInformation        DL_CommonInformation,
            dl_DPCH_InfoPerRL           DL_DPCH_InfoPerRL,
            rl_Information              RL_Information
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | HS_DPCCHInfo |
| **Comment** | |
| **Type Definition** | |

```
SEQUENCE    {
            cqi_RepetitionFactor        CQI_RepetitionFactor,
            ackNackRepetitionFactor     ACK_NACK_repetitionFactor
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | DL_DPCHInfo_r5 |
| **Comment** | Applicable Rel-5 or later |
| **Type Definition** | |

```
SEQUENCE    {
            dl_CommonInformation        DL_CommonInformation_r5,
            dl_DPCH_InfoPerRL           DL_DPCH_InfoPerRL_r5,
            rl_Information              RL_Information
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | DL_TxPower_PCPICH |
| **Comment** | Absolute Tx Power of PCPICH |
| **Type Definition** | |

```
INTEGER (-60..-30)
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | DL_TxPower |
| **Comment** | Downlink Tx Power relative to PCPICH |
| **Type Definition** | |

```
INTEGER (-35..+15)
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SCCPCHSlotFormat |
| **Comment** | Reference to 3GPP TS25.211 [**Error! Reference source not found.**] |
| **Type Definition** | |

```
INTEGER (0..17)
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | PDSCHInfo |
| **Comment** | |
| **Type Definition** | |

```
SEQUENCE {
    fdd_tdd         CHOICE  {
            fdd     SEQUENCE    {
                        pdsch_CodeMapping       PDSCH_CodeMapping
                                },
            tdd     SEQUENCE    {
                        --pdsch_Identity        PDSCH_Identity,
                        --pdsch_Info            PDSCH_Info,
                        --pdsch_PowerControlInfo    PDSCH_PowerControlInfo  OPTIONAL
                                },
                    },
    dl_TxPower          DL_TxPower
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | DPCHInfo_r5OrLater |
| **Comment** | Applicable Rel-5 or later<br>At least one of the first two fields ul_DPCHInfo or dl_DPCHInfo shall be present.<br>Presence of hs_DPCCHInd means that the HS-DPCCH shall be configured in the uplink DPCH. If hs_DPCCHInd is absent no HS-DPCCH shall be configured in the uplink DPCH, or the configured HS-DPCCH shall be removed in the modify ASP.<br>In the active set which has radio links from more than one cell the HS-DPCCH is configured only in the HS-DSCH serving cell.<br>Three combinations are valid: ul_DPCH_Info only, dl_DPCHInfo only and ul_DPCH_Info + hs_DPCCHInd. |

**Type Definition**

```
CHOICE  {
    r5  SEQUENCE    {
            ul_DPCHInfo     UL_DPCH_Info_r5     OPTIONAL,
            dl_DPCHInfo         DL_DPCHInfo_r5      OPTIONAL,
            hs_DPCCHInd         HS_DPCCHInfo        OPTIONAL
    },
    r6      SEQUENCE {
            ul_DPCHInfo     UL_DPCH_Info_r6     OPTIONAL,
            dl_DPCHInfo     DL_DPCHInfo_r6      OPTIONAL,
            hs_DPCCHInd         HS_DPCCHInfo        OPTIONAL
    },
    spare1  SEQUENCE {},
    spare2  SEQUENCE {}
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | DL_DPCHInfo_r6 |
| **Comment** | Applicable Rel-5 or later |

**Type Definition**

```
SEQUENCE    {
            dl_CommonInformation        DL_CommonInformation_r6,
            dl_Dpch_InfoPerRL           CHOICE {
                    dl_DPCH_InfoPerRL           DL_DPCH_InfoPerRL_r6,
                    dl_FDPCH_InfoPerRL          DL_FDPCH_InfoPerRL_r6
                    },
            rl_Information              RL_Information
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | HS_PDSCHInfo_r5OrLater |
| **Comment** | Applicable Rel-5 or later<br>When CHY_RL_Setup_REQ is called with CHOICE of hS_PDSCHInfo<br>HS_PDSCH and HS-SCCH shall be configured in SS.<br>The following HS-DSCH related parameters are passed to the SS implicitly by HSDSCH_physical_layer_category:<br>- Maximum number of HS-DSCH codes can be received by UE,<br>- Minimum inter-TTI interval,<br>- Maximum number of bits of an HS-DSCH transport block within an HS-DSCH TTI<br>- Total number of soft channel bits".<br>HSDSCH_physical_Layer_category is also used for interpretation of the meaning of CQI value. |

**Type Definition**

```
CHOICE {
    r5  SEQUENCE    {
        hSDSCHPhysicalLayerCategory     HSDSCH_physical_layer_category,
        h_RNTI                          H_RNTI,
        dlHSPDSCHInformation            DL_HSPDSCH_Information,
        sttd_Indicator                  BOOLEAN,
        hs_SCCH_TxPower                 DL_TxPower  -- offset related to CPICH
                    },
    r6  SEQUENCE    {
        hSDSCHPhysicalLayerCategory     HSDSCH_physical_layer_category,
        h_RNTI                          H_RNTI,
        dlHSPDSCHInformation            DL_HSPDSCH_Information_r6,
        sttd_Indicator                  BOOLEAN,
        hs_SCCH_TxPower                 DL_TxPower  -- offset related to CPICH
    spare1  SEQUENCE {},
    spare2  SEQUENCE {}
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_E_DPCH_Info |
| **Comment** | Rel-6 or later.<br>If there is an UL-DPCH configured in the cell the E-DPCH shall use the same scramblingCodeType and scramblingCode as the UL-DPCH |

**Type Definition**

```
SEQUENCE {
    e_DPCCH_Info                    E_DPCCH_Info,
    e_DPDCH_Info                    E_DPDCH_Info,
    scramblingCodeType              ScramblingCodeType OPTIONAL,
    scramblingCode                  UL_ScramblingCode OPTIONAL,
    tti                             E_DCH_TTI OPTIONAL,
    edch_PhysicalLayerCategory      INTEGER (1..16)
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_E_AGCH_Info |
| **Comment** | Rel-6 or later. |

**Type Definition**

```
SEQUENCE {
        e_AGCHInfo              E_AGCH_Information,
        tti                     E_DCH_TTI,
        e_AGCH_PowerOffset      INTEGER (0..255)
                            -- Range and Step are FFS (25.433, 9.2.2.13If)
                            -- Offset relative to P-CPICH,
        e_RNTI_Primary          E_RNTI OPTIONAL,
        e_RNTI_Secondary        E_RNTI OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_E_HICH_Info |
| **Comment** | Rel-6 or later. |
| **Type Definition** | |

```
SEQUENCE {
        e_HICHInfo              E_HICH_Information,
        tti                     E_DCH_TTI,
        e_HICH_PowerOffset      INTEGER (0..255)
                            -- PowerOffset = -32 + offset * 0.25
                            -- Unit dB, Range -32dB .. +31.75dB, Step +0.25dB
                            -- (25.433, 9.2.2.13Id), offset relative to P-CPICH
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_E_RGCH_Info |
| **Comment** | Rel-6 or later. |
| **Type Definition** | |

```
SEQUENCE {
        e_RGCHInfo              E_RGCH_Information,
        tti                     E_DCH_TTI,
        e_RGCH_PowerOffset      INTEGER (0..255)
                            -- Range and Step are FFS (25.433, 9.2.2.13Ie)
                            -- Offset relative to P-CPICH
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | RL_Information |
| **Comment** | The range for powerOffsetOfTPC_PO2 and powerOffsetOfTFCI_PO1 and powerOffsetOfPILOT_PO3 is 0 dB to 6 dB, 0,25 dB per step.<br>The IE cfnTgtSfnFrameOffset is applied when adding another RL or moving the UE to another cell in DCH state in the timing-maintained hard handover or in the softhandover. The cfnTgtSfnFrameOffset is defined as being the time difference between the CFN and the SFN of the cell in which the RL is to be added.<br>The use of cfnTgtSfnFrameOffset and DOFF (Default DPCH Offset Value) is mutually exclusive. The IE cfnTgtSfnFrameOffset is omitted when configuring the 1st RL, or configuring the RL in the timing re-initialised hard handover where the required synchronisation information is provided in defaultDPCH_offsetValue in DL_CommonInformation.<br>In addition, TmTgt value is provided to dpch_FrameOffset in DL_DPCH_InfoPerRL_r5 or DL_DPCH_InfoPerRL_r6 as CFNchipOffset_Tgt. TmTgt can be observed by the UE, or calculated by the TTCN. If it is calculated,<br>TmTgt = **(DOFF*512 + 38400 + TCell_Ref - TCell_Tgt) Mod 38400** |
| **Type Definition** | |

```
SEQUENCE {
        powerOffsetOfTFCI_PO1           INTEGER (0..24),
        powerOffsetOfTPC_PO2            INTEGER (0..24),
        powerOffsetOfPILOT_PO3          INTEGER (0..24),
        dl_TxPower                      DL_TxPower,
        dl_TxPowerMax                   DL_TxPower,
        dl_TxPowerMin                   DL_TxPower,
        cfnTgtSfnFrameOffset            CfnTgtSfnFrameOffset    OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CfnTgtSfnFrameOffset |
| **Comment** | 1. The observedValue is provided if the UE reads SFN when measuring "Cell synchronisation information" and sends it to the SS in MEASUREMENT REPORT message. The OFF value in IE COUNT-C-SFN frame difference is applied to the observedValue.<br>2. If the synchronisation between the target cell and the reference cell is calculated the calculatedAbsoluteValue is applied. Depending upon how to interpret SfnOffset two valid calculations exist.<br>2.1 If SfnOffset is interpreted as the frames lagging behind:<br>calculated_sfnLagging = (((4096 * 38400) + SfnOffset_ Ref * 38400 +TCell_Ref + DOFF*512 - (SfnOffset_Tgt * 38400 + TCell_Tgt)) mod (256 * 38400)) / 38400<br><br>2.2 If SfnOffset is interpreted as the frames in advance:<br>calculated_sfnInAdvance = (((4096 + SfnOffset_Tgt - SfnOffset_ Ref) * 38400 +TCell_Ref + DOFF*512 - TCell_Tgt) mod (256 * 38400)) / 38400<br><br>The formula can be further simplified in the default condition if SfnOffset_ Ref and TCell_Ref are equal to 0:<br>calculated_sfnLagging = (((4096 * 38400) + DOFF*512 - (SfnOffset_Tgt * 38400 + TCell_Tgt)) mod (256 * 38400)) / 38400<br><br>calculated_sfnInAdvance = ((DOFF*512 + SfnOffset_Tgt * 38400 - TCell_Tgt) Mod (256 * 38400)) / 38400<br><br>calculated_sfnInAdvance = (calculated_sfnLagging + 2* SfnOffset_Tgt) mod 256<br><br>calculated_sfnLagging = (calculated_sfnInAdvance + (4096 - SfnOffset_Tgt) * 2) mod 256<br><br>The TTCN provides calculated_sfnLagging. |
| **Type Definition** | |

```
SEQUENCE {
        referenceCellId             INTEGER(0..63),
        cfnFrameOffset              CHOICE {
            observed                INTEGER (0..255),
            calculated              INTEGER (0..255) }
}
```

### 7.3.2.2.12 CPHY_Sync

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_Sync_IND |
| **PCO Type** | CSAP |
| **Comment** | To indicate that physical channel synchronization (in FDD mode, sync with DPCCH) has been achieved. |
| **Type Definition** | |

```
SEQUENCE    {
                cellId                      INTEGER(0..63),
                routingInfo                 RoutingInfo
}
```

### 7.3.2.2.12a CPHY_HS_DPCCH_AckNack (Rel-5 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_DPCCH_AckNack_CNF |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>To Confirm CPHY_HS_DPCCH_AckNack_REQ |
| **Type Definition** | |

```
SEQUENCE    {
            cellId              INTEGER(0..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_DPCCH_AckNack_REQ |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>To request for start or stop reporting Ack/Nack received on the HS-DPCCH for the HARQ process hARQProcessId.<br>At the initialisation the SS is at the "sTOPRep" state without reporting any Ack/Nack |

**Type Definition**

```
SEQUENCE    {
            cellId                  INTEGER(0..63),
            ratType                 RatType,
            ackNackReportReq        AckNackReportReq,
            hARQProcessId           INTEGER(0..7)
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | AckNackReportReq |
| **Comment** | Applicable Rel-5 or later<br>startRep : The SS shall start reporting the HARQ-ACK information received on HS-DPCCH by primitive CPHY_HS_DPCCH_AckNack_IND on CPHY PCO.<br>stopRep : The SS shall stop reporting. |

**Type Definition**

```
ENUMERATED  {
            startRep (0),
            stopRep  (1)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_DPCCH_AckNack_IND |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>SS reportes the HARQ-ACK information received on HS_DPCCH,<br>each received Ack/Nack generates a CPHY_HS_DPCCH_AckNack_IND |

**Type Definition**

```
SEQUENCE     {
            cellId                      INTEGER(0..63),
            ratType                     RatType,
            hARQ_ACKInfo                ENUMERATED {ack(0), nack (1)},
            hARQProcessId               INTEGER(0..7)
}
```

### 7.3.2.2.12b CPHY_HS_DPCCH_CQI (Rel-5 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_DPCCH_CQI_CNF |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>To Confirm CPHY_HS_DPCCH_CQI_REQ |

**Type Definition**

```
SEQUENCE    {
            cellId              INTEGER(0..63),
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_DPCCH_CQI_REQ |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>To enable the SS to start reporting N times of the CQI value received on the HS-DPCCH. After N times the SS stops reporting. N is specified in numberOfReports.<br>At the SS initialisation reporting of CQI values is disabled |

**Type Definition**

```
SEQUENCE    {
            cellId                  INTEGER(0..63),
            ratType                 RatType,
            numberOfReports         INTEGER(1..32)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_DPCCH_CQI_IND |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>SS generates the indication when a CQI value is received on HS_DPCCH after invocation of ASP CPHY_HS_DPCCH_CQI_REQ and before the numberOfReports is reached.<br>This ASP is used for verifying whether the UE has configured the HS-DSCH and starts reception of HS-DSCH. (TS 25.331 cl.8.6.6.34) |

**Type Definition**

```
SEQUENCE    {
            cellId                      INTEGER(0..63),
            ratType                     RatType,
            cqi                         INTEGER (0..30)
}
```

### 7.3.2.2.12c CPHY_HS_DSCH_CRC_Mode (Rel-5 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_DSCH_CRC_Mode_CNF |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>Confirm a previous CPHY_HS_DSCH_CRC_Mode_REQ being successful. |

**Type Definition**

```
SEQUENCE {
        cellId              INTEGER(-1..63),
        routingInfo         RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_DSCH_CRC_Mode_REQ |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>To set the CRC calculation mode for HS-DSCH.<br>If mode = normal, the SS generates the correct CRC.<br>If mode = erroneous, the SS generates any wrong CRC value which is different from the correct one on the specified MACdFlow.<br>As default, the normal mode is applied. When the HS-DSCH first configured or reconfigured the SS enters the normal CRC calculation mode. |

**Type Definition**

```
SEQUENCE    {
            cellId              INTEGER(-1..63) ,
            routingInfo         RoutingInfo,
            mac_dFlowId         MAC_d_FlowIdentity,
            mode                ENUMERATED {normal(0), erroneous(1)}
}
```

### 7.3.2.2.13 CPHY_TrCH_Config

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_TrCH_Config_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to configure the transport channel |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                          INTEGER(0..63),
            routingInfo                     RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_TrCH_Config_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to configure the transport channel |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                          INTEGER(0..63),
            routingInfo                     RoutingInfo,
            ratType                         RatType,
            trchConfigType                  TrchConfigType,
            configMessage                   CphyTrchConfigReq
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CphyTrchConfigReq |
| **Comment** | To request to configure the transport channel.<br>The same TFCS information should be provided to the PHY and MAC layers at all times. When a CPHY_TrCH_Config_REQ is used to configure the PHY layer, a corresponding CMAC_Config_REQ should be sent to the MAC layer to ensure that the configuration is consistent.<br>HS-DSCH MAC-d flows or E-DCH MAC-d flows shall be separately configured whilst the ulconnectedTrCHList, ulTFCS, dlconnectedTrCHList and dlTFCS are omitted.<br>For configuring MBMS if the default TFCS used in the RRC message the dLTFTS shall use the 'complete' CHOICE in 'ExplicitTFCS-Configuration ' IE and the TFCS configuration shall be in line with clause 14.10.1.1/14.10.1.2 of TS 25.331. |
| **Type Definition** | |

```
SEQUENCE    {
        activationTime      SS_ActivationTime,
        ulconnectedTrCHList     SEQUENCE (SIZE (0..maxTrCH)) OF SEQUENCE {
                trchid                  TransportChannelIdentity,
                ul_TransportChannelType SS_UL_TransportChannelType,
                transportChannelInfo    CommonOrDedicatedTFS
                                                            }   OPTIONAL,
        ulTFCS              TFCS    OPTIONAL,
        dlconnectedTrCHList     SEQUENCE (SIZE (0..maxTrCH)) OF SEQUENCE {
                trchid                  TransportChannelIdentity,
                dl_TransportChannelType SS_DL_TransportChannelType,
                transportChannelInfo    CommonOrDedicatedTFS
                                                            }   OPTIONAL,
        dlTFCS              TFCS    OPTIONAL,
        hsDSCHMacdFlows     HS_DSCHMACdFlows    OPTIONAL,   -- Rel-5 or later
        e_DCHMacdFlows      E_DCHMACdFlows      OPTIONAL    -- Rel-6 or later
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | RoutingInfo |
| **Comment** | To route between each channels. |
| **Type Definition** | |

```
CHOICE      {
        physicalChannelIdentity         INTEGER                 {0..31},
        transportChannelIdentity        TransportChannelIdentity,
        logicalChannelIdentity          LogicalChannelIdentity,
        rB_Identity                     INTEGER                 {-31..32},
        cn-DomainIdentity               CN-DomainIdentity
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | RatType |
| **Comment** | To select route between each channels. |
| **Type Definition** | |

```
ENUMERATED  {
            fdd (0), tdd (1)
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CommonOrDedicatedTFS |
| **Comment** | Transport Format Set |
| **Type Definition** | |

```
SEQUENCE {
    tti                                 CHOICE {
        tti10                               CommonOrDedicatedTF_InfoList,
        tti20                               CommonOrDedicatedTF_InfoList,
        tti40                               CommonOrDedicatedTF_InfoList,
        tti80                               CommonOrDedicatedTF_InfoList,
        dynamic                         CommonOrDedicatedTF_InfoList_DynamicTTI
    },
    semistaticTF_Information            SemistaticTF_Information
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CommonOrDedicatedTF_InfoList |
| **Comment** | Transport Format Set |
| **Type Definition** | |

```
SEQUENCE (SIZE (1..maxTF)) OF CommonOrDedicatedTF_Info
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CommonOrDedicatedTF_Info |
| **Comment** | Transport Format Set |
| **Type Definition** | |

```
SEQUENCE {
    tb_Size                 INTEGER (0..5035),
    numberOfTbSizeList      SEQUENCE (SIZE (1..maxTF)) OF NumberOfTransportBlocks,
    logicalChannelList      LogicalChannelList
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CommonOrDedicatedTF_InfoList_DynamicTTI |
| **Comment** | Transport Format Set for TDD mode |
| **Type Definition** | |

```
SEQUENCE {
    tb_Size                 INTEGER (0..5035),
    numberOfTbSizeList      SEQUENCE (SIZE (1..maxTF)) OF NumberOfTransportBlocks,
    logicalChannelList      LogicalChannelList
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | TrchConfigType |
| **Comment** | |
| **Type Definition** | |

```
CHOICE {
                    nonDch                      NULL,
                    dch                         ENUMERATED {normal(0), softHO(1)}
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | HS_DSCHMACdFlows |
| **Comment** | Applicable Rel-5 or later<br>Within the ACK/NACK repetition period indicated by ackNackRepetitionFactor the SS shall not transmit MAC-hs PDU's on HS-PDSCH. |

**Type Definition**

```
SEQUENCE        {
        harqInfo                        HARQ_Info                       OPTIONAL,
        addOrReconfMACdFlow             SS_AddOrReconfMAC_dFlow         OPTIONAL,
        ackNackRepetitionFactor         ACK_NACK_repetitionFactor       OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_AddOrReconfMAC_dFlow |
| **Comment** | Applicable Rel-5 or later |

**Type Definition**

```
SEQUENCE {
    mac_hs_AddReconfQueue_List      SEQUENCE (SIZE(1..maxQueueIDs)) OF  SEQUENCE {
                    mac_hs_AddReconfQueue   SS_MAC_hs_AddReconfQueue}   OPTIONAL,
    mac_hs_DelQueue_List            SEQUENCE (SIZE(1..maxQueueIDs)) OF SEQUENCE {
                    mac_hsQueueId             INTEGER(0..7)}            OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_MAC_hs_AddReconfQueue |
| **Comment** | Applicable Rel-5 or later<br>The priority of PriorityQueue shall set acoording to the priority of logical channels which is mapped on to this priority queue.<br>Note: the range of priority of PriorityQueue is from 0 to 7 and 0 is the lowest priority.<br>DiscardTimer defines the time (unit ms) to live for a MAC-hs SDU starting from the instant of its arrival into an HSDPA Priority Queue. The SS shall use this information to discard out-of-data MAC-hs SDUs from the HSDPA Priority Queues. |

**Type Definition**

```
SEQUENCE {
    mAChsAddReconfQueue             MAC_hs_AddReconfQueue,
    logicalChannelList              SEQUENCE OF LogicalChannelIdentity,
                                    -- logical channels mapping onto the priority queue
                                    -- which is specified in maChsAddReconfQueue
    priority                        INTEGER(0..7),
    discardTimer                    ENUMERATED {
v20(0),v40(1),v60(2),v80(3),v100(4),v120(5),v140(6),v160(7),v180(8),v200(9),
v250(10),v300(11),v400(12),v500(13),v750(14),v1000(15),v1250(16),v1500(17),v1750(18),v20
00(19),v2500(20),v3000(21), v3500(22),v4000(23),v4500(24),v5000(25), v7500(26)
                                                    }   OPTIONAL
    }
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | E_DCHMACdFlows |
| **Comment** | Rel-6 or later |

**Type Definition**

```
SEQUENCE {
        tti                         E_DCH_TTI,
        harq_Info                   ENUMERATED {rv0 (0), rvtable (1)},
        addReconf_MAC_d_FlowList    E_DCH_AddReconf_MAC_d_FlowList  OPTIONAL
}
```

### 7.3.2.2.14a CPHY_ UL_PowerModify

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_UL_PowerModify_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm the increase/decrease in UE uplink DPCH power transmission or send the TPC commands as instructed. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                          INTEGER(0..63),
            routingInfo                     RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_UL_PowerModify_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request increase/decrease in the UE uplink DPCH transmission by the delta value given in dB, from the existing transmission level or make UE to transmit at maximum or minimum power level. It is assumed that the UE UL DPCH transmission power level is set to -20dbm by default at beginning of each test.<br>For routing Info the Dl DPCH Physical channel ID shall be used.<br>For IE ul_DPCH_Id, the physical channel ID of associated UL DPCH shall be given. SS can use it or neglect it.<br>Ul_UE_TxPower gives either the value in dB, by which SS shall increase/decrease the uplink transmission power of UE from the existing transmission power, when this primitive is called or Start transmission of TPC commands on DL DPCCH as configured |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                          INTEGER(0..63),
            routingInfo                     RoutingInfo,
            ul_DPCH_Id                      INTEGER(0..31),
            ul_UE_Tx_Power                  Ul_UE_Tx_Power
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | Ul_UE_Tx_Power |
| **Comment** | Choice delta gives the value in dB, by which the existing UE UL DPCH transmission power level is to be increased or decreased. After reaching the new desired level SS shall make UE to maintain this new transmission power level.<br>WithChoice maxMin, and ENUM 'tpc_Up' selection, SS shall start transmitting TPC commands on the DL DPCCH, as '1' every slot so as to ask UE to increase the transmission power.<br>With Choice maxMin, and ENUM 'tpc_Down' selection, SS shall start transmitting TPC commands on the DL DPCCH, as '0' every slot so as to ask UE to decrease the transmission power.<br>With Choice maxMin, and ENUM 'tpc_Maintain' selection, SS will start transmitting TPC commands on the DL DPCCH, as alternate '0' and '1' in alternate slots so as to maintain the UE uplink transmission power |
| **Type Definition** | |

```
CHOICE      {
        deltaINTEGER        (-64..63)
        maxMin              ENUMERATED{ tpc_Up(0), tpc_Down(1), tpc_Maintain(2) }
}
```

### 7.3.2.2.14 CPHY_TrCH_Release

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_TrCH_Release_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to release the Radio Link |
| **Type Definition** | |

```
SEQUENCE    {
        cellId                  INTEGER(0..63),
        routingInfo             RoutingInfo,
        trchConfigType          TrchConfigType,
        activationTime          SS_ActivationTime
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_TrCH_Release_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to release the Radio Link |
| **Type Definition** | |

```
SEQUENCE    {
            cellId              INTEGER(0..63),
            routingInfo         RoutingInfo
}
```

### 7.3.2.2.15 CMAC_BMC_Scheduling

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_BMC_Scheduling_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm the BMC scheduling. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(0..63),
            routingInfo             RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_BMC_Scheduling_REQ |
| **PCO Type** | CSAP |
| **Comment** | Send the BMC scheduling information to the MAC. |
| **Type Definition** | |

```
SEQUENCE     {
               cellId                   INTEGER(0..63),
               routingInfo              RoutingInfo,
               ratType                  RatType,
               schedulingInfo           BMC_SchedulingInfo
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | BMC_SchedulingInfo |
| **Comment** | |
| **Type Definition** | |

```
SEQUENCE    {
            level1Info              BMC_SchedulingLevel1Info,
            level2Info              BMC_SchedulingLevel2Info    OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | BMC_SchedulingLevel2Info |
| **Comment** | |
| **Type Definition** | |

```
SEQUENCE    {
            starCtchBsIndex             INTEGER (1..256)        DEFAULT 1,
            drxSelectionBitmap          OCTET STRING
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | BMC_SchedulingLevel1Info |
| **Comment** | 0 ≤ K ≤ N-1 (3GPP TS 25.331 [21], clause 8.5.16) |
| **Type Definition** | |

```
SEQUENCE    {
            ctchAllocationPeriod        INTEGER (1..256),       -- N
            cbsFrameOffset              INTEGER (0..255)        -- K
}
```

### 7.3.2.2.16 CMAC_Ciphering_Activate

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_Ciphering_Activate_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to activate or inactivate the ciphering |
| **Type Definition** | |

```
SEQUENCE {
            cellId                      INTEGER(-1..63),
            routingInfo                 RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_Ciphering_Activate_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to start or restart downlink ciphering or uplink deciphering.<br>The physicalChannelIdentity of DPCH applies to routingInfo.<br>Initialize the 20 MSB of HFN component of COUNT-C to the START value stored.<br>If the value of incHFN is set to "NotInc" the SS initializes the remaining LSBs of HFN component in COUNT-C to zero and the SS shall not increment HFN part of COUNT-C at every CFN cycle.<br>If the value of incHFN is set to "IncPerCFN_Cycle" the SS initializes the remainingLSBs of HFN component in COUNT-C accordingly. If it is absent the SS initialize the LSBs of HFN component in COUNT-C to zero, increments the HFN component in COUNT-C by one and then starts the increment HFN part of COUNT-C at every CFN cycle. |
| **Type Definition** | |

```
SEQUENCE {
            cellId                      INTEGER(-1..63),
            routingInfo                 RoutingInfo,
            ratType                     RatType,
            cn_DomainIdentity           CN_DomainIdentity,
            cipheringModeInfo           CipheringModeInfo,
            incHFN                      Increment Mode
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | Increment_Mode |
| **Comment** | |
| **Type Definition** | |

```
ENUMERATED {incPerCFN_Cycler(0), notInc(1), incByOne_IncPerCFN_Cycle(2)}
```

### 7.3.2.2.17 CMAC_Config

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_Config_CNF |
| **PCO Type** | CSAP |
| **Comment** | For MAC emulator to report that a previous attempt to setup, reconfigure or release a logical channel is successful. |
| **Type Definition** | |

```
SEQUENCE    {
                cellId                  INTEGER(-1..63),
                routingInfo             RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_Config_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to configure MAC entity. Setup is used for creation of the MAC instances or the MAC resources. Release is used for free the all MAC resources. The reconfiguration is to change the MAC parameters, it is not the MAC modification. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            ratType                 RatType,
            configMessage           CHOICE {
                setup                   CmacConfigReq,
                reconfigure             CmacConfigReq,
                release                 SS_ActivationTime
            }
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CmacConfigReq |
| **Comment** | To request to configure MAC |
| **Type Definition** | |

```
SEQUENCE    {
            activationTime                  SS_ActivationTime,
            uE_Info                             UE_Info,
            trCHInfo                            TrCHInfo,
            trCH_LogCHMapping                   TrCH_LogCHMappingList1
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | UE_Info |
| **Comment** | The value of c_RNTI_DSCH_RNTI is 16 bits, used either for C-RNTI or DSCH-RNTI. DSCH is configured if the physical channel in CMAC_config_REQ is a PDSCH. Otherwise, C-RNTI is applied. At the MAC-hs configuration both u_RNTI and c_RNTI_DSCH_RNTI are omitted. |
| **Type Definition** | |

```
SEQUENCE {
        u_RNTI              U_RNTI      OPTIONAL,
        c_RNTI              C_RNTI      OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | TrCH_LogCHMappingList1 |
| **Comment** | maxulTrCH = maxdlTrCH = 16 |
| **Type Definition** | |

```
SEQUENCE    {
        ulconnectedTrCHList     SEQUENCE (SIZE (1..maxulTrCH)) OF SEQUENCE {
                trchid                  TransportChannelIdentity,
                trCH_LogCHMappingList   TrCH_LogCHMappingList
                                                                }   OPTIONAL,
        dlconnectedTrCHList     SEQUENCE (SIZE (1..maxdlTrCH)) OF SEQUENCE {
                trchid                  TransportChannelIdentity,
                trCH_LogCHMappingList   TrCH_LogCHMappingList
                                                                }   OPTIONAL,
        dlconnectedMACdFlows    SEQUENCE (SIZE (1..8)) OF SEQUENCE {
                mac_dFlowId                MAC_d_FlowIdentity,
                trCH_LogCHMappingList      TrCH_LogCHMappingList
                                                                }   OPTIONAL
                                    -- Rel-5 or later
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | TrCH_LogCHMappingList |
| **Comment** | maxLogCHperTrCH = 15 |
| **Type Definition** | |

```
SEQUENCE (SIZE (1..maxLogCHperTrCH)) OF     TrCH_LogicalChannelMapping
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | TrCHInfo |
| **Comment** | The same TFCS information should be provided to the PHY and MAC layers at all times. When a CMAC_Config_REQ is used to configure the MAC layer, a corresponding CPHY_TrCH_Config_REQ should be sent to the PHY layer to ensure that the configuration is consistent.<br>For MAC-hs configuration:<br>When ulconnectedTrCHList, ulTFCS, dlconnectedTrCHList and dlTFCS are omitted this ASP configures an MAC-hs entity. |
| **Type Definition** | |

```
SEQUENCE    {
        ulconnectedTrCHList     SEQUENCE (SIZE (1..maxulTrCH)) OF SEQUENCE {
                trchid                  TransportChannelIdentity,
                transportChannelInfo    CommonOrDedicatedTFS
                                                                }   OPTIONAL,
        ulTFCS              TFCS    OPTIONAL,
        dlconnectedTrCHList     SEQUENCE (SIZE (1..maxdlTrCH)) OF SEQUENCE {
                trchid                  TransportChannelIdentity,
        transportChannelInfo    CommonOrDedicatedTFS
                                                                }   OPTIONAL,
        dlTFCS              TFCS    OPTIONAL,
        hsDSCHMacdFlows     HS_DSCHMACdFlows    OPTIONAL    -- Rel-5 or later
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | TrCH_LogicalChannelMapping |
| **Comment** | When used for logical channel to MAC_d flow mapping<br>dl_LogicalChannelMapping shall be chosen, |
| **Type Definition** | |

```
SEQUENCE    {
    logicalChannel_Mapping      CHOICE  {
                ul_LogicalChannelMapping            SS_UL_LogicalChannelMapping,
                dl_LogicalChannelMapping            SS_DL_LogicalChannelMapping
                    },
    rB_Identity                 INTEGER     (-31..32)   OPTIONAL,
    cn-DomainIdentity           CN-DomainIdentity       OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_UL_LogicalChannelMapping |
| **Comment** | If the macHeaderManipulation field is 'NormalMacHeader', then data received on the transport channel supporting this logical channel shall have it's MAC header inspected to determine the appropriate routing, and removed as normal. The MAC SDU shall be passed to the appropriate logical channel.<br>If the macHeaderManipulation field field is 'OmitMacHeader', then data received on the transport channel supporting this logical channel shall have it's MAC header inspected to determine the appropriate routing, but the MAC layer shall not remove the MAC header. Thus the entire MAC PDU shall be passed to the appropriate logical channel, and the MAC header can be checked by the TTCN. |

**Type Definition**

```
SEQUENCE {
    macHeaderManipulation               MAC_HeaderManipulation,
    ul_TransportChannelType             SS_UL_TransportChannelType,
    logicalChannelIdentity              LogicalChannelIdentity,
    logicalChannelType                  LogicalChannelType
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_DL_LogicalChannelMapping |
| **Comment** | If the macHeaderManipulation field is 'NormalMacHeader', then data transmitted on this logical channel shall have an appropriate MAC header added before it is sent to lower layers for transmission.<br>If the macHeaderManipulation field is 'OmitMacHeader', then data transmitted on this logical channel shall not have any MAC header information added, even if the logical channel type and mapping indicates that there should be a MAC header present. This allows the entire MAC PDU to be specified in the TTCN, so individual fields in the MAC header can be modified.<br>When used for DTCH mapping to MAC_d flow, rlc_SizeList shall choose "configured" according to the configured mAChsAddReconfQueue valules.<br>When the logical channel is MTCH, the logicalChannelIdentity shall be consistent with MBMS_LogicalChIdentity in MBMS_PTM_RBInformation_N and MBMS_PTM_RBInformation_C. |

**Type Definition**

```
SEQUENCE {
    macHeaderManipulation               MAC_HeaderManipulation,
    dlTransportChannelType              SS_DL_TransportChannelType,
    logicalChannelIdentity              LogicalChannelIdentity,
    logicalChannelType                  LogicalChannelType,
    rlc_SizeList                        CHOICE {
            allSizes                            NULL,
            configured                          NULL,
            explicitList                        RLC_SizeExplicitList},
    mac_LogicalChannelPriority          MAC_LogicalChannelPriority  OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_UL_TransportChannelType |
| **Comment** | |

**Type Definition**

```
ENUMERATED {
    dch (0),
    rach (1),
    cpch (2),
    usch (3),
    edch (4)        -- Rel-6 or later
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MAC_LogicalChannelPriority |
| **Comment** | |

**Type Definition**

```
INTEGER (1..8)
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_DL_TransportChannelType |
| **Comment** | |
| **Type Definition** | |

```
ENUMERATED {
    dch     (0),
    fach    (1),
    bch     (2),
    pch     (3),
    dsch    (4),
    hsdsch  (5)     -- Rel-5 or later
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | LogicalChannelType |
| **Comment** | |
| **Type Definition** | |

```
ENUMERATED {
    bCCH    (0),
    pCCH    (1),
    cCCH    (2),
    cTCH    (3),
    dCCH    (4),
    dTCH    (5),
    sHCCH   (6),
    mTCH    (7),    -- Rel-6 or later
    mCCH    (8),    -- Rel-6 or later
    mSCH    (9)     -- Rel-6 or later
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MAC_HeaderManipulation |
| **Comment** | |
| **Type Definition** | |

```
ENUMERATED  {
            normalMacHeader (0),
            omitMacHeader   (1)
}
```

### 7.3.2.2.17a CMAC_MAChs_TFRCconfigure (Rel-5 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MAChs_TFRCconfigure_CNF |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>Confirm a previous CMAC_MAChs_TFRCconfigure_REQ being successful. |
| **Type Definition** | |

```
SEQUENCE {
        cellId              INTEGER(-1..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MAChs_TFRCconfigure_REQ |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>To configure the TFRC selection in the MAC-hs entity, channelisationCodeOffset + noOfChannelisationCodes shall not be great than 15.<br>If explicitlyConfigured is selected in `tfrcConfigMode`, the SS shall use all the parameter values specified to configure a correct transport format and radio resources.<br>If sS_Configured is selected, the parameter value range is specified. SS shall dynamically select the suitable values for the parameters "modulationScheme", "channelisationCodeOffset", "noOfChannelisatonCodes ", tbSizeIndexOnHS_SCCH", "redundancyVersion" and "hs_PDSCH_TxPower" according to UE's capability category and CQI information reported by the UE. |

**Type Definition**

```
SEQUENCE    {
    cellId              INTEGER(-1..63),
    tfrcConfigMode      CHOICE {
        explicitlyConfigured            SEQUENCE {
            modulationScheme                ModulationScheme,
            channelisationCodeOffset        INTEGER (1..14),
            noOfChannelisatonCodes          INTEGER (1..15),
            tbSizeIndexOnHS_SCCH            INTEGER (0..63),
            minimumInterTTIinterval         INTEGER (1..3),
            redundancyVersions              RedundancyVersionList,
            hs_PDSCH_TxPower                DL_TxPower  -- default offset related
                                                        -- to p-CPICH or s-CPICH
                                        },
        sS_Configured       SEQUENCE {
            minChannelisationCodeOffset     INTEGER (1..14),
            maxNoOfChannelisatonCodes       INTEGER (1..15),
            iniHS_PDSCH_TxPower             DL_TxPower  -- default offset related
                                                        -- to p-CPICH or s-CPICH
                                        }
                                    },
    activationTime              SS_ActivationTime
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | RedundancyVersionList |
| **Comment** | Gives the Redundancy and constellation version coding sequence (Xrv) to be used for every transmission / retransmission. The SIZE (number of Xrv elements in there) of the SEQUENCE implies the number of HARQ transmission / retransmissions to be required. |

**Type Definition**

```
SEQUENCE (SIZE (1..8)) OF INTEGER (0..7)
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | ModulationScheme |
| **Comment** | |

**Type Definition**

```
ENUMERATED {qpsk (0), qam16 (1)}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MAChs_HARQprocAsign_CNF |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>Confirm a previous CMAC_MAChs_HARQprocAsign_REQ being successful. |

**Type Definition**

```
SEQUENCE {
        cellId              INTEGER(-1..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MAChs_HARQprocAsign_REQ |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>To assign a HARQ process handling the next MAC-hs PDU transmission.<br>This ASP provides TTCN the ability to select an HARQ process serving the next MAC-hs PDU which follows the ASP. After successful transmission the MAC-hs returns back to normal operation. In the normal operation a suitable HARQ process is selected by HARQ entity in the MAC-hs to serve the MAC-hs PDU without TTCN intervening. |
| **Type Definition** | |
| SEQUENCE {<br>cellId INTEGER(-1..63),<br>harqProcessId INTEGER(0..7)<br>} | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MAChs_Reset_CNF |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>Confirm a previous CMAC_MAChs_Reset_REQ being successful. |
| **Type Definition** | |
| SEQUENCE {<br>cellId INTEGER(-1..63)<br>} | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MAChs_Reset_REQ |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>To reset the MAC-hs entity. |
| **Type Definition** | |
| SEQUENCE {<br>cellId INTEGER(-1..63)<br>} | |

### 7.3.2.2.17b CMAC_MACe_Config (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACe_Config_CNF |
| **PCO Type** | CSAP |
| **Comment** | Confirm a previous CMAC_MACe_Config_REQ being successful. |
| **Type Definition** | |
| SEQUENCE {<br>nodeB_Id INTEGER(0..63)<br>} | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACe_Config_REQ |
| **PCO Type** | CSAP |
| **Comment** | |
| **Type Definition** | |
| SEQUENCE {<br>nodeB_Id INTEGER(0..63),<br>configMessage CHOICE {<br>setup MACeConfig,<br>reconfig MACeConfig,<br>reset NULL,<br>release SS_ActivationTime<br>}<br>} | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MACeConfig |
| **Comment** | If the macHeaderManipulation field is 'NormalMacHeader' in ddiMappingList, then data received on the E-DCH (MAC_e PDU) shall have it's MAC header inspected to de-multiplex and to determine the appropriate routing, and the MACes PDU shall be passed to the MAC_es together with the relevant DDI, N, CFN and subframe number.<br>If the macHeaderManipulation field field is 'OmitMacHeader', then data received on the E-DCH (MAC_e PDU) shall have it's MAC header inspected to de-multiplex and to determine the appropriate routing, then the MAC_e layer shall delivery the MAC-es PDU, SI and the related CFN, subframe number to the MAC_es entity.<br>connectedToMAC_es field is used to provide the possibility that the E-DCH-MACdFlows from only one MAC_e entity are connected to the MAC_es entity in the inter node B soft handover test cases.<br>The IEs ddiMappinglist and e_DCHMacdFlows can be OMITted when changing the serving cell MAC-e without modification of MAC-e configurations. It will be applied in EDCH SHO. |
| **Type Definition** | |

```
SEQUENCE {
    activationTime      SS_ActivationTime,
    ddiMappinglist      DDI_MappingList     OPTIONAL,
    e_DCHMacdFlows      E_DCHMACdFlows      OPTIONAL,
    connectedToMAC_es   BOOLEAN DEFAULT TRUE -- can be set to FALSE in inter nodeB SHO
}
```

### 7.3.2.2.17c CMAC_MACe_NodeB_CellMapping (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACe_NodeB_CellMapping_CNF |
| **PCO Type** | CSAP |
| **Comment** | Confirm a previous CMAC_MACe_NodeB_CellMapping_REQ being successful. |
| **Type Definition** | |

```
SEQUENCE {
        nodeB_Id            INTEGER(0..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACe_NodeB_CellMapping_REQ |
| **PCO Type** | CSAP |
| **Comment** | To put a set of cells under the control of a MAC_e entity indicated by nodeB_Id, which is configured by CMAC_MAC_e_Config_REQ.<br>This ASP establishes the routing relation between E-DCH related channels in these cells with a MAC_e entity.<br>A cell is mapped to only one NodeB, and the cellId allocation is unique in a test. |
| **Type Definition** | |

```
SEQUENCE    {
    nodeB_Id            INTEGER(0..63),
    celllist            SEQUENCE OF INTEGER (0..63)
}
```

### 7.3.2.2.17d CMAC_MACes_Config (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACes_Config_CNF |
| **PCO Type** | CSAP |
| **Comment** | Confirm a previous CMAC_MACes_Config_REQ being successful. cellId=-1. |
| **Type Definition** | |

```
SEQUENCE {
        cellId              INTEGER(-1..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACes_Config_REQ |
| **PCO Type** | CSAP |
| **Comment** | This ASP is used for creating and configuring, reconfiguring, resetting or releasing an MAC_es, a cell / nodeB-independent entity in the SS. cellId=-1. |
| **Type Definition** | |

```
SEQUENCE    {
        cellId              INTEGER(-1..63),
        configMessage       CHOICE  {
            setup               MACesConfig,
            reconfig            MACesConfig,
            reset               NULL,
            release             SS_ActivationTime}
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MACesConfig |
| **Comment** | MACesConfig establishes the mapping between logical channels and E-DCH_MACd_Flows.<br>When the macTestMode is TRUE, the re-ordering entity shall not elimilate the deplicated packets, but passes them to RLC. macTestMode = 'TRUE' is used for testing the retransmission function of HARQ process |
| **Type Definition** | |

```
SEQUENCE    {
            activationTime      SS_ActivationTime,
            ddiMappinglist      DDI_MappingList,
            macTestMode         BOOLEAN DEFAULT FALSE
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | DDI_MappingList |
| **Comment** | |
| **Type Definition** | |

```
SEQUENCE (SIZE (1..31)) OF DDI_Mapping
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | DDI_Mapping |
| **Comment** | Both SRBs and RBs can be mapped onto E-DCH. The mechanism for control of MAC header manipulation (macHeaderManipulation) is applied to individual logical channels to be mapped on E-DCH. Typically, the SRBs are configured in "NormalMacHeader' mode while the RBs in user plane can be configured either in "NormalMacHeader' or in 'OmitMacHeader' mode.<br>If more than one UL RLC PDU size is configured for the RB (represent by logicalChannelIdentity), the different sizes will use subsequent DDI values starting from the DDI value in this table.<br>If the value of macHeaderManipulation field is 'NormalMacHeader', then data received on the E-DCH MACd flows supporting this logical channel shall have its MAC header inspected to determine the appropriate routing, and removed as normal. The MACes SDU shall be passed to the appropriate logical channel.<br>If the value of macHeaderManipulation field is 'OmitMacHeader', then data received on the E-DCH MACd flows supporting this logical channel shall have it's MAC header inspected to determine the appropriate routing, then the MAC_es layer shall deliver the MAC-es SDU, SI and the related CFN, subframe number, HARQ process identity to the appropriate logical channel. The TTCN receives these fields by RLC_MACes_DATA_IND, then these fields can be checked by the TTCN.<br>HARQ ID = CFN mod 4 for TTI=10ms;<br>HARQ ID = (5*CFN + subframe number) mod 8 for TTI=2ms |
| **Type Definition** | |

```
SEQUENCE {
            macHeaderManipulation               MAC_HeaderManipulation,
            logicalChannelIdentity              LogicalChannelIdentity,
            e_DCH_MAC_d_FlowIdentity            E_DCH_MAC_d_FlowIdentity,
            ddi                                 DDI,
            rlc_PDU_SizeList                    RLC_PDU_SizeList,
            includeInSchedulingInfo             BOOLEAN,
            mac_LogicalChannelPriority          MAC_LogicalChannelPriority,
            logicalChannelType                  LogicalChannelType,
            rB_Identity                         INTEGER (-31..32)   OPTIONAL
}
```

### 7.3.2.2.17e CMAC_MACe_AG (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACe_AG_CNF |
| **PCO Type** | CSAP |
| **Comment** | Confirm a previous CMAC_MACe_AG_REQ being successful. |
| **Type Definition** | |

```
SEQUENCE {
        nodeB_Id                INTEGER(0..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACe_AG_REQ |
| **PCO Type** | CSAP |
| **Comment** | The hARQProcId shall be converted to the nearest CFN (and subframe number if TTI = 2ms) by the SS, and the Absolute Grant is sent in that CFN (and subframe number if TTI = 2ms) |
| **Type Definition** | |

```
SEQUENCE    {
            nodeB_Id            INTEGER(0..63),
            grantType           ENUMERATED {primary(0), secondary(1)},
            absoluteGrantValue  BIT STRING(SIZE(5)),
            absoluteGrantScope  BIT STRING(SIZE(1)),
            hARQProcId          INTEGER (0..7),
            activationTime      SS_ActivationTime
}
```

### 7.3.2.2.17f CMAC_MACe_AckNack (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACe_AckNack_CNF |
| **PCO Type** | CSAP |
| **Comment** | To Confirm CMAC_e_AckNack_REQ |
| **Type Definition** | |

```
SEQUENCE    {
            nodeB_Id                INTEGER(0..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACe_AckNack_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request the SS to set operation mode of the Ack/Nack function for the HARQ process hARQProcId.<br>The harqProcId, between 0 to 3 for 10 ms TTI or 0 to 7 for 2 msTTI, is individually applied to the configuration for the normal / nack mode. If the special hARQProcId -1 is used, all active HARQ processes ( 0..3 for 10 ms TTI and 0..7 for 2 ms TTI) will be configured according to ackNackFunction.<br>At the SS initialisation Ack/Nack function is in normal operation mode |
| **Type Definition** | |

```
SEQUENCE    {
            nodeB_Id            INTEGER(0..63),
            hARQProcId          INTEGER (-1|0..7),
            ackNackFunction     AckNackFunction
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | AckNackFunction |
| **Comment** | normal : put the HARQ process in normal operation mode, it generats the ACK or NACK according to whether the received TB block can be decoded correctly and delivery the correctly decoded data to higher layer. When the MAC_e is configured the HARQ process is in normal operation mode.<br>nack : put the HARQ process in the special operation mode in which the HARQ process always sends NACK for the received TB blcok till the number of the retransmissions reaches the number indicated in this field. The HARQ process is back to the normal operation mode after the number is reached or received a normal mode request. Except each received TB shall be passed to higher layer, other operations are the same as a real NACK occured. |
| **Type Definition** | |

```
CHOICE  {
            normal      NULL,
            nack        E_DCH_MAC_d_FlowMaxRetrans
}
```

### 7.3.2.2.17g CMAC_MACe_E_TFC_Restriction (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACe_E_TFC_Restriction_CNF |
| **PCO Type** | CSAP |
| **Comment** | For MAC emulator to report that a previous attempt of restricting TFCs have been successful. |
| **Type Definition** | |

```
SEQUENCE    {
            nodeB_Id            INTEGER(0..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACe_E_TFC_Restriction_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to configure MACe entity. The field restrictAllowedTFCs is provided to allow the E-TFCI to be restricted. The IE fullE_TFCS will be used to remove any previous E_TFCS restriction configured. |
| **Type Definition** | |

```
SEQUENCE {
        nodeB_Id                        INTEGER (0..63),
        restrictAllowedTFCs         CHOICE {
                                        e_TFCS_Restriction      E_TFCS_Restriction,
                                        fullE_TFCS              NULL }
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | E_TFCS_Restriction |
| **Comment** | The E_TFCS restriction is a list of E-TFCIs, and can be used to verify that the UE has used a specific TFC. Any data received by the SS using a forbidden TFCI shall be discarded. |
| **Type Definition** | |

```
SEQUENCE OF INTEGER (0..127)
```

### 7.3.2.2.17h CMAC_MACe_RG (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACe_RG_CNF |
| **PCO Type** | CSAP |
| **Comment** | Confirm a previous CMAC_MACe_RG_REQ being successful. |
| **Type Definition** | |

```
SEQUENCE {
        nodeB_Id                INTEGER(0..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACe_RG_REQ |
| **PCO Type** | CSAP |
| **Comment** | For non-serving RL the value for relativeGrant is limited to 'down' and 'hold'.<br>The SS shall convert the hARQProcId to the nearest CFN (and subframe number if TTI = 2ms) by the SS and send the Relative Grant in that CFN (and subframe number if TTI = 2ms) |
| **Type Definition** | |

```
SEQUENCE    {
            nodeB_Id            INTEGER(0..63),
            relativeGrant       ENUMERATED{up(0), down(1), hold(2)},
            hARQProcId          INTEGER (0..7),
            activationTime      SS_ActivationTime
}
```

### 7.3.2.2.17i CMAC_MACes_SI_IND

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACes_SI_IND |
| **PCO Type** | CSAP |
| **Comment** | This ASP is used for MACes delivering scheduling information in MAC_es testing. cellId=-1.<br>If the SI was sent alone in a MAC-e PDU or sent together with other MAC-es PDU in a MAC-e PDU but without a special DDI associated the value of specialDDIpresense is set to absent;<br>If the SI was sent together with other MAC-es PDU in a MAC-e PDU with a special DDI (DDI 63) associated the specialDDIpresence is set to present. |

**Type Definition**

```
SEQUENCE    {
        cellId                      INTEGER(-1..63),
        cfn                         INTEGER (0..255),
        subframe                    INTEGER (0..4|7),-- 0..4 when TTI=2ms, 7 when
TTI=10ms
        specialDDIpresence          ENUMERATED {absent (0), present (1)},
        uePowerHeadRoom             BIT STRING (SIZE(5)),
        totalE_DCHBufferStatus      BIT STRING (SIZE(5)),
        highestPriorityLogChBS      BIT STRING (SIZE(4)),
        highestPriorityLogChId      BIT STRING (SIZE(4))
}
```

### 7.3.2.2.17j CMAC_MACes_SI_Config (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACes_SI_Config_CNF |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-6 or later<br>To Confirm CMAC_MACes_SI_Config_REQ, cellId=-1. |

**Type Definition**

```
SEQUENCE    {
            cellId                      INTEGER(-1..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MACes_SI_Config_REQ |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-6 or later<br>To configure the SS to enable / disable to report the reception of Scheduling Information in MAC-Es PDU"s via primitive CMAC_MACes_SI_IND.<br>At the SS initialisation, the default mode is SI reporting disabled. cellId=-1. |

**Type Definition**

```
SEQUENCE    {
        cellId                  INTEGER(-1..63),
        sI_reportEnable         ENUMERATED {disable(0), enable(1)}  DEFAULT disable
}
```

### 7.3.2.2.17k CMAC_MBMS_ConfigInfo (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MBMS_ConfigInfo_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm CMAC_MBMS_ConfigInfo_REQ. The routingInfo indicates the physical channel which carries logical channel of type: MCCH, MSCH. |

**Type Definition**

```
SEQUENCE    {
            cellId                      INTEGER(0..63),
            routingInfo                 RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_MBMS_ConfigInfo_REQ |
| **PCO Type** | CSAP |
| **Comment** | To provide the SS MCCH or MSCH configuration information. The routingInfo indicates the physical channel which carries logical channel of type : MCCH or MSCH.<br>This ASP shall be called after the ASP CMAC_Config_REQ used for MCCH or MSCH configuration. |

**Type Definition**

```
SEQUENCE    {
            cellId                  INTEGER(0..63),
            routingInfo             RoutingInfo,
            mCCH_ConfigInfo         MBMS_MCCH_ConfigurationInfo_r6  OPTIONAL,
            mSCH_ConfigInfo         MBMS_MSCH_ConfigurationInfo_r6  OPTIONAL
}
```

### 7.3.2.2.18 CMAC_PAGING_Config

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_PAGING_Config_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to setup the paging message |

**Type Definition**

```
SEQUENCE    {
            cellId                      INTEGER(0..63),
            routingInfo                 RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_PAGING_Config_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request MAC layer to send the Paging message on the specified configuration. |

**Type Definition**

```
SEQUENCE     {
               cellId                       INTEGER(0..63),
               routingInfo                  RoutingInfo,
               ratType                      RatType,
               configMessage                CmacPagingConfigReq
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CmacPagingConfigReq |
| **Comment** | |

**Type Definition**

```
SEQUENCE  {
            pI_BitMapInfo       CHOICE {
                e18                 BIT STRING (SIZE (18)),
                e36                 BIT STRING (SIZE (36)),
                e72                 BIT STRING (SIZE (72)),
                e144                BIT STRING (SIZE (144))
                                    },
            dRX_CycleLength     INTEGER {3..9},
            iMSI                SEQUENCE (SIZE (6..15)) OF  Digit,
            t_pich_T_sccpch     BOOLEAN         --  T_pich>T_sccpch then FALSE
}
```

### 7.3.2.2.19 CMAC_Restriction

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_Restriction_CNF |
| **PCO Type** | CSAP |
| **Comment** | For MAC emulator to report that a previous attempt of restricting TFCs have been successful. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(-1..63),
            routingInfo                 RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_Restriction_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to configure MAC entity. The field restrictAllowedTFCs is provided to allow the UL and/or DL SS TFCS to be restricted for a specific transport channel. This information only needs to be sent to the MAC layer, since it is the MAC layer's responsibility to determine the set of valid TFCs each TTI. |
| **Type Definition** | |

```
SEQUENCE {
        cellId                      INTEGER (-1..63),
        routingInfo                 RoutingInfo,
        ratType                     RatType,
        restrictAllowedTFCs         TFC_Restriction
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | TFC_Restriction |
| **Comment** | This type is used to specify the allowed TFCs within the current TFCS. A TFC restriction is applicable until a subsequent TFC restriction is applied. TFC restrictions are not cumulative, so each TFC restriction completely replaces the previous TFC restriction.<br>The downlink restriction can be used to ensure that the SS uses a specific TFC for transmission of data, by only allowing the 'No data' TFC, and the 'desired' TFC. It may also be necessary to include one or more 'signalling only' TFCs to allow signalling to occur.<br>The uplink restriction can be used to verify that the UE has used a specific TFC. Any data received by the SS using a forbidden TFCI shall be discarded. |
| **Type Definition** | |

```
SEQUENCE {
        ulTFCI_Restriction          TFC_Subset OPTIONAL,
        dlTFCI_Restriction          TFC_Subset OPTIONAL
}
```

| | |
|---|---|
| **Detailed Comments** | SS requirements for downlink.<br>1. The SS MAC layer shall not use a restrictednon-allowed TFC for DL.<br>2. The SS MAC layer shall not use a TFC that requires the SS RLC layer to provide padding PDUs (3GPP TS 25.322 [18])<br>3. In the case that there is data pending on one or more RLC entities, but not enough to use one of the allowed TFCs:<br>a. The SS MAC layer shall use the 'No data' TFC until there is enough data in the RLC to use another allowed TFC.<br>b. The SS RLC layer shall buffer the data until there is enough data in the RLC entities for the MAC layer to use an allowed TFC other than the 'No data' TFC for transmission of the data.<br>NB: The TTCN author is responsible for ensuring:<br>1. The SDU discard function is not configured for TM and UM entities in the UE, and is configured to no_discard for AM entities in the UE.<br>2. That RLC SDUs that are expected to be sent in the same TTI (due to a TFC restriction) are sent as quickly as possible to minimize the number of 'no data' TFCs used by the MAC layer, and the amount of buffering that must be performed by the RLC layer.<br>SS requirements for uplink:<br>The SS shall discard all data received using a restricted non-allowed TFC. |

### 7.3.2.2.20 CMAC_SecurityMode_Config

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_SecurityMode_Config_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to configure the MAC security mode |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(-1..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_SecurityMode_Config_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to configure the MAC security mode.<br>If there are several CMAC_Ciphering_Activate_REQ follow this ASP, the SS shall take a serial of specified actions on the same contents in this ASP at the activation time indicated in each CMAC_Ciphering_Activate_REQ. |
| **Type Definition** | |

```
SEQUENCE {
            cellId                  INTEGER(-1..63),
            macCipheringInfo        SecurityInfo
}
```

### 7.3.2.2.21 CMAC_SequenceNumber

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_Sequence_Number_CNF |
| **PCO Type** | CSAP |
| **Comment** | To return the requested counter sequence number on MAC-d DCH. The physicalChannelIdentity of DPCH applies to routingInfo. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            count_C_MSB_UL          COUNT_C_MSB ,
            count_C_MSB_DL          COUNT_C_MSB
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_SequenceNumber_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request the MAC layer to return current counter sequence numbers. The physicalChannelIdentity of DPCH applies to routingInfo. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(-1..63),
            routingInfo                 RoutingInfo
}
```

### 7.3.2.2.22 CMAC_SYSINFO_Config

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_SYSINFO_Config_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to setup the system information block |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(0..63),
            routingInfo                 RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CMAC_SYSINFO_Config_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request MAC layer to send the BCCH message on the specified configuration. |
| **Type Definition** | |

```
SEQUENCE     {
               cellId                      INTEGER(0..63),
               routingInfo                 RoutingInfo,
               ratType                     RatType,
               configMessage               CmacSysinfoConfigReq
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CmacSysinfoConfigReq |
| **Comment** | |
| **Type Definition** | |

```
SEQUENCE    {

        sg_REP                  INTEGER     (2..12),
                                -- Repetition period is the sg_REP-th power of 2.
        sg_POS                  INTEGER     (0..2047),
                                -- The position of each segment is 2 * sg_POS.
        bcch_ModificationTime   BCCH_ModificationTime   OPTIONAL
}
```

### 7.3.2.2.22a CRLC_Bind_TestData_TTI

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Bind_TestData_TTI_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm the request of binding subsequent data sending RLC_TR_TestDataReq on the different DL RBs in the same TTI. |
| **Type Definition** | |

```
SEQUENCE {
            cellId                      INTEGER(-1..63),
            result                      ENUMERATED{failure(0), success(1)}
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Bind_TestData_TTI_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request binding subsequent data sending RLC_TR_TestDataReq on the different DL RBs in the same TTI.<br>On the request, the transmission of the test data is temporarily suppressed on those radio bearers which follow subsequently this CRLC_Bind_TestData_TTI_REQ and have 'numOfDiffRb' different RB IDs.<br>Having received the number 'numOfDiffRb' of RLC_TR_TestDataReq, the SS RLC sends the test data on those RBs in the same TTI according to the allowed DL TFCS. |
| **Type Definition** | |

```
SEQUENCE {
            cellId                  INTEGER(-1..63),
            numOfDiffRb             INTEGER(2..6)  -- Number of different RB IDs
}
```

### 7.3.2.2.22b CRLC_BindTestDataInOneMAChs_PDU (Rel-5 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_BindTestDataInOneMAChs_PDU_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm the request of binding subsequent data sending RLC_TR/UM/AM_TestDataReq on the specified RB mapped on HS-DSCH in the same MAChs PDU. |
| **Type Definition** | |

```
SEQUENCE{
    cellId          INTEGER(-1..63),
    routingInfo     RoutingInfo,            -- RB ID desired to be given
    result          ENUMERATED{failure(0), success(1)}
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_BindTestDataInOneMAChs_PDU_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request of binding subsequent data sending RLC_TR/UM/AM_TestDataReq on the specified RB mapped on HS-DSCH in the same Mac-HS PDU.<br>On the request, the transmission of the test data is temporarily suppressed on the radio bearers till 'numOfSDU's' are received by RLC layer on the Radio Bearer. After receiving all SDU's the RLC layer submits to MAC such that all of them are sent in one MAC-Hs PDU. |
| **Type Definition** | |

```
SEQUENCE{
    cellId          INTEGER(-1..63),
    routingInfo     RoutingInfo,            -- RB ID desired to be given
    numOfSDUs       INTEGER                 -- Number of RLC SDU's
}
```

### 7.3.2.2.23 CRLC_Ciphering_Activate

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Ciphering_Activate_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to activate or inactivate the ciphering |
| **Type Definition** | |

```
SEQUENCE {
            cellId                  INTEGER(-1..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Ciphering_Activate_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to start orrestart downlink ciphering or uplink deciphering. Each call of the ASP includes one RLC SN in rb-DL-CiphActivationTimeInfo for the corresponding rb-identity.<br>Initialize the 20 MSB of HFN component of COUNT-C to the START value stored.<br>For RLC_UM COUNT-C:<br>- If the value of incHFN is set to "NotInc" the SS initialiszes the remaining LSBs of HFN component in UM COUNT-C to zero.<br>- If the value of incHFN is set to "Inc" the SS initializes the remaining LSBs of HFN component in UM COUNT-C to zero, then increments the HFN by one.<br>For RLC_AM COUNT-C:<br>- If the value of incHFN is set to "NotInc" no further action is needed.<br>- If the value of incHFN is set to "Inc" the SS increments the HFN by one. |
| **Type Definition** | |

```
SEQUENCE {
            cellId                      INTEGER(-1..63),
            ratType                     RatType,
            cn_DomainIdentity           CN_DomainIdentity,
            ciphActivationInfo          CiphActivationInfo,
            incHFN                      RLC_IncMode
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CiphActivationInfo |
| **Comment** | DL or UL ciphering activation info<br>If RB is omitted in rB_UL_CiphActivationTimeInfo the SS takes no action on this RB and the ciphering configuration keeps unchanged on this RB.<br>CipheringModeCommand = dummy NULL means no ciphering. |
| **Type Definition** | |
| CHOICE {<br>cipheringModeInfo CipheringModeInfo,<br>rb_UL_CiphActivationTimeInfo RB_ActivationTimeInfoList<br>} | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | RLC_IncMode |
| **Comment** | |
| **Type Definition** | |
| ENUMERATED{notInc(0), inc(1)} | |

### 7.3.2.2.24 CRLC_Config

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Config_CNF |
| **PCO Type** | CSAP |
| **Comment** | For RLC emulator to confirm that a previous attempt to establish, re_configure or release a radio bearer has been successful. |
| **Type Definition** | |
| SEQUENCE {<br>cellId INTEGER(-1..63),<br>routingInfo RoutingInfo<br>} | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Config_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to setup, reconfigure or release RLC entity |
| **Type Definition** | |
| SEQUENCE {<br>cellId INTEGER(-1..63),<br>routingInfo RoutingInfo,<br>ratType RatType,<br>configMessage CrlcConfigReq<br>} | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CrlcConfigReq |
| **Comment** | To request to setup, re_configure release RLC entity<br>The Stop parameter indicates that the RLC entity shall not transmit or receive RLC PDUs. The Continue parameter indicates that the RLC entity shall continue transmission and reception of RLC PDUs. When the RLC entity is stopped, the all protocol parameters, such as the protocol variables, RLC timers and status are not affected. Triggered polls and status transmissions are delayed until the RLC entity is continued. |
| **Type Definition** | |
| CHOICE {<br>setup RBInfo,<br>reconfigure RBInfo,<br>release NULL,<br>sS_stop NULL,<br>sS_continue NULL<br>} | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | RBInfo |
| **Comment** | |
| **Type Definition** | |

```
SEQUENCE {
            sS_rlc_Info              SS_RLC_Info         OPTIONAL,
            rB_LogCH_Mapping         RB_LogCH_Mapping
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | RB_LogCH_Mapping |
| **Comment** | Provide mapping information between RB, logical channel and CN domain.<br>When the logical channel is MTCH, the logicalChannelIdentity shall be consistent with MBMS_LogicalChIdentity in MBMS_PTM_RBInformation_N and MBMS_PTM_RBInformation_C being sent to the UE. |
| **Type Definition** | |

```
SEQUENCE {
    uLlogicalChannelIdentity              LogicalChannelIdentity  OPTIONAL,
    dLlogicalChannelIdentity              LogicalChannelIdentity  OPTIONAL,
    logicalChannelType                    LogicalChannelType      OPTIONAL,
    cn-DomainIdentity                     CN-DomainIdentity       OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_RLC_Info |
| **Comment** | UL and DL have been swapped intentionally in this type definition. This is to maximize re-use of the type definitions in 3GPP TS 25.331 [21] which are intended to configure a UE, where UL is transmission, and DL is reception. For the SS, UL is reception, and DL is transmission.<br>For example, consider configuring a DL AM RLC entity (transmitter) in the SS. The transmission parameters to be configured include PollingInformation, Transmission-RLC-Discard etc. If the DL-AM-RLC-Mode type definition is used to configure this entity, it is only possible to configure reception parameters such as StatusInformation, and receiving window size.<br>By swapping UL and DL, it is possible to configure the DL AM RLC entity using the existing type definition UL-AM-RLC-Info, which contains all of the required transmission parameters. |
| **Type Definition** | |

```
SEQUENCE {
            sS_ul_RLC_Mode          DL_RLC_Mode             OPTIONAL,
            sS_dl_RLC_Mode          SS_DL_RLC_Mode          OPTIONAL,
            rlc_OneSidedReEst       BOOLEAN     DEFAULT FALSE,
            altE_bitInterpretation  ENUMERATED {false (0), true (1)} DEFAULT false
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_DL_RLC_Mode |
| **Comment** | 'dl_UM_outOfSeqDelivery' is present only for the DL_RLC entity connected to MCCH, and in the configuration with dl_UM_outOfSeqDelivery present the UM RLC can transmit RLC PDU containing SDU of ACCESS INFORMATION message out of sequence when it is necessary |
| **Type Definition** | |

```
SEQUENCE    {
    dl_PayloadSize              PayloadSize     OPTIONAL,
    dl_RLCModeInfo              UL_RLC_Mode,
    dl_UM_RLC_LI_size           DL_UM_RLC_LI_size   OPTIONAL,
                                -- only for UM RLC configuration of Rel-5 or later
    dl_UM_outOfSeqDelivery      UM_RLC_OutOSeqDelivery_Info_r6 OPTIONAL
                                -- Rel-6 or later
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | PayloadSize |
| **Comment** | |
| **Type Definition** | |

```
INTEGER (0..4992)
```

### 7.3.2.2.25 CRLC_Integrity_Activate

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_integrity_Activate_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to activate or inactivate the integrity protection |
| **Type Definition** | |
| SEQUENCE {<br>cellId INTEGER(-1..63)<br>} | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Integrity_Activate_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to start or to modifythe the downlink or uplink integrity protection. The ASP shall be called before send SECURITY MODE COMMAND. It activates the integrity on all SRBs in DL. The SS initializes the 20 MSB of HFN component of COUNT-I to the START value stored and set the remaining LSBs of HFN component in COUNT-I to zero.<br>If integrityModeCommand in ASP is set to "startIntegrityProtection", the SS shall start the downlink integrity protection from the first downlink RRC message.<br>If te integrityModeCommand in ASP is set to "modify", the SS shall start the downlink integrity protection at the RRC message sequence number specified in "dl_IntegrityProtActivationInfo". |
| **Type Definition** | |
| SEQUENCE {<br>cellId INTEGER(-1..63),<br>cn_DomainIdentity CN_DomainIdentity,<br>integrityActivationInfo IntegrityActivationInfo<br>} | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | IntegrityActivationInfo |
| **Comment** | DL or UL integrity activation info<br>At the RRC message sequence numbers specified in the ul_IntegProtActivationInfo the SS shall initialize COUNT-I for the SRB's indicated in the ul_IntegrityProtActivationInfo and start using the new configuration on uplink for the indicated SRB's.<br>If the START value is omitted in the CRLC_SecurityMode_Config_REQ above COUNT-I initialization shall not be performed. |
| **Type Definition** | |
| CHOICE {<br>integrityProtectionModeInfo IntegrityProtectionModeInfo,<br>ul-IntegProtActivationInfo IntegrityProtActivationInfoList<br>} | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | IntegrityProtActivationInfoList |
| **Comment** | List of SS IntegrityProtActivationInfo |
| **Type Definition** | |
| SEQUENCE (SIZE (1..maxRB ) ) OF SS_IntegrityProtActivationTimeInfo | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_IntegrityProtActivationTimeInfo |
| **Comment** | Omitting rrc_MessageSequenceNumber means activation time set to "now". |
| **Type Definition** | |
| SEQUENCE {<br>rb_Identity INTEGER (-31..32),<br>rrc_MessageSequenceNumber RRC_MessageSequenceNumber OPTIONAL<br>} | |

### 7.3.2.2.26 CRLC_Integrity_Failure

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Integrity_Failure_IND |
| **PCO Type** | CSAP |
| **Comment** | RLC emulator reports the occurrences of a failure in integrity protection, i.e. reception of an integrity-protected RLC AM/UM SDU containing a non-matching X-MAC value compared to the desired. |

**Type Definition**

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            failureCause            ENUMERATED { codeNotMatched(0) }
            -- the enumerated types of failure cause field is ffs
}
```

### 7.3.2.2.26a CRLC_MAC_I_Mode

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_MAC_I_Mode_CNF |
| **PCO Type** | CSAP |
| **Comment** | Confirm a previous CRLC_MAC_I_Mode_REQ being successful. |

**Type Definition**

```
SEQUENCE {
        cellId              INTEGER(-1..63),
        srbId               INTEGER(0..4)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_MAC_I_Mode_REQ |
| **PCO Type** | CSAP |
| **Comment** | To set the MAC-I calculation mode. The ASP does not affect the UL integrity calculation.<br>If mode = normal, the SS generates the correct MAC-I.<br>If mode = erroneous, the SS generates any wrong MAC-I value different from the one it shall be.<br>As default, when the integrity protection is jswitched on the SS enters the normal MAC-I calculation mode. |

**Type Definition**

```
SEQUENCE    {
            cellId              INTEGER(-1..63),
            srbId               INTEGER (0..4),
            mode                ENUMERATED {normal(0), erroneous(1)}
}
```

### 7.3.2.2.26b CRLC_NotAckNxtRxSDU

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_ NotAckNxtRxSDU_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm that the next received SDU has not been acknowledged. |

**Type Definition**

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_ NotAckNxtRxSDU_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request that the next received SDU is not acknowledged. The received SDU is passed to the upper layers. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            mode                    ENUMERATED{start(0)}
}
```

### 7.3.2.2.26c CRLC_ProhibitRLC_Ack

The use of the pair of ASPs should be restricted to each start of SRB3 Uplink ciphering only. The SS behaviours are not specified if the ASPs are used in any other procedures.

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_ProhibitRLC_Ack_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm that the reception of a CRLC_ProhibitRLC_Ack_REQ. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            supportFlag             SupportFlag     DEFAULT noNeed
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_ProhibitRLC_Ack_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request the SS to prohibit/Continue acknowledging RLC SDUs. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            mode                    ENUMERATED{prohibit(0), continue(1)}
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SupportFlag |
| **Comment** | The default value noNeed indicates that the SS does not perform the operation mentioned in CRLC_ProhibitRLC_Ack_REQ, but performs the suspension / resume of UL RLC PDU data.<br>If the non default values are taken, the SS has either prohibited, or continued acknowledging RLC SDUs. |
| **Type Definition** | |

```
ENUMERATED {ackProhibited(0), ackContinued(1), noNeed (2)}
```

### 7.3.2.2.27 CRLC_Resume

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Resume_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm the resume request |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(-1..63),
            routingInfo                 RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Resume_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to resume data transmission.<br>If the SS implemented the optional suspension of UL data PDUs, then the processing in the UL of data PDUs shall be resumed. Any suspended UL control PDUs and Piggybacked Status shall be preceeded or resumed. |
| **Type Definition** | |
| SEQUENCE { | |
| cellId | INTEGER(-1..63), |
| routingInfo | RoutingInfo |
| } | |

### 7.3.2.2.27a CRLC_RRC_MessageSN

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_RRC_MessageSN_CNF |
| **PCO Type** | CSAP |
| **Comment** | To return the counter I values (HFN and RRC message sequence number) for sending the next DL RRC message or for receiving the next UL RRC message on the concerned SRB.<br>COUNT_I_MSB is the 28 MSB of the COUNT-I (HFN) |
| **Type Definition** | |
| SEQUENCE { | |
| cellId | INTEGER(-1..63), |
| routingInfo | RoutingInfo, |
| count_I_MSB_UL | COUNT_I_MSB, |
| count_I_LSB_UL | RRC_SequenceNumber, |
| count_I_MSB_DL | COUNT_I_MSB, |
| count_I_LSB_DL | RRC_SequenceNumber |
| } | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | COUNT_I_MSB |
| **Comment** | 28 bits long |
| **Type Definition** | |
| INTEGER (0..268435455) | |

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | RRC_SequenceNumber |
| **Comment** | 4 bits long |
| **Type Definition** | |
| INTEGER (0..15) | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_RRC_MessageSN_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request the SS to return the values in COUNT-I for sending the next DL RRC message or for receiving the next UL RRC message on the concerned SRB. |
| **Type Definition** | |
| SEQUENCE { | |
| cellId | INTEGER(-1..63), |
| routingInfo | RoutingInfo |
| } | |

### 7.3.2.2.28 CRLC_SecurityMode_Config

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_SecurityMode_Config_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm to configure the RLC security mode<br>If several subsequent CRLC_Integrity_Activate_REQ or CRLC_Ciphering_Activate_REQ follow this ASP, the SS shall take a serial of specified actions on the same contents in this ASP at the activation time indicated in each CRLC_ Integrity (or Ciphering)_Activate_REQ. |
| **Type Definition** | |
| SEQUENCE { | |
| cellId | INTEGER(-1..63) |
| } | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_SecurityMode_Config_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request to configure the RLC security mode |
| **Type Definition** | |
| SEQUENCE { | |
| cellId | INTEGER(-1..63), |
| rlcSecurityInfo | SecurityInfo |
| } | |

| ASN.1 Type Definition | | | |
|---|---|---|---|
| **Type Name** | SecurityInfo | | |
| **Comment** | The integrityKey is not applicable to MAC | | |
| **Type Definition** | | | |
| SEQUENCE{ | | | |
| cn-DomainIdentity | CN-DomainIdentity, | | |
| startValue | START_VALUE | OPTIONAL, | |
| cipheringKey | BITSTRING(128) | OPTIONAL, | |
| integrityKey | BITSTRING(128) | OPTIONAL, | |
| gsmCipheringKey | BITSTRING(64) | OPTIONAL | |
| } | | | |
| **Detailed Comments** | When the SS receives SecurityInfo, the SS first stores the contents. The SecurityInfo contents is not activated until receiving the subsequent ASP, CRLC_Ciphering_Activate_REQ, CMAC_Ciphering_Activate_REQ or CRLC_Integrity_Activate_REQ. Omitted fields of SecurityInfo shall not be affected by the subsequent ASP at the activation time.<br><br>EXAMPLE: Omitting of startValue indicates not to re-initialize the relevant COUNT-C or COUNT-I, omitting of cipheringKey indicates that the current ciphering key is valid. | | |

### 7.3.2.2.28a CRLC_SetRRC_MessageSN

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_SetRRC_MessageSN_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm the RRC message sequence number setting request |
| **Type Definition** | |
| SEQUENCE { | |
| cellId | INTEGER(-1..63), |
| routingInfo | RoutingInfo |
| } | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_SetRRC_MessageSN_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request the SS to set the RRC message sequence number in COUNT-I to the value specified in this ASP. The ASP is used to initialize SS RRC SN. |

**Type Definition**

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            count_I_LSB_UL          RRC_SequenceNumber      OPTIONAL,
            count_I_LSB_DL          RRC_SequenceNumber      OPTIONAL
}
```

### 7.3.2.2.28b CRLC_Set_Count_I

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Set_Count_I_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm the count_I_MSB and the RRC message sequence number setting request |

**Type Definition**

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Set_Count_I_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request the SS to set the 28 MSB and 4 LSB (RRC message sequence number) in COUNT-I according to the parameter values specified in this ASP. Parameters omitted in this ASP shall leave the corresponding bits in the SS COUNT-I unchanged.<br>Typically the parameters count_I_MSB_UL and count_I_MSB_DL are omitted. They are only applied in a few specific security test cases requiring restoration of the used integrity context.<br>Note: The 28 MSBs are initialized with the UE-provided START value plus 8 bits set to 0, using a different ASP (CRLC_SecurityMode_Config_REQ). |

**Type Definition**

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            count_I_LSB_UL          RRC_SequenceNumber      OPTIONAL,
            count_I_LSB_DL          RRC_SequenceNumber      OPTIONAL,
            count_I_MSB_UL          COUNT_I_MSB             OPTIONAL,
            count_I_MSB_DL          COUNT_I_MSB             OPTIONAL
}
```

.

### 7.3.2.2.29 CRLC_SequenceNumber

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Sequence_Number_CNF |
| **PCO Type** | CSAP |
| **Comment** | To return the requested counter sequence number to which the next DL PDU to be sent or the expected UL PDU to be received. |

**Type Definition**

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            count_C_MSB_UL          COUNT_C_MSB,
            count_C_LSB_UL          RLC_SequenceNumber,
            count_C_MSB_DL          COUNT_C_MSB,
            count_C_LSB_DL          RLC_SequenceNumber
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_SequenceNumber_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request the RLC layer to return current counter sequence numbers to which the next DL PDU to be sent or the expected UL PDU to be received. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(-1..63),
            routingInfo                 RoutingInfo
}
```

### 7.3.2.2.29a CRLC_SendContinuousData_TTI

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_SendContinuousData_CNF |
| **PCO Type** | CSAP |
| **Comment** | Confirm sending data in every TTI on each requested RB |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(-1..63),
            result                      ENUMERATED{failure(0), success(1)}
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_SendContinuousData_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request sending data in every TTI on each RB identified.<br>After the CMAC_Restriction_REQ, the TFC under test will be the one corresponding to the maximum CTFC value in the Restricted list, so that SS can select the number of Transport blocks and the size of Transport blocks on individual Transport channels derived from this CTFC.<br>SS shall take care about all kind of discard info in all RLC modes and the final goal is that the DL TFCs under test shall be selected in downlink for sending data on the request RBs in each TTI. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(-1..63),
            rabTxInfo                   RabTxInfo
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | RabTxInfo |
| **Comment** | Provide test data, number of RBs, and RB Tx info of each RB (RB id, SDU size and number of SDUs) to be transmitted in consecutive TTIs |
| **Type Definition** | |

```
SEQUENCE {
        testData                BIT STRING (SIZE (8..163840)),
        rbTxInfoList            SEQUENCE (SIZE (1..6)) OF RbTxInfo
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | RbTxInfo |
| **Comment** | Info on RB id and the actual DL test data size (SDU_Size * number of SDUs). The actual test data is extracted from the first (SDU_Size * number of SDUs) bits in the raw testData buffer. SS shall transmit the actual test data in every TTI.<br>The value nomOfSdu = T / TTI , whereby T=1200 is the duration of the data transmitting in the RAB test, taking into account the test tolerance (+50 %) of the UE loop back delay (< 800 ms). |
| **Type Definition** | |

```
SEQUENCE {
        rB_Identity             INTEGER     (-31..32),
        sduSize                 INTEGER     (1..163840),
        nomOfSdu                INTEGER     (0..255) -- 0 is set for no data on this RB
}
```

### 7.3.2.2.30 CRLC_Status

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Status_IND |
| **PCO Type** | CSAP |
| **Comment** | To report the occurrence of certain events to RRC. Note: the possible event types to be defined for this ASP is FFS. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            ratType                 RatType,
            statusInd               CrlcStatusInd
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CrlcStatusInd |
| **Comment** | |
| **Type Definition** | |

```
ENUMERATED  {
            dataLinkFailure (0)
            maxRESET        (1),
            sDUDiscarded    (2)
            -- More event types are to be added here
}
```

### 7.3.2.2.31 CRLC_Suspend

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Suspend_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm the suspension of data transmission. The parameter vt indicates either the value of the Send State Variable VT(S) for AM, or the value of Data State Varialble VT(US) for UM. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            vt                      RLC_SequenceNumber
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_Suspend_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request the suspension of data transmission. The parameter n indicates that an RLC entity will not send a PDU with "Sequence Number"≥VT(S)+N for AM and "Sequence Number"≥VT(US)+N for UM, where N is a non-negative integer. Optionally an SS may start immediate suspension of processing of data PDUs in the UL. The UL control PDUs and Piggybacked Status may optionally be processed. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            n                       RLC_SequenceNumber
}
```

### 7.3.2.2.31a CRLC_UM_MTCH_Scheduling (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_UM_MTCH_Scheduling_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm the CRLC_UM_MTCH_Scheduling_REQ |
| **Type Definition** | |

```
SEQUENCE    {
        cellId              INTEGER(-1..63),
        routingInfo         RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CRLC_UM_MTCH_Scheduling_REQ |
| **PCO Type** | CSAP |
| **Comment** | Applied to the RLC entity carrying MTCH.<br>MBMS serviceSchedulingInfo can contain a list of MBMS ServiceSchedulingInfo for multiple consecutive scheduling periods of discountinous MBMS services.<br>mSCH_REPconfiguration provides the timing of scheduling periods.<br>serviceShedulingInfos provides a list of SS_ServiceSchedulingInfo corresponding to multiple scheduling periods.<br>On or after the start and within the duration of a MBMS session, the RLC behaves as normal UM entity. Outside of these ranges the RLC regards the buffer occupancy as being zero, prohibiting the MAC from requesting PDU"s. The same is valid for the service silence period (noServcieData).<br>Each call of the ASP replaces the existing whole scheduling information list or creates a new scheduling information list if the list does not exist.<br>The absence of IE mSCH_REPconfiguration and schedulingInfoInfos indicates continuous MBMS services. The SS shall delete the existing scheduling information list if it has existed. The RLC entity behaves as normal UM. |
| **Type Definition** | |

```
SEQUENCE    {
        cellId                      INTEGER(-1..63),
        routingInfo                 RoutingInfo,
        mSCH_REPconfiguration       MSCH_REPconfiguration           OPTIONAL,
        serviceShedulingInfos       ServiceSchedulingInfoList       OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | ServiceSchedulingInfoList |
| **Comment** | Multiple ServiceSchedulingInfo can be submitted to the SS. Each ServiceSchedulingInfo corresponds to a MSCH scheduling period. |
| **Type Definition** | |

```
SEQUENCE (SIZE(1.. MaxNumMSCHMsgs))OF SS_ServiceSchedulingInfo
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_ServiceSchedulingInfo |
| **Comment** | The IE is applied to the discontinuours MBMS service and contains pairs of 'start' and 'duration' within a scheduling period. The start value indicates the start of the service transmission in number of 4-frames relative to the 1st TTI on which the MBMS SCHEDULING INFORMATION message of the corresponding scheduling period is sent. The duration value indicates how long the service is transmitted in unit of 4-frames.<br>noServiceData is applied to the scheduling period when no MBMS service data are sent on that MTCH. |
| **Type Definition** | |

```
CHOICE {
        mbms_ServiceTransmInfoList          MBMS_ServiceTransmInfoList,
        noServiceData                       NULL
}
```

### 7.3.2.2.32 CBMC_Config

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CBMC_Config_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm the BMC configuration, reconfiguration or release. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(0..63),
            routingInfo                 RoutingInfo         -- RBid
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CBMC_Config_REQ |
| **PCO Type** | CSAP |
| **Comment** | To request the configuration, reconfiguration or release of BMC. |
| **Type Definition** | |

```
SEQUENCE    {
        cellId                      INTEGER(0..63),
        routingInfo                 RoutingInfo,            -- RBid
        configMessage               CHOICE {
            setup                       BMC_SchedulingInfo,
            release                     NULL}
}
```

### 7.3.2.2.32b DEC_PERbitstring

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | DEC_PERbitstring_CNF |
| **PCO Type** | ContainingDecoder |
| **Comment** | To receive the decoded BIT STRING. |
| **Type Definition** | |

```
SEQUENCE    {
    containedType       ContainedType
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | DEC_PERbitstring_REQ |
| **PCO Type** | ContainingDecoder |
| **Comment** | To request decoding of the BITSTRING recived from UE in receivedBITSTRING with the type specified in containingType. |
| **Type Definition** | |

```
SEQUENCE    {
    receivedBITSTRING           BIT STRING,
    containingType              ContainingPERbitstringType
}
```

| ASN.1 PDU Type Definition | |
|---|---|
| **Type Name** | ContainedType |
| **PDU Type** | ContainingDecoder |
| **Comment** | |
| **Type Definition** | |

```
CHOICE  {
ue_CapabilityContainer_IEs                  UE_CapabilityContainer_IEs,
rrcConnectionSetupComplete_r3_add_ext_IEs   RRCConnectionSetupComplete_r3_add_ext_IEs,
ueCapabilityInformation_r3_add_ext_IEs      UECapabilityInformation_r3_add_ext_IEs,
interRATHandoverInfo_r3_add_ext             InterRATHandoverInfo_r3_add_ext_IEs
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | ContainingPERbitstringType |
| **Comment** | |
| **Type Definition** | |

```
ENUMERATED
{
    ue_CapabilityContainer_IEs  (0),
    rrcConnectionSetupComplete_r3_add_ext_IEs   (1),
    ueCapabilityInformation_r3_add_ext_IEs  (2),
    interRATHandoverInfo_r3_add_ext_IEs (3)
}
```

### 7.3.2.2.33 RLC_TR_DATA

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | RLC_TR_DATA_REQ |
| **PCO Type** | DSAP |
| **Comment** | To request to transmit DATA using transparent mode. |
| **Type Definition** | |

```
SEQUENCE    {
                cellId                  INTEGER(-1..63),
                routingInfo             RoutingInfo,
                tM_Message              CHOICE  {
                        dL_DCCH_Message             DL_DCCH_Message,
                        dL_CCCH_Message             DL_CCCH_Message,
                        pCCH_Message                PCCH_Message,
                        dL_SHCCH_Message            DL_SHCCH_Message,
                        bCCH_FACH_Message           BCCH_FACH_Message,
                        bCCH_BCH_Message            BCCH_BCH_Message }
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | RLC_TR_DATA_IND |
| **PCO Type** | DSAP |
| **Comment** | To indicate to receive DATA using transparent mode. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(-1..63),
            routingInfo                 RoutingInfo,
            tM_Message                  CHOICE  {
                        uL_DCCH_Message             UL_DCCH_Message,
                        uL_CCCH_Message             UL_CCCH_Message,
                        uL_SHCCH_Message            UL_SHCCH_Message}
}
```

### 7.3.2.2.34 RLC_AM_DATA

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | RLC_AM_DATA_REQ |
| **PCO Type** | DSAP |
| **Comment** | To request to transmit DATA using acknowledged mode. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER (-1..63),
            routingInfo             RoutingInfo,
            confirmationRequest     AmConfirmationRequest,
            aM_Message              CHOICE  {
                        dL_DCCH_Message             DL_DCCH_Message,
                        dL_CCCH_Message             DL_CCCH_Message,
                        pCCH_Message                PCCH_Message,
                        dL_SHCCH_Message            DL_SHCCH_Message,
                        bCCH_FACH_Message           BCCH_FACH_Message,
                        bCCH_BCH_Message            BCCH_BCH_Message }
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | AmConfirmationRequest |
| **Comment** | If the noConfirmationRequested option is used, then an RLC_AM_DATA_CNF is not expected from the RLC AM entity.<br>If the confirmationRequested option is used, then the RLC AM entity is being requested to provide an RLC_AM_DATA_CNF primitive containing the same Mui value. |
| **Type Definition** | |

```
CHOICE {
            noConfirmationRequest       NULL,
            confirmationRequested       Mui
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | Mui |
| **Comment** | |
| **Type Definition** | |

```
INTEGER {0..4095}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | RLC_AM_DATA_IND |
| **PCO Type** | DSAP |
| **Comment** | To indicate to receive DATA using acknowledged mode. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                      INTEGER(-1..63),
            routingInfo                 RoutingInfo,
            integrityResult             IntegrityResult,
            aM_Message                  CHOICE  {
                        uL_DCCH_Message             UL_DCCH_Message,
                        uL_CCCH_Message             UL_CCCH_Message,
                        uL_SHCCH_Message            UL_SHCCH_Message}
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | IntegrityResult |
| **Comment** | |
| **Type Definition** | |

```
CHOICE  {
            integrityNotUsed        NULL,
            integrityUsed           IntegrityStatus
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | IntegrityStatus |
| **Comment** | |
| **Type Definition** | |

```
ENUMERATED {
            i_pass(0), i_fail(1)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | RLC_AM_DATA_CNF |
| **PCO Type** | DSAP |
| **Comment** | For RLC emulator to report to the upper layer that a previously transmitted SDU has been acknowledged correctly by the UE |
| **Type Definition** | |

```
SEQUENCE    {
        cellId              INTEGER(-1..63),
        routingInfo         RoutingInfo,
        mui                 Mui
}
```

### 7.3.2.2.34a RLC_UM_ACCESSinfo (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | RLC_UM_ACCESSinfo_REQ |
| **PCO Type** | DSAP |
| **Comment** | To request to transmit ACCESS INFORMATION messages using unacknowledged mode. This ASP is valid for the RLC entity configured for the logical channel MCCH.<br>When an RLC_UM_ACCESSinfo_REQ with uM_Messages present is received the ongoing transmission of ACCESS INFORMATION, if any, shall be stopped in the modification period indicated by startingTime. At the same time, the SS starts transmitting the ACCESS INFORMATION messages passed by the ASP, then repeats the transmission in each next modification period.<br>When an RLC_UM_ACCESSinfo_REQ without uM_Messages is received the SS stops the ongoing ACCESS INFORMATION transmission at the modification period specified by startingTime. |
| **Type Definition** | |

```
SEQUENCE    {
        cellId          INTEGER(-1..63),
        routingInfo     RoutingInfo,
        startingTime    INTEGER(0..4095),
                        -- pointing to the first frame of a modification
        uM_Messages     AI_MsgList OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | AI_MsgList |
| **Comment** | AI_MsgList is an ordered list of AI messages. The order corresponds to the AI_Msg transmission timing in a modification period. A modification period can have 1, 2, 4, or 8 access information periods depending on MCCH configuration. The size of the list shall be consistent with the MCCH configuration. |
| **Type Definition** | |

```
SEQUENCE (SIZE(1|2|4|8))OF AI_Msg
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | AI_Msg |
| **Comment** | The aI_Message is sent on the first TTI of the access information period.<br>If the corresponding aI_Message is empty there is no ACCESS INFORMATION scheduled for that access information period. |
| **Type Definition** | |

```
CHOICE {
    aI_Message              MBMSAccessInformation,
    aI_EmptyMsg             NULL
}
```

### 7.3.2.2.34b RLC_UM_CriticalMCCHMsg (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | RLC_UM_CriticalMCCHMsg_REQ |
| **PCO Type** | DSAP |
| **Comment** | To request to transmit critical MCCH messageList using unacknowledged mode. This ASP is valid only for the RLC entity configured for the logical channel MCCH. When an RLC_UM_CriticalMCCHMsg_REQ with non-empty uM_Messages is received the SS stops ongoing critical MCCH information transmission in the modification period indicated by startingTime. At the same time, the SS starts transmitting the set of critical MCCH messageList passed by the ASP in the same order as they appear in the uM_MessageList, and then repeats the transmission in each next modification period.<br>When an RLC_UM_CriticalMCCHMsg_REQ without uM_Messages is received the SS stops the ongoing critical MCCH message transmission at the modification period specified by startingTime. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            startingTime            INTEGER(0..4095),
                                    -- pointing to the first frame of a modification
            uM_Messages             MCCH_MessageList OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MCCH_MessageList |
| **Comment** | MBMSAccessInformation shall not be included in the MCCH_MessageList. |
| **Type Definition** | |

```
SEQUENCE (SIZE(1..MaxNumMCCHMsgs))OF MCCH_MessageType
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MaxNumMCCHMsgs |
| **Comment** | For covering the configuration with 20 neighbouring cells |
| **Type Definition** | |

```
INTEGER (25)
```

### 7.3.2.2.35 RLC_UM_DATA

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | RLC_UM_DATA_REQ |
| **PCO Type** | DSAP |
| **Comment** | To request to transmit DATA using unacknowledged mode. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            uM_Message               CHOICE {
                        dL_DCCH_Message             DL_DCCH_Message,
                        dL_CCCH_Message             DL_CCCH_Message,
                        pCCH_Message                PCCH_Message,
                        dL_SHCCH_Message            DL_SHCCH_Message,
                        bCCH_FACH_Message           BCCH_FACH_Message,
                        bCCH_BCH_Message            BCCH_BCH_Message },
            specialLI                   BOOLEAN
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | RLC_UM_DATA_IND |
| **PCO Type** | DSAP |
| **Comment** | To indicate to receive DATA using unacknowledged mode. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            integrityResult         IntegrityResult,
            uM_Message               CHOICE {
                        uL_DCCH_Message             UL_DCCH_Message,
                        uL_CCCH_Message             UL_CCCH_Message,
                        uL_SHCCH_Message            UL_SHCCH_Message}
}
```

### 7.3.2.2.35a RLC_UM_MSCH_Msg (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | RLC_UM_MSCH_Msg_CNF |
| **PCO Type** | CSAP |
| **Comment** | To confirm the RLC_UM_MSCH_Msg_REQ |
| **Type Definition** | |

```
SEQUENCE    {
        cellId              INTEGER(-1..63),
        routingInfo         RoutingInfo
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | RLC_UM_MSCH_Msg_REQ |
| **PCO Type** | DSAP |
| **Comment** | To request to transmit MSCH_MessageList using unacknowledged mode. The ASP is applied to the RLC entity configured for the logical channel MSCH. |
| **Type Definition** | |

```
SEQUENCE    {
        cellId                      INTEGER(-1..63),
        routingInfo                 RoutingInfo,
        mSCH_REPconfiguration       MSCH_REPconfiguration,
        uM_Messages                 MSCH_MessageList
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MSCH_REPconfiguration |
| **Comment** | MSCH_ REPconfiguration describes when a serie of MSCH scheduling repetitions start and how long the scheduling period is.<br>The scheduledSFN fulfils:<br>SFN = ((SFNss / MSCH_REP + 1) * MSCH_REP + MSCH_OFF + (SCTO / 10ms)) mod 4096,<br>where SFNss is taken from the value of MICH_CFN provided by SS via CPHY_MBMS_MICH_CFN_CNF.<br>The SS shall start sending the 1st SCHEDULING INFORMATION message on the frame indicated by scheduledSFN and succesively send the remaining MSCH messages in the list on the 1st TTI of every mSCH_REP. |
| **Type Definition** | |

```
SEQUENCE    {
        scheduledSFN        INTEGER(0..4095),
        mSCH_REP            ENUMERATED { sp32(0), sp64(1), sp128(2), sp256(3), sp512(4),
sp1024(5) }
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MSCH_MessageList |
| **Comment** | Multiple MSCH messages can be submitted to the SS. Every scheduling period a new message in the sequence is transmitted according to the appearing order in the sequence. |
| **Type Definition** | |

```
SEQUENCE (SIZE(1.. MaxNumMSCHMsgs))OF SS_MSCH_Message
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SS_MSCH_Message |
| **Comment** | noSend of SS_MSCH_Message is applied to the scheduling period when no MBMS service data are sent on all MTCH. |
| **Type Definition** | |

```
CHOICE {
        mSCH_Message                MSCH_MessageType,
        noSend                      NULL}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MaxNumMSCHMsgs |
| **Comment** | Covering a sufficiently long duration of multiple MSCH scheduling periods for test |
| **Type Definition** | |

```
INTEGER (64)
```

### 7.3.2.2.36 RLC_TR_MACesDATA_IND (Rel-6 or later)

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | RLC_TR_MACesDATA_IND |
| **PCO Type** | DSAP |
| **Comment** | This ASP is used for MACes delivering data in MAC_es testing.<br>The IE cellId = -1, The routingInfo is RB identity, corresponding to RLC in TM, (tsc_RB_DTCH_E_DCH_MAC0(-20), tsc_RB_DTCH_E_DCH_MAC1(-21), or tsc_RB_DTCH_E_DCH_MAC2(-22)).<br>The cfn and subframe indicate the CFN and sub-frame number on which the mACesSDUs (RLC PDUs) were received.<br>The ddi, tsn and n are the reported values in the header of each MAC-es PDU that carries the mACesSDUs.<br>If SI is received together with other MACes PDUs in a MAC-e PDU but without a special DDI associated, the SS shall split SI from MACes data and the latter ones are delivered with the ASP. |
| **Type Definition** | |

```
SEQUENCE    {
            cellId              INTEGER(-1..63),
            routingInfo         RoutingInfo,
            cfn                 INTEGER (0..255),
            subframe            INTEGER (0..4|7), -- Value 7 applied when TTI=2ms
            happyBit            ENUMERATED {happy(0), unhappy(1)},
            ddi                 INTEGER (0..62),
            tsn                 INTEGER (0..63),
            n                   INTEGER (0..63),
            mACesSDUs           MACesSDU_List
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MACesSDU_List |
| **Comment** | |
| **Type Definition** | |

```
SEQUENCE (SIZE (1..63)) OF MACesSDU
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | MACesSDU |
| **Comment** | |
| **Type Definition** | |

```
BIT STRING      -- RLC PDU in TM
```

### 7.3.2.3 Specific ASP and IE definitions for 1.28 Mcps TDD (Rel-4 or later)

The ASP definitions in 7.3.2.2 are applied to 1.28 Mcps TDD with the exceptions.

1. The ASP definition CPHY_AICH_AckModeSet is not applied.
2. Specifici IE definitions in this clause replace the definitions in 7.3.2.2.

#### 7.3.2.3.1 Specific ASP definitions

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_Cell_Config_REQ |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-4 or later<br>To request to setup the cell parameter.<br>The unit of tcell is chip; the unit of sfnOffset is frame number; the primary scambling code number of the cell is 16*primaryScramblingCode_SS; the unit of dLTxAttenuationLevel is dB. |

**Type Definition**

```
SEQUENCE {
    cellId                              INTEGER (0..63),
    sfnOffset                           INTEGER (0 .. 4095),
    frequencyInfo                       FrequencyInfo,
    cellTxPowerLevel                    CellTxPowerLevel,
    dLTxAttenuationLevel                INTEGER(0..30),
    cellParametersID                    CellParametersID,
    timeSlotConfigurationList_LCR       TimeSlotConfigurationList_LCR,
    dwPCHInfo                           DwPCHInfo,
    transmissionDiversityApplied        ENUMERATED {NotApplied(0),Applied(1)}   OPTIONAL
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_SICH_AckNack_CNF |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>To Confirm CPHY_HS_SICH_AckNack_REQ |

**Type Definition**

```
SEQUENCE{
    cellId      INTEGER(0..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_SICH_AckNack_REQ |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>To request for Start or Stop of reporting Ack/Nack received on the SICH for the HARQ process hARQProcessId.<br>At the SS initialisation reporting of Ack/Nack is in "STOP" state |

**Type Definition**

```
SEQUENCE{
    cellId                  INTEGER(0..63),
    ratType                 RatType,
    ackNackReportReq        AckNackReportReq,
    hARQProcessId           INTEGER(0..7)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_SICH_AckNack_IND |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later<br>SS reportes the HARQ-ACK information received on HS_DPCCH,<br>each received Ack/Nack generates a CPHY_HS_DPCCH_AckNack_IND |
| **Type Definition** | |

```
SEQUENCE
{
    cellId              INTEGER(0..63),
    ratType             RatType,
    hARQ_ACKInfo        ENUMERATED {ack(0), nack (1)},
    hARQProcessId       INTEGER(0..7)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_SICH_CQI_CNF |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later.<br>To Confirm CPHY_HS_SICH_CQI_REQ |
| **Type Definition** | |

```
SEQUENCE{
    cellId      INTEGER(0..63)
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_SICH_CQI_REQ |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later.<br>To enable the SS to start reporting N times of the CQI value received on the HS-SICH. At the SS initialisation reporting of CQI values is disabled |
| **Type Definition** | |

```
SEQUENCE{
    cellId                  INTEGER(0..63),
    ratType                 RatType,
    cQIReport               ENUMERATED {startRep (0),stopRep (1) }
}
```

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | CPHY_HS_SICH_CQI_IND |
| **PCO Type** | CSAP |
| **Comment** | Applicable Rel-5 or later.<br>SS generates the indication when the CQI information is received on HS_SICH after invocation of ASP CPHY_HS_SICH_CQI_REQ.<br>This ASP is used for verifying whether the UE has configured the HS-DSCH and starts reception of HS-DSCH. (TS 25.331 cl.8.6.6.34) |
| **Type Definition** | |

```
SEQUENCE {
    cellId                  INTEGER(0..63),
    ratType                 RatType,
    rMS                     ENUMERATED {qPSK (0),16QAM (1) },
    rTB                     INTEGER(0..63)
}
```

| Type Name | CMAC_MAChs_TFRCconfigure_REQ |
|---|---|
| PCO Type | CSAP |
| Comment | Applicable Rel-5 or later<br>To configure the TFRC selection in the MAC-hs entity<br>If explicitlyConfigured is selected in tfrcConfigMode, the SS shall use all the parameter values specified to configure a correct transport format and radio resources.<br>If sS_Configured is selected, the parameter value range is specified. SS shall dynamically select the suitable values for the parameters'modulationScheme', 'dLTimeslotandCode', 'noOfChannelisatonCodes ', tbSizeIndexOnHS_SCCH', 'redundancyVersion' and 'hs_PDSCH_TxPower' according to UE's capability category and CQI information reported by the UE.<br>MaxnoofDLtsLCR=6 |

**Type Definition**

```
SEQUENCE    {
    cellId              INTEGER(-1..63),
    tfrcConfigMode      CHOICE {
        explicitlyConfigured            SEQUENCE {
            modulationScheme                ModulationScheme,

            noOfTimeSlots                   INTEGER (0..6),
            noOfCodesPerTimeslot            INTEGER (0..16),
            tbSizeIndexOnHS_SCCH            INTEGER (0..63),
            redundancyVersion               INTEGER (0..7),
            hs_PDSCH_TxPower                DL_TxPower  -- default offset related
                                                        -- to p-PCCPCH
        sS_Configured       SEQUENCE {

            numofTimeslots                  INTEGER (0..6),
            numofCodesPerTimeslot           INTEGER (0..16),
            iniHS_PDSCH_TxPower             DL_TxPower  -- default offset related
                                                        -- to p-PCCPCH
                                    }
        }
}
```

### 7.3.2.3.2 Specific IE definitions

**ASN.1 Type Definition**

| Type Name | CphyRlModifyReq |
|---|---|
| Comment | Applicable Rel-4 or later for LCR TDD |

**Type Definition**

```
SEQUENCE    {
        activationTime                  SS_ActivationTime,
        physicalChannelInfo             CHOICE {
                secondaryCCPCHInfo          SecondaryCCPCHInfo,
                pRACHInfo                   PRACHInfo,
                dPCHInfo                    DPCHInfo,
                dPCHInfo_r5                 DPCHInfo_r5,
                hS_DPSCHInfo                HS_DPSCHInfo
                                                },
        trchConfigToFollow                      BOOLEAN     DEFAULT TRUE
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | CphyRlSetupReq |
| **Comment** | Applicable Rel-4 or later for LCR TDD<br>To request to setup the Radio Link for LCR TDD |
| **Type Definition** | |

```
SEQUENCE {
    physicalChannelInfo     CHOICE {
        primaryCCPCHInfo        PrimaryCCPCHInfo,
        secondaryCCPCHInfo      SecondaryCCPCHInfo,
        pRACHInfo               PRACHInfo,
        pICHInfo                PICHInfo,
        dPCHInfo                DPCHInfo,
        pDSCHInfo               PDSCHInfo,
        pUSCHInfo               PUSCHInfo,
        dPCHInfo_r5             DPCHInfo_r5,
        hS_DPSCHInfo            HS_DPSCHInfo
                                    }
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | PrimaryCCPCHInfo |
| **Comment** | Applicable Rel-4 or later for LCR TDD |
| **Type Definition** | |

```
SEQUENCE {
    sctd_Indicator          ENUMERATED {NotApplied(0), Applied(1)},
    tstd_Indicator          ENUMERATED {NotApplied(0), Applied(1)},
    commonTimeSlotInfo      CommonTimeslotInfo,
    dL_TxPower_PCCPCH       DL_TxPower_PCCPCH
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | SecondaryCCPCHInfo |
| **Comment** | Applicable Rel-4 or later for LCR TDD<br>The range for powerOffsetOfTFCI_PO1 and powerOffsetOfPILOT_PO3 is 0-6 dB, 0.25 dB per step. |
| **Type Definition** | |

```
SEQUENCE {
    tstd_Indicator          ENUMERATED {NotApplied(0), Applied(1)},
    sctd_Indicator          ENUMERATED {NotApplied(0), Applied(1)},
    dl_TxPower              DL_TxPower,
    commonTimeSlotInfo      CommonTimeslotInfoSCCPCH,
    channelisationCode      SCCPCH_ChannelisationCodeList,
    individualTimeslotInfo  IndividualTimeslotInfo_LCR_r4,
    powerOffsetOfTFCI_PO1   INTEGER (0..24) OPTIONAL
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | PRACHInfo |
| **Comment** | Applicable Rel-4 or later for LCR TDD |
| **Type Definition** | |

```
SEQUENCE {
    pRACH_RACH_Info_LCR_r4          PRACH_RACH_Info_LCR_r4,
    accessServiceClass_TDD_LCR      AccessServiceClass_TDD_LCR_r4,
    fPACH_Power                     DL_TxPower
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | DL_DPCHInfo |
| **Comment** | Applicable Rel-4 or later for LCR TDD<br>The range for powerOffsetOfTPC_PO2 and powerOffsetOfTFCI_PO1 and powerOffsetOfPILOT_PO3 is 0 dB to 6 dB, 0,25 dB per step. |

**Type Definition**

```
SEQUENCE {
    dl_CommonInformation            DL_CommonInformation_r4,
    dl_DPCH_InfoPerRL               DL_DPCH_InfoPerRL_r4,
    powerOffsetOfTFCI_PO1           INTEGER (0..24),
    powerOffsetOfTPC_PO2            INTEGER (0..24),
    dl_TxPower                      DL_TxPower,
    dl_TxPowerMax                   DL_TxPower,
    dl_TxPowerMin                   DL_TxPower,
    dL_TimeslotISCPInfoLCR          TimeslotListWithISCP
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | DL_DPCHInfo_r5 |
| **Comment** | Applicable Rel-4 or later for LCR TDD<br>The range for powerOffsetOfTPC_PO2 and powerOffsetOfTFCI_PO1 and powerOffsetOfPILOT_PO3 is 0 dB to 6 dB, 0,25 dB per step. |

**Type Definition**

```
SEQUENCE {
    dl_CommonInformation            DL_CommonInformation_r5,
    dl_DPCH_InfoPerRL               DL_DPCH_InfoPerRL_r5,
    powerOffsetOfTFCI_PO1           INTEGER (0..24),
    powerOffsetOfTPC_PO2            INTEGER (0..24),
    dl_TxPower                      DL_TxPower,
    dl_TxPowerMax                   DL_TxPower,
    dl_TxPowerMin                   DL_TxPower,
    dL_TimeslotISCPInfoLCR          TimeslotListWithISCP
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | PDSCHInfo |
| **Comment** | Applicable Rel-4 or later for LCR TDD |

**Type Definition**

```
SEQUENCE {
    pdsch_Identity          PDSCH_Identity,
    pdsch_Info              PDSCH_Info_r4,
    pdsch_PowerControlInfo  PDSCH_PowerControlInfo  OPTIONAL,
    dl_TxPower              DL_TxPower
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | HS_PDSCHInfo |
| **Comment** | Applicable later than r4<br>When CHY_RL_Setup_REQ is called with CHOICE of hS_PDSCHInfo<br>HS_PDSCH and HS-SCCH shall be configured in SS.<br>The following HS-DSCH related parameters are passed to the SS implicitly by HSDSCH_physical_layer_category:<br>- Maximum number of HS-DSCH codes can be received by UE,<br>- Minimum inter-TTI interval,<br>- Maximum number of bits of an HS-DSCH transport block within an HS-DSCH TTI<br>- Total number of soft channel bits'.<br>HSDSCH_physical_Layer_category is also used for interpretation of the meaning of CQI value. |

**Type Definition**

```
SEQUENCE    {
    hSDSCHPhysicalLayerCategory     HSDSCH_physical_layer_category,
    h_RNTI                          H_RNTI,
    dlHSPDSCHInformation            DL_HSPDSCH_Information,
    hs_SCCH_TxPower                 DL_TxPower  -- offset related to
                                                -- p-PCCPCH (25.433, 9.2.2.18I)
}
```

| ASN.1 Type Definition | |
|---|---|
| **Type Name** | HS_DSCHMACdFlows |
| **Comment** | Applicable later than r4<br>Within the ACK/NACK repetition period indicated by ackNackRepetitionFactor the SS shall not transmit MAC-hs PDU"s on HS-PDSCH. |
| **Type Definition** | |
| SEQUENCE {<br>harqInfo HARQ_Info OPTIONAL,<br>addOrReconfMACdFlow SS_AddOrReconfMAC_dFlow OPTIONAL,<br>} | |

## 7.3.3 TTCN primitives

### 7.3.3.1 UTRAN TTCN primitives

Table 21 shows the primitives that are used for RLC, BMC ,RB and PDCP tests, these primitives are defined in TTCN tabular form.

**Table 21: Primitives for RLC, BMC and RB tests**

| Primitive | Parameters | Use |
|---|---|---|
| RLC_TR_TestDataReq | Cell identity<br>INTEGER (-31..32)<br>Data (Meta type PDU) | The ASP is used to request the transmission of unstructured data using transparent mode in the downlink direction |
| RLC_TR_TestDataInd | Cell identity<br>INTEGER (-31..32)<br>Data (Meta type PDU) | The ASP is used to indicate the reception of unstructured data using transparent mode in the uplink direction |
| RLC_UM_TestDataReq | Cell identity<br>INTEGER (-31..32)<br>Data (Meta type PDU) | The ASP is used to request the transmission of unstructured data using unacknowledged mode in the downlink direction |
| RLC_UM_TestDataInd | Cell identity<br>INTEGER (-31..32)<br>Data (Meta type PDU) | The ASP is used to indicate the reception of unstructured data using unacknowledged mode in the uplink direction |
| RLC_AM_TestDataReq | Cell identity<br>INTEGER (-31..32)<br>Data (Meta type PDU) | The ASP is used to request the transmission of unstructured data using acknowledged mode in the downlink direction |
| RLC_AM_TestDataInd | Cell identity<br>INTEGER (-31..32)<br>Data (Meta type PDU) | The ASP is used to indicate the reception of unstructured data using acknowledged mode in the uplink direction |
| BMC_DataReq | Cell identity,<br>INTEGER (-31..32),<br>Data (Meta type PDU) | The ASP is used to request the transmission of unstructured BMC data or scheduling message, using unacknowledged mode in the downlink direction. |
| BMC_DataCnf | CellId,<br>INTEGER (-31..32) | The ASP is used to confirm the reception of BMC CBS data |
| RLC_HandoverReq | CellId<br>INTEGER (-31..32)<br>Data (Meta type PDU) | The ASP is used to request the transmission of the HandoverFromUTRANCommand_GSM message using acknowledged operation (AM).<br><br>The Meta PDU in turn consists of 2 components.<br>1) The ASN.1 PER encoded HandoverFromUTRANCommand, without any 1 bit to 7 bits of padding<br><br>2) The GSM Handover command<br><br>The SS shall take care of inserting the MAC and RLC sequence number of Integrity check info, as in the case of other RRC DL PDU's |

The TTCN tabular format applies to the primitive definitions.

## 7.3.4 GERAN PCO and ASP definitions

### 7.3.4.1 PCO Type definitions

#### 7.3.4.1.1 PCO type for data transmission and reception in GERAN

**Table 22: Declaration of the G_DSAP PCO Type**

| PCO Type Definition | |
|---|---|
| **PCO Type** | G_DSAP |
| **Role** | LT |
| **Comment** | DATA transmission and reception |

#### 7.3.4.1.2 PCO type for configuration and control in GERAN

**Table 23: Declaration of the G_CSAP PCO Type**

| PCO Type Definition | |
|---|---|
| **PCO Type** | G_CSAP |
| **Role** | LT |
| **Comment** | Transmission and reception of control primitives |

### 7.3.4.2 PCO definitions

#### 7.3.4.2.1 PCOs for data transmission and reception in GERAN

##### 7.3.4.2.1.1 PCO for data transmission and reception through GERAN L2

**Table 24: Declaration of G_L2 PCO**

| PCO Type Definition | |
|---|---|
| **PCO Name** | G_L2 |
| **PCO Type** | G_DSAP |
| **Role** | LT |
| **Comment** | Control and observation point of GERAN L3 messages and user data |

##### 7.3.4.2.1.2 PCO for data transmission and reception through GPRS RLC

**Table 25: Declaration of G_RLC PCO**

| PCO Type Definition | |
|---|---|
| **PCO Name** | G_RLC |
| **PCO Type** | G_DSAP |
| **Role** | LT |
| **Comment** | Control and observation point of GPRS GRR signalling messages |

##### 7.3.4.2.1.3 PCO for data transmission and reception through GPRS LLC

**Table 26: Declaration of LLC PCO**

| PCO Type Definition | |
|---|---|
| **PCO Name** | G_LLC |
| **PCO Type** | G_DSAP |
| **Role** | LT |
| **Comment** | Control and observation point of GPRS GMM signalling messages |

7.3.4.2.1.4 PCO for data transmission and reception through GPRS SNDCP

**Table 27: Declaration of SNDCP PCO**

| PCO Type Definition | |
|---|---|
| **PCO Name** | G_SNDCP |
| **PCO Type** | G_DSAP |
| **Role** | LT |
| **Comment** | Control and observation point of GPRS user packet data |

7.3.4.2.2 PCOs for control primitives transmission and reception in GERAN

7.3.4.2.2.1 PCO for GERAN L1control primitives transmission and reception

**Table 28: Declaration of G_CL1 PCO**

| PCO Type Definition | |
|---|---|
| **PCO Name** | G_CL1 |
| **PCO Type** | G_CSAP |
| **Role** | LT |
| **Comment** | Control GERAN Physical Layer (L1) |

7.3.4.2.2.2 PCO for GERAN L2 control primitives transmission and reception

**Table 29: Declaration of G_CL2 PCO**

| PCO Type Definition | |
|---|---|
| **PCO Name** | G_CL2 |
| **PCO Type** | G_CSAP |
| **Role** | LT |
| **Comment** | Control GERAN L2 |

7.3.4.2.2.3 PCO for GPRS RLC control primitives transmission and reception

**Table 30: Declaration of G_CRLC PCO**

| PCO Type Definition | |
|---|---|
| **PCO Name** | G_CRLC |
| **PCO Type** | G_CSAP |
| **Role** | LT |
| **Comment** | Control GPRS RLC/MAC layer |

7.3.4.2.2.4 PCO for GPRS LLC control primitives transmission and reception

**Table 31: Declaration of G_CLLC PCO**

| PCO Type Definition | |
|---|---|
| **PCO Name** | G_CLLC |
| **PCO Type** | G_CSAP |
| **Role** | LT |
| **Comment** | Control GPRS LLC layer |

7.3.4.2.2.5 PCO for GPRS SNDCP control primitives transmission and reception

**Table 32: Declaration of G_CSNDCP PCO**

| PCO Type Definition | |
|---|---|
| **PCO Name** | G_CSNDCP |
| **PCO Type** | G_CSAP |
| **Role** | LT |
| **Comment** | Control GPRS SNDCP layer |

## 7.3.4.3 GERAN ASP Definitions

### 7.3.4.3.1 ASPs for data transmission and reception in GERAN

#### 7.3.4.3.1.1 ASPs for data transmission and reception through GERAN L2

| **ASP Name** | G_L2_DATA_REQ | |
|---|---|---|
| **PCO Type** | G_DSAP | |
| **Comments** | The ASP is used to send L3 signalling message on the signalling channels or user data on the traffic channels to the UE/MS in acknowledged mode. | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | |
| sAPI | SAPI | 0 or 3 |
| physicalChId | PhysicalChId | Channel identifier |
| g_LogicChType | G_LogicChType | |
| subChannel | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3). This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| rfn | RFN | The reduced frame number of the first frame on which this message is sent. This field is not applicable and the SS shall ignore it if the field t2 of rfn is coded as '11111'B. |
| msg | PDU | Signalling message or user data to be sent |
| **Detailed Comments** | Parameter rfn is only used in the test cases that require L3 message to be sent on specified frame number. | |

| **ASP Name** | G_L2_DATA_IND | |
|---|---|---|
| **PCO Type** | G_DSAP | |
| **Comments** | The ASP is used to receive a L3 signalling message on the signalling channels or user data on the traffic channels from the UE/MS in acknowledged mode. | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | |
| sAPI | SAPI | 0 or 3 |
| physicalChId | PhysicalChId | Channel identifier |
| g_LogicChType | G_LogicChType | |
| subChannel | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3). This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| rfn | RFN | The reduced frame number of the first frame carrying the message |
| msg | PDU | Signalling message or user data received |
| **Detailed Comments** | | |

| ASP Name | G_L2_L2Estab_IND | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to receive an indication of that L2 multiple frame operation on the specified channel has been established. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| physicalChId | | PhysicalChId | Channel identifier |
| g_LogicChType | | G_LogicChType | |
| subChannel | | SubChannelNumber | Valid only for logical channel types: FACCH/H, SDCCH/8 and SDCCH/4,<br>This field shall be coded as 15 if it is not applicable. |
| sAPI | | SAPI | 0,3 |
| establish_mode | | OCTETSTRING[1] | |
| rfn | | RFN | The reduced frame number of the first frame carries the L2 SABM frame |
| msg | | PDU | this field is present only when the establish mode is CoRes (collision resolution) |
| **Detailed Comments** | see 3GPP TS 44.006 [42] clauses 7.1.1 and 7.1.3 | | |

| ASP Name | G_L2_UNITDATA_REQ | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to send L3 signalling message on the signalling channels or send user data on the traffic channels to the UE/MS in unacknowledged mode. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| sAPI | | SAPI | 0 or 3 |
| physicalChId | | PhysicalChId | Channel identifier |
| g_LogicChType | | G_LogicChType | |
| subChannel | | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3).<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| rfn | | RFN | The reduced frame number of the first frame on which this message is sent.<br>This field is not applicable and the SS shall ignore it if the field t2 of rfn is coded as '11111'B. |
| msg | | PDU | Signalling message or user data to be sent |
| **Detailed Comments** | Parameter fn is only used in the test cases that require specific L3 message to be sent on specified frame number. | | |

| ASP Name | G_L2_UNITDATA_IND | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to receive a L3 signalling message on the signalling channels or user data on the traffic channels from the UE/MS in unacknowledged mode. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| sAPI | | SAPI | 0 or 3 |
| physicalChId | | PhysicalChId | Channel identifier |
| g_LogicChType | | G_LogicChType | |
| subChannel | | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3).<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| rfn | | RFN | The reduced frame number of the first frame carrying the message |
| msg | | PDU | Signalling message or user data received |
| **Detailed Comments** | | | |

| ASP Name | G_L2_ACCESS_IND | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to receive a random access or handover access burst on the specified channel. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| physicalChId | | PhysicalChId | Channel identifier |
| g_LogicChType | | G_LogicChType | RACH, FACCH, SDCCH/8, SDCCH/4.<br>RACH is used for random access burst; others are used for handover access burst |
| subChannel | | SubChannelNumber | Valid only for logical channel types: FACCH/H, SDCCH/8, SDCCH/4.<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| rfn | | RFN | The reduced frame number of the first frame carrying the burst |
| burst | | PDU | Random access burst or handover access burst |
| **Detailed Comments** | | | |

| ASP Name | G_L2_Paging_REQ | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to send a paging message on the specified paging group of the specified paging channel to the UE/MS, when the UE/MS is in idle mode or the UE/MS not supporting SPLIT_PG_CYCLE on CCCH is in GPRS attached mode and PCCCH is absent. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| sAPI | | SAPI | 0 |
| physicalChId | | PhysicalChId | Channel identifier of the right CCCH_GROUP |
| g_LogicChType | | G_LogicChType | PCH |
| pagingGroup | | PAGING_GROUP | |
| pagingMode | | PagingMode | 0-normal paging;<br>1-extended paging;<br>2-paging reorganization. |
| msg | | PDU | Paging message |
| Detailed Comments | The SS is required to send valid layer 3 messages continuously on all paging subchannels on CCCH where paging can appear.<br>For "normal paging" the SS send the paging message in the specified pagingGroup;<br>For "extended paging" " the SS send the paging message in the specified pagingGroup and in the "next but one" position on the PCH, following the block corresponding to pagingGroup;<br>For "paging reorganization" the SS send the paging message in all paging subchannels.<br>The required 51-multiframe occurs when:<br>pagingGroup div (N div BS_PA_MFRMS) = (FN div 51) mod (BS_PA_MFRMS)<br>The index to the required paging block in the 51-multiframe determined above:<br>Paging block index = pagingGroup mod (N div BS_PA_MFRMS)<br>N = (9-BS_AG_BLKS_RES) * BS_PA_MFRMS CCCH not combined or<br>N = (3-BS_AG_BLKS_RES) * BS_PA_MFRMS CCCH + SDCCH combined | | |

| ASP Name | G_L2_PagingGPRS_REQ | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to send a paging message on the specified paging group of the specified paging channel to the UE/MS, when the UE/MS supporting SPLIT_PG_CYCLE on CCCH is in GPRS attached mode and PCCCH absent. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| sAPI | | SAPI | 0 |
| physicalChId | | PhysicalChId | Channel identifier of the right CCCH_GROUP |
| g_LogicChType | | G_LogicChType | PCH |
| pagingGroup | | PAGING_GROUP | |
| pagingMode | | PagingMode | 0-normal paging;<br>1-extended paging;<br>2-paging reorganization. |
| msg | | PDU | Paging message |
| Detailed Comments | The SS is required to send valid layer 3 messages continuously on all paging subchannels on CCCH where paging can appear.<br>For "normal paging" the SS send the paging message in the specified pagingGroup;<br>For "extended paging" " the SS send the paging message in the specified pagingGroup and in the "next but one" position on the PCH, following the block corresponding to pagingGroup;<br>For "paging reorganization" the SS send the paging message in all paging subchannels.<br><br>The required 51-multiframe occurs when:<br>pagingGroup div (M div 64) = (FN div 51) mod 64<br>The index to the required paging block in the 51-multiframe determined above:<br>Paging block index = pagingGroup mod (M div 64)<br>M = (9-BS_AG_BLKS_RES) × 64 CCCH not combined or<br>M = (3-BS_AG_BLKS_RES) × 64 CCCH + SDCCH combined | | |
| NOTE: This ASP may not be implemented if the MS/UE does not support SPLIT_PG_CYCLE on CCCH. | | | |

| Type Name | CellId |
|---|---|
| Type Definition | INTEGER |
| Type Encoding | |
| Comments | |

| Type Name | SAPI |
|---|---|
| Type Definition | INTEGER |
| Type Encoding | |
| Comments | Service access point identifier for GERAN L2 and LLC |

| Type Name | PhysicalChId |
|---|---|
| Type Definition | INTEGER(0..31) |
| Type Encoding | |
| Comments | Physical channel identifier in GERAN |

| Type Name | G_LogicChType |
|---|---|
| Type Definition | INTEGER |
| Type Encoding | |
| Comments | GERAN logical channel type:<br>0-BCCH;<br>1-RACH;<br>2-PCH;<br>3-AGCH;<br>4-SDCCH/4;<br>5-SACCH/C4;<br>6-SDCCH/8;<br>7-SACCH/C8;<br>8-TCH/F;<br>9-FACCH/F;<br>10-SACCH/TF;<br>11-TCH/H;<br>12-FACCH/H;<br>13-SACCH/TH;<br>14-PBCCH;<br>15-PRACH;<br>16-PPCH;<br>17-PAGCH;<br>18-PDTCH/F;<br>19-PACCH/F;<br>20-PTCCH/F;<br>21-E-TCH/F;<br>22-E-IACCH/F;<br>23-E-FACCH/F;<br>24-SACCH/M;<br>25-SACCH/MD |

| Type Name | SubChannelNumber |
|---|---|
| Type Definition | INTEGER |
| Type Encoding | |
| Comments | Subchannel number for TCH/H, FACCH/H, SACCH/TH, SDCCH/4, SDCCH/C4, SDCCH/8 and SDCCH/C8.<br>For TCH/H, FACCH/H and SACCH/TH value is (0..1);<br>For SDCCH/8 and SACCH/C8 value is (0..7);<br>For SDCCH/4 and SACCH/C4 value is (0..3). |

| Type Name | PAGING_GROUP |
|---|---|
| Type Definition | INTEGER |
| Type Encoding | |
| Comments | 3GPP TS 05.02 or 3GPP TS 45.002 [31] clauses 6.5.2 and 6.5.6 |

| Type Name | PagingMode |
|---|---|
| Type Definition | INTEGER |
| Type Encoding | |
| Comments | 0 - normal paging;<br>1 - extended paging;<br>2 - paging reorganization. |

| Type Name | RFN | | |
|---|---|---|---|
| Encoding Variation | | | |
| Comments | The reduced frame number, its range is 0 -- 42431 (FN modulo 42432) about 195.8 s | | |
| **Element Name** | **Type Definition** | **Field Encoding** | **Comments** |
| t1_ | BITSTRING[5] | | (FN div 1326) mod 32 |
| t3 | BITSTRING[6] | | FN mod 51 |
| t2 | BITSTRING[5] | | FN mod 26 |
| Detailed Comments | see 3GPP TS 04.18 or 3GPP TS 44.018 [43] clause 10.5.2.38.<br>The reduced frame number, FN modulo 42432 can be calculated in the following formula: 51 × ((t3 - t2) mod 26) + t3 + 1326 × t1_.<br>RFN is used for starting time and TBF starting time. | | |

| ASP Name | G_L2_Release_CNF | |
|---|---|---|
| PCO Type | G_DSAP | |
| Comments | This ASP from L2, indicates that the multiple frame operation release was successful. This means that the UA message was received in response to L2 DISC command. | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | |
| sAPI | SAPI | 0 or 3 |
| physicalChId | PhysicalChId | Channel identifier |
| g_LogicChType | G_LogicChType | |
| subChannel | SubChannelNumber | For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3).<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| releaseMode | BITSTRING[1] | 0 = normal release;<br>1 = local release. |
| Detailed Comments | | |

| ASP Name | G_L2_Release_REQ | |
|---|---|---|
| PCO Type | G_DSAP | |
| Comments | This ASP requests L2 to send Layer 2 DISC command on the indicated SAPI. | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | |
| sAPI | SAPI | 0 or 3 |
| physicalChId | PhysicalChId | Channel identifier |
| g_LogicChType | G_LogicChType | |
| subChannel | SubChannelNumber | For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3).<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| releaseMode | BITSTRING[1] | 0 = normal release;<br>1 = local release. |
| Detailed Comments | | |

| ASP Name | G_L2_Release_IND | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to receive an indication of the termination of an established multiple frame operation or an indication of an unsuccessful establishment attempt. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| sAPI | | SAPI | 0 |
| physicalChId | | PhysicalChId | Channel identifier |
| g_LogicChType | | G_LogicChType | |
| subChannel | | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); for SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3). |
| releaseMode | | BITSTRING[1] | 0 = normal release; 1 = local end release |
| outstanding_Indicator | | BOOLEAN | whether or not there are outstanding acknowledgements or unsolved G_L2_DATA_REQ primitives. |
| **Detailed Comments** | | | |

| ASP Name | G_L2_SYSINFO_REQ | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to send system information messages to the lower layer emulator. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| sAPI | | SAPI | 0 |
| physicalChId | | PhysicalChId | |
| g_LogicChType | | G_LogicChType | BCCH or SACCH |
| instanceIndex | | INTEGER | To indicate the instance of the system information messages. For SYSTEM INFORMATION Type 2ter, 18, 19, 20 the value is (0..7); for type 14, 15 the value is (0..3); for type 2quater the value is (0..15); for all other type the value is 0. |
| sysInfoType | | SysInfoType | SYSTEM INFORMATION Type 5, 5bis, 5ter, and 6 are sent on SACCH, the other SYSTEM INFORMATION 's are sent on BCCH. |
| BCCHExt | | B1 | '0' indicates message sent on BCCH Norm, '1' indicates message sent on BCCH Ext. Only valid for SI 2quater, 7, 8, 13, 15, 16, 17. Default value '0' |
| msg | | PDU | This field contains SYSTEM INFORMATION message. See 3GPP TS 44.018 [43] clause 9.1.31 to clause 9.1.43h for SYSTEM INFORMATION message definitions. |
| **Detailed Comments** | The lower layer emulator shall store the SYSTEM INFORMATION's, and transmit them periodically according to the rules specified in clause 6.3.1.3 of 3GPP TS 05.02 or 3GPP TS 45.002 [31]. The msg shall override the same type system information message previous stored in the lower layer emulator. | | |

| Type Name | SysInfoType |
|---|---|
| Type Definition | INTEGER |
| Type Encoding | |
| Comments | 25--SYSTEM INFORMATION TYPE 1<br>26--SYSTEM INFORMATION TYPE 2<br>2 -- SYSTEM INFORMATION TYPE 2bis<br>3 -- SYSTEM INFORMATION TYPE 2ter<br>7 -- SYSTEM INFORMATION TYPE 2quater<br>27--SYSTEM INFORMATION TYPE 3<br>28--SYSTEM INFORMATION TYPE 4<br>29--SYSTEM INFORMATION TYPE 5<br>5 -- SYSTEM INFORMATION TYPE 5bis<br>6 -- SYSTEM INFORMATION TYPE 5ter<br>30--SYSTEM INFORMATION TYPE 6<br>31--SYSTEM INFORMATION TYPE 7<br>24--SYSTEM INFORMATION TYPE 8<br>4 -- SYSTEM INFORMATION TYPE 9<br><br>0 -- SYSTEM INFORMATION TYPE 13<br>61--SYSTEM INFORMATION TYPE 16<br>62--SYSTEM INFORMATION TYPE 17<br>64--SYSTEM INFORMATION TYPE 18<br>65--SYSTEM INFORMATION TYPE 19<br>66--SYSTEM INFORMATION TYPE 20<br>67—SYSTEM INFORMATION TYPE 15 |

7.3.4.3.1.2 ASPs for data transmission and reception through GERAN RLC

| ASP Name | G_RLC_PSI_REQ | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to send packet system information messages to the lower layer emulator. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| physicalChId | | PhysicalChId | |
| g_LogicChType | | G_LogicChType | PBCCH or PACCH or PCCCH |
| packetSysInfoCategory | | PSI_Category | PSI1 or high repetition rate or low repetition rate.<br>Type of this field is INTEGER:<br>0-- PSI1;<br>1--high repetition category;<br>2--low repetition category. |
| positionInList | | PositionInList | Position in the high repetition rate list or the low repetition rate list, for PSI1 this field is not applicable and set to 31.<br>Type of this field is INTEGER, the order of the position is from 0, 1, ... . 0 indicates the first position, 1 the second, and so on. |
| msg | | PDU | This field contains PACKET SYSTEM INFORMATION message, see 3GPP TS 04.60 or 3GPP TS 44.060 [32] clauses 11.2.18 to 11.2.25 for the message definitions |
| Detailed Comments | On PBCCH, the lower layer emulator shall store the PACKET SYSTEM INFORMATION's, and transmit them periodically according to the rules specified in clause 6.3.2.4 of 3GPP TS 05.02 or 3GPP TS 45.002 [31]. The msg shall override the same type packet system information message previous stored in the lower layer.<br>Multiple instances of a PSI shall be put in the same list and in ascending order of the message instance number | | |

| Type Name | PSI_Category |
|---|---|
| Type Definition | INTEGER |
| Type Encoding | |
| Comments | 3GPP TS 05.02 or 3GPP TS 45.002 [31] clause 6.3.2.4 |

| | |
|---|---|
| **Type Name** | PositionInList |
| **Type Definition** | INTEGER |
| **Type Encoding** | |
| **Comments** | 0 is the first position;<br>1 is the second, and so on. |

| | | | |
|---|---|---|---|
| **ASP Name** | G_RLC_ControlMsg_REQ | | |
| **PCO Type** | G_DSAP | | |
| **Comments** | The ASP is used to transmit a RLC/MAC control message to the UE/MS on the specified channel. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| physicalChId | | PhysicalChId | |
| g_LogicChType | | G_LogicChType | PCCCH or PACCH or PTCCH |
| tBF_Direction | | INTEGER | 1-downlink TBF;<br>0-uplink TBF |
| tFI | | TFI | Temporary flow identity |
| rRBP | | RRBP | Relative reserved block period |
| s_P_Bit | | S_P_Bit | Supplementary/polling bit |
| rfn | | RFN | The reduced frame number of the first frame on which this message is sent.<br>This field is not applicable and the SS shall ignore it if the field t2 of rfn is coded as '11111'B. |
| pagingGroup | | PAGING_GROUP | for message other than PACKET PAGING REQUEST this field shall be omitted |
| pagingMode | | PagingMode | 0 -- normal paging;<br>1-- extended paging;<br>3 -- paging reorganization.<br>this field is valid only for PACKET PAGING REQUEST control message, for message other than PACKET PAGING REQUEST this field shall be omitted |
| msg | | PDU | Down link RLC/MAC control message |
| **Detailed Comments** | This ASP provides values for "RRBP" and "S/P" fields in MAC header for TTCN controlling the response from the UE, the value for "PayloadType" and "USF" fields in MAC header shall be filled by the SS.<br>If a RLC/MAC control message can not be fitted into one RLC/MAC control block, the SS RLC/MAC entity shall take the responsibility of segmentation of the message, and set the correct "PayloadType" and optional octet1 (and optional octet2).<br>PTCCH is valid for PACKET TIMING ADVANCE/POWER CONTROL message if sending PACKET PAGING REQUEST.<br>The required 52-multiframe occurs when:<br>pagingGroup div (M div 64) = (FN div 52) mod 64<br>The index to the required paging block in the 51-multiframe determined above:<br>Paging block index = pagingGroup mod (M div 64)<br>M = (12 - BS_PAG_BLKS_RES - BS_PBCCH_BLKS) × 64 | | |

| | |
|---|---|
| **Type Name** | RRBP |
| **Type Definition** | BITSTRING[2] |
| **Type Encoding** | |
| **Comments** | 3GPP TS 04.60 or 3GPP TS 44.060 [32] clause 10.4.5 |

| | |
|---|---|
| **Type Name** | S_P_Bit |
| **Type Definition** | BITSTRING[1] |
| **Type Encoding** | |
| **Comments** | 0 - RRBP field is not valid;<br>1 - RRBP field is valid. |

| ASP Name | G_RLC_ControlMsg_IND | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to receive an uplink RLC/MAC control block sent by the UE/MS on the specified channel. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| physicalChId | | PhysicalChId | |
| g_LogicChType | | G_LogicChType | PACCH or PDTCH |
| tBF_Direction | | INTEGER | 1 - downlink TBF;<br>0 - uplink TBF |
| tFI | | TFI | Temporary flow identity |
| rfn | | RFN | The reduced frame number of the frame carrying the message |
| msg | | PDU | Uplink RLC/MAC control message |
| Detailed Comments | Logical channel type PDTCH is valid for PACKET ENHANCED MEARSUREMENT REPORT message only.<br>The ASP is not used to receive PACKET CHANNEL REQUEST, EGPRS PACKET CHANNEL REQUEST and burst format of PACKET CONTROL ACKNOWLEDGEMENT which are received by G_RLC_ACCESS_IND. | | |

| ASP Name | G_RLC_ACCESS_IND | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to receive an access burst sent by the UE/MS on the specified channel. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| physicalChId | | PhysicalChId | |
| g_LogicChType | | G_LogicChType | PRACH or PACCH or PTCCH |
| rfn | | RFN | The reduced frame number of the frame carrying the burst |
| retryBit | | BITSTRING[1] | For access bursts on PRACH, RACH. For PACCH, this field is no meaning |
| burst | | PDU | 8-bit or 11-bit access burst |
| Detailed Comments | PACKET CHANNEL REQUEST, EGPRS PACKET CHANNEL REQUEST and burst format of PACKET CONTROL ACKNOWLEDGEMENT are access bursts. | | |

7.3.4.3.1.3 ASPs for data transmission and reception through GERAN LLC

| ASP Name | G_LLC_UNITDATA_REQ | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to send L3 PDU to the UE/MS in LLC unconfirmed transmission. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| lLMEId | | LLMEId | |
| tLLI | | TLLI | |
| sAPI | | SAPI | |
| protectMode | | BITSTRING[1] | 0 -- unprotected;<br>1 -- protected |
| cipherMode | | BITSTRING[1] | 0 -sent without encryption;<br>1 -sent with encryption |
| msg | | PDU | L3 PDU |
| Detailed Comments | 3GPP TS 04.64 or 3GPP TS 44.064 [33] clause 8.4.1<br>After the ciphering function is started in the SS by G_CLLC_Assign_REQ, the SS shall encrypt the "msg" when cipherMode = '1', and the SS shall not encrypt the "msg" if cipherMode = '0'. | | |

| Type Name | LLMEId |
|---|---|
| Type Definition | INTEGER |
| Type Encoding | |
| Comments | The identifier of the Logical Link Management Entity in SGSN |

| ASP Name | G_LLC_UNITDATA_IND | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to receive a L3 PDU from the UE/MS in LLC unconfirmed transmission. | | |
| Parameter Name | | Parameter Type | Comments |
| lLMEId | | LLMEId | |
| tLLI | | TLLI | |
| sAPI | | SAPI | |
| msg | | PDU | L3 PDU |
| Detailed Comments | 3GPP TS 04.64 or 3GPP TS 44.064 [33] clause 8.4.2 | | |

| ASP Name | G_LLC_XID_RES | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to send to the UE/MS the negotiated XID parameters agreed by the SS. | | |
| Parameter Name | | Parameter Type | Comments |
| lLMEId | | LLMEId | |
| tLLI | | TLLI | |
| sAPI | | SAPI | |
| xID_Info | | XID_Info | the negotiated XID parameters agreed by the SS |
| Detailed Comments | | | |

| Type Name | XID_Info |
|---|---|
| Type Definition | OCTETSTRING |
| Type Encoding | |
| Comments | Exchange Identification Information |

| ASP Name | G_LLC_XID_IND | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to receive the XID requested by the UE/MS. | | |
| Parameter Name | | Parameter Type | Comments |
| lLMEId | | LLMEId | |
| tLLI | | TLLI | |
| sAPI | | SAPI | |
| xID_Info | | XID_Info | the XID parameters requested by the UE/MS |
| Detailed Comments | | | |

7.3.4.3.1.4 ASPs for data transmission and reception through GERAN SNDCP

| ASP Name | G_SN_DATA_REQ | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to send a valid IP datagram on the specified NSAPI to the UE/MS by acknowledged transmission. | | |
| Parameter Name | | Parameter Type | Comments |
| sNDCPId | | SNDCPId | |
| nSAPI | | NSAPI | 5 to 15 |
| n_PDU_Number | | OCTETSTRING[1] | |
| n_PDU | | N_PDU | Valid IPv4 or IPv6 datagram |
| Detailed Comments | Acknowledged transmission mode | | |

| ASP Name | G_SN_DATA_IND | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to receive an IP datagram on the specified NASPI from the UE/MS in acknowledged transmission mode. | | |
| Parameter Name | | Parameter Type | Comments |
| sNDCPId | | SNDCPId | |
| nSAPI | | NSAPI | 5 to 15 |
| n_PDU | | N_PDU | IPv4 or IPv6 datagram |
| Detailed Comments | Acknowledged transmission mode | | |

| ASP Name | G_SN_UNIDATA_REQ | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to send a valid IP datagram on the specified NSAPI to the UE/MS by unacknowledged transmission. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| sNDCPId | | SNDCPId | |
| nSAPI | | NSAPI | 5 to 15 |
| n_PDU | | N_PDU | Valid IPv4 or IPv6 datagram |
| **Detailed Comments** | Unacknowledged transmission mode | | |

| ASP Name | G_SN_UNITDATA_IND | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to receive an IP datagram on the specified NASPI from the UE/MS in unacknowledged transmission mode. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| sNDCPId | | SNDCPId | |
| nSAPI | | NSAPI | 5 to 15 |
| n_PDU | | N_PDU | IPv4 or IPv6 datagram |
| **Detailed Comments** | Unacknowledged transmission mode | | |

| ASP Name | G_SN_XID_REQ | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to send the requested XID parameters to the UE/MS. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| sNDCPId | | SNDCPId | |
| xID_Info | | XID_Info | XID parameters requested |
| **Detailed Comments** | | | |

| ASP Name | G_SN_XID_IND | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to receive the XID parameters requested by the UE/MS. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| sNDCPId | | SNDCPId | |
| xID_Info | | XID_Info | XID parameters requested by the UE/MS |
| **Detailed Comments** | | | |

| ASP Name | G_SN_XID_CNF | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP is used to receive the negotiated XID parameters agreed by the UE/MS. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| sNDCPId | | SNDCPId | |
| xID_Info | | XID_Info | The negotiated XID parameters agreed by the UE/MS |
| **Detailed Comments** | | | |

| ASP Name | G_SN_XID_RES | | |
|---|---|---|---|
| PCO Type | G_DSAP | | |
| Comments | The ASP sends to the UE/MS the negotiated XID parameters agreed by the SS. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| sNDCPId | | SNDCPId | |
| xID_Info | | XID_Info | The negotiated XID parameters agreed by the SS |
| **Detailed Comments** | | | |

| Type Name | SNDCPId |
|---|---|
| Type Definition | INTEGER |
| Type Encoding | |
| Comments | The identifier of the SNDCP entity in SGSN |

7.3.4.3.1.5 ASPs for data transmission and reception through GERAN DTM

| **ASP Name** | G_L2_GTTP_REQ | | |
|---|---|---|---|
| **PCO Type** | G_DSAP | | |
| **Comments** | The ASP is used for DTM to send an LLC signalling message on the DCCH in acknowledged mode. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| SAPI | | SAPI | |
| physicalChId | | PhysicalChId | Channel identifier |
| g_LogicChType | | G_LogicChType | |
| subChannel | | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3). This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| protectMode | | BITSTRING[1] | 0 -- unprotected;<br>1 -- protected |
| cipherMode | | BITSTRING[1] | 0 -sent without encryption;<br>1 -sent with encryption |
| skipIndicator | | B4 | GTTP header, unciphered |
| GTTPProtocolDiscriminator | | B4 | GTTP header, unciphered |
| msgType | | B8 | GTTP header, unciphered |
| TLLI | | TLLI | GTTP header, unciphered |
| gmmSmPDULength | | Length | GTTP header, unciphered |
| gmmSmPDU | | PDU | GMM or SM PDU - ciphered |
| **Detailed Comments** | Ciphering must be started in the SS by G_CLLC_Assign_REQ , and also by either G_CL1_CipheringControl_REQ, G_CL1_CipherModeModify_REQ, or G_CL1_CreateBasicPhyCh_REQ. When cipherMode = '1' the SS shall encrypt the ''LLCPDU', using the algorithm specified in px_GPRS_CipherAlg, and then encrypt the whole outgoing message using the algorithm specified in px_GSM_CipherAlg. The SS shall not encrypt the message at all if cipherMode = '0'. | | |

| **ASP Name** | G_L2_GTTP_IND | | |
|---|---|---|---|
| **PCO Type** | G_DSAP | | |
| **Comments** | The ASP is used for DTM to receive an LLC signalling message on DCCH acknowledged mode. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| SAPI | | SAPI | |
| physicalChId | | PhysicalChId | Channel identifier |
| g_LogicChType | | G_LogicChType | |
| subChannel | | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3). This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| rfn | | RFN | The reduced frame number of the first frame carrying the message |
| TLLI | | TLLI | |
| gmmSmPDU | | PDU | Deciphered GMM or SM signalling message received |
| **Detailed Comments** | If ciphering is used, the SS will take care to ensure the 'LLC PDU' is deciphered | | |

#### 7.3.4.3.2 ASPs for control primitive transmission and reception in GERAN

##### 7.3.4.3.2.1 ASPs for configuration and control of GERAN L1

| ASP Name | G_CL1_CreateCell_REQ | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to create a cell in GERAN | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| baseId | | BITSTRING[6] | base transceiver station identity code = NCC+BCC. see 3GPP TS 23.003 [6] |
| timingAdvance | | BITSTRING[8] | The SS sets the timing of uplink direction in advance of downlink direction timing by this value. |
| **Detailed Comments** | | | |

| ASP Name | G_CL1_CreateCell_CNF | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to get the confirmation of a G_CL1_CreateCell_REQ | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | The cell created |
| **Detailed Comments** | | | |

| ASP Name | G_CL1_DeleteCell_REQ | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to delete a cell in GERAN | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | The cell to be deleted |
| **Detailed Comments** | | | |

| ASP Name | G_CL1_DeleteCell_CNF | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to get the confirmation of a G_CL1_DeleteCell_REQ | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | The cell deleted |
| **Detailed Comments** | | | |

| ASP Name | G_CL1_CreateBasicPhyCh_REQ | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to create a basic physical channel in GERAN | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | The cell which the channel to be created belongs to |
| physicalChId | | PhysicalChId | identifier of the physical channel in the SS. |
| channelCombination | | ChannelCombination | Logical channels combined onto the basic physical channel. |
| frqInfo | | FrqInfo | Parameters for Description of the physical channel in frequency domain |
| timeSlot | | TN | The timeslot number of the physical channel |
| tsc | | TSC | Training sequence code. For common control and broadcast channels the value of tsc must be equal to BCC (base station colour code) |
| channelSpecificInfo | | ChannelSpecificInfo | Specific parameters related to individual channel |
| txPower | | TX_Power | The transmission power level in dBµVemf() |
| bandIndicator | | BITSTRING[1] | Parameter for DCS or PCS frequency band selection.<br>A value 0 for frqInfo.arfcn interpreted as DCS1800.<br>A value 1 for frqInfo.arfcn interpreted as PCS1900.<br>If omitted, the value in frqInfo.arfcn interpreted as DCS1800. |
| **Detailed Comments** | The value of channelCombination permitted currently:<br>1 TCH/F + FACCH/F + SACCH/TF<br>2 TCH/H(0,1) + FACCH/H(0,1) + SACCH/TH(0,1)<br>3 TCH/H(0,0) + FACCH/H(0,1) + SACCH/TH(0,1) + TCH/H(1,1)<br>4 FCCH + SCH + BCCH + CCCH<br>5 FCCH + SCH + BCCH + CCCH + SDCCH/4(0..3) + SACCH/C4(0..3)<br>6 BCCH + CCCH<br>7 SDCCH/8(0..7) + SACCH/C8(0.. 7)<br>8 TCH/F + FACCH/F + SACCH/M<br>9 TCH/F + SACCH/M<br>10 TCH/FD + SACCH/MD<br>11 PBCCH+PCCCH+PDTCH/F+PACCH/F+PTCCH/F<br>12 PCCCH+PDTCH/F+PACCH/F+PTCCH/F<br>13 PDTCH/F+PACCH/F+PTCCH/F<br>18 E-TCH/F + E-IACCH/F + E-FACCH/F + SACCH/TF<br>19 E-TCH/F + E-IACCH/F + E-FACCH/F + SACCH/M<br>20 E-TCH/F + E-IACCH/F + SACCH/M<br>21 E-TCH/FD + E-IACCH/F + SACCH/MD | | |

| ASP Name | G_CL1_CreateBasicPhyCh_CNF | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to get the confirmation of a G_CL1_CreateBasicPhyCh_REQ | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | The cell which the created channel belongs to |
| physicalChId | | PhysicalChId | The physical channel created. |
| **Detailed Comments** | | | |

| Type Name | FrqInfo | | |
|---|---|---|---|
| Encoding Variation | | | |
| Comments | Parameters for Description of basic physical channel in frequency domain. | | |
| Element Name | Type Definition | Field Encoding | Comments |
| h | BITSTRING[1] | | h=1:hopping channel<br>h=0: non-hopping channel |
| spr | BITSTRING [3] | | '000'B |
| spr1 | BITSTRING [2] | | '00'B if h = 0, otherwise OMIT |
| maio | BITSTRING [6] | | mobile allocation index offset if h = 1, otherwise OMIT |
| hsn | BITSTRING [6] | | hopping sequence number if h = 1, otherwise OMIT |
| arfcn | BITSTRING [10] | | absolute RF channel number if h = 0, otherwise OMIT |
| hoppingFreqList | FrequencyList | | hopping frequency list if h = 1, otherwise OMIT.<br>The definition see 3GPP TS 44.018 [43] or 3GPP TS 04.18, clause 10.5.2.13 |
| Detailed Comments | | | |

| Type Name | ChannelSpecificInfo | | |
|---|---|---|---|
| Encoding Variation | | | |
| Comments | Parameters for individual channel | | |
| Element Name | Type Definition | Field Encoding | Comments |
| dedCH_Info | DedCH_Info | | Parameters for dedicated channel.<br>Valid for combination:1, 2, 3, 5, 7, 8, 9, 10<br>This field is omitted if DedCH_Info does not apply for the channelCombination |
| cCCH_Info | CCCH_Info | | Parameters for common control channels: PCH, SCH, etc.<br>Valid for combination: 4, 5, 6<br>This field is omitted if CCCH_Info does not apply for the channelCombination |
| pCCCH_Info | PCCCH_Info | | Parameters for packet common control channels: PCCCH, PPCH,…<br>Valid for combination: 11, 12<br>This field is omitted if PCCCH_Info does not apply for the channelCombination |
| pBCCH_Info | PBCCH_Info | | Parameters for packet broadcast channels: PBCCH<br>Valid for combination: 11<br>This field is omitted if PBCCH_Info does not apply for the channelCombination |
| Detailed Comments | | | |

| Type Name | DedCH_Info | | |
|---|---|---|---|
| Encoding Variation | | | |
| Comments | Parameters for dedicated channel | | |
| Element Name | Type Definition | Field Encoding | Comments |
| chMod | ChMode | | Definition see 3GPP TS 04.18 or 3GPP TS 44.018 [43] clause 10.5.2.6 |
| cipherMode | CipherModeSetting | | Definition see 3GPP TS 04.18 or 3GPP TS 44.018 [43] clause 10.5.2.9 |
| cipherKey | BITSTRING[64] | | |
| powerLevel | BITSTRING[5] | | Initial MS uplink transmission power level. This value is used in the L1 header of SACCH. |
| timingAdvance | BITSTRING[8] | | Initial timing advance. This value is used in the L1 header of SACCH.<br>This field shall be set to the same value as in timingAdvance of G_CL1_CreateCell_REQ. |
| Detailed Comments | In addition to ciphering algorithm the cipherMode specifies the initial ciphering mode of the physical channel in both transmission and receiving direction by startingCiph bit. During ciphering mode setting procedure the ciphering mode of receiving direction can be changed by G_CL1_CipheringControl_REQ. | | |

| Type Name | CCCH_Info | | |
|---|---|---|---|
| Encoding Variation | | | |
| Comments | Parameters for common control channels | | |
| Element Name | Type Definition | Field Encoding | Comments |
| | | | |
| bS_PA_MFRMS | BITSTRING[3] | | the number of 51-multiframes between transmissions of paging messages. Definition see 3GPP TS 04.18 or 3GPP TS 44.018 [43] clause 10.5.2.11 |
| bS_AG_BLKS_RES | BITSTRING[3] | | the number of blocks on each common control channel reserved for access grant messages. Definition see 3GPP TS 04.18 or 3GPP TS 44.018 [43] clause 10.5.2.11 |
| Detailed Comments | | | |

| Type Name | PCCCH_Info | | |
|---|---|---|---|
| Encoding Variation | | | |
| Comments | Parameters for packet common control channels | | |
| Element Name | Type Definition | Field Encoding | Comments |
| bS_PBCCH_BLKS | BITSTRING[2] | | 3GPP TS 04.60 or 3GPP TS 44.060 [32] clause 12.25 |
| bS_PAG_BLKS_RES | BITSTRING[4] | | 3GPP TS 04.60 or 3GPP TS 44.060 [32] clause 12.25 |
| bS_PRACH_BLKS | BITSTRING[4] | | 3GPP TS 04.60 or 3GPP TS 44.060 [32] clause 12.25 |
| Detailed Comments | | | |

| Type Name | PBCCH_Info | | |
|---|---|---|---|
| Encoding Variation | | | |
| Comments | Parameters for packet broadcast channel | | |
| Element Name | Type Definition | Field Encoding | Comments |
| pSI1_REPEAT_PERIOD | BITSTRING[4] | | The repeat period of packet system information Type 1. See 3GPP TS 04.60 or 3GPP TS 44.060 [32] clause 11.2.18 |
| pSI_COUNT_HR | BITSTRING[4] | | The number of PSI message instances sent with high repetition rate. See 3GPP TS 04.60 or 3GPP TS 44.060 [32] clause 11.2.18 |
| pSI_COUNT_LR | BITSTRING[6] | | The number of PSI message instances sent with low repetition rate. See 3GPP TS 04.60 or 3GPP TS 44.060 [32] clause 11.2.18 |
| Detailed Comments | | | |

| ASP Name | G_CL1_CreateMultiSlotConfig_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to create a multi-slot configuration in GERAN and should be preceded with G_CL1_CreateBasicPhyCh_REQ in order to create a basic physical channel with single timeslot. | |
| Parameter Name | Parameter Type | Comments |
| cellId | CellId | The cell which the configuration to be created belongs to |
| mainChannel | PhysicalChId | identifier of the main physical channel of this multi-slot configuration. |
| multiSlotAllocation | MultiSlotAllocation | The timeslot allocation of the configuration |
| Detailed Comments | This ASP is to add a multi-slot configuration to the physical channel created in G_CL1_CreateBasicPhyCh_REQ ASP. For multi-slot configuration refer 3GPP TS 05.02 or 3GPP TS 45.002 [31] clause 6.4.2. | |

| ASP Name | G_CL1_CreateMultiSlotConfig_CNF | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to get the confirmation of a G_CL1_CreateMultiSlotConfig_REQ | |
| Parameter Name | Parameter Type | Comments |
| cellId | CellId | The cell which the created multi-slot configuration belongs to. |
| physicalChId | PhysicalChId | The main physical channel identifier. |
| Detailed Comments | | |

| Type Name | MultiSlotAllocation | | |
|---|---|---|---|
| Encoding Variation | | | |
| Comments | Used in multi-slot configuration | | |
| Element Name | Type Definition | Field Encoding | Comments |
| tN0 | BOOLEAN | | TRUE - time slot 0 is allocated; FALSE -- not allocated |
| channelCombination0 | ChannelCombination | | Channel combination for time slot 0; not applicable if tN0 = FALSE |
| tN1 | BOOLEAN | | TRUE - time slot 1 is allocated; FALSE -- not allocated |
| channelCombination 1 | ChannelCombination | | Channel Combination for time slot 1; not applicable if tN1 = FALSE |
| tN2 | BOOLEAN | | TRUE - time slot 2 is allocated; FALSE -- not allocated |
| channelCombination 2 | ChannelCombination | | Channel Combination for time slot 2; not applicable if tN2 = FALSE |
| tN3 | BOOLEAN | | TRUE - time slot 3 is allocated; FALSE -- not allocated |
| channelCombination 3 | ChannelCombination | | Channel Combination for time slot 3; not applicable if tN3 = FALSE |
| tN4 | BOOLEAN | | TRUE - time slot 4 is allocated; FALSE -- not allocated |
| channelCombination 4 | ChannelCombination | | Channel Combination for time slot 4; not applicable if tN4 = FALSE |
| tN5 | BOOLEAN | | TRUE - time slot 5 is allocated; FALSE -- not allocated |
| channelCombination 5 | ChannelCombination | | Channel Combination for time slot 5; not applicable if tN5 = FALSE |
| tN6 | BOOLEAN | | TRUE - time slot 6 is allocated; FALSE -- not allocated |
| channelCombination 6 | ChannelCombination | | Channel Combination for time slot 6; not applicable if tN6 = FALSE |
| tN7 | BOOLEAN | | TRUE - time slot 7 is allocated; FALSE -- not allocated |
| channelCombination 7 | ChannelCombination | | Channel Combination for time slot 7; not applicable if tN7 = FALSE |
| Detailed Comments | Multislot configuration is referred to 3GPP TS 05.02 or 3GPP TS 45.002 [31] clause 6.4.2. The timeslot for which G_CL1_CreateBasicPhyCh_REQ has set the channel combination shall be set to FALSE. | | |

| ASP Name | G_CL1_CipheringControl_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to set the ciphering mode of the physical channel in receiving direction, the kc and ciphering algorithm was set by the G_CL1_CreateBasicPhyCh_REQ for the physical channel before calling the ASP. | |
| Parameter Name | Parameter Type | Comments |
| cellId | CellId | |
| physicalChId | PhysicalChId | Channel identifier |
| rcvCipherMode | BITSTRING[1] | Ciphering Mode in SS receiving direction:<br>0→ not ciphered<br>1→ ciphered |
| Detailed Comments | For GSM dedicated physical channel, the ciphering mode of the SS shall be changed in three steps: (3GPP TS 44.018 [43], clause 3.4.7)<br>Before the SS sending CIPHERING MODE COMMAND the SS is transmitting and receiving in old ciphering mode (for example, not ciphered), after the SS sending CIPHERING MODE COMMAND the SS changes its receiving ciphering mode to new ciphering mode (for example, ciphered) and keeps transmitting in old ciphering mode; then after receiving CIPHERING MODE COMPLETE or any correct L2 frame in new ciphering mode the SS changes the transmitting ciphering mode to the new mode.<br>TTCN writer shall use this ASP before sending the CIPHERING MODE COMMAND to ensure the ciphering mode of the physical channel, in sufficient time, according to the 3 step procedure outlined above. | |

| ASP Name | G_CL1_CipheringControl_CNF | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to confirm that the G_CL1_CipheringControl_REQ is executed correctly. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| physicalChId | | PhysicalChId | Channel identifier |
| **Detailed Comments** | | | |

| ASP Name | G_CL1_ComingFN_REQ | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to request lower layer return the reduced frame number (FN modulo 42432) which is far enough in the future from current frame number and is able to carry L3 message on the specified channel. The requirement of "far enough" is that there is enough time left for TTCN to prepare a L3 message to send before that frame.<br>The ASP could also be used in the calculation of a value for starting time | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| physicalChId | | PhysicalChId | Channel identifier |
| g_LogicChType | | G_LogicChType | |
| subChannel | | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3).<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| **Detailed Comments** | | | |

| ASP Name | G_CL1_ComingFN_CNF | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to receive the result of G_CL1_ComingFN_REQ. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| physicalChId | | PhysicalChId | Channel identifier |
| g_LogicChType | | G_LogicChType | |
| subChannel | | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3). This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| rfn | | RFN | the reduced frame number (FN modulo 42432) which is about 4.5 seconds later than current frame number and is able to carry L3 message on the channel specified by "physicalChId"+"G_LogicChType"+"subChannel" |
| **Detailed Comments** | | | |

| ASP Name | G_CL1_L1Header_REQ | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to request lower layer return the L1 header of SACCH. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| physicalChId | | PhysicalChId | Channel identifier |
| g_LogicChType | | G_LogicChType | SACCH |
| subChannel | | SubChannelNumber | Valid only for logical channel types: SACCH/TH, SACCH/C8, and SACCH/C4<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| **Detailed Comments** | | | |

| ASP Name | G_CL1_L1Header_CNF | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to receive the result of G_CL1_L1Header_REQ. | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | |
| physicalChId | PhysicalChId | Channel identifier |
| g_LogicChType | G_LogicChType | SACCH |
| subChannel | SubChannelNumber | Valid only for logical channel types: SACCH/TH, SACCH/C8, and SACCH/C4<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| l1Header | L1HD | Power level and timing advance |
| **Detailed Comments** | | |

| ASP Name | G_CL1_DeleteChannel_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to delete a basic physical channel or an multi-slot configuration | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | The identifier of the cell which the channel to be deleted belongs to |
| physicalChId | PhysicalChId | The physical channel or the multi-slot configuration to be deleted. |
| **Detailed Comments** | | |

| ASP Name | G_CL1_DeleteChannel_CNF | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to get the confirmation of a G_CL1_DeleteChannel_REQ | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | The identifier of the cell which the deleted channel belongs to |
| physicalChId | PhysicalChId | The physical channel or multi-slot configuration deleted. |
| **Detailed Comments** | | |

| ASP Name | G_CL1_ChModeModify_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to modify the channel mode of a dedicated channel | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | The identifier of the cell |
| physicalChId | PhysicalChId | Channel identifier |
| g_LogicChType | G_LogicChType | |
| subChannel | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3).<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| chMode | ChMode | Definition see 3GPP TS 04.18 or 3GPP TS 44.018 [43] clause 10.5.2.1b |
| **Detailed Comments** | | |

| ASP Name | G_CL1_ChModeModify_CNF | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to get the confirmation of a G_CL1_ChModeModify_REQ | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | The identifier of the cell |
| physicalChId | PhysicalChId | Channel identifier |
| g_LogicChType | G_LogicChType | |
| subChannel | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3).<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| **Detailed Comments** | | |

| ASP Name | G_CL1_SetNewKey_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to set new cipher key for a dedicated channel | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | The identifier of the cell |
| physicalChId | PhysicalChId | The channel which uses the new key |
| g_LogicChType | G_LogicChType | |
| subChannel | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3).<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| cipherKey | BITSTRING[64] | |
| **Detailed Comments** | | |

| ASP Name | G_CL1_SetNewKey_CNF | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to get the confirmation of a G_CL1_SetNewKey_REQ | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | The identifier of the cell |
| physicalChId | PhysicalChId | Channel identifier |
| g_LogicChType | G_LogicChType | |
| subChannel | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3).<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| **Detailed Comments** | | |

| ASP Name | G_CL1_CipherModeModify_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to modify cipher mode of a dedicated channel | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | The identifier of the cell |
| physicalChId | PhysicalChId | Channel identifier |
| g_LogicChType | G_LogicChType | |
| subChannel | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3). This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| cipherMode | CipherModeSetting | The new cipher mode. Definition see 3GPP TS 04.18 or 3GPP TS 44.018 [43] clause 10.5.2.9 |
| **Detailed Comments** | | |

| ASP Name | G_CL1_CipherModeModify_CNF | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to get the confirmation of a G_CL1_CipherModeModify_REQ | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | The identifier of the cell |
| physicalChId | PhysicalChId | Channel identifier |
| g_LogicChType | G_LogicChType | |
| subChannel | SubChannelNumber | Valid only for logical channel types: TCH/H, FACCH/H, SACCH/TH, SDCCH/8, SACCH/C8, SDCCH/4, and SACCH/C4. For TCH/H, FACCH/H and SACCH/TH value is (0..1); For SDCCH/8 and SACCH/C8 value is (0..7); for SDCCH/4 and SACCH/C4 value is (0..3). This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| **Detailed Comments** | | |

| ASP Name | G_CL1_ChangePowerLevel_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to change the transmission power level of a physical channel | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | The identifier of the cell which the physical channel belongs to |
| physicalChId | PhysicalChId | Channel using the new transmission power level |
| txPower | TX_Power | The new transmission power level in dBµVemf() |
| **Detailed Comments** | | |

| ASP Name | G_CL1_ChangePowerLevel_CNF | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to get the confirmation of a G_CL1_ChangePowerLevel_REQ | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | The identifier of the cell |
| physicalChId | PhysicalChId | The physical channel which uses the new transmission power level |
| **Detailed Comments** | | |

7.3.4.3.2.2 ASPs for configuration and control of GERAN L2

| ASP Name | G_CL2_HoldPhyInfo_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP commands the SS to hold the PHYSICAL INFORMATION message, which will be sent on PCO G_L2 following the current ASP. The PHYSICAL INFORMATION message shall be sent to the UE/MS within T3124 from the time when the SS has received n handover access bursts. | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | |
| physicalChId | PhysicalChId | Channel identifier |
| g_LogicChType | G_LogicChType | |
| subChannel | SubChannelNumber | Valid only for logical channel types: FACCH/H, SDCCH/8 and SDCCH/4,<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| n | INTEGER | The number of handover access bursts to be received |
| **Detailed Comments** | T3124 is defined in 3GPP TS 04.18 or 3GPP TS 44.018 [43] clauses 3.4.4.2.2 and 11.1.1 | |

| ASP Name | G_CL2_HoldPhyInfo_CNF | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to get a confirmation of the G_CL2_HoldPhyInfo_REQ. | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | |
| physicalChId | PhysicalChId | Channel identifier |
| g_LogicChType | G_LogicChType | |
| subChannel | SubChannelNumber | Valid only for logical channel types: FACCH/H, SDCCH/8 and SDCCH/4.<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| **Detailed Comments** | | |

| ASP Name | G_CL2_MeasRptControl_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to enable or disable the reporting of received Measurement Reports to the TTCN | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | |
| physicalChId | PhysicalChId | Channel identifier |
| g_LogicChType | G_LogicChType | Valid only for logical channel types: SACCH/TF, SACCH/TH, SACCH/C8 and SACCH/C4 |
| subChannel | SubChannelNumber | For SACCH/TH value is (0..1); for SACCH/C8 value is (0..7); for SACCH/C4 value is (0..3). |
| sendMeasRpts | BOOLEAN | Whether or not to report received Measurement Reports to the TTCN. |
| **Detailed Comments** | Per default, this will be set to FALSE | |

| ASP Name | G_CL2_MeasRptControl_CNF | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to confirm that G_CL2_MeasRptControl_REQ was executed correctly | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | |
| physicalChId | PhysicalChId | Channel identifier |
| **Detailed Comments** | | |

| ASP Name | G_CL2_NoUAforSABM_REQ | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP commands the SS not to send UA response to the UE when it receives SABM from the UE on the specified channel. | | |
| **Parameter Name** | **Parameter Type** | **Comments** | |
| cellId | CellId | | |
| physicalChId | PhysicalChId | Channel identifier | |
| g_LogicChType | G_LogicChType | | |
| subChannel | SubChannelNumber | Valid only for logical channel types: FACCH/H, SDCCH/8 and SDCCH/4,<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. | |
| Detailed Comments | | | |

| ASP Name | G_CL2_NoUAforSABM_CNF | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to get a confirmation of the G_CL2_NoUAforSABM_REQ. | | |
| **Parameter Name** | **Parameter Type** | **Comments** | |
| cellId | CellId | | |
| physicalChId | PhysicalChId | Channel identifier | |
| g_LogicChType | G_LogicChType | | |
| subChannel | SubChannelNumber | Valid only for logical channel types: FACCH/H, SDCCH/8 and SDCCH/4.<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. | |
| Detailed Comments | | | |

| ASP Name | G_CL2_Release_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used request the SS stop L2 transmission on a channel. | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | |
| physicalChId | PhysicalChId | Channel identifier |
| Detailed Comments | | |

| ASP Name | G_CL2_Release_CNF | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to confirm that the G_CL2_Release_REQ is executed correctly | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | |
| physicalChId | PhysicalChId | Channel identifier |

| ASP Name | G_CL2_ResumeUAforSABM_REQ | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP commands the SS to send UA response to the UE when it receives SABM from the UE on the specified channel. This ASP is used after G_CL2_NoUAforSABM_REQ to resume the normal multiframe operation of L2 | | |
| **Parameter Name** | **Parameter Type** | **Comments** | |
| cellId | CellId | | |
| physicalChId | PhysicalChId | Channel identifier | |
| g_LogicChType | G_LogicChType | | |
| subChannel | SubChannelNumber | Valid only for logical channel types: FACCH/H, SDCCH/8 and SDCCH/4,<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. | |
| Detailed Comments | | | |

| ASP Name | G_CL2_ResumeUAforSABM_CNF | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to get a confirmation of the G_CL2_ResumeUAforSABM_REQ. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| physicalChId | | PhysicalChId | Channel identifier |
| g_LogicChType | | G_LogicChType | |
| subChannel | | SubChannelNumber | Valid only for logical channel types: FACCH/H, SDCCH/8 and SDCCH/4.<br>This field is not applicable and the SS shall ignore it if this field is coded as 15. |
| Detailed Comments | | | |

7.3.4.3.2.3 ASPs for configuration and control of GERAN RLC/MAC

| ASP Name | G_CRLC_CreateRLC_MAC_REQ | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to create a RLC/MAC entity in GERAN RLC/MAC emulation module. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | The identifier of the cell |
| Detailed Comments | One RLC/MAC entity per cell can exist, cellId will be used for couping LLC layer module to the RLC/MAC emulation module.. The packet channel description given in the ChannelSpecificInfo of G_CL1_CreateBasicPhyCh_REQ shall be used to configure this layer. This ASP shall be called after the G_CL1_CreateBasicPhyCh_REQ ASP. | | |

| ASP Name | G_CRLC_CreateRLC_MAC_CNF | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to confirm the G_CRLC_CreateRLC_MAC_REQ | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | The identifier of the cell |
| Detailed Comments | | | |

| ASP Name | G_CRLC_DeleteRLC_MAC_REQ | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to delete a RLC/MAC entity in GERAN emulation module. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | The identifier of the cell |
| Detailed Comments | This ASP is used to release any resource used for the RLC/MAC emulation entity in the SS. | | |

| ASP Name | G_CRLC_DeleteRLC_MAC_CNF | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to confirm the G_CRLC_CreateRLC_MAC_REQ | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | The identifier of the cell |
| Detailed Comments | | | |

| ASP Name | G_CRLC_UL_TBF_Config_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to configure a TBF used for uplink packet data transfer | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | |
| tFI | TFI | |
| tBF_Mode | BITSTRING[1] | 0 - GPRS;<br>1 - EGPRS |
| channelCoding | ChannelCoding | |
| tLLI_BlockChannelCoding | BITSTRING[1] | 0 - CS-1 or MCS-1(EGPRS);<br>1 - same as channelCoding |
| rLC_Mode | BITSTRING[1] | 0 - acknowledged mode;<br>1 - unacknowledged mode |
| startingTime | RFN | This field is not applicable and the SS shall ignore it if the field t2 of rfn is coded as '11111'B. |
| uSF_Rate | INTEGER | This parameter controls the speed of the UL TBF transferring data blocks by controlling the USF rate:<br>1---> implementation dependent. TTCN does not specify the USF generating rate;<br>2---> 10 USF's per second;<br>3---> 5 USF's per second;<br>4---> 1 USF per second;<br>5---> 1 USF per 2 seconds;<br>6---> 1 USF per 3 seconds;<br>7---> 1 USF per 4 seconds. |
| dynamicAllocation | dynamicAllocation | dynamic allocation and other parameters. |
| **Detailed Comments** | For GPRS channel coding can be: CS-1, CS-2, CS-3 and CS-4;<br>For EGPRS channel coding can be : MCS-1, MCS-2, MCS-3, MCS-4, MCS-5, MCS-6, MCS-7, MCS-8, MCS-9, MCS-5-7 and MCS-6-9.<br>Due to one cell currently has only one RLC/MAC emulation module, this ASP does not contain RLC/MAC identity parameter to indicate which RLC/MAC emulation module this TBF is established for, instead, the parameter cellId implicitly indicates the RLC/MAC module, which is created by G_CRLC_CreateRLC_MAC_REQ in the cell. The higher layer (LLC emulation module) uses rLC/MAC_MappingInfo (with type of CellId) to address the RLC/MAC emulation module to which it connects | |

| ASP Name | G_CRLC_UL_TBF_Config_CNF | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to get the confirmation of a G_CRLC_UL_TBF_Config_REQ | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| cellId | CellId | |
| tFI | TFI | |
| **Detailed Comments** | | |

| Type Name | ChannelCoding |
|---|---|
| Type Definition | INTEGER |
| Type Encoding | |
| Comments | 1 - CS-1;<br>2 - CS-2;<br>3 - CS-3;<br>4 -- CS-4;<br>5 - MCS-1;<br>6 - MCS-2;<br>7 - MCS-3;<br>8 - MCS-4;<br>9 - MCS-5;<br>10 - MCS-6;<br>11 - MCS-7;<br>12 - MCS-8;<br>13 - MCS-9;<br>14 - MCS-5-7;<br>15 - MCS-6-9 |

| Type Name | DynamicAllocation | | |
|---|---|---|---|
| Encoding Variation | | | |
| Comments | Used for up link TBF; dynamic allocation or extended dynamic allocation | | |
| Element Name | Type Definition | Field Encoding | Comments |
| extendedAllocation | BITSTRING[1] | | 0 - dynamic allocation; 1 - extended dynamic allocation |
| uSFGranularity | BITSTRING[1] | | 0 - one block;<br>1 - four blocks |
| physicalChId | PhysicalChId | | Single PDCH or multislot-configured PDCHs |
| tN0 | BOOLEAN | | TRUE - time slot 0 is allocated;<br>FALSE -- not allocated |
| uSF_TN0 | BITSTRING[3] | | USF value for slot 0 |
| tN1 | BOOLEAN | | TRUE - time slot 1 is allocated;<br>FALSE -- not allocated |
| uSF_TN1 | BITSTRING[3] | | USF value for slot 1 |
| tN2 | BOOLEAN | | TRUE - time slot 2 is allocated;<br>FALSE -- not allocated |
| uSF_TN2 | BITSTRING[3] | | USF value for slot 2 |
| tN3 | BOOLEAN | | TRUE - time slot 3 is allocated;<br>FALSE -- not allocated |
| uSF_TN3 | BITSTRING[3] | | USF value for slot 3 |
| tN4 | BOOLEAN | | TRUE - time slot 4 is allocated;<br>FALSE -- not allocated |
| uSF_TN4 | BITSTRING[3] | | USF value for slot 4 |
| tN5 | BOOLEAN | | TRUE - time slot 5 is allocated;<br>FALSE -- not allocated |
| uSF_TN5 | BITSTRING[3] | | USF value for slot 5 |
| tN6 | BOOLEAN | | TRUE - time slot 6 is allocated;<br>FALSE -- not allocated |
| uSF_TN6 | BITSTRING[3] | | USF value for slot 6 |
| tN7 | BOOLEAN | | TRUE - time slot 7 is allocated;<br>FALSE -- not allocated |
| uSF_TN7 | BITSTRING[3] | | USF value for slot 7 |
| Detailed Comments | The uSF_TNx field is not applicable when tNx = FALSE. | | |

| ASP Name | G_CRLC_DL_TBF_Config_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to configure a TBF used for down link packet data transfer | |
| Parameter Name | Parameter Type | Comments |
| cellId | CellId | |
| tFI | TFI | |
| tBF_Mode | BITSTRING[1] | 0 - GPRS;<br>1 - EGPRS |
| channelCoding | ChannelCoding | |
| rLC_Mode | BITSTRING[1] | 0 - acknowledged mode;<br>1 - unacknowledged mode |
| timeSlotAllocation | TimeSlotAllocation | Downlink TBF time slot allocation |
| startingTime | RFN | This field is not applicable and the SS shall ignore it if the field t2 of rfn is coded as '11111'B. |
| dataBlockRate | INTEGER | This parameter controls the speed of the DL TBF sending RLC/MAC data blocks on the assigned PDCH's:<br>1---> implementation dependent. TTCN does not specify the data block rate;<br>2---> 10 data blocks per second;<br>3---> 5 data blocks per second;<br>4---> 1 data block per second;<br>5---> 1 data block per 2 seconds;<br>6---> 1 data block per 3 seconds;<br>7---> 1 data block per 4 seconds. |
| Detailed Comments | For GPRS channel coding can be: CS-1, CS-2, CS-3 and CS-4;<br>For EGPRS channel coding can be : MCS-1, MCS-2, MCS-3, MCS-4, MCS-5, MCS-6, MCS-7, MCS-8, MCS-9, MCS-5-7 and MCS-6-9. | |

| ASP Name | G_CRLC_DL_TBF_Config_CNF | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to get the confirmation of a G_CRLC_DL_TBF_Config_REQ | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| cellId | | CellId | |
| tFI | | TFI | |
| **Detailed Comments** | | | |

| Type Name | TimeSlotAllocation | | |
|---|---|---|---|
| Encoding Variation | | | |
| Comments | Used for downlink and up link TBF | | |
| **Element Name** | **Type Definition** | **Field Encoding** | **Comments** |
| physicalChId | PhysicalChId | | single PDCH or multislot-configured PDCHs |
| tN0 | BOOLEAN | | Timeslot 0;<br>TRUE - allocated;<br>FALSE - not allocated. |
| tN1 | BOOLEAN | | Timeslot 1;<br>TRUE - allocated;<br>FALSE - not allocated. |
| tN2 | BOOLEAN | | Timeslot 2;<br>TRUE - allocated;<br>FALSE - not allocated. |
| tN3 | BOOLEAN | | Timeslot 3;<br>TRUE - allocated;<br>FALSE - not allocated. |
| tN4 | BOOLEAN | | Timeslot 4;<br>TRUE - allocated;<br>FALSE - not allocated. |
| tN5 | BOOLEAN | | Timeslot 5;<br>TRUE - allocated;<br>FALSE - not allocated. |
| tN6 | BOOLEAN | | Timeslot 6;<br>TRUE - allocated;<br>FALSE - not allocated. |
| tN7 | BOOLEAN | | Timeslot 7;<br>TRUE - allocated;<br>FALSE - not allocated. |
| **Detailed Comments** | | | |

7.3.4.3.2.4 ASPs for configuration and control of GERAN LLC

| ASP Name | G_CLLC_CreateLLE_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to create an LLE (LLC Entity) in GERAN emulation part of the SS and connects the created LLE to the RLC/MAC emulation module pointed by rLC/MAC_MappingInfo.. | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| lLMEId | LLMEId | Logical Layer Management Entity Id |
| rLC/MAC_MappingInfo | CellId | This parameter indicates the RLC/MAC emulation module in the cell, not the cell itself. |
| **Detailed Comments** | The RLC/MAC emulation module needs to be created prior to this ASP by G_CRLC_CreateRLC_MAC_REQ ASP. | |

| ASP Name | G_CLLC_CreateLLE_CNF | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to confirm the G_CLLC_CreateLLE_REQ | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| lLMEId | | LLMEId | The identifier of the cell Logical Layer Management Entity Id |
| **Detailed Comments** | | | |

| ASP Name | G_CLLC_DeleteLLE_REQ | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to delete an LLE (LLC Entity) in GERAN LLC emulation module. | | |
| Parameter Name | | Parameter Type | Comments |
| ILMEId | | LLMEId | Logical Layer Management Entity Id |
| Detailed Comments | | | |

| ASP Name | G_CLLC_DeleteLLE_CNF | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | The ASP is used to confirm the G_CLLC_DeleteLLE_REQ | | |
| Parameter Name | | Parameter Type | Comments |
| ILMEId | | LLMEId | Logical Layer Management Entity Id |
| Detailed Comments | | | |

| ASP Name | G_CLLC_Assign_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to assign, change, or unassign the TLLI, the ciphering key (Kc) and the ciphering algorithm of GERAN LLC emulation module. | |
| Parameter Name | Parameter Type | Comments |
| ILMEId | LLMEId | Logical Layer Management Entity Id |
| oldTLLI | TLLI | OCTETSTRING[4] |
| newTLLI | TLLI | |
| cipherKey | BITSTRING[64] | |
| cipherAlgorithm | GPRS_CipherAlg | BITSTRING[3], see 3GPP TS 24.008 [9] clause 10.5.5.3 |
| Detailed Comments | This ASP is used to assign, change, or unassign the TLLI, the ciphering key (Kc) and the ciphering algorithm.<br>1. The oldTLLI and newTLLI parameters shall be interpreted as follows:<br>- If oldTLLI = all 1's and newTLLI ≠ all 1's then newTLLI is assigned and used when (re-)transmitting LLC frames. If an oldTLLI ≠ all 1's was assigned to the LLME, then oldTLLI is unassigned. Only newTLLI is accepted when received from the peer. It shall be treated as a TLLI change. If oldTLLI = all 1's was assigned to the LLME, then this shall be treated as a TLLI assignment, and this ASP shall be the first ASP sent to the SS in order to enable LLC to process requests from layer 3.<br>- If oldTLLI ≠ all 1's and newTLLI ≠ all 1's then oldTLLI and newTLLI are assigned, and newTLLI shall be used when (re-)transmitting LLC frames. Both oldTLLI and newTLLI shall be accepted when received from the peer. It shall be treated as a TLLI change.<br>- If oldTLLI ≠ all 1's and newTLLI = all 1's then oldTLLI shall be unassigned. It shall be treated as a TLLI unassignment, and this ASP shall be the last ASP sent to the SS in order to disable LLC to not process requests from layer 3 any longer.<br>2. Kc and Ciphering Algorithm are associated with newTLLI (and with oldTLLI if assigned):<br>- If Ciphering Algorithm indicates no ciphering, then the ciphering function shall be disabled.<br>- Otherwise, the ciphering function shall be enabled. If a Ciphering Algorithm was already associated with newTLLI or oldTLLI, then the new Kc shall replace the previous Kc, and Ciphering Algorithm shall replace the previous algorithm selection. All I frames, and UI frames with the E bit set to 1, shall use the new Kc and algorithm for ciphering. All unacknowledged I frames shall be ciphered using the new Kc and algorithm before retransmission. As an implementation option, the previous Kc and algorithm may be used to decipher received frames. | |

| ASP Name | G_CLLC_Assign_CNF | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | the ASP is used to get confirmation of G_CLLC_Assign_REQ | | |
| Parameter Name | | Parameter Type | Comments |
| ILMEId | | LLMEId | Logical Layer Management Entity Id |
| Detailed Comments | | | |

| ASP Name | G_CLLC_ReassignLLE_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to reassign RLC/MAC entity to the specified LLME Identity. | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| lLMEId | LLMEId | Logical Layer Management Entity Id |
| rLC/MAC_MappingInfo | CellId | This parameter indicates the RLC/MAC emulation module in the cell, not the cell itself |
| tLLI | TLLI | |
| Detailed Comments | This ASP allows simulation of Intra-SGSN operations in tests. | |

| ASP Name | G_CLLC_ReassignLLE_CNF | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to confirm the G_CLLC_ReassignLLE_REQ | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| lLMEId | LLMEId | Logical Layer Management Entity Id |
| Detailed Comments | | |

7.3.4.3.2.5 ASPs for configuration and control of GERAN SNDCP

| ASP Name | G_CSNDCP_Activate_REQ | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to activate the SNDC entity | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| sNDCPId | SNDCPId | The SNDCP entity identifier of the cell |
| lLMEId | LLMEId | Logical link management entity Id |
| nSAPI | NSAPI | The Network Service Access Point Identifier |
| sAPI | SAPI | LLC SAPI |
| PCI_Compression | INTEGER | 0 - RFC 1144 [46] compress;<br>1 - RFC 2507 [30] compression;<br>32 - no compression |
| dataCompression | INTEGER | 0 - ITU-T Recommendation V.42bis [47] compression;<br>1 - ITU-T Recommendation V.44 [48] compression;<br>32 - no compression |
| nPDUNumberSync | INTEGER | 0 - Asynchronous<br>1 - Synchronous |
| Detailed Comments | | |

| ASP Name | G_CSNDCP_Activate_CNF | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | The ASP is used to get the confirmation of a G_CSNDCP_Activate_REQ | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| sNDCPId | SNDCPId | SNDCPentity identifier |
| nSAPI | NSAPI | The Network Service Access Point Identifier |
| Detailed Comments | | |

| ASP Name | G_CSNDCP_SNSM_Activate_RES | |
|---|---|---|
| PCO Type | G_CSAP | |
| Comments | This ASP is used to inform that the NSAPI is in use and the acknowledge mode peer to peer LLC operation for the requested SAPI is established. | |
| **Parameter Name** | **Parameter Type** | **Comments** |
| sNDCPId | SNDCPId | The SNDCP entity identifier |
| tLLI | TLLI | Temporary Logical Link Entity |
| nSAPI | NSAPI | The Network Service Access Point Identifier |
| Detailed Comments | | |

| ASP Name | G_CSNDCP_SNSM_Deactivate_IND | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | This ASP is used to inform the SNDCP emulator that an NSAPI has been deactivated and cannot be used anymore. Upon reception of this ASP the SNDCP emulator shall release acknowledged peer-to-peer LLC operation for the associated SAPI. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| sNDCPId | | SNDCPId | The SNDCP entity identifier |
| tLLI | | TLLI | Temporary Logical Link Entity |
| nSAPI | | NSAPI | The Network Service Access Point Identifier |
| lLCReleaseIndicator | | INTEGER | Deactivation cause |
| **Detailed Comments** | | | |

| ASP Name | G_CSNDCP_SNSM_Deactivate_RES | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | This ASP indicates that the NSAPI is no longer in use and the acknowledged peer to peer LLC operation for the requested SAPI has been released. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| sNDCPId | | SNDCPId | The SNDCP entity identifier |
| tLLI | | TLLI | Temporary Logical Link Entity |
| nSAPI | | NSAPI | The Network Service Access Point Identifier |
| **Detailed Comments** | | | |

| ASP Name | G_CSNDCP_SNSM_Status_REQ | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | This ASP informs that the SNDCP cannot continue its operation due to errors in the lower layers of the protocol stack. | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| sNDCPId | | SNDCPId | The SNDCP entity identifier |
| tLLI | | TLLI | Temporary Logical Link Entity |
| sAPI | | SAPI | The Service Access Point Identifier |
| cause | | INTEGER | Error cause |
| **Detailed Comments** | | | |

| ASP Name | G_CSNDCP_SNSM_Modify_IND | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | This ASP informs the SNDCP emulator to trigger the change of QoS profile for an NSAPI and indication of the SAPI to be used | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| sNDCPId | | SNDCPId | The SNDCP entity identifier |
| tLLI | | TLLI | Temporary Logical Link Entity |
| nSAPI | | NSAPI | The Network Service Access Point Identifier |
| qos | | OCTETSTRING[4] | Quality of Service, defined 3GPP TS 04.08 or 3GPP TS 44.008 [49] clause 10.5.6.5 |
| sAPI | | SAPI | |
| send_NPDU_Number | | INTEGER | |
| received_NPDU_Number | | INTEGER | |
| **Detailed Comments** | | | |

| ASP Name | G_CSNDCP_SNSM_Modify_RES | | |
|---|---|---|---|
| PCO Type | G_CSAP | | |
| Comments | This ASP indicates that the NSAPI and QoS profile are now in used and the acknowledged peer to peer LLC operations for the appropriate SAPIs are established and/or released | | |
| **Parameter Name** | | **Parameter Type** | **Comments** |
| sNDCPId | | SNDCPId | The SNDCP entity identifier |
| tLLI | | TLLI | Temporary Logical Link Entity |
| nSAPI | | NSAPI | The Network Service Access Point Identifier |
| **Detailed Comments** | | | |

## 7.3.5 A-GPS Upper tester, PCO and ASP definitions

### 7.3.5.1 Upper tester

In order to perform A-GPS test, an Upper Tester is defined to have two basic functional unites:

- Satellite simulator generating and broadcasting satellite signals,
- Assistance data source storing the data simulating a number of pre-defined GPS test scenarios.

Under the TTCN command, the upper tester loads a pre-defined or re-loads another pre-defined GPS test scenario to the satellite simulator. The generated satellite signals shall simulate a sufficient number satellites. The signal shall be sufficiently strong, in order to enable the UE to do the positioning measurement.

The SS also sends the GPS assistance data to the UE through RRC signalling to facilitate the UE acquiring and tracking satellites. Such assistance data shall be consistent to within +/- 2 seconds with the satellite signals generated.

The assistance data source shall provide the assistance data consistent to + 1 /- 0 second with the GPS test scenario currently running in the satellite simulator (i.e. the data shall be up to 1 second in advance of the scenario); this allows for a further 2 seconds of latency in the SS.

### 7.3.5.2 SV PCO

The upper tester has an ASP interface through a PCO in type of SatS PCO defined in the table.

| PCO Type Declarations | |
|---|---|
| **PCO Type** | SatS |
| **Role** | UT |
| **Comments** | PCO type used for the Satellite Simulator and the assistance data source in the upper tester |

| PCO Declarations | |
|---|---|
| **PCO Name** | SV |
| **PCO Type** | SatS |
| **Role** | UT |
| **Comments** | Carry control, configuration and GPS assistance data to/from satellite simulator and assistance data source in the upper tester |

### 7.3.5.3 A-GPS Primitives

The primitives at SV PCO are used to

- load a pre-defined GPS test scenario into the satellite simulator;
- start or stop generating and broadcasting satellite signals from the satellite simulator;
- retrieve the GPS assistance data from assistance data source, the table below is the summary of these primitives.

| Primitive | Parameters | Use |
|---|---|---|
| Satellite_StartStop_REQ | Mode: start or stop | Start or stop generating satellite signals in the satellite simulator. |
| Satellite_StartStop_CNF | Null | Confirm the Satellite_StartStop_Req. |
| Load_GPS_Scenario_ REQ | GPS test scenario number | Requests to load a pre-defined GPS test scenario into the satellite simulator |
| Load_GPS_Scenario_ CNF | Null | Confirm the load_GPS_Scenario_Req |
| Retri_GPS_AssistanceData_REQ | Indication of which assistance data elements to be retrieved | Request the assistance data source to provide the next (in time) valid GPS assistance data elements. |
| Retri_GPS_AssistanceData_CNF | GPS assistance data elements | Return the GPS assistance data retrieved |

#### 7.3.5.3.1 Control ASP Type Definition

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | Satellite_StartStop_CNF |
| **PCO Type** | SatS |
| **Comment** | To confirm successful of Satellite_StartStop_REQ |
| **Type Definition** | |
| SEQUENCE { | |
| confirm NULL | |
| } | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | Satellite_StartStop_REQ |
| **PCO Type** | SatS |
| **Comment** | To start or stop generating satellite signals in the satellite simulator<br>"start" starts broadcasting satellite signals;<br>"stop" stops broadcasting satellite signals<br>If used for start (0), this ASP shall be called 2 s. after the ASP Load_GPS_Scenario_REQ for loading or reloading a pre-defined GPS test scenario. |
| **Type Definition** | |
| SEQUENCE { | |
| satelliteSignals ENUMERATED {startSatSignal (0), stopSatSignal (1)} | |
| } | |

#### 7.3.5.3.2 Data ASP Type Definition

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | Load_GPS_Scenario_CNF |
| **PCO Type** | SatS |
| **Comment** | To confirm the Load_GPS_Scenario_REQ |
| **Type Definition** | |
| SEQUENCE { | |
| dummy NULL | |
| } | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | Load_GPS_Scenario_REQ |
| **PCO Type** | SatS |
| **Comment** | To request the upper tester to load the required pre-defined GPS test scenario. |
| **Type Definition** | |
| SEQUENCE { | |
| gps_Scenario INTEGER(0..31)} | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | Retri_GPS_AssistanceData_CNF |
| **PCO Type** | SatS |
| **Comment** | To return the next valid GPS assistance data elements as requested in the Retri_GPS_AssistanceData_REQ.<br>The returned GPS assistance data (all or part) will be used as assistance data sent to UE in RRC messages for A-GPS positioning.<br>The returned Almanac information is split into two fields:<br>- Almanac for satellites 1 to 12:in "assistanceData" together with other information;<br>- Almanac for satellites 13 to 24: in "almanacSat13To24" |
| **Type Definition** | |
| SEQUENCE { | |
| assistanceData UE_Positioning_GPS_AssistanceData, | |
| almanacSat13To24 AlmanacSatInfoList OPTIONAL | |
| } | |

| ASN.1 ASP Type Definition | |
|---|---|
| **Type Name** | Retri_GPS_AssistanceData_REQ |
| **PCO Type** | SatS |
| **Comment** | To request the GPS assistance data source to provide the next valid GPS assistance data elements, consistent with the running GPS test scenario.<br>The parameter navModelAddDataRequest in the assistanceDataReq shall be omitted.<br>Another three parameters, utcModelRequest, dgpsCorrectionsRequest and realTimeIntegrityRequest in the assistanceDataReq are not applicable and shall be set to "FALSE". |
| **Type Definition** | |
| SEQUENCE {<br>assistanceDataReq UE_Positioning_GPS_AdditionalAssistanceDataRequest<br>} | |

# 8 Design Considerations

## 8.1 Channel mapping

Figure 22 shows the channel type mapping that is used for the configuration of the SS.

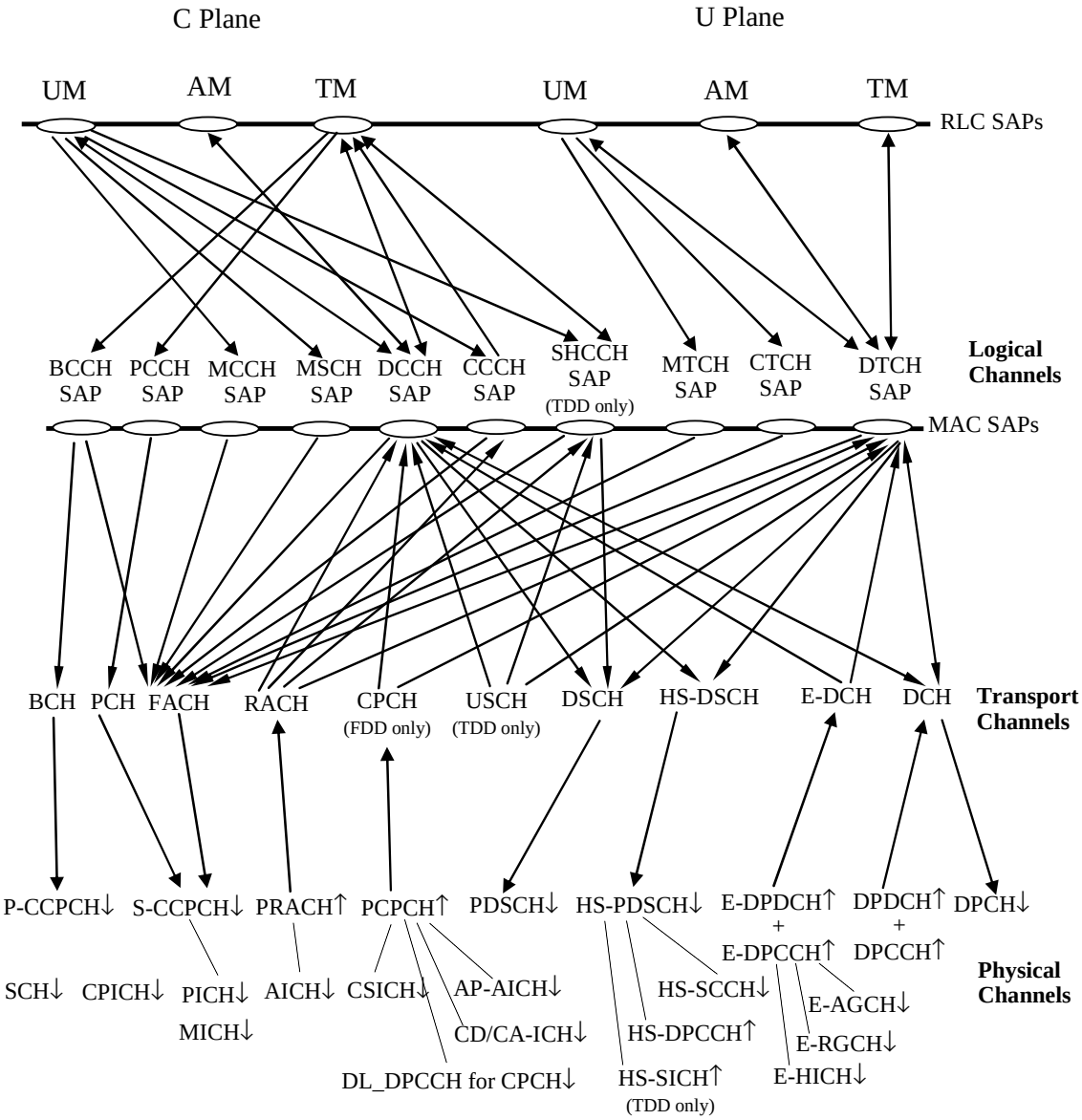



**Figure 22: Channel mapping in SS-**

## 8.2 Channel and RB identity

The TTCN addresses the TTCN tester by using a channel identifier:

- Either Physical channel identifier (PhyCh id); or
- Transport channel identifier (TrCh id); or
- Radio bearer identifier (RB id).

The selected channel identifier identifies uniquely:

- a channel within a cell;
- a total path of the address in the lower layers concerned.

Having taken out the cell id and PCO id (AM, UM and TM), a complete address, as RoutingInfo in the RRC ASP definition, should have at least five fields, CN domain id, RB id, LogCH id, TrCH id and PhyCH id. For simplified application of CHOICE of the routing information, a TTCN writer must carefully follow a number of rules assigning the channel identifiers.

General requirements:

- a structured scheme of planning all channel identifiers assigned;
- the scheme shall meet the requirements for all test cases in 3GPP TS 34.123-1 [1] including TDD channels;
- the scheme can apply to all radio bearer configurations in 3GPP TS 34.108 [3], clause 6.10;
- a clear multiplex mapping between a PhyCH id to TrCH ids and a TrCH id to LogCH ids, RB ids is needed.

Requirements on identification of RB in a test case:

- unique identification of the individual SRBs;
- unique identification of the individual sub-flows of a RABs in CS and PS domain.;
- an assigned RB id can represent UL and DL.

Requirements on identification of Logical Channel in a test case:

- it is an instance number of the individual logical channel; and
- uniquely identifies among all the Logical Channel mapped onto a Transport Channel.

Requirements on identification of Transport Channel in a test case:

- unique identification of the individual Transport Channel;
- assign different identities for UL and DL of a same Transport Channel type;
- the order of the Transport Channel id assigned in a cell shall follow the TFCS definitions in the 3GPP TS 34.108 [3], clause 6.10.

EXAMPLE: Transport Channel ids are assigned in the ascending order for (RABsubflow#1, RABsubflow#2, RABsubflow#3, 64kRAB, DCCH).

Requirements on identification of Physical Channel in a test case:

- unique identification of the individual Physical Channel;
- assign different identities for UL and DL of a same Physical Channel type;
- each S-CCPCH or PRACH has a unique identifier;
- for 2 Mbps PS data radio link (in case of demux of a Transport Channel), three DPCH are needed for high-speed data. A single Physical Channel id is assigned to a bundle of the three physical channels.

Table 33 shows which type of channel identity is chosen for the individual primitives. In table 33, the ASN.1 primitives use a CHOICE type for channel identity, while TTCN primitives use an explicit channel identity.

**Table 33: Primitives and the associated channel identity type**

| Primitive name | Channel Identity | Releases |
|---|---|---|
| **ASN.1 Primitives** | | |
| CPHY_AICH_AckModeSet_CNF | Physical Channel Identity | |
| CPHY_AICH_AckModeSet_REQ | Physical Channel Identity | |
| CPHY_Cell_Config_CNF | No Routing Info Field Present | |
| CPHY_Cell_Config_REQ | No Routing Info Field Present | |
| CPHY_Cell_Ini_CNF | No Routing Info Field Present | |
| CPHY_Cell_Ini_REQ | No Routing Info Field Present | |
| CPHY_Cell_TxPower_Modify_CNF | No Routing Info Field Present | |
| CPHY_Cell_TxPower_Modify_REQ | No Routing Info Field Present | |
| CPHY_Cell_Release_CNF | No Routing Info Field Present | |
| CPHY_Cell_Release_REQ | No Routing Info Field Present | |
| CPHY_DetectTFCI_CNF | Physical Channel Identity | |
| CPHY_DetectTFCI_IND | Physical Channel Identity | |
| CPHY_DetectTFCI_REQ | Physical Channel Identity | |
| CPHY_Frame_Number_CNF | Physical Channel Identity | |
| CPHY_Frame_Number_REQ | Physical Channel Identity | |
| CPHY_MBMS_MICH_CFN_CNF | Physical Channel Identity | Rel-6 or later |
| CPHY_MBMS_MICH_CFN_REQ | Physical Channel Identity | Rel-6 or later |
| CPHY_MBMS_MICH_q_CNF | Physical Channel Identity | Rel-6 or later |
| CPHY_MBMS_MICH_q_REQ | Physical Channel Identity | Rel-6 or later |
| CPHY_MBMS_NI_CNF | Physical Channel Identity | Rel-6 or later |
| CPHY_MBMS_NI_REQ | Physical Channel Identity | Rel-6 or later |
| CPHY_Out_of_Sync_IND | Physical Channel Identity | |
| CPHY_PRACH_Measurement_CNF | Physical Channel Identity | |
| CPHY_PRACH_Measurement_REQ | Physical Channel Identity | |
| CPHY_PRACH_Measurement_Report_IND | Physical Channel Identity | |
| CPHY_RL_Modify_CNF | Physical Channel Identity | |
| CPHY_RL_Modify_REQ | Physical Channel Identity | |
| CPHY_RL_Release_CNF | Physical Channel Identity | |
| CPHY_RL_Release_REQ | Physical Channel Identity | |
| CPHY_RL_Setup_CNF | Physical Channel Identity | |
| CPHY_RL_Setup_REQ | Physical Channel Identity | |
| CPHY_Sync_IND | Physical Channel Identity | |
| CPHY_TrCH_Config_CNF | Physical Channel Identity | |
| CPHY_TrCH_Config_REQ | Physical Channel Identity | |
| CPHY_TrCH_Release_CNF | Physical Channel Identity | |
| CPHY_TrCH_Release_REQ | Physical Channel Identity | |
| CPHY_HS_DPCCH_AckNack_CNF | No Routing Info Field Present | Rel-5 or later |
| CPHY_HS_DPCCH_AckNack_REQ | No Routing Info Field Present | Rel-5 or later |
| CPHY_HS_DPCCH_AckNack_IND | No Routing Info Field Present | Rel-5 or later |
| CPHY_HS_DPCCH_CQI_CNF | No Routing Info Field Present | Rel-5 or later |
| CPHY_HS_DPCCH_CQI_REQ | No Routing Info Field Present | Rel-5 or later |
| CPHY_HS_DPCCH_CQI_IND | No Routing Info Field Present | Rel-5 or later |
| CPHY_HS_DSCH_CRC_Mode_CNF | Physical Channel Identity | Rel-5 or later |
| CPHY_HS_DSCH_CRC_Mode_REQ | Physical Channel Identity | Rel-5 or later |
| CPHY_HS_SICH_AckNack_CNF | No Routing Info Field Present | Rel-5 or later (LCR TDD) |
| CPHY_HS_SICH_AckNack_REQ | No Routing Info Field Present | Rel-5 or later (LCR TDD) |
| CPHY_HS_SICH_AckNack_IND | No Routing Info Field Present | Rel-5 or later (LCR TDD) |
| CPHY_HS_SICH_CQI_CNF | No Routing Info Field Present | Rel-5 or later (LCR TDD) |
| CPHY_HS_SICH_CQI_REQ | No Routing Info Field Present | Rel-5 or later (LCR TDD) |
| CPHY_HS_SICH_CQI_IND | No Routing Info Field Present | Rel-5 or later (LCR TDD) |
| CPHY_UL_PowerModify_CNF | Physical Channel Identity | |
| CPHY_UL_PowerModify_REQ | Physical Channel Identity | |
| CMAC_BMC_Scheduling_CNF | Physical Channel Identity | |
| CMAC_BMC_Scheduling_REQ | Physical Channel Identity | |
| CMAC_Ciphering_Activate_CNF | Physical Channel Identity of DPCH | |
| CMAC_Ciphering_Activate_REQ | Physical Channel Identity of DPCH | |

| | | |
|---|---|---|
| CMAC_Config_CNF | Physical Channel Identity | |
| CMAC_Config_REQ | Physical Channel Identity | |
| CMAC_PAGING_Config_CNF | Physical Channel Identity | |
| CMAC_PAGING_Config_REQ | Physical Channel Identity | |
| CMAC_Restriction_CNF | Physical Channel Identity | |
| CMAC_Restriction_REQ | Physical Channel Identity | |
| CMAC_SecurityMode_Config_CNF | No Routing Info Field Present (applies to all RB Ids) | |
| CMAC_SecurityMode_Config_REQ | No Routing Info Field Present (applies to all RB Ids) | |
| CMAC_SequenceNumber_CNF | Physical Channel Identity | |
| CMAC_SequenceNumber_REQ | Physical Channel Identity | |
| CMAC_SYSINFO_Config_CNF | RB Identity | |
| CMAC_SYSINFO_Config_REQ | RB Identity | |
| CMAC_MAChs_Reset_CNF | No Routing Info Field Present | Rel-5 or later |
| CMAC_MAChs_Reset_REQ | No Routing Info Field Present | Rel-5 or later |
| CMAC_MAChs_HARQprocAsign_CNF | No Routing Info Field Present | Rel-5 or later |
| CMAC_MAChs_HARQprocAsign_REQ | No Routing Info Field Present | Rel-5 or later |
| CMAC_MAChs_TFRCconfigre_CNF | No Routing Info Field Present | Rel-5 or later |
| CMAC_MAChs_TFRCconfigre_REQ | No Routing Info Field Present | Rel-5 or later |
| CMAC_MACe_Config_CNF | Node B Identity | Rel-6 or later |
| CMAC_MACe_Config_REQ | Node B Identity | Rel-6 or later |
| CMAC_MACe_NodeB_CellMapping_CNF | Node B Identity | Rel-6 or later |
| CMAC_MACe_NodeB_CellMapping_REQ | Node B Identity | Rel-6 or later |
| CMAC_MACes_Config_CNF | No Routing Info Field Present | Rel-6 or later |
| CMAC_MACes_Config_REQ | No Routing Info Field Present | Rel-6 or later |
| CMAC_MACe_AG_CNF | Node B Identity | Rel-6 or later |
| CMAC_MACe_AG_REQ | Node B Identity | Rel-6 or later |
| CMAC_MACe_AckNack_CNF | Node B Identity | Rel-6 or later |
| CMAC_MACe_AckNack_REQ | Node B Identity | Rel-6 or later |
| CMAC_MACe_RG_CNF | Node B Identity | Rel-6 or later |
| CMAC_MACe_RG_REQ | Node B Identity | Rel-6 or later |
| CMAC_MACe_E_TFC_Restriction_CNF | Node B Identity | Rel-6 or later |
| CMAC_MACe_E_TFC_Restriction_REQ | Node B Identity | Rel-6 or later |
| CMAC_MACes_SI_IND | No Routing Info Field Present | Rel-6 or later |
| CMAC_MACes_SI_Config_CNF | No Routing Info Field Present | Rel-6 or later |
| CMAC_MBMS_ConfigInfo_CNF | Physical Channel Identity | Rel-6 or later |
| CMAC_MBMS_ConfigInfo_REQ | Physical Channel Identity | Rel-6 or later |
| CRLC_Bind_TestData_TTI_CNF | No Routing Info Field Present | |
| CRLC_Bind_TestData_TTI_REQ | No Routing Info Field Present | |
| CRLC_Ciphering_Activate_CNF | No Routing Info Field Present (applies to all RB Ids) | |
| CRLC_Ciphering_Activate_REQ | No Routing Info Field Present (applies to all RB Ids) | |
| CRLC_MAC_I_Mode_CNF | RB Identity | |
| CRLC_MAC_I_Mode_REQ | RB Identity | |
| CRLC_Config_CNF | RB Identity | |
| CRLC_Config_REQ | RB Identity | |
| CRLC_Integrity_Activate_CNF | No Routing Info Field Present (applies to all RB Ids) | |
| CRLC_Integrity_Activate_REQ | No Routing Info Field Present (applies to all RB Ids) | |
| CRLC_Integrity_Failure_IND | RB Identity | |
| CRLC_NotAckNxtRxSDU_CNF | RB Identity | |
| CRLC_NotAckNxtRxSDU_REQ | RB Identity | |
| CRLC_ProhibitRLC_Ack_CNF | RB Identity | |
| CRLC_ProhibitRLC_Ack_REQ | RB Identity | |
| CRLC_Resume_CNF | RB Identity (applies to all suspended RB Ids) | |
| CRLC_Resume_REQ | RB Identity (applies to all suspended RB Ids) | |
| CRLC_RRC_MessageSN_CNF | RB Identity | |
| CRLC_RRC_MessageSN_REQ | RB Identity | |
| CRLC_SecurityMode_Config_CNF | No Routing Info Field Present (applies to all RB Ids) | |
| CRLC_SecurityMode_Config_REQ | No Routing Info Field Present (applies to all RB Ids) | |
| CRLC_SendContinuousData_CNF | No Routing Info Field Present | |
| CRLC_SendContinuousData_REQ | No Routing Info Field Present | |
| CRLC_SendTestDataInOneMAC_Hs_PDU_CNF | RB Identity | Rel-5 or later |
| CRLC_SendTestDataInOneMAC_Hs_PDU_REQ | RB Identity | Rel-5 or later |
| CRLC_SequenceNumber_CNF | RB Identity | |
| CRLC_SequenceNumber_REQ | RB Identity | |

| | | |
|---|---|---|
| CRLC_SetRRC_MessageSN_CNF | RB Identity | |
| CRLC_SetRRC_MessageSN_REQ | RB Identity | |
| CRLC_Set_Count_I_CNF | RB Identity | |
| CRLC_Set_Count_I_REQ | RB Identity | |
| CRLC_Status_Ind | RB Identity | |
| CRLC_Suspend_CNF | RB Identity | |
| CRLC_Suspend_REQ | RB Identity | |
| CRLC_UM_MTCH_Scheduling_REQ | RB Identity | Rel-6 or later |
| CBMC_Config_CNF | RB Identity | |
| CBMC_Config_REQ | RB Identity | |
| RLC_AM_DATA_CNF | RB Identity | |
| RLC_AM_DATA_IND | RB Identity | |
| RLC_AM_DATA_REQ | RB Identity | |
| RLC_TR_DATA_IND | RB Identity | |
| RLC_TR_DATA_REQ | RB Identity | |
| RLC_UM_ACCESSinfo_REQ | RB Identity | Rel-6 or later |
| RLC_UM_CriticalMCCHMsg_REQ | RB Identity | Rel-6 or later |
| RLC_UM_DATA_IND | RB Identity | |
| RLC_UM_DATA_REQ | RB Identity | |
| RLC_UM_MSCH_Msg_REQ | RB Identity | Rel-6 or later |
| RLC_TR_MACesDATA_IND | RB Identity | Rel-6 or later |
| **TTCN Primitives** | | |
| RLC_AM_TestDataInd | RB Identity | |
| RLC_AM_TestDataReq | RB Identity | |
| RLC_TR_TestDataInd | RB Identity | |
| RLC_TR_TestDataReq | RB Identity | |
| RLC_UM_TestDataInd | RB Identity | |
| RLC_UM_TestDataReq | RB Identity | |
| BMC_DataReq | RB Identity | |

## 8.2.1 Physical channels

**Table 34: Physical channel identities**

| Type | Min. No. | Current Config. | Identities (value assigned) | Direction | Comment |
|---|---|---|---|---|---|
| P-CCPCH | 1 | 1 | tsc_P_CCPCH (4) | downlink | Primary Common Control Physical Channel. For Broadcasting System Information messages, using the Primary Scrambling Code for the Cell. |
| P-CPICH | 1 | 1 | tsc_P_CPICH (0) | downlink | Primary Common Pilot Channel using the Primary Scrambling Code for the Cell. |
| S-CPICH | 1 | 1 | tsc_S_CPICH (3) | downlink | Secondary Common Pilot Channel, used as the phase reference for some RF tests. |
| P-SCH | 1 | 1 | tsc_P_SCH (1) | downlink | Primary Synchronization Channel |
| S-SCH | 1 | 1 | tsc_S_SCH (2) | downlink | Secondary Synchronization Channel |
| S-CCPCH | 3 | 1 | tsc_S_CCPCH1 (5)<br>tsc_S_CCPCH2 (10)<br>tsc_S_CCPCH3 (13) | downlink | Secondary Common Control Physical Channel. |
| PICH | 1 | 1 | tsc_PICH1 (6)<br>tsc_PICH2 (11) | downlink | To identify whether the UE should access the PCCH for Paging Messages. |
| AICH | 1 | 1 | tsc_AICH1 (7)<br>tsc_AICH2 (12) | downlink | General Acquisition Indicator Channel, can be used for:<br>- Acquisition Indicator Channel, for PRACH<br>- Access Preamble Acquisition Indicator Channel (AP-ICH), for PCPCH<br>- Collision-Detection/Channel-Assignment Indicator Channel (CD/CA-ICH), for PCPCH |

| Type | Min. No. | Current Config. | Identities (value assigned) | Direction | Comment |
|---|---|---|---|---|---|
| DPCH | 3 | 1 | tsc_DL_DPCH1 (26)<br>tsc_DL_DPCH2 (27) | downlink | Downlink Physical Data Channel. Layer 1 signalling is transmitted only on the first DPCH.<br>This number is for the First Cell. Additional Cells may define a lower number which should be at least 1. |
| DPDCH | 1 | 1 | tsc_UL_DPCH1 (20)<br>tsc_UL_DPCH2 (21) | uplink | Uplink Dedicated Physical Channel. A single DPCCH associated with all the DPDCHs used for Layer 1 signalling. |
| PRACH | 2 | 1 | tsc_PRACH1 (8)<br>tsc_PRACH2 (9) | uplink | Physical Random Access Channel. |
| PCPCH | 1 | FFS | | uplink | Physical Common Packet Channel. |
| CSICH | 1 | FFS | | downlink | CPCH Status Indicator Channel |
| HS-PDSCH | 1 | | tsc_HSPDSCH(18) | downlink | Rel-5 or later<br>High speed physical downlink shared channel |
| E-AGCH | 1 | | tsc_E_AGCH (14) | downlink | Rel-6 or later<br>E-DCH Absolute Grant Channel |
| E-HICH | 1 | | tsc_E_HICH (15) | downlink | Rel-6 or later<br>E-DCH HARQ Acknowledgement Indicator Channel |
| E-RGCH | 1 | | tsc_E_RGCH (16) | downlink | Rel-6 or later<br>E-DCH Relative Grant Channel |
| E-DPDCH | 1 | | tsc_E_DPCH (22) | uplink | Rel-6 or later<br>Enhanced Dedicated Physical Channel |
| F-DPCH | 1 | | tsc_F_DPCH (28) | downlink | Rel-6 or later<br>Fractional Dedicated Physical Channel |
| MICH | 1 | | tsc_MICH (29) | downlink | Rel-6 or later<br>MBMS notification Indicator Channel |

The Physical Channel values 20 to 25 are assigned to uplink DPCHs and the values 26 to 31 are assigned to downlink DPCHs/ FDPCHs.

## 8.2.2 Transport channels

**Table 35: Transport channel identities**

| Type | Min. No. | Current Config. | Identities (value assigned) | Direction | Comments |
|---|---|---|---|---|---|
| BCH | 1 | 1 | tsc_BCH1 (11) | downlink | |
| FACH | 1 | 1 | tsc_FACH1 (13)<br>tsc_FACH2 (14)<br>tsc_FACH3 (16)<br>tsc_FACH4 (17) | downlink | |
| PCH | 1 | 1 | tsc_PCH1 (12)<br>tsc_PCH2 (30) | downlink | |
| DCH | n | 4 | tsc_UL_DCH1 (1)<br>tsc_UL_DCH2 (2)<br>tsc_UL_DCH3 (3)<br>tsc_UL_DCH4 (4)<br>tsc_UL_DCH5 (5)<br>tsc_UL_DCH6 (21) | uplink | tsc_UL_DCH1 for RAB1-1 or RAB1,<br>tsc_UL_DCH2 for RAB1-2 or RAB2,<br>tsc_UL_DCH3 for RAB1-3,<br>tsc_UL_DCH4 RAB2,<br>tsc_UL_DCH5 for SRB/RAB3,<br>tsc_UL_DCH6 for SRB. |
| DCH | n | 4 | tsc_DL_DCH1 (6)<br>tsc_DL_DCH2 (7)<br>tsc_DL_DCH3 (8)<br>tsc_DL_DCH4 (9)<br>tsc_DL_DCH5 (10)<br>tsc_DL_DCH6 (22) | downlink | tsc_DL_DCH1 for RAB1-1 or RAB1,<br>tsc_DL_DCH2 for RAB1-2 or RAB2,<br>tsc_DL_DCH3 for RAB1-3,<br>tsc_DL_DCH4 for RAB2,<br>tsc_DL_DCH5 for SRB,<br>tsc_DL_DCH6 for SRB. |
| USCH | 1 | N/A | tsc_USCH1(20) | uplink | TDD only |
| DSCH | 1 | N/A | tsc_DSCH (19) | downlink | |
| RACH | 2 | 1 | tsc_RACH1 (15)<br>tsc_RACH2 (31) | uplink | |
| CPCH | 1 | N/A | tsc_CPCH1(32) | uplink | |
| FAUSCH | N/A | N/A | tsc_FAUSCH1(18) | uplink | Not in Release 99 |
| HSDSCH | 1 | 1 | N/A | downlink | Rel-5 or later |
| E-DCH | 1 | 1 | N/A | uplink | Rel-6 or later |

The TrCH values 20 to 29 are assigned to the TDD TrCH.

## 8.2.3 Logical Channels

Table 36 shows the logical channels identities.

**Table 36: Logical channel identities**

| Type | Min. No. | Current Config. | Identities (value assigned) | Direction | Comments |
|---|---|---|---|---|---|
| BCCH_BCH | 1 | 1 | tsc_BCCH1 (1) | downlink | |
| BCCH_FACH | 1 | 1 | tsc_BCCH6 (6) | downlink | |
| CCCH | 1 | 1 | tsc_DL_CCCH5 (5) | downlink | |
| CCCH | 1 | 2 | tsc_UL_CCCH5 (5)<br>tsc_UL_CCCH6 (6) | uplink | |
| DCCH | 4 | 4 | tsc_DL_DCCH1 (1)<br>tsc_DL_DCCH2 (2)<br>tsc_DL_DCCH3 (3)<br>tsc_DL_DCCH4 (4)<br>tsc_DL_DCCH5 (5) | downlink | tsc_DL_DCCH1 for SRB1,<br>tsc_DL_DCCH2 for SRB2,<br>tsc_DL_DCCH3 for SRB3,<br>tsc_DL_DCCH4 for SRB4,<br>tsc_DL_DCCH5 for SRB5 |
| DCCH | 4 | 4 | tsc_UL_DCCH1 (1)<br>tsc_UL_DCCH2 (2)<br>tsc_UL_DCCH3 (3)<br>tsc_UL_DCCH4 (4) | uplink | tsc_UL_DCCH1 for SRB1,<br>tsc_UL_DCCH2 for SRB2,<br>tsc_UL_DCCH3 for SRB3,<br>tsc_UL_DCCH4 for SRB4 |
| PCCH | 1 | 2 | tsc_PCCH1 (1)<br>tsc_PCCH2 (2) | downlink | |
| DTCH | n | 4 | tsc_UL_DTCH1 (7)<br>tsc_UL_DTCH2 (8)<br>tsc_UL_DTCH3 (9)<br>tsc_UL_DTCH4 (10)<br>tsc_UL_DTCH5 (13) | uplink | tsc_UL_DTCH1 for RAB1-1 or RAB 1,<br>tsc_UL_DTCH2 for RAB1-2 or RAB 2,<br>tsc_UL_DTCH3 for RAB1-3'<br>tsc_UL_DTCH4 for RAB2,<br>tsc_UL_DTCH5 for RAB3 |
| DTCH | n | 4 | tsc_DL_DTCH1 (7)<br>tsc_DL_DTCH2 (8)<br>tsc_DL_DTCH3 (9)<br>tsc_DL_DTCH4 (10) | downlink | tsc_DL_DTCH1for RAB1-1 or RAB 1,<br>tsc_DL_DTCH2 for RAB1-2 or RAB 2,<br>tsc_DL_DTCH3 for RAB-3,<br>tsc_DL_DTCH4 for RAB2 |
| CTCH | 1 | 2 | tsc_CTCH1 (11)<br>tsc_CTCH2 (12) | downlink | |
| MTCH | 1 | 4 | tsc_MTCH1(1)<br>tsc_MTCH2(2)<br>tsc_MTCH3(3)<br>tsc_MTCH4(4) | downlink | MBMS_LogicalChIdentity |
| MCCH | 1 | 1 | tsc_MCCH1(1) | downlink | One and only one for each cell |
| MSCH | 0 | 1 | tsc_MSCH1(1) | downlink | |

## 8.2.4 Radio bearers

| Identities (value assigned) | Direction | Type | RLC mode | Service domain | Comments |
|---|---|---|---|---|---|
| tsc_RB_BCCH (-1) | downlink | | TM | NA | BCCH-BCH |
| tsc_RB_PCCH (-2) | downlink | | TM | NA | PCCH PCH |
| tsc_RB_BCCH_FACH (-3) | downlink | | TM | NA | BCCH FACH |
| tsc_RB_2ndPCCH (-4) | downlink | | TM | NA | Second PCCH PCH SCPCCH |
| tsc_RB_2ndCCCH (-5) | uplink | | TM | NA | Second CCCH RACH PRACH |
| tsc_RB_UM_7_RLC (-10) | downlink | RAB | TM | CS | For UM RLC tests using 7 bit LIs |
| tsc_RB_UM_7_RLC (-10) | uplink | RAB | TM | CS | For UM RLC tests using 7 bit LIs |
| tsc_RB_UM_15_RLC (-11) | downlink | RAB | TM | CS | For UM RLC tests using 15 bit LIs |
| tsc_RB_UM_15_RLC (-11) | uplink | RAB | TM | CS | For UM RLC tests using 15 bit LIs |
| tsc_RB_AM_7_RLC (-12) | downlink | RAB | TM | CS | For AM RLC tests using 15 bit LIs |
| tsc_RB_AM_7_RLC (-12) | uplink | RAB | TM | CS | For AM RLC tests using 7 bit LIs |
| tsc_RB_AM_15_RLC (-13) | downlink | RAB | TM | CS | For AM RLC tests using 15 bit LIs |
| tsc_RB_AM_15_RLC (-13) | uplink | RAB | TM | CS | For AM RLC tests using 15 bit LIs |
| tsc_RB_DCCH_FACH_MAC (-14) | downlink | SRB3 | TM | CS | For MAC tests using DCCH mapped to FACH |
| tsc_RB_DCCH_FACH_MAC (-14) | uplink | SRB3 | TM | CS | For MAC tests using DCCH mapped to FACH |
| tsc_RB_DCCH_DCH_MAC (-15) | downlink | SRB3 | TM | CS | For MAC tests using DCCH mapped to DCH |
| tsc_RB_DCCH_FACH_MAC (-15) | uplink | SRB3 | TM | CS | For MAC tests using DCCH mapped to DCH |
| tsc_RB3_DCCH_RRC_(-16) | uplink | SRB3 | AM | CS or PS | For RRC test cases to route UL NAS messages |

| Identities (value assigned) | Direction | Type | RLC mode | Service domain | Comments |
|---|---|---|---|---|---|
| tsc_RB_CCCH_FACH_MAC (-18) | downlink | SRB0 | TM | CS or PS | For MAC test using downlink SRB0 on TM |
| tsc_RB_BCCH_FACH_RAB (-19) | downlink | | TM | NA | BCCH FACH |
| tsc_RB_DTCH_E_DCH_MAC(-20) | uplink | RAB | TM | PS | For MAC_es_e tests |
| tsc_RB_DTCH_E_DCH_MAC1(-21) | uplink | RAB | TM | PS | For MAC_es_e tests |
| tsc_RB_DTCH_E_DCH_MAC2(-22) | uplink | RAB | TM | PS | For MAC_es_e tests |
| tsc_RB0 (0) | uplink | SRB0 | TM | CS or PS | The service domain for which the most recent security negotiation took place. CCCH |
| tsc_RB0 (0) | downlink | SRB0 | UM | CS or PS | CCCH |
| tsc_RB1 (1) | uplink | SRB1 | UM | CS or PS | DCCH |
| tsc_RB1 (1) | downlink | SRB1 | UM | CS or PS | DCCH |
| tsc_RB2 (2) | uplink | SRB2 | AM | CS or PS | DCCH |
| tsc_RB2 (2) | downlink | SRB2 | AM | CS or PS | DCCH |
| tsc_RB3 (3) | uplink | SRB3 | AM | CS or PS | DCCH |
| tsc_RB3 (3) | downlink | SRB3 | AM | CS or PS | DCCH |
| tsc_RB4 (4) | uplink | SRB4 | AM | CS or PS | DCCH |
| tsc_RB4 (4) | downlink | SRB4 | AM | CS or PS | DCCH |
| tsc_RB5 (5) | uplink | | TM | | DCCH |
| tsc_RB5 (5) | downlink | | TM | | DCCH |
| tsc_RB_MCCH(8) | downlink | SRB | UM | PS | Rei-6 or later |
| tsc_RB_MSCH(9) | downlink | SRB | UM | PS | Rel-6 or later |
| tsc_RB10 (10) | uplink | RAB#1-1 | TM | CS | or RAB1 |
| tsc_RB10 (10) | downlink | RAB#1-1 | TM | CS | or RAB1 |
| tsc_RB11 (11) | uplink | RAB#1-2 | TM | CS | or RAB2 |
| tsc_RB11 (11) | downlink | RAB#1-2 | TM | CS | or RAB2 |
| tsc_RB12 (12) | uplink | RAB#1-3 | TM | CS | |
| tsc_RB12 (12) | downlink | RAB#1-3 | TM | CS | |
| tsc_RB13 (13) | uplink | RAB#2 | TM | CS | |
| tsc_RB13 (13) | downlink | RAB#2 | TM | CS | |
| tsc_RB_MTCH1(14) | downlink | RAB | UM | PS | Rel-6 or later, media contents |
| tsc_RB_MTCH2(15) | downlink | RAB | UM | PS | Rel-6 or later, media contents |
| tsc_RB_MTCH3(16) | downlink | RAB | UM | PS | Rel-6 or later, media contents |
| tsc_RB17 (17) | uplink | RAB#2 | AM | PS | Rel-5 or later, 2nd AM RAB for HS |
| tsc_RB17 (17) | downlink | RAB#2 | AM | PS | Rel-5 or later, 2nd AM RAB for HS |
| tsc_RB20 (20) | uplink | RAB#1 | AM | PS | |
| tsc_RB20 (20) | downlink | RAB#1 | AM | PS | |
| tsc_RB21 (21) | uplink | RAB#2 | UM | PS | |
| tsc_RB21 (21) | downlink | RAB#2 | UM | PS | |
| tsc_RB22 (22) | uplink | RAB#2 | AM | PS | |
| tsc_RB22 (22) | downlink | RAB#2 | AM | PS | |
| tsc_RB23 (23) | uplink | RAB#2 | AM | PS | 2nd AM RAB for PS |
| tsc_RB23 (23) | downlink | RAB#2 | AM | PS | 2nd AM RAB for PS |
| tsc_RB24 (24) | uplink | RAB#2 | AM | PS | 2nd AM RAB for PS |
| tsc_RB24 (24) | downlink | RAB#2 | AM | PS | 2nd AM RAB for PS |
| tsc_RB25 (25) | uplink | RAB#1 | AM | PS | Rel-5 or later:<br>DTCH on DPCH associated HS-DSCH<br>Rel-6 or later:<br>DTCH on E-DCH |
| tsc_RB25 (25) | downlink | RAB#1 | AM | PS | Rel-5 or later<br>DTCH on HS-DSCH |
| tsc_RB26 (26) | uplink | RAB#1 | UM | PS | Rel-5 or later |
| tsc_RB26 (26) | downlink | RAB#1 | UM | PS | Rel-5 or later |
| tsc_RB27 (27) | uplink | RAB#2 | UM | PS | Rel-5 or later |
| tsc_RB27 (27) | downlink | RAB#2 | UM | PS | Rel-5 or later |
| tsc_RB28 (28) | uplink | RAB#3 | AM | PS | Rel-5 or later |
| tsc_RB28 (28) | downlink | RAB#3 | AM | PS | Rel-5 or later |
| tsc_RB29 (29) | downlink | SRB0 | AM | PS | RB Id for Radio bearer that carries the 2nd CCCH in the DL |
| tsc_RB30 (30) | downlink | | UM | | CTCH FACH |
| tsc_RB31 (31) | downlink | | UM | | Second CTCH FACH |

The RB values 0 to 5 are used for the signalling bearers. The values 10 to 15 are assigned to the CS RAB sub-flows. The values 15 to 29 are assigned to the PS RAB sub-flows. The value 30 is assigned to the CBSMS/BMC service.

**Table 37: RB identities mapping between 34.123-1 & 34.123-3**

| RAB Combinations | 34.123-1 | 34.123-3 |
|---|---|---|
| **Single CS RAB** | RB5 | tsc_RB10 |
| | RB6 | tsc_RB11 |
| | RB7 | tsc_RB12 |
| **Single PS RAB** | RB5 | tsc_RB20 |
| | RB7 | tsc_RB20 |
| | RB8 | tsc_RB20 |
| **CS+PS Multi RABs** | RB5 | tsc_RB10 |
| | RB6 | tsc_RB11, tsc_RB20 |
| | RB7 | tsc_RB12 |
| | RB8 | tsc_RB20 |
| | RB9 | tsc_RB22 |
| **CS+CS Multi RABs** | RB5 | tsc_RB10 |
| | RB6 | tsc_RB11 |
| | RB7 | tsc_RB12 |
| | RB8 | tsc_RB13 |
| **PS+PS Multi RABs** | RB5 | tsc_RB20 |
| | RB6 | tsc_RB22 |
| | RB7 | tsc_RB20 |
| | RB8 | tsc_RB24 |
| **Single PS (HSDPA) RAB** | RB5 | tsc_RB25 |
| **PS+PS Multi (HSDPA) RAB** | RB5 | tsc_RB26 |
| | RB6 | tsc_RB27 |
| | RB7 | tsc_RB25 |
| | RB8 | tsc_RB28 |
| | RB9 | tsc_RB17 |
| Single PS (HSUPA) RAB | RB5 | tsc_RB25 |
| CS + PS Multi (HSUPA) RAB | RB5 | tsc_RB10 |
| | RB6 | tsc_RB11 |
| | RB7 | tsc_RB12 |
| | RB8 | tsc_RB25 |

## 8.2.5 Scrambling and channelization codes

Table 38 shows the primary/secondary scrambling codes and the channelization codes for downlink channels.

**Table 38: Primary/secondary scrambling codes and channelization codes for downlink channels**

| Type | Identities (value assigned) | Primary scrambling code | Secondary scrambling code | Channelization Code |
|---|---|---|---|---|
| P-CCPCH | tsc_P_CCPCH (4) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | NA | tsc_P_CCPCH_ChC (256:1) |
| P-CPICH | tsc_P_CPICH (0) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | NA | tsc_P_CPICH_ChC (256:0) |
| S-CCPCH | tsc_S_CCPCH1 (5) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | NA (carrying PCH) | tsc_S_CCPCH1_ChC (64:1 or 4 or 6 depending on the channels configuration) |
| | tsc_S_CCPCH2 (10) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | NA (carrying PCH) | tsc_S_CCPCH2_ChC (64:1) |
| | tsc_S_CCPCH3 (13) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | NA (carrying PCH) | tsc_S_CCPCH3_ChC (64:2) |
| PICH | tsc_PICH1 (6) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | NA | tsc_PICH1_ChC (256:2) |
| | tsc_PICH2 (11) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | NA | tsc_PICH2_ChC (256:12) |
| AICH | tsc_AICH1 (7) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | NA | tsc_AICH1_ChC (256:3) |
| | tsc_AICH2 (12) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | NA | tsc_AICH2_ChC (256:13) |
| DPCH | tsc_DL_DPCH1 (26) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | tsc_DL_DPCH1_2ndScrC (1)<br>This value is related to the primary scrambling code of the cell | Depending on the configuration:<br>tsc_DL_DPCH1_ChC_SRB (128:9)<br>tsc_DL_DPCH1_ChC_Speech (128:0)<br>tsc_DL_DPCH1_ChC_Streaming (32:0)<br>tsc_DL_DPCH1_ChC_64k_CS (32:0)<br>tsc_DL_DPCH1_ChC_64k_PS (32:0) |
| | tsc_DL_DPCH2 (27) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | tsc_DL_DPCH2_2ndScrC (1)<br>This value is related to the primary scrambling code of the cell | Depending on the configuration:<br>tsc_DL_DPCH2_ChC_SRB (256:1)<br>tsc_DL_DPCH2_ChC_Speech (128:1)<br>tsc_DL_DPCH2_ChC_Streaming (32:1)<br>tsc_DL_DPCH2_ChC_64k_CS (32:1)<br>tsc_DL_DPCH2_ChC_64k_PS (32:1) |
| HS-PDSCH | tsc_HSPDSCH(18) | Same as HS-SCCH | Same as HS-SCCH | Rel-5 or later<br>SF= 16<br>Number of codes depending on the configuration, at most 15 codes |
| HS-SCCH | NA | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | - | Rel-5 or later<br>tsc_HS_SCCH_ChC (128:7) |
| E-AGCH | tsc_E_AGCH (14) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | NA | Rel-6 or later |
| E-HICH | tsc_E_HICH (15) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | NA | Rel-6 or later |
| E-RGCH | tsc_E_RGCH (16) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | NA | Rel-6 or later |
| F-DPCH | tsc_F_DPCH (28) | (px_PrimaryScramblingCode + 50 × ( cell No -1) ) mod 512 | NA | Rel-6 or later |

Table 39 shows the scrambling codes, the signatures and the spreading factors for uplink channels.

**Table 39: Scrambling codes, signatures and spreading factor for uplink channels**

| Type | Identities (value assigned) | Scrambling code | Signature | Spreading factor |
|---|---|---|---|---|
| DPDCH | tsc_UL_DPCH1 (20) | (px_UL_ScramblingCode + 1000*( cell No -1)) MOD 16777216 | NA | If only one DPDCH and depending on the configuration<br>tsc_UL_DPDCH_SF_SRB (64)<br>tsc_UL_DPDCH_SF_Speech (64)<br>tsc_UL_DPDCH_SF_Streaming (16)<br>tsc_UL_DPDCH_SF_64k_CS (16)<br>tsc_UL_DPDCH_SF_64k_PS (16)<br>If more than one DPDCH<br>tsc_UL_DPDCH_SF_4 (4:1) |
| | tsc_UL_DPCH2 (21) | (px_UL_ScramblingCode + 1 000 × ( cell No -1)) MOD 16 777 216 | NA | If only one DPDCH and depending on the configuration<br>tsc_UL_DPDCH_SF_SRB (64)<br>tsc_UL_DPDCH_SF_Speech (64)<br>tsc_UL_DPDCH_SF_Streaming (16)<br>tsc_UL_DPDCH_SF_64k_CS (16)<br>tsc_UL_DPDCH_SF_64k_PS (16)<br>If more than one DPDCH<br>tsc_UL_DPDCH_SF_4 (4:1) |
| PRACH | tsc_PRACH1 (8) | tsc_PRACH1_ScrC (0) | tsc_PRACH1_Signatures ('0000000011111111'B) | tsc_PRACH1_SF (64) |
| | tsc_PRACH2 (9) | tsc_PRACH2_ScrC (1) | tsc_PRACH2_Signatures ('0000000011111111'B) | tsc_PRACH2_SF (64) |
| HS-DPCCH | NA | Same as DPDCH | NA | Rel-5 or later<br>Depending on the number of DPDCHs:<br>If only one DPDCH: $C_{256,64}$;<br>If 2 or 4 or 6 DPDCHs: $C_{256,1}$;<br>If 3 or 5 DPDCHs: $C_{256,32}$. |
| E-DPCH | tsc_E_DPCH (22) | Same as DPDCH | NA | Rel-6 or later |

## 8.2.6 MAC-d

MAC-d and the served RLC are cell-independent and are configured by using the cell-id = -1. During reconfigurations, cell changes and state transitions, the relevant counters in the RLC and MAC-d are maintained.

For the active set updating, the DL DCH with the same channel Id in the different cells are implicitly connected to form the DL multiple paths.

### 8.2.6.1 MAC-d configuration examples

The following example shows how the MAC and RLC ASP are used to configure different configurations.

The 1st parameter in ASP represents the cell identity: p_CellId corresponds to the current cell identity, tsc_CellDedicated corresponds to the cell independent (-1). The 2nd parameter represents the channel Id, this parameter is not needed in the CRLC ASP).

**1. Cell_DCH_StandAloneSRB: configuration of DL/UL-DPCH1**

```
CPHY!CPHY_RL_Setup_REQ      ( p_CellId, tsc_DL_DPCH1)              -- Cell concerned
CPHY?CPHY_RL_Setup_CNF      ( p_CellId, tsc_DL_DPCH1)              -- Cell concerned
CPHY!CPHY_TrCH_Config_REQ   ( p_CellId, tsc_DL_DPCH1)              -- Cell concerned
CPHY?CPHY_TrCH_Config_CNF   ( p_CellId, tsc_DL_DPCH1 )             -- Cell concerned
CMAC ! CMAC_Config_REQ      ( tsc_CellDedicated,  tsc_DL_DPCH1)    -- Cell independent (-1)
CMAC ? CMAC_Config_CNF      ( tsc_CellDedicated, tsc_DL_DPCH1)     -- Cell independent (-1)
CPHY!CPHY_RL_Setup_REQ      ( p_CellId, tsc_UL_DPCH1)              -- Cell concerned
CPHY?CPHY_RL_Setup_CNF      ( p_CellId, tsc_UL_DPCH1)              -- Cell concerned
CPHY!CPHY_TrCH_Config_REQ   ( p_CellId, tsc_UL_DPCH1 )             -- Cell concerned
CPHY?CPHY_TrCH_Config_CNF   ( p_CellId, tsc_UL_DPCH1 )             -- Cell concerned
CMAC ! CMAC_Config_REQ      ( tsc_CellDedicated,  tsc_UL_DPCH1)    -- Cell independent (-1)
CMAC ? CMAC_Config_CNF      ( tsc_CellDedicated, tsc_UL_DPCH1 )    -- Cell independent (-1)
CRLC ! CRLC_Config_REQ      ( tsc_CellDedicated )                  -- Cell independent (-1)
CRLC ? CRLC_Config_CNF      ( tsc_CellDedicated )                  -- Cell independent (-1)
```

**2. Cell_FACH: configuration of S-CCPCH1**

```
CPHY!CPHY_RL_Setup_REQ          ( p_CellId, tsc_S_CCPCH1)          -- Cell concerned
CPHY?CPHY_RL_Setup_CNF          ( p_CellId, tsc_S_CCPCH1)          -- Cell concerned t
CPHY!CPHY_TrCH_Config_REQ       ( p_CellId, tsc_S_CCPCH1)          -- Cell concerned
CPHY ? CPHY_TrCH_Config_CNF     ( p_CellId, tsc_S_CCPCH1)          -- Cell concerned
CMAC ! CMAC_Config_REQ          ( p_CellId,  tsc_S_CCPCH1)         -- Cell concerned
CMAC ? CMAC_Config_CNF          ( p_CellId,  tsc_S_CCPCH1 )        -- Cell concerned
CPHY!CPHY_RL_Setup_REQ          ( p_CellId, tsc_PICH1              -- Cell concerned
CPHY?CPHY_RL_Setup_CNF          ( p_CellId, tsc_PICH1)             -- Cell concerned
CRLC ! CRLC_Config_REQ          ( tsc_CellDedicated )              -- Cell independent (-1)
CRLC ? CRLC_Config_CNF          ( tsc_CellDedicated )              -- Cell independent (-1)
```

**3. Cell_FACH: configuration of P-CCPCH**

```
CPHY!CPHY_RL_Setup_REQ          ( p_CellId, tsc_P_CPICH )          -- Cell concerned
CPHY?CPHY_RL_Setup_CNF          ( p_CellId, tsc_P_CPICH )          -- Cell concerned
CPHY!CPHY_RL_Setup_REQ          ( p_CellId, tsc_P_SCH)             -- Cell concerned
CPHY?CPHY_RL_Setup_CNF          ( p_CellId, tsc_P_SCH )            -- Cell concerned
CPHY!CPHY_RL_Setup_REQ          ( p_CellId, tsc_P_SCH)             -- Cell concerned
CPHY?CPHY_RL_Setup_CNF          ( p_CellId, tsc_S_SCH )            -- Cell concerned
CPHY!CPHY_RL_Setup_REQ          ( p_CellId, tsc_P_CCPCH)           -- Cell concerned
CPHY?CPHY_RL_Setup_CNF          ( p_CellId, tsc_P_CCPCH )          -- Cell concerned
CPHY!CPHY_TrCH_Config_REQ       ( p_CellId, tsc_P_CCPCH )          -- Cell concerned
CPHY?CPHY_TrCH_Config_CNF       ( p_CellId, tsc_P_CCPCH )          -- Cell concerned
CMAC!CMAC_Config_REQ            ( p_CellId, tsc_P_CCPCH)           -- Cell concerned
CMAC?CMAC_Config_CNF            ( p_CellId, tsc_P_CCPCH )          -- Cell concerned
CRLC! CRLC_Config_REQ           ( p_CellId)                        -- Cell concerned
CRLC? CRLC_Config_CNF           ( p_CellId)                        -- Cell concerned
```

## 8.2.7 Configuration of compressed mode

### 8.2.7.1 UE Side

Two IE are available for the configuration of the compressed mode for the UE.

a) DPCH_CompressedModeInfo.

b) DPCH_CompressedModeStatusInfo.

Compressed mode initiation at UE side can be divided into 2 steps:

a) Downloading compressed mode parameters.

b) Activating the compressed mode.

Both of them can be done in one shot.

### 8.2.7.2 SS Side

Compressed mode configuration at SS side shall be maintained the same status as that on the UE side. So there are 3 different types of compressed mode configuration states both on UE and SS side.

- Configuration of compressed mode parameters (Use of DPCH_CompressedModeInfo) without the activation.
- Configuration of compressed mode parameters and simultaneous activation (use of DPCH_CompressedModeInfo).
- Only activation (use of DPCH_CompressedModeStatusInfo).

If compressed mode parameters are to be downloaded to the UE without actually activation, it shall be configured on the SS side by any one of the following two procedures.

- If DPCH channel on which compressed mode is to be downloaded is not already configured, primitive "CPHY_RL_Setup_REQ", with "CphyRlSetupReq. PhysicalChannelInfo" which is of choice, chosen to dPCHInfo shall be called. The procedure is used to pre-configure all compressed patterns necessary for test, but deactivate the all patterns configured at the beginning of the test. This procedure has not been implemented in the TTCN.
- If DPCH channel on which compressed mode is to be downloaded is already configured, the primitive "CPHY_RL_Modify_REQ" with "CphyRlModifyReq. PhysicalChannelInfo" which is of choice, chosen to dPCHInfo shall be called. This procedure in generally used in the TTCN.

If compressed mode parameters are to be configured and simultaneously activated, the same procedure as for the configuration of compressed mode without activation shall be used.

Activation of the compressed mode, whose parameters are already configured shall be achieved by the primitive "CPHY_RL_Modify_REQ" with "CphyRlModifyReq. PhysicalChannelInfo" which is of choice, chosen to dpch_CompressedModeStatusInfo.

## 8.2.8 Use of U-RNTI and C-RNTI

The uRNTI and cRNTI are optional when configuring the MAC (CMAC_Config_REQ). Table 40 gives indication on when uRNTI and cRNTI are needed.

**Table 40: cRNTI and uRNTI in CMAC-Config_REQ**

| | P-CCPCH | S-CCPCH with mapped DL-DCCH/DTCH (UE in cell_FACH) | S-CCPCH without mapped DL-DCCH/DTCH (UE in cell_DCH) | PRACH with mapped DL-DCCH/DTCH (UE in cell_FACH) | PRACH without mapped DL-DCCH/DTCH (UE in cell_DCH) | DPCH |
|---|---|---|---|---|---|---|
| **uRNTI** | - | Included | - | Omit | - | - |
| **cRNTI** | - | Included | - | Included | - | - |
| **CMAC-Config_REQ** | OMIT both | Download cRNTI and uRNTI | OMIT both | Download cRNTI | OMIT both | OMIT both |

In the case of DL-DCCH/DTCH mapped on S-CCPCH, cRNTI and uRNTI are downloaded to the MAC layer. As default, SS MAC shall use cRNTI as UE id. At the CMAC configuration of the beginning of test cases, the RLC payload size is configured, as default on cRNTI for the MAC header calculation. If uRNTI is to be used the SS RLC payload size shall be reconfigured as cRNTI and uRNTI do not have the same length (16 bits and 32 bits respectively).

CELL UPDATE CONFIRM or URA UPDATE CONFIRM shall be sent on DCCH at the test for the ciphering reason except the periodic update without carrying the UE identity information. In this case the CELL UPDATE CONFIRM or URA UPDATE CONFIRM is sent on CCCH at the test.

**Table 41: Relationship between cell update cause, UE state and RLC size reconfiguration**

| Cell update cause | UE State (before cell update) | CELL UPDATE CONFIRM | CRLC_Reconf RLC_Size Needed | Valid UE ID |
|---|---|---|---|---|
| Cell reselection | CELL_PCH / CELL_FACH | DCCH | Y | U_RNTI |
| Periodical cell update | CELL_PCH | DCCH or CCCH | Y (for DCCH) | U_RNTI |
| Periodical cell update | CELL_FACH | DCCH or CCCH | N | C_RNTI |
| Uplink data transmission | CELL_PCH / URA _PCH | DCCH | Y | U_RNTI |
| UTRAN paging response | CELL_PCH / URA_PCH | DCCH | Y | U_RNTI |
| Re-entered service area | CELL_PCH / URA_PCH | DCCH | Y | U_RNTI |
| Re-entered service area | CELL_FACH | DCCH | N | C_RNTI |
| Radio Link failure | CELL_DCH | DCCH | Y | U_RNTI |
| RLC_unrecoverable error | CELL_DCH / CELL_FACH | DCCH | Y<br>N (selected the same cell in CELL_FACH) | U_RNTI<br>C_RNTI |

# 8.3 Channels configurations

## 8.3.1 Configuration of Cell_FACH

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 for downlink and 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1 for uplink. The configuration is applied to the RRC tests related in the states CELL_FACH, CELL_PCH and URA_PCH. They need a minimum radio configuration for testing.

**Table 42: Uplink configuration of Cell_FACH**

| RB Identity | tsc_RB20 (20) | tsc_RB0 (0) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) |
|---|---|---|---|---|---|---|
| LogCh Type | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH |
| LogCh Identity | Tsc_UL_DTCH1 (7) | tsc_UL_CCCH5 (5) | tsc_UL_DCCH1 (1) | tsc_UL_DCCH2 (2) | tsc_UL_DCCH3 (3) | tsc_UL_DCCH4 (4) |
| RLC mode | AM | TM | UM | AM | AM | AM |
| TrCH Type | RACH | | | | | |
| TrCH identity | tsc_RACH1 (15) | | | | | |
| PhyCh Type | PRACH | | | | | |
| PhyCH identity | tsc_PRACH1 (8) | | | | | |

**Table 43: Downlink configuration of Cell_FACH**

| RB Identity | tsc_RB20 (20) | tsc_RB0 (0) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB_BCCH_FACH (-3) | tsc_RB_PCCH (-2) |
|---|---|---|---|---|---|---|---|---|
| LogCh Type | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH | PCCH |
| LogCh Identity | tsc_DL_DTCH1 (7) | tsc_DL_CCCH5 (5) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_BCCH6 (6) | tsc_PCCH1 (1) |
| RLC mode | AM | UM | UM | AM | AM | AM | TM | TM |
| MAC priority | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 1 |
| TrCH Type | FACH | FACH | | | | | | PCH |
| TrCH identity | tsc_FACH2 (14) | tsc_FACH1 (13) | | | | | | tsc_PCH1 (12) |
| PhyCh Type | Secondary CCPCH | | | | | | | |
| PhyCH identity | tsc_S_CCPCH1 (5) | | | | | | | |

## 8.3.2 Configuration of Cell_DCH_StandAloneSRB

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.1. 3. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to the RRC and NAS signalling tests in the DCH state without RAB.

**Table 44: Uplink configuration of Cell_DCH_StandAloneSRB**

| RB Identity | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB0 (0) | |
|---|---|---|---|---|---|---|
| LogCh Type | DCCH | DCCH | DCCH | DCCH | CCCH | |
| LogCh Identity | tsc_UL_DCCH1 (1) | tsc_UL_DCCH2 (2) | tsc_UL_DCCH3 (3) | tsc_UL_DCCH4 (4) | tsc_UL_CCCH5 (5) | |
| RLC mode | UM | AM | AM | AM | TM | AM |
| TrCH Type | DCH | | | | RACH | |
| TrCH identity | tsc_UL_DCH5 (5) | | | | tsc_RACH1 (15) | |
| PhyCh Type | DPDCH | | | | PRACH | |
| PhyCH identity | tsc_UL_DPCH1 (20) | | | | tsc_PRACH1 (8) | |

**Table 45: Downlink configuration of Cell_DCH_StandAloneSRB**

| **RB Identity** | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB0 (0) | tsc_RB_PCCH (-2) | |
|---|---|---|---|---|---|---|---|
| **LogCh Type** | DCCH | DCCH | DCCH | DCCH | CCCH | PCCH | |
| **LogCh Identity** | tsc_DL_DCCH 1 (1) | tsc_DL_DCCH 2 (2) | tsc_DL_DCCH 3 (3) | tsc_DL_DCCH 4 (4) | tsc_DL_CCCH 5 (5) | tsc_PCCH1 (1) | |
| **RLC mode** | UM | AM | AM | AM | UM | TM | AM |
| **MAC priority** | 1 | 2 | 3 | 4 | 1 | 1 | 1 |
| **TrCH Type** | DCH | | | | FACH | PCH | FACH |
| **TrCH identity** | tsc_DL_DCH5 (10) | | | | tsc_FACH1 (13) | tsc_PCH1 (12) | tsc_FACH2 (14) |
| **PhyCh Type** | DPCH | | | | Secondary CCPCH | | |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | | | tsc_S_CCPCH1 (5) | | |

## 8.3.3 Configuration of Cell_DCH_Speech

The configuration is based on 3GPP TS 34.108 [3], clauses 6.10.2.4.1.4 and 6.10.2.4.1.5. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to those RRC and NAS signalling tests in the DCH state where a CS voice service, such as narrowband speech, emergency speech call or TS 61 for speech, is established.

**Table 46: Uplink configuration of Cell_DCH_Speech**

| **RB Identity** | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB12 (12) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | tsc_UL_DTCH2 (8) | tsc_UL_DTCH3 (9) | | |
| **RLC mode** | TM | TM | TM | | |
| **TrCH Type** | DCH | DCH | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | tsc_UL_DCH2 (2) | tsc_UL_DCH3 (3) | | |
| **PhyCh Type** | DPDCH | | | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | | | tsc_PRACH1 (8) |

**Table 47: Downlink configuration of Cell_DCH_Speech**

| **RB Identity** | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB12 (12) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | tsc_DL_DTCH3 (9) | | |
| **RLC mode** | TM | TM | TM | | |
| **MAC priority** | 1 | 1 | 1 | | |
| **TrCH Type** | DCH | DCH | DCH | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | tsc_DL_DCH2 (7) | tsc_DL_DCH3 (8) | | |
| **PhyCh Type** | DPCH | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | | | tsc_S_CCPCH1 (5) |

## 8.3.4 Configuration of Cell_DCH_64kCS_RAB_SRB

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.1.13 for the conversational unknown quality class. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to

3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to those RRC and NAS signalling tests in the DCH state where one of the following CS transparent data services is established:

- Multimedia call 28,8 kbit/s, 3,1 kHz Audio;
- Multimedia call 32 kbit/s, UDI;
- Multimedia call 33,6 kbit/s, 3,1 kHz Audio;
- Multimedia call 56 kbit/s, RDI;
- Multimedia call 64 kbit/s, UDI;
- Asynchronous 3,1 kHz Audio 28,8 kbit/s;
- Synchronous 3,1 kHz Audio 28,8 kbit/s;
- Synchronous V.110 UDI up to 56 kbit/s;
- BTM RDI 56 kbit/s;
- BTM UDI 64 bit/s.

**Table 48: Uplink configuration of Cell_DCH_64kCS_RAB_SRB**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB10 (10) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | | |
| **RLC mode** | TM | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | | |
| **PhyCh Type** | DPDCH | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | tsc_PRACH1 (8) |

**Table 49: Downlink configuration of Cell_DCH_64kCS_RAB_SRB**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB10 (10) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH 1 (7) | | |
| **RLC mode** | TM | | |
| **MAC priority** | 1 | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | | |
| **PhyCh Type** | DPCH | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | tsc_S_CCPCH1 (5) |

## 8.3.5 Configuration of Cell_DCH_57_6kCS_RAB_SRB

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.1.17 for the streaming unknown quality class. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to those RRC and NAS signalling tests in the DCH state where one of the following CS non-transparent data services is established:

- Asynchronous 3,1 kHz Audio up to 19,2 kbit/s;
- Asynchronous 3,1 kHz Audio modem auto-bauding;
- Asynchronous V.110 UDI up to 38,4 kbit/s, except 28,8 kbit/s;
- Asynchronous V.120 up to 56 kbit/s;
- Asynchronous PIAFS up to 64 kbit/s;
- Asynchronous FTM up to 64 kbit/s;
- Synchronous 3,1 kHz Audio up to 19,2 kbit/s;
- Synchronous V.110 UDI up to 56 kbit/s, except 28,8 kbit/s;
- Synchronous X.31 Flags Stuffing UDI up to 56 kbit/s;
- Synchronous V.120 up to 56 kbit/s;
- Synchronous BTM up to 64 kbit/s;
- TS61 FAX.

**Table 50: Uplink configuration of Cell_DCH_57_6kCS_RAB_SRB**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB10 (10) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | | |
| **RLC mode** | TM | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | | |
| **PhyCh Type** | DPDCH | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | tsc_PRACH1 (8) |

**Table 51: Downlink configuration of Cell_DCH_57_6kCS_RAB_SRB**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB10 (10) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | | |
| **RLC mode** | TM | | |
| **MAC priority** | 1 | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | | |
| **PhyCh Type** | DPCH | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | tsc_S_CCPCH1 (5) |

## 8.3.6 Configuration of Cell_RLC_DCH_ RAB

The configuration is based on 3GPP TS 34.108 [3], clauses 6.11.1, 6.11.2, 6.11.3, and 6.11.4 for the RLC AM and UM tests with 7 and 15 bit length indicators. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1.

The RB Ids used for the DTCH depend on the RLC mode and length indicator size being simulated (reference clause 6.5.2, RLC test method). Table 52 shows the test suite constants used for each RLC mode, and length indicator size.

**Table 52: RB Ids used for DTCH depending on RLC mode and LI size**

| RLC mode | LI Size | TSC | RB Id |
|---|---|---|---|
| UM | 7 | tsc_RB_UM_7_RLC | -10 |
| UM | 15 | tsc_RB_UM_15_RLC | -11 |
| AM | 7 | tsc_RB_AM_7_RLC | -12 |
| AM | 15 | tsc_RB_AM_15_RLC | -13 |

**Table 53: Uplink configuration of Cell_RLC_DCH_RAB**

| | | | |
|---|---|---|---|
| **RB Identity** | See table 52 | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | | |
| **RLC mode** | TM | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | | |
| **PhyCh Type** | DPDCH | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | tsc_PRACH1 (8) |

**Table 54: Downlink configuration of Cell_RLC_DCH_RAB**

| | | | |
|---|---|---|---|
| **RB Identity** | See table 52 | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | | |
| **RLC mode** | TM | | |
| **MAC priority** | 1 | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | | |
| **PhyCh Type** | DPCH | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | tsc_S_CCPCH1 (5) |

## 8.3.7 Configuration of Cell_FACH_BMC

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 for downlink and 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1 without RAB/DTCH for uplink. A RB30/CTCH is configured. The configuration is applied to the BMC and CBSMS tests.

The uplink configuration of Cell_FACH_BMC is the same as the uplink configuration of Cell_FACH.

**Table 55: Downlink configuration of Cell_FACH_BMC**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **RB Identity** | | tsc_RB0 (0) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB_BCCH_FACH (-3) | Tsc_RB30 (30) | tsc_RB_PCCH (-2) |
| **LogCh Type** | | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH | CTCH | PCCH |
| **LogCh Identity** | | tsc_DL_CCCH5 (5) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_BCCH6 (6) | Tsc_CTCH (11) | tsc_PCCH1 (1) |
| **RLC mode** | AM | UM | UM | AM | AM | AM | TM | UM | TM |
| **MAC priority** | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 |
| **TrCH Type** | FACH | FACH | | | | | | | PCH |
| **TrCH identity** | tsc_FACH2 (14) | tsc_FACH1 (13) | | | | | | | tsc_PCH1 (12) |
| **PhyCh Type** | Secondary CCPCH | | | | | | | | |
| **PhyCH identity** | tsc_S_CCPCH1 (5) | | | | | | | | |

## 8.3.8 Configuration of PS Cell_DCH_64kPS_RAB_SRB and Cell_PDCP_AM_RAB

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.1.26. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to those RRC and NAS signalling tests in the DCH state where a PS RAB on DTCH is setup for the interactive or background service class. The configuration is applied to PDCP test cases in acknowledge mode.

**Table 56: Uplink configuration of PS Cell_DCH_64kPS_RAB_SRB SRB and Cell_PDCP_AM_RAB**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB20 (20) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | | |
| **RLC mode** | AM | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | | |
| **PhyCh Type** | DPDCH | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | tsc_PRACH1 (8) |

**Table 57: Downlink configuration of PS Cell_DCH_64kPS_RAB_SRB SRB and Cell_PDCP_AM_RAB**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB20 (20) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | | |
| **RLC mode** | AM | | |
| **MAC priority** | 1 | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | | |
| **PhyCh Type** | DPCH | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | tsc_S_CCPCH1 (5) |

## 8.3.9 Configuration of Cell_Two_DTCH

The configuration is based on 3GPP TS 34.108 [3], clauses 6.10.2.4.1.6 to 6.10.2.4.1.11. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to RB tests.

**Table 58: Uplink configuration of Cell_Two_DTCH**

| **RB Identity** | tsc_RB10 (10) | tsc_RB11 (11) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH 1 (7) | tsc_UL_DTCH 2 (8) | | |
| **RLC mode** | TM | TM | | |
| **TrCH Type** | DCH | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | tsc_UL_DCH2 (2) | | |
| **PhyCh Type** | DPCH | | | PRACH |
| **PhyCH identity** | tsc_UL_DPDCH1 (20) | | | tsc_PRACH1 (8) |

**Table 59: Downlink configuration of Cell_Two_DTCH**

| **RB Identity** | tsc_RB10 (10) | tsc_RB11 (11) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | | |
| **RLC mode** | TM | TM | | |
| **MAC priority** | 1 | 1 | | |
| **TrCH Type** | DCH | DCH | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | tsc_DL_DCH2 (7) | | |
| **PhyCh Type** | DPCH | | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | | tsc_S_CCPCH1 (5) |

## 8.3.10 Configuration of Cell_Single_DTCH (CS)

The configuration is based on 3GPP TS 34.108 [3], clauses 6.10.2.4.1.12 to 6.10.2.4.1.22. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to RB tests.

**Table 60: Uplink configuration of Cell_Single_DTCH (CS)**

| **RB Identity** | tsc_RB10 (10) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | | |
| **RLC mode** | TM | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | | |
| **PhyCh Type** | DPDCH | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | tsc_PRACH1 (8) |

**Table 61: Downlink configuration of Cell_Single_DTCH (CS)**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB10 (10) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | | |
| **RLC mode** | TM | | |
| **MAC priority** | 1 | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | | |
| **PhyCh Type** | DPCH | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | tsc_S_CCPCH1 (5) |

## 8.3.11 Configuration of PS Cell_PDCP_UM_RAB

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.1.26. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to PDCP test cases in unacknowledge mode.

**Table 62: Uplink configuration of PS Cell_PDCP_UM_RAB**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB21 (21) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | | |
| **RLC mode** | UM | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | | |
| **PhyCh Type** | DPDCH | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | tsc_PRACH1 (8) |

**Table 63: Downlink configuration of PS Cell_PDCP_UM_RAB**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB21 (21) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | | |
| **RLC mode** | UM | | |
| **MAC priority** | 1 | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | | |
| **PhyCh Type** | DPCH | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | tsc_S_CCPCH1 (5) |

## 8.3.12 Configuration of PS Cell_PDCP_AM_UM_RAB

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.1.26. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3],

clause 6.10.2.4.4.1.1.1. The configuration is applied to PDCP test cases using both the acknowledged and unacknowledged mode.

**Table 64: Uplink configuration of PS Cell_PDCP_AM_UM_RAB**

| **RB Identity** | tsc_RB20 (20) | tsc_RB21 (21) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | tsc_UL_DTCH2 (8) | | |
| **RLC mode** | AM | UM | | |
| **TrCH Type** | DCH | | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | | | |
| **PhyCh Type** | DPDCH | | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | | tsc_PRACH1 (8) |

**Table 65: Downlink configuration of PS Cell_PDCP_AM_UM_RAB**

| **RB Identity** | tsc_RB20 (20) | tsc_RB21 (21) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | | |
| **RLC mode** | AM | UM | | |
| **MAC priority** | 1 | 1 | | |
| **TrCH Type** | DCH | | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | | | |
| **PhyCh Type** | DPCH | | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | | tsc_S_CCPCH1 (5) |

## 8.3.13 Configuration of Cell_2SCCPCH_BMC

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 for downlink and 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1 without RAB/DTCH for uplink. RB30/CTCH and RB31/CTCH as well as two PCCH are configured. The configuration is applied to the BMC and CBSMS tests.

**Table 66: Uplink configuration of Cell_2SCCPCH_BMC**

| **RB Identity** | tsc_RB20 (20) | tsc_RB0 (0) | tsc_RB1 (1) | tsc_RB2 (2) | Tsc_RB3 (3) | tsc_RB4 (4) |
|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH |
| **LogCh Identity** | Tsc_UL_DTCH1 (7) | tsc_UL_CCCH5 (5) | tsc_UL_DCCH1 (1) | tsc_UL_DCCH2 (2) | tsc_UL_DCCH3 (3) | tsc_UL_DCCH4 (4) |
| **RLC mode** | AM | TM | UM | AM | AM | AM |
| **TrCH Type** | RACH | | | | | |
| **TrCH identity** | tsc_RACH1 (15) | | | | | |
| **PhyCh Type** | PRACH | | | | | |
| **PhyCH identity** | tsc_PRACH1 (8) | | | | | |

**Table 67: Downlink configuration of Cell_2SCCPCH_BMC: second S-CCPCH**

| **RB Identity** | Tsc_RB31 (31) | tsc_RB_2ndPCCH (-4) |
|---|---|---|
| **LogCh Type** | CTCH | PCCH |
| **LogCh Identity** | Tsc_CTCH2 (12) | tsc_PCCH2 (2) |
| **RLC mode** | UM | TM |
| **MAC priority** | 1 | 1 |
| **TrCH Type** | FACH | PCH |
| **TrCH identity** | tsc_FACH1 (13) | tsc_PCH2 (30) |
| **PhyCh Type** | Secondary CCPCH | |
| **PhyCH identity** | tsc_S_CCPCH2 (10) | |

**Table 68: Downlink configuration of Cell_2SCCPCH_BMC: first S-CCPCCH**

| **RB Identity** | tsc_RB20 (20) | tsc_RB0 (0) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB_BCCH_FACH (-3) | Tsc_RB30 (30) | tsc_RB_PCCH (-2) |
|---|---|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH | CTCH | PCCH |
| **LogCh Identity** | tsc_DL_DTCH1 (6) | tsc_DL_CCCH5 (5) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_BCCH6 (6) | Tsc_CTCH1 (11) | tsc_PCCH1 (1) |
| **RLC mode** | AM | UM | UM | AM | AM | AM | TM | UM | TM |
| **MAC priority** | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 |
| **TrCH Type** | FACH | FACH | | | | | | | PCH |
| **TrCH identity** | Tsc_FACH2 (14) | tsc_FACH1 (13) | | | | | | | tsc_PCH1 (12) |
| **PhyCh Type** | Secondary CCPCH | | | | | | | | |
| **PhyCH identity** | tsc_S_CCPCH1 (5) | | | | | | | | |

## 8.3.14 Configuration of Cell_Four_DTCH_CS_PS, Cell_Four_DTCH_PS_CS

The configuration is based on 3GPP TS 34.108 [3], clauses 6.10.2.4.1.40. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to RB tests.

**Table 69: Uplink configuration of Cell_Four_DTCH_CS_PS**

| **RB Identity** | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB12 (12) | tsc_RB20 (20) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAlone SRB on PRACH |
|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | tsc_UL_DTCH2 (8) | tsc_UL_DTCH3 (9) | tsc_UL_DTCH4 (10) | | |
| **RLC mode** | TM | TM | TM | AM | | |
| **MAC priority** | 1 | 1 | 1 | 1 | | |
| **TrCH Type** | DCH | DCH | DCH | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | tsc_UL_DCH2 (2) | tsc_UL_DCH3 (3) | tsc_UL_DCH4 (4) | | |
| **PhyCh Type** | DPDCH | | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | | | | tsc_S_CCPCH1 (5) |

**Table 70: Downlink configuration of Cell_Four_DTCH_CS_PS, Cell_Four_DTCH_PS_CS**

| **RB Identity** | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB12 (12) | tsc_RB20 (20) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAlone SRB on sCCPCH |
|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | tsc_DL_DTCH3 (9) | tsc_DL_DTCH4 (10) | | |
| **RLC mode** | TM | TM | TM | AM | | |
| **MAC priority** | 1 | 1 | 1 | 1 | | |
| **TrCH Type** | DCH | DCH | DCH | DCH | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | tsc_DL_DCH2 (7) | Tsc_DL_DCH3 (8) | tsc_DL_DCH4 (9) | | |
| **PhyCh Type** | DPCH | | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (20) | | | | | tsc_S_CCPCH1 (5) |

## 8.3.15 Configuration of Cell_Two_DTCH_CS_PS, Cell_Two_DTCH_PS_CS

The configuration is based on 3GPP TS 34.108 [3], clauses 6.10.2.4.1.51 and 6.10.2.4.1.53. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to RB tests.

**Table 71:Uplink configuration of Cell_Two_DTCH_CS_PS, Cell_Two_DTCH_PS_CS**

| **RB Identity** | tsc_RB10 (10) | tsc_RB20 (20) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | tsc_UL_DTCH2 (8) | | |
| **RLC mode** | TM | AM | | |
| **TrCH Type** | DCH | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | tsc_UL_DCH2 (2) | | |
| **PhyCh Type** | DPDCH | | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | | tsc_PRACH1 (8) |

**Table 72: Downlink configuration of Cell_Two_DTCH_CS_PS**

| **RB Identity** | tsc_RB10 (10) | tsc_RB20 (20) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | | |
| **RLC mode** | TM | AM | | |
| **MAC priority** | 1 | 1 | | |
| **TrCH Type** | DCH | DCH | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | tsc_DL_DCH2 (7) | | |
| **PhyCh Type** | DPCH | | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (20) | | | tsc_S_CCPCH1 (5) |

## 8.3.16 Configuration of Cell_Four_DTCH_CS

The configuration is based on 3GPP TS 34.108 [3], clauses 6.10.2.4.1.49. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to RB tests.

**Table 73: Uplink configuration of Cell_Four_DTCH_CS**

| **RB Identity** | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB12 (12) | tsc_RB13 (13) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAlone SRB on PRACH |
|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (1) | tsc_UL_DTCH2 (2) | tsc_UL_DTCH3 (3) | tsc_UL_DTCH4 (4) | | |
| **RLC mode** | TM | TM | TM | TM | | |
| **MAC priority** | 1 | 1 | 1 | 1 | | |
| **TrCH Type** | DCH | DCH | DCH | DCH | | |
| **TrCH identity** | tsc_UL_DCH 1 (6) | tsc_UL_DCH 2 (7) | tsc_UL_DCH 3 (8) | tsc_UL_DCH 4 (9) | | |
| **PhyCh Type** | DPDCH | | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | | | | tsc_S_CCPCH1 (5) |

**Table 74: Downlink configuration of Cell_Four_DTCH_CS**

| **RB Identity** | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB12 (12) | tsc_RB13 (13) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAlone SRB on sCCPCH |
|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | tsc_DL_DTCH3 (9) | tsc_DL_DTCH4 (10) | | |
| **RLC mode** | TM | TM | TM | TM | | |
| **MAC priority** | 1 | 1 | 1 | 1 | | |
| **TrCH Type** | DCH | DCH | DCH | DCH | | |
| **TrCH identity** | tsc_DL_DCH 1 (6) | tsc_DL_DCH 2 (7) | tsc_DL_DCH 3 (8) | tsc_DL_DCH 4 (9) | | |
| **PhyCh Type** | DPCH | | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (20) | | | | | tsc_S_CCPCH1 (5) |

## 8.3.17 Configuration of Cell_DCH_MAC_SRB

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.1. 3. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1; except that RB3 is mapped on TM mode.

The configuration is applied to the MAC tests.

**Table 75: Uplink configuration of Cell_DCH_MAC_SRB**

| **RB Identity** | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB_DCCH_DCH_MAC (-15) | tsc_RB4 (4) | tsc_RB0 (0) | |
|---|---|---|---|---|---|---|
| **LogCh Type** | DCCH | DCCH | DCCH | DCCH | CCCH | |
| **LogCh Identity** | tsc_UL_DCCH1 (1) | tsc_UL_DCCH2 (2) | tsc_UL_DCCH3 (3) | tsc_UL_DCCH4 (4) | tsc_UL_CCCH5 (5) | |
| **RLC mode** | UM | AM | TM | AM | TM | AM |
| **TrCH Type** | DCH | | | | RACH | |
| **TrCH identity** | tsc_UL_DCH5 (5) | | | | tsc_RACH1 (15) | |
| **PhyCh Type** | DPDCH | | | | PRACH | |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | | | tsc_PRACH1 (8) | |

**Table 76: Downlink configuration of Cell_DCH_MAC_SRB**

| **RB Identity** | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB_DCCH_DCH_MAC (-15) | tsc_RB4 (4) | tsc_RB0 (0) | tsc_RB_PCCH (-2) | |
|---|---|---|---|---|---|---|---|
| **LogCh Type** | DCCH | DCCH | DCCH | DCCH | CCCH | PCCH | |
| **LogCh Identity** | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_DL_CCCH5 (5) | tsc_PCCH1 (1) | |
| **RLC mode** | UM | AM | TM | AM | UM | TM | AM |
| **MAC priority** | 1 | 2 | 3 | 4 | 1 | 1 | 1 |
| **TrCH Type** | DCH | | | | FACH | PCH | FACH |
| **TrCH identity** | tsc_DL_DCH5 (10) | | | | tsc_FACH1 (13) | tsc_PCH1 (12) | tsc_FACH2 (14) |
| **PhyCh Type** | DPCH | | | | Secondary CCPCH | | |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | | | tsc_S_CCPCH1 (5) | | |

## 8.3.18 Configuration of Cell_FACH_MAC_SRB

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 for downlink and 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1 for uplink; except that RB3 is mapped on TM mode.

The configuration is applied to the MAC tests.

**Table 77: Uplink configuration of Cell_FACH_MAC_SRB**

| **RB Identity** | tsc_RB20 (20) | tsc_RB0 (0) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB_DCCH_FACH_MAC (-14) | tsc_RB4 (4) |
|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH |
| **LogCh Identity** | Tsc_UL_DTCH 1 (7) | tsc_UL_CCCH 5 (5) | tsc_UL_DCCH 1 (1) | tsc_UL_DCCH 2 (2) | tsc_UL_DCCH3 (3) | tsc_UL_DCCH 4 (4) |
| **RLC mode** | AM | TM | UM | AM | TM | AM |
| **TrCH Type** | RACH | | | | | |
| **TrCH identity** | tsc_RACH1 (15) | | | | | |
| **PhyCh Type** | PRACH | | | | | |
| **PhyCH identity** | tsc_PRACH1 (8) | | | | | |

**Table 78: Downlink configuration of Cell_FACH_MAC_SRB**

| **RB Identity** | tsc_RB20 (20) | tsc_RB0 (0) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB_DCCH_FACH_MAC (-14) | tsc_RB4 (4) | tsc_RB_BCCH_FACH (-3) | tsc_RB_PCCH (-2) |
|---|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH | PCCH |
| **LogCh Identity** | tsc_DL_DTCH1 (6) | tsc_DL_CCCH5 (5) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_BCCH6 (6) | tsc_PCCH1 (1) |
| **RLC mode** | AM | UM | UM | AM | TM | AM | TM | TM |
| **MAC priority** | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 1 |
| **TrCH Type** | FACH | FACH | | | | | | PCH |
| **TrCH identity** | tsc_FACH2 (14) | tsc_FACH1 (13) | | | | | | tsc_PCH1 (12) |
| **PhyCh Type** | Secondary CCPCH | | | | | | | |
| **PhyCH identity** | tsc_S_CCPCH1 (5) | | | | | | | |

## 8.3.19 Configuration of Cell_FACH_MAC_SRB0

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 for downlink and 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1 for uplink; except that the downlink SRB0 is mapped on TM mode.

The configuration is applied to the MAC tests.

The uplink configuration of Cell_FACH_MAC_SRB0 is the same as the uplink configuration of Cell_FACH.

**Table 79: Downlink configuration of Cell_FACH_MAC_SRB0**

| **RB Identity** | tsc_RB20 (20) | tsc_RB_CCCH_FACH_MAC (-18) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB_BCCH_FACH (-3) | tsc_RB_PCCH (-2) |
|---|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH | PCCH |
| **LogCh Identity** | tsc_DL_DTCH1 (6) | tsc_DL_CCCH5 (5) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_BCCH6 (6) | tsc_PCCH1 (1) |
| **RLC mode** | AM | TM | UM | AM | AM | AM | TM | TM |
| **MAC priority** | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 1 |
| **TrCH Type** | FACH | FACH | | | | | | PCH |
| **TrCH identity** | tsc_FACH2 (14) | tsc_FACH1 (13) | | | | | | tsc_PCH1 (12) |
| **PhyCh Type** | Secondary CCPCH | | | | | | | |
| **PhyCH identity** | tsc_S_CCPCH1 (5) | | | | | | | |

## 8.3.20 Configuration of Cell_FACH_2_SCCPCH_StandAlonePCH

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 for downlink and 3GPP TS 34.108 [3] except the mapping of PCH, clause 6.10.2.4.4.1.1.1 for uplink.

The configuration is applied to the RAB tests.

The uplink configuration of Cell_FACH_2_SCCPCH_StandAlonePCH is the same as the uplink configuration of Cell_FACH.

**Table 80: Downlink configuration of Cell_FACH_2_SCCPCH_StandAlonePCH**

| **RB Identity** | tsc_RB20 (20) | tsc_RB0 (0) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB_BCCH_FACH (-3) | tsc_RB_PCCH2 (-4) |
|---|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH | PCCH |
| **LogCh Identity** | tsc_DL_DTCH1 (6) | tsc_DL_CCCH5 (5) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_BCCH6 (6) | tsc_PCCH1 (1) |
| **RLC mode** | AM | UM | UM | AM | AM | AM | TM | TM |
| **MAC priority** | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 1 |
| **TrCH Type** | FACH | FACH | | | | | | PCH |
| **TrCH identity** | tsc_FACH2 (14) | tsc_FACH1 (13) | | | | | | tsc_PCH1 (12) |
| **PhyCh Type** | Secondary CCPCH | | | | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_S_CCPCH2 (10) | | | | | | | tsc_S_CCPCH1 (5) |

## 8.3.21 Configuration of PS Cell_DCH_2AM_PS

The configuration is based on 3GPP TS 34.108 [3], clauses 6.10.2.4.1.26 and 6.10.2.4.1.57. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 with 2 AM RAB and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to MAC and RAB test cases.

**Table 81: Uplink configuration of Cell_DCH_ 2AM_PS**

| **RB Identity** | tsc_RB20 (20) | tsc_RB22 (22) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | tsc_UL_DTCH2 (8) | | |
| **RLC mode** | AM | AM | | |
| **TrCH Type** | DCH | | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | | | |
| **PhyCh Type** | DPDCH | | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | | tsc_PRACH1 (8) |

**Table 82: Downlink configuration of Cell_DCH_2AM_PS**

| **RB Identity** | tsc_RB20 (20) | tsc_RB22 (22) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH 1 (7) | tsc_DL_DTCH 2 (8) | | |
| **RLC mode** | AM | AM | | |
| **MAC priority** | 1 | 1 | | |
| **TrCH Type** | DCH | | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | | | |
| **PhyCh Type** | DPCH | | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | | tsc_S_CCPCH1 (5) |

## 8.3.22 Configuration of PS Cell_DCH_2_PS_Call

The configuration is based on 3GPP TS 34.108 [3], clauses 6.10.2.4.1.56 and 6.10.2.4.1.58. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to RB tests.

**Table 83: Uplink configuration of Cell_DCH_2_PS_Call**

| **RB Identity** | tsc_RB20 (20) | tsc_RB22 (22) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH 1 (7) | tsc_UL_DTCH 2 (8) | | |
| **RLC mode** | AM | AM | | |
| **TrCH Type** | DCH | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | tsc_UL_DCH2 (2) | | |
| **PhyCh Type** | DPDCH | | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | | tsc_PRACH1 (8) |

**Table 84: Downlink configuration of Cell_DCH_2_PS_Call**

| **RB Identity** | tsc_RB20 (20) | tsc_RB22 (22) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH 1 (7) | tsc_DL_DTCH 2 (8) | | |
| **RLC mode** | AM | AM | | |
| **MAC priority** | 1 | 1 | | |
| **TrCH Type** | DCH | DCH | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | tsc_DL_DCH2 (7) | | |
| **PhyCh Type** | DPCH | | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | | tsc_S_CCPCH1 (5) |

## 8.3.23 Configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg1

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.3.2 for downlink and 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1 for uplink. The configuration is applied to the RAB tests.

The uplink configuration of Cell_FACH_3_SCCPCH_4_FACH Cnfg1 is the same as the uplink configuration of Cell_FACH.

**Table 85: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg1: 1st & 2nd S-CCPCH**

| **RB Identity** | | tsc_RB0 (0) | tsc_RB_BCCH_FACH (-3) | tsc_RB_PCCH (-2) |
|---|---|---|---|---|
| **LogCh Type** | | CCCH | BCCH | PCCH |
| **LogCh Identity** | | tsc_DL_CCCH5 (5) | tsc_BCCH6 (6) | tsc_PCCH1 (1) |
| **RLC mode** | | UM | TM | TM |
| **MAC priority** | | 1 | 6 | 1 |
| **TrCH Type** | FACH | FACH | | PCH |
| **TrCH identity** | tsc_FACH2 (14) | tsc_FACH1 (13) | | tsc_PCH1 (12) |
| **PhyCh Type** | Secondary CCPCH | | | Secondary CCPCH |
| **PhyCH identity** | tsc_S_CCPCH2 (10) | | | tsc_S_CCPCH1 (5) |

**Table 86: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg1: 3rd S-CCPCH**

| **RB Identity** | tsc_RB20 (20) | tsc_RB29 (29) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB_BCCH_FACH_RAB (-19) |
|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_CCCH6 (6) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_BCCH7 (7) |
| **RLC mode** | AM | UM | UM | AM | AM | AM | TM |
| **MAC priority** | 1 | 1 | 2 | 3 | 4 | 5 | 6 |
| **TrCH Type** | FACH | FACH | | | | | |
| **TrCH identity** | tsc_FACH4 (17) | tsc_FACH3 (16) | | | | | |
| **PhyCh Type** | Secondary CCPCH | | | | | | |
| **PhyCH identity** | tsc_S_CCPCH3 (13) | | | | | | |

## 8.3.24 Configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg2

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.3.2 for downlink and 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1 for uplink. The configuration is applied to the RAB tests.

The uplink configuration of Cell_FACH_3_SCCPCH_4_FACH Cnfg2 is the same as the uplink configuration of Cell_FACH.

**Table 87: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg2: 2nd S-CCPCH**

| **RB Identity** | tsc_RB20 (20) | tsc_RB29 (29) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB_BCCH_FACH_RAB (-19) |
|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_CCCH6 (6) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_BCCH7 (7) |
| **RLC mode** | AM | UM | UM | AM | AM | AM | TM |
| **MAC priority** | 1 | 1 | 2 | 3 | 4 | 5 | 6 |
| **TrCH Type** | FACH | FACH | | | | | |
| **TrCH identity** | tsc_FACH2 (14) | tsc_FACH1 (13) | | | | | |
| **PhyCh Type** | Secondary CCPCH | | | | | | |
| **PhyCH identity** | tsc_S_CCPCH2 (10) | | | | | | |

**Table 88: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg2: 1st & 3rd S-CCPCH**

| **RB Identity** | | tsc_RB0 (0) | tsc_RB_BCCH_FACH (-3) | tsc_RB_PCCH (-2) |
|---|---|---|---|---|
| **LogCh Type** | | CCCH | BCCH | PCCH |
| **LogCh Identity** | | tsc_DL_CCCH5 (5) | tsc_BCCH6 (6) | tsc_PCCH1 (1) |
| **RLC mode** | | UM | TM | TM |
| **MAC priority** | | 1 | 6 | 1 |
| **TrCH Type** | FACH | FACH | | PCH |
| **TrCH identity** | tsc_FACH4 (17) | tsc_FACH3 (16) | | tsc_PCH1 (12) |
| **PhyCh Type** | Secondary CCPCH | | | Secondary CCPCH |
| **PhyCH identity** | tsc_S_CCPCH3 (13) | | | tsc_S_CCPCH1 (5) |

## 8.3.25 Configuration of Cell_FACH_3_SCCPCH_3_FACH_CTCH

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.3.2 for downlink and 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1 for uplink. The configuration is applied to the RAB tests.

The uplink configuration of Cell_FACH_3_SCCPCH_3_FACH_CTCH is the same as the uplink configuration of Cell_FACH.

**Table 89: Downlink configuration of Cell_FACH_3_SCCPCH_3_FACH_CTCH: 1st & 2nd S-CCPCH**

| **RB Identity** | tsc_RB30 (30) | tsc_RB0 (0) | tsc_RB_BCCH_FACH (-3) | tsc_RB_PCCH (-2) |
|---|---|---|---|---|
| **LogCh Type** | CTCH | CCCH | BCCH | PCCH |
| **LogCh Identity** | tsc_CTCH1 (11) | tsc_DL_CCCH5 (5) | tsc_BCCH6 (6) | tsc_PCCH1 (1) |
| **RLC mode** | UM | UM | TM | TM |
| **MAC priority** | 7 | 1 | 6 | 1 |
| **TrCH Type** | FACH | FACH | | PCH |
| **TrCH identity** | tsc_FACH2 (14) | tsc_FACH1 (13) | | tsc_PCH1 (12) |
| **PhyCh Type** | Secondary CCPCH | | | Secondary CCPCH |
| **PhyCH identity** | tsc_S_CCPCH2 (10) | | | tsc_S_CCPCH1 (5) |

**Table 90: Downlink configuration of Cell_FACH_3_SCCPCH_3_FACH_CTCH: 3rd S-CCPCH**

| **RB Identity** | tsc_RB20 (20) | tsc_RB29 (29) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB_BCCH_FACH_RAB (-19) |
|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_CCCH6 (6) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (5) | tsc_BCCH7 (7) |
| **RLC mode** | AM | UM | UM | AM | AM | AM | TM |
| **MAC priority** | 1 | 1 | 2 | 3 | 4 | 5 | 6 |
| **TrCH Type** | FACH | FACH | | | | | |
| **TrCH identity** | tsc_FACH4 (17) | tsc_FACH3 (16) | | | | | |
| **PhyCh Type** | Secondary CCPCH | | | | | | |
| **PhyCH identity** | tsc_S_CCPCH3 (13) | | | | | | |

## 8.3.26 Configuration of PS Cell_DCH_DSCH_PS_RAB

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.2.1. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to those RAB signalling tests where a PS RAB on DTCH is setup for the interactive or background service class is mapped on to DSCH.

The uplink configuration is same in clause 8.3.8.

**Table 91a: Downlink configuration of PS Cell_DCH_DSCH_PS_RAB**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB20 (20) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | | |
| **RLC mode** | AM | | |
| **MAC priority** | 1 | | |
| **TrCH Type** | DSCH | | |
| **TrCH identity** | tsc_DSCH1 (19) | | |
| **PhyCh Type** | PDSCH | DPCH | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_PDSCH1 (16) | tsc_DL_DPCH1 (26) | tsc_S_CCPCH1 (5) |

## 8.3.27 Configuration of Cell_DCH_DSCH_CS_PS

The configuration is based on 3GPP TS 34.108 [3], clauses 6.10.2.4.2.4. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to RB tests.

The Uplink configuration is similar to clause 8.3.14.

**Table 97b: Downlink configuration of Cell_DCH_DSCH_CS_PS**

| | | | | | | |
|---|---|---|---|---|---|---|
| **RB Identity** | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB12 (12) | tsc_RB20 (20) | Same as downlink configuration of Cell_DCH_Stand AloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAlone SRB on sCCPCH |
| **LogCh Type** | DTCH | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | tsc_DL_DTCH3 (9) | tsc_DL_DTCH4 (10) | | |
| **RLC mode** | TM | TM | TM | AM | | |
| **MAC priority** | 1 | 1 | 1 | 1 | | |
| **TrCH Type** | DCH | DCH | DCH | DSCH | | |
| **TrCH identity** | tsc_DL_DCH 1 (6) | tsc_DL_DCH 2 (7) | Tsc_DL_DCH 3 (8) | tsc_DL_DSC H1 (19) | | |
| **PhyCh Type** | DPCH | | | PDSCH | DPCH | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (20) | | | tsc_DL_PDS CH1 (16) | tsc_DL_DPCH1 (20) | tsc_S_CCPCH1 (5) |

## 8.3.28 Configuration of Cell_FACH_2_SCCPCH_StandAlonePCH_2a

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.3.2a for downlink and 3GPP TS 34.108 [3] except the mapping of PCH, clause 6.10.2.4.4.2 for uplink. The configuration is applied to the RAB tests.

**Table 92: Uplink configuration of Configuration of Configuration of Cell_FACH_2_SCCPCH_StandAlonePCH_2a**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | tsc_RB24 (24) | tsc_RB20 (20) | tsc_RB0 (0) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | |
| | DTCH | DTCH | CCCH | DCCH | DCCH | DCCH | |
| | Tsc_UL_DTCH4 (10) | Tsc_UL_DTCH1 (7) | tsc_UL_CCCH5 (5) | tsc_UL_DCCH1 (1) | tsc_UL_DCCH2 (2) | tsc_UL_DCCH3 (3) | tsc_ |
| | AM | AM | TM | UM | AM | AM | |
| | RACH | | | | | | |
| | tsc_RACH1 (15) | | | | | | |
| | PRACH | | | | | | |
| | tsc_PRACH1 (8) | | | | | | |

**Table 93: Downlink configuration of Cell_FACH_2_SCCPCH_StandAlonePCH_2a**

| **ity** | tsc_RB20 (20) | tsc_RB24 (24) | tsc_RB0 (0) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB_BCCH_FACH (-3) | tsc_RB_P |
|---|---|---|---|---|---|---|---|---|---|
| **pe** | DTCH | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH | PC |
| **ntity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH4 (10) | tsc_DL_CCCH5 (5) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_BCCH6 (6) | tsc_PCC |
| **de** | AM | AM | UM | UM | AM | AM | AM | TM | T |
| **rity** | 1 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | |
| **pe** | FACH | FACH | FACH | | | | | | PC |
| **tity** | tsc_FACH2 (14) | | tsc_FACH1(13) | | | | | | tsc_PC |
| **pe** | Secondary CCPCH | | | | | | | | Secondar |
| **ntity** | tsc_S_CCPCH2 (10) | | | | | | | | tsc_S_CC |

## 8.3.29 Configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.3.2a for downlink and 3GPP TS 34.108 [3], clause 6.10.2.4.4.2 for uplink. The configuration is applied to the RAB tests.

The uplink configuration of Cell_FACH_3_SCCPCH_4_FACH Cnfg1 is the same as the uplink configuration of Cell_FACH_2_SCCPCH_StandAlonePCH_2a.

**Table 94: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1: 1st & 2nd S-CCPCH**

| **RB Identity** | | | tsc_RB0 (0) | tsc_RB_BCCH_FACH (-3) | tsc_RB_PCCH (-2) |
|---|---|---|---|---|---|
| **LogCh Type** | | | CCCH | BCCH | PCCH |
| **LogCh Identity** | | | tsc_DL_CCCH5 (5) | tsc_BCCH6 (6) | tsc_PCCH1 (1) |
| **RLC mode** | | | UM | TM | TM |
| **MAC priority** | | | 1 | 6 | 1 |
| **TrCH Type** | FACH | FACH | FACH | | PCH |
| **TrCH identity** | tsc_FACH2 (14) | | tsc_FACH1 (13) | | tsc_PCH1 (12) |
| **PhyCh Type** | Secondary CCPCH | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_S_CCPCH2 (10) | | | | tsc_S_CCPCH1 (5) |

**Table 95: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1: 3rd S-CCPCH**

| **RB Identity** | tsc_RB24 (24) | tsc_RB20 (20) | tsc_RB29 (29) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB_BCCH_FACH_RAB (-19) |
|---|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH |
| **LogCh Identity** | tsc_DL_DTCH4 (10) | tsc_DL_DTCH1 (7) | tsc_DL_CCCH6 (6) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_BCCH7 (7) |
| **RLC mode** | AM | AM | UM | UM | AM | AM | AM | TM |
| **MAC priority** | 1 | 1 | 1 | 2 | 3 | 4 | 5 | 6 |
| **TrCH Type** | FACH | | FACH | | | | | |
| **TrCH identity** | tsc_FACH4 (17) | | tsc_FACH3 (16) | | | | | |
| **PhyCh Type** | Secondary CCPCH | | | | | | | |
| **PhyCH identity** | tsc_S_CCPCH3 (13) | | | | | | | |

## 8.3.30 Configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.3.2a for downlink and 3GPP TS 34.108 [3], clause 6.10.2.4.4.2 for uplink. The configuration is applied to the RAB tests.

The uplink configuration of Cell_FACH_3_SCCPCH_4_FACH Cnfg2 is the same as the uplink configuration of Cell_FACH_2_SCCPCH_StandAlonePCH_2a.

**Table 96: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2: 2nd S-CCPCH**

| RB Identity | tsc_RB21 (24) | tsc_RB20 (20) | tsc_RB29 (29) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB_BCCH_FACH_RAB (-19) |
|---|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH |
| **LogCh Identity** | tsc_DL_DTCH2 (10) | tsc_DL_DTCH1 (7) | tsc_DL_CCCH6 (6) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_BCCH7 (7) |
| **RLC mode** | AM | AM | UM | UM | AM | AM | AM | TM |
| **MAC priority** | 1 | 1 | 1 | 2 | 3 | 4 | 5 | 6 |
| **TrCH Type** | FACH | FACH | FACH | | | | | |
| **TrCH identity** | tsc_FACH2 (14) | | tsc_FACH1 (13) | | | | | |
| **PhyCh Type** | Secondary CCPCH | | | | | | | |
| **PhyCH identity** | tsc_S_CCPCH2 (10) | | | | | | | |

**Table 97: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2: 1st & 3rd S-CCPCH**

| RB Identity | | | tsc_RB0 (0) | tsc_RB_BCCH_FACH (-3) | tsc_RB_PCCH (-2) |
|---|---|---|---|---|---|
| **LogCh Type** | | | CCCH | BCCH | PCCH |
| **LogCh Identity** | | | tsc_DL_CCCH5 (5) | tsc_BCCH6 (6) | tsc_PCCH1 (1) |
| **RLC mode** | | | UM | TM | TM |
| **MAC priority** | | | 1 | 6 | 1 |
| **TrCH Type** | FACH | FACH | FACH | | PCH |
| **TrCH identity** | tsc_FACH4 (17) | | tsc_FACH3 (16) | | tsc_PCH1 (12) |
| **PhyCh Type** | Secondary CCPCH | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_S_CCPCH3 (13) | | | | tsc_S_CCPCH1 (5) |

## 8.3.31 Configuration of Cell_FACH_3_SCCPCH_3_FACH_CTCH_2a

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.3.2 for downlink and 3GPP TS 34.108 [3], clause 6.10.2.4.4.2 for uplink. The configuration is applied to the RAB tests.

The uplink configuration of Cell_FACH_3_SCCPCH_3_FACH_CTCH_2a is the same as the uplink configuration of Cell_FACH Cell_FACH_3_SCCPCH_4_FACH Cnfg1.

**Table 98: Downlink configuration of Cell_FACH_3_SCCPCH_3_FACH_CTCH_2a : 1st & 2nd S-CCPCH**

| RB Identity | tsc_RB30 (30) | tsc_RB0 (0) | tsc_RB_BCCH_FACH (-3) | tsc_RB_PCCH (-2) |
|---|---|---|---|---|
| **LogCh Type** | CTCH | CCCH | BCCH | PCCH |
| **LogCh Identity** | tsc_CTCH1 (11) | tsc_DL_CCCH5 (5) | tsc_BCCH6 (6) | tsc_PCCH1 (1) |
| **RLC mode** | UM | UM | TM | TM |
| **MAC priority** | 7 | 1 | 6 | 1 |
| **TrCH Type** | FACH | FACH | | PCH |
| **TrCH identity** | tsc_FACH2 (14) | tsc_FACH1 (13) | | tsc_PCH1 (12) |
| **PhyCh Type** | Secondary CCPCH | | | Secondary CCPCH |
| **PhyCH identity** | tsc_S_CCPCH2 (10) | | | tsc_S_CCPCH1 (5) |

**Table 99: Downlink configuration of Cell_FACH_3_SCCPCH_3_FACH_CTCH_2a: 3rd S-CCPCH**

| **RB Identity** | tsc_RB24 (24) | tsc_RB20 (20) | tsc_RB29 (29) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB_BCCH_FACH_RAB (-19) |
|---|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | CCCH | DCCH | DCCH | DCCH | DCCH | BCCH |
| **LogCh Identity** | tsc_DL_DTCH4(10) | tsc_DL_DTCH1 (7) | tsc_DL_CCCH6 (6) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (5) | tsc_BCCH7 (7) |
| **RLC mode** | AM | AM | UM | UM | AM | AM | AM | TM |
| **MAC priority** | 1 | 1 | 1 | 2 | 3 | 4 | 5 | 6 |
| **TrCH Type** | FACH | FACH | FACH | | | | | |
| **TrCH identity** | tsc_FACH4 (17) | | tsc_FACH3 (16) | | | | | |
| **PhyCh Type** | Secondary CCPCH | | | | | | | |
| **PhyCH identity** | tsc_S_CCPCH3 (13) | | | | | | | |

## 8.3.32 Configuration of Cell_DCH_HS_DSCH (Rel-5 or later)

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.5.1 or 6.10.2.4.5.2. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to those RRC and NAS signalling tests in the DCH state where a PS RAB on DTCH mapped on HS-DSCH is setup for the interactive or background service class.

**Table 100: Uplink configuration of Cell_DCH_HS_DSCH**

| **RB Identity** | tsc_RB25 (25) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | | |
| **RLC mode** | AM | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | | |
| **PhyCh Type** | DPDCH | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | tsc_PRACH1 (8) |

**Table 101: Downlink configuration of Cell_DCH_HS_DSCH**

| **RB Identity** | tsc_RB25 (25) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | | |
| **RLC mode** | AM | | |
| **MAC priority** | 8 | | |
| **TrCH Type** | HS-DSCH | | |
| **TrCH identity /QueueID** | 0 | | |
| **PhyCh Type** | PDSCH | DPCH | Secondary CCPCH |
| **PhyCH identity** | tsc_HSPDSCH (18) | tsc_DL_DPCH1 (26) | tsc_S_CCPCH1 (5) |

## 8.3.33 Configuration of cell_One_DTCH_HS_DSCH_MAC (Rel-5 or later)

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.5.1. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to those MAC-HS Signalling tests in the DCH state where a PS RAB on DTCH mapped on HS-DSCH is setup for the interactive or background service class.

**Table 102: Uplink configuration of cell_One_DTCH_HS_DSCH_MAC**

| **RB Identity** | tsc_RB_MAC_HS (-25) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | | |
| **RLC mode** | TM | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | | |
| **PhyCh Type** | DPDCH | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | tsc_PRACH1 (8) |

**Table 103: Downlink configuration of Cell_DCH_HS_DSCH**

| **RB Identity** | tsc_RB_MAC_HS (-25) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | | |
| **RLC mode** | TM | | |
| **MAC priority** | 8 | | |
| **TrCH Type** | HS-DSCH | | |
| **TrCH identity /QueueID** | 0 | | |
| **PhyCh Type** | PDSCH | DPCH | Secondary CCPCH |
| **PhyCH identity** | tsc_HSPDSCH (18) | tsc_DL_DPCH1 (26) | tsc_S_CCPCH1 (5) |

## 8.3.34 Configuration of Cell_ 2UM_3AM_DCH_HS_DSCH (Rel-5 or later)

The configuration is based on 3GPP TS 34.108[3], clause 6.11.4a The RB0/UM-CCCH is referred to 3GPP TS 34.108[3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to MAC test case 7.1.5.2.

**Table104: Uplink configuration of Cell_2UM_3AM_DCH_HS_DSCH**

| **RB Identity** | tsc_RB26 (26) | tsc_RB27 (27) | tsc_RB25 (25) | tsc_RB28 (28) | tsc_RB17 (17) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | tsc_UL_DTCH2 (8) | tsc_UL_DTCH3 (9) | tsc_UL_DTCH4 (10) | tsc_UL_DTCH5 (13) | | |
| **RLC mode** | UM | UM | AM | AM | AM | | |
| **TrCH Type** | DCH | | | | | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | | | | | | |
| **PhyCh Type** | DPDCH | | | | | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | | | | | tsc_PRACH1 (8) |

**Table 105: Downlink configuration of Cell_2UM_3AM_DCH_HS_DSCH**

| **RB Identity** | tsc_RB26 (26) | tsc_RB27 (27) | tsc_RB25 (25) | tsc_RB28 (28) | tsc_RB17 () | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | tsc_DL_DTCH3 (9) | tsc_DL_DTCH4 (10) | tsc_DL_DTCH5 (11) | | |
| **RLC mode** | UM | UM | AM | AM | AM | | |
| **MAC priority** | 8 | 8 | 8 | 8 | 8 | | |
| **TrCH Type** | HS-DSCH | | | | | | |
| **TrCH identity /QueueID** | 0 | | 1 | | 2 | | |
| **PhyCh Type** | PDSCH | | | | | DPCH | Secondary CCPCH |
| **PhyCH identity** | tsc_HSPDSCH (18) | | | | | tsc_DL_DPCH1 (26) | tsc_S_CCPCH1 (5) |

## 8.3.35 Configuration of Cell_DCH_Speech_WAMR (Rel-5 or later)

The configuration is based on 3GPP TS 34.108 [3], clauses 6.10.2.4.1.62. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108[3], clause 6.10.2.4.4.1.1.1. The configuration is applied to RAB test 14.2.62.

**Table 106: Uplink configuration of Cell_DCH_Speech_WAMR**

| **RB Identity** | tsc_RB10 (10) | tsc_RB11 (11) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | tsc_UL_DTCH2 (8) | | |
| **RLC mode** | TM | TM | | |
| **TrCH Type** | DCH | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | tsc_UL_DCH2 (2) | | |
| **PhyCh Type** | DPDCH | | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | | tsc_PRACH1 (8) |

**Table 107: Downlink configuration of Cell_DCH_Speech_WAMR**

| **RB Identity** | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB5 (5) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DCCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | tsc_DL_DCCH5 (5) | | |
| **RLC mode** | TM | TM | TM | | |
| **MAC priority** | 1 | 1 | 5 | | |
| **TrCH Type** | DCH | DCH | DCH | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | tsc_DL_DCH2 (7) | tsc_DL_DCH6 (22) | | |
| **PhyCh Type** | DPCH | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | | | tsc_S_CCPCH1 (5) |

## 8.3.36 Configuration of PS Cell_Four_DTCH_HS_CS and Cell_Four_DTCH_CS_HS (Rel-5 or later)

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.5.3 and 6.10.2.4.5.3a. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1.

The uplink configuration is same in clause 8.3.14 except a HS-DPCCH shall be included in the UL_DPCH and tsc_RB25 shall be used instead of tsc_RB20.

**Table 108: Downlink configuration of PS Cell_Four_DTCH_HS_CS and Cell_Four_DTCH_CS_HS**

| **RB Identity** | tsc_RB25 (25) | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB12 (12) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH4 (10) | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | tsc_DL_DTCH3 (9) | | |
| **RLC mode** | AM | TM | TM | TM | | |
| **MAC priority** | 8 | 1 | 1 | 1 | | |
| **TrCH Type** | HS_DSCH | DCH | DCH | DCH | | |
| **TrCH identity** | N/A | tsc_DL_DCH1 (6) | tsc_DL_DCH2 (7) | tsc_DL_DCH3 (8) | | |
| **PhyCh Type** | HS-PDSCH | DPCH | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_HSPDSCH (18) | tsc_DL_DPCH1 (26) | | | | tsc_S_CCPCH1 (5) |

## 8.3.37 Configuration of PS Cell_Two_DTCH_HS_CS (Rel-5 or later)

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.5.4 and 6.10.2.4.5.4a. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1.

The uplink configuration is same in clause 8.3.15 except a HS-DPCCH shall be included in the UL_DPCH and tsc_RB25 shall be used instead of tsc_RB20.

**Table 109: Downlink configuration of PS Cell_Two_DTCH_HS_CS**

| **RB Identity** | tsc_RB25 (25) | tsc_RB10 (10) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH4 (10) | tsc_DL_DTCH1 (7) | | |
| **RLC mode** | AM | TM | | |
| **MAC priority** | 8 | 1 | | |
| **TrCH Type** | HS_DSCH | DCH | | |
| **TrCH identity** | N/A | tsc_DL_DCH1 (6) | | |
| **PhyCh Type** | HS-PDSCH | DPCH | | Secondary CCPCH |
| **PhyCH identity** | tsc_HSPDSCH (18) | tsc_DL_DPCH1 (20) | | tsc_S_CCPCH1 (5) |

## 8.3.38 Configuration of PS Cell_DCH_64kPS_RAB_SRB_HS (Rel-5 or later)

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.1.26. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1.

**Table 110: Uplink configuration of PS Cell_DCH_64kPS_RAB_SRB_HS**

| **RB Identity** | tsc_RB25 (25) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | | |
| **RLC mode** | AM | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | | |
| **PhyCh Type** | DPDCH | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | tsc_PRACH1 (8) |

**Table 111: Downlink configuration of PS Cell_DCH_64kPS_RAB_SRB SRB**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB25 (25) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | | |
| **RLC mode** | AM | | |
| **MAC priority** | 8 | | |
| **TrCH Type** | DCH | | |
| **TrCH identity** | tsc_DL_DCH1 (6) | | |
| **PhyCh Type** | DPCH | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | tsc_S_CCPCH1 (5) |

## 8.3.39 Configuration of PS Cell_DCH_2AM_HS_DSCH (Rel-5 or later)

The configuration is based on 3GPP TS 34.108 [3], clauses 6.10.2.4.1.26 and 6.10.2.4.1.57. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 with 2 AM RAB and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to MAC and RAB test cases.

**Table 112: Uplink configuration of Cell_DCH_2AM_HS_DSCH**

| | | | | |
|---|---|---|---|---|
| **RB Identity** | tsc_RB25 (25) | tsc_RB17 (17) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | tsc_UL_DTCH2 (8) | | |
| **RLC mode** | AM | AM | | |
| **TrCH Type** | DCH | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | tsc_UL_DCH2 (2) | | |
| **PhyCh Type** | DPDCH | | | PRACH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | | tsc_PRACH1 (8) |

**Table 113: Downlink configuration of Cell_DCH_2AM_HS_DSCH**

| | | | | |
|---|---|---|---|---|
| **RB Identity** | tsc_RB25 (25) | tsc_RB17 (17) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | | |
| **RLC mode** | AM | AM | | |
| **MAC priority** | 8 | 8 | | |
| **TrCH Type** | HS-DSCH | HS-DSCH | | |
| **TrCH identity /QueueID** | 0 | 1 | | |
| **PhyCh Type** | PDSCH | | DPCH | Secondary CCPCH |
| **PhyCH identity** | tsc_HSPDSCH (18) | | tsc_DL_DPCH1 (26) | tsc_S_CCPCH1 (5) |

## 8.3.40 Configuration of Cell_Three_DTCH_5SRB (Rel-5 or later)

The configuration is based on 3GPP TS 34.108 [**3**], clauses 6.10.2.4.1.62. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.4.1.1.1. The configuration is applied to RB tests.

The uplink configuration is same in clause 8.3.3 Cell_DCH_Speech.

**Table 114: Downlink configuration of Cell_Three_DTCH_5SRB**

| **RB Identity** | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB12 (12) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB5 (5) | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DTCH | DCCH | DCCH | DCCH | DCCH | DCCH | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | tsc_DL_DTCH3 (9) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_DL_DCCH5 () | |
| **RLC mode** | TM | TM | TM | UM | AM | AM | AM | TM | |
| **MAC priority** | 1 | 1 | 1 | 1 | 2 | 3 | 4 | 5 | |
| **TrCH Type** | DCH | DCH | DCH | DCH | | | | DCH | |
| **TrCH/ Q-identity** | tsc_DL_DCH1 (6) | tsc_DL_DCH2 (7) | tsc_DL_DCH3 (8) | tsc_DL_DCH5 (10) | | | | tsc_DL_DCH6 (22) | |
| **PhyCh Type** | DPCH | | | | | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_DL_DPCH1 (26) | | | | | | | | tsc_S_CCPCH1 (5) |

## 8.3.41 Configuration of Cell_Five_DTCH_CS_HS (Rel-5 or later)

The configuration is based on 3GPP TS 34.108 [**3**], clauses 6.10.2.4.5.7. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.4.1.1.1. The configuration is applied to RB tests.

**Table 115: Uplink configuration of Cell_Five_DTCH_CS_HS and Cell_Five_DTCH_CS_HS**

| **RB Identity** | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB12 (12) | tsc_RB25 (25) | tsc_RB17 (17) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH except TrCH Identity is tsc_UL_DCH6 (21) | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | tsc_UL_DTCH2 (8) | tsc_UL_DTCH3 (9) | tsc_UL_DTCH4 (10) | tsc_UL_DTCH5 (13) | | |
| **RLC mode** | TM | TM | TM | AM | AM | | |
| **MAC priority** | 1 | 1 | 1 | 1 | 1 | | |
| **TrCH Type** | DCH | DCH | DCH | DCH | DCH | | |
| **TrCH identity** | tsc_UL_DCH1 (1) | tsc_UL_DCH2 (2) | tsc_UL_DCH3 (3) | tsc_UL_DCH4 (4) | tsc_UL_DCH5 (5) | | |
| **PhyCh Type** | DPDCH | | | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_UL_DPCH1 (20) | | | | | | tsc_S_CCPCH1 (5) |

**Table 116: Downlink configuration of PS Cell_Five_DTCH_HS_CS and Cell_Five_DTCH_CS_HS**

| **RB Identity** | tsc_RB25 (25) | tsc_RB17 (17) | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB12 (12) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH4 (10) | tsc_DL_DTCH5 (13) | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | tsc_DL_DTCH3 (9) | | |
| **RLC mode** | AM | AM | TM | TM | TM | | |
| **MAC priority** | 8 | 8 | 1 | 1 | 1 | | |
| **TrCH Type** | HS_DSCH | HS_DSCH | DCH | DCH | DCH | | |
| **TrCH identity** | N/A | N/A | tsc_DL_DCH1 (6) | tsc_DL_DCH2 (7) | tsc_DL_DCH3 (8) | | |
| **PhyCh Type** | HS-PDSCH | | DPCH | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_HSPDSCH (18) | | tsc_DL_DPCH1 (26) | | | | tsc_S_CCPCH1 (5) |

## 8.3.42 Configuration of Cell_DCH_E_HS (Rel-6 or later)

The configuration is based on 3GPP TS 34.108 [**3**], clause 6.10.2.4.6.1. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.4.1.1.1.

The configuration is applied to RRC signalling tests in the DCH state where a PS RAB on DTCH mapped on E-DCH in uplink and HS-DSCH in downlink is setup for the streaming or interactive or background service class (A12).

The downlink configuration is same in clause 8.3.32 Cell_DCH_HS_DSCH.

**Table 117: Uplink configuration of Cell_DCH_E_HS**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB25 (25) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | | |
| **RLC mode** | AM | | |
| **TrCH Type** | E-DCH | | |
| **TrCH identity/Mac-d Flow Id** | 2 | | |
| **PhyCh Type** | E-DPDCH | DPDCH | PRACH |
| **PhyCH identity** | tsc_E_DPCH (22) | tsc_UL_DPCH1 (20) | tsc_PRACH1 (8) |

## 8.3.43 Configuration of Cell_DCH_dlSRB_E_HS (Rel-6 or later)

The configuration is based on 3GPP TS 34.108 [**3**], clause 6.10.2.4.6.2. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.4.1.1.1.

The configuration is applied to RRC signalling tests in the DCH state where a PS RAB is setup for the interactive or background service class (A13):

PS RAB on DTCH is mapped on E-DCH in uplink and HS-DSCH in downlink.

Uplink SRBs on DCCH are mapped on E-DCH.

Downlink SRBs on DCCH are mapped on DCH.

The downlink configuration is same in clause 8.3.32 Cell_DCH_HS_DSCH.

**Table 118: Uplink configuration of Cell_DCH_dlSRB_E_HS**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB25 (25) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | | |
| **RLC mode** | AM | | |
| **TrCH Type** | E-DCH | | |
| **TrCH identity/ Mac-d Flow Id** | 2 | 1 | |
| **PhyCh Type** | E-DPDCH | | PRACH |
| **PhyCH identity** | tsc_E_DPCH (22) | | tsc_PRACH1 (8) |

## 8.3.44 Configuration of Cell_E_HS (Rel-6 or later)

The configuration is based on 3GPP TS 34.108 [**3**], clause 6.10.2.4.6.3. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.4.1.1.1.

The configuration is applied to RRC signalling tests in the DCH state where a PS RAB is setup for the interactive or background service class (A14):

PS RAB on DTCH is mapped on E-DCH in uplink and HS-DSCH in downlink.

Uplink SRBs on DCCH are mapped on E-DCH

Downlink SRBs on DCCH are mapped on HS-DSCH

The uplink configuration is same in clause 8.3.43 Cell_DCH_dlSRB_E_HS. In the downlink F-DPCH is configured.

**Table 119: Downlink configuration of Cell_E_HS**

| | | | | |
|---|---|---|---|---|
| **RB Identity** | tsc_RB25 (25) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | | Same as downlink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | | | |
| **RLC mode** | AM | | | |
| **MAC priority** | 8 | | | |
| **TrCH Type** | | HS-DSCH | | |
| **TrCH identity / Mac-d Flow Id** | 0 | 1 | | |
| **PhyCh Type** | | PDSCH | | Secondary CCPCH |
| **PhyCH identity** | | tsc_HSPDSCH (18) | | tsc_S_CCPCH1 (5) |

## 8.3.45 Configuration of PS Cell_Four_DTCH_E_HS_CS and Cell_Four_DTCH_CS_E_HS (Rel-6 or later)

The configuration is based on 3GPP TS 34.108 [**3**], clause 6.10.2.4.6.4. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.4.1.1.1.

The configuration is applied to RRC signalling tests in the DCH state where a PS RAB is setup for the interactive or background service class:

PS RAB on DTCH is mapped on E-DCH in uplink and HS-DSCH in downlink

CS RAB on DTCH are mapped on DCH in uplink and downlink

Uplink SRBs on DCCH are mapped on DCH

Downlink SRBs on DCCH are mapped on DCH

The downlink configuration is same as in clause 8.3.36 Cell_Four_DTCH_HS_CS and Cell_Four_DTCH_CS_HS.

**Table 120: Uplink configuration of Cell_Four_DTCH_E_HS_CS and Cell_Four_DTCH_CS_E_HS**

| | | | | | | |
|---|---|---|---|---|---|---|
| **RB Identity** | tsc_RB25 (25) | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB12 (12) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH4 (10) | tsc_UL_DTCH1 (7) | tsc_UL_DTCH2 (8) | tsc_UL_DTCH3 (9) | | |
| **RLC mode** | AM | TM | TM | TM | | |
| **MAC priority** | | 1 | 1 | 1 | | |
| **TrCH Type** | E-DCH | DCH | DCH | DCH | | |
| **TrCH identity / Mac-d Flow Id** | 2 | tsc_UL_DCH1 (1) | tsc_UL_DCH2 (2) | tsc_UL_DCH3 (3) | | |
| **PhyCh Type** | E-DPDCH | DPDCH | | | | PRACH |
| **PhyCH identity** | tsc_E_DPCH (22) | tsc_UL_DPCH1 (20) | | | | tsc_PRACH1 (8) |

## 8.3.46 Configuration of Cell_2DCH_2AM_dlSRB_E_HS (Rel-6 or later)

The configuration is based on 3GPP TS 34.108 [**3**], clause 6.10.2.4.5.2. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.4.1.1.1.

The configuration is applied to RRC signalling tests in the DCH state where a PS RAB is setup for the interactive or background service class (A15):

2 AM PS RAB on DTCH is mapped on E-DCH in uplink and HS-DSCH in downlink.

Uplink SRBs on DCCH are mapped on E-DCH.

Downlink SRBs on DCCH are mapped on DCH.

The downlink configuration is same in clause 8.3.39 Cell_2DCH_ 2AM_HS_DSCH

**Table 121: Uplink configuration of Cell_2DCH_2AM_dlSRB_E_HS**

| | | | | |
|---|---|---|---|---|
| **RB Identity** | tsc_RB25 (25) | tsc_RB17 (17) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | tsc_UL_DTCH2 (8) | | |
| **RLC mode** | AM | AM | | |
| **TrCH Type** | E-DCH | | | |
| **TrCH identity//Mac-d Flow Id** | 2 | 3 | 1 | |
| **PhyCh Type** | E-DPDCH | | | PRACH |
| **PhyCH identity** | tsc_E_DPCH (22) | | | tsc_PRACH1 (8) |

## 8.3.47 Configuration of Cell_E_HS_MAC_TM_RAB (Rel-6 or later)

The configuration is based on 3GPP TS 34.108 [**3**], clause 6.11.4c, with RAB configured in TM mode on SS side. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.4.1.1.1.

The configuration is applied to MAC(e/es) signalling tests in the DCH state where a PS RAB is setup for the interactive or background service class (A12):

PS RAB on DTCH is mapped on E-DCH in uplink and HS-DSCH in downlink.

Uplink SRBs on DCCH are mapped on DCH

Downlink SRBs on DCCH are mapped on DCH

**Table 122: Uplink configuration of Cell_E_HS_MAC_TM_RAB**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB_DTCH_E_DCH_MAC1 (-21) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | | |
| **RLC mode** | TM | | |
| **TrCH Type** | E-DCH | | |
| **TrCH identity/Mac-d Flow Id** | 2 | | |
| **PhyCh Type** | E-DPDCH | DPDCH | PRACH |
| **PhyCH identity** | tsc_E_DPCH (22) | tsc_UL_DPCH1 (20) | tsc_PRACH1 (8) |

**Table 123: Downlink configuration of Cell_E_HS_MAC_TM_RAB**

| | | | |
|---|---|---|---|
| **RB Identity** | tsc_RB_DTCH_E_DCH_MAC1 (-21) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | | |

| | | | |
|---|---|---|---|
| **RLC mode** | TM | | |
| **MAC priority** | 8 | | |
| **TrCH Type** | HS-DSCH | | |
| **TrCH identity /QueueID** | 0 | | |
| **PhyCh Type** | PDSCH | DPCH | Secondary CCPCH |
| **PhyCH identity** | tsc_HSPDSCH (18) | tsc_DL_DPCH1 (26) | tsc_S_CCPCH1 (5) |

## 8.3.48 Configuration of Cell_2DCH_MAC_2TM_dlSRB_E_HS (Rel-6 or later)

The configuration is based on 3GPP TS 34.108 [**3**], clause 6.11.4d. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.4.1.1.1. (A13)

The configuration is applied to MAC(e/es) signalling tests in the DCH state where a PS RAB is setup for the interactive or background service class (A15):

2 TM PS RAB on DTCH is mapped on E-DCH in uplink and HS-DSCH in downlink.

Uplink SRBs on DCCH are mapped on E-DCH.

Downlink SRBs on DCCH are mapped on DCH.

**Table 124: Uplink configuration of Cell_2DCH_MAC_2TM_dlSRB_E_HS**

| | | | | |
|---|---|---|---|---|
| **RB Identity** | tsc_RB_DTCH_E_DCH_MAC1 (-21) | tsc_RB_DTCH_E_DCH_MAC2 (-22) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | tsc_UL_DTCH2 (8) | | |
| **RLC mode** | TM | TM | | |
| **TrCH Type** | E-DCH | | | |
| **TrCH identity//Mac-d Flow Id** | 2 | 3 | 1 | |
| **PhyCh Type** | E-DPDCH | | | PRACH |
| **PhyCH identity** | tsc_E_DPCH (22) | | | tsc_PRACH1 (8) |

**Table 125: Downlink configuration of Cell_2DCH_MAC_2TM_dlSRB_E_HS**

| | | | | |
|---|---|---|---|---|
| **RB Identity** | tsc_RB_DTCH_E_DCH_MAC1 (-21) | tsc_RB_DTCH_E_DCH_MAC2 (-22) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | | |
| **RLC mode** | TM | TM | | |
| **MAC priority** | 8 | 8 | | |
| **TrCH Type** | HS-DSCH | HS-DSCH | | |
| **TrCH identity /QueueID** | 0 | 1 | | |
| **PhyCh Type** | PDSCH | | DPCH | Secondary CCPCH |
| **PhyCH identity** | tsc_HSPDSCH (18) | | tsc_DL_DPCH1 (26) | tsc_S_CCPCH1 (5) |

## 8.3.49 Configuration of Cell_2DCH_1AM_1UM_E_HS (Rel-6 or later)

The configuration is based on 3GPP TS 34.108 [**3**], clause 6.10.2.4.6.6. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.4.1.1.1.

The configuration is applied to RRC signalling tests in the DCH state where a PS RAB is setup for the streaming or interactive or background service class and another UM PS Bearer is setup for conversational / unknown or speech (A16):

1 AM PS RAB and 1 UM PS RAB on DTCH are mapped on E-DCH in uplink and HS-DSCH in downlink.

Uplink SRBs on DCCH are mapped on E-DCH.

Downlink SRBs on DCCH are mapped on HS-DSCH.

In the downlink F-DPCH is configured.

**Table 126: Uplink configuration of Cell_2DCH_1AM_1UM_E_HS**

| **RB Identity** | tsc_RB25 (25) | tsc_RB27 (27) | Same as uplink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | tsc_UL_DTCH3 (9) | | |
| **RLC mode** | AM | UM | | |
| **TrCH Type** | E-DCH | | | |
| **TrCH identity//Mac-d Flow Id** | 2 | 4 | 1 | |
| **PhyCh Type** | E-DPDCH | | | PRACH |
| **PhyCH identity** | tsc_E_DPCH (22) | | | tsc_PRACH1 (8) |

**Table 127: Downlink configuration of Cell_2DCH_1AM_1UM_E_HS**

| **RB Identity** | tsc_RB25 (25) | tsc_RB27 (27) | Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAloneSRB on PRACH |
|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH 1 (7) | tsc_DL_DTCH3 (9) | | |
| **RLC mode** | AM | UM | | |
| **MAC priority** | 8 | 8 | | |
| **TrCH Type** | HS-DSCH | | | |
| **TrCH identity / Mac-d Flow Id** | 0 | 3 | 1 | |
| **PhyCh Type** | PDSCH | | | Secondary CCPCH |
| **PhyCH identity** | tsc_HSPDSCH (18) | | | tsc_S_CCPCH1 (5) |

## 8.3.50 Configuration of Cell_3DCH_2AM_1UM_E_HS (Rel-6 or later)

The configuration is based on 3GPP TS 34.108 [**3**], clause 6.10.2.4.6.7. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.4.1.1.1.

The configuration is applied to RRC signalling tests in the DCH state where two PS RABs are setup for the streaming or interactive or background service class and another UM PS Bearer is setup for conversational / unknown or speech:

2 AM PS RABs and 1 UM PS RAB on DTCH are mapped on E-DCH in uplink and HS-DSCH in downlink.

Uplink SRBs on DCCH are mapped on E-DCH.

Downlink SRBs on DCCH are mapped on HS-DSCH.

In the downlink F-DPCH is configured.

**Table 128: Uplink configuration of Cell_2DCH_1AM_1UM_E_HS**

| | | | | | |
|---|---|---|---|---|---|
| **RB Identity** | tsc_RB25 (25) | tsc_RB17 (17) | tsc_RB27 (27) | Same as uplink configuration of Cell_DCH_StandAlon eSRB on DPCH | Same as uplink configuration of Cell_DCH_StandAlon eSRB on PRACH |
| **LogCh Type** | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_UL_DTCH1 (7) | tsc_UL_DTCH 2 (8) | tsc_UL_DTCH3 (9) | | |
| **RLC mode** | AM | AM | UM | | |
| **TrCH Type** | E-DCH | | | | |
| **TrCH identity//Mac-d Flow Id** | 2 | 3 | 4 | 1 | |
| **PhyCh Type** | E-DPDCH | | | | PRACH |
| **PhyCH identity** | tsc_E_DPCH (22) | | | | tsc_PRACH1 (8) |

**Table 129: Downlink configuration of Cell_2DCH_1AM_1UM_E_HS**

| | | | | | |
|---|---|---|---|---|---|
| **RB Identity** | tsc_RB25 (25) | tsc_RB17 (17) | tsc_RB27 (27) | Same as downlink configuration of Cell_DCH_StandAlon eSRB on DPCH | Same as downlink configuration of Cell_DCH_StandAlone SRB on PRACH |
| **LogCh Type** | DTCH | DTCH | DTCH | | |
| **LogCh Identity** | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | tsc_DL_DTCH3 (9) | | |
| **RLC mode** | AM | AM | UM | | |
| **MAC priority** | 8 | 8 | 8 | | |
| **TrCH Type** | HS-DSCH | | | | |
| **TrCH identity / Mac-d Flow Id** | 0 | 2 | 3 | 1 | |
| **PhyCh Type** | PDSCH | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_HSPDSCH (18) | | | | tsc_S_CCPCH1 (5) |

## 8.3.51 Configuration of Cell_Four_DTCH_CS_E_HS_5SRB (Rel-6 or later)

The configuration is based on 3GPP TS 34.108 [**3**], clauses6.10.2.4.6.8. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.4.1.1.1. The configuration is applied to RB tests.

The uplink configuration is same as in clause 8.3.45 Cell_Four_DTCH_E_HS_CS and Cell_Four_DTCH_CS_E_HS.

The downlink configuration is the same as in clause 8.3.52 Cell_Four_DTCH_HS_5SRB.

## 8.3.52 Configuration of Cell_Four_DTCH_HS_5SRB (Rel-5 or later)

The configuration is based on 3GPP TS 34.108 [**3**], clauses 6.10.2.4.5.8. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [**3**], clause 6.10.2.4.4.1.1.1. The configuration is applied to RB tests.

The uplink configuration is same in clause 8.3.36 Cell_Four_DTCH_HS_CS and Cell_Four_DTCH_CS_HS.

**Table 130: Downlink configuration of Cell_Four_DTCH_HS_5SRB**

| **RB Identity** | tsc_RB25 (25) | tsc_RB10 (10) | tsc_RB11 (11) | tsc_RB12 (12) | tsc_RB1 (1) | tsc_RB2 (2) | tsc_RB3 (3) | tsc_RB4 (4) | tsc_RB5 (5) | Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH |
|---|---|---|---|---|---|---|---|---|---|---|
| **LogCh Type** | DTCH | DTCH | DTCH | DTCH | DCCH | DCCH | DCCH | DCCH | DCCH | |
| **LogCh Identity** | tsc_DL_DTCH41 (107) | tsc_DL_DTCH1 (7) | tsc_DL_DTCH2 (8) | tsc_DL_DTCH3 (9) | tsc_DL_DCCH1 (1) | tsc_DL_DCCH2 (2) | tsc_DL_DCCH3 (3) | tsc_DL_DCCH4 (4) | tsc_DL_DCCH5 (5) | |
| **RLC mode** | AM | TM | TM | TM | UM | AM | AM | AM | TM | |
| **MAC priority** | 8 | 1 | 1 | 1 | 1 | 2 | 3 | 4 | 5 | |
| **TrCH Type** | HS-DSCH | DCH | DCH | DCH | DCH | | | | DCH | |
| **TrCH/ Q-identity** | 0 | tsc_DL_DCH1 (6) | tsc_DL_DCH2 (7) | tsc_DL_DCH3 (8) | tsc_DL_DCH5 (10) | | | | tsc_DL_DCH6 (22) | |
| **PhyCh Type** | PDSCH | DPCH | | | | | | | | Secondary CCPCH |
| **PhyCH identity** | tsc_HSPDSCH (18) | tsc_DL_DPCH1 (26) | | | | | | | | tsc_S_CCPCH1 (5) |

# 8.4 System information blocks scheduling

All SIBs specified in 3GPP TS 34.108 [3] are broadcast for all test cases in the present document. The repeat period of broadcasting of a complete SIB configuration is 64 frames (0,64 s) as the default configuration.

Except MIB and SB1, they have the highest scheduling rates, SIB7 has also a higher scheduling rate.

According to the default SIB contents in 3GPP TS 34.108 [3], SIB11 and SIB12 have 3 segments. SIB5/SIB5bis has 4 segments for FDD and 5 segments for 1.28 Mcps TDD. SIB 6 has 4 segments. MIB, SB1, SIB1, SIB2, SIB3, SIB4, SIB7 and SIB18 are not segmented, i.e. one segment for each. For the PDCP tests, SIB16 has 7 segments.

Use CMAC_SYSINFO_CONFIG_REQ, CMAC_SYSINFO_CONFIG_CNF and RLC_TR_DATA_REQ as interface to SS for broadcasting.

Two TSOs are defined, one for PER encoding function, the other for segmentation function. The TSOs shall be implemented in the tester.

## 8.4.1 Grouping SIBs for testing

**Table 131**

| **Mandatory in 3GPP TS 34.108 [3]** | **Used in Idle Mode** | MIB, SB1, (SB2), SIB1, SIB2, SIB3, SIB5/SIB5bis, SIB7, SIB11 |
|---|---|---|
| | **Used in Connected Mode** | SIB4, SIB6, SIB12 |
| **Mandatory for FDD CPCH** | | SIB8, SIB9 |
| **Mandatory for FDD DRAC** | | SIB10 |
| **Mandatory for TDD** | | SIB14 (for 3.84 Mcps TDD), SIB17 |
| **Mandatory for LCS** | | SIB15, SIB15.1, SIB15.2, SIB15.3 |
| **Mandatory for ANSI-41 system** | | SIB13, SIB13.1, SIB13.2, SIB13.3, SIB13.4 |
| **Mandatory for InterSys HO GERAN to UTRAN** | | SIB16 |
| **Mandatory for Cell reselection** | | SIB18 |

## 8.4.2 SIB configurations

Currently the ATS contains three SIB configurations, Configuration 1 is default for UTRAN/FDD SYSTEM, UTRAN/TDD, UTRAN/FDD + GERAN SYSTEM (not involving inter-RAT handover) and Inter-RAT UTRAN to GERAN. Configuration 2 is for test cases which need two S_CCPCH or two PRACH. Configuration 3 is for inter-RAT GERAN to UTRAN handover test cases.

**Table 132**

| | |
|---|---|
| **Configuration 1** | MIB, SB1, SIB1, SIB2, SIB3, SIB4, SIB5/SIB5bis, SIB6, SIB7, SIB11, SIB12, SIB18 |
| **Configuration 2** | MIB, SB1, SIB1, SIB2, SIB3, SIB4, SIB5/SIB5bis, SIB7, SIB11, SIB12, SIB18 |
| **Configuration 3** | MIB, SB1, SIB1, SIB2, SIB3, SIB4, SIB5/SIB5bis, SIB7, SIB11, SIB16, SIB18 |

## 8.4.3 Test SIB default schedule

**Table 133**

| **Frame No.** | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **Block Type** | MIB | SB1 | SIB7 | SIB6 | MIB | SIB6 | SIB6 | SIB6 |

| **Frame No.** | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| **Block Type** | MIB | SB1 | SIB7/SIB3 | SIB1/ SIB2 | MIB | SIB12 | SIB12 | SIB12 |

| **Frame No.** | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| **Block Type** | MIB | SB1 | SIB7/ SIB18 | SIB5/ SIB5bis | MIB | SIB5/ SIB5bis | SIB5/ SIB5bis | SIB5/ SIB5bis |

| **Frame No.** | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| **Block Type** | MIB | SB1 | SIB7/SIB4 | - (FDD) SIB5/ SIB5bis (LCR TDD) | MIB | SIB11 | SIB11 | SIB11 |

SIB-repeat period (in frame)

**Table 134**

| **Block Type** | MIB | SB1 | SIB1 | SIB2 | SIB3 | SIB4 | SIB5/ SIB5bis | SIB6 | SIB7 | SIB11 | SIB12 | SIB18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SIB Rep** | 8 | 16 | 64 | 64 | 64 | 64 | 64 | 64 | 16 | 64 | 64 | 64 |
| **Max. No of seg.** | 1 | 1 | 1 | 1 | 1 | 1 | 4(FDD) 5(LCR TDD) | 4 | 1 | 3 | 3 | 1 |

### 8.4.3.1 Test SIB schedule for idle mode, measurement and Inter-RAT UTRAN to GERAN test cases

**Table 135**

| **Frame No.** | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **Block Type** | MIB | SB1 | SIB6 | SIB6 | MIB | SIB6 | SIB6 | SIB7/ SIB3 |

| **Frame No.** | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| **Block Type** | MIB | SB1 | SIB1/SIB2 | SIB12 | MIB | SIB12 | SIB12 | SIB7/ SIB12 |

| **Frame No.** | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| **Block Type** | MIB | SB1 | SIB5/ SIB5bis | SIB5/ SIB5bis | MIB | SIB5/ SIB5bis | SIB5/ SIB5bis | SIB7/ SIB18 |

| **Frame No.** | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| **Block Type** | MIB | SB1 | SIB11 | SIB11 | MIB | SIB11 | SIB11 | SIB7/ SIB4 |

SIB-repeat period (in frame)

**Table 136**

| Block Type | MIB | SB1 | SIB1 | SIB2 | SIB3 | SIB4 | SIB5/ SIB5bis | SIB6 | SIB7 | SIB11 | SIB12 | SIB18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SIB Rep | 8 | 16 | 64 | 64 | 64 | 64 | 64 | 64 | 16 | 64 | 64 | 64 |
| Max. No of seg. | 1 | 1 | 1 | 1 | 1 | 1 | 4(FDD) 5(LCR TDD) | 4(FDD) 3(LCR TDD) | 1 | 4 | 4 | 1 |

## 8.4.4 Test SIB special schedule

### 8.4.4.1 Test SIB schedule for two S-CCPCH or two PRACH

**Table 137**

| Frame No. | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 |
|---|---|---|---|---|---|---|---|---|
| REP-POS | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Block Type | MIB | SB1 | SB1 | | MIB | SIB1 | SIB18 | SIB2 |

| Frame No. | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 |
|---|---|---|---|---|---|---|---|---|
| REP-POS | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Block Type | MIB | SB1 | SB1 | SIB7 | MIB | SIB3 | | SIB4 |

| Frame No. | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 |
|---|---|---|---|---|---|---|---|---|
| REP-POS | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| Block Type | MIB | SB1 | SB1 | SIB5/ SIB5bis | MIB | SIB5/ SIB5bis | SIB5/ SIB5bis | SIB5/ SIB5bis |

| Frame No. | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 |
|---|---|---|---|---|---|---|---|---|
| REP-POS | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| Block Type | MIB | SB1 | SB1 | SIB7 | MIB | SIB11 | SIB11 | SIB11 |

| Frame No. | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 |
|---|---|---|---|---|---|---|---|---|
| REP-POS | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
| Block Type | MIB | SB1 | SB1 | SIB5/ SIB5bis | MIB | SIB5/ SIB5bis | SIB5/ SIB5bis | SIB5/ SIB5bis |

| Frame No. | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 |
|---|---|---|---|---|---|---|---|---|
| REP-POS | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 |
| Block Type | MIB | SB1 | SB1 | SIB7 | MIB | SIB3 | | SIB4 |

| Frame No. | 96 | 98 | 100 | 102 | 104 | 106 | 108 | 110 |
|---|---|---|---|---|---|---|---|---|
| REP-POS | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 |
| Block Type | MIB | SB1 | SB1 | | MIB | | | |

| Frame No. | 112 | 114 | 116 | 118 | 120 | 122 | 124 | 126 |
|---|---|---|---|---|---|---|---|---|
| REP-POS | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 |
| Block Type | MIB | SB1 | SB1 | SIB7 | MIB | SIB12 | SIB12 | SIB12 |

SIB-repeat period (in frame)

**Table 138**

| Block Type | MIB | SB1 | SIB1 | SIB2 | SIB3 | SIB4 | SIB5/ SIB5bis | SIB7 | SIB11 | SIB12 | SIB18 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SIB Rep | 8 | 16 | 128 | 128 | 64 | 64 | 128 | 32 | 128 | 128 | 128 |
| Max. No of seg. | 1 | 2 | 1 | 1 | 1 | 1 | 8 | 1 | 3 | 3 | 1 |

### 8.4.4.2 Test SIB schedule for Inter-Rat Handover from GERAN to UTRAN Test

**Table 139**

| **Frame No.** | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **Block Type** | MIB | SB1 | SB1 | | MIB | SIB1 | SIB18 | SIB2 |

| **Frame No.** | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| **Block Type** | MIB | SB1 | SB1 | SIB7 | MIB | SIB3 | | SIB4 |

| **Frame No.** | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| **Block Type** | MIB | SB1 | SB1 | SIB5/ SIB5bis | MIB | SIB5/ SIB5bis | SIB5/ SIB5bis | SIB5/ SIB5bis |

| **Frame No.** | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| **Block Type** | MIB | SB1 | SB1 | SIB7 | MIB | SIB11 | SIB11 | SIB11 |

| **Frame No.** | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
| **Block Type** | MIB | SB1 | SB1 | SIB16 | MIB | SIB16 | SIB16 | SIB16 |

| **Frame No.** | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 |
| **Block Type** | MIB | SB1 | SB1 | SIB7 | MIB | SIB3 | | SIB4 |

| **Frame No.** | 96 | 98 | 100 | 102 | 104 | 106 | 108 | 110 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 |
| **Block Type** | MIB | SB1 | SB1 | SIB16 | MIB | SIB16 | SIB16 | SIB16 |

| **Frame No.** | 112 | 114 | 116 | 118 | 120 | 122 | 124 | 126 |
|---|---|---|---|---|---|---|---|---|
| **REP-POS** | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 |
| **Block Type** | MIB | SB1 | SB1 | SIB7 | MIB | | | |

SIB-repeat period (in frame)

**Table 140**

| **Block Type** | MIB | SB1 | SIB1 | SIB2 | SIB3 | SIB4 | SIB5/ SIB5bis | SIB7 | SIB11 | SIB16 | SIB18 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SIB Rep** | 8 | 16 | 128 | 128 | 64 | 64 | 128 | 32 | 128 | 128 | 128 |
| **Max. No of seg.** | 1 | 2 | 1 | 1 | 1 | 1 | 4 | 1 | 3 | 8 | 1 |

## 8.4.5 Handling the transmission of SIB

According to the SIB repeat periods, SIBs need to be transmitted on a very regular basis during the operation of a test case. This transmission usually has no direct bearing on the operation of the test case, although the carried information ensures the correct configuration and operation of the UE during the test case.

To send this information repeatedly directly from each test case would make the test cases very complex to implement, difficult to understand and place real-time requirements upon them that are beyond the capabilities of most TTCN driven test engines.

Management of scheduling of System Information messages is performed by the system simulator. The SIB contents, usually determined in part by the individual tests, come from the TTCN test cases.

### 8.4.5.1 Delivery of System Information content

The content of the System Information messages is delivered as a fully encoded bit string to the TM-RLC SAP from the message content defined in the TTCN test case.

The IE 'SFNprime' in the SI messages is set to 0 by the TTCN, and the correct value of 'SFNprime' shall be inserted by the System Simulator prior to transmission of a SI message.

SI messages are ASN.1 packed encoded through a TTCN TSO and segmented another TTCN TSO into SIBs in the TTCN and sent only once to the TM-RLC SAP. Repetition of the SIB is the responsibility of the System Simulator lower layers.

SIBs are considered to be cached. That is, sending a SIB to the TM-RLC SAP will cause a previously sent copy of the SIB to be lost, and all future transmissions of the SIB will be the most recently sent version. This allows for the updating of System Information during the operation of a test case.

### 8.4.5.2 Scheduling of system Information blocks

The schedule for the transmission of SIBs is provided by the TTCN test case. It is sent using the CMAC_SYSINFO_CONFIG_REQ primitive sent to the CMAC SAP (CMAC_PCO).

Each CMAC_SYSINFO_CONFIG_REQ primitive carries scheduling information for the next SIB sent from the TTCN. Each primitive is followed by an associated SIB. Sending two CMAC_SYSINFO_CONFIG_REQ primitives in succession may cause an unspecified result.

### 8.4.5.3 Example of usage

The following example shows how the MIB, SB1 and all SIBs in subclause 8.4.3 are sent to the System Simulator lower layers for broadcasting. The 1st parameter in CMAC_SYSINFO_CONFIG_REQ represents the repeat period in power of 2. The 2nd parameter represents the repetition position. Two consecutive frames represent an available repetition position.

| | |
|---|---|
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (3, 0) |
| TM_PCO: | MIB |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (4, 1) |
| TM_PCO: | SB1 |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 2) |
| TM_PCO: | SIB7 |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 3) |
| TM_PCO: | SIB6 (segment 1 of 4) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 5) |
| TM_PCO: | SIB6 (segment 2 of 4) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 6) |
| TM_PCO: | SIB6 (segment 3 of 4) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 7) |
| TM_PCO: | SIB6 (segment 4 of 4) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 10) |
| TM_PCO: | SIB7 + SIB3 (concatenation) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 11) |
| TM_PCO: | SIB1 + SIB2 (concatenation) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 13) |
| TM_PCO: | SIB12 (segment 1 of 3) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 14) |
| TM_PCO: | SIB12 (segment 2 of 3) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 15) |
| TM_PCO: | SIB12 (segment 3 of 3) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 18) |
| TM_PCO: | SIB7 + SIB18 (concatenation) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 19) |
| TM_PCO: | SIB5/SIB5bis (segment 1 of 4) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 21) |
| TM_PCO: | SIB5/SIB5bis (segment 2 of 4) |

| | |
|---|---|
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 22) |
| TM_PCO: | SIB5/SIB5bis (segment 3 of 4) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 23) |
| TM_PCO: | SIB5/SIB5bis (segment 4 of 4) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 26) |
| TM_PCO: | SIB7 + SIB4 (concatenation) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 27) |
| TM_PCO: | No segment |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 29) |
| TM_PCO: | SIB11 (segment 1 of 3) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 30) |
| TM_PCO: | SIB11 (segment 3 of 3) |
| CMAC_PCO: | CMAC_SYSINFO_CONFIG_REQ (6, 31) |
| TM_PCO: | SIB11 (segment 3 of 3) |

# 8.5 Security in testing

The security functions at the SS side are implemented in RLC and MAC layers. When the AM or UM RLC entities and a MAC(d) entity are created, the TTCN will download a security context for each CN domain used. The two ASPs CMAC_SecurityMode_Config_REQ and CRLC_SecurityMode_Config_REQ configures the SS security contexts and associate the contexts to the created entities. The SS shall support one activate security contexts and one context pending activation for each CN domain.

A security context at the SS consists of the security parameter START, 20 bits long and a pair of integrity key and a ciphering key, each 128 bits long. All these security parameters belong to a CS or a PS domain. The SS shall have the ability to store these values till the new values are downloaded and activated. $START_{cs}$ is used for initialization of all counters-C and counters-I (32 bits long each) of all DL and UL radio bearers for ciphering and integrity protection in the CS domain. The same is for $START_{ps}$ in the PS domain. The TTCN downloads the new START value whenever it is received from the UE. In the case of a succeeded authentication procedure, the START value is reset to zero by the TTCN.

Once the START is downloaded the SS will, according to the activation time, initialize the 20 most significant bits of the RRC HFN (for integrity protection), the RLC HFN (for ciphering) and the MAC-d HFN (for ciphering) to the START value of the corresponding service domain; the remaining bits are initialized to 0.

Upon the concerned RLC entities and the MAC(d) entity release in the SS, the associated security contexts are no longer used and shall be removed as well. The RLC and the MAC(d) entities are addressed by the TTCN with the cell id = -1.

## 8.5.1 Authentication

A GMM or MM authentication test step makes use of a number of TSOs to generate an authentication vector:

AV := {RAND, XRES, CK, IK, AUTN}

If the UE has valid authentication parameters (CKSN/KSI), for the respective domain, use of the Authentication procedure after an INITIAL DIRECT TRANSFER message is optional. Authentication in this case will be left to the test case implementation and need not be specified in the prose. However, in the case where the UE does not have valid authentication parameters the Authentication procedure shall be performed.

## 8.5.2 Ciphering

The ciphering in the SS is activated through the ASP CRLC_Ciphering_Activate_REQ for the AM or UM mode and through CMAC_Ciphering_Activate_REQ for the TM mode.

A PIXIT parameter px_CipheringOnOff indicates whether all the tests are performed under ciphering activated or not. If ciphering should be off at the test execution, the ciphering algorithm in IE ciphering ModeInfo is set to uea0 (no encryption). The UE under test is informed about the SS ciphering capability via IE cipheringAlgorithmCap set to uea0.

Table 141 gives the mapping of the RB id and the bearer value used in the ciphering calculation at the SS side.

**Table 141: Mapping between RB identity in ASP and BEARER value in the ciphering calculation**

| RB identity (TTCN constant) | Direction | RLC mode | BEARER value | Type | Comments |
|---|---|---|---|---|---|
| -1 (tsc_RB_BCCH ) | downlink | TM | N/A | | No ciphering applicable |
| -2 (tsc_RB_PCCH ) | downlink | TM | N/A | | No ciphering applicable |
| -3 (tsc_RB_BCCH_FACH ) | downlink | TM | N/A | | No ciphering applicable |
| -4 (tsc_RB_2ndPCCH ) | downlink | TM | N/A | | No ciphering applicable |
| -5 (tsc_RB_2ndCCCH ) | uplink | TM | N/A | | No ciphering applicable |
| -10 (tsc_RB_UM_7_RLC) | downlink | TM | N/A | RAB | For UM RLC tests using 7 bit Lis, no ciphering used |
| -10 (tsc_RB_UM_7_RLC) | uplink | TM | N/A | RAB | For UM RLC tests using 7 bit LIs, no ciphering used |
| -11 (tsc_RB_UM_15_RLC) | downlink | TM | N/A | RAB | For UM RLC tests using 15 bit LIs, no ciphering used |
| -11 (tsc_RB_UM_15_RLC) | uplink | TM | N/A | RAB | For UM RLC tests using 15 bit LIs, no ciphering used |
| -12 (tsc_RB_AM_7_RLC) | downlink | TM | N/A | RAB | For AM RLC tests using 15 bit LIs, no ciphering used |
| -12 (tsc_RB_AM_7_RLC) | uplink | TM | N/A | RAB | For AM RLC tests using 7 bit LIs, no ciphering used |
| -13 (tsc_RB_AM_15_RLC) | downlink | TM | N/A | RAB | For AM RLC tests using 15 bit LIs, no ciphering used |
| -13 (tsc_RB_AM_15_RLC) | uplink | TM | N/A | RAB | For AM RLC tests using 15 bit LIs, no ciphering used |
| -14 tsc_RB_DCCH_FACH_MAC) | downlink | TM | N/A | SRB3 | MAC testing no ciphering used |
| -14 (tsc_RB_DCCH_FACH_MAC) | uplink | TM | N/A | SRB3 | MAC testing no ciphering used |
| -15 (tsc_RB_DCCH_DCH_MAC) | downlink | TM | N/A | SRB3 | MAC testing no ciphering used |
| -15 (tsc_RB_DCCH_FACH_MAC) | uplink | TM | N/A | SRB3 | MAC testing no ciphering used |
| -16 (tsc_RB3_DCCH_RRC) | uplink | AM | 2 | SRB3 | |
| -18 (tsc_RB_CCCH_FACH_MAC) | downlink | TM | N/A | SRB0 | No ciphering applicable |
| 0 (tsc_RB0) | uplink | TM | N/A | SRB0 | No ciphering applicable |
| 0 (tsc_RB0) | downlink | UM | N/A | SRB0 | No ciphering applicable |
| 1 (tsc_RB1) | uplink | UM | 0 | SRB1 | |
| 1 (tsc_RB1) | downlink | UM | 0 | SRB1 | |
| 2 (tsc_RB2) | uplink | AM | 1 | SRB2 | |
| 2 (tsc_RB2) | downlink | AM | 1 | SRB2 | |
| 3 (tsc_RB3) | uplink | AM | 2 | SRB3 | |
| 3 (tsc_RB3) | downlink | AM | 2 | SRB3 | |
| 4 (tsc_RB4) | uplink | AM | 3 | SRB4 | |
| 4 (tsc_RB4) | downlink | AM | 3 | SRB4 | |
| 5 (tsc_RB5) | uplink | TM | 4 | SRB | DCCH |
| 5 (tsc_RB5) | downlink | TM | 4 | SRB | DCCH |
| 6 | uplink | | 5 | | Not used currently |
| 6 | downlink | | 5 | | Not used currently |
| 7 | uplink | | 6 | | Not used currently |
| 7 | downlink | | 6 | | Not used currently |
| 8 | uplink | | 7 | | Not used currently |
| 8 (tsc_RB_MCCH) | downlink | | 7 | | No ciphering applicable |
| 9 | uplink | | 8 | | Not used currently |
| 9 (tsc_RB_MSCH) | downlink | | 8 | | No ciphering applicable |
| 10 (tsc_RB10) | uplink | TM | 9 | RAB#1-1 | or RAB1 |
| 10 (tsc_RB10) | downlink | TM | 9 | RAB#1-1 | or RAB1 |
| 11 (tsc_RB11) | uplink | TM | 10 | RAB#1-2 | or RAB2 |
| 11 (tsc_RB11) | downlink | TM | 10 | RAB#1-2 | or RAB2 |
| 12 (tsc_RB12) | uplink | TM | 11 | RAB#1-3 | |
| 12 (tsc_RB12) | downlink | TM | 11 | RAB#1-3 | |
| 13 (tsc_RB13) | uplink | TM | 12 | RAB#2 | |
| 13 (tsc_RB13) | downlink | TM | 12 | RAB#2 | |
| 14 | uplink | | 13 | | Not used currently |
| 14 (tsc_MTCH1) | downlink | | 13 | | No ciphering |
| 15 | uplink | | 14 | | Not used currently |
| 15 (tsc_MTCH2) | downlink | | 14 | | No ciphering |
| 16 | uplink | | 15 | | Not used currently |
| 16 (tsc_MTCH3) | downlink | | 15 | | No ciphering |
| 17 (tsc_RB17) | uplink | AM | 16 | | |
| 17 (tsc_RB17) | downlink | AM | 16 | | |
| 20 (tsc_RB20) | uplink | AM | 19 | RAB#1 | |
| 20 (tsc_RB20) | downlink | AM | 19 | RAB#1 | |
| 21 (tsc_RB21) | uplink | UM | 20 | RAB#2 | |
| 21 (tsc_RB21) | downlink | UM | 20 | RAB#2 | |
| 22 (tsc_RB22) | uplink | AM | 21 | RAB#2 | |
| 22 (tsc_RB22) | downlink | AM | 21 | RAB#2 | |
| 23 (tsc_RB23) | uplink | AM | 22 | RAB#2 | |
| 23 (tsc_RB23) | downlink | AM | 22 | RAB#2 | |
| 24 (tsc_RB24) | uplink | AM | 23 | RAB#2 | |
| 24 (tsc_RB24) | downlink | AM | 23 | RAB#2 | |
| 25 (tsc_RB25) | uplink | AM | 24 | RAB#1 | |

| RB identity (TTCN constant) | Direction | RLC mode | BEARER value | Type | Comments |
|---|---|---|---|---|---|
| 25 (tsc_RB25) | downlink | AM | 24 | RAB#1 | |
| 26 (tsc_RB26) | uplink | UM | 25 | RAB#1 | MAC testing no ciphering used |
| 26 (tsc_RB26) | downlink | UM | 25 | RAB#1 | MAC testing no ciphering used |
| 27 (tsc_RB27) | uplink | UM | 26 | RAB#2 | MAC testing no ciphering used |
| 27 (tsc_RB27) | downlink | UM | 26 | RAB#2 | MAC testing no ciphering used |
| 28 (tsc_RB28) | uplink | UMAM | 27 | RAB#3 | MAC testing no ciphering used |
| 28 (tsc_RB28) | downlink | UMAM | 27 | RAB#3 | MAC testing no ciphering used |
| 29 | uplink | | 28 | | Not used yet currently |
| 29 (tsc_RB29) | downlink | AM | 28 | SRB0 | No ciphering applicable |
| 30 (tsc_RB30) | downlink | UM | N/A | | CTCH FACH no ciphering used |
| 30 | uplink | | 29 | | Not used yet currently |
| 31 (tsc_RB31) | downlink | UM | N/A | | CTCH FACH no ciphering used |
| 31 | uplink | | 30 | | Not used yet currently |
| 32 | downlink | | 31 | | Not used yet currently |
| 32 | uplink | | 31 | | Not used yet currently |

## 8.5.3 Integrity

The integrity protection in the SS is activated through the ASP CRLC_Integrity_Activate_REQ for all SRB.

MAC-I (MessageAuthenticationCode) is calculated by the SS. If the integrity protection is not yet started, the "integrity protection info" IE is omitted in TTCN. If integrity protection is started the TTCN includes the "integrity protection info" IE with all bits set to "0". The SS takes care of all the necessary initialization and calculation on SRBs.

Once integrity is started, the SS initializes and calculates a correct Message Authentication Code, overrides the initial value all bits "0" and inserts a corresponding RRC message sequence number into the IntegrityCheckInfo for all DL DCCH messages. In UL, the SS shall check the received MessageAuthenticationCode. If it is wrong, the ASP CRLC_Integrity_Failure_IND will report having received an UL message with integrity error. If it is correct SS forwards the received messages to the TTCN.

In addition, CRLC_MAC_I_Mode_REQ can be used to force the SS generate wrong DL MAC-I on a specific SRB for the integrity error handling test.

## 8.5.4 Test security scenarios

Five basic test scenarios are presented in the present document. The corresponding core spec references are found in 3GPP TS 25.331 [21] clauses 8.1.12, 8.2.2.2, 8.5.10.1, 8.5.10.2, 8.6.3.4, 8.6.3.5, 8.6.4.3 and 8.6.4.8.

Start security;
RB setup;
AM RB reconfiguration;
Security modification;
SRNS relocation;
Modification of RLC size of AM RB during RB reconfiguration;
Cell/URA update;
InterRAt HO to UTRAN.

As Default, the 1st three basic scenarios can be subdivided into:

Start integrity without ciphering start;
Start integrity and ciphering at the same time.

Regarding the simultaneous SRNS relocation, the security scenarios at the relocation are split into:

No security configuration modification;
Modification of integrity (FRESH) without ciphering configuration change;
Modification integrity FRESH and ciphering algorithm;
A security modification pending at the SRNS relocation.

This clause shows the procedures how the security ASP applied to the SS configurations at the different security test scenarios.

### 8.5.4.1 Start security function

```
CIPHERING_STATUS = NotStarted for the CN domain concerned.
```

#### 8.5.4.1.1 Start integrity protection without start of ciphering

```
INTEGRITY_PROTECTION Status = NotStarted.

SECURITY MODE COMMAND with "Integrity protection mode info" IE containing
integrityProtectionModeCommand = Start, no "Ciphering mode info" IE
```

**1 Before sending SECURITY MODE COMMAND (SMC)**

```
    CRLC_SecurityMode_Config_REQ
            startValue = value most recently received or 0 (new key)
            integrityKey = value maintained by TTCN
            cn_DomainIdentity = CS or PS
    CRLC_SetRRC_MessageSN_REQ (SN=0)
        --  Downlink RRC message sequence number set to 0
    CRLC_Integrity_Activate_REQ (CN domain concerned)
            integrityProtectionModeCommand = startIntegrityProtection (FRESH)
            integrityProtectionAlgorithm = selected value
            -- downlink integrity protection starts immediately
    CRLC_Integrity_Activate_REQ (CN domain concerned)
            ul_IntegProtActivationInfo = 0 (RB2 only)
```

**2 Send SECURITY MODE COMMAND**

**3 After receiving SECURITY MODE COMPLETE**

```
    CRLC_Integrity_Activate_REQ (CN domain concerned)
           ul_IntegProtActivationInfo = value in "Uplink integrity protection activation time"
           (except RB2) received from SECURITY MODE COMPLETE
```

#### 8.5.4.1.2 Start both integrity protection and ciphering

```
INTEGRITY_PROTECTION Status = NotStarted.

SECURITY MODE COMMAND with "Integrity protection mode info" IE containing
integrityProtectionModeCommand = Start, and "Ciphering mode info" IE containing cipheringModeCommand
= Start/Restart (algorithm UEA0 or UEA1)
```

**1 Before sending SECURITY MODE COMMAND message**

```
    CRLC_SecurityMode_Config_REQ
            startValue = value most recently received or 0 ( new key)
            cipheringKey = value maintained by TTCN
            integrityKey = value maintained by TTCN
            cn_DomainIdentity = CS or PS
    CRLC_SequenceNumber_REQ
        --  Get current RLC SN of all SRB for calculating suitable down link activation time
    CRLC_Suspend_REQ
        -- Suspend all signalling radio bearers except RB2. Optionally an SS may start immediate
        suspension of processing of data PDUs in the UL. The UL control PDUs and Piggybacked Status
            may optionally processed.
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
            cipheringModeCommand = Start/Restart (algorithm)
            rb_DL_CiphActivationTimeInfo = calculated activation time
            incHFN = NotInc
    CRLC_SetRRC_MessageSN_REQ (SN=0)
            --  Downlink RRC message sequence number set to 0
    CRLC_Integrity_Activate_REQ (CN domain concerned)
            integrityProtectionModeCommand = startIntegrityProtection (FRESH)
            integrityProtectionAlgorithm = selected value
            (downlink integrity protection starts immediate)
    CRLC_Integrity_Activate_REQ (CN domain concerned)
            ul_IntegProtActivationInfo = 0 (RB2 only)
    CRLC_ProhibitRLC_Ack_REQ
            mode = prohibit (RB3 only)
        -- An SS supporting suspension of UL data PDUs may provide a dummy CRLC_ProhibitRLC_Ack_CNF
```

**2 Send SECURITY MODE COMMAND**

**3 After receiving SECURITY MODE COMPLETE**

```
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
           rb_UL_CipheringActivationTimeInfo = value received in SECURITY MODE COMPLETE
           incHFN = NotInc
    CRLC_Integrity_Activate_REQ (CN domain concerned)
           ul_IntegProtActivationInfo = value in "Uplink integrity protection activation time"
           (except RB2) received from SECURITY MODE COMPLETE
    CRLC_ProhibitRLC_Ack_REQ
            mode = continue (RB3 only)
        -- An SS supporting suspension of UL data PDUs may provide a dummy CRLC_ProhibitRLC_Ack_CNF
    CRLC_Resume_REQ
        -- If the SS implemented the optional suspension of UL data PDUs, then the processing in the
       UL of data PDUs shall be resumed. Any suspended UL control PDUs and Piggybacked Status shall
be preceeded or resumed.
```

#### 8.5.4.1.3 Void

### 8.5.4.2 RB setup

```
INTEGRITY_PROTECTION Status = Started.
Condition: "RAB information for setup" IE included in RADIO BEARER SETUP
```

#### 8.5.4.2.1 AM / UM RB

1 Sending the RADIO BEARER SETUP message.

2 Configuring the RB.

3 After receiving RADIO BEARER SETUP COMPLETE.

##### 8.5.4.2.1.1 Ciphering not started

```
CIPHERING_STATUS = NotStarted for the CN domain concerned

    CRLC_SecurityMode_Config_REQ
           startValue = value most recently received
           cipheringKey = value maintained by TTCN
           cn_DomainIdentity = CS or PS
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
           cipheringModeCommand = NULL (no ciphering)
           rb_DL_CiphActivationTimeInfo = 0 (from the first block)
           incHFN = NotInc
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
           rb_UL_CipheringActivationTimeInfo = 0 (from the first block)
           incHFN = NotInc
```

##### 8.5.4.2.1.2 Ciphering started

```
CIPHERING_STATUS = Started for the CN domain concerned

    CRLC_SecurityMode_Config_REQ
           startValue = value most recently received
           cipheringKey = value maintained by TTCN
           cn_DomainIdentity = CS or PS
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
           cipheringModeCommand = Start/Restart (algorithm)
           rb_DL_CiphActivationTimeInfo = 0 (from the first block)
           incHFN = NotInc
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
           rb_UL_CipheringActivationTimeInfo = 0 (from the first block)
           incHFN = NotInc
```

#### 8.5.4.2.2 TM RB

```
Enter Cell_DCH,
no TM RB established before,
"COUNT-C activation time" IE included in RADIO BEARER SETUP COMPLETE message.
```

##### 8.5.4.2.2.1 Ciphering not started

```
CIPHERING_STATUS = NotStarted for the CN domain concerned,
```

**1 Send the RADIO BEARER SETUP message**

**2 Configuring the RB**

**3 After receiving RADIO BEARER SETUP COMPLETE**

```
    CMAC_SecurityMode_Config_REQ
            startValue = value most recently received
            cn_DomainIdentity = CS or PS
    CMAC_Ciphering_Activate_REQ (CN domain concerned)
            incHFN = NotInc
            cipheringModeCommand = NULL (no ciphering)
            activationTimeForDPCH = value in "COUNT-C activation time"
```

##### 8.5.4.2.2.2 Ciphering started

```
CIPHERING_STATUS = Started for the CN domain concerned,
```

**1 Sending RADIO BEARER SETUP**

**2 Configuring the RB**

```
    CMAC_SecurityMode_Config_REQ
            startValue = value most recently received
            cipheringKey = value maintained by TTCN
            cn_DomainIdentity = CS or PS
    CMAC_Ciphering_Activate_REQ (CN domain concerned)
            incHFN = NotInc
            cipheringModeCommand = Start/Restart (algorithm)
            activationTimeForDPCH = value in "Activation time" of the RB
```

**3 After receiving RADIO BEARER SETUP COMPLETE message**

```
    CMAC_SecurityMode_Config_REQ
            startValue = value received in response message
            cipheringKey = value maintained by TTCN
            cn_DomainIdentity = CS or PS
    CMAC_Ciphering_Activate_REQ (CN domain concerned)
            incHFN = IncPerCFN_Cycle
            cipheringModeCommand = Start/Restart (algorithm)
            activationTimeForDPCH = value in "COUNT-C activation time"
```

### 8.5.4.3 RB Reconfiguration for AM RAB modification of RLC size

```
CIPHERING_STATUS = Started  for the CN domain concerned,
"RB mapping info" IE, changeing AM RB RLC size, is included in
    CELL UPDATE CONFIRM,
    RADIO REARER RECONFIGURATION,
    RADIO BEARER RELEASE
```

#### 8.5.4.3.1 "RB mapping info" in CELL UPDATE CONFIRM

After sending the CELL UPDATE CONFIRM message, re-establish the RB and re-configure the RB with new RLC size and re-initialize COUNT-C for the RB:

```
CRLC_Config_REQ
        Release the concerned RB
CRLC_Config_REQ
        Setup the concerned RB (new RLC size)
CRLC_SecurityMode_Config_REQ
        startValue = value received in the CELL UPDATE message
        integrityKey = value maintained by TTCN
        cn_DomainIdentity = CS or PS
CRLC_Ciphering_Activate_REQ
        cipheringModeCommand = Start/Restart (existing algorithm)
        rb_DL_CiphActivationTimeInfo = now
        incHFN = NotInc
CRLC_ Ciphering_Activate_REQ
        rb_UL_CiphActivationTimeInfo = now
        incHFN = NotInc
```

#### 8.5.4.3.2 "RB mapping info" in RB RECONFIGURATION / RELEASE

After receiving the reconfiguration complete message, re-establish the RB and re-configure the RB with new RLC size and re-initialize COUNT-C for the RB:

```
CRLC_Config_REQ
        Release the concerned RB
CRLC_Config_REQ
        Setup the concerned RB (new RLC size)
CRLC_SecurityMode_Config_REQ
        startValue = value received in the reconfiguration complete message
        integrityKey = value maintained by TTCN
        cn_DomainIdentity = CS or PS
CRLC_Ciphering_Activate_REQ
        cipheringModeCommand = Start/Restart (existing algorithm)
        rb_DL_CiphActivationTimeInfo = now
        incHFN = NotInc
CRLC_Ciphering_Activate_REQ
        rb_UL_CiphActivationTimeInfo = now
        incHFN = NotInc
```

### 8.5.4.4 Security modification

Updating security keys is the scenario in this clause.

```
INTEGRITY_PROTECTION STATUS = Started
SECURITY MODE COMMAND contains "Ciphering mode info" IE and/or "Integrity protection mode info" IE
```

#### 8.5.4.4.1 Integrity started, ciphering not started

```
CIPHERING_STATUS = NotStarted for the CN domain concerned
SECURITY MODE COMMAND with "Integrity protection mode info" IE containing
integrityProtectionModeCommand = modify, but "Ciphering mode info" IE absent the same CN domain as
in the previous SMC to start integrity protection.
```

**1 Before sending SECURITY MODE COMMAND message**

```
CRLC_SecurityMode_Config_REQ
        startValue = 0 (new key)
        integrityKey = new key
        cn_DomainIdentity = CS or PS
CRLC_RRC_MessageSN_REQ
        -- Get current RRC Message SN for calculation of DL activation time
CRLC_Integrity_Activate_REQ (CN domain concerned)
        integrityProtectionModeCommand = modify
       dl_IntegrityProtActivationInfo = now (SRB2), calculated value or a pending activation
       time set by previous security mode control procedure (SRB2 other than SRB2)
CRLC_Integrity_Activate_REQ (CN domain concerned, RB2)
        ul_IntegrityProtActivationInfo = now
```

**2 Sending SECURITY MODE COMMAND message**

**3 After receiving SECURITY MODE COMPLETE**

```
    CRLC_Integrity_Activate_REQ (CN domain concerned)
           ul_IntegProtActivationInfo = value in "Uplink integrity protection activation time"
           (except RB2)
```

### 8.5.4.4.2 Integrity and ciphering started

```
CIPHERING_STATUS = Started for the CN domain concerned
SECURITY MODE COMMAND contains
    "Integrity protection mode info" IE with integrityProtectionModeCommand = modify,
    "Ciphering mode info" IE with cipheringModeCommand = Start/Restart.
```

**1 Before sending SECURITY MODE COMMAND message**

```
    CRLC_SecurityMode_Config_REQ
            startValue = 0 (new key)
            integrityKey = new key
            cipheringKey = new key
            cn_DomainIdentity = CS or PS
    if TM RB exist
        CMAC_SecurityMode_Config_REQ
            startValue = 0 ( new key)
            cipheringKey = new key
            integrityKey = new key
            cn_DomainIdentity = CS or PS
    CRLC_SequenceNumber_REQ
        -- Get current RLC SN for calculating suitable down link activation time
    CRLC_Suspend_REQ
        -- Optionally an SS may start immediate suspension of processing of data PDUs in the UL. The
        UL control PDUs and Piggybacked Status may optionally be processed.

    CRLC_Ciphering_Activate_REQ (CN domain concerned)
            cipheringModeCommand = Start/Restart (existing algorithm)
            rb_DL_CiphActivationTimeInfo = calculated activation time
            incHFN = NotInc
    CRLC_RRC_MessageSN_REQ
        -- Get current RRC message SN for calculating suitable DL activation time
    CRLC_Integrity_Activate_REQ (CN domain concerned)
            integrityProtectionModeCommand = modify
           dl_IntegrityProtActivationInfo = now (SRB2), calculated value or a pending activation
           time set by previous security mode control procedure (SRB other than SRB2)
    CRLC_Integrity_Activate_REQ (CN domain concerned,RB2)
            ul_IntegrityProtActivationInfo = now
    if TM RB exist
        CPHY_Frame_Number_REQ
            --Get current CFN for calculating suitable activation time for TM RB
        CMAC_Ciphering_Activate_REQ (CN domain concerned)
            cipheringModeCommand = Start/Restart (existing algorithm)
            activationTimeForDPCH = calculated activation time
            incHFN = IncPerCFN_Cycle
    CRLC_ProhibitRLC_Ack_REQ
            mode = prohibit (RB3 only)
        -- An SS supporting suspension of UL data PDUs may provide a dummy CRLC_ProhibitRLC_Ack_CNF
```

**2 Sending SECURITY MODE COMMAND message**

**3 After receiving SECURITY MODE COMPLETE**

```
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
           rb_UL_CipheringActivationTimeInfo = value received in SECURITY MODE COMPLETE
           incHFN = NotInc
    CRLC_Integrity_Activate_REQ (CN domain concerned, except RB2)
           ul_IntegProtActivationInfo = value in "Uplink integrity protection activation time"
    CRLC_ProhibitRLC_Ack_REQ
            mode = continue (RB3 only)
        -- An SS supporting suspension of UL data PDUs may provide a dummy CRLC_ProhibitRLC_Ack_CNF
    CRLC_Resume_REQ
        -- If the SS implemented the optional suspension of UL data PDUs, then the processing in the
        UL of data PDUs shall be resumed. Any suspended UL control PDUs and Piggybacked Status shall
be preceeded or resumed.
```

### 8.5.4.5 SRNS relocation

```
Simultaneous SRNS relocation will take place
either "Downlink count synchronization info" IE is received in
    CELL UPDATE CONFIRM,
    PHYSICAL CHANNEL RECONFIGURATION,
    RADIO BEARER SETUP,
    RADIO BEARER RELEASE,
    TRANSPORT CHANNEL RECONFIGURATION,
    URA UPDATE CONFIRM,
    UTRAN MOBILITY INFROMATION,
or "new U-RNTI" IE is received in
    RADIO BEARER RECONFIGURATION.

INTEGRITY_PROTECTION Status = Started
```

#### 8.5.4.5.1 Void

#### 8.5.4.5.2 Presence of "Integrity protection mode info" but absence of "Ciphering mode info"

SRNS relocation related messages listed contains "Integrity protection mode info" but does not have "Ciphering mode info" IE.

```
SRNS relocation related message with "Integrity protection mode info" IE containing
integrityProtectionModeCommand = Start, but no "Ciphering mode info" IE (no ciphering configuration
change).
```

##### 8.5.4.5.2.1 No security configuration pending

No security configuration pending triggered by previous SECURITY MODE COMMAND.

**1 Before sending one of the SRNS relocation related messages**

```
    CRLC_SecurityMode_Config_REQ
            startValue = OMIT (no COUNT-I re-initialization)
            integrityKey = OMIT or value maintained by TTCN (no key change)
            cn_DomainIdentity = CS or PS
    CRLC_Integrity_Activate_REQ (CN domain concerned)
            integrityProtectionModeCommand = Start (FRESH)
            integrityProtectionAlgorithm = selected value
            -- downlink integrity protection starts immediately
    CRLC_Integrity_Activate_REQ (CN domain concerned)
            ul_IntegProtActivationInfo = value (now)
```

**2 Sending one of the SRNS relocation related messages**

**3 Re-establishing RB2 and re-initialize COUNT-C for RB2**

```
    CRLC_SequenceNumber_REQ
    CRLC_SequenceNumber_CNF
            newHFN = MAX(HFN of DL COUNT-C of RB2, HFN of UL COUNT-C of RB2) + 1
    CRLC_Config_REQ
        -- Release RB2
    CRLC_Config_REQ
        -- Setup RB2
    CRLC_SecurityMode_Config_REQ
            startValue = newHFN
            cn_DomainIdentity = CS or PS concerned
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
            if CIPHERING_STATUS= NotStarted
                cipheringModeCommand = NULL (no ciphering)
            if CIPHERING_STATUS = Started
                cipheringModeCommand = Start/Restart (existing algorithm)
            rb_DL_CiphActivationTimeInfo = now (RB2 only)
            incHFN = NotInc
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
            rb_UL_CipheringActivationTimeInfo = now (RB2 only)
            incHFN = NotInc
```

**4 Receiving the response message**

**5 Re-establishing all RBs and SRBs (except SRB2) and re-initialize COUNT-C for all RBs and SRBs (except SRB2)**

```
CRLC_Config_REQ
    -- Release all RBs and all SRBs (except SRB2)
CRLC_Config_REQ
    -- Setup all RB's and all SRB's (except RB2)
 CRLC_SecurityMode_Config_REQ
        startValue = value received in the response message
        integrityKey = value maintained by TTCN
        cn_DomainIdentity = CS or PS
CRLC_Ciphering_Activate_REQ
        if CIPHERING_STATUS= NotStarted
            cipheringModeCommand = NULL (no ciphering)
        if CIPHERING_STATUS = Started
            cipheringModeCommand = Start/Restart (existing algorithm)
        rb_DL_CiphActivationTimeInfo = now (except SRB2)
        incHFN = NotInc
CRLC_Ciphering_Activate_REQ
        rb_UL_CiphActivationTimeInfo = now (except SRB2)
        incHFN = NotInc
```

#### 8.5.4.5.2.2 Pending security configuration (new keys)

A pending security configuration is triggered by the previous SECURITY MODE COMMAND (new Key).

**1 Before sending one of the SRNS relocation related messages**

```
CRLC_SecurityMode_Config_REQ
        startValue = 0 (new key)
        integrityKey = new key
        cn_DomainIdentity = CS or PS
CRLC_Integrity_Activate_REQ
        IntegrityProtectionModeCommand = Start (FRESH)
        IntegrityProtectionAlgorithm = selected value (downlink integrity protection starts
        immediately)
CRLC_Integrity_Activate_REQ
        ul_IntegProtActivationInfo = value (now)
```

**2 Send one of the SRNS relocation related messages**

**3 Re-establish RB2 and re-initialize COUNT-C for RB2**

```
CRLC_SequenceNumber_REQ
CRLC_SequenceNumber_CNF
        HFN = MAX(HFN of DL/UL COUNT-C of RB2) + 1
CRLC_Config_REQ
        Release RB2
CRLC_Config_REQ
        Setup RB2
CRLC_SecurityMode_Config_REQ
        startValue = HFN calculated above
        cipheringKey = new key
        cn_DomainIdentity = CS or PS
CRLC_Ciphering_Activate_REQ
        if CIPHERING_STATUS= NotStarted
            cipheringModeCommand = NULL (no ciphering)
        if CIPHERING_STATUS = Started
            cipheringModeCommand = Start/Restart (existing algorithm)
        rb_DL_CiphActivationTimeInfo = now (RB2 only)
        incHFN = NotInc
CRLC_Ciphering_Activate_REQ
        rb_UL_CipheringActivationTimeInfo = now (RB2 only)
        incHFN = NotInc
```

**4 Receive the response message**

**5 Re-establish all RBs and SRBs (except RB2) and re-initialize COUNT-C for all RBs and SRBs (except RB2)**

```
CRLC_Config_REQ
        Release all RB's and SRB's (except RB2)
CRLC_Config_REQ
        Setup all RB's and SRB's (except RB2)
CRLC_SecurityMode_Config_REQ
        startValue = value received in the response message
```

```
        integrityKey = new key
        cipheringKey = new key
        cn_DomainIdentity = CS or PS
CRLC_Ciphering_Activate _REQ
        if CIPHERING_STATUS= NotStarted
            cipheringModeCommand = NULL (no ciphering)
        if CIPHERING_STATUS = Started
            cipheringModeCommand = Start/Restart (existing algorithm)
        rb_DL_CiphActivationTimeInfo = now (except RB2)
        incHFN = NotInc
CRLC_Ciphering_Activate_REQ
        rb_UL_CiphActivationTimeInfo = now (except RB2)
        incHFN = NotInc
```

**6 Re-initialize COUNT-I for all RB's and SRB's (except RB2)**

```
CRLC_SecurityMode_Config_REQ
        startValue = 0 (new key)
        integrityKey = new key
        cn_DomainIdentity = CS or PS
CRLC_Integrity_Activate_REQ
        IntegrityProtectionModeCommand = Start (FRESH)
        IntegrityProtectionAlgorithm = selected value (downlink integrity protection starts
        immediately)
CRLC_Integrity_Activate_REQ
        ul_IntegProtActivationInfo = value (now)
```

#### 8.5.4.5.2.3 Pending security configuration (no new keys)

A pending security configuration is triggered by the previous SECURITY MODE COMMAND (no new keys).

**1 Before sending one of the SRNS relocation related messages**

```
CRLC_SecurityMode_Config_REQ
        startValue = OMIT (no COUNT-I re-initialization)
        integrityKey = OMIT or value maintained by TTCN (no key change) cn_DomainIdentity = CS
        or PS
CRLC_Integrity_Activate_REQ
        SS_IntegrityProtectionModeCommand = Start (FRESH)
        IntegrityProtectionAlgorithm = selected value (downlink integrity protection starts
        immediately)
CRLC_Integrity_Activate_REQ
        ul_IntegProtActivationInfo = value (now)
```

**2 Send one of the SRNS relocation related messages**

**3 Re-establish RB2 and re-initialize COUNT-C for RB2**

```
CRLC_SequenceNumber_REQ
CRLC_SequenceNumber_CNF
        HFN = MAX(HFN of DL/UL COUNT-C of RB2) + 1
CRLC_Config_REQ
        Release RB2
CRLC_Config_REQ
        Setup RB2
CRLC_SecurityMode_Config_REQ
        startValue = HFN calculated above
        cn_DomainIdentity = CS or PS
CRLC_Ciphering_Activate_REQ
        if CIPHERING_STATUS= NotStarted
            cipheringModeCommand = NULL (no ciphering)
        if CIPHERING_STATUS = Started
            cipheringModeCommand = Start/Restart (existing algorithm)
        rb_DL_CiphActivationTimeInfo = now (RB2 only)
        incHFN = NotInc
CRLC_Ciphering_Activate_REQ
        rb_UL_CipheringActivationTimeInfo = now (RB2 only)
        incHFN = NotInc
```

**4 Receive the response message**

**5 Re-establish all RBs and SRBs (except RB2) and re-initialize COUNT-C for all RBs and SRBs (except RB2)**

```
CRLC_Config_REQ
        Release all RB's and SRB's (except RB2)
CRLC_Config_REQ
```

```
        Setup all RB's and SRB's (except RB2)
    CRLC_SecurityMode_Config_REQ
        startValue = value received in the response message
        integrityKey = value maintained by TTCN
        cn_DomainIdentity = CS or PS
    CRLC_Ciphering_Activate_REQ
        if CIPHERING_STATUS= NotStarted
            cipheringModeCommand = NULL (no ciphering)
        if CIPHERING_STATUS = Started
            cipheringModeCommand = Start/Restart (existing algorithm)
        rb_DL_CiphActivationTimeInfo = now (except RB2)
        incHFN = NotInc
    CRLC_Ciphering_Activate_REQ
        rb_UL_CiphActivationTimeInfo = now (except RB2)
        incHFN = NotInc
```

**6 Re-initialize COUNT-I for all RB's and SRB's (except RB2)**

```
    CRLC_SecurityMode_Config_REQ
        startValue = value received in the response message
        integrityKey = value maintained by TTCN
        cn_DomainIdentity = CS or PS
    CRLC_Integrity_Activate_REQ
        IntegrityProtectionModeCommand = Start (FRESH)
        IntegrityProtectionAlgorithm = selected value (downlink integrity protection starts
        immediately)
    CRLC_Integrity_Activate_REQ
        ul_IntegProtActivationInfo = value (now)
```

### 8.5.4.5.3 Presence of "Integrity protection mode info" and "Ciphering mode info" IE

```
CIPHERING_STATUS = Started  for the CN domain concerned,
SRNS relocation related message with "Integrity protection mode info" IE containing
integrityProtectionModeCommand = Start, and "Ciphering mode info" IE containing cipheringModeCommand
= Start/Restart (change ciphering algorithm, no "Radio bearer downlink ciphering activation time
info")
```

#### 8.5.4.5.3.1 No security configuration pending

**1 Before sending one of the SRNS relocation related messages**

```
    CRLC_SecurityMode_Config_REQ
        startValue = OMIT (no COUNT-I re-initialization)
        integrityKey = OMIT or value maintained by TTCN (no key change)
        cn_DomainIdentity = CS or PS
    CRLC_Integrity_Activate_REQ
        SS_IntegrityProtectionModeCommand = Start (FRESH)
        IntegrityProtectionAlgorithm = selected value (downlink integrity protection starts
        immediately)
    CRLC_Integrity_Activate_REQ
        ul_IntegProtActivationInfo = value (now)
```

**2 Send one of the SRNS relocation related messages**

**3 Re-establish RB2 and re-initialize COUNT-C for RB2**

```
    CRLC_SequenceNumber_REQ
    CRLC_SequenceNumber_CNF
        HFN = MAX(HFN of DL/UL COUNT-C of RB2) + 1
    CRLC_Config_REQ
        Release RB2
    CRLC_Config_REQ
        Setup RB2
    CRLC_SecurityMode_Config_REQ
        startValue = HFN calculated above
        cn_DomainIdentity = CS or PS
    CRLC_Ciphering_Activate_REQ
        if CIPHERING_STATUS= NotStarted
            cipheringModeCommand = NULL (no ciphering)
        if CIPHERING_STATUS = Started
            cipheringModeCommand = Start/Restart (existing algorithm)
        rb_DL_CiphActivationTimeInfo = now (RB2 only)
        incHFN = NotInc
    CRLC_Ciphering_Activate_REQ
        rb_UL_CipheringActivationTimeInfo = now (RB2 only)
```

```
        incHFN = NotInc
```

**4 Receive the response message**

**5 Re-establish all RBs and SRBs (except RB2) and re-initialize COUNT-C for all RBs and SRBs (except RB2)**

```
CRLC_Config_REQ
        Release all RB's and SRB's (except RB2)
CRLC_Config_REQ
        Setup all RB's and SRB's (except RB2)
CRLC_SecurityMode_Config_REQ
        startValue = value received in the response message
        integrityKey = value maintained by TTCN
        cn_DomainIdentity = CS or PS
CRLC_Ciphering_Activate_REQ
        cipheringModeCommand = Start/Restart (new algorithm)
        rb_DL_CiphActivationTimeInfo = now (except RB2)
        incHFN = NotInc
CRLC_Ciphering_Activate_REQ
        rb_UL_CiphActivationTimeInfo = now (except RB2)
        incHFN = NotInc
```

### 8.5.4.5.3.2 Pending security configuration (new keys)

**1 Before sending one of the SRNS relocation related messages**

```
CRLC_SecurityMode_Config_REQ
        startValue = 0 (new key)
        integrityKey = new key
        cn_DomainIdentity = CS or PS
CRLC_Integrity_Activate_REQ
        SS_IntegrityProtectionModeCommand = Start (FRESH)
        IntegrityProtectionAlgorithm = selected value (downlink integrity protection starts
        immediately)
CRLC_Integrity_Activate_REQ
        ul_IntegProtActivationInfo = value (now)
```

**2 Send one of the SRNS relocation related messages**

**3 Re-establish RB2 and re-initialize COUNT-C for RB2**

```
CRLC_SequenceNumber_REQ
        CRLC_SequenceNumber_CNF
        HFN = MAX(HFN of DL/UL COUNT-C of RB2) + 1
CRLC_Config_REQ
        Release RB2
CRLC_Config_REQ
        Setup RB2
CRLC_SecurityMode_Config_REQ
        startValue = HFN calculated above
        cn_DomainIdentity = CS or PS
CRLC_Ciphering_Activate_REQ
        cipheringModeCommand = NULL (no ciphering status change)
        rb_DL_CiphActivationTimeInfo = now (RB2 only)
        incHFN = NotInc
CRLC_Ciphering_Activate_REQ
        rb_UL_CipheringActivationTimeInfo = now (RB2 only)
        incHFN = NotInc
```

**4 Receive the response message**

**5 Re-establish all RBs and SRBs (except RB2) and re-initialize COUNT-C for all RBs and SRBs (except RB2)**

```
CRLC_Config_REQ
        Release all RB's and SRB's (except RB2)
CRLC_Config_REQ
        Setup all RB's and SRB's (except RB2)
CRLC_SecurityMode_Config_REQ
        startValue = 0
        integrityKey = new key
        cn_DomainIdentity = CS or PS
CRLC_Ciphering_Activate _REQ
        cipheringModeCommand = Start/Restart (new algorithm)
        rb_DL_CiphActivationTimeInfo = now (except RB2)
        incHFN = NotInc
CRLC_Ciphering_Activate_REQ
```

```
        rb_UL_CiphActivationTimeInfo = now (except RB2)
        incHFN = NotInc
```

**6 Re-initialize COUNT-I for all RBs and SRBs (except RB2)**

```
CRLC_SecurityMode_Config_REQ
        startValue = 0 (new key)
        integrityKey = new key
        cn_DomainIdentity = CS or PS
CRLC_Integrity_Activate_REQ
        IntegrityProtectionModeCommand = Start (FRESH)
        IntegrityProtectionAlgorithm = selected value (downlink integrity protection starts
        immediately)
CRLC_Integrity_Activate_REQ
        ul_IntegProtActivationInfo = value (now)
```

8.5.4.5.3.3 Pending security configuration (no new key)

**1 Before sending one of the SRNS relocation related messages**

```
CRLC_SecurityMode_Config_REQ
        startValue = OMIT (no COUNT-I re-initialization)
        integrityKey = OMIT or value maintained by TTCN (no key change)
        cn_DomainIdentity = CS or PS
CRLC_Integrity_Activate_REQ
        SS_IntegrityProtectionModeCommand = Start (FRESH)
        IntegrityProtectionAlgorithm = selected value (downlink integrity protection starts
        immediately)
CRLC_Integrity_Activate_REQ
        ul_IntegProtActivationInfo = value (now)
```

**2 Send one of the SRNS relocation related messages**

**3 Re-establish RB2 and re-initialize COUNT-C for RB2**

```
CRLC_SequenceNumber_REQ
        CRLC_SequenceNumber_CNF
        HFN = MAX(HFN of DL/UL COUNT-C of RB2) + 1
CRLC_Config_REQ
        Release RB2
CRLC_Config_REQ
        Setup RB2
CRLC_SecurityMode_Config_REQ
        startValue = HFN calculated above
        n_DomainIdentity = CS or PS
CRLC_Ciphering_Activate_REQ
        if CIPHERING_STATUS= NotStarted
            cipheringModeCommand = NULL (no ciphering)
        if CIPHERING_STATUS = Started
            cipheringModeCommand = Start/Restart (existing algorithm)
        rb_DL_CiphActivationTimeInfo = now (RB2 only)
        incHFN = NotInc
CRLC_Ciphering_Activate_REQ
        rb_UL_CipheringActivationTimeInfo = now (RB2 only)
        incHFN = NotInc
```

**4 Receive the response message**

**5 Re-establish all RBs and SRBs (except RB2) and re-initialize COUNT-C for all RBs and SRBs (except RB2)**

```
CRLC_Config_REQ
        Release all RB's and SRB's (except RB2)
CRLC_Config_REQ
        Setup all RB's and SRB's (except RB2)
CRLC_SecurityMode_Config_REQ
        startValue = value received in the response message
        integrityKey = value maintained by TTCN
        cn_DomainIdentity = CS or PS
CRLC_ Ciphering_Activate _REQ
        cipheringModeCommand = Start/Restart (new algorithm)
        rb_DL_CiphActivationTimeInfo = now (except RB2)
CRLC_ Ciphering_Activate _REQ
        rb_UL_CiphActivationTimeInfo = now (except RB2)
```

**6 Re-initialize COUNT-I for all RBs and SRBs (except RB2)**

```
CRLC_SecurityMode_Config_REQ
        startValue = value received in the response message
        integrityKey = value maintained by TTCN
        cn_DomainIdentity = CS or PS
CRLC_Integrity_Activate_REQ
        IntegrityProtectionModeCommand = Start (FRESH)
        IntegrityProtectionAlgorithm = selected value (downlink integrity protection starts
        immediately)
CRLC_Integrity_Activate_REQ
        ul_IntegProtActivationInfo = value (now)
```

### 8.5.4.6 CELL/URA update

#### 8.5.4.6.1 RLC re-establish (RB2, RB3, RB4)

"RLC re-establish (RB2, RB3, RB4)" in CELL UPDATE CONFIRM message is set to TRUE CIPHERING_STATUS = Started for the CN domain concerned

**1. After sending CELL UPDATE CONFIRM message, re-establish the RB2, RB3 and RB4 (if established)**

```
CRLC_SecurityMode_Config_REQ
        startValue = value received from CELL UPDATE message
        cipheringKey = value maintained by TTCN
        cn_DomainIdentity = CS or PS
CRLC_Ciphering_Activate_REQ (CN domain concerned)
        cipheringModeCommand = Start/Restart (existing algorithm)
        rb_DL_CiphActivationTimeInfo = now (RB2, RB3, RB4)
        incHFN = NotInc
CRLC_Ciphering_Activate_REQ (CN domain concerned)
        rb_UL_CipheringActivationTimeInfo = now (RB2, RB3, RB4)
        incHFN = NotInc
```

#### 8.5.4.6.2 RLC re-establish (RAB)

"RLC re-establish (RB5 and upwards)" in CELL UPDATE CONFIRM message is set to TRUE CIPHERING_STATUS = Started for the CN domain concerned

**1. After sending CELL UPDATE CONFIRM message, re-establish the RAB**

```
CRLC_SecurityMode_Config_REQ
        startValue = value received from CELL UPDATE message
        cipheringKey = value maintained by TTCN
        cn_DomainIdentity = CS or PS
CRLC_Ciphering_Activate_REQ (CN domain concerned)
        cipheringModeCommand = Start/Restart (existing algorithm)
        rb_DL_CiphActivationTimeInfo = now (RB5 and upwards)
        incHFN = NotInc
CRLC_Ciphering_Activate_REQ (CN domain concerned)
        rb_UL_CipheringActivationTimeInfo = now (RB5 and upwards)
        incHFN = NotInc
```

### 8.5.4.7 Inter RAT handover to UTRAN

#### 8.5.4.7.1 ciphering has not been activated

ciphering has not been started in the radio access technology from which inter RAT handover is performed. TM mode radio bearer will be established in the UTRAN.

**1. Sending HANDOVER TO UTRAN COMMAND in a RAT different from UTRAN**

**2. After receiving HANDOVER TO UTRAN COMPLETE message**

```
CMAC_SecurityMode_Config_REQ
        startValue = value received in HANDOVER TO UTRAN COMPLETE message
        cn_DomainIdentity = CS or PS
CMAC_Ciphering_Activate_REQ (CN domain concerned)
        incHFN = NotInc
        cipheringModeCommand = NULL
        activationTimeForDPCH = now
CRLC_SecurityMode_Config_REQ
```

```
            startValue = value received in HANDOVER TO UTRAN COMPLETE
            cn_DomainIdentity = CS or PS
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
            cipheringModeCommand = NULL
            rb_DL_CiphActivationTimeInfo = now (RB1, RB2, RB3, RB4)
            incHFN = Inc    CRLC_Ciphering_Activate_REQ (CN domain concerned)
            rb_UL_CipheringActivationTimeInfo = now (RB1, RB2, RB3, RB4)
            incHFN = Inc
```

#### 8.5.4.7.2 ciphering has been activated

ciphering has been started in the radio access technology from which inter RAT handover is performed. TM mode radio bearer will be established in the UTRAN.

**1. Before sending HANDOVER TO UTRAN COMMAND**

```
    CRLC_SecurityMode_Config_REQ
            startValue = "START" value included in the IE "UE security information" in the variable
"INTER_RAT_HANDOVER_INFO_TRANSFERRED"
            cipheringKey = value generated in authentication procedure in GRAN
            cn_DomainIdentity = CS or PS
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
            cipheringModeCommand = Start/Restart (algorithm in HANDOVER TO UTRAN COMMAND)
            rb_DL_CiphActivationTimeInfo = now (RB1, RB2, RB3, RB4)
            incHFN = NotInc
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
            rb_UL_CipheringActivationTimeInfo = now (RB1, RB2, RB3, RB4)
            incHFN = NotInc
    CMAC_SecurityMode_Config_REQ
            startValue = "START" value included in the IE "UE security information" in the variable
"INTER_RAT_HANDOVER_INFO_TRANSFERRED"
            cipheringKey = value generated in authentication procedure in GRAN
            cn_DomainIdentity = CS or PS
    CMAC_Ciphering_Activate_REQ (CN domain concerned)
            incHFN = NotInc
            cipheringModeCommand = Start/Restart (algorithm in HANDOVER TO UTRAN COMMAND)
            activationTimeForDPCH = now
```

**2. Sending HANDOVER TO UTRAN COMMAND in a RAT different from UTRAN**

**3. After receiving HANDOVER TO UTRAN COMPLETE message**

```
    CMAC_SecurityMode_Config_REQ
            startValue = value received in the response message
            cipheringKey = value maintained by TTCN
            cn_DomainIdentity = CS or PS
    CMAC_Ciphering_Activate_REQ (CN domain concerned)
            cipheringModeCommand = Start/Restart (algorithm) in HANDOVER TO UTRAN COMMAND)
            activationTimeForDPCH = value in "COUNT-C activation time"
            incHFN = IncByOne_IncPerCFN_Cycle
    CRLC_SecurityMode_Config_REQ
            startValue = value received in HANDOVER TO UTRAN COMPLETE
            cipheringKey = value generated in authentication procedure in GRAN
            cn_DomainIdentity = CS or PS
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
            cipheringModeCommand = Start/Restart (algorithm in HANDOVER TO UTRAN COMMAND)
            rb_DL_CiphActivationTimeInfo = now (RB1, RB2, RB3, RB4)
            incHFN = Inc
    CRLC_Ciphering_Activate_REQ (CN domain concerned)
            rb_UL_CipheringActivationTimeInfo = now (RB1, RB2, RB3, RB4)
            incHFN = Inc
```

### 8.5.4.8 Hard handover

Ciphering is activated for any TM radio bearer;
"Downlink DPCH info for all RL" in a message performing timing re-initialized hard handover or;
"Downlink DPCH info for all RL" in a message other than RADIO BEARER SETUP transferring UE to Cell_DCH from non-Cell_DCH state.

**1. Before sending the message**

```
    CMAC_SecurityMode_Config_REQ
            startValue = value most recently received
            cipheringKey = value maintained by TTCN
            cn_DomainIdentity = CS or PS
```

```
CMAC_Ciphering_Activate_REQ (CN domain concerned)
        incHFN = NotInc
        cipheringModeCommand = Start/Restart (existing algorithm)
        activationTimeForDPCH = now
```

**2. Send the message for hard HO**

**3. After receiving the response message**

```
CMAC_SecurityMode_Config_REQ
        startValue = value received in the response message
        cipheringKey = value maintained by TTCN
        cn_DomainIdentity = CS or PS
CMAC_Ciphering_Activate_REQ (CN domain concerned)
        cipheringModeCommand = Start/Restart (existing algorithm)
        activationTimeForDPCH = value in "COUNT-C activation time"
        incHFN = IncByOne_IncPerCFN_Cycle
```

## 8.5.5 Test USIM configurations

The default test USIM is defined in 3GPP TS 34.108 [3]. This clause specifies a number of specific test USIM configurations which are used for the concerned test cases.

### 8.5.5.1 Test USIM for Idle mode tests

The PLMN 1-12 identities used below have been defined in 3GPP TS 34.123-1 [1], table 6.2. Clause numbers refer to 3GPP TS 34.123-1 [1].

Test USIM is configured as bellow for PLMN selection of RPLMN, HPLMN, UPLMN and OPLMN in TC_6_1_1_1 and TC_6_1_1_4.

**Table 142**

| USIM field | Priority | PLMN | Access Technology Identifier |
|---|---|---|---|
| $EF_{LOCI}$ | | PLMN 1 | |
| $EF_{PLMNwAcT}$ | 1st | PLMN 3 | UTRAN |
| | 2nd | PLMN 4 | UTRAN |
| $EF_{OPLMNwAcT}$ | 1st | PLMN 5 | UTRAN |
| | 2nd | PLMN 6 | UTRAN |
| $EF_{FPLMN}$ | PLMN 3 | | |

Test USIM is configured as bellow for PLMN selection of other PLMN with access technology combinations in TC_6_1_1_2.

**Table 143**

| USIM field | Priority | PLMN | Access Technology Identifier |
|---|---|---|---|
| $EF_{LOCI}$ | | PLMN 6 | |
| $EF_{FPLMN}$ | PLMN 10 | | |

Test USIM is configured as below for automatic PLMN selection of other PLMN with access technology combinations in TC_6_1_1_5.

**Table 113a**

| USIM field | Priority | PLMN | Access Technology Identifier |
|---|---|---|---|
| $EF_{LOCI}$ | | PLMN 6 | |

Test USIM is configured as bellow for manual PLMN selection independent of RF level and preferred PLMN in TC_6_1_1_3.

**Table 144**

| USIM field | Priority | PLMN | Access Technology Identifier |
|---|---|---|---|
| $EF_{LOCI}$ | | | |
| $EF_{PLMNwAcT}$ | 1st | PLMN 3 | UTRAN |

Test USIM is configured as below for emergency calls in TC_6_1_2_6.

**Table 114a**

| USIM field | Priority | PLMN |
|---|---|---|
| $EF_{LOCI}$ | | PLMN1 |
| $EF_{FPLMN}$ | PLMN 3 | |

Test USIMs are configured as bellow for Selection of the correct PLMN and associated RAT in TC_6_2_1_1. Two test USIMs are needed for the test.

**Table 145: USIM A**

| USIM field | Priority | PLMN | Access Technology Identifier |
|---|---|---|---|
| $EF_{LOCI}$ | | | |
| $EF_{HPLMNwAcT}$ | 1st | | GSM |
| $EF_{HPLMNwAcT}$ | 2nd | | UTRAN |

**Table 146: USIM B**

| USIM field | Priority | PLMN | Access Technology Identifier |
|---|---|---|---|
| $EF_{LOCI}$ | | | |
| $EF_{HPLMNwAcT}$ | 1st | | UTRAN |
| | 2nd | | GSM |

Test USIMs are configured as bellow for Selection of RAT for HPLMN in TC_6_2_1_2. Two test USIMs are needed for the test.

**Table 147: USIM A**

| USIM field | Priority | PLMN | Access Technology Identifier |
|---|---|---|---|
| $EF_{LOCI}$ | | PLMN 1 | |
| $EF_{HPLMNwAcT}$ | 1st | | UTRAN |
| | 2nd | | GSM |

**Table 148: USIM B**

| USIM field | Priority | PLMN | Access Technology Identifier |
|---|---|---|---|
| $EF_{LOCI}$ | | PLMN 1 | |
| $EF_{HPLMNwAcT}$ | 1st | | UTRAN |
| | 2nd | | |

Test USIMs are configured as bellow for Selection of RAT for HPLMN in TC_6_2_1_6. Two test USIMs are needed for the test.

**Table 147a: USIM A**

| USIM field | Priority | PLMN | Access Technology Identifier |
|---|---|---|---|
| $EF_{LOCI}$ | | PLMN 1 | |
| $EF_{HPLMNwAcT}$ | 1st | | UTRAN |
| | 2nd | | GSM |
| $EF_{PLMNwAcT}$ | 1st | PLMN3 | UTRAN |

**Table 148a: USIM B**

| USIM field | Priority | PLMN | Access Technology Identifier |
|---|---|---|---|
| $EF_{LOCI}$ | | PLMN 1 | |
| $EF_{HPLMNwAcT}$ | 1st | | UTRAN |
| | 2nd | | |
| $EF_{PLMNwAcT}$ | 1st | PLMN3 | UTRAN |

Test USIM for Selection of RAT for UPLMN or OPLMN in TC_6_2_1_3, TC_6_2_1_4, TC_6_2_1_7, TC_6_2_1_8 and for Selection of Other PLMN with access technology combinations"; Automatic mode in TC_6_2_1_9.

**Table 149**

| USIM field | Priority | PLMN | Access Technology Identifier |
|---|---|---|---|
| $EF_{LOCI}$ | | PLMN 1 | |
| $EF_{HPLMNwAcT}$ | 1st | | UTRAN |
| | 2nd | | GSM |
| $EF_{PLMNwAcT}$ | 1st | PLMN 3 | UTRAN |
| | 2nd | PLMN 4 | GSM |
| $EF_{OPLMNwAcT}$ | 1st | PLMN 5 | UTRAN |
| | 2nd | PLMN 6 | GSM |

Test USIM are configured as bellow for manual selection of other PLMN with access technology combinations in TC_6_2_1_5.

**Table 150**

| USIM field | Priority | PLMN | Access Technology Identifier |
|---|---|---|---|
| $EF_{LOCI}$ | | PLMN 7 | |
| $EF_{FPLMN}$ | PLMN 8 | | |
| | PLMN 9 | | |

Test USIM for cell reselection if cell becomes barred or for cell reselection timings requires that the USIM does not contain any preferred RAT. This specific test USIM applies to TC_6_2_2_1, TC_6_2_2_2 and TC_6_2_2_3.

## 8.6 Downlink power setting in SS

Refer to 3GPP TS 34.108 [3] clause 6.1.5.

# 8.7 Test suite operation definitions

## 8.7.1 Test suite operation definitions in the module BasicM

**Table 151: TSO definitions in BasicM**

| TSO Name | Description |
|---|---|
| o_AuthRspChk | **Type of the result:** BOOLEAN<br>**Parameters:**<br>p_AuthRsp : AuthRsp<br>p_AuthRspExt : AuthRspExt<br>p_K : BITSTRING<br>p_RAND : BITSTRING<br>p_Ext : BOOLEAN<br><br>**Description**<br>Checks the input parameter p_AuthRsp and p_AuthRspExt, both received in an Authentication Response, according to the authentication algorithm defined in the following procedure.<br>The extension, p_AuthRspExt, is optional. Its presence is indicated by p_Ext.<br>Returns TRUE if the Authentication Response contained in parameters p_AuthRsp and eventually p_AuthRspExt is correct, FALSE otherwise.<br>The value of tcv_Auth_n indicates whether the AuthRspExt has been provided by the UE or not (n=31, or 31 < n < 128). See 3GPP TS 34.108 [3] clause 8.1.2.<br>If not the parameter p_AuthRspExt is not to be used.<br><br>Algorithm (without the knowledge of tcv_Auth_n):<br>==========<br>if NOT p_Ext EvaluateAuthRsp else EvaluateAuthRspAndAuthRspExt<br>EvaluateAuthRsp:<br>==========<br>resultbitstring = o_BitstringXOR(XRES, AuthRsp)<br>if resultbitstring is all 0s then there is a match.<br>EvaluateAuthRspAndAuthRspExt:<br>==========<br>XREShigh = o_BitstringXtract(XRES, 32, 32, 0)<br>/* XRES divides into 2 parts: the higher part of 32 bits related to AuthRsp and the lower part related to AuthRspExt */<br>/* SourceLength of 32 is only to ensure usage of the procedure */<br>resultbitstring = o_BitstringXOR(XREShigh, AuthRsp)<br>if resultbitstring is all 0s then there is a match for the first 32 bits:EvaluateAuthRspExt else Authentication failed.<br>EvaluateAuthRspExt:<br>==========<br>/* As AuthRespExt may not be octet aligned the last octet indicated in AuthRspExt is not used for checking */<br>if (AuthRspExt.iel = 1)<br>then Authentication passed<br>/* there was only 1 possibly incomplete octet which is not used */<br>else<br>{<br>AuthRspExthigh = o_BitstringXtract(AuthRspExt.authRsp, ((AuthRspExt.iel -1)* 8), (AuthRspExt.iel -1)* 8, 0)<br>/* extract (AuthRspExt.iel -1)* 8 bits starting from bit 0 */<br>XRESlow = o_BitstringXtract(XRES, ((AuthRspExt.iel -1)* 8 + 32), (AuthRspExt.iel -1)* 8, 32)<br>/* extract (AuthRspExt.iel -1)* 8 bits starting from bit 32 */<br>resultbitstring = o_BitstringXOR(XRESlow, AuthRspExthigh, (AuthRspExt.iel -1)* 8)<br>if resultbitstring is all 0s then there is a match for the bits following the first 32 bits else Authentication failed |
| o_BitstringChange | **Type of the result:** BITSTRING<br>**Parameters:**<br>P_Str: BITSTRING<br>p_Len: INTEGER<br>p_Offset: INTEGER |

| TSO Name | Description |
|---|---|
| | **Description**<br>Performs the manipulation of a bitstring by toggling the bit identified by p_Offset. The length of the string to be manipulated is specified in p_Len. This is only provided to help ensure that the p_Offset is less than p_Len.<br>Returns a resulting bitstring of length p_Len.<br>EXAMPLE 1: o_BitstringChange('010101'B, 6, 5) produces '010100'B.<br>EXAMPLE 2: o_BitstringChange('010101'B, 6, 0) produces '110101'B. |
| o_BitstringConcat | **Type of the result:** BITSTRING<br>**Parameters:**<br>P_Str1: BITSTRING<br>p_Str2: BITSTRING<br>p_Len1: INTEGER<br>p_Len2: INTEGER<br><br>**Description**<br>Performs the concatenation of 2 bitstrings of possibly different lengths.<br>The bit significance is from left to right, i.e. the MSB is at the left-hand side.<br>Returns a resulting bitstring p_Str1 \|\| p_Str2 of length p_ Len1 + p_Len.<br><br>EXAMPLE: o_BitstringConcat('010101'B,'11'B) produces '01010111'B of length 6 + 2 = 8. |
| o_BitstringXOR | **Type of the result:** BITSTRING<br>**Parameters:**<br>P_Str1: BITSTRING<br>p_Str2: BITSTRING<br>p_Len: INTEGER<br><br>**Description**<br>Performs an XOR operation using 2 bitstrings of the same length (p_Len).<br>Returns a resulting Bitstring of length p_Len.<br><br>EXAMPLE: o_BitstringXOR('0011'B, '0101'B, 4) produces '0110'B. |
| o_BitstringXtract | **Type of the result**: BITSTRING<br>**Parameters:**<br>P_Str: BITSTRING<br>p_SrcLen: INTEGER<br>p_TargetLen: INTEGER<br>p_Offset: INTEGER<br><br>**Description**<br>Performs the wrap around extract of a bitstring. The length of the string from which extraction is to be made is specified in p_SrcLen. The length of the bitstring to be extracted is indicated as p_TargetLen, the offset in the original string is indicated in p_Offset.<br>The bit position 0 is at the left side.<br>Returns a resulting bitstring of length p_TargetLen.<br><br>EXAMPLE 1: o_BitstringXtract('101010'B, 6, 2, 1) produces '01'B.<br>EXAMPLE 2: o_BitstringXtract('101010'B, 6, 4, 3) produces '0101'B, wrapping around.<br>EXAMPLE 3: o_BitstringXtract('111000'B, 6, 4, 3) produces '0111'B, wrapping around. |

| TSO Name | Description |
|---|---|
| o_BMC_DrxScheduling | **Type of the result**: BMC_ResultOfSchedulingLevel2<br>**Parameters:**<br>p_BMC_CBS_Message1 : BMCCBSMESSAGE<br>p_BMC_CBS_Message2 : BMCCBSMESSAGE<br>p_BMC_CB_RepPeriod : INTEGER<br>p_BMC_NoOfBroadcast_Req : INTEGER<br>p_Offset : BMC_DRX_Offset<br><br>**Description**<br>This TSO shall calculate all BMC CBS schedule Messages for the CBS messages as described in 3GPP TS 34.123-1, clause 7.4.3.1.<br>The TSO has to precalculate the CTCH Block SETs needed, i.e. it shall have all necessary knowledge (RLC segmentation, MAC handling, if needed) to predict the CTCH with BMC contents for the given input to be sent.<br><br>The TSO shall consider the BMC CBS Scheduling Level2 as described in 3GPP TS 25.324 [20], 3GPP TR 25.925 [44] and the description of BMC test architecture and test method in the present document, clause 6.8.<br><br>The TSO calculates the BMC CBS Schedule messages to predict its next BlockSet to be sent. In addition, a DRX scheduling Bitmap is created for each CTCH allocated TTI aligned to the pre-calculated offset in between 2 CTCH Block Sets.<br><br>The principle of DRX shall be followed by this TSO. I.e. BMC Messages shall be sent blockwise (CTCH Block Set) with predicted offset in between 2 Block Sets.<br><br>The TSO shall consider the following aspects to calculate the DRX Selection Bitmap and to create the BMC CBS Schedule messages:<br><br>1. The first CTCH Block Set consists of the first BMC CBS Schedule message predicting the offset, length and content of the following Block Set where the BMC CBS Message1 shall be send as new message.<br>2. The BMC CBS Message1 shall be repeated for p_BMC_CB_RepPeriod multiplied by p_BMC_NoOfBroadcast_Req times before the BMC CBS Message2 is broadcasted.<br>3. The BMC CBS Schedule Messages shall be the last message of a CTCH Block Set, i.e. on the end of a Block Set.<br>4. If no further repetition of BMC CBS Messages is needed, no further BMC CBS Schedule message shall be created.<br><br>output parameter:<br>DrxSelectionBitmap: The TSO creates a Bitmap as Octetstring for scheduled CTCH allocated TTI as described in 3GPP TS 34.123-3: clause 6.8.2 BMC test method and architecture.<br><br>CBS_Schedule_Message01, CBS_Schedule_Message02, CBS_Schedule_Message03:Considering the given BMC PDUs BMC_DRX_Offset and BMCCBSMESSAGE to be sent, the BMC Schedule messages have to be created according the given parameter. |
| o_CheckStringStartWith | **Type of the result:** BOOLEAN<br>**Parameters:**<br>p_SourceString: IA5String<br>p_StartString : IA5String<br><br>**Description**<br>o_CheckStringStartWith returns TRUE if the p_sourceString start with the p_StartString. Otherwise it returns FALSE.<br><br>EXAMPLE: o_CheckStringStartWith ("+CLCC:1,0,0,2,0;", "+CLCC:1,0,0")=TRUE */. |
| o_ComputeSM_ContentsSpec | **Type of the result:** OCTETSTRING<br>**Parameters:**<br>p_NumOfChars: INTEGER<br>p_Text: IA5String<br><br>**Description**<br>This operation provides a short message's contents with a specified number of characters 'p_NumOfChars', each represented by 7 bits. 'p_Text' is used as contents of the short |

| TSO Name | Description |
|---|---|
| | message. If 'p_Text' contains less than 'p_NumOfChars' characters, 'p_Text' is repeated until the short message reaches the 'p_NumOfChars' characters long. The bits are arranged acc. to 3GPP TS 23.038 [34], clause 6.1.2.1.1.<br><br>max. 160 characters, i.e. 140 octets. |
| o_ConcatStrg | **Type of the result:** IA5String<br>**Parameters:**<br>P_String1: IA5String<br>p_String2: IA5String<br><br>**Description**<br>o_ConcatString concatenates 'p_String1' and 'p_String2' and returns the resulting string.<br><br>EXAMPLE: o_ConcatString ( "AT+CBST=0" , ",0") = "AT+CBST=0,0" |
| o_ConvertIMSI | **Type of the result:** IMSI_GSM_MAP<br>**Parameters:**<br>P_Imsi : HEXSTRING<br>The input parameter `p_Imsi` is a BCD string (subset of HEXSTRING), the result is of type IMSI_GSM_MAP. |
| o_ConvertTMSI | **Type of the result:** TMSI_GSM_MAP<br>**Parameters:**<br>p_Tmsi : OCTETSTRING<br><br>**Description**<br>The input parameter 'p_Tmsi' is an OCTETSTRING; the result is of type TMSI_GSM_MAP. |
| o_ConvertPTMSI | **Type of the result:** P_TMSI_GSM_MAP<br>**Parameters:**<br>p_PTMSI : OCTETSTRING<br><br>**Description**<br>The input parameter `PTMSI` is a OCTETSTRING, the result is of type P_TMSI_GSM_MAP. |
| o_ConvtPLMN | **Type of the result:** TMSI_GSM_MAP<br>**Parameters:** OCTETSTRING<br>p_MCC, p_MNC : HEXSTRING<br><br>**Description**<br>the functions of o_ConvtPLMN are as following:<br><br>1. The least significant HEX of p_MNC is removed from p_MNC and inserted into p_MCC in the position left to the third HEX to form a new p_MCC of 4 HEXs, then swap the first HEX (left most, most significant Hex) with the second HEX of the new p_MCC.<br>2. Swap the first Hex with the second HEX of the remaining part of p_MNC and append it to the new p_MCC formed in Step1 above.<br><br>EXAMPLE 1: o_ConvtPLMN('123'H, '456'H) = '216354'O.<br>EXAMPLE 2: o_ConvtPLMN ('234'H, '01F'H) = '32F410'O. |
| o_FirstDigit | **Type of the result:** B4<br>**Parameters:**<br>p_BCDdigits : HEXSTRING<br><br>**Description**<br>The input parameter p_BCDdigits shall be a BCD string (subset of HEXSTRING), the result is a BITSTRING[4] of a binary representation of one BCD digit.<br>The function of the o_FirstDigit is to return the first (most significant) digit of the input parameter 'p_BCDdigits'.<br><br>EXAMPLE 1: o_FirstDigit('12345') = '0001'B.<br>EXAMPLE 2: o_FirstDigit('012345678') = '0000'B. |

| TSO Name | Description |
|---|---|
| o_GetBit | **Type of the result:** BITSTRING<br>**Parameters:**<br>p_Source: BITSTRING<br>p_DataLength: INTEGER<br><br>**Description**<br>o_GetBit returns the BITSTRING of length p_DataLength extracted from p_Source. The extraction shall start in the bit position 0 (at the left). |
| o_GetN_OctetsFromPRBS | **Type of the result:** OCTETSTRING<br>**Parameters:**<br>p_Start, p_N: INTEGER<br><br>**Description**<br>This operation returns N octets from a repeated pseudo random bit sequence, starting with octet position p_Start. The PRBS is the 2047 bit pseudo random test pattern defined in ITU-T Recommendation O.153 [45] for measurements at 64 kbit/s and N x 64 kbit/s<br>o_GetN_OctetsFromPRBS( p_Start, p_N ) generates an OCTETSTRING containing p_N octets starting from octet number p_Start in the PRBS.<br>Requirements<br>p_Start ≥ 0<br>p_N ≥ 1<br>Definition<br>Define the 2 047 bit PRBS sequence b(i) as an m-sequence produced by using the following primitive (over GF(2)) generator polynomial of degree 11:<br>X^11 + X^9 + 1<br>This sequence is defined recursively as:<br>b(i) = 1 , i = 0,1,...,10<br>b(i) = b(i - 2) + b(i - 11) modulo 2 , i = 11,16,...,2046<br>The OCTETSTRING, o(j) generated by the present TSO is produced by extracting p_N octets from the repeated sequence b(i) as follows:<br>o(j,k) = b( ( ( n_Start + j ) * 8 + k ) modulo 2047 )<br>where:<br>j = 0,1,..,p_N - 1<br>k = 0,1,..7<br>o(j,k) is the kth bit of the jth octet in o(j),<br>o(j,0) is the MSB of the jth octet in o(j),<br>o(j,7) is the LSB of the jth octet in o(j),<br>Example results:<br>o_GetN_OctetsFromPRBS( 0, 25 ) and o_GetN_OctetsFromPRBS( 2047, 25 ) both return:<br>'FFE665A5C5CA3452085408ABEECE4B0B813FD337873F2CD1E2'O<br>o_GetN_OctetsFromPRBS( 255, 25 ) and o_GetN_OctetsFromPRBS( 255 + 2047, 25 ) both return<br>'01FFCCCB4B8B9468A410A81157DD9C9617027FA66F0E7E59A3'O |
| o_GetPI | **Type of the result:** BITSTRING<br>**Parameters:**<br>p_Imsi : **HEXSTRING**<br>p_Np: INTEGER<br><br>**Description**<br><br>PI = drx_index mod np<br><br>The drx_index is calculated as described hereafter:<br>drx_index = (p_Imsi / 8192))<br>This calculation is defined in TS 25.304 clause 8.3.<br><br>NOTE: the IMSI is passed as HEXSTRING, the relevant conversion shall be done. |

| TSO Name | Description |
|---|---|
| o_GetSC_TimeStamp | **Type of the result:** TP_ServCentreTimeSt<br>**Parameters:**<br>p_timezone : TZONES<br><br>This operation provides the hexstring containing the Service Centre Time Stamp (SCTS) according to 3GPP TS 23.040 [35], clauses 9.2.2.1 and 9.2.3.11. The TSO reads the current time of the test systems clock and transforms the time in combination with the input parameter 'timezone' into a service centre time stamp.<br>Example:<br>2002 April 18, 15:32:46, timezone=4<br>o_GetSC_TimeStamp returns 20408151236440<br><br>TPSCTS is HEXSTRING[14] |
| o_HexToDigitsMCC | **Type of the result:** MCC<br>**Parameters:**<br>p_BCDdigits : HEXSTRING<br><br>**Description**<br>The input parameter p_BCDdigits shall be a BCD string (subset of HEXSTRING), the result is a SEQUENCE (SIZE(3)) OF digit (MCC).<br><br>NOTE: The length of p_BCDdigits shall be 3. User shall take the responsibility of fulfilling this requirement.<br><br>EXAMPLE 1: o_HexToDigitsMCC('111'H) = {1, 1, 1}.<br>EXAMPLE 2: o_HexToDigitsMCC('123'H) = {1, 2, 3}. |
| o_HexToDigitsMNC | **Type of the result:** MNC<br>**Parameters:**<br>p_BCDdigits : HEXSTRING<br><br>**Description**<br>The function of this operation is:<br>1. The least significant HEX is removed if it is 'F' and the operation returns SEQUENCE (SIZE(2)) OF Digit.<br>2. The operation returns SEQUENCE (SIZE(3)) OF Digit if all 3 HEX digits in p_BCDdigits are BCD Digit.<br><br>EXAMPLE 1: o_HexToDigitsMNC('123'H) = {1, 2, 3}.<br>EXAMPLE 2: o_HexToDigitsMNC('13F'H) = {1, 3}. |
| o_HexToIA5 | **Type of the result:** IA5String<br>**Parameters:**<br>p_String: HEXSTRING<br><br>**Description**<br>o_HEX_TO_IA5 converts hexadecimal string 'p_String' to an IA5 String<br><br>EXAMPLE: o_HEX_TO_IA5 ( '15A'H) = "15A". |
| o_IA5_ToOct | **Type of the result:** OCTETSTRING<br>**Parameters:**<br>p_String : IA5String<br><br>**Description**<br>o_IA5_ToOct converts the string p_String from IA5String type to OCTETSTRING. Each character is mapped onto an octet, and bit 8 is set to 0. This TSO shall be used to convert Access Point Numbers for example. See 3GPP TS 24008, clause 10.5.6.1<br><br>EXAMPLE: o_IA5_ToOct ( "15A") = '313541'O. |

| TSO Name | Description |
|---|---|
| o_IA5_BMC_ToOct | **Type of the result:** OCTETSTRING<br>**Parameters:**<br>p_String :IA5String_BMC<br>p_DCS: TP_DataCodingScheme<br><br>**Description**<br>o_IA5_BMC_ToOct converts the string p_String from IA5String_BMC type to OCTETSTRING.<br>p_DCS determines how this is done (refer to 3GPP TS 23.038 [**34**] clause 5).<br>If a 7 bit packing is to be applied then proceed as described in 3GPP TS 23.038 [**34**] clause 6.1.2.2.1 and clause 6.2.1. This is the default case.<br><br>If 8bit data is to be used then proceed as described in 3GPP TS 23.038 [**34**] clause 6.2.2.<br>If UCS2is to be used then proceed as described in 3GPP TS 23.038 [**34**] clause 6.2.3.<br><br>The type IA5_BMC implies that the length of p_String is restricted to 1..1395 octets.<br>(Refer to 3GPP TS 23.041 [**36**], 3GPP TS 23.038 [**34**], 3GPP TS 25.324 [**20**])<br><br>This TSO will always generate a BMC encoded message of 15 page of information. If the input message stream (p_String) is less than the size of required octet, then the input message will be concatenated to generate a string of required length based on p_DCS. |
| o_IA5_IP_ToOct | **Type of the result:** OCTETSTRING<br>**Parameters:**<br>p_String: IA5String<br>p_IP_V4: BOOLEAN<br><br>**Description**<br>o_IA5_IP_ToOct converts the string p_String from IA5String type to OCTETSTRING.<br>In case of IPv4, p_String represents an IP address consisting of a number of fields of digits, separated by dots. Each one of the numbers of which the IP address consists is converted into one octet. The dots separating the numbers are ignored.<br>EXAMPLE 1: o_IA5_IP_ToOct ("200.1.1.80", TRUE) = 'C8010150'O.<br>EXAMPLE 2: o_IA5_IP_ToOct ("200.1.1.80.100", TRUE) should result in an appropriate error message.<br>EXAMPLE 3: o_IA5_IP_ToOct ("300.1.1.80", TRUE) should result in an appropriate error message.<br><br>In case of IPv6, p_String represents an IP address consisting of a number of fields of hexadecimal digits, separated by ":".<br>a) In case of uncompressed IPv6 format each value separated by ";" is converted to 2 octets. The ":" separating the numbers are ignored.<br>EXAMPLE 1: o_IA5_IP_ToOct(FEDC:BA98:7654:3210:FEDC:BA98:7654:3210, FALSE) = 'FEDCBA9876543210FEDCBA9876543210'O<br>EXAMPLE 2: o_IA5_IP_ToOct(FEDC:BA98:7654:3210:FEDC:BA98:7654, FALSE) should result in an appropriate error message.<br>EXAMPLE 3: o_IA5_IP_ToOct(1080:0:0:0:8:800:200C:417A,FALSE) = '10800000000000000080800200C417A'O<br>EXAMPLE 4: o_IA5_IP_ToOct(1080:0:0:0:8:800:20H:417A,FALSE) should result in an appropriate error message.<br>b) In case of compressed IPv6 format the use of "::" indicates multiple groups of 16-bits of zeros. The "::" can only appear once in an address.<br>EXAMPLE 1: o_IA5_IP_ToOct(FF01::101,FALSE) = 'FF010000000000000000000000000101'O<br>EXAMPLE 2: o_IA5_IP_ToOct(FEDC::7654:3210:FEDC::BA98:7654:3210, FALSE) should result in an appropriate error message.<br><br>p_IP_V4 is a BOOLEAN. When TRUE, an IP Version 4 address is to be converted, the maximum length of which is 4 octets, otherwise an IP Version 6 address is to be converted, the maximum length of which is 16 octets. See 3GPP TS 24.008 [9], clause 10.5.6.4. |
| o_IA5_DigitsToOct | **Type of the result:** OCTETSTRING<br>**Parameters:**<br>p_String: IA5String<br><br>**Description** |

| TSO Name | Description |
|---|---|
| | o_IA5_DigitsToOct converts the string p_String from IA5String type to OCTETSTRING.<br>Each pair of characters is considered a pair of numbers to be mapped onto 1 octet.<br>Each character of p_String shall represent a digit (0..9).<br>In case the number of characters is odd, then a filler '1111'B is used to fill the last octet required to represent the digits. See 3GPP TS 24.008 [9], clause 10.5.4.7.<br><br>EXAMPLE 1: o_IA5_DigitsToOct ("0613454120") = '6031541402'O.<br>EXAMPLE 2: o_IA5_DigitsToOct ("06134541209") = '6031541402F9'O.<br>EXAMPLE 3: o_IA5_DigitsToOct ("A6134541209") should result in an appropriate error message. |
| o_IntToOct | **Type of the result:** OCTETSTRING<br>**Parameters:**<br>p_N : INTEGER<br>p_L: INTEGER<br><br>**Description**<br>o_IntToOct converts the INTEGER `p_N` into OCTETSTRING with length = 'p_L'.<br><br>EXAMPLE 1: o_IntToOct(14,1) = '0E'O.<br>EXAMPLE 2: o_IntToOct(18,1) = '12'O.<br>EXAMPLE 3: o_IntToOct(18,2) = '0012'O. |
| o_IntToIA5 | **Type of the result:**IA5String<br>**Parameters:**<br>p_N : INTEGER; p_L: INTEGER<br><br>**Description**<br>o_IntToIA5 converts the INTEGER `p_N` into IA5 String with length = 'p_L'.<br><br>EXAMPLE 1: o_IntToIA5(160,3) = "160";<br>EXAMPLE 2: o_IntToIA5(160,4) = " 160";<br>EXAMPLE 3: o_IntToIA5(160,2) = "60". |
| o_OctetstringConcat | **Type of the result:** OCTETSTRING<br>**Parameters:**<br>p_Str1, p_Str2: OCTETSTRING<br><br>**Description**<br>o_OctetstringConcat Performs the concatenation of 2 octetstrings of possibly different lengths.<br>The octet significance is from left to right, i.e. the MSB is at the lefthand side.<br>Returns a resulting octetstring p_Str1 \|\| p_Str2.<br><br>EXAMPLE: o_OctetstringConcat('135'O, '9A38'O) = '1359A38'O. |
| o_OctToBit | **Type of the result:** BITSTRING<br>**Parameters:**<br>p_OctetStr: OCTETSTRING<br><br>**Description**<br>Converts an OCTETSTRING into a BITSTRING.<br>The size of the resulting BITSTRING is 8 times the size of the input OCTETSTRING. |
| o_OctToInt | **Type of the result:** INTEGER<br>**Parameters:**<br>p_oct : OCTETSTRING<br><br>**Description**<br>Transform an OCTETSTRING of length 1 to 4 into an unsigned 32 bits IINTEGER value.<br>If the input octet string is larger than 4, then only the first 4 octets shall be considered. |

| TSO Name | Description |
|---|---|
| o_OeBit | **Type of the result:** BITSTRING<br>**Parameters:**<br>p_BCDdigits: HEXSTRING<br><br>**Description**<br>The input parameter 'p_BCDdigits' is a BCD string (subset of HEXSTRING), the result is BITSTRING[1].<br>The function of the o_OeBit is as the follows:<br><br>1. It returns '1'B, if the length of the 'p_BCDdigits' is odd.<br><br>2. It returns '0'B, if the length of the 'p_BCDdigits' is even.<br><br>EXAMPLE 1: o_OeBit('12583') = '1'B.<br>EXAMPLE 2: o_OeBit('87259957') ='0'B. |
| o_OtherDigits | **Type of the result:** OCTETSTRING<br>**Parameters:**<br>p_BCDdigits : HEXSTRING<br><br>**Description**<br>The input parameter ` p_BCDdigits ` is a BCD string (subset of HEXSTRING), the result is an even string of BCD digits, with eventually a filler 'F'H used. */<br><br>The function of the o_OtherDigits is as the follows:<br><br>1. If the number of the 'p_BCDdigits' is odd, the operation removes the most significant digit, and then reverses the order of each pair of digits.<br>2. If the number of the 'p_BCDdigits' is even, first the operation suffixes the `bcddigits` with 'F'H, then removes the most significant digit, and then reverses the order of each pair of digits.<br><br>EXAMPLE 1: o_OtherDigi('12345') = '3254',<br>EXAMPLE 2: o_OtherDigi('12345678') ='325476F8'.<br>See o_FirstDigit for the handling of the first digit. |
| o_RoutingParameterIMSIResponsePaging | **Type of the result**: RoutingParameter<br>**Parameters:**<br>p_IMSI : HEXSTRING<br><br>**Description**<br>The input parameter p_Imsi is a BCD string (subset of HEXSTRING), the result is of type RoutingParameter.<br><br>The tso returns the RoutingParameter, which consists of DecimalToBinary [(IMSI div 10) mod 1000]. The bits of the result are numbered from b0 to b9, with bit b0 being the least significant. |

| TSO Name | Description |
|---|---|
| o_SIB_PER_Encoding | **Type of the result:** BITSTRING<br>**Parameters:**<br>p_SIB : SIB<br><br>**Description**<br>It returns the unaligned PER encoding (BIT STRING) of the input system information block p_SIB (without "Encoder added (1-7) bits padding"). The bits corresponding to the encoding of the CHOICE of the SIB type shall be removed.<br>Example:<br>for the following SIBType1 value:<br>`SysInfoType1 ::=`<br>`{ cn-CommonGSM-MAP-NAS-SysInfo '32F4100001'H,`<br>`cn-DomainSysInfoList`<br>`{ { cn-DomainIdentity ps-domain,`<br>`cn-Type gsm-MAP : '0000'H,`<br>`cn-DRX-CycleLengthCoeff 7},`<br>`{cn-DomainIdentity cs-domain,`<br>`cn-Type gsm-MAP : '0001'H,`<br>`cn-DRX-CycleLengthCoeff 7}},`<br><br>`ue-ConnTimersAndConstants`<br>`{ t-304 ms100,`<br>`n-304 7,`<br>`t-308 ms40,`<br>`t-309 8,`<br>`t-313 15,`<br>`n-313 s200,`<br>`t-314 s20,`<br>`t-315 s1800,`<br>`n-315 s1000},`<br>`ue-IdleTimersAndConstants`<br>`{ t-300 ms400,`<br>`n-300 7,`<br>`t-312 10,`<br>`n-312 s200},`<br>`nonCriticalExtensions { }`<br>`}`<br>The operation returns BITSTRING:<br>"1000011001011110100001000000000000000000010110001000000000000000010000100000000000000010100001100110000011111000001110011111111111111111101010111101011" |
| o_SIB_Segmentation | **Type of the result:** SegmentsOfSysInfoBlock<br>**Parameters:**<br>p_SIBBitString : BITSTRING<br><br>**Description**<br>The function of the o_SIB_Segmentation is as following:<br><br>1. If the p_SIBBitString is less than or equal to 226 bits, the bit string is fit into a complete segment. If the segment is less than 226 bits but more than 214 bits, the segment shall be padded to 226 bits long with padding bits set to '0'B.<br><br>2. If the input operand p_SIBBitString is longer than 226 bits it is segmented from left to right into segments, each segment except the last one is 222 bits. The last segment may be 222 bits or shorter. If the length of last segment is greater than 214 bits pad it to 222 bits with padding bits set to '0'B.<br><br>3. The number of segments is assigned to recount field of the result.<br><br>4. The first segment is assigned to seg1 field of the result, the second segment is assigned to the seg2 field of the result, the third segment is assigned to the seg3 field of the result, and so on till the last segment. |

| TSO Name | Description |
|---|---|
| o_SIB_SegmentationFirstSpecial | **Type of the result:** SegmentsOfSysInfoBlock<br>**Parameters:**<br>p_SIB_BitString : BITSTRING<br>p_FirstSegLength : INTEGER<br><br>**Description**<br>The function of the o_SIB_Segmentation_FirstShort is as following:<br><br>1. If the p_SIB_BitString is less than or equal to p_FirstSegLength bits, the bit string is fit into one segment.<br><br>2. If the input operand p_SIB_BitString is longer than p_FirstSegLength bits it is segmented from left to right into segments, each segment except the first one and the last one is 222 bits . The first one is p_FirstSegLength long. The last segment may be 222 bits or shorter. If the length of last segment is greater than 214 bits pad it to 222 bits with padding bits set to '0'B.<br><br>3. The number of segments is assigned to segCount field of the result.<br><br>4. The first segment is assigned to seg1 field of the result, the second segment is assigned to the seg2 field of the result, the third segment is assigned to the seg3 field of the result, and so on till the last segment.<br><br>5. The value of parameter p_FirstSegLength shall be less than 197. |
| o_CheckPDUsAcknowledged | **Type of the result:** BOOLEAN<br>**Parameters:**<br>p_NackList: NackList<br>Contains a list of integers (possibly empty), each of which corresponds to a PDU SN. Negative acknowledgement is expected for each of these PDUs.<br><br>p_FSN: INTEGER<br>Contains an integer representing the first SN expected to be acknowledged.<br><br>p_LSN: INTEGER<br>Contains an integer representing the last SN expected to be acknowledged.<br><br>p_SUFI_List: SuperFields<br>This parameter contains the received SUFI list to be checked.<br><br>**Description:**<br>This TSO is used to check that the given SUFI list contains any combination of SUFIs that fulfils the following requirements:<br><br>1. Negatively acknowledges all PDUs whose sequence numbers are in p_NackList. Note that the list may be empty.<br><br>2. Positively acknowledges all other PDUs with sequence numbers greater than or equal to p_FSN, and less than or equal to p_LSN.<br><br>**Output:**<br>This TSO returns a BOOLEAN value of TRUE if the SUFI list meets all of the requirements based on the given parameters.<br>Otherwise the TSO returns FALSE. |

### 8.7.1.1 Specific test suite operation for RLC defined in BasicM

This TSO is defined in BasicM, it is used by RLC and MAC ATSs.

**Table 152: TSO definitions for RLC SUFI handling**

| TSO Name | Description |
|---|---|
| o_SUFI_Handler | **Type of the result:** ResAndSUFIs<br><br>**Parameters:**<br>p_SUFI_Params: SUFI_Params<br>p_SUFI_String: HEXSTRING<br><br>**Conditions**:<br>Inputs:<br>p_SUFI_Params: the list of checking criteria to be applied by the TSO<br>p_SUFI_String: the HEXSTRING received containing the SUFIs<br>Outputs:<br>the BOOLEAN result of the TSO:<br>TRUE if all checking and the filling of the SuperFields structure were successful;<br>FALSE otherwise; in this case the TSO shall produce sufficient output to allow problem analysis |

**Table 153: ResAndSUFIs type and Processing of the SUFI parameters input to the TSO**

| Parameter | Type | Setting | Meaning | Comment |
|---|---|---|---|---|
| Lower Bound (**LB)** Upper Bound (**UB)** | BITSTRING [12] | OMIT | Do not use ! | |
| | | AnyOrOmit | Do not use ! | |
| | | Any | Do not use ! | |
| | | Value | Use ! | |
| NackList Element i (**Nacki)** | BITSTRING [12] | OMIT | Do not use ! | |
| | | AnyOrOmit | Do not use ! | |
| | | Any | Do not use ! | |
| | | Value | Use ! | Check negative ack |
| Window Size SUFI presence (**WSN_ presence)** | BOOLEAN | OMIT | Use ! | Check absence |
| | | AnyOrOmit | Do not use ! | |
| | | Any | Use ! | Check presence |
| | | Value | Use ! | Check presence |
| MRW SUFI presence (**MRW_ presence)** | BOOLEAN | OMIT | Use ! | Check absence |
| | | AnyOrOmit | Do not use ! | |
| | | Any | Use ! | Check presence |
| | | Value | Use ! | Check presence |

#### 8.7.1.1.1 Pseudocode in a C like notation

The pseudocode defined below can be written in a more compact fashion. The code hereafter is to allow easy identification of the TSO's tasks. All situations leading to a FALSE result must produce a log. This is not shown in the code hereafter. Possible wrap arounds are not shown in this section. These have to be accounted for at the appropriate places.

```
/* INITIALIZATION */
Initialize_ResAndSUFIs();                       /* RESULT := TRUE, all SUFI fields are AnyOrOmit */

/* EXTRACTION OF SUFIs AND TRANSFER INTO THE TTCN SUFI STRUCUTRE */
i = 0;
if (p_SUFI_String == NULL)
{
RESULT := FALSE;                                /* No SUFIs -> Result is FALSE */
RETURN;
}
SUFI := Extract_SUFI(i);                        /* Let n SUFI be numbered from 0 to n-1 */
while (SUFI != NULL)                            /* TRUE when there is a SUFI */
{
```

```
    Set_SUFI_ListRec(SUFI);                    /* Put the SUFI at the correct place in the
resulting */
/* SUFI structure; overwrite if the SUFI type has */
/* already been extracted except LIST SUFIs which all are to be collected */
    i++;
    SUFI := Extract_SUFI(i);                   /* Get next SUFI */
}

/* FOR ALL SUFI TYPES: IF EXISTING, PERFORM CONSISTENCY CHECK */
if Exists_SUFI (ACK) AND NOT CheckConsistency (ACK)
RESULT := FALSE;                               /* ACK SUFI inconsistent -> Result is FALSE */
.....
if Exists_SUFI (WINDOW) AND NOT CheckConsistency (WINDOW)
RESULT := FALSE;                               /* WINDOW SUFI inconsistent -> Result is FALSE */


/* TAKE THE INDIVIDUAL CHECKING PARAMETERS & PERFORM THE EXPECTED CHECKING */
/* PART 1: EXISTENCE CHECKS */
if ((WSN_presence == Any) OR (WSN_presence == TRUE) OR (WSN_presence == FALSE)) AND NOT
Exists_SUFI(WINDOW)
RESULT := FALSE;                               /* WINDOW not ex. but should -> Result is FALSE */
if ((MRW_presence == Any) OR (MRW_presence == TRUE) OR (MRW_presence == FALSE)) AND NOT
Exists_SUFI(MRW)
RESULT := FALSE;                               /* MRW not ex. but should -> Result is FALSE */


/* PART 2: RANGE AND NACK CHECKS OF SUFI CONTENTS*/
/* ACK: LB <= LSN received <= UB */
if NOT (LB <= Extract_SUFI_Value(ACK) -1 AND Extract_SUFI_Value(ACK) -1 <= UB)
RESULT := FALSE;                               /* ACK value not in the expected range */
                                               /* LB: first SN acceptable as LSN received */
                                               /* UB: last SN acceptable as LSN received */
                                               /* LSN received acks SNs upto LSN received -1 */


/* Bitmap */
/* for all SNs between LB and UB */
{
if (ExtractBitmap(FSN extracted, LENGTH extracted, Bitmap extracted, SN) == 1) AND (SN in NackList)
RESULT := FALSE;                               /* if the bit in the Bitmap is not 0 */
if (ExtractBitmap(FSN extracted, LENGTH extracted, Bitmap extracted, SN) == 0) AND (SN NOT in
NackList)
RESULT := FALSE;                               /* if the bit in the Bitmap is not 0 */
}


/* LIST */
/* The (SNi,Li) pairs identify AMD PDUs which have not been correctly received. */
/* Therefore the (SNi,Li) pairs have to be consistent with the NackList. */
/* The (SNi,Li) pairs may be contained in multiple LIST SUFIs conveyed in one STATUS PDU */

/* RLIST */

/* The CWs represent the distance between the previous indicated erroneous AMD PDU */
/* up to and including the next erroneous AMD PDU, starting from the FSN contained in the RLIST
SUFI. */
/* Therefore the FSN and the Codewords have to be consistent with the NackList. */
/* Error burst indicator has to be treated as a separate case. May not have to be implemented
currently. */
/* MRW */
/* LENGTH = 0 */
/* 1 SN_MRWi is present and the RLC SDU to be discarded extends above the configured transmission
window in the sender */
/* LENGTH = 1 ... 15 */
/* 1 ...15 SN_MRWi */
/* a) MRW configured → an SN_MRWi indicates the end of each discarded RLC SDU */
/* n SN_MRWs → n RLC SDUs discarded */
/* b) MRW not configured → an SN_MRWi indicates end of last RLC SDU to be discarded */
/* in the receiver */

/* To be implemented as far as required by the RLC ATS */
/* MRW ACK */
/* The SN_ACK must be consistent with the information sent in a previous MRW SUFI upon which the */
/* MRW_ACK represents the answer. */
/* NO MORE */
/* no checking required */
/* SUBFUNCTIONS USED*/
Check_Consistency (SUFI_type)                  /* returns TRUE when the type fulfils the */
```

```
/* requirements of the spec. TS 25.322*/
Exists_SUFI (SUFI_type)                         /* returns TRUE when the specified */

/* type has been extracted, therefore exists*/
ExtractBitmap(FSN extracted, LENGTH extracted, Bitmap extracted, Criterion)
                                        /* Extract the value in the Bitmap at position Criterion */
                                        /* Calculation based on information received in the */
                                        /* Bitmap SUFI */
Extract_SUFI (Counter)                  /* returns the SUFI extracted at position counter */

/* from the input p_SUFI_String; */
/* n SUFIs from positions 0 to n-1 */
/* returns NULL if there is no further SUFI */
Extract_SUFI_Value (SUFI_type, field_type )     /* extract the value of specific field type */

/* contained in a specific SUFI type */
/* There will be several flavours depending upon the */
/* result (field) type */
Initialize_ResAndSUFIs ()                       /* Initialize RESULT and all SUFI fields */
Set_SUFI_ListRec(SUFI)                          /* set return values RESULT and */
                                                /* SUFI structure SUFI_ListRec */
```

## 8.7.2 Specific test suite operation definitions for Multi RAT Handover testing

**Table 154: TSO definitions for Multi RAT handover**

| TSO Name | Description |
|---|---|
| OC_LeastBits | **Type of the result:** BITSTRING<br><br>**Parameters:**<br>bstring : BITSTRING<br>lg : INTEGER<br><br>**Description:**<br>It returns the `lg` least significant bits of the original `bstring`.<br>for example:<br>OC_LeastBits('110011000101010'B, 3) = '010'B,<br>OC_LeastBits('110011000101010'B, 6) = '101010'B. |
| OC_MostBits | **Type of the result:** BITSTRING<br><br>**Parameters:**<br>bstring : BITSTRING<br>lg : INTEGER<br><br>**Description:**<br>It returns the `lg` most significant bits of the original `bstring`.<br>for example:<br>OC_ MostBits ('110011000101010'B, 3) = '010'B,<br>OC_ MostBits ('110011000101010'B, 6) = '101010'B. |
| o_HO_PER_Encoding | **Type of the result:** BITSTRING<br><br>**Parameters:**<br>p_Msg : DL_DCCH_Message<br><br>**Description:**<br>It returns the unaligned PER encoding (BIT STRING) of the input downlink DCCH message p_Msg (without "Encoder added (1-7) bits padding"). |
| o_CheckUtranClassmark | **Type of the result:** ResAndStartValue<br><br>**Parameters:**<br>p_InterRATHOInfo : OCTETSTRING<br>p_RACap : UE_RadioAccessCapability<br><br>**Description:**<br>This function decodes the InterRATHandoverInfo IE, received from an incoming UtranClassmarkChange message as an octetstring, as the ASN.1 definition |

| TSO Name | Description |
|---|---|
| | InterRATHandoverInfo.<br><br>It then compares the contents of the input parameter p_RACap against the field p_InterRATHOInfo.ue_CapabilityContainer.present and returns the boolean result in ResAndStartValue.res<br><br>It also extracts the field START_Value from p_InterRATHOInfo.uE_SecurityInformation.present.start_CS and returns this in ResAndStartValue.start<br><br>Other fields in the InterRATHandoverInfo IE are not checked. |
| o_PacketPagingGroupCalculate | **Type of the result:** INTEGER<br><br>**Parameters:**<br>IMSI : HEXSTRING<br>KC_Conf : INTEGER<br>M : INTEGER<br>N : INTEGER<br>SplitPGCycle : B8<br><br>**Description:**<br>It returns the calculated Packet Paging Group, according to:<br><br>PAGING_GROUP (0 ... M-1) = ( ( (IMSI mod 1000) div (KC*N) ) * N + (IMSI mod 1000) mod N + Max((m * M) div SPLIT_PG_CYCLE, m)) mod M<br>for m = 0, ... , Min(M, SPLIT_PG_CYCLE) -1<br>where<br>KC = number of (P)CCCH in the cell = BS_PCC_CHANS for PCCCH or BS_CC_CHANS for CCCH<br><br>M = number of paging blocks "available" on one (P)CCCH =<br>(12 - BS_PAG_BLKS_RES - BS_PBCCH_BLKS) * 64 for PCCCH<br>(9 - BS_AG_BLKS_RES) * 64 for CCCH not combined<br>(3 - BS_AG_BLKS_RES) * 64 for CCCH + SDCCH combined<br><br>N=1 for PCCCH<br>(9 - BS_AG_BLKS_RES)*BS_PA_MFRMS for CCCH not combined<br>(3 - BS_AG_BLKS_RES)*BS_PA_MFRMS for CCCH/SDCCH combined<br><br>SPLIT_PG_CYCLE is an MS specific parameter negotiated at GPRS attach (see 3GPP TS 04.60)<br>IMSI = International Mobile Subscriber Identity, as defined in 3GPP TS 03.03. |
| o_PagingGroupCalculate | **Type of the result:** INTEGER<br>**Parameters:**<br>p_IMSI : HEXSTRING<br>p_CCCH_Conf : B_3<br>p_N : INTEGER<br><br>**Description**<br>Calculate the PAGING_GROUP (0 .. N?1) = ((IMSI mod 1000) mod (BS_CC_CHANS x N)) mod N<br>where :<br>N = number of paging blocks "available" on one CCCH = (number of paging blocks "available" in a 51-multiframe on one CCCH) x BS_PA_MFRMS.<br>IMSI = International Mobile Subscriber Identity, as defined in 3GPP TS 23.003 [6].<br>mod = Modulo.<br>div = Integer division. |
| o_TTCN_HO_CommandToBitstring | **Type of the result:** BITSTRING<br>**Parameters:**<br>p_PDU : PDU<br><br>Description<br>The function of the o_TTCN_HOCommandToBitstring is as the follows:<br>- It returns the bitstring representation of the input HANDOVERCOMMAND p_PDU. |
| o_BitToOct | **Type of the result:** OCTETSTRING<br>**Parameters:**<br>p_Str: BITSTRING |

| TSO Name | Description |
|---|---|
| | **Description**<br>This TSO is used to convert the given BITSTRING into an OCTETSTRING. If the bitstring length is not a multiple of 8, 1 to 7 padding bits are added at the MSB to fill the final octet. |

## 8.7.3 Specific test suite operation for Multi RAB testing

**Table 155: TSO definitions for Multi RAB testing**

| TSO Name | Description |
|---|---|
| o_SendContinuousData | **Type of the result:** BOOLEAN<br><br>**Parameters:**<br>p_RAB_Tx_Info : RAB_Tx_Info<br><br>**Conditions**:<br>Inputs:<br>p_RAB_Tx_Info: test data, number of RBs, and RB info of each RB (RB id, SDU size and number of SDUs to be transmitted in consecutive TTIs<br><br>**Outputs:**<br>The BOOLEAN result of the TSO:<br>TRUE if system simulator accepts the information sent from TTCN<br>FALSE if system simulator rejects the information sent from TTCN.<br>**Description**<br>When sending the data through the TSO, after the CMAC_Restriction_REQ, the TFC under test will be one corresponding the maximum CTFC value in the Restricted list, so that SS can select the number of Transport blocks and the size of Transport blocks on individual Transport channels derived from this CTFC.<br>Starting from the beginning of the raw data buffer given in the TSO:<br>Data to be sent on a particular RbId is the first (number of SDUs * SDU_Size) bits<br>All calls to TSO o_sendContinuosData in a test will always specify the exact same set of RbIds. |

**Table 156: RAB_Tx_Info type**

| Structure Type Definition | | | |
|---|---|---|---|
| **Type Name:** RAB_Tx_Info | | | |
| **Encoding Variation:** | | | |
| **Comments:** To provide the information to SS to send data in every TTI on each RAB. Number of RBs depends on specific requirement. SS shall take care about all kind of discard info in all RLC modes and final aim is DL TFCs under test shall be selected in downlink for each TTI. | | | |
| **Element name** | **Type Definition** | **Field Encoding** | **Comments** |
| test data | BITSTRING | | The raw test data buffer |
| no_of_rbs | INTEGER | | No of Radio Bearers |
| rb_tx_info1 | RB_Tx_Info | | Info about RB id, SDU size and number of SDUs |
| rb_tx_info2 | RB_Tx_Info | | Info about RB id, SDU size and number of SDUs |
| rb_tx_info3 | RB_Tx_Info | | Info about RB id, SDU size and number of SDUs |
| rb_tx_info4 | RB_Tx_Info | | Info about RB id, SDU size and number of SDUs |
| rb_tx_info5 | RB_Tx_Info | | Info about RB id, SDU size and number of SDUs |
| rb_tx_info6 | RB_Tx_Info | | Info about RB id, SDU size and number of SDUs |

**Table 157: RB_Tx_Info type**

| Structure Type Definition | | | |
|---|---|---|---|
| **Type Name:** RB_Tx_Info | | | |
| **Encoding Variation:** | | | |
| **Comments:** | | | |
| Element name | Type Definition | Field Encoding | Comments |
| rb_id | INTEGER | | |
| sdu_size | INTEGER | | |
| no_of_sdus | INTEGER | | |

## 8.7.4 Specific test suite operation for InterSystem Handover testing

**Table 158: TSO definitions for InterSystem testing**

| TSO Name | Description |
|---|---|
| o_LengthofPDU | **Type of the result:** O1<br>**Parameters:**<br>p_Msg : PDU<br><br>**Description**<br>The function of the o_LengthofPDU is as the follows:<br>- it returns the no. of octets of the input downlink message p_Msg |

## 8.7.5 Specific test suite operation for RAB_HS testing

**Table 159: TSO definitions for RAB_HS testing**

| TSO Name | Description |
|---|---|
| o_CalculateTestPoint656 | **Type of the result:** HSDPA_TestPoint<br><br>**Parameters**:<br>p_PhyCat:HSDSCH_physical_layer_category<br>p_ModScheme:ModulationScheme<br>p_NumOfPDU: INTEGER<br>**Description:**<br>TSO implements tables 14.1.3.4.1 for category 1 to 6, 14.1.3.4.2 for category 7 and 8, 14.1.3.4.3 for category 9, 14.1.3.4.4 for Category 10 and 14.1.3.4.5 for category 11 and 12.<br>It accepts UE category(1 to 12), Modulation scheme(qpsk or qam16) and number of MAC-D PDU's( 1 to 70) as input.<br>If a test point is not defined for this combination of input, then returns<br>flag = FALSE<br>noOfChannelisatonCodes =0<br>tbSizeIndexOnHS_SCCH =0<br>If a test point is defined for the combination of inputs, it returns,<br>flag = TRUE<br>noOfChannelisatonCodes =value as per relevant table<br>tbSizeIndexOnHS_SCCH =TFRI value as per relevant table<br><br>example:<br>if input is physical category =1,modScheme=qpsk,Num Of PDU's =5<br>TSO returns<br>flag = TRUE<br>noOfChannelisatonCodes =5<br>tbSizeIndexOnHS_SCCH =43<br>If input is category =1,modScheme=qpsk,Num Of PDU's =10<br>TSO returns<br>flag = FALSE<br>noOfChannelisatonCodes =0<br>tbSizeIndexOnHS_SCCH =0 |
| o_CalculateTestPoint336 | **Type of the result:** HSDPA_TestPoint<br><br>**Parameters**:<br>p_PhyCat:HSDSCH_physical_layer_category<br>p_ModScheme:ModulationScheme<br>p_NumOfPDU: INTEGER<br>**Description:**<br>TSO implements tables 14.1.3.3.1 for category 1 to 6, 14.1.3.3.2 for category 7 and 8, 14.1.3.3.3 for category 9, 14.1.3.3.4 for Category 10 and 14.1.3.3.5 for category 11 and 12.<br>It accepts UE category(1 to 12), Modulation scheme(qpsk or qam16) and number of MAC-D PDU's( 1 to 70) as input.<br>If a test point is not defined for this combination of input, then returns<br>flag = FALSE<br>noOfChannelisatonCodes =0<br>tbSizeIndexOnHS_SCCH =0<br>If a test point is defined for the combination of inputs, it returns,<br>flag = TRUE<br>noOfChannelisatonCodes =value as per relevant table<br>tbSizeIndexOnHS_SCCH =TFRI value as per relevant table<br><br>example:<br>if input is physical category =1,modScheme=qpsk,Num Of PDU's =10<br>TSO returns<br>flag = TRUE<br>noOfChannelisatonCodes =5<br>tbSizeIndexOnHS_SCCH =45<br>If input is category =1,modScheme=qpsk,Num Of PDU's =17<br>TSO returns<br>flag = FALSE<br>noOfChannelisatonCodes =0 |

| | |
|---|---|
| | tbSizeIndexOnHS_SCCH =0 |

**Table 160: HSDPA_TestPoint**

| Structure Type Definition | | | |
|---|---|---|---|
| **Type Name:** HSDPA_TestPoint | | | |
| **Encoding Variation:** | | | |
| **Comments:** To provide the information to SS to send data in every TTI on each RAB. Number of RBs depends on specific requirement. SS shall take care about all kind of discard info in all RLC modes and final aim is DL TFCs under test shall be selected in downlink for each TTI. | | | |
| **Element name** | **Type Definition** | **Field Encoding** | **Comments** |
| flag | BOOLEAN | | TRUE if test point is applicable |
| noOfChannelisatonCodes | INTEGER | | Range 1 to 15<br>Valid value ifflag =TRUE |
| tbSizeIndexOnHS_SCCH | INTEGER | | |

## 8.7.6 Specific test suite operation for Intersystem HS Testing

**Table 161: TSO definitions for ISHO_HS testing**

| | |
|---|---|
| o_TTCN_SysInfoToOctetString | **Type of the result:** OCTETSTRING<br><br>**Parameters:**<br>p_Type: INTEGER<br>p_PDU : PDU<br><br>**Description:**<br>The function of the o_TTCN_SysInfoToOctetString is as the follows:<br>- it returns the octetstring representation of the input System Information message p_PDU<br>- the parameter p_Type details the type of SI message. Expected values: 1, 3 and 13 |

## 8.7.7 Specific test suite operation for A-GPS testing

**Table 162: TSO definitions in A-GPS**

| TSO Name | Description |
|---|---|
| o_PositionEstimateToGeoInfo | **Type of the result:** Ext_GeographicalInformation<br>**Parameters:**<br>p_PosEst: PositionEstimate<br><br>**Description:**<br>Converts, according to TS 23.032, clause 7, the position estimate sent by the UE in a MEASUREMENT REPORT message from type Position Estimate to type Ext_GeographicalInformation in order to be included in the FACILITY message sent by the SS in MO-LR UE-Based test cases.<br><br>The definition of the types is the following:<br>PositionEstimate::=<br>CHOICE<br>{<br>ellipsoidPoint EllipsoidPoint,<br>ellipsoidPointUncertCircle EllipsoidPointUncertCircle,<br>ellipsoidPointUncertEllipse EllipsoidPointUncertEllipse,<br>ellipsoidPointAltitude EllipsoidPointAltitude,<br>ellipsoidPointAltitudeEllipse EllipsoidPointAltitudeEllipsoide<br>}<br><br>with one of the following options being expected from the UE:<br><br>EllipsoidPointUncertCircle ::=<br>SEQUENCE<br>{<br>latitudeSign ENUMERATED {north(0), south(1)},<br>latitude INTEGER (0..8388607 ),<br>longitude INTEGER (-8388608..8388607 ),<br>uncertaintyCode INTEGER (0..127 )<br>}<br><br>or<br><br>EllipsoidPointUncertEllipse ::=<br>SEQUENCE<br>{<br>latitudeSign ENUMERATED {north(0), south(1)},<br>latitude INTEGER (0..8388607 ),<br>longitude INTEGER (-8388608..8388607 ),<br>uncertaintySemiMajor INTEGER (0..127 ),<br>uncertaintySemiMinor INTEGER (0..127 ),<br>orientationMajorAxis INTEGER (0..89 ),<br>confidence INTEGER (0..100 )<br>}<br><br>or<br><br>EllipsoidPointAltitudeEllipse ::=<br>SEQUENCE<br>{<br>latitudeSign ENUMERATED {north(0), south(1)},<br>latitude INTEGER (0..8388607 ),<br>longitude INTEGER (-8388608..8388607 ),<br>altitudeDirection ENUMERATED {height(0), depth(1)},<br>altitude INTEGER (0..32767 ),<br>uncertaintySemiMajor INTEGER (0..127 ),<br>uncertaintySemiMinor INTEGER (0..127 ),<br>orientationMajorAxis INTEGER (0..89 ),<br>uncertaintyAltitude INTEGER (0..127 ),<br>confidence INTEGER (0..100 )<br>} |

| TSO Name | Description |
|---|---|
| | The definition of the resulting type is:<br><br>Ext-GeographicalInformation ::= OCTET STRING (SIZE (1..maxExt-GeographicalInformation))<br><br>maxExt-GeographicalInformation INTEGER ::= 20<br><br>For example:<br><br>p_PositionEstimate:=<br>ellipsoidPointUncertCircle<br>{ latitudeSign north,<br>latitude 123,<br>longitude 4567,<br>uncertaintyCode 8 }<br><br>o_PositionEstimateToGeoInfo (p_PositionEstimate) = '10 00 00 7B 00 11 D7 08'O |
| o_IA5_ToASN1Oct | **Type of the result:** NameString<br>**Parameters:**<br>p_String: IA5String<br><br>**Description:**<br>Converts the string p_String from IA5String type to NameString according to the Data Coding Scheme '0F'O.<br>This data coding scheme is the only one used in the AGPS ATS. It packs 7bit ASCII onto 8 bit octets.<br><br>Applicable ASN.1 definitions:<br><br>LCSClientName ::= SEQUENCE {<br>dataCodingScheme [0] IMPLICIT USSD-DataCodingScheme,<br>nameString [2] IMPLICIT NameString<br>}<br><br>-- The USSD-DataCodingScheme shall indicate use of the default alphabet through the<br>-- following encoding<br>-- bit 7 6 5 4 3 2 1 0<br>-- 0 0 0 0 1 1 1 1<br><br>NameString ::= USSD-String (SIZE (1..maxNameStringLength))<br><br>maxNameStringLength INTEGER ::= 63<br><br>USSD-DataCodingScheme ::= OCTET STRING (SIZE (1))<br>-- The structure of the USSD-DataCodingScheme is defined by<br>-- the Cell Broadcast Data Coding Scheme as described in<br>-- TS 3GPP TS 23.038 [25]<br><br>USSD-String ::= OCTET STRING (SIZE (1..maxUSSD-StringLength))<br>-- The structure of the contents of the USSD-String is dependent<br>-- on the USSD-DataCodingScheme as described in TS 3GPP TS 23.038 [25].<br><br>maxUSSD-StringLength INTEGER ::= 160<br><br>The ATS uses:<br><br>lcsClientName {<br>dataCodingScheme '0F'O,<br>-- The USSD-DataCodingScheme shall indicate use of the<br>-- default alphabet through the following encoding<br>-- bit 7 6 5 4 3 2 1 0<br>-- 0 0 0 0 1 1 1 1<br><br>For example:<br>o_IA5_ToASN1Oct ("ERICH") = '4569728804'O |
| o_ISDN_Address_ToASN1Oct | **Type of the result:** ISDN_AddressString |

| TSO Name | Description |
|---|---|
| | **Parameters:**<br>p_TOA: B4<br>p_NPI: B4<br>p_String: IA5String<br><br>**Description:**<br>Converts p_TOA plus p_NPI, and string p_String to ISDN_AddressString.<br>TOA and NPI are mapped onto the first octet.<br>Each pair of characters of p_String is considered a pair of numbers to be mapped onto 1 octet.<br>Each character of p_String shall represent a digit (0..9).<br>In case the number of characters is odd, then a filler '1111'B is used to fill the last octet required to represent the digits. See 3G TS 24008, clause 10.5.4.7<br><br>Applicable ASN.1 definitions:<br><br>LCSClientExternalID ::= SEQUENCE {<br>externalAddress [0] IMPLICIT ISDN-AddressString OPTIONAL,<br>extensionContainer [1] IMPLICIT ExtensionContainer OPTIONAL<br>}<br><br>ISDN-AddressString ::= AddressString (SIZE (1..maxISDN-AddressLength))<br>-- This type is used to represent ISDN numbers.<br><br>maxISDN-AddressLength INTEGER ::= 9<br><br>AddressString ::= OCTET STRING (SIZE (1..maxAddressLength))<br>-- This type is used to represent a number for addressing<br>-- purposes. It is composed of<br>-- a) one octet for nature of address, and numbering plan<br>-- indicator.<br>-- b) digits of an address encoded as TBCD-String.<br><br>-- a) The first octet includes a one bit extension indicator, a<br>-- 3 bits nature of address indicator and a 4 bits numbering<br>-- plan indicator, encoded as follows:<br><br>-- bit 8: 1 (no extension)<br><br>-- bits 765: nature of address indicator<br>-- 000 unknown<br>-- 001 international number<br>-- 010 national significant number<br>-- 011 network specific number<br>-- 100 subscriber number<br>-- 101 reserved<br>-- 110 abbreviated number<br>-- 111 reserved for extension<br><br>-- bits 4321: numbering plan indicator<br>-- 0000 unknown<br>-- 0001 ISDN/Telephony Numbering Plan (Rec ITU-T E.164)<br>-- 0010 spare<br>-- 0011 data numbering plan (ITU-T Rec X.121)<br>-- 0100 telex numbering plan (ITU-T Rec F.69)<br>-- 0101 spare<br>-- 0110 land mobile numbering plan (ITU-T Rec E.212)<br>-- 0111 spare<br>-- 1000 national numbering plan<br>-- 1001 private numbering plan<br>-- 1111 reserved for extension<br><br>-- all other values are reserved.<br><br>-- b) The following octets representing digits of an address<br>-- encoded as a TBCD-STRING. |

| TSO Name | Description |
|---|---|
| | maxAddressLength INTEGER ::= 20<br><br>For example:<br>o_ISDN_Address_ToASN1Oct ('0011','0011',"0123456") = '33103254F6'O |

## 8.7.8 Specific test suite operation for E-DCH Testing

**Table 163: TSO definitions in E-DCH**

| TSO Name | Description |
|---|---|
| o_CalculateE_DCH_TBSize | **Type of the result:** INTEGER<br>**Parameters:**<br>p_tti: E_DCH_TTI<br>p_TableInd: E_TFCI_TableIndex<br>p_TB_Index: INTEGER<br><br>**Description:**<br>TSO implements tables defined in 25.321 Annex B.1 (tti 2ms Index 0), Annex B.2 (tti 2ms Index 1), Annex B.3 (tti 10ms Index 0), Annex B.4 (tti 10ms Index 1).<br>It accepts 3 input parameters:<br>p_TTI: the TTI of E-DCH (2ms or 10ms)<br>P_TableInd: the table index (0 or 1)<br>p_TB_Index: the TB index in the table (0..127 for tti 2ms Index 0), (0..125 tti 2ms Index 1), (0..127 tti 10ms Index 0), (0..120 tti 10ms Index 1)<br>The TSO then returns the corresponding TB Size from the appropriate Table and with given table index.<br>The value returned is '0' for any erroneous conditions (e.g. p_TB_Index out of range).<br>Example:<br>p_tti:2ms, p_TableInd:0, p_TB_Index:13 produces the result 185 |

## 8.7.9 Specific test suite operation for E-DCH and MBMS testing

**Table 164: TSO definitions in E-DCH and MBMS**

| TSO Name | Description |
|---|---|
| | |

# 8.8 AT commands

Table 165 shows a list of AT commands. By using these commands the ATSs communicate with the SS for an automatic execution. The column "ATS" indicates in which ATS the command is used.

**Table 165: AT commands used in 3GPP ATSs**

| Command | Reference | ATS |
|---|---|---|
| +CGACT | 3GPP TS 27.007 [23] | BMC, MAC, NAS, RAB, RLC, RRC, PDCP, SMS |
| +CGATT | 3GPP TS 27.007 [23] | BMC, MAC, NAS, RAB, RLC, RRC, PDCP, SMS |
| +CGCMOD | 3GPP TS 27.007 [23] | NAS |
| +CGDCONT | 3GPP TS 27.007 [23] | BMC, MAC, NAS, RAB, RLC, RRC, PDCP, SMS |
| +CGDSCONT | 3GPP TS 27.007 [23] | NAS |
| +CGEQREQ | 3GPP TS 27.007 [23] | BMC, MAC, NAS, RAB, RLC, RRC, PDCP, SMS |
| +CLCC | 3GPP TS 27.007 [23] | NAS |
| H | 3GPP TS 27.007 [23] | NAS, RAB, RRC, SMS |
| +CBST | 3GPP TS 27.007 [23] | NAS, RAB, RRC, SMS |
| +CMOD | 3GPP TS 27.007 [23] | NAS, RAB, RRC, SMS |
| A | 3GPP TS 27.007 [23] | NAS, RAB, RRC, SMS |
| D | 3GPP TS 27.007 [23] | BMC, MAC, NAS, RAB, RLC, RRC, PDCP, SMS |
| +CGMD | 3GPP TS 27.005 [22] | SMS |
| +CGMF | 3GPP TS 27.005 [22] | SMS |

| | | |
|---|---|---|
| +CMGW | 3GPP TS 27.005 [22] | SMS |
| +CMSS | 3GPP TS 27.005 [22] | NAS, RAB, RRC, SMS |
| +CPMS | 3GPP TS 27.005 [22] | SMS |
| +CSCA | 3GPP TS 27.005 [22] | SMS |
| +CSCS | 3GPP TS 27.005 [22] | SMS |
| +CSMS | 3GPP TS 27.005 [22] | SMS |
| +CVHU | 3GPP TS 27.005 [22] | NAS, RAB, RRC, SMS, IR_U, IR_G |
| +CHUP | 3GPP TS 27.005 [22] | NAS, RAB, RRC, SMS, IR_U, IR_G |

## 8.8.1 AT command lists in ATSs

### 8.8.1.1 AT commands in IR_U ATS:

| Command | Syntax in TTCN | Comments |
|---|---|---|
| CBST | AT+CBST=[<speed>[,<name>[,<ce>]]]<CR><br><speed>=0,7,12,14,15,16,17,39,43,47,48,49,50,51,71,75,79,80, 81,82,83,84,115,116,120,121<br><name>=0,1,4,5<br><ce>=0,1 | Select bearer service type, TS 27.007 clause 6.7 |
| CGACT | AT+CGACT=1,1<CR><br>AT+CGACT=0,1<CR> | PDP context activate or deactivate, TS 27.007 clause 10.1.10 |
| CGATT | AT+CGATT=1<CR> | PS attach or detach, TS 27.007 clause 10.1.9 |
| CGDSCONT | AT+CGDSCONT= 1,<CR><br>AT+ CGDSCONT=1 , 1, "IP", 0,0,<CR> | Establish secondary PDP Context, TS 27.007 clause 10.1.2 |
| CGEQREQ | AT+CGEQREQ=1,2,64,64,,,0,320,"1E4","1E5",1,,3<CR><br>AT+CGEQREQ=1,3,64,64,,,0,320,"1E4","1E5",1,,<CR> | Quality of Service Profile (Requested), TS 27.007 clause 10.1.4 |
| CHUP | AT+CHUP<CR> | Hang up call, TS 27.007 clause 6.5 |
| CMOD | AT+CMOD=0<CR><br>AT+CMOD=1<CR> | Call mode, TS 27.007 clause 6.4 |
| CMSS | AT+CMSS=000<CR><br>AT+CMSS=001<CR><br>AT+CMSS=002<CR> | Send Message from Storage, TS 27.005 clause 3.5.2 |
| CVHU | AT+CVHU=0<CR> | Voice Hang up control, TS 27.007 clause 6.20 |

### 8.8.1.2 AT commands in MAC and RLC ATS:

| Command | Syntax in TTCN | Comments |
|---|---|---|
| CGATT | AT+CGATT=1<CR> | PS attach or detach, TS 27.007 clause 10.1.9 |

### 8.8.1.3 AT commands in NAS ATS:

| Command | Syntax in TTCN | Comments |
|---|---|---|
| CBST | AT+CBST=[<speed>[,<name>[,<ce>]]]<CR><br><speed>=0,7,12,14,15,16,17,39,43,47,48,49,50,51,71,75,79,80,81,82,83,84,115,116,120,121<br><name>=0,1,4,5<br><ce>=0,1 | Select bearer service type, TS 27.007 clause 6.7 |
| CGACT | AT+CGACT=1,1<CR><br>AT+CGACT=0,1<CR> | PDP context activate or deactivate, TS 27.007 clause 10.1.10 |
| CGATT | AT+CGATT=1<CR><br>AT+CGATT=0<CR> | PS attach or detach, TS 27.007 clause 10.1.9 |
| CGDATA | AT+CGDATA=PPP,1<CR> | Enter data state, TS 27.007 clause 10.1.12 |
| CGDCONT | AT+CGDCONT=1,"IP","ABCDEF","200.1.1.80",0,0<CR><br>AT+CGDCONT=1,"IP","GHIJK","200.1.1.90",0,0<CR> | Define PDP Context, TS 27.007 clause 10.1.1 |
| CGDSCONT | AT+CGDSCONT= 1,<CR><br>AT+ CGDSCONT=1 , 1, "IP", 0,0,<CR> | Establish secondary PDP Context, TS 27.007 clause 10.1.2 |
| CGEQMIN | AT+CGEQMIN=1,3,32,32,,,1,320,"1E3","4E3",1,,<CR><br>AT+CGEQMIN=1,3,64,64,,,1,320,"1E3","4E3",1,,<CR><br>AT+CGEQMIN=1,2,32, 32, 32, 32, 1, 320, 1E4,6E8,1,,,<CR><br>AT+CGEQMIN=1,3,32, 32, 32, 32, 1, 320, 1E4,6E8,1,,,<CR><br>AT+CGEQMIN=1,2,32, 32, 32, 32, 1, 320, 1E3,6E8,1,,,<CR><br>AT+CGEQMIN=1,3,32, 32, 32, 32, 1, 320, 1E3,6E8,1,,,<CR><br>AT+CGEQMIN=1,2,64, 64, 64, 64, 1, 320, 1E3,6E8,1,,,<CR><br>AT+CGEQMIN=1,3,64, 64, 64, 64, 1, 320, 1E3,6E8,1,,,<CR> | Quality of Service Profile (Minimum acceptable), TS 27.007 clause 10.1.4 |
| CGEQREQ | AT+CGEQREQ=1,2,64,64,,,0,320,"1E4","1E5",1,,3<CR><br>AT+CGEQREQ=1,3,64,64,,,0,320,"1E4","1E5",1,,<CR><br>AT+CGEQREQ=1,2,64, 64, 64, 64, 0, 320, 1E4,6E8,1,,,<CR><br>AT+CGEQREQ=1,3,64, 64, 64, 64, 0, 320, 1E4,6E8,1,,,<CR> | Quality of Service Profile (Requested), TS 27.007 clause 10.1.4 |
| CHUP | AT+CHUP<CR> | Hang up call, TS 27.007 clause 6.5 |
| CLCC | AT+CLCC<CR> | List current calls, TS 27.007 clause 7.18 |
| CMOD | AT+CMOD=0<CR><br>AT+CMOD=1<CR> | Call mode, TS 27.007 clause 6.4 |
| CMSS | AT+CMSS=000<CR><br>AT+CMSS=001<CR><br>AT+CMSS=002<CR> | Send Message from Storage, TS 27.005 clause 3.5.2 |
| VTS | AT+VTS=0,100<CR><br>AT+VTS=1,50<CR><br>AT+VTS=2,60<CR><br>AT+VTS=3,40<CR><br>AT+VTS=4,50<CR><br>AT+VTS=5,60<CR><br>AT+VTS=6,70<CR><br>AT+VTS=7,80<CR><br>AT+VTS=8,90<CR><br>AT+VTS=9,100<CR><br>AT+VTS=#,110<CR><br>AT+VTS=*,120<CR><br>AT+VTS=A,130<CR><br>AT+VTS=B,140<CR><br>AT+VTS=C,150<CR><br>AT+VTS=D,200<CR> | DTMF and tone generation, TS 27.007 clause C.2.11 |
| CVHU | AT+CVHU=0<CR> | Voice Hang up control, TS 27.007 clause 6.20 |

### 8.8.1.4 AT commands in RAB ATS:

| Command | Syntax in TTCN | Comments |
|---|---|---|
| CBST | AT+CBST=[<speed>[,<name>[,<ce>]]]<CR><br><speed>=0,7,12,14,15,16,17,39,43,47,48,49,50,51,71,75,79,80,81,82,83,84,115,116,120,121<br><name>=0,1,4,5<br><ce>=0,1 | Select bearer service type, TS 27.007 clause 6.7 |
| CGACT | AT+CGACT=1,1<CR><br>AT+CGACT=0,1<CR> | PDP context activate or deactivate, TS 27.007 clause 10.1.10 |
| CGATT | AT+CGATT=1<CR> | PS attach or detach, TS 27.007 clause 10.1.9 |
| CGDCONT | AT+CGDCONT=1,"IP","ABCDEF","200.1.1.80",0,0<CR><br>AT+CGDCONT=1,"IP","GHIJK","200.1.1.90",0,0<CR> | Define PDP Context, TS 27.007 clause 10.1.1 |
| CGDSCONT | AT+CGDSCONT= 1,<CR><br>AT+ CGDSCONT=1 , 1, "IP", 0,0,<CR> | Establish secondary PDP Context, TS 27.007 clause 10.1.2 |
| CGEQREQ | AT+CGEQREQ=1,2,64,64,,,0,320,"1E4","1E5",1,,3<CR><br>AT+CGEQREQ=1,3,64,64,,,0,320,"1E4","1E5",1,,<CR> | Quality of Service Profile (Requested), TS 27.007 clause 10.1.4 |
| CHUP | AT+CHUP<CR> | Hang up call, TS 27.007 clause 6.5 |
| CMOD | AT+CMOD=0<CR><br>AT+CMOD=1<CR> | Call mode, TS 27.007 clause 6.4 |
| CMSS | AT+CMSS=000<CR><br>AT+CMSS=001<CR><br>AT+CMSS=002<CR> | Send Message from Storage, TS 27.005 clause 3.5.2 |
| CVHU | AT+CVHU=0<CR> | Voice Hang up control, TS 27.007 clause 6.20 |

### 8.8.1.5 AT commands in RRC ATS:

| Command | Syntax in TTCN | Comments |
|---|---|---|
| ATA | ATA<CR> | Answer a call, TS 27.007 clause 6.35 |
| ATD | ATD0123456902;<CR><br>ATD112;<CR><br>ATD0123456902<CR> | Originates a call,<br>TS 27.007 clause 6.31 |
| ATH | ATH<CR> | Hang-up a single mode call, TS 27.007 clause 6.36 |
| CBST | AT+CBST=[<speed>[,<name>[,<ce>]]]<CR><br><speed>=0,7,12,14,15,16,17,39,43,47,48,49,50,51,71,75,79,80,81,82,83,84,115,116,120,121<br><name>=0,1,4,5<br><ce>=0,1 | Select bearer service type, TS 27.007 clause 6.7 |
| CGACT | AT+CGACT=1,1<CR><br>AT+CGACT=0,1<CR> | PDP context activate or deactivate, TS 27.007 clause 10.1.10 |
| CGATT | AT+CGATT=1<CR> | PS attach or detach, TS 27.007 clause 10.1.9 |
| CGDCONT | AT+CGDCONT=1,"IP","ABCDEF","200.1.1.80",0,0<CR><br>AT+CGDCONT=1,"IP","GHIJK","200.1.1.90",0,0<CR> | Define PDP Context, TS 27.007 clause 10.1.1 |
| CGDSCONT | AT+CGDSCONT= 1,<CR><br>AT+ CGDSCONT=1 , 1, "IP", 0,0,<CR> | Establish secondary PDP Context, TS 27.007 clause 10.1.2 |
| CGEQREQ | AT+CGEQREQ=1,2,64,64,,,0,320,"1E4","1E5",1,,3<CR><br>AT+CGEQREQ=1,3,64,64,,,0,320,"1E4","1E5",1,,<CR> | Quality of Service Profile (Requested), TS 27.007 clause 10.1.4 |
| CHUP | AT+CHUP<CR> | Hang up call, TS 27.007 clause 6.5 |
| CMOD | AT+CMOD=0<CR><br>AT+CMOD=1<CR> | Call mode, TS 27.007 clause 6.4 |
| CMSS | AT+CMSS=000<CR><br>AT+CMSS=001<CR><br>AT+CMSS=002<CR> | Send Message from Storage, TS 27.005 clause 3.5.2 |
| CVHU | AT+CVHU=0<CR> | Voice Hang up control, TS 27.007 clause 6.20 |

### 8.8.1.6 AT commands SMS ATS:

| Command | Syntax in TTCN | Comments |
|---|---|---|
| CBST | AT+CBST=[<speed>[,<name>[,<ce>]]]<CR><br><speed>=0,7,12,14,15,16,17,39,43,47,48,49,50,51,71,75,79,80,81,82,83,84,115,116,120,121<br><name>=0,1,4,5<br><ce>=0,1 | Select bearer service type, TS 27.007 clause 6.7 |
| CGACT | AT+CGACT=1,1<CR><br>AT+CGACT=0,1<CR> | PDP context activate or deactivate, TS 27.007 clause 10.1.10 |
| CGATT | AT+CGATT=1<CR> | PS attach or detach, TS 27.007 clause 10.1.9 |
| CGDCONT | AT+CGDCONT=1,"IP","ABCDEF","200.1.1.80",0,0<CR><br>AT+CGDCONT=1,"IP","GHIJK","200.1.1.90",0,0<CR> | Define PDP Context, TS 27.007 clause 10.1.1 |
| CGDSCONT | AT+CGDSCONT= 1,<CR><br>AT+ CGDSCONT=1 , 1, "IP", 0,0,<CR> | Establish secondary PDP Context, TS 27.007 clause 10.1.2 |
| CGEQREQ | AT+CGEQREQ=1,2,64,64,,,0,320,"1E4","1E5",1,,3<CR><br>AT+CGEQREQ=1,3,64,64,,,0,320,"1E4","1E5",1,,<CR> | Quality of Service Profile (Requested), TS 27.007 clause 10.1.4 |
| CGSMS | AT+CGSMS=1<CR><br>AT+CGSMS=0<CR> | Select service for MO SMS messages, TS 27.007 clause 10.1.20 |
| CHUP | AT+CHUP<CR> | Hang up call, TS 27.007 clause 6.5 |
| CMGD | AT+CMGD=001<CR><br>AT+CMGD=1,4<CR> | Delete Message, TS 27.005 clause 3.5.4 |
| CMGF | AT+CMGF=1<CR> | Message Format, TS 27.005 clause 3.2.3 |
| CMGR | AT+CMGR=001<CR><br>AT+CMGR=002<CR><br>AT+CMGR=003<CR><br>AT+CMGR=004<CR> | Read Message, TS 27.005 clause 3.4.3 |
| CMGW | AT+CMGW= "1111111111",129, "The quick brown fox jumps over the lazy dog's back. Kaufen Sie Ihrer Frau vier bequeme Pelze. - 0123456789 - THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG'S BACK."<CR> | Write Message to Memory, TS 27.005 clause 3.5.3 |
| CMMS | AT+CMMS=1<CR> | More Messages to Send, TS 27.005 clause 3.5.6 |
| CMOD | AT+CMOD=0<CR><br>AT+CMOD=1<CR> | Call mode, TS 27.007 clause 6.4 |
| CMSS | AT+CMSS=000<CR><br>AT+CMSS=001<CR><br>AT+CMSS=002<CR> | Send Message from Storage, TS 27.005 clause 3.5.2 |
| CPMS | AT+CPMS="SM,"SM","MT"<CR><br>AT+CPMS="CB","CB","CB"<CR> | Preferred Message Storage, TS 27.005 clause 3.2.2 |
| CSCA | AT+CSCA="2222222222",129<CR> | Service Centre Address, TS 27.005 clause 3.3.1 |
| CSCS | AT+CSCS="GSM"<CR> | Select TE character set, TS 27.007 clause 5.5 |
| CSMS | AT+CSMS=0<CR> | Select Message Service, TS 27.005 clause 3.2.1 |
| CVHU | AT+CVHU=0<CR> | Voice Hang up control, TS 27.007 clause 6.20 |

#### 8.8.1.7 AT commands in HSDPA ATS (Rel-5 or later):

| Command | Syntax in TTCN | Comments |
|---|---|---|
| CGEQREQ | AT+CGEQREQ=[<cid> [,<Traffic class> [,<Maximum bitrate UL> [,<Maximum bitrate DL> [,<Guaranteed bitrate UL> [,<Guaranteed bitrate DL> [,<Delivery order> [,<Maximum SDU size> [,<SDU error ratio> [,<Residual bit error ratio> [,<Delivery of erroneous SDUs> [,<Transfer delay> [,<Traffic handling priority> ]]]]]]]]]]] <CR><br><br><cid> =1<br><Traffic class> =2, 3<br><Maximum bitrate UL> =64, 384<br><Maximum bitrate DL> =896, 1216, 1792, 3648, 7360, 10200, 14300<br><Guaranteed bitrate UL> Not used<br><Guaranteed bitrate DL> Not used<br><Delivery order> =0<br><Maximum SDU size> =320, 640<br><SDU error ratio> = '1E4'<br><Residual bit error ratio> ='1E5'<br><Delivery of erroneous SDUs> =1<br><Transfer delay> Not used<br><Traffic handling priority> =3 | Quality of Service Profile (Requested), TS 27.007 clause 10.1.4 |

#### 8.8.1.8 AT commands for E-DCH testing (Rel-6 or later)

| Command | Syntax in TTCN | Comments |
|---|---|---|
| CGEQREQ | AT+CGEQREQ=[<cid> [,<Traffic class> [,<Maximum bitrate UL> [,<Maximum bitrate DL> [,<Guaranteed bitrate UL> [,<Guaranteed bitrate DL> [,<Delivery order> [,<Maximum SDU size> [,<SDU error ratio> [,<Residual bit error ratio> [,<Delivery of erroneous SDUs> [,<Transfer delay> [,<Traffic handling priority> ]]]]]]]]]]] <CR><br><br><cid> =1<br><Traffic class> =2, 3<br><Maximum bitrate UL> =704, 1472, 2944, 2048, 5888<br><Maximum bitrate DL> =896, 1216, 1792, 3648, 7360, 10200, 14300<br><Guaranteed bitrate UL> Not used<br><Guaranteed bitrate DL> Not used<br><Delivery order> =0<br><Maximum SDU size> =320, 640<br><SDU error ratio> = '1E4'<br><Residual bit error ratio> ='1E5'<br><Delivery of erroneous SDUs> =1<br><Transfer delay> Not used<br><Traffic handling priority> =3 | Quality of Service Profile (Requested), TS 27.007 clause 10.1.4 |

### 8.8.2 AT Command Handling in TTCN

#### 8.8.2.1 AT Command Interface

The AT Command Interface resides between the UE and the System Simulator (SS). The implementation of AT commands in the UE is optional[3]. It is agreed, however, that it is the responsibility of the SS - not the ATS - to map AT commands onto appropriate MMI commands. This means that the ATSs issue AT commands which have to be mapped appropriately and forwarded to the UE, and vice versa.

The ATSs have been implemented in such a way that AT commands are to be answered immediately. This means that the TTCN expects the answers right away and progresses only afterwards. As a consequence only positive AT responses are assumed.

There is only one exception from the rule of immediate answering: the CGACT command. For this command the TTCN does not expect an immediate AT response. Once the CGACT command has been issued a subsequent UE behaviour is expected. The AT response is issued by the UE only after execution of the AT command, and it will only then be accounted for by the ATSs.

### 8.8.2.2 AT Command Dialogues

In some cases AT commands trigger a dialogue between the AT command interface and the UE. An example used in the SMS ATS is the CMGW command.

```
EXAMPLE:    AT+CMGW="9501231234" (write message)
            > This is the message body^Z
            +CMGW: 7          (index number in storage returned)
            OK
```

A special character (^Z) marks the end of the dialogue.

The ATSs generate information to be sent to the UE as one block. If the command mapping function cannot proceed with the dialogue that way, it has to divide the received block into the appropriate pieces prior to forwarding them.

### 8.8.2.3 AT Response Types

The term 'response type' shall allow a distinction between different types of contents to answer upon an AT command issued by the TTCN.

#### 8.8.2.3.1 'OK' Response

Most AT commands are to be answered with 'OK'. All exceptions are according to 27.007, for example +CGDATA is to be answered with 'CONNECT'.

#### 8.8.2.3.2 Name String

There are a number of AT commands which, in the positive case, trigger an answer string from UEs. Such strings start with the command which is being answered.

```
EXAMPLE:    AT+CPMS?            (check memory settings)
            +CPMS: "ME",4,10,"ME",4,10,"ME",4,10
            OK
```

The implementation of this type of AT commands is such that the TTCN expects and checks the beginning of the response string. This would (later) facilitate possible direct connections between SS and UE.

#### 8.8.2.3.3 Error strings

There are situations when the UE cannot react positively upon an AT command. Different types of reactions are foreseen. The strings 'ERROR' or 'CMS ERROR: <err>' may be issued by UEs.

"...subparameter values of a command are not accepted by the TA (or command itself is invalid, or command cannot be performed for some reason), result code <CR><LF>ERROR<CR><LF> is sent to the TE and no subsequent commands in the command line are processed."

"Final result code +CMS ERROR: <err> indicates an error related to mobile equipment or network. The operation is similar to ERROR result code. None of the following commands in the same command line is executed. Neither ERROR nor OK result code shall be returned. ERROR is returned normally when error is related to syntax or invalid parameters."

The chosen way of realisation prevents, in general, that error strings generated by the UE are passed to the SS. This holds for both intended and unintended errors (from the tester perspective).

### 8.8.2.4 AT Command Parameters And Options

Many AT commands take parameters some of which are optional. Thus, there is a degree of freedom left to the UEs. This freedom is widely used in the AT commands used in the SMS ATS. To allow flexible parameterization PIXIT items can be used to set the parameters as understood by the UEs.

An example of such parameters are the preferred memories to be used when testing.

# 8.9 Bit padding

Three different kinds of bit padding at the RRC layer are defined in 3GPP TS 25.331 [21].

If a bit string is defined in ASN.1 and is an output from a (PER) encoder, it may need the segmentation and padding. One example is that each SIB message is PER-encoded and becomes a (PER) bit-string. A long bit-string is segmented in fixed length, for example with 222 bits. The (1 ... 7) padding bits shall be added at the last segment if it's length is between 215 and 211.

No bit padding shall be generated by the PER encoder. Contrary to ITU-T Recommendation X.691 [28], the unaligned PER encoder shall not generate any padding bit to achieve octet alignment at the end of a PER bit string.

RRC padding. The RRC padding bits shall be generated after PER encoder. If the PER bit strings are exchanged via AM or UM SAP, the (1 ... 7) padding bits shall be added to ensure the octet alignment. If the PER bit strings are exchanged via TR SAP, before the exchanges, RRC shall select the smallest transport format that fits the RRC PDU and shall add the lowest number of padding bits required to fit the size specified for the selected transport format. The RRC padding bits shall be taken into account at the calculation of the integrity checksum.

## 8.9.1 Requirements for implementation

The different kinds of bit padding occur at the different places in the testing architecture. Care must be taken, in order to ensure the correct implementation.

The bit padding for the embedded bit string in ASN.1shall be resolved in TTCN. It is under the responsibility of the TTCN writer. Several TSO defined can resolve the necessary bit padding in the downlink direction.

The unaligned PER encoder used for TTCN shall not implement the octet alignment at the end of a PER bit string in the downlink direction.

The RRC padding should be implemented at the SS in the downlink direction both for AM/UM and TR modes according to 3GPP TS 25.331 [21], clause 12.1.3.

The SS PER decoder compliant with R99, Release 4 and Release 5 has no need to distinguish the extension and padding parts in the UL direction, and shall match and accept RRC PDUs with any bit string in the extension and padding parts. The remaining part of the received bit string shall be discarded regardless of the RLC mode.

# 8.10 Test PDP contexts

Table 166 defines test PDP contexts used in the generic procedures for the PS establishment and other SM tests. The test PDP contextDch1 is the default Test PDP context used in the test cases where no particular Test PDP contexts are specified and UE is in DCH state. The test PDP contextFach is the default Test PDP context used in the test cases where no particular Test PDP contexts are specified and UE is in FACH state.

**Table 166: Test PDP contexts**

| | **PDP ContextDch** | **PDP ContextFach** |
|---|---|---|
| **NSAPI** | Selected by UE in Activate PDP Context Request | Selected by UE in Activate PDP Context Request |
| **LLC SAPI** | 0 | 0 |
| **QoS** | QoSDch-UL64kAM-DL64kAM | QoSFach- UL32kAM-DL32kAM |
| **PDP address** | PIXIT | PIXIT |
| **Radio Priority** | 1 | 1 |
| **Access Point Name** | PIXIT | PIXIT |
| **Protocol configuration options** | - | - |
| **Packet Flow Identifier** | Best Effort | Best Effort |

**Table 167: Test QoS**

| | QoSDch-UL64kAM-DL64kAM | QoSFach- UL32kAM-DL32kAM |
|---|---|---|
| **Reliability class** | '011'B<br>Unacknowledged GTP, LLC, and acknowledged RLC; Protected data | '011'B<br>Unacknowledged GTP, LLC, and acknowledged RLC; Protected data |
| **Delay class** | '011'B / '100'B<br>3 / 4 (Best effort) | '011'B / '100'B<br>3 / 4 (Best effort) |
| **Precedence class** | UL:'000'B, Subscribed<br>DL:'011'B<br>Class 3 | UL:'000'B, Subscribed<br>DL:'011'B<br>Class 3 |
| **Peak throughput** | '0100'B<br>8 000 Octets/s | '0011'<br>Up to 4 000 octet/s |
| **Mean throughput** | '11111'B<br>Best Effort | '11111'B<br>Best Effort |
| **Delivery of erroneous SDU** | '010' B<br>Erroneous SDUs are delivered ('yes') | '010' B<br>Erroneous SDUs are delivered ('yes') |
| **Delivery order** | '10'B<br>With delivery order ('yes') | '10'B<br>With delivery order ('yes') |
| **Traffic class** | '011' B / '100'B<br>Interactive / Background | '011' B / '100'B<br>Interactive / Background |
| **Maximum SDU size** | '20' O<br>320 bits] | '20'O<br>320 bits |
| **Maximum bit rate for uplink** | '40' O<br>64 kbps | '20'O<br>32 kbps |
| **Maximum bit rate for downlink** | '40' O<br>64 kbps | '20'O<br>32 kbps |
| **Residual BER** | '0111'<br>1X10E-5 | '0111'<br>1X10E-5 |
| **SDU error ratio** | '0100'B<br>1X10E-4 | '0100'B<br>1X10E-4 |
| **Traffic Handling priority** | UL: '00'B for Interactive,<br>Any for Background<br>DL: '11' B (for Interactive, for Background to be neglected by UE) | UL: '00'B for Interactive,<br>Any for Background<br>DL: '11' B (for Interactive, for Background to be neglected by UE) |
| **Transfer delay** | UL: Any<br>DL: '111111' B<br>spare (not applicable for Interactive / Background) | UL: Any<br>DL: '111111' B<br>spare (not applicable for Interactive / Background) |
| **Guaranteed bit rate for uplink** | UL: Any<br>DL: '10' O<br>16 kbps | UL: Any<br>DL: '10'O<br>32 kbps |
| **Guaranteed bit rate for downlink** | UL: Any<br>DL: '10' O<br>16 kbps | UL: Any<br>DL: '10'O<br>16 kbps |
| NOTE: Residual BER 1X10E-5 corresponds to CRC 16. | | |

## 8.10.1 Mapping of Quality of service and AT command for HSDPA testing

The following table defines the encoding of the Maximum bit rate for downlink IE in QoS and the corresponding encoding in the AT command.

**Table 168: Test QoS in HSDPA test cases (Rel-5 or later)**

| UE HSDPA Category | Max bit rate of each category (Mbits) | Max bit rate of each category (kbits) | Max bit rate for downlink IE of QoS (Octetstring) | Encoding AT command for Max bit rate of QoS (IA5string) |
|---|---|---|---|---|
| 1 and 2 | 1.2 | 1228.8 | 8A | 1216 |
| 3, 4, 12 | 1.8 | 1843.2 | 93 | 1792 |
| 5,6 | 3.6 | 3686.4 | B0 | 3648 |
| 7.8 | 7.2 | 7372.8 | EA | 7360 |
| 9 | 10 | 10240 | FE (octet 9)<br>10 (octet 15) | 10200 |
| 10 | 14 | 14336 | FE (octet 9)<br>39 (octet 15) | 14300 |
| 11 | 0.9 | 921.6 | 85 | 896 |

## 8.10.2 Mapping of Quality of service and AT command for E-DCH testing

The following table defines the encoding of the Maximum bit rate for uplink IE in QoS and the corresponding encoding in the AT command.

**Table 169: Test QoS in E-DCH test cases (Rel-6 or later)**

| UE HSDPA Category | Max bit rate of each category (Mbits) | Max bit rate of each category (kbits) | Max bit rate for downlink IE of QoS (Octetstring) | Encoding AT command for Max bit rate of QoS (IA5string) |
|---|---|---|---|---|
| 1 | 0.7296 | 747.1 | 82 | 704 |
| 2 and 3 | 1.4592 | 1494.2 | 8E | 1472 |
| 4 | 2.9185 | 2988.5 | A5 | 2944 |
| 5 | 2 | 1048 | 97 | 2048 |
| 6 | 5.76 | 5898.2 | D3 | 5888 |

# 8.11 DCH-DSCH Configurations

**1. Configure PDSCH physical channel**

```
    CPHY_RL_Setup_REQ(
        physicalChannelIdentity,
        pDSCHInfo)
-- set up the scrambling code and transmission power level for the PDSCH identified by
PhysicalChannelIdentity, and establishes the mapping between the spreading factor(and channelization
codes) used for the PDSCH and TFCI(field2) transmitted in associated PDCH
```

**2. Configure DSCH transport channels**

```
    CPHY_TrCH_Config_REQ(
        physicalChannelIdentity,
        dlconnectedTrCHList,
        dlTFCS)
-- set up TFS for each of DSCH's carried by the PDSCH defined in step 1 and TFCS (will be presented
in TFCI(field2) of PDCH configured in step 5) for the CCTrCH consisting of these DSCH's
```

**3. Configure MAC entity for DSCH**

```
    CMAC_Config_REQ(
        physicalChannelIdentity,
        uE_Info,
        dlconnectedTrCHList,
        dlTFCS)
-- set up TFS, DSCH-RNTI and TFCS (which will be presented in TFCI(field2) of PDCH configured in
step 5) for DSCH's, and map logical channel to DSCH transport channel
```

**4. Configure RLC entity for DTCHs**

```
    CRLC_Config_REQ(
        physicalChannelIdentity,
        rBInfo)
```

```
-- set up RLC entity on top of  DTCH logical channel which is mapped onto DSCH
```

**5. Configure DPCH physical channel**

```
    CPHY_RL_Setup_REQ(
        physicalChannelIdentity,
        dPCHInfo)
```

**6. Configure DCH transport channels**

```
    CPHY_TrCH_Config_REQ(
        physicalChannelIdentity,
        dlconnectedTrCHList,
        dlTFCS)
-- set up TFS for each DCH carried by the DPCH defined in step 5 and TFCS (TFCI(field1 and field2))
for the CCTrCH consisting of all DCH's mapped on the DPCH.
```

**7. Configure MAC entity for DCH**

```
    CMAC_Config_REQ(
        physicalChannelIdentity,
        dlconnectedTrCHList,
        dlTFCS)
-- set up TFS and TFCS (TFCI(field1) for DCH's, and TFCI(field2) for associated DSCH), and map
logical channel to DCH transport channel.
```

**8. Configure RLC for DTCH, DCCH**

```
    CRLC_Config_REQ(
        physicalChannelIdentity,
        rBInfo)
-- set up RLC entity on top of  DTCH and DCCH logical channels which are mapped onto DCH
```

# 8.11a DCH with HS-DSCH Configurations (Rel-5 or later)

**1. Configure DPCH physical channel**

```
    CPHY_RL_Setup_REQ(
        physicalChannelIdentity,
        dPCHInfo_r5)
-- hs_DPCCHInd is present in the dPCHInfo ( only for HS-DSCH serving cell)
-- set up the DPCH associated with HS-PDSCH
-- set up the HS-DPCCH which is associated with the HS-PDSCH (this is done only for HS-DSCH serving
-- cell).
```

**2. Configure DCH transport channels**

```
    CPHY_TrCH_Config_REQ(
        physicalChannelIdentity,
        dlconnectedTrCHList,
        dlTFCS)
-- set up TFS for each DCH carried by the DPCH defined in step 5 and TFCS for the CCTrCH consisting
 of all DCH's mapped on the DPCH.
```

**3. Configure MAC entity for DCH**

```
    CMAC_Config_REQ(
        physicalChannelIdentity,
        dlconnectedTrCHList,
        dlTFCS)
-- set up TFS and TFCS for DCH's, and map logical channel to DCH transport channel.
```

**4. Configure RLC for  DCCH**

```
    CRLC_Config_REQ(
        rB_Identity,
        rBInfo)
-- set up RLC entity on top of  DCCH logical channels which are mapped onto DCH
```

**5. Configure HS-PDSCH physical channel**

```
    CPHY_RL_Setup_REQ(
        physicalChannelIdentity,
```

```
        hs_PDSCHInfo)
-- set up the HS-PDSCH identified by PhysicalChannelIdentity
--   for the HS-PDSCH the configurable parameters are: the scrambling code, and
-- set up the HS-SCCH which is associated with the HS-PDSCH without physicalChannelIdentity
--   for the HS-SCCH the configurable parameters are: channelisation code set and H-RNTI
        hSDSCHPhysicalLayerCategory     HSDSCH_physical_layer_category,
        h_RNTI                          H_RNTI,
        dlHSPDSCHInformation            DL_HSPDSCH_Information,
        ackNackRepetitionFactor         ACK_NACK_repetitionFactor,
        sttd_Indicator                  BOOLEAN
```

### 6. Configure HS-DSCH transport channels

```
    CPHY_TrCH_Config_REQ(
        physicalChannelIdentity,
        hsDSCHMacdFlows)
-- set up the HS-DSCH transport channel which carries MAC_d flows identified by Mac_dFlowId
   in the hsDSCHMacdFlows.
--   for each MAC_d flow the number of process queues of the MAC-d flow and their queue identities
     are configurable;
--   for each MAChsQueue the configurable parameters are: machsQueueId; priority;
     mac_hsPduSizeInfoList; reorderingReleaseTimer, discardTimer and the MAC-dFlow identity to which
     this MAChsQueue belongs.
```

### 7. Configure MAC_hs entity for HS-DSCH

```
    CMAC_MAChs_TFRCconfigre_REQ(
        explicit TRFC config mode with:
            modulationScheme,
            channelisationCodeOffset,
            noOfChannelisatonCodes,
            tbSizeIndexOnHS_SCCH,
            minimumInterTTIinterval,
            redundancyVersion,
            hs_PDSCH_TxPower)

    CMAC_Config_REQ(
        physicalChannelIdentity,
        uE_Info,
        hsDSCHMacdFlows)
-- the hsDSCHMacdFlows shall be same as that used in CPHY_TrCH_Config_REQ.
-- set up MAC_d flows identified by Mac_dFlowId in the hsDSCHMacdFlows.
--   for each MAC_d flow the number of process queues of the MAC-d flow and their queue identities
     are configurable;
--   for each MAChsQueue the configurable parameters are: machsQueueId; priority;
     mac_hsPduSizeInfoList; reorderingReleaseTimer, discardTimer and the MAC-dFlow identity to which
     this MAChsQueue belongs.
-- set up the mapping between each MAC_d flow and the logical channels which mapped on the flow.
-- MAC_hs entity is created per cell. In case of Intra Node B Handover this entity at the UE will
not be reset whereas in the TTCN it will be released in the first cell and setup in the second cell.
As no data is sent on HS-DSCH, this implementation will not affect the signalling, as signalling is
transmitted through the associated DPCH channel.
```

### 8. Configure RLC entity for DTCHs which is mapped on HS-DSCH

```
    CRLC_Config_REQ(
        rB_Identity,
        rBInfo)
-- set up RLC entity on top of  DTCH logical channel which is mapped onto MAC_d flow
```

### 9. MAC-hs reset, release of SS resources for HSDPA

```
    MAC-hs reset:
        CMAC_MAChs_Reset_REQ(
            cellId)

    RL release:
        CPHY_RL_Release_REQ(
            cellId, phyChId)
-- phyChid is the identity of HS-PDSCH physical channel or the associated DPCH channel
-- the HS-SSCH physical channel shall be also released when HS-PDSCH is released
-- the HS-DPCCH physical channel shall be released when the associated DPCH is released

    TrCH release:
        CPHY_TrCH_Release_REQ(
            cellId, phyChId)
```

```
-- phyChid is the identity of HS-PDSCH physical channel

    MAChs release:
        CMAC_Config_REQ(
            cellId, phyChId)
-- phyChid is the identity of HS-PDSCH physical channel

    RLC release:
        CRLC_Config_REQ(
            cellId, rbId)
-- rbid is the identity of the radio bearer providing HSDPA service
```

# 8.11b HS-DSCH Configuration Verification

In most HSDPA test cases although the HSDPA channels (HS-SCCH, HS-PDSCH, HS-DSCH & HS-DPCCH) are set up and reconfigured using RRC peer messages, no data is sent on HS-DSCH and all the signalling is transmitted through the associated DPCH physical channel.

In order to ensure that the HS-DPCCH channel has been configured, the SS shall, upon request, forward one CQI report to the TTCN.

# 8.12 Pre- and postambles for GERAN to UTRAN tests

## 8.12.1 Preamble for GERAN to UTRAN tests

Before running inter-RAT test cases, radio conditions should be such that the mobile has to select the cell of the intended original RAT. The following steps should be used before running GERAN to UTRAN test cases.

1. UTRAN cell is powered OFF. The default radio conditions for a suitable GERAN cell are used for the serving cell, as defined in 3GPP TS 34.108 [3], clause 6.1.7. This step is performed while the UE is still switched OFF.
2. UE is switched ON and performs registration and attach.
3. The UTRAN cell is powered ON with an RF level such that the cell is a suitable neighbour cell, using the RF conditions defined in 3GPP TS 34.108 [3], clause 6.1.5, so that the UE will not re-select the UTRAN cell.

## 8.12.2 Postamble for GERAN to UTRAN tests

The following procedure is used after inter-RAT handover or cell change order test cases in case the test needs to be performed multiple times in a loop.

### 8.12.2.1 GERAN to UTRAN handover in CS

The test cases are defined in 3GPP TS 51.010-1 [26], clause 60.

Expected sequence

| Step | Direction | | Message | Comments |
|---|---|---|---|---|
| | UE | SS | | |
| 1 | | <-- | SECURITY MODE COMMAND | Integrity protection is activated. UTRAN security keys in CS domain derived from GERAN |
| 2 | | --> | SECURITY MODE COMPLETE | |
| 3 | | <-- | UTRAN MOBILITY INFORMATION | RRC |
| 4 | | --> | UTRAN MOBILITY INFORMATION CONFIRM | RRC |
| 5 | | --> | ROUTING AREA UPDATE REQUEST | GMM - Update type = 'RA updating'. Not performed by CS only mobile. |
| 5a | <-- | | SECURITY MODE COMMAND | Integrity protection is activated. UTRAN security keys in PS domain derived from GERAN |
| 5b | --> | | SECURITY MODE COMPLETE | |
| 6 | | <-- | ROUTING AREA UPDATE ACCEPT | GMM - P-TMSI is included |
| 7 | | --> | ROUTING AREA UPDATE COMPLETE | |
| 8 | | | | The call is terminated. SS releases the RRC connection. |
| 9 | | --> | RRC CONNECTION REQUEST | RRC - establishment cause = 'registration' |
| 10 | | <-- | RRC CONNECTION SETUP | RRC |
| 11 | | --> | RRC CONNECTION SETUP COMPLETE | RRC |
| 12 | | --> | ROUTING AREA UPDATE REQUEST | CS/PS mobiles: GMM - Update type" = 'combined RA/LA updating' or 'combined RA/LA updating with ISMI Attach' Note: CS only mobiles will perform a normal LAU |
| 13 | | <-- | SECURITY MODE COMMAND | Integrity protection is activated. |
| 14 | | --> | SECURITY MODE COMPLETE | |
| 15 | | <-- | ROUTING AREA UPDATE ACCEPT | P-TMSI is included |
| 16 | | --> | ROUTING AREA UPDATE COMPLETE | |
| 17 | | | | The SS releases the RRC connection. |
| 18 | | | | UE is powered OFF |

Specific message contents

UTRAN MOBILITY INFORMATION message:

Use the same message sub-type found in TS 34.108, clause 9, with the following exceptions:

| Information Element | Value/remark |
|---|---|
| CN information info | |
| - PLMN identity | Not present |
| - CN domain related information | |
| - CN domain identity | PS |
| - CN domain specific NAS system information | |
| - GSM-MAP NAS system information | 00 00H |
| - CN domain specific DRX cycle length coefficient | 7 |

SECURITY MODE COMMAND message:

Use the same message sub-type found in TS 34.108, clause 9, with the following exceptions:

| Information Element | Value/remark |
|---|---|
| Ciphering mode info | Not present |

All remaining Specific message contents shall be referred to 34.108 clause 9 "Default Message Contents of Layer3 Messages for Layer 3 Testing".

### 8.12.2.2 GERAN to UTRAN cell change in PS (in PMM-CONNECTED)

These test cases are defined in 3GPP TS 51.010-1 [26], clause 42.4.7.

Expected sequence

| Step | Direction | | Message | Comments |
|---|---|---|---|---|
| | UE | SS | | |
| 1 | --> | | ROUTING AREA UPDATE REQUEST | GMM - Update type = 'Combined RA / LA updating' or 'combined RA/LA updating with ISMI Attach 'for CS/PS mobiles, and 'RA updating' for PS only mobiles.<br>Follow-on request is made. |
| 2 | <-- | | SECURITY MODE COMMAND | Integrity protection is activated, UTRAN security keys in PS domain derived from GERAN |
| 3 | --> | | SECURITY MODE COMPLETE | |
| 4 | <-- | | ROUTING AREA UPDATE ACCEPT | GMM - P-TMSI is included |
| 5 | --> | | ROUTING AREA UPDATE COMPLETE | |
| | | | | SS releases the RRC connection<br>UE is powered OFF. |

### 8.12.2.3 GERAN to UTRAN DTM test cases

These test cases are defined in 3GPP TS 51.010-1 [26], clauses 41.5.1.1.1.4 and 47.3.4.

Expected sequence

| Step | Direction | | Message | Comments |
|---|---|---|---|---|
| | UE | SS | | |
| | | | | The SS releases the RR connection |
| 1 | --> | | RRC CONNECTION REQUEST | RRC - establishment cause = 'registration' |
| 2 | <-- | | RRC CONNECTION SETUP | RRC |
| 3 | --> | | RRC CONNECTION SETUP COMPLETE | RRC |
| A4 | --> | | ROUTING AREA UPDATE REQUEST | UE behaviour type A, if the UE is still attached:<br>GMM - Update type = 'Combined RA / LA updating' or 'combined RA/LA updating with ISMI Attach |
| A5 | <-- | | SECURITY MODE COMMAND | Integrity protection is activated, UTRAN security keys in PS domain derived from GERAN |
| A6 | --> | | SECURITY MODE COMPLETE | |
| A7 | <-- | | ROUTING AREA UPDATE ACCEPT | GMM - P-TMSI is included |
| A8 | --> | | ROUTING AREA UPDATE COMPLETE | |
| B4 | --> | | LOCATION UPDATING REQUEST | UE behaviour type B, if the UE has already detached |
| B5 | | | AUTHENTICATION REQUEST | |
| B6 | | | AUTHENTICATION RESPONSE | |
| B7 | <-- | | SECURITY MODE COMMAND | Integrity protection is activated, UTRAN security keys in CS domain derived from GERAN |
| B8 | --> | | SECURITY MODE COMPLETE | |
| B8a | <-- | | LOCATION UPDATING ACCEPT | |
| B8b | --> | | TMSI REALLOCATION COMPLETE | |
| 9 | | | | SS releases the RRC connection |
| 10 | | | | UE is powered OFF. |

# 8.13 E-DCH configurations (Rel-6 or later)

## 8.13.1 DPCH (SRB) and E-DCH (RAB) configuration

### 8.13.1.1 Serving E-DCH cell

**1. Configure DPCH physical channel**

```
CPHY_RL_Setup_REQ
(
    cellId_1
    physicalChannelIdentity,
    dPCHInfo_r5OrLater
        r6  (
            ul_DPCH_Info6
        )
)
-- set up the UL-DPCH channel. When UL-DPCH is established, E-DPCH shall use the same scrambling
code.
```

**2. Configure DCH transport channels**

```
CPHY_TrCH_Config_REQ(
    cellId_1
    physicalChannelIdentity,
    ulconnectedTrCHList,
    ulTFCS)
-- set up TFS for each DCH carried by the DPCH defined in step 5 and TFCS for the CCTrCH consisting
 of all DCH's mapped on the DPCH.
```

**3. Configure MAC entity for DCH**

```
    CMAC_Config_REQ(
        physicalChannelIdentity,
        ulconnectedTrCHList,
        ulTFCS)
-- set up TFS and TFCS for DCH's, and map logical channel to DCH transport channel.
uE_Info
```

**4. Configure RLC for DCCH**

```
    CRLC_Config_REQ(
        rB_Identity,
        rBInfo)
-- set up RLC entity on top of DCCH logical channels which are mapped onto DCH

5.  Configure E-DCH DL physical channel CPHY_RL_Setup_REQ
    (
        physicalChannelIdentity,
        e_AGCHInfo
        (
            e_AGCHInfo
            tti
            e_AGCH_PowerOffset
        )
    )
-- set up the E-AGCH identified by PhysicalChannelIdentity
-- E-AGCH channel is configured only in the serving E-DCH cell
-- for E-AGCH the configurable parameters are
        e_AGCHInfo              E_AGCH_Information
        e_AGCH_PowerOffset      INTEGER (0..255)
        e_RNTI_Primary          E_RNTI
        e_RNTI_Secondary        E_RNTI
-- The tti value shall be the same as the associated E-DPCH

    CPHY_RL_Setup_REQ
    (
        physicalChannelIdentity,
        e_HICHInfo
        (
            e_HICHInfo
            tti
            e_HICH_PowerOffset
        )
    }

-- set up the E-HICH identified by PhysicalChannelIdentity
-- for E-HICH the configurable parameters are
        e_HICHInfo              E_HICH_Information
        e_HICH_PowerOffset      INTEGER (0..255)
-- The tti value shall be the same as the associated E-DPCH
-- As E-HICH is having timing dependencies with DPCH, it is configured last
    CPHY_RL_Setup_REQ
    (
        physicalChannelIdentity,
        e_RGCHInfo
        (
            e_RGCHInfo
            tti
            e_RGCH_PowerOffset
        )
    )
-- set up the E-RGCH identified by PhysicalChannelIdentity
-- for E-RGCH the configurable parameters are
        e_RGCHInfo              E_RGCH_Information
        e_RGCH_PowerOffset      INTEGER (0..255)
-- The tti value shall be the same as the associated E-DPCH

6.  Configure E-DCH UL physical channel
    CPHY_RL_Setup_REQ
    (
        physicalChannelIdentity
        e_DPCHInfo
            (
                e_DPCCH_Info
                e_DPDCH_Info
                scramblingCodeType
                scramblingCode
```

```
                tti
                edch_PhysicalLayerCategory
            )
    )
-- set up the E-DCH identified by PhysicalChannelIdentity
-- for E-DPCH the configurable parameters are
        e_DPCCH_Info                    E_DPCCH_Info
        e_DPDCH_Info                    E_DPDCH_Info
        tti                             E_DCH_TTI
        edch_PhysicalLayerCategory      INTEGER (1..16)
-- The scramblingCodeType and scramblingCode shall be the same as for Ul-DPCH
```

**7. Configure E-DCH UL transport channels**

```
    CPHY_TrCH_Config_REQ    (
        physicalChannelIdentity,
        e_DCHMacdFlows      )
-- set up the E-DCH transport channel which carries one or multiple MAC_d flows, one Mac_d flow is
defined as
    {
        tti                         E_DCH_TTI
        harqInfo                    ENUMERATED { rv0 (0) }
        addReconf_MAC_d_Flow        E_DCH_AddReconf_MAC_d_Flow
    }
-- the tti parameter is the same for all Mac_d flows
-- each Mac_d flow is identified by mac-d-FlowIdentity defined in the addReconf_MAC_d_Flow
-- for each MAC_d flow the configurable parameters are: mac-d-FlowPowerOffset, mac-d-FlowMaxRetrans,
mac-d-FlowMultiplexingList, transmissionGrantType
```

**8. Mapping E-DCH cells in Node B**

```
    CMAC_MACe_NodeB_CellMapping_REQ
    (
        nodeB_Id
        celllist
    )
-- set-up the mapping between NodeB-Id and E-DCH cells in celllist
-- a E-DCH cell is mapped to only one NodeB, and the cellId allocation is unique in a test.
```

**9. Configure MAC_e entity for E-DCH**

```
    CMAC_MACe_Config_REQ
    (
        nodeB_Id
        ddiMappinglist
        e_DCHMacdFlows
        connectedToMAC_es
    )
-- MAC_e entity is created per Node-B
-- the e_DCHMacdFlows shall be same as that used in CPHY_TrCH_Config_REQ
-- the field connectedToMAC_es shall be set to TRUE in serving E-DCH cell
-- the field connectedToMAC_es shall be set to FALSE in inter nodeB SHO
-- ddiMappinglist is defined as
            activationTime                  SS_ActivationTime
            macHeaderManipulation           MAC_HeaderManipulation
            logicalChannelIdentity          LogicalChannelIdentity
            e_DCH_MAC_d_FlowIdentity        E_DCH_MAC_d_FlowIdentity
            ddi                             DDI
            rlc_PDU_SizeList                RLC_PDU_SizeList
            mac_LogicalChannelPriority      MAC_LogicalChannelPriority
            logicalChannelType              LogicalChannelType
```

**10. Configure MAC_es entity for E-DCH**

```
    CMAC_MACes_Config_REQ
    (
            ddiMappinglist
            macTestMode
    )
-- set-up the mapping between the logical channel and the Mac_d flows
-- only one MAC_es entity is created
-- the ddiMappinglist shall be the same as that used in CMAC_MACe_Config_REQ
```

**11. Configure RLC entity for DTCHs which is mapped on E-DCH**

```
    CRLC_Config_REQ
    (
        rB_Identity,
```

```
        rBInfo
    )
-- set up RLC entity on top of DTCH logical channel which is mapped onto MAC_d flow
```

### 8.13.1.2 SHO - addition of E-DCH RL in a serving RL cell (intra node B)

**1. Configure E-DCH physical channel**

```
-- E-DPCH is not configured: the cell is under the control of the same nodeB as the initial RL.
-- E-AGCH channel is not configured, it is configured only in the serving E-DCH cell

    CPHY_RL_Setup_REQ
    (
        physicalChannelIdentity,
        e_HICHInfo
        (
            e_HICHInfo
            tti
            e_HICH_PowerOffset
        )
    }
-- set up the E-HICH identified by PhysicalChannelIdentity
-- for E-HICH the configurable parameters are
        e_HICHInfo              E_HICH_Information
        e_HICH_PowerOffset      INTEGER (0..255)
-- The tti value shall be the same as the associated E-DPCH in the serving E-DCH cell

    CPHY_RL_Setup_REQ
    (
        physicalChannelIdentity,
        e_RGCHInfo
        (
            e_RGCHInfo
            tti
            e_RGCH_PowerOffset
        )
    )
-- set up the E-RGCH identified by PhysicalChannelIdentity
-- for E-RGCH the configurable parameters are
        e_RGCHInfo              E_RGCH_Information
        e_RGCH_PowerOffset      INTEGER (0..255)
The tti value shall be the same as the associated E-DPCH in the serving E-DCH cell
```

**2. Mapping E-DCH cells in Node B**

```
    CMAC_MACe_NodeB_CellMapping_REQ
    {
        nodeB_Id
        celllist
    }
-- set-up the mapping between NodeB-Id and the new E-DCH cell in celllist
```

### 8.13.1.3 SHO – addition of E-DCH RL in a non-serving RL cell (inter node B)

**1. Configure E-DCH DL physical channel**

```
    CPHY_RL_Setup_REQ
    (
        physicalChannelIdentity,
        e_HICHInfo
        (
            e_HICHInfo
            tti
            e_HICH_PowerOffset
        )
    }
-- set up the E-HICH identified by PhysicalChannelIdentity
-- for E-HICH the configurable parameters are
        e_HICHInfo              E_HICH_Information
        e_HICH_PowerOffset      INTEGER (0..255)
-- The tti value shall be the same as the associated E-DPCH in the serving E-DCH cell

    CPHY_RL_Setup_REQ
    (
        physicalChannelIdentity,
```

```
        e_RGCHInfo
        (
            e_RGCHInfo
            tti
            e_RGCH_PowerOffset
        )
    )
-- set up the E-RGCH identified by PhysicalChannelIdentity
-- for E-RGCH the configurable parameters are
        e_RGCHInfo              E_RGCH_Information
        e_RGCH_PowerOffset      INTEGER (0..255)
-- The tti value shall be the same as the associated E-DPCH in the serving E-DCH cell
```

**2. Configure E-DCH UL physical channel**

```
    CPHY_RL_Setup_REQ
    (
        physicalChannelIdentity,
        e_DPCHInfo
            (
                e_DPCCH_Info
                e_DPDCH_Info
                scramblingCodeType
                scramblingCode
                tti
                edch_PhysicalLayerCategory
            )
    )
-- set up the E-DCH identified by PhysicalChannelIdentity, the same as in the serving E-DCh cell
-- for E-DPCH the configurable parameters are
        e_DPCCH_Info                    E_DPCCH_Info,
        e_DPDCH_Info                    E_DPDCH_Info,
        edch_PhysicalLayerCategory      INTEGER (1..16)
-- The scramblingCodeType and scramblingCode shall be the same as for Ul-DPCH
-- The tti value shall be the same as the E-DPCH in the serving E-DCH cell
-- for E-DPCH, the scramblingCodeType and scramblingCode shall be the same as for Ul_DPCH
-- E-AGCH channel is not configured
```

**3. Configure E-DCH transport channels**

```
    CPHY_TrCH_Config_REQ
    (
        physicalChannelIdentity,
        e_DCHMacdFlows
    )
-- set up the E-DCH transport channel which carries the same MAC_d flows as the initial RL
```

**4. Configure MAC_e entity for E-DCH**

```
    CMAC_MACe_Config_REQ
    (
        nodeB_Id
        ddiMappinglist
        e_DCHMacdFlows
        connectedToMAC_es FALSE
    )
-- MAC_e entity is created per Node-B
-- the e_DCHMacdFlows shall be same as that used in CPHY_TrCH_Config_REQ
-- the field connectedToMAC_es shall be set to FALSE in inter nodeB SHO
-- ddiMappinglist is defined like in the initial RL
```

**5. Mapping E-DCH cells in Node B**

```
    CMAC_MACe_NodeB_CellMapping_REQ
    (
        nodeB_Id
        celllist
    )
-- set-up the mapping between the new NodeB-Id and E-DCH in the new cell
```

## 8.13.2 DPCH/HS-DSCH/E-DCH setup and release order

When setting up an HSUPA RAB, the following order of channel configuration is applied:

DL-DPCH, HS-DSCH, UL-DPCH, E-DCH.

When releasing an HSUPA RAB, the following order of channel release/ modification is applied:

E-DCH, HS-DSCH, UL-DPCH, DL-DPCH.

# 8.14 Guidelines of MBMS implementations

## 8.14.1 MCCH scheduling implementation

The rules for the transmission of MCCH messages are specified in 34.108, clause 11.1.2. The current clause provides the implementation guidelines.

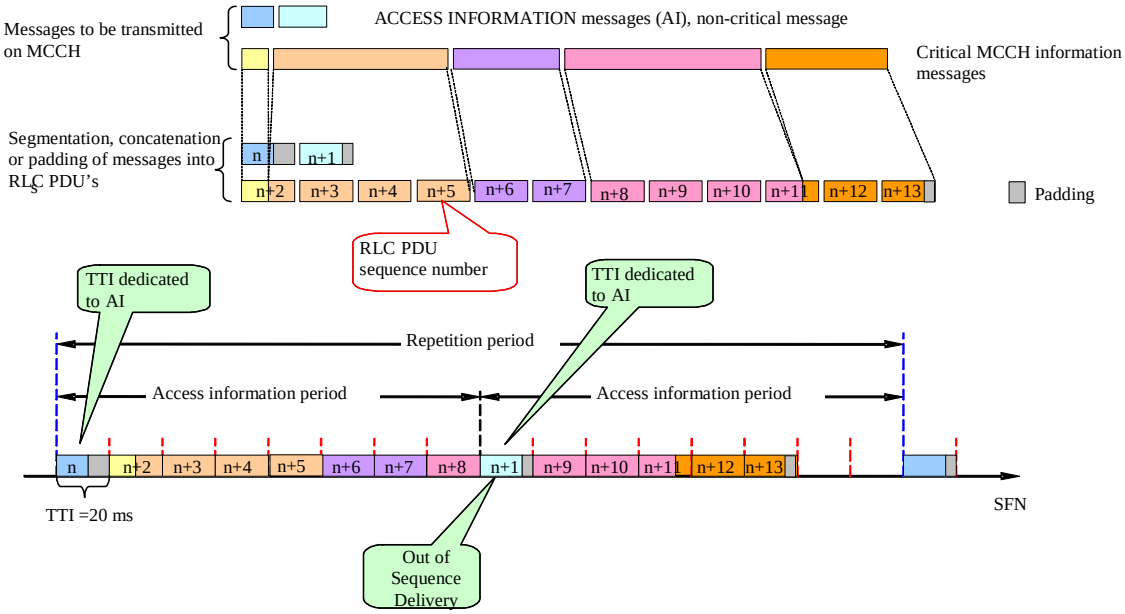
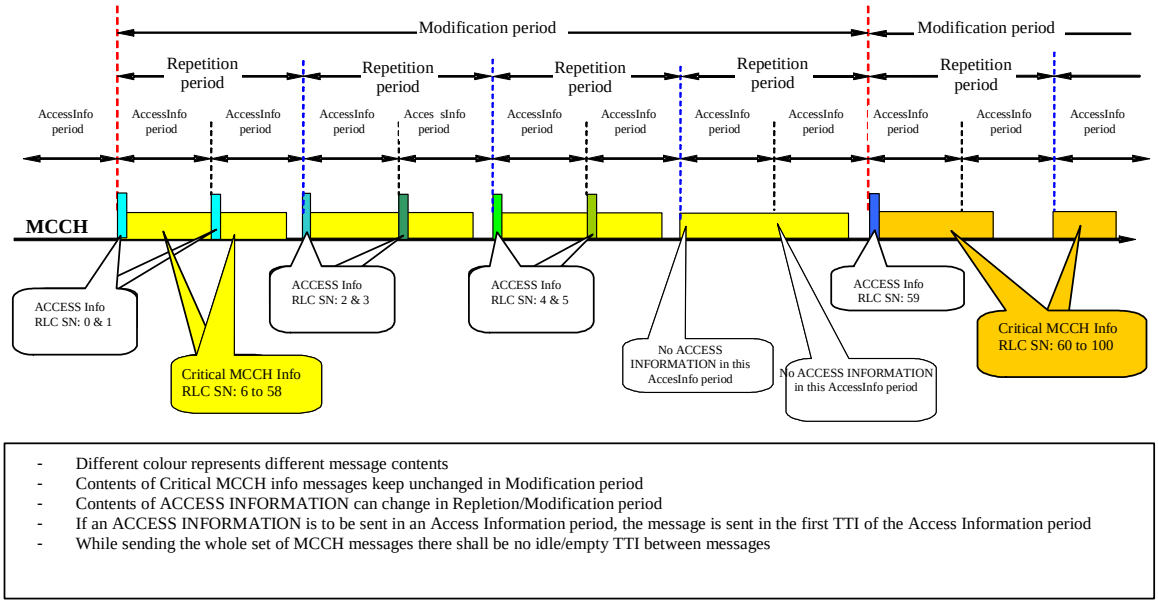



**Figure 23: Segmentation and concatenation of MCCH messages into RLC PDU"s**

If required in the test, all ACCESS INFORMATION messages of a modification period are sent via RLC_UM_ACCESSinfo_REQ. Each ACCESS INFORMATION message corresponds to an access information period in an ordered way. The ACCESS INFORMATION is transmitted on the 1st TTI of the access information period.

All critical MCCH messages of a modification period are sent via RLC_UM_CriticalMCCHMsg_REQ. The sequence of the critical MCCH messages is segmented and concatenated without padding by a UM RLC entity configured specifically for MCCH. RLC_UM_ACCESSinfo_REQ precedes RLC_UM_CriticalMCCHMsg_REQ.

The first RLC SN are always allocated consecutively to ACCESS INFORMATION messages, i.e. from n + 0 onwards as necessary. Then an RLC SN block is consecutively allocated to the critical MCCH messages, saying the last used SN = (n +m)MOD 128 in the current modification period. Renew n to (n + m + 1)MOD 128 for the next modification period.




- Different colour represents different message contents
- Contents of Critical MCCH info messages keep unchanged in Modification period
- Contents of ACCESS INFORMATION can change in Repletion/Modification period
- If an ACCESS INFORMATION is to be sent in an Access Information period, the message is sent in the first TTI of the Access Information period
- While sending the whole set of MCCH messages there shall be no idle/empty TTI between messages

**Figure 24: RLC SN allocation in MCCH scheduling**

ACCESS INFORMATION messages within a modification period have different RLC SN. The SN = n + 0 is allocated to the 1st ACCESS INFORMATION message.The critical MCCH messages to be transmitted in the different repetition periods within a modification period have the same RLC SN. RLC SN are incremented across the boundary of two consecutive modification periods without RLC reestablishment. The different RLC SN are allocated to the two consecutive modification periods.

In order to ensure UE can read the first ACCESS INFORMATION message, the same message is also sent by the TTCN in the second access information period.

## 8.14.2 MSCH scheduling and service data on MTCH

Multiple ordered SCHEDULING INFORMATION messages are sent by using RLC_UM_MSCH_Msg_REQ. Each SCHEDULING INFORMATION corresponds to a scheduling period, a "noSend" MSCH_Message indicates that no MBMS services are scheduled in that scheduling period for all MTCH. The first SCHEDULING INFORMATION message is sent on the scheduledSFN and succesively the remaining messages are sent in every scheduling period.

The MBMS service data are fed by RLC_UM_TestDataReq. However the real MBMS service transmissions for multiple scheduling periods on each MTCH are controlled by CRLC_UM_MTCH_Scheduling_REQ. Within each scheduling period the information on the discontinuous service transmissions are conveyed through a list of pairs of (start, duration). The IE noServiceData as NULL being provided for a scheduling period indicates no service trasnmission on that MTCH.

The simulation of the continuous MBMS services is provided if an empty CRLC_UM_MTCH_Scheduling_REQ is sent without scheduling configuration parameter and scheduling information.

RLC_UM_MSCH_Msg_REQ precedes CRLC_UM_MTCH_Scheduling_REQ and RLC_UM_TestDataReq.

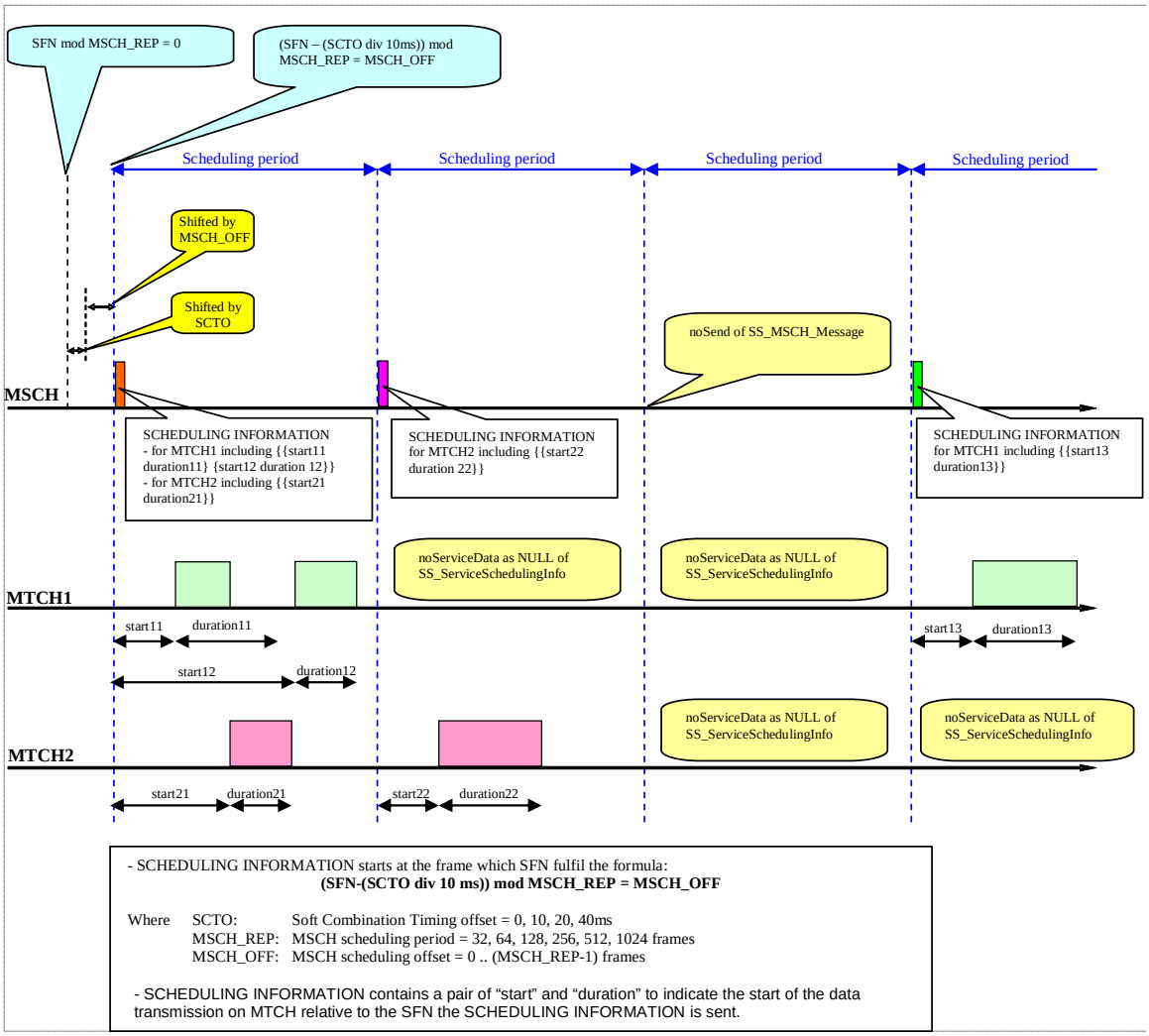



**Figure 25: MSCH scheduling and MTCH data transfer**

# Annex A (normative): Abstract Test Suites (ATS)

This annex contains the approved ATSs.

The ATSs have been produced using the Tree and Tabular Combined Notation (TTCN) according to ETSI TR 101 666 [27].

The ATSs were developed on a separate TTCN software tool and therefore the TTCN tables are not completely referenced in the table of contents. Each ATS contains a test suite overview part which provides additional information and references.

NOTE: Where an Abstract Test Suite (in TTCN) is published in both .GR and .MP format these two forms shall be considered equivalent. In the event that there appears to be syntactical or semantic differences between the two then the problem shall be resolved and the erroneous format (whichever it is) shall be corrected.

## A.1 Version of specifications

Table A.1 shows the version of the test specifications which the delivered ATSs are referred to.

**Table A.1: Versions of the test and Core specifications**

| | |
|---|---|
| **Core specifications** | 3GPP TS 25.331 [21] (V6.a.0) |
| **Test specifications** | 3GPP TS 34.123-1 [1] (V6.6.0) |
| | 3GPP TS 34.123-2 [2] (V6.6.0) |
| | 3GPP TS 34.108 [3] (V6.6.0) |
| | 3GPP TS 34.109 [4] (V6.3.0) |

## A.2 NAS ATS

The approved NAS test cases are listed.

**Table A.2: NAS TTCN test cases**

| Test case | Description |
|---|---|
| | **MM** |
| 9.1 | TMSI reallocation |
| 9.2.1 | Authentication accepted |
| 9.2.2 | Authentication rejected |
| 9.2.3 | Authentication rejected by the UE (MAC code failure) |
| 9.2.4 | Authentication rejected by the UE (SQN failure) |
| 9.3.1 | General Identification |
| 9.4.1 | Location updating / accepted |
| 9.4.2.1 | Location updating / rejected / IMSI invalid |
| 9.4.2.2.1 | Location updating / rejected / PLMN not allowed/Test 1 |
| 9.4.2.2.2 | Location updating / rejected / PLMN not allowed / Test 2 |
| 9.4.2.3 | Location updating / rejected / location area not allowed |
| 9.4.2.4.1 | Location updating / rejected / roaming not allowed in this location area / Procedure 1 |
| 9.4.2.4.2 | Location updating / rejected / roaming not allowed in this location area / Procedure 2 |
| 9.4.2.4.4 | Location updating / rejected / roaming not allowed in this location area / Procedure 4 |
| 9.4.2.5 | Location updating / rejected / No Suitable Cells In Location Area |
| 9.4.3.3 | Location updating / abnormal cases / attempt counter equal to 4 |
| 9.4.3.5 | Location updating / abnormal cases / Failure due to non-integrity protection |
| 9.4.4 | Location updating / release / expiry of T3240 |
| 9.4.5.2 | Location updating / periodic normal / test 1 |
| 9.4.5.3 | Location updating / periodic normal / test 2 |
| 9.4.5.4.1 | Location updating / periodic search for HPLMN or higher priority PLMN / UE waits time T |
| 9.4.5.4.6 | Location updating/periodic search of the higher priority PLMN, VPLMN in a foreign country- List of EPLMN contain HPLMN /UE is in automatic mode |
| 9.4.7 | Location Updating / accept with replacement or deletion of Equivalent PLMN list |
| 9.4.8 | Location Updating after UE power off |
| 9.4.9 | Location Updating / Accept, Interaction between Equivalent PLMNs and Forbidden PLMNs |
| 9.5.2 | MM connection / establishment in security mode |
| 9.5.4 | MM connection / establishment rejected |
| 9.5.5 | MM connection / establishment rejected cause 4 |
| 9.5.7.1 | MM connection / abortion by the network / cause #6 |
| 9.5.7.2 | MM connection / abortion by the network / cause not equal to #6 |
| | **CC** |
| 10.1.2.1.1 | Outgoing call / U0 null state / MM connection requested |
| 10.1.2.2.1 | Outgoing call / U0.1 MM connection pending / CM service rejected |
| 10.1.2.2.2 | Outgoing call / U0.1 MM connection pending / CM service accepted |
| 10.1.2.2.3 | Outgoing call / U0.1 MM connection pending / lower layer failure |
| 10.1.2.3.1 | Outgoing call / U1 call initiated / receiving CALL PROCEEDING |
| 10.1.2.3.2 | Outgoing call / U1 call initiated / rejecting with RELEASE COMPLETE |
| 10.1.2.3.3 | Outgoing call / U1 call initiated / T303 expiry |
| 10.1.2.3.7 | Outgoing call / U1 call initiated / unknown message received |
| 10.1.2.4.3 | Outgoing call / U3 Mobile originating call proceeding / PROGRESS received without in band information |
| 10.1.2.4.4 | Outgoing call / U3 Mobile originating call proceeding / PROGRESS with in band information |
| 10.1.2.4.6 | Outgoing call / U3 Mobile originating call proceeding / DISCONNECT without in band tones |
| 10.1.2.4.7 | Outgoing call / U3 Mobile originating call proceeding / RELEASE received |
| 10.1.2.4.8 | Outgoing call / U3 Mobile originating call proceeding / termination requested by the user |
| 10.1.2.4.9 | Outgoing call / U3 Mobile originating call proceeding / traffic channel allocation |
| 10.1.2.4.10 | Outgoing call / U3 Mobile originating call proceeding / timer T310 time-out |
| 10.1.2.5.1 | Outgoing call / U4 call delivered / CONNECT received |
| 10.1.2.5.2 | Outgoing call / U4 call delivered / termination requested by the user |
| 10.1.2.5.5 | Outgoing call / U4 call delivered / RELEASE received |
| 10.1.2.6.2 | U10 active / RELEASE received |
| 10.1.2.6.3 | U10 active / DISCONNECT with in band tones |
| 10.1.2.6.6 | U10 active / SETUP received |
| 10.1.2.7.1 | U11 disconnect request / clear collision |
| 10.1.2.7.2 | U11 disconnect request / RELEASE received |
| 10.1.2.7.3 | U11 disconnect request / timer T305 time-out |
| 10.1.2.9.1 | Outgoing call / U19 release request / timer T308 time-out |
| 10.1.3.3.1 | Incoming call / U9 mobile terminating call confirmed / alerting or immediate connecting |
| 10.1.3.3.2 | Incoming call / U9 mobile terminating call confirmed / DTCH assignment |
| 10.1.3.3.4 | Incoming call / U9 mobile terminating call confirmed / DISCONNECT received |
| 10.1.3.4.1 | Incoming call / U7 call received / call accepted |
| 10.1.3.5.6 | Incoming call / U8 connect request / RELEASE received |
| | **Session Management** |

| | |
|---|---|
| 11.1.1.1 | Attach initiated by context activation/QoS Offered by Network is the QoS Requested |
| 11.3.1 | PDP context deactivation initiated by the UE |
| 11.3.2 | PDP context deactivation initiated by the network |
| | **GPRS Mobility Management** |
| 12.2.1.1 | PS attach / accepted |
| 12.2.1.2 | PS attach / rejected / IMSI invalid / illegal UE |
| 12.2.1.3 | PS attach / rejected / IMSI invalid / PS services not allowed |
| 12.2.1.4 Proc 1 | PS attach / rejected / PLMN not allowed / test procedure 1 |
| 12.2.1.4 Proc 2 | PS attach / rejected / PLMN not allowed / test procedure 2 |
| 12.2.1.5a Proc 1 | PS attach / rejected / roaming not allowed in this location area / test procedure 1 |
| 12.2.1.5a Proc 2 | PS attach / rejected / roaming not allowed in this location area / test procedure 2 |
| 12.2.1.5b | PS attach / rejected / No Suitable Cells In Location Area |
| 12.2.1.5d | PS attach / rejected / PS services not allowed in this PLMN |
| 12.2.1.6 Proc 1 | PS attach / abnormal cases / access barred due to access class control / tes procedure 1 |
| 12.2.1.6 Proc 2 | PS attach / abnormal cases / access barred due to access class control / test procedure 2 |
| 12.2.1.7 | PS attach / abnormal cases / change of cell into new routing area |
| 12.2.1.10 | PS attach / abnormal cases / Failure due to non-integrity protection |
| 12.2.1.11 | PS attach / accepted / follow-on request pending indicator set |
| 12.2.2.1 | Combined PS attach / PS and non-PS attach accepted |
| 12.3.1.1 | PS detach / power off / accepted |
| 12.3.1.2 | PS detach / accepted |
| 12.3.1.5 | PS detach / power off / accepted / PS/IMSI detach |
| 12.3.2.1 | PS detach / re-attach not required / accepted |
| 12.3.2.7 | PS detach / rejected / Roaming not allowed in this location area |
| 12.3.2.8.Proc 1 | PS detach / rejected / PS services not allowed in this PLMN/ test1 |
| 12.4.1.1a | Routing area updating / accepted |
| 12.4.1.1b | Routing area updating / accepted / Signalling connection re-establishment |
| 12.4.1.2 | Routing area updating / rejected / IMSI invalid / illegal ME |
| 12.4.1.3 | Routing area updating / rejected / UE identity cannot be derived by the network |
| 12.4.1.4a | Routing area updating / rejected / location area not allowed |
| 12.4.1.4b | Routing area updating / rejected / No Suitable Cells In Location Area |
| 12.4.1.4c Proc 1 | Routing area updating / rejected / PS services not allowed in this PLMN |
| 12.4.1.4c Proc 2 | Routing area updating / rejected / PS services not allowed in this PLMN |
| 12.4.1.4d Proc 1 | Routing area updating / rejected / Roaming not allowed in this location area / test 1 |
| 12.4.1.4d Proc 2 | Routing area updating / rejected / Roaming not allowed in this location area / test 2 |
| 12.4.1.5 | Routing area updating / abnormal cases / attempt counter check / miscellaneous reject causes |
| 12.4.2.1 | Combined routing area updating / combined RA/LA accepted |
| 12.4.2.2 | Combined routing area updating / UE in CS operation at change of RA |
| 12.4.2.4 | Combined routing area updating / rejected / PLMN not allowed |
| 12.4.2.5a Proc 1 | Combined routing area updating / rejected / roaming not allowed in this location area / test procedure 1 |
| 12.4.2.5a.Proc 2 | Combined routing area updating / rejected / roaming not allowed in this location area / test procedure 2 |
| 12.4.2.6 Proc 1 | Combined routing area updating / abnormal cases / access barred due to access class control / test procedure 1 |
| 12.4.2.6.Proc 2 | Combined routing area updating / abnormal cases / access barred due to access class control / test procedure 2 |
| 12.4.3.1 | Periodic routing area updating / accepted |
| 12.4.3.4 | Periodic routing area updating / no cell available |
| 12.5 | P-TMSI reallocation |
| 12.6.1.1 | Authentication accepted |
| 12.6.1.2 | Authentication rejected - by the network |
| 12.6.1.3.1 | GMM cause 'MAC failure |
| 12.6.1.3.2 | GMM cause 'Synch failure' |
| 12.6.1.3.3 | Authentication rejected by the UE / fraudulent network |
| 12.7.1 | General Identification |
| 12.9.1 | Service Request Initiated by UE Procedure |
| 12.9.2 | Service Request Initiated by Network Procedure |
| 12.9.3 | Service Request / rejected / Illegal MS |
| 12.9.4 | Service Request / rejected / PS services not allowed |
| 12.9.6 | Service Request / rejected / PLMN not allowed |
| 12.9.7a | Service Request / rejected / No PDP context activated |
| 12.9.7b | Service Request / rejected / No Suitable Cells In Location Area |
| 12.9.7c | Service Request / rejected / Roaming not allowed in this location area |
| 12.9.8 | Service Request / Abnormal cases / Access barred due to access class control |

| | |
|---|---|
| 12.9.9 | Service Request / Abnormal cases / Routing area update procedure is triggered |
| 12.9.12 | Service Request / RAB re-establishment / UE initiated / Single PDP context |
| 12.9.13 | Service Request / RAB re-establishment / UE initiated / multiple PDP contexts |
| 12.9.14 | Service Request / RAB re-establishment / Network initiated / single PDP context |
| | **General Tests** |
| 13.2.1.1 | Emergency call / with USIM / accept case |
| 13.2.2.1 | Emergency call / without USIM / accept case |
| 13.2.2.2 | Emergency call / without USIM / reject case |

## A.2.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (NASv620.PDF) which accompanies the present document.

## A.2.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (NASv620.MP) which accompanies the present document.

# A.3 SMS ATS

**Table A.3: SMS TTCN test cases**

| Test case | Description |
|---|---|
| 16.1.1 | SMS on CS mode / SMS mobile terminated |
| 16.1.2 | SMS on CS mode / SMS mobile originated |
| 16.1.9.1 | SMS on CS mode / Multiple SMS mobile originated / UE in idle mode |
| 16.1.9.2 | SMS on CS mode / Multiple SMS mobile originated / UE in active mode |
| 16.1.10 | SMS on CS mode / Test of capabilities of simultaneously receiving a short message whilst sending a mobile originated short message |
| 16.2.1 | SMS on PS mode / SMS mobile terminated |
| 16.2.2 | SMS on PS mode / SMS mobile originated |
| 16.2.10 | SMS on PS mode / Test of capabilities of simultaneously receiving a short message whilst sending a mobile originated short message |
| 16.3 | Short message service cell broadcast |

## A.3.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (SMSv620.PDF) which accompanies the present document.

## A.3.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (SMSv620.MP) which accompanies the present document.

# A.4 RRC ATS

The approved RRC test cases are listed.

**Table A.4: RRC TTCN test cases**

| Test case | Description |
|---|---|
| **Singlecell** | |
| 6.1.1.4 | PLMN selection of RPLMN, HPLMN, UPLMN and OPLMN; Automatic mode |
| 6.1.1.5 | PLMN selection of "Other PLMN / access technology combinations"; Automatic mode |
| 6.1.1.7 | Cell reselection of ePLMN in manual mode |
| 6.1.2.1 | Cell reselection |
| 6.1.2.2 | Cell reselection using Qhyst, Qoffset and Treselection |
| 6.1.2.3 | HCS Cell reselection |
| 6.1.2.4 | HCS Cell reselection using reselection timing parameters for the H criterion |
| 6.1.2.5 | HCS Cell reselection using reselection timing parameters for the R criterion |
| 6.1.2.6 | Emergency calls |
| 6.1.2.8 | Cell reselection: Equivalent PLMN |
| 6.1.2.9 | Cell reselection using cell status and cell reservations |
| 6.1.2.9a | Cell reselection using cell status and cell reservations – Type 'A' USIM |
| 6.1.2.9b | Cell reselection using cell status and cell reservations – Type 'B' USIM |
| 8.1.1.1 | RRC / Paging for Connection in idle mode |
| 8.1.1.2 | RRC / Paging for Connection in connected mode (CELL_PCH) |
| 8.1.1.3 | R RRC / Paging for Connection in connected mode (URA_PCH) |
| 8.1.1.4 | RRC / Paging for notification of BCCH modification in idle mode |
| 8.1.1.5 | RRC / Paging for notification of BCCH modification in connected mode (CELL_PCH) |
| 8.1.1.6 | RRC / Paging for notification of BCCH modification in connected mode (URA_PCH) |
| 8.1.1.7 | RRC / Paging for connection in connected mode (CELL_DCH) |
| 8.1.1.8 | RRC / Paging for Connection in connected mode (CELL_FACH) |
| 8.1.1.9 | RRC / Paging for Connection in idle mode (multiple paging records) |
| 8.1.1.10 | RRC / Paging for Connection in connected mode (URA_PCH, multiple paging records) |
| 8.1.2.1 | RRC / RRC Connection Establishment in CELL_DCH state: Success |
| 8.1.2.2 | RRC / RRC Connection Establishment: Success after T300 timeout |
| 8.1.2.3 | RRC / RRC Connection Establishment: Failure (V300 is greater than N300) |
| 8.1.2.4 | RRC / RRC Connection Establishment: Reject ("wait time" is not equal to 0) |
| 8.1.2.7 | RRC Connection Establishment in CELL_FACH state: Success |
| 8.1.2.9 | RRC / RRC Connection Establishment: Success after Physical channel failure and Invalid configuration |
| 8.1.2.10 | RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH (Frequency band modification): Success |
| 8.1.2.11 | RRC Connection Establishment in FACH state (Frequency band modification): Success |
| 8.1.3.1 | RRC / RRC Connection Release in CELL_DCH state: Successful |
| 8.1.3.3 | RRC / RRC Connection Release using on CCCH in CELL_FACH state: Failure |
| 8.1.3.4 | RRC / RRC Connection Release in CELL_FACH state: Failure |
| 8.1.3.5 | RRC / RRC Connection Release in CELL_FACH state: Invalid message |
| 8.1.3.9 | RRC Connection Release in CELL_DCH state (Network Authentication Failure): Success |
| 8.1.5.1 | RRC / UE Capability in CELL_DCH state: Success |
| 8.1.5.4 | RRC / UE Capability in CELL_FACH state: Success |
| 8.1.6.1 | Direct Transfer in CELL_DCH state (invalid message reception and no signalling connection exists) |
| 8.1.6.3 | Measurement Report on INITIAL DIRECT TRANSFER message and UPLINK DIRECT TRANSFER message |
| 8.1.7.1 | Security mode command in CELL_DCH state (CS Domain) |
| 8.1.7.1b | Security mode command in CELL_DCH state (PS Domain) |
| 8.1.7.1c | Security mode control in CELL_DCH state (CN Domain switch and new keys at RRC message sequence number wrap around) |
| 8.1.7.1d | Security mode control in CELL_DCH state interrupted by a cell update |
| 8.1.7.2 | RRC / Security mode control in CELL_FACH state |
| 8.1.9 | RRC / Signalling Connection Release Indication |
| 8.1.10.1 | Dynamic change of segmentation, concatenation & scheduling and handling of unsupported information blocks |
| 8.1.12 | RRC / Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Physical channel Failure and successful reversion to old configuration) |

| Test case | Description |
|---|---|
| **Singlecell** | |
| 8.2.1.1 | Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success |
| 8.2.1.4 | RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Physical channel Failure and successful reversion to old configuration) |
| 8.2.1.7 | RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Invalid message reception and invalid configuration) |
| 8.2.1.8 | RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Success |
| 8.2.1.9 | RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Success (Cell re-selection) |
| 8.2.1.10 | RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH (Frequency band modification): Success |
| 8.2.1.24 | Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH (Frequency band modification): Success |
| 8.2.1.33 | Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success (Unsynchronised RL Reconfiguration) |
| 8.2.1.34 | Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success (Unsynchronised RL Reconfiguration with frequency modification) |
| 8.2.2.1 | RRC / Radio Bearer Reconfiguration (Hard Handover) from CELL_DCH to CELL_DCH: Success |
| 8.2.2.4 | RRC / Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion failure) |
| 8.2.2.7 | RRC / Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (stop and continue) |
| 8.2.2.8 | RRC / Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Success |
| 8.2.2.9 | RRC / Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Success (Cell re-selection) |
| 8.2.2.10 | RRC / Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Success |
| 8.2.2.11 | Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported configuration) |
| 8.2.2.17 | RRC / Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success |
| 8.2.2.18 | RRC / Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success (Cell re-selection) |
| 8.2.2.19 | RRC / Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (Subsequently received) |
| 8.2.2.23 | RRC / Radio Bearer Reconfiguration from CELL_FACH to CELL_PCH: Success |
| 8.2.2.31 | Radio Bearer Reconfiguration for transition from CELL_FACH to CELL_DCH (Frequency band modification): Success |
| 8.2.2.35 | Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Successful channel switching with multiple PS RABs established |
| 8.2.2.43 | Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Seamless SRNS relocation, without pending of ciphering, frequency band modification) |
| 8.2.3.1 | Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success |
| 8.2.3.7 | RRC / Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success |
| 8.2.3.8 | RRC / Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success (Cell re-selection) |
| 8.2.3.9 | RRC / Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Success |
| 8.2.3.11 | RRC / Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and successful reversion to old configuration) |
| 8.2.3.15 | RRC / Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Success |
| 8.2.3.18 | RRC / Radio Bearer Release from CELL_DCH to CELL_PCH: Success |
| 8.2.3.19 | RRC / Radio Bearer Release from CELL_DCH to URA_PCH: Success |
| 8.2.3.29 | Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Associated with signalling connection release during multi call for PS and CS services |
| 8.2.4.1 | Transport channel reconfiguration (Timing re- initialised hard handover with transmission rate modification) from CELL_DCH to CELL_DCH: Success |
| 8.2.4.1a | Transport channel reconfiguration (Transmission Rate Modification) from CELL_DCH to CELL_DCH of the same cell: Success |
| 8.2.4.3 | RRC / Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration) |
| 8.2.4.4 | Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and cell reselection) |
| 8.2.4.10 | RRC / Transport channel reconfiguration from CELL_FACH to CELL_DCH: Success |
| 8.2.6.1 | RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover for code modification): Success |
| 8.2.6.2 | RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover for code modification): Failure (Unsupported configuration) |
| 8.2.6.7 | RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Success |

| Test case | Description |
|---|---|
| **Singlecell** | |
| 8.2.6.8 | RRC / Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Success (Cell re-selection) |
| 8.2.6.9 | RRC / Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Success |
| 8.2.6.11 | RRC / Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and successful reversion to old configuration) |
| 8.2.6.12 | RRC / Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and cell re-selection) |
| 8.2.6.19 | RRC / Physical channel reconfiguration from CELL_DCH to CELL_PCH: Success |
| 8.2.6.20 | RRC / Physical channel from CELL_DCH to URA_PCH: Success |
| 8.2.6.37 | Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency with timing re-initialised) |
| 8.2.6.38 | Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency with timing re-initialised): Failure (Physical channel failure and reversion to old channel) |
| 8.2.6.39 | Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Seamless SRNS relocation) (without pending of ciphering) |
| 8.2.6.44 | Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Failure (Radio link failure in new configuration) |
| 8.3.1.1 | RRC / Cell Update: cell reselection in CELL_FACH |
| 8.3.1.2 | RRC / Cell Update: cell reselection in CELL_PCH |
| 8.3.1.3 | RRC / Cell Update: periodical cell update in CELL_FACH |
| 8.3.1.4 | RRC / Cell Update: periodical cell update in CELL_PCH |
| 8.3.1.5 | RRC / Cell Update: UL data transmission in URA_PCH |
| 8.3.1.6 | RRC / Cell Update: UL data transmission in CELL_PCH |
| 8.3.1.9 | RRC / Cell Update: re-entering of service area after T305 expiry and being out of service area |
| 8.3.1.10 | RRC / Cell Update: expiry of T307 after T305 expiry and being out of service area |
| 8.3.1.11 | RRC / Cell Update: Success after T302 time-out |
| 8.3.1.12 | RRC / Cell Update: Failure (After Maximum Re-transmissions) |
| 8.3.1.15 | RRC / Cell Update: Unrecoverable error in Acknowledged Mode RLC |
| 8.3.1.17 | RRC / Cell Update: Failure (UTRAN initiate an RRC connection release procedure on CCCH) |
| 8.3.1.18 | RRC / Cell Update: Radio Link Failure (T314>0, T315=0), CS RAB established |
| 8.3.1.21 | Cell Update: Cell reselection to cell of another PLMN belonging to the equivalent PLMN list |
| 8.3.1.23 | Cell Update: HCS cell reselection in CELL_FACH |
| 8.3.1.24 | Cell Update: HCS cell reselection in CELL_PCH |
| 8.3.1.25 | CELL UPDATE: Radio Link Failure (T314=0, T315=0) |
| 8.3.1.22 | Cell update: Restricted cell reselection to a cell belonging to forbidden LA list (Cell_FACH) |
| 8.3.1.30 | Cell Update: Radio Link Failure (T314>0, T315>0), PS RAB |
| 8.3.1.31 | Cell Update: re-entering of service area from URA_PCH after T316 expiry but before T317 expiry |
| 8.3.2.1 | RRC / URA Update: Change of URA |
| 8.3.2.2 | RRC / URA Update: Periodical URA update and Reception of Invalid message |
| 8.3.2.4 | RRC / URA Update: loss of service after expiry of timers T307 after T306 |
| 8.3.2.7 | RRC / URA Update: Success after T303 timeout |
| 8.3.2.9 | RRC / URA Update: Failure ( UTRAN initiate an RRC connection release procedure on CCCH ) |
| 8.3.2.11 | URA Update: Cell reselection to cell of another PLMN belonging to the equivalent PLMN list |
| 8.3.2.12 | Restricted cell reselection to a cell belonging to forbidden LA list (URA_PCH) |
| 8.3.2.13 | URA Update: Change of URA due to HCS Cell Reselection |
| 8.3.3.1 | RRC / UTRAN Mobility Information: Success |
| 8.3.4.1 | RRC / Active set update in soft handover: Radio Link addition |
| 8.3.4.2 | RRC / Active set update in soft handover: Radio Link removal |
| 8.3.4.3 | RRC / Active set update in soft handover: Combined radio link addition and removal |
| 8.3.4.8 | Active set update in soft handover: Radio Link addition in multiple radio link environment |
| 8.4.1.1 | Measurement Control and Report: Intra-frequency measurement for transition from idle mode to CELL_DCH state |
| 8.4.1.2 | RRC / Measurement Control and Report: Inter-frequency measurement for transition from idle mode to CELL_DCH state |
| 8.4.1.3 | RRC / Measurement Control and Report: Intra-frequency measurement for transition from idle mode to CELL_FACH state |
| 8.4.1.5 | RRC / Measurement Control and Report: Intra-frequency measurement for transition from CELL_DCH to CELL_FACH state |
| 8.4.1.6 | RRC / Measurement Control and Report: Inter- frequency measurement for transition from |

| Test case | Description |
|---|---|
| **Singlecell** | |
| | CELL_DCH to CELL_FACH state |
| 8.4.1.7 | RRC / Measurement Control and Report: Intra- frequency measurement for transition from CELL_FACH to CELL_DCH state |
| 8.4.1.8 | Measurement Control and Report: Inter-frequency measurement for transition from CELL_FACH to CELL_DCH state (FDD) |
| 8.4.1.14 | RRC / Measurement Control and Report: Cell forbidden to affect reporting range |
| 8.4.1.16 | Measurement Control and Report: Traffic volume measurement for transition from idle mode to CELL_FACH state |
| 8.4.1.17 | RRC / Measurement Control and Report: Traffic volume measurement for transition from idle mode to CELL_DCH state |
| 8.4.1.18 | RRC / Measurement Control and Report: Traffic volume measurement for transition from CELL_FACH state to CELL_DCH state |
| 8.4.1.19 | RRC / Measurement Control and Report: Traffic volume measurement for transition from CELL_DCH to CELL_FACH state |
| 8.4.1.23 | RRC / Measurement Control and Report: Intra-frequency measurement for events 1C and 1D |
| 8.4.1.24 | RRC / Measurement Control and Report: Inter-frequency measurement for event 2A |
| 8.4.1.25 | RRC / Measurement Control and Report: Inter-frequency measurement for events 2B and 2E |
| 8.4.1.26 | RRC / Measurement Control and Report: Inter-frequency measurement for events 2D and 2F |
| 8.4.1.27 | RRC / Measurement Control and Report: UE internal measurement for events 6A and 6B |
| 8.4.1.28 | Measurement Control and Report: UE internal measurement for events 6F (FDD) and 6G |
| 8.4.1.29 | RRC / Measurement Control and Report: Event based Traffic Volume measurement in CELL_FACH state |
| 8.4.1.30 | RRC / Measurement Control and Report: Event based Traffic Volume measurement in CELL_DCH state |
| 8.4.1.37 | Measurement Control and Report: UE internal measurement, event 6c |
| 8.4.1.38 | Measurement Control and Report: UE internal measurement, event 6d |
| 8.4.1.41 | Measurement Control and Report: Additional Measurements list |

## A.4.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (RRCv620.PDF) which accompanies the present document.

## A.4.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (RRCv620.MP) which accompanies the present document.

# A.5 RLC ATS

The approved RLC test cases are listed.

**Table A.5: RLC TTCN test cases**

| Test case | Description |
|---|---|
| 7.2.2.3 | UM RLC / Segmentation / 7-bit Length Indicators / Padding |
| 7.2.2.4 | UM RLC / Segmentation / 7-bit Length Indicators / LI = 0 |
| 7.2.2.5 | UM RLC / Segmentation / 7-bit Length Indicators / Invalid LI value |
| 7.2.2.6 | UM RLC / Segmentation / 7-bit Length Indicators / LI value > PDU |
| 7.2.2.7 | UM RLC / Segmentation / 7-bit Length Indicators / First data octet LI |
| 7.2.3.4 | AM RLC / Segmentation / 7-bit Length Indicators / LI = 0 |
| 7.2.3.5 | AM RLC / Segmentation / 7-bit Length Indicators / Reserved LI value |
| 7.2.3.6 | AM RLC / Segmentation / 7-bit Length Indicators / LI value > PDU |
| 7.2.3.12 | AM RLC / Correct use of Sequence Numbering |
| 7.2.3.13 | AM RLC / Control of Transmit Window |
| 7.2.3.14 | AM RLC / Control of Receive Window |
| 7.2.3.15 | AM RLC / Polling for status / Last PU in transmission queue |
| 7.2.3.16 | AM RLC / Polling for status / Last PU in retransmission queue |
| 7.2.3.17 | AM RLC / Polling for status / Poll every Poll_PU PUs |
| 7.2.3.18 | AM RLC / Polling for status / Poll every Poll_SDU SDUs |
| 7.2.3.19 | AM RLC / Polling for status / Timer triggered polling (Timer_Poll_Periodic) |
| 7.2.3.20 | AM RLC / Polling for status / Polling on Poll_Window of transmission window |
| 7.2.3.21 | AM RLC / Polling for status / Operation of Timer_Poll timer / Timer expiry |
| 7.2.3.22 | AM RLC / Polling for status / Operation of Timer_Poll timer / Stopping Timer_Poll timer |
| 7.2.3.23 | AM RLC / Polling for status / Operation of Timer_Poll timer / Restart of the Timer_Poll timer |
| 7.2.3.24 | AM RLC / Polling for status / Operation of timer Timer_Poll_Prohibit |
| 7.2.3.25 | AM RLC / Receiver Status Triggers / Detection of missing PUs |
| 7.2.3.26 | AM RLC / Receiver Status Triggers / Operation of timer Timer_Status_Periodic |
| 7.2.3.27 | AM RLC / Receiver Status Triggers / Operation of timer Timer_Status_ Prohibit |
| 7.2.3.28 | AM RLC / Status reporting / Abnormal conditions / Reception of LIST SUFI with Length set to zero |
| 7.2.3.32 | AM RLC / SDU discard after MaxDAT number of retransmissions |
| 7.2.3.33 | AM RLC / Operation of the RLC Reset procedure / UE Originated |
| 7.2.3.34 | AM RLC / Operation of the RLC Reset procedure / UE Terminated |
| 7.2.3.35 | AM RLC / Reconfiguration of RLC parameters by upper layers |

## A.5.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (RLCv620.PDF) which accompanies the present document.

## A.5.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (RLCv620.MP) which accompanies the present document.

# A.6 MAC ATS

**Table A.6: MAC TTCN test cases**

| Test case | Description |
|---|---|
| 7.1.1.1 | CCCH mapped to RACH/FACH / Invalid TCTF |
| 7.1.1.2 | DTCH or DCCH mapped to RACH/FACH / Invalid TCTF |
| 7.1.1.3 | DTCH or DCCH mapped to RACH/FACH / Invalid C/T Field |
| 7.1.1.4 | DTCH or DCCH mapped to RACH/FACH / Invalid UE ID Type Field |
| 7.1.1.5 | DTCH or DCCH mapped to RACH/FACH / Incorrect UE ID |
| 7.1.1.8 | DTCH or DCCH mapped to DCH / Invalid C/T Field |
| 7.1.2.3.1 | Correct Selection of RACH parameters (FDD) |
| 7.1.2.4a | Access Service class selection for RACH transmission |
| 7.1.3.1 | Priority handling between data flows of one UE |
| 7.1.3.2 | TFC Selection |

## A.6.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (MACv620.PDF) which accompanies the present document.

## A.6.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (MACv620.MP) which accompanies the present document.

# A.7 BMC ATS

**Table A.7: BMC TTCN test cases**

| Test case | Description |
|---|---|
| - | - |

## A.7.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (BMC.PDF) which accompanies the present document.

## A.7.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (BMC.MP) which accompanies the present document.

# A.8 PDCP ATS

**Table A.8: PDCP TTCN test cases**

| Test case | Description |
|---|---|
| - | - |

## A.8.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (PDCP.PDF) which accompanies the present document.

## A.8.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (PDCP.MP) which accompanies the present document.

# A.9 RAB ATS

**Table A.9: RAB TTCN test cases**

| Test case | Description |
|---|---|
| 14.2.4 | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.4a | Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.5a | Conversational / speech / UL:(10.2, 6.7, 5.9, 4.75) DL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.7a | Conversational / speech / UL:(7.4, 6.7, 5.9, 4.75) DL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.9 | Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.12 | Conversational / unknown / UL:28.8 DL:28.8 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.13.1 | Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 20 ms TTI |
| 14.2.13.2 | Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 40 ms TTI |
| 14.2.14.1 | Conversational / unknown / UL:32 DL:32 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 20 ms TTI |
| 14.2.14.2 | Conversational / unknown / UL:32 DL:32 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 40 ms TTI |
| 14.2.15 | Streaming / unknown / UL:14.4/DL:14.4 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.16 | Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.17 | Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.23a1 | Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.23a.2 | Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / TC |
| 14.2.23b | Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.23c | Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.26 | Interactive or background / UL:64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.27 | Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.28 | Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.29 | Interactive or background / UL:64 DL:144 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH |
| 14.2.31.1 | Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH /10 ms TTI |
| 14.2.32.1 | Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH / 10 ms TTI |
| 14.2.32.2 | Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH / 20 ms TTI |
| 14.2.34.1 | Interactive or background / UL:384 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 10 ms TTI |
| 14.2.38a | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.38b | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.38c | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.38e | Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.38f | Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.40 | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB+ UL:3.4 DL: 3.4 kbps SRBs for DCCH |
| 14.2.41 | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.43.1 | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 10 ms TTI |
| 14.2.43.2 | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 20 ms TTI |
| 14.2.49.1 | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 20 ms TTI |

| | |
|---|---|
| 14.2.51.1 | Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 20 ms TTI + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.51a.1 | Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 20 ms TTI + Interactive or background / UL:8 DL:8 kbps / PS RAB |
| 14.2.51b.1 | Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 20 ms TTI + Interactive or background / UL:16 DL:64 kbps / PS RAB |
| 14.2.57 | Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.2.58 | Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. |
| 14.2.58a | Streaming / unknown / UL:16 DL:128 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. |
| 14.4.2.1 | One SCCPCH: Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH |
| 14.4.2.2 | Two SCCPCHs: Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH |
| 14.4.2.3 | One SCCPCH/connected mode: Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH |
| 14.4.2a.1 | One SCCPCH: Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH |
| 14.4.2a.2 | Two SCCPCHs: Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB |
| 14.4.2a.3 | One SCCPCH/connected mode: Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH |
| 14.4.3 | Interactive/Background 32 kbps RAB + SRBs for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH |
| 14.4.4 | RB for CTCH + SRB for CCCH +SRB for BCCH |

## A.9.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (RABv620.PDF) which accompanies the present document.

## A.9.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (RABv620.MP) which accompanies the present document.

# A.10 IR_U ATS

**Table A.10: InterRat TTCN test cases**

| Test case | Description |
|---|---|
| 6.2.1.1 | Selection of the correct PLMN and associated RAT |
| 6.2.1.6 | Selection of RAT for HPLMN; Automatic mode |
| 6.2.1.7 | Selection of RAT for UPLMN; Automatic mode |
| 6.2.1.8 | Selection of RAT for OPLMN; Automatic mode |
| 6.2.1.9 | Selection of "Other PLMN / access technology combinations"; Automatic mode |
| 6.2.2.1 | Cell reselection if cell becomes barred or S<0; UTRAN to GSM |
| 6.2.2.2 | Cell reselection if cell becomes barred or C1<0; GSM to; UTRAN |
| 6.2.2.3 | Cell reselection timings; GSM to UTRAN |
| 8.1.2.12 | RRC Connection Establishment: Reject with interRATInfo is set to GSM |
| 8.1.2.13 | RRC Connection Establishment: Reject with InterRATInfo is set to GSM and selection to the designated system fails |
| 8.3.7.1 | Inter system handover from UTRAN/To GSM/Speech/Success |
| 8.3.7.2 | Inter system handover from UTRAN/To GSM/Data/Same data rate/Success |
| 8.3.7.3 | Inter system handover from UTRAN/To GSM/Data/Data rate down grading/Success |
| 8.3.7.4 | Inter system handover from UTRAN/To GSM/Speech/Establishment/Success |
| 8.3.7.5 | Inter system handover from UTRAN/To GSM/Speech/Failure |
| 8.3.7.7 | Inter system handover from UTRAN/To GSM/Speech/Failure (L1 Synchronization) |
| 8.3.7.9 | Inter system handover from UTRAN/To GSM/Speech/Failure (Unsupported configuration) |
| 8.3.7.12 | Inter system handover from UTRAN/To GSM/Speech/Failure (Physical channel Failure and Reversion Failure) |
| 8.3.7.13 | Inter system handover from UTRAN/To GSM/ success / call under establishment |
| 8.3.7.16 | Inter system handover from UTRAN/To GSM/Simultaneous CS and PS domain services/Success/TBF Establishment Success |
| 8.3.7.17 | Inter system handover from UTRAN/To GSM/DTM Support/Simultaneous CS and PS domain services/Success |
| 8.3.9.1 | Cell reselection if cell becomes barred or S<0; UTRAN to GPRS (CELL_FACH) |
| 8.3.9.3 | Cell reselection fails if S<0; UTRAN to GPRS (CELL_FACH) |
| 8.3.9.5 | Cell Reselection with RAU - Qoffset value modification; UTRAN to GPRS (CELL_FACH) |
| 8.3.11.1 | Cell change order from UTRAN/To GPRS/CELL_DCH/Success |
| 8.3.11.4 | Cell change order from UTRAN/To GPRS/CELL_DCH/Failure (Physical channel & Reversion Failure) |
| 8.4.1.31 | RRC / Measurement Control and Report: Inter-RAT measurement in CELL_DCH state |
| 8.4.1.33 | Measurement Control and Report: Inter-RAT measurement, event 3a |
| 8.4.1.34 | Measurement Control and Report: Inter-RAT measurement, event 3b |
| 8.4.1.35 | Measurement Control and Report: Inter-RAT measurement, event 3c |
| 8.4.1.36 | Measurement Control and Report: Inter-RAT measurement, event 3d |
| 8.4.1.40 | Measurement Control and Report: Inter-RAT measurement event 3C in CELL_DCH state using sparse compressed mode pattern |
| 8.4.1.48 | Measurement Control and Report: Combined Inter-frequency measurement for event 2b and Inter-RAT measurement, event 3a (FDD) |
| 12.8 | GMM READY timer handling |

## A.10.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (IR_Uv620.PDF) which accompanies the present document.

## A.10.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (IR_Uv620.MP) which accompanies the present document.

# A.11 AGPS ATS

**Table A.11: AGPS TTCN test cases**

| Test case | Description |
|---|---|
| 17.2.2.1 | LCS Network Induced location request/ UE-Based GPS/ Emergency Call / with USIM |
| 17.2.2.2 | LCS Network Induced location request/ UE-Based GPS/ Emergency Call / without USIM |
| 17.2.2.3 | LCS Network induced location request/ UE-Assisted GPS/ Emergency call/ With USIM |
| 17.2.2.4 | LCS Network induced location request/ UE-Assisted GPS/ Emergency call/ Without USIM |
| 17.2.3.2 | LCS Mobile originated location request/ UE-Based GPS/ Position estimate request/ Success |
| 17.2.3.3 | LCS Mobile originated location request/ UE-Based or UE-Assisted GPS/ Assistance data request/ Success |
| 17.2.3.4 | LCS Mobile originated location request/ UE-Assisted GPS/ Position Estimate/ Success |
| 17.2.3.6 | LCS Mobile originated location request/ UE-Based GPS/ Transfer to third party/ Success |
| 17.2.3.7 | LCS Mobile originated location request/ UE-Assisted GPS/ Transfer to third party/ Success |
| 17.2.3.8 | LCS Mobile originated location request/ UE-Based or UE-Assisted GPS/ Assistance data request/ Failure |
| 17.2.3.9 | LCS Mobile originated location request/ UE-Assisted GPS/ Position Estimate/ Success |
| 17.2.4.1 | LCS Mobile terminated location request/ UE-Based GPS |
| 17.2.4.2 | LCS Mobile-terminated location request/UE-Based GPS/ Request for additional assistance data/ Success |
| 17.2.4.3 | LCS Mobile-terminated location request/UE-Based GPS/ Failure – Not Enough Satellites |
| 17.2.4.4 | LCS Mobile terminated location request/ UE-Assisted GPS/ Success |
| 17.2.4.5 | LCS Mobile terminated location request/ UE-Assisted GPS/ Request for additional assistance data/ Success |
| 17.2.4.6 | LCS Mobile terminated location request/ UE-Based GPS/ Privacy Verification/ Location Allowed if No Response |
| 17.2.4.7 | LCS Mobile terminated location request/ UE-Based GPS/ Privacy Verification/ Location Not Allowed if No Response |
| 17.2.4.8 | LCS Mobile terminated location request/ UE-Assisted GPS/ Privacy Verification/ Location Allowed if No Response |
| 17.2.4.9 | LCS Mobile terminated location request/ UE-Assisted GPS/ Privacy Verification/ Location Not Allowed if No Response |
| 17.2.4.10 | LCS Mobile terminated location request/ UE-Based or UE-Assisted GPS/ Configuration Incomplete |

## A.11.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (AGPSv620.PDF) which accompanies the present document.

## A.11.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (AGPSv620.MP) which accompanies the present document.

# A.12 HSD_ENH ATS

**Table A.12: HSDPA and Rel-5 enhancement TTCN test cases**

| Test case | Description |
|---|---|
| 6.1.2.10 | HCS inter-frequency cell reselection |
| 7.1.5.1 | MAC-hs reordering and stall avoidance |
| 7.1.5.2 | MAC-hs priority queue handling |
| 7.1.5.3 | MAC-hs PDU header handling |
| 7.1.5.4 | MAC-hs retransmissions |
| 7.1.5.5 | MAC-hs reset |
| 7.1.5.6 | MAC-hs transport block size selection |
| 8.1.2.14 | RRC Connection Establishment using the default configuration for 3.4 kbps signalling bearers |
| 8.1.2.15 | RRC Connection Establishment using the default configuration for 13.6 kbps signalling bearers |
| 8.1.6.5 | Initial Direct Transfer: Inclusion of establishment cause |
| 8.2.1.27 | RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success (two radio links, start of HS-DSCH reception) |
| 8.2.1.28 | RRC/Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success (RB mapping for both DL DCH and HS-DSCH in cell without HS-DSCH support) |
| 8.2.1.29 | Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialized hard handover to another frequency, uplink TFCS restriction and start of HS-DSCH reception) |
| 8.2.1.30 | Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialised hard handover to another frequency, start of HS-DSCH reception) |
| 8.2.1.31 | Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Success (start of HS-DSCH reception) |
| 8.2.1.32 | Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Success (start of HS-DSCH reception with frequency modification) |
| 8.2.1.36 | RRC / Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Start and stop of HS-DSCH reception) |
| 8.2.2.38 | Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (with active HS-DSCH reception) |
| 8.2.2.39 | Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialised hard handover to another frequency, start and stop of HS-DSCH reception) |
| 8.2.2.40 | Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_FACH and from CELL_FACH to CELL_DCH: Success (frequency band modification, start and stop of HS-DSCH reception) |
| 8.2.2.41 | Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Start and stop of HS-DSCH reception, during an active CS bearer) |
| 8.2.2.42 | Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialised hard handover to another frequency, start and stop of HS-DSCH reception, during an active CS bearer) |
| 8.2.3.30 | RRC / Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success (stop of HS-DSCH reception) |
| 8.2.3.31 | Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success (With active HS-DSCH reception) |
| 8.2.3.32 | Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialised hard handover to another frequency, with active HS-DSCH reception) |
| 8.2.3.33 | Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success (stop of HS-DSCH reception with frequency modification) |
| 8.2.3.34 | Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success (stop of HS-DSCH reception with frequency modification) |
| 8.2.3.35 | Radio Bearer Release for transition from CELL_DCH to CELL_PCH: Success (stop of HS-DSCH reception) |
| 8.2.4.36 | Transport Channel Reconfiguration from CELL_DCH to CELL_DCH: Success (with active HS-DSCH reception, not changing the value of TTI during UL rate modification) |
| 8.2.6.39a | Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (serving HS-DSCH cell change without MAC-hs reset) |
| 8.2.6.39b | Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (serving HS-DSCH cell change with MAC-hs reset) |
| 8.2.6.40 | Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Two radio links, change of HS-PDSCH configuration) |
| 8.2.6.41 | Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialised hard handover to another frequency, signalling only) |
| 8.2.6.42 | Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success |

| | |
|---|---|
| | (Timing re-initialized hard handover to another frequency, Serving HS-DSCH cell change) |
| 8.2.6.46 | Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency with timing re-initialised. Serving HS-DSCH cell change): Failure (Physical channel failure and reversion to old channel) |
| 8.2.6.48 | Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialized hard handover to another frequency, serving HS-DSCH cell change, compressed mode) |
| 8.2.6.49 | Physical Channel Reconfiguration from CELL_DCH to URA_PCH: Success (stop of HS-DSCH reception) |
| 8.3.1.32 | Cell Update: Transition from URA_PCH to CELL_DCH, start of HS-DSCH reception |
| 8.3.1.33 | Cell Update: Transition from CELL_PCH to CELL_DCH, start of HS-DSCH reception, frequency band modification |
| 8.3.1.34 | Cell Update: Transition from CELL_DCH to CELL_FACH, stop of HS-DSCH reception |
| 8.3.1.35 | Cell Update: Transition from CELL_DCH to CELL_DCH, with active HS-DSCH reception |
| 8.3.1.36 | Cell Update: Transition from CELL_DCH to CELL_FACH (stop of HS-DSCH reception with frequency modification) |
| 8.3.1.37 | Cell Update: Transition from CELL_DCH to CELL_DCH (with active HS-DSCH reception and frequency modification) |
| 8.3.1.38 | Cell Update: state specific handling of Treselection and Qhyst for cell reselection in CELL_FACH |
| 8.3.1.39 | Cell Update: state specific handling of Treselection and Qhyst for cell reselection in CELL_PCH |
| 8.3.1.40 | Cell update: Transition from CELL_PCH to CELL_DCH, inclusion of establishment cause |
| 8.3.4.9 | Active set update in soft handover: Radio Link removal (stop of HS-PDSCH reception) |
| 8.3.7.14 | Inter system handover from UTRAN/To GSM/Speech/Success (stop of HS-DSCH reception) |
| 8.3.11.9 | Inter-RAT Cell Change Order from UTRAN to GPRS/CELL_DCH/Success (stop of HS-DSCH reception) |
| 8.3.11.10 | Inter-RAT Cell Change Order from UTRAN to GPRS/CELL_DCH/Failure (Physical channel Failure, stop of HS-DSCH reception) |
| 8.3.11.12 | Inter-RAT cell change order from UTRAN/To GPRS/CELL_DCH/Network Assisted Cell Change/Success |
| 8.3.11.13 | Inter-RAT cell change order from UTRAN/To GPRS/CELL_DCH/Failure (T309 expiry) |
| 8.4.1.47 | Measurement Control and Report: Event triggered periodic measurement for event 1B (FDD) |
| 14.2.4b | Conversational / speech / UL:(12.2 7.4 5.9 4.75) DL:(12.2 7.4 5.9 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH + DL:0.15 kbps SRB#5 for DCCH |
| 14.6.1 | Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.6.1a | Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.6.2 | Interactive or background / UL:384 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.6.3 | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.6.3a | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL: 64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.6.4 | Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.6.4a | Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.6.5 | Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.6.5a | Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.6.6 | Streaming / unknown / UL:128 DL: [min 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.6.7 | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |

## A.12.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (HSD_ENHv620.PDF) which accompanies the present document.

## A.12.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (HSD_ENHv620.MP) which accompanies the present document.

# A.13 HSU_ENH ATS

**Table A.13: EDCH and Rel-6 enhancement TTCN test cases**

| Test case | Description |
|---|---|
| 7.1.6.1.1 | MAC-es/e multiplexing without RRC restrictions |
| 7.1.6.1.2 | MAC-es/e multiplexing with RRC restrictions |
| 7.1.6.1.3 | Correct settings of MAC-es/e header fields |
| 7.1.6.2.3 | MAC-es/e non-scheduled transmissions |
| 7.1.6.2.4 | MAC-es/e correct handling of scheduled transmissions when absolute grant varies |
| 7.1.6.2.7 | MAC-es/e correct handling of absolute grants on Primary and Secondary E-RNTI |
| 7.1.6.2.8 | MAC-es/e combined non-scheduled and scheduled transmissions |
| 7.1.6.2.9 | MAC-es/e Correct handling of HARQ profile power offsets |
| 7.1.6.2.10 | MAC-es/e Correct handling of minimum set of E-TFCI |
| 7.1.6.3.1 | MAC-es/e E-TFC priority |
| 7.1.6.4.2 | MAC-es/e maximum number of retransmissions |
| 7.1.6.4.3 | MAC-es/e Correct handling of MAC-es/e reset |
| 8.2.2.45 | Radio Bearer Reconfiguration for transition from CELL_FACH to CELL_DCH and CELL_DCH to CELL_FACH: Success (start and stop of E-DCH transmission) |
| 8.2.2.46 | Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (hard handover to another frequency, start and stop of E-DCH transmission) |
| 8.2.3.36 | Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success (frequency modification, stop of E-DCH transmission) |
| 8.1.2.16 | RRC Connection Establishment / Domain Specific Access Control: Success |
| 8.2.1.35 | Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success (start of E-DCH transmission) |
| 8.2.6.50 | Physical Channel Reconfiguration for transition from CELL_DCH to URA_PCH: Success (frequency modification, stop of E-DCH transmission) |
| 8.3.1.41 | Cell Update: Transition from URA_PCH to CELL_DCH: Success (start of E-DCH transmission) |
| 8.3.11.14 | Inter-RAT Cell Change Order from UTRAN to GPRS/CELL_DCH/Success (stop of E-DCH transmission) |
| 9.4.3.6 | Location updating /abnormal cases / CS domain is changed from barred to unbarred because of domain specific access control |
| 9.5.9 | MM connection / abnormal cases / CS domain barred because of domain specific access control |
| 12.2.1.12 | PS attach / abnormal cases / access barred due to domain specific access restriction for PS domain |
| 12.4.2.11 | Combined routing area updating / abnormal cases / access barred due to domain specific access restriction for CS domain |
| 12.4.2.12 | Combined routing area updating / abnormal cases / access barred due to domain specific access restriction for PS domain |
| 12.9.15 | Service Request / abnormal cases / access barred due to domain specific access restriction for PS domain |
| 14.7.1 | Interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH |
| 14.7.2 | Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH |
| 14.7.4 | Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH |
| 14.7.5 | Streaming or interative or background / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH |

## A.13.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (HSU_ENHv620.PDF) which accompanies the present document.

## A.13.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (HSU_ENHv620.MP) which accompanies the present document.

# Annex B (normative): Partial IXIT proforma



## B.0 Introduction

This partial IXIT proforma contained in the present document is provided for completion, when the related Abstract Test Suite is to be used against the Implementation Under Test (IUT).

Text in *italics* is comments for guidance for the production of a IXIT, and is not to be included in the actual IXIT.

The completed partial IXIT will normally be used in conjunction with the completed ICS, as it adds precision to the information provided by the ICS.

## B.1 Parameter values

### B.1.1 BasicM test suite parameter declarations

The following parameters are common to all ATSs.

**Table B.1: BasicM PIXIT**

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| px_AuthAMF | Authentication Management Field (16 bits). The value shall be different from '1111 1111 1111 1111'B (AMFresynch). | BITSTRING | See note 2 | |
| px_AuthK | Authentication Key (128 bits) | BITSTRING | '0101111001001 0101011001101 0110001001000 1001101110101 1101001010101 1101110100000 0100101110011 0011111000011 0000100110100 11000101001'B | |
| px_AuthN | Value of n to initialize tcv_Auth_n (length of extended response) min 31, max 127 (3GPP TS 34.108 [3] clause 8.1.2) | INTEGER | 127 | |
| px_AuthRAND | Random Challenge (128 bits) | BITSTRING | '01010101…01' B | |
| px_CipherAlg | Cipher algorithm. | B3 | Default value: (GEA/1) "001"B | |
| px_CipheringOnOff | Security mode - TRUE if ciphering is applicable | BOOLEAN | TRUE | |
| px_CN_DomainTested | CN domain to be tested. This parameter is used in test cases that handle both PS and CS domains. | CN_DomainIdentity | cs_domain | |
| px_DL_MaxCC_TB_bits | Maximum sum of number of bits of all convolutionally coded transport blocks being received at an arbitrary time instant. | MaxNoBits | b163840 | |

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| px_DL_MaxCCTrCH | Maximum number of Simultaneous CCTrCH for downlink | MaxSimultaneousCCTrCH_Count | 8 | |
| px_DL_MaxTB_bits | Maximum sum of number of bits of all transport blocks being received at an arbitrary time instant. | MaxNoBits | b163840 | |
| px_DL_MaxTF | Maximum number of TF for downlink | MaxNumberOfTF | tf1024 | |
| px_DL_MaxTFS | Maximum number of TFC in the TFCS for downlink | MaxNumberOfTFC_DL | tfc1024 | |
| px_DL_MaxTrCHs | Maximum number of simultaneous transport channels for downlink. | MaxSimultaneousTransChsDL | e32 | |
| px_DL_MaxTTI_TB | Maximum total number of transport blocks received within TTIs that end within the same 10 ms interval. | MaxTransportBlocksDL | tb512 | |
| px_FRESH | Value for FRESH | Fresh | See note 1 | |
| px_FDD_OperationBand | Applicable for FDD<br>The operation band under test as defined in 34.108 clause 5.1.1. | INTEGER | 1, see note 3 | px_UARFCN_D_Mid, px_UARFCN_D_Low and px_UARFCN_D_High shall take the values according to the value of px_FDD_OperationBand. |
| px_IMSI_Def | Default IMSI value | HEXSTRING | '001010123456063'H | |
| px_IP_Version | IP version under test | IP_VersionType | IPv4 | |
| px_JapanMCC | Japan MCC to be used for Band VI | HEXSTRING | '442'H | |
| px_PriScrmCode | Applicable for FDD<br>Primary scrambling code | PrimaryScramblingCode | 100 | |
| px_MaxAM_EntityNumberRLC_Cap | Maximum AM Entity Number for RLC. | MaximumAM_EntityNumberRLC_Cap | am30 | |
| px_MaxNoDPCH_BitsTransmitted | Part of UL_PhysChCapabilityFDD | MaxNoDPDCH_BitsTransmitted | b57600 | |
| px_MaxNoDPCH_PDSCH_Codes | Part of DL_PhysChCapabilityFDD. INTEGER (1..8). | INTEGER | 8 | |
| px_MaxNoPhysChBitsReceived | Part of DL_PhysChCapabilityFDD. | MaxNoPhysChBitsReceived | b76800 | |
| px_MaxRLC_WindowSize | Maximum RLC window size. | MaximumRLC_WindowSize | mws4095 | |
| px_MS_ClsmkESIND | default Early Sending Indication | B1 | '0'B | |
| px_MS_ClsmkRevLvl | default Revision Level | B2 | '10'B | |
| px_PTMSI_Def | default PTMSI | OCTETSTRING | 'C2345678'O | |
| px_PTMSI_SigDef | default PTMSI signature (3 octets, 3GPP 24.008 [9], clause 10.5.5.8). | OCTETSTRING | 'AB1234'O | |
| px_RAT | Applicable for FDD<br>This parameter is used to specify which radio access technology is being used for the current test execution. Valid values: fdd and tdd | RatType | fdd | |
| px_RRC_CS_ServTested | CS service to be tested for RRC test cases. | RRC_ServTested | Speech | |
| px_RRC_PS_ServTested | PS service to be tested for RRC test cases. | RRC_ServTested | Speech | |

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| px_SRNC_Id | SRNC Id | SRNC_Identity | '0000 0000 0001'B | |
| px_SRNTI | S RNTI | S_RNTI | '0000 0000 0000 0000 0001'B | |
| px_TCellA | TCell value for cell A. Except for the first created cell, the value 0 applied in ts_SS_CellCfg. | Tcell | 256 | |
| px_TCellB | TCell value for cell B. Except for the first created cell, the value 0 applied in ts_SS_CellCfg. | Tcell | 512 | |
| px_TCellC | TCell value for cell C. Except the first created cell, the value 0 applied in ts_SS_CellCfg. | Tcell | 1536 | |
| px_TCellD | TCell value for cell D. Except the first created cell, the value 0 applied in ts_SS_CellCfg. | Tcell | 321 | |
| px_TCellE | TCell value for cell E. Except the first created cell, the value 0 applied in ts_SS_CellCfg. | Tcell | 833 | |
| px_TCellF | TCell value for cell F. Except the first created cell, the value 0 applied in ts_SS_CellCfg. | Tcell | 6577 | |
| px_TCellG | TCell value for cell G. Except the first created cell, the value 0 applied in ts_SS_CellCfg. | Tcell | 7253 | |
| px_TCellH | TCell value for cell H. Except the first created cell, the value 0 applied in ts_SS_CellCfg. | Tcell | 4351 | |
| px_TimerDequeuePCO | Additional time for dequeueing PCO | INTEGER | 5000 (ms) | |
| px_TMSI_Def | Default TMSI | OCTETSTRING | '12345678'O | |
| px_TotalRLC_AM_BufferSize | Total RLC AM buffer size. | TotalRLC_AM_BufferSize | NA | |
| px_UARFCN_D_Mid | Applicable for FDD<br>Mid Range downlink UARFCN value | INTEGER | 10700 | |
| px_UARFCN_D_Low | Applicable for FDD<br>Low Range downlink UARFCN value | INTEGER | 10563 | |
| px_UARFCN_D_High | Applicable for FDD<br>High Range downlink UARFCN value | INTEGER | 10837 | |
| px_UE_OpModeDef | Default UE operation mode (either opModeA or opModeC). (For most UEs this corresponds class-A or class-C, and can not be changed by the user) | UE_OperationMode | opModeA | |
| px_UE_PositioningNetworkAssistedGPS_Sup | UE positioning capability: supports the network assisted GPS | NetworkAssistedGPS_Supported | networkBased | |
| px_UE_PowerClass | UE_PowerClass value. | UE_PowerClass | 1 | |
| px_UL_MaxCC_TB_bits | Maximum sum of number of bits of all convolutionally coded transport blocks being transmitted at an arbitrary time instant. | MaxNoBits | b163840 | |
| px_UL_MaxTB_bits | Maximum sum of number of bits of all transport blocks being transmitted at an arbitrary time instant. | MaxNoBits | b163840 | |
| px_UL_MaxTF | Maximum number of TF for uplink. | MaxNumberOfTF | tf1024 | |
| px_UL_MaxTFS | Maximum number of TFC in the TFCS for uplink. | MaxNumberOfTFC_DL | tfc1024 | |
| px_UL_MaxTrCHs | Maximum number of simultaneous transport channels for uplink. | MaxSimultaneousTransChsUL | e32 | |
| px_UL_MaxTTI_TB | Maximum total number of transport blocks transmitted within TTIs that start at the same time. | MaxTransportBlocksUL | tb512 | |

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| px_UL_ScramblingCode | Applicable for FDD<br>UL scrambling code value to be used by UE. | UL_ScramblingCode | 0 | |
| NOTE 1: No default value can be proposed (Manufacturer defined value).<br>NOTE 2: No default value can be proposed, because not enough information is available in 3GPP TS 34.109 [4] clause 8.1.2.<br>NOTE 3: This value shall be set in synchronisation with the values that are being set for the 3 other pixits viz: px_UARFCN_D_High, px_UARFCN_D_Mid, px_UARFCN_D_Low | | | | |

## B.1.2 L3M test suite parameters declarations

The following parameters are commonly used in the RRC and NAS ATSs.

**Table B.2: L3M PIXIT**

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| px_3G324M_MmediaEnable | For a Multimedia UE:<br>set to TRUE if a multimedia call is enabled;<br>set to FALSE if a speech call is enabled. | BOOLEAN | TRUE | |
| px_BcapDataCompression | Data compression supported (used in the Bearer Capability) | B1 | '0'B | |
| px_BcapFNUR | Fixed Network User rate supported: '00001'B: FNUR 9.6 kbit/s '00010'B: FNUR 14.4 kbit/s '00011'B: FNUR 19.2 kbit/s '00100'B: FNUR 28.8 kbit/s '00101'B: FNUR 38.4 kbit/s '00110'B: FNUR 48.0 kbit/s '00111'B: FNUR 56.0 kbit/s '01000'B: FNUR 64.0 kbit/s '01001'B: FNUR 33.6 kbit/s '01010'B: FNUR 32.0 kbit/s | B5 | '00001'B | |
| px_BcapITC | Information transfer capability supported (used for the generation of the Bearer Capability)<br>0 - UDI<br>1 - RDI<br>2 - 31 kHz Audio<br>3 - Other | ItcInt | 2 | |
| px_BcapModemType | Modem type supported (used in the Bearer Capability) | B5 | '00110'B | |
| px_BcapNumberDataBits | Number of data bits supported (used in the Bearer Capability) | B1 | '1'B | |
| px_BcapNumberStopBits | Number of Stops bits supported (used in the Bearer Capability) | B1 | '1'B | |
| px_BcapOtherModemType | Other modem type supported (used in the Bearer Capability) | B2 | '10'B | |
| px_BcapParity | Parity supported (used in the Bearer Capability) | B3 | '011'B | |
| px_BcapSACP | Signalling access protocol supported (used in the Bearer Capability) | B3 | '001'B | |
| px_BcapSyncAsync | Synchronous '0'B or Asynchronous '1'B mode supported by IUT | B1 | '1'B | |
| px_BcapUeFlowControl | UE flow control.<br>0-outband,<br>1-inband,<br>2-no flow control.<br>3- X.25<br>4- X.75<br>Default: 0, outband flow control | FlowControl | 0 | |
| px_CC_CallDiallingDigits | Dialling digits used to initiate a CC MO call (used with the AT dial D command). | IA5String | "0123456902" | |
| px_CC_Serv | Service selected for Mobile Originated | Services | "31kHz" | |

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| px_3G324M_MmediaEnable | For a Multimedia UE:<br>set to TRUE if a multimedia call is enabled;<br>set to FALSE if a speech call is enabled. | BOOLEAN | TRUE | |
| | calls and Mobile Terminated calls. The possible values are ("Telephony", "EmergencyCall", "31kHz", "V110", "V120", "PIAFS", "FTM", "X31", "BTM", "MmediaCall") | | | |
| px_DeltaSS_DelayTime | Tdelta value (refer to 34.108 clause 4.2.3) in ms. | INTEGER | 55ms | |
| px_EmergencyCallNumber | Emergency Number used by UE to initiate an emergency call | EmergencyNumber | "112" | |
| px_IMEI_Def | Default IMEI value | HEXSTRING | See note 1 | |
| px_IMEISV_Def | Default IMEISV value | HEXSTRING | See note 1 | |
| px_IMSI_Diff | Different IMSI from the IMSI stored in the USIM | HEXSTRING | '001010654321063'H | |
| px_SupportOpModeC | TRUE if UE supports operation mode C, i.e. UE offers PS services only (see 3GPP 23.060 clause 4.1 and 3GPP 24.008) | BOOLEAN | TRUE | |
| px_NwOrgPDP_Support | This indicates if the UE implementation supports network originated PDP Context.<br>TRUE indicates, supported<br>FALSE indicate, not supported | BOOLEAN | FALSE | |
| px_PDP_IP_AddrInfoDCH | A string parameter that identifies the MT in the address space applicable to the PDP for DCH. | IA5String | "200.1.1.80" | |
| px_PDP_IP_AddrInfoFACH | A string parameter that identifies the MT in the address space applicable to the PDP for FACH. | IA5String | "200.1.1.90" | |
| px_PTMSI_2 | Second PTMSI used for testing. | OCTETSTRING | 'C9876543'O | |
| px_PTMSI_Sig2 | Second PTMSI signature used for testing. | OCTETSTRING | 'AB1234'O | |
| px_TMSI_2 | Second TMSI value for testing | OCTETSTRING | '09876543'O | |
| px_SMS_IndexOffset | SMS index offset for the numbering of short messages, value range: (0,1) | INTEGER | 0 | |
| NOTE 1: No default value can be proposed (Manufacturer defined value). | | | | |

## B.1.3 NAS test suite parameters declarations

The following parameters are commonly used in the NAS ATS.

**Table B.3: NAS PIXIT**

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| px_AuthRAND_2 | A second Random Challenge (128 bits) | BITSTRING | '1010101…10'B | |
| px_AutocallingBlacklistNumber | Number of B-party numbers that can be stored in the list of blacklisted numbers | INTEGER | 20 | |
| px_AutocallingCause1or2 | Cause value of category 1 or 2 to be used in TC_17_1_3 | INTEGER | 18 | |
| px_AutocallingNumber | Called number to be used for auto calling | IA5String | "0613454120" | |
| px_AutocallingRepeatCat1or2 | Number of repeat attempt done for the category 1 or 2 to be used in TC_17_1_3 | INTEGER | 10 | |
| px_CC_ServNotSupp | Not supported service selected for Mobile Originated calls and Mobile | Services | "BTM" | |

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| | Terminated calls. The possible values are ("Telephony", "EmergencyCall", "31kHz", "V110", "V120", "PIAFS", "FTM", "X31", "BTM", "MmediaCall") | | | |
| px_DTMF_BasicCharSet | TRUE if DMTF Chars 0-9, *, # supported | BOOLEAN | TRUE | |
| px_DTMF_OtherCharSet | TRUE if DMTF Chars A, B, C, D supported | BOOLEAN | TRUE | |
| px_DTMF_ToneInd | TRUE if UE support DTMF tone indication | BOOLEAN | TRUE | |
| px_PTMSI_Sig3 | Second PTMSI signature used for testing | OCTETSTRING | 'AB1239'O | |
| px_UuInfo | User-user information for TC 10_3 | OCTETSTRING | '01020304'O | |
| px_Uupd | User-user protocol discriminator for TC 10_3 | B8 | '00000100'B | |
| px_VTS_AT_CommandSupp | TRUE if the AT command +VTS is supported | BOOLEAN | TRUE | |

## B.1.4 SMS test suite parameters declarations

These parameters are used in the SMS ATS.

**Table B.4: SMS PIXIT**

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| px_BMC_CB_RepPeriod01 | CB repetition period for CB message 1 | INTEGER | 2 | |
| px_BMC_CB_RepPeriod02 | CB repetition period for CB message 2 | INTEGER | 2 | |
| px_BMC_NoOfBC_Req01 | No of broadcasts requested for CB message 1 | INTEGER | 2 | |
| px_BMC_NoOfBC_Req02 | No of broadcasts requested for CB message 2 | INTEGER | 2 | |
| px_MaxCP_DataRetx | max. number of CP data retransmissions for SMS | INTEGER | 3 | |
| px_SMS_CB_Data01 | Contents of the first Cell Broadcast Message sent will be converted to an OCTETSTRING | IA5String | "First Cell Broadcast Message" | |
| px_SMS_CB_Data02 | Contents of the second Cell Broadcast Message sent will be converted to an OCTETSTRING | IA5String | "Second Cell Broadcast Message" | |
| px_SMS_CB_MsgId01 | Message Id to be used for the first Cell Broadcast Message sent | B16 | '0000000000000001'B | |
| px_SMS_CB_MsgId02 | Message Id to be used for the second Cell Broadcast Message sent | B16 | '0000000000000010'B | |
| px_SMS_CB_Store | TRUE if Broadcast Messages are kept in BM storage | BOOLEAN | TRUE | |
| px_SMS_MsgFrmt | SMS Message Format <mode> of TS 27.005 cl. 3.2.3 | IA5String | "0" | |
| px_SMS_PrefMem1 | SMS Preferred Memory 1 <mem1> of TS 27.005 cl. 3.1 | IA5String | "SM" | |
| px_SMS_PrefMem2 | SMS Preferred Memory 2 <mem2> of TS 27.005 cl. 3.1 | IA5String | "SM" | |
| px_SMS_PrefMem3 | SMS Preferred Memory 3 <mem3> of TS 27.005 cl. 3.1 | IA5String | "MT" | |
| px_SMS_Service | SMS Service <service> of TS 27.005 cl. 3.2.1 | IA5String | "0" | |
| px_TC1M | Value for timer TC1M, to be declared by the manufacturer | INTEGER | 10000 | |

## B.1.5 RRC_M test suite parameters declarations

These parameters are used in the RRC and RAB ATS.

**Table B.5: RRC and RAB PIXIT**

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| px_DL_MaxTC_TB_bits | Maximum sum of number of bits of all turbo coded transport blocks being received at an arbitrary time instant. | MaxNoBits | b163840 | |
| px_MaxHcContextSpace | MaxHcContextSpace if RFC 2507 [30] is supported. | MaxHcContextSpace | by512 | |
| px_MaxNoSCCPCH_RL | Part of SimultaneousSCCPCH_DPCH_Reception. | MaxNoSCCPCH_RL | rl1 | |
| px_PrimaryBand | The primary operation band under test, as defined in 34.108 clause 5.1.1.<br>Value 1 means Band 1, 2 means Band 2, 3 means Band 3, 6 means Band 6. | INTEGER | 1 | This pixit shall be set in synchronisation with the values that are being set to other Pixit: px_UARFCN_D_Mid |
| px_SecondaryBand | The secondary operation band under test, as defined in 34.108 clause 5.1.1.<br>Value 1 means Band 1, 2 means Band 2, 3 means Band 3, 6 means Band 6. | INTEGER | 8 | |
| px_UL_MaxTC_TB_bits | Maximum sum of number of bits of all turbo coded transport blocks being transmitted at an arbitrary time instant. | MaxNoBits | b163840 | |

## B.1.6 PDCP test suite parameters declarations

These parameters are used in the PDCP ATS.

**Table B.6: PDCP PIXIT**

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| px_PDCP_TcpIpCompressedTcpNonDeltaPacket01 | IP header compressed packet type (PID=3) of px_PDCP_TcpIpUncompressedPacket01 | IP_Packet | 0000 0000 0000 0a00 0000 0050 1000 0026 3400 006a 6e6e 206a 6e6e 206a 6e6e | |
| px_PDCP_TcpIpCompressedTcpNonDeltaPacket02 | IP header compressed packet type (PID=3) of px_PDCP_TcpIpUncompressedPacket02 | IP_Packet | "Test_PDCP_TCPIP_Packet2_PID_Type3" | |
| px_PDCP_TcpIpCompressedTcpPacket01 | IP header compressed packet type (PID=2) of px_PDCP_TcpIpUncompressedPacket01 | IP_Packet | 0028 2634 0a00 0000 6a6e 6e20 6a6e 6e | |
| px_PDCP_TcpIpCompressedTcpPacket02 | IP header compressed packet type (PID=2) of px_PDCP_TcpIpUncompressedPacket02 | IP_Packet | "Test_PDCP_TCPIP_Packet2_PID_Type2" | |

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| px_PDCP_TcpIpFullHeaderPacket01 | IP header compressed packet type (PID=1) of px_PDCP_TcpIpUncompressedPacket01 | IP_Packet | c500 0000 0000 0000 4006 7ac6 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 5010 0000 263e 0000 6a6e 6e20 6a6e 6e | |
| px_PDCP_TcpIpFullHeaderPacket02 | IP header compressed packet type (PID=1) of px_PDCP_TcpIpUncompressedPacket02 | IP_Packet | "Test_PDCP_TCPIP_Packet2_PID_Type1" | |
| px_PDCP_TcpIpUncompressedPacket01 | uncompressed TCP/IP Packet01 | IP_Packet | 4500 0033 0000 0000 4006 7ac6 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 5010 0000 263e 0000 6a6e 6e20 6a6e 6e | |
| px_PDCP_TcpIpUncompressedPacket02 | uncompressed TCP/IP Packet02 | IP_Packet | "Test_PDCP_TCPIP_Packet2" | |
| px_PDCP_UdpIpCompressedTcpNonTcpPacket01 | IP header compressed packet type (PID=4) of px_PDCP_UdpIpUncompressedPacket01 | IP_Packet | 0001 0000 763c 6a6e 6e20 6a6e 6e20 6a6e 6e | |
| px_PDCP_UdpIpCompressedTcpNonTcpPacket02 | IP header compressed packet type (PID=4) of px_PDCP_UdpIpUncompressedPacket02 | IP_Packet | "Test_PDCP_UDPIP_Packet2_PID_Type4" | |
| px_PDCP_UdpIpFullHeaderPacket01 | IP header compressed packet type (PID=1) of px_PDCP_UdpIpUncompressedPacket01 | IP_Packet | 8500 0100 0000 0000 4011 7ac7 0000 0000 0000 0000 0000 0000 0013 763c 6a6e 6e20 6a6e 6e20 6a6e 6e | |
| px_PDCP_UdpIpFullHeaderPacket02 | IP header compressed packet type (PID=1) of px_PDCP_UdpIpUncompressedPacket02 | IP_Packet | "Test_PDCP_UDPIP_Packet2_PID_Type1" | |
| px_PDCP_UdpIpUncompressedPacket01 | uncompressed UDP/IP Packet01 | IP_Packet | 4500 0027 0000 0000 4011 7ac7 0000 0000 0000 0000 0000 0000 0013 763c 6a6e 6e20 6a6e 6e20 6a6e 6e | |
| px_PDCP_UdpIpUncompressedPacket02 | uncompressed UDP/IP Packet02 | IP_Packet | "Test_PDCP_UDPIP_Packet2" | |

## B.1.7 BMC test suite parameters declarations

These parameters are used in the BMC ATS.

**Table B.7: BMC PIXIT**

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| px_CB_Data1 | Data to be sent for each PDCP test, except TC 7.4.1.4, 7.4.1.5 and 7.4.1.6 | IA5String [1..1246] | "CB Data1" | |
| px_CB_Data2 | Data to be sent in TC 7.4.2.1 | IA5String [1..1246] | "CB Data2" | |
| px_SMS_CB_MsgId01 | Data to be sent for each PDCP test, except TC 7.4.1.4, 7.4.1.5 and 7.4.1.6 | HEXSTRING[4] | '0000'H | |
| px_SMS_CB_MsgId02 | Data to be sent in TC 7.4.2.1 | HEXSTRING[4] | '0000'H | |
| px_gS01 | Data to be sent for each PDCP test, except TC 7.4.1.4, 7.4.1.5 and 7.4.1.6 | BITSTRING[2] | "Test_gS1" | |
| px_ggS02 | Data to be sent in TC 7.4.2.1 | BITSTRING[2] | "Test_gS2" | |
| px_MsgCode01 | Data to be sent for each PDCP test, except TC 7.4.1.4, 7.4.1.5 and 7.4.1.6 | BITSTRING[10] | "Test_msgCode01" | |
| px_MsgCode02 | Data to be sent in TC 7.4.2.1 | BITSTRING[10] | "Test_msgCode02" | |
| px_UpdateNumber01 | Data to be sent for each PDCP test, except TC 7.4.1.4, 7.4.1.5 and 7.4.1.6 | BITSTRING[4] | "Test_ updateNumber01" | |
| px_UpdateNumber02 | Data to be sent in TC 7.4.2.1 | BITSTRING[4] | "Test_ updateNumber02" | |

## B.1.8 RRC test suite parameters declarations

These parameters are used in the RRC ATS.

**Table B.8: RRC PIXIT**

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| - | - | - | - | - |

## B.1.9 RAB test suite parameters declarations

These parameters are used in the RAB ATS.

**Table B.9: RAB PIXIT**

| Parameter Name | Description | Type | Default Value | Supported Value |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| px_CB_Data1 | the operator shall define CBS data as IA5String together with the CB message ID used for transmitting this CB data, which is indicated by the UE after reception in a clear way according to the capabilities stored on the SIM. Furthermore, the operator shall describe the indication on the UE side (e.g. certain CBS traffic information) | IA5String_BMC | | the CB data range is 1..1246 Octets which refers to a IA5String of 1..1246 |
| px_DSCH_RNTI | DSCH RNTI | DSCH_RNTI | '0000 0000 0000 0010'B | |
| px_SMS_CB_MsgId01 | the operator shall define the CB Message ID for the CB data1 used for transmitting this CB data, different to CB-Data 2 IXIT | MsgIdType | '000'H | |
| px_gS01 | used in the Serial No. of the CB_Data01 given as PIXIT, which differentiates between CBS messages from the same source and type | B2 | '00'B | |
| px_MsgCode01 | used in the Serial No. of the CB_Data01 given as PIXIT, which is the Geographical Scope indicates the area over which the msg code is unique | MsgCodeType | '0000000000'B | |
| px_UpdateNumber01 | used in the Serial No. of the CB_Data01 given as PIXIT, which indicates a change of the message content of the same CBS message | B4 | '0000'B | |
| px_PowerDSCH | transmission power level of DSCH | DL_TxPower | | |

## B.1.10 RLC and MAC test suite parameters declarations

These parameters are used in the MAC ATS.

**Table B.10: RLC & MAC PIXIT**

| Parameter Name | Description | Type | Default Value | Supported Value |
|---|---|---|---|---|
| px_NumOfSegInPagResOrServReq | This Pixit is used in MAC test cases 7.1.1.2, 7.1.1.3, 7.1.1.4, 7.1.1.5 and 7.1.1.8 This indicates the number of RLC segments the Paging Response (CS Domain) or Service Request (PS domain) will be segmented in. | INTEGER | 2 | |
| px_RLC_SDU_buffering | Is used in RLC TC 7.2.3.13, indicating the way to handle RLC SDU data for UL transmission when the transmission window is full | BOOLEAN(TRUE for buffering, FALSE for discard) | | |

## B.1.11 Multi RAT test suite parameters declarations

These parameters are used in the MultiRAT ATS.

**Table B.11: MultiRAT PIXIT**

| Parameter name | Description | Type | Default value | Supported value |
|---|---|---|---|---|
| px_GPRS_CipherAlg | GPRS Cipher algorithm | B3 | (GEA/1) '001'B | |
| px_GSM_BandUnder Test | indicates which band is under test | INTEGER | | 1 -> GSM450;<br>2 -> GSM480;<br>3 -> GSM750;<br>4 -> GSM850;<br>5 -> GSM-P-900;<br>6-> GSM-E-900;<br>7-> DCS1800;<br>8 -> PCS1900;<br>9 -> 450 & 900 MultiBand test;<br>10 -> 450 & 1800 MultiBand test;<br>11 -> 480 & 900 MultiBand test;<br>12 -> 480 & 1800 MultiBand test;<br>13 -> 900 & 1800 MultiBand test;<br>14-> GSM710;<br>15->T-GSM810; |
| px_GSM_CipheringO nOff | GSM Ciphering to be started or not | B1 | 1 | |
| px_GSM_CipherAlg | GSM Cipher algorithm | B3 | (A5/1) '000'B | |
| px_CipherKey | Cipher key (64 bits) | B64 | '01011110010010101 011001101011000100 100010011011101011 10100101010'B | |
| px_MS_TXPWR_MAX _CCH | MS_TXPWR_MAX_C CH | B5 | '01010'B | |
| px_RXLEV_ACCESS _MIN | minimum received signal level at MS | B6 | '000000'B | |
| px_SplitOnCCCH | split paging cycle on CCCH supported indication | B1 | '0'B not supported | |
| px_TSC | Training sequence code for traffic channels | B3 | '011'B | |
| px_PowerLevel | power level value for L1 header | B5 | | |
| px_TimingAdvance | Timing advance value for L1 header | B1 | '0000000'B | |

## B.1.12 MMI questions

Table B.12 requests additional information needed for the execution of the MMI commands used in the ATSs, the column 'ATS' indicates in which ATS the question is used.

**Table B.12: MMI questions**

| Required information for MMI question | ATS |
|---|---|
| Please switch the PLMN selection mode of the UE to automatic selection | RRC, SMS, NAS, RAB, HSD_ENH, IR_U, AGPS, HSU_ENH |
| Please switch the PLMN selection mode of the UE to manual selection | RRC, SMS, NAS, RAB, HSD_ENH, IR_U, AGPS, HSU_ENH |
| Please select the following PLMN manually: MCC = <p_MCC>, MNC = <p_MNC> | RRC, SMS, NAS, RAB HSD_ENH, IR_U, AGPS, HSU_ENH |
| Please power off the UE | All ATSs |
| Please power on the UE | All ATSs |
| Please switch off the UE | All ATSs |
| Please switch on the UE | All ATSs |
| Please insert the USIM card into the UE | All ATSs |
| Please remove the USIM card into the UE | All ATSs |
| Please check that the DTCH is through connected by generating a noise | RRC, SMS, NAS, RAB, HSD_ENH, IR_U, AGPS, HSU_ENH |
| Configure UE for an MO Telephony call | RRC, SMS, NAS, RAB, HSD_ENH, IR_U, AGPS, HSU_ENH |
| Configure UE for an Emergency call | RRC, SMS, NAS, RAB, HSD_ENH, IR_U, AGPS, HSU_ENH |
| Configure UE for an MT telephony call | RRC, SMS, NAS, RAB, HSD_ENH, IR_U, AGPS, HSU_ENH |
| Please set UE in operation mode C (PS services only) | RRC, SMS, NAS, RAB, HSD_ENH, IR_U, AGPS, HSU_ENH |
| Please set UE in operation mode A (to support simultaneous CS and PS services) | RRC, SMS, NAS, RAB, HSD_ENH, IR_U, AGPS, HSU_ENH |
| Please configure UE to use the following emergency number <p_EmergencyNumber> | RRC, SMS, NAS, RAB, HSD_ENH, IR_U, A-GPS |
| Please initiate a non call related supplementary service which is supported by the UE | NAS |
| Please insert Test USIM programmed with Access Class: <p_AccessClass> | NAS |
| Please insert 2nd SIM card with short IMSI | NAS, SMS, AGPS |
| Please initiate an autocalling call with the number: <p_AutocallingNumber> | NAS |
| Please initiate an autocalling call with a number that will be put in the blacklisted list. The following number shall not be used: <p_AutocallingNumber> | NAS |
| Please reset the autocalling list of blacklisted numbers | NAS |
| Please initiate a DTMF tone with the character <p_Character> and the tone duration <p_ToneDuration> | NAS |
| Please enable call refusal on the UE | NAS |
| Please check that the DTMF tone indication has been generated | NAS |
| Please insert another USIM card as required for test case tc_9_4_5_4_6. The PLMN selector on the USIM card shall contain entries for PLMNs MCC='022'H , MNC='01F'H resp. MCC='022'H , MNC='03F'H. The latter PLMN shall be ranked better than the first one | NAS |
| Please trigger UE to initiate a Detach procedure for non-PS services only | NAS |
| Please check that the mobile indicates the reception of a message with message id: <p_MessageId > and message code: <p_MessageCode> | SMS |
| Please check the length of the received Short Message: <p_LengthMessage> and the | SMS |

| | |
|---|---|
| contents of the received Short Message: <p_Message> | |
| Please send an SMS COMMAND message containing a request to delete the previously submitted Short Message | SMS |
| Please send an SMS COMMAND message containing an enquiry about the previously submitted Short Message | SMS |
| Please check that NO recalled Short Message is displayed | SMS |
| Please check that the reception of a received Short Message is indicated | SMS |
| Please check that the Mobile does not indicate the reception of a new message with message id: <p_MessageId> and message code: <p_MessageCode> | SMS |
| Please check that NO reception of a received Short Message of type 0 is indicated | SMS |
| Please insert the USIM card of type B into the UE | MAC |
| Please insert the USIM card, with information given in <p_TestCase> | RRC, NAS, IR_U, HSU_ENH |
| Please check that the UE display the registered PLMN as PLMN <p_PLMN> | RRC, HSU_ENH |
| Please insert the USIM card, with Type A EFACC | RRC |
| Please insert the USIM card, with Type B EFACC | RRC |
| Please trigger UE to send three SNDCP PDUs of 500 bytes each on SAPI 11 | IR_G |
| Please trigger PDP Context Activation Type 2 in UE | IR_G |
| Please trigger MO-LR for position estimate | AGPS |
| Please trigger MO-LR for assistance data | AGPS |
| Please trigger MO-LR for transfer to 3rd party | AGPS |
| Please check that the UE displays the correct information about the LCS client | AGPS |
| Please accept the location request within 20 s | AGPS |
| Please deny the location request within 20 s | AGPS |
| Please do not reply to the location request | AGPS |
| Please check that the UE notifies the user of the location request | AGPS |
| If the UE does not support the RESET command defined in 34.109, please ensure that the UE has no assistance data stored before running this test case | AGPS |
| Please trigger UE to send 10 kbytes of data on SAPI 3 | IR_G |
| Please trigger UE to send 1 kbyte of data on SAPI 3 | IR_G |
| Please check that the UE display the PLMN list: <p_PLMN_List> | HSU_ENH |

## B.1.13 A-GPS test suite parameters declarations

These parameters are used in the A-GPS ATS.

**Table B.13: A-GPS PIXIT**

| Parameter Name | Description | Type | Default Value | Supported Value |
|---|---|---|---|---|
| px_GpsScenario | Pre-defined GPS scenario to be loaded by the upper tester in the Satellite Simulator. See 34.108, 10.7. Minimum value:0, Maximum value: 31 | GpsScenarioType | 0 | |
| px_GeoInfo | Geographical information to be sent as Location Estimate in FACILITY message from the System Simulator. | Ext_GeographicalInformation | 9032B9D66360B600323C3C006544 | |
| px_LcsClientName | LCS Client name | IA5String | OPERATOR | |
| px_LcsClientAddressTOA | LCS Client external address TOA | B4 | "1001"B | |
| px_LcsClientAddressNPI | LCS Client external address NPI | B4 | "0001"B | |
| px_LcsClientAddressDigits | LCS Client external address Digits | IA5String | 0123456 | |

## B.1.14 HSD_ENH test suite parameters declarations

These parameters are used in the HSD_ENH ATS.

**Table B.14: HSD_ENH PIXIT**

| Parameter Name | Description | Type | Default Value | Supported Value |
|---|---|---|---|---|
| px_GERANIu_RadioAccessCapability | MS GERAN Iu mode Radio Access Capability | BITSTRING | | |
| px_RAB_HS_Exec64_384Supp | Set to TRUE if 384kbps is supported and if tests on 64kbps shall be executed | BOOLEAN | TRUE | |

# Annex C (informative): Additional information to IXIT



Additional information may be provided when completing the IXIT questions listed in annex A.

## C.1 Identification Summary

Table C.1 is completed by the test laboratory. The item "Contract References" is optional.

**Table C.1: Identification Summary**

| | |
|---|---|
| **IXIT Reference Number** | |
| **Test Laboratory Name** | |
| **Date of Issue** | |
| **Issued to (name of client)** | |
| **Contract References** | |

## C.2 Abstract Test Suite Summary

In table C.2 the test laboratory provides the version number of the protocol specification and the version number of ATS which are used in the conformance testing.

**Table C.2: ATS Summary**

| | |
|---|---|
| **Protocol Specification** | 3GPP TS 25.331 |
| **Version of Protocol Specification** | |
| **Test Specification in prose** | 3GPP TS 34.123-1 |
| **Version of TSS & TP Specification** | |
| **ATS Specification** | 3GPP TS 34.123-3 |
| **Version of ATS Specification** | |
| **Abstract Test Method** | Distributed Test Method |

## C.3 Test Laboratory

### C.3.1 Test Laboratory Identification

The test laboratory provides the following information.

**Table C.3: Test Laboratory Identification**

| | |
|---|---|
| **Name of Test Laboratory** | |
| **Postal Address** | |
| **Office address** | |
| **e-mail address** | |
| **Telephone Number** | |
| **FAX Number** | |

## C.3.2 Accreditation status of the test service

The test laboratory provides the following information.

**Table C.4: Accreditation status of the test service**

| | |
|---|---|
| **Accreditation status** | |
| **Accreditation Reference** | |

## C.3.3 Manager of Test Laboratory

The test laboratory provides the information about the manager of test laboratory in table C.5.

**Table C.5: Manager of Test Laboratory**

| | |
|---|---|
| **Name of Manager of Test Laboratory** | |
| **e-mail address** | |
| **Telephone Number** | |
| **FAX Number** | |
| **E-mail Address** | |

## C.3.4 Contact person of Test Laboratory

The test laboratory provides the information about the contact person of test laboratory in table C.6.

**Table C.6: Contact person of Test Laboratory**

| | |
|---|---|
| **Name of Contact of Test Laboratory** | |
| **e-mail address** | |
| **Telephone Number** | |
| **FAX Number** | |
| **E-mail Address** | |

## C.3.5 Means of Testing

In table C.7, the test laboratory provides a statement of conformance of the Means Of Testing (MOT) to the reference standardized ATS, and identifies all restrictions for the test execution required by the MOT beyond those stated in the reference standardized ATS.

**Table C.7: Means of Testing**

| Means of Testing |
|---|
| |

## C.3.6 Instructions for Completion

In table C.8, the test laboratory provides any specific instructions necessary for completion and return of the proforma from the client.

**Table C.8: Instruction for Completion**

| Instructions for Completion |
|---|
| |

# C.4 Client

## C.4.1 Client Identification

The client provides the identification in table C.9.

**Table C.9: Client Identification**

| | |
|---|---|
| **Name of Client** | |
| **Postal Address** | |
| **Office Address** | |
| **Telephone Number** | |
| **FAX Number** | |

## C.4.2 Client Test Manager

In table C.10 the client provides information about the test manager.

**Table C.10: Client Test Manager**

| | |
|---|---|
| **Name of Client Test Manager** | |
| **Telephone Number** | |
| **FAX Number** | |
| **E-mail Address** | |

## C.4.3 Client Contact person

In table C.11 the client provides information about the test contact person.

**Table C.11: Client Contact person**

| | |
|---|---|
| **Name of Client contact person** | |
| **Telephone Number** | |
| **FAX Number** | |
| **E-mail Address** | |

## C.4.4 Test Facilities Required

In table C.12, the client records the particular facilities required for testing, if a range of facilities is provided by the test laboratory.

**Table C.12: Test Facilities Required**

| Test Facilities Required |
|---|
| |

# C.5 System Under Test

## C.5.1 SUT Information

The client provides information about the SUT in table C.13.

**Table C.13: SUT Information**

| | |
|---|---|
| **System Name** | |
| **System Version** | |
| **SCS Reference** | |
| **Machine Configuration** | |
| **Operating System Identification** | |
| **IUT Identification** | |
| **ICS Reference for the IUT** | |

## C.5.2 Limitations of the SUT

In table C.14, the client provides information explaining if any of the abstract tests cannot be executed.

**Table C.14: Limitation of the SUT**

| Limitations of the SUT |
|---|
| |

## C.5.3 Environmental Conditions

In table C.15 the client provides information about any tighter environmental conditions for the correct operation of the SUT.

**Table C.15: Environmental Conditions**

| Environmental Conditions |
|---|
| |

# C.6 Ancillary Protocols

This clause is completed by the client in conjunction with the test laboratory.

In the following tables, the client identifies relevant information concerning each ancillary protocol in the SUT other than the IUT itself. One table for one ancillary protocol.

Based on the MOT the test laboratory should create question proforma for each ancillary protocol in the blank space following each table. The information required is dependent on the MOT and the SUT, and covers all the addressing, parameter values, timer values and facilities (relevant to ENs) as defined by the ICS for the ancillary protocol.

## C.6.1 Ancillary Protocols 1

**Table C.16: Ancillary Protocol 1**

| | |
|---|---|
| **Protocol Name** | |
| **Version number** | |
| **ICS Reference (optional)** | |
| **IXIT Reference (optional)** | |
| **PCTR Reference (optional)** | |

## C.6.2 Ancillary Protocols 2

**Table C.17: Ancillary Protocol 2**

| | |
|---|---|
| **Protocol Name** | |
| **Version number** | |
| **ICS Reference (optional)** | |
| **IXIT Reference (optional)** | |
| **PCTR Reference (optional)** | |

# Annex D (informative): PCTR Proforma



**PROTOCOL**

**Conformance Test Report**

**(PCTR)**

Universal Mobile Telecommunication System, UMTS,
User Equipment-Network Access

**Layer 3 Signalling Functions**

| Test Candidate | |
|---|---|
| Name : | SUT name |
| Model : | model |
| H/W version : | hw |
| S/W version : | sw |
| Serial No. : | serienr |

| Client | |
|---|---|
| Name : | |
| Street / No. : | |
| Postal Code / City: | |
| Country : | |

# Annex E (informative): TTCN style guide for 3GPP ATS

## E.1 Introduction

This annex provides a set of coding standards and development guidelines for use in the development of TTCN abstract test suites for ensuring that user equipment for the 3GPP standard conforms to the relevant core specifications.

The following items are assumed to exist, but their specification is outside the scope of this annex.

- A complete unambiguous prose detailing all test cases to be implemented.
- A complete unambiguous set of core specifications.
- A complete unambiguous detailed description of all the messages that are to be sent.
- A tool or human process that can convert Test Suite Operation Definitions to physical processes within the test system or unit under test.
- An abstracted or generic application programmers interface to all hardware components in the system.
- A tool for the translation and/or compilation of ISO/IEC 9646 [41] series TTCN to run on a test platform.

It is recognized within the context of the 3GPP User Terminal that some of these items are not yet stabilized.

The structure of the present annex maps directly to the guidelines provided in ETR 141 [37]. Rules are repeated in the present annex for convenience, with additional information specific to 3GPP test suite development provided where relevant. For more detailed information or examples about the rules, see ETR 141 [37].

In the present annex, the terms 'should' and 'shall' are frequently used. For the purpose of this annex, the following definitions apply:

- **Shall** means that the rule must be adhered to for all ATS development. If a rule expressed in terms of 'shall' is not followed, either the ATS must be updated so that the rule is followed, or the rule in the coding conventions must be updated to resolve the difference.
- **Should** means that the rule is a guideline. If a rule expressed in terms of 'should' is broken, a brief comment should be provided describing why the guideline does not apply.

## E.2 ETR 141 rules and applicability

| **RULE 1: Statement of naming conventions** |
|---|
| Naming conventions should be explicitly stated. Naming conventions should not exist only for a single ATS, and the reader of an ATS should not be forced to "derive" the rules implicitly. The naming conventions should be part of the ATS conventions contained in the ATS specification document. |

Names used in the present annex are comprised of a prefix part and a name body part. Conventions for deriving prefixes and name bodies are described after Rule 3 in the present annex.

| RULE 2: Coverage of naming conventions |
|---|
| Naming conventions stated should, as a minimum, cover the following TTCN objects:<br>- test suite parameters/constants/variables;<br>- test case variables;<br>- formal parameters;<br>- timers;<br>- PDU/ASP/structured types;<br>- PDU/ASP/structured types constraints;<br>- test suite operations;<br>- aliases;<br>- test case/test step identifiers. |

| RULE 3: General properties of naming conventions |
|---|
| **a) Protocol standard aligned**<br>When there is a relationship between objects defined in the ATS and objects defined in the protocol standard, e.g. PDU types, the same names should be used in the ATS if this does not conflict with the character set for TTCN identifiers or with other rules. In case of a conflict, similar names should be used.<br><br>**b) Distinguishing**<br>The naming conventions should be defined in such a way, that objects of different types appearing in the same context, e.g. as constraint values, can be easily distinguished.<br><br>**c) Structured**<br>When objects of a given type allow a grouping or structuring into different classes, the names of these objects should reflect the structuring, i.e. the names should be composed of 2 or more parts, indicating the particular structure elements.<br><br>**d) Self-explaining**<br>The names should be such that the reader can understand the meaning (type/value/contents) of an object in a given context. When suffixes composed of digits are used, it is normally useful to have some rule expressed explaining the meaning of the digits.<br><br>**e) Consistent**<br>The rules stated should be used consistently throughout the document, there should be no exceptions.<br><br>**f) Appropriate name length**<br>Following the above rules extensively may occasionally lead to very long names, especially when structuring is used. The names should still be easily readable. When TTCN graphical form (TTCN.GR) is used, very long names are very inconvenient.<br><br>NOTE: Also, test tools may not be able to implement very long identifier names, which is an important aspect in this context. |

## E.2.1 Multiple words are separated by upper case letters at the start of each word

Many names consist of more words, and it shall be easy to distinguish the different words building up the same name. For all TTCN Object classes this is done using the case of the letters.

This rule is mandatory for all names appearing in the body of a dynamic behaviour table, and is recommended for all other TTCN object classes.

Generally every word a name consists of shall start with an upper case letter and the rest of this word shall be in lower case letters.

- E.g.: "channel" + "description" -> "ChannelDescription".

This rule also applies if a word starts after another upper case letter.

- E.g.:. "px" + "Cell" + "A" + "Cell" + "Id" -> px_CellACellId.

This rule also applies if the name has a prefix, which is always lower case.

- E.g.: A test case variable "sequence" + "number" -> tcv_SequenceNumber.

This rule does not apply if the word is a unit, in which case the word retains it's original case.

- E.g.: Power level 1.5 dBm ->PowerLvl1_5dBm.

This rule does not apply if the word in the name is an acronym, in which case the word retains it's normal case.

- If an acronym is followed by another word, an underscore shall be used to separate the acronym from the following word. If an acronym is followed by a number in order to represent an identity (e.g. channel or radio bearer identity) then this acronym is not followed by an underscore.
  E.g.: "this" + "Is" + "SIM" + "Message" + "With" + "CC" + "And" + "RR" + "Things" + "In" + "It" -> "thisIsSIM_MessageWithCC_AndRR_ThingsInIt".

- An exception to acronyms retaining their case is if the name is a field / element / parameter in a structured type / PDU / ASP, in which case it must start with a lower case letter.
  E.g.: "SCH" + "info" + "element" -> "sCH_InfoElement".

- A further exception to acronyms retaining their case is if the name is an ASN.1 constraint, in which case, in which case the first letter is upper case, and the remaining letters are lower case.

For all objects used in the body of dynamic behaviour tables, use of underscores is forbidden, except for the following situations:

- As a replacement for a '.'. E.g. Test case that maps to prose clause 7.2.3.1 -> tc_7_2_3_1.

- To separate prefixes from names.

- To separate acronyms from the following word.

- To separate a number from the following word.

- To replace hyphens when types are re-used / imported from core specifications. This applies to types imported from ASN.1 definitions, and to names derived from table definitions in core specifications.

- To separate an ASP name from the embedded PDU name when the metatype PDU is not used.
  E.g. RRC_DataInd_ConnAck for an RRC data indication ASP with an embedded CONNECT ACKNOWLEDGE PDU.

## E.2.2 Identifiers shall be protocol standard aligned

To support rule 3(a), the mapping guidelines in table E1 shall be used. This mapping table also supports rule 6.

**Table E.1: Mapping guidelines between protocol standards and identifiers**

| Type | Naming rule |
|---|---|
| Objects of Structured Type | Shall be derived from the name of the Information Element in the standard, if it corresponds to this (use standard acronyms where appropriate).<br>E.g.: "Window Size super-field" -> "WindowSizeSUFI" |
| Fields in a Structured Type | Shall be derived from the name of the same field in the corresponding Information Element in the standard. (Acronyms for the entire field name shall not be used)<br>E.g.: "Header Extension Type" -> "headerExtensionType" (not "HE") |
| Objects of ASP type | Shall be derived from the name of the corresponding Service Primitive in the Standard, using any relevant abbreviations from the present annex. The full name as it appears in the core specification shall be included in parentheses after the name.<br>E.g.: "CRLC-SUSPEND-Conf" -> "CRLC_SuspendCnf (CRLC-SUSPEND-Conf)"<br><br>If the metatype PDU is not used, the ASP name shall reflect both the ASP, and the embedded PDU name, using an underscore to separate the ASP part from the PDU part.<br>E.g.: DataReq_StartDTMF_Ack for an RRC-DATA-Req with an embedded START DTMF ACKNOWLEDGE PDU |
| Objects of PDU type | Shall have exactly the same name as the Message it corresponds to in the standard. If this Message is named by more words, they shall be joined, leaving the blanks out<br>E.g.: "AMD PDU" -> "AMDPDU". |

## E.2.3 Identifiers shall be distinguishing (use of prefixes)

To support rules 2, 3(b), 4, and 5, the prefixes shown in table E2 shall be used for TTCN objects. Prefixes are separated from the name by an underscore to improve readability by clearly separating the prefix from the name. This convention will also support searching operations. For example, a search for all uses of PIXIT parameters in the test suite is possible by searching for 'px_'.

The optional <*protocol*> part shall be included in the name when the object is closely related to the protocol (e.g. PICS, some PIXIT parameters), it is necessary to be unambiguous or improves comprehension significantly (e.g. no need to think about protocol stacks on all used interfaces during reading). The optional <*protocol*> part shall be used for types defined in common modules.

**Table E.2: Prefixes used for TTCN objects**

| TTCN object | Case of first character | Prefix | Comment |
|---|---|---|---|
| Test Suite | Upper | - | |
| TTCN Module | Upper | - | |
| Simple Type | Upper | [<protocol>_] | Note 8 |
| Structured Type | Upper | [<protocol>_] | Note 8 |
| Element in Structured Type | Lower | - | |
| ASN.1 Type | Upper | [<protocol>_] | Note 8 |
| Element in ASN.1 Type | Lower | - | |
| Test Suite Operation | Upper | o_[<protocol>_] | Notes 1 and 8 |
| TSO Procedural Definition | Upper | o_[<protocol>_] | Notes 1 and 8 |
| Formal Parameter to TSO or TSOP | Upper | p_ | |
| Test Suite Parameter (PICS) | Upper | pc_[<protocol>_] | Note 8 |
| Test Suite Parameter (PIXIT) | Upper | px_[<protocol>_] | Note 8 |
| Test Case Selection Expression | Upper | [<protocol>_] | Note 8 |
| Test Suite Constant | Upper | tsc_[<protocol>_] | Note 8 |
| Test Suite Variable | Upper | tsv_[<protocol>_] | Note 8 |
| Test Case Variable | Upper | tcv_[<protocol>_] | Note 8 |
| PCO Type | Upper | - | |
| PCO | Upper | - | Note 2 |
| CP | Upper | cp_ | Note 2 |
| Timer | Upper | t_[<protocol>_] | Note 8 |
| Test Component | Upper | mtc_[<protocol>_] or ptc_[<protocol>_] | Notes 3 and 8 |
| Test Component Configuration | Upper | - | |
| ASP Type | Upper | [<protocol>_] | Notes 4 and 8 |
| Parameters within ASP Type | Lower | - | Note 4 |
| PDU Type | Upper | [<protocol>_] | Notes 4 and 8 |
| **TTCN object** | **Case of first character** | **Prefix** | **Comment** |
| Fields within PDU Type | Lower | - | Note 4 |
| Encoding Definition | Upper | enc_ | |
| Encoding Variation | Upper | var_ | |
| Invalid Field Encoding Variation | Upper | inv_ | |
| CM Type | Upper | cm_ | |
| Field within CM Type | Lower | - | |
| Alias | Upper | a_ | |
| ASP constraint | Upper | ca[b\|d][s\|r\|w]_[<protocol>_] | Notes 5 and 8 |
| PDU constraints | Upper | c[b\|d][s\|r\|w]_[<protocol>\|AA\|108] | Notes 5, 8 and 10 |
| Constraint (other types) | Upper | c[b\|d][s\|r\|w]_[<protocol>_] | Notes 5 and 8 |
| Formal Parameter for a Constraint | Upper | p_ | |
| Test Case Group | Upper | <protocol>/ | Note 8 |
| Test Step Group | Upper | | |
| Test Case | Upper | tc_ | Note 6 |
| Test Step | Upper | (ts_\|pr_\|po_)<CN domain>_<protocol>_ | Notes 7, 8 and 9 |
| Local tree | Upper | lt_ | |
| Defaults | Upper | <protocol>_ | Note 8 |

NOTE 1: Coding rules are not specified for test suite operation procedural definitions at this stage. These rules will be defined when the need arises

NOTE 2: A prefix is not used for PCO declarations, but is used for CP declarations. This is because PCOs and CPs will only be used in send and receive statements, and PCOs will be used more frequently than CPs. Since a PCO name or a CP name will be used on most behaviour lines, PCO names should be as short as possible

- E.g. 2 to 3 characters.

NOTE 3: The prefix is mtc if the component role is MTC, or ptc if the component role is PTC. If multiple PTCs are used, the rest of the identifier will clarify which PTC is being referred to. E.g. ptc_Cell1, ptc_Cell2.

NOTE 4: This applies for both tabular and ASN.1 definitions.

NOTE 5: Constraint prefixes are built up from the following regular expression. c[a][b|d][s|r|w].

- 'c' shall always be present to indicate that the object is a constraint.
- 'a' shall be present for ASP constraints to distinguish them from PDU constraints.
- 'b' shall be present if and only if the constraint is used as a base constraint. (i.e. included in the derivation path of any other constraint).
- 'd' shall be present if the constraint is derived from another constraint.(i.e. has an entry in it's derivation path field)
- 'b' and 'd' cannot both be used in the same constraint, thereby limiting the derivation path to 1.
- For the purpose of the present note, the following definitions are required (see TR 101 666 [27] clause 12.6.2):
  - The term 'field' is used to represent a structured type element, an ASP parameter, or a PDU field.
  - A 'bound field' is a field that either contains a SpecificValue, or is Omitted (-).
  - An 'unbound field' is a field that contains any of the following matching mechanisms: Complement, AnyValue (?), AnyOrOmit (*), ValueList, Range, SuperSet, SubSet, AnyOne (?), AnyOrNone (*), Permutation, Length, or IfPresent.
- 's' may optionally be present if the constraint is only used in send statements. 's' shall not be present if the constraint contains any unbound fields, or any fields chained to a constraint whose prefix includes 'w' or 'r'.
- 'r' may optionally be present if the constraint is only used in receive statements.
- 'w' may optionally be present to indicate that the constraint contains fields that are unbound. Before these constraints are used in SEND events, all unbound fields must either be bound by using a derived constraint, or explicitly assigned a value in the SEND event behaviour line.
- Either 'w' or 'r' shall be used if any fields in the constraint are unbound or are chained to a constraint whose prefix includes 'w' or 'r'.

NOTE 6: Test case names will correspond to the clause in the prose that specifies the test purpose. E.g. tc_7_2_23_2. An additional digit may be specified if more than one test case is used to achieve the test purpose. If an additional digit is required, this probably means that the test prose are not well defined.

NOTE 7: Test steps may optionally use the prefixes pr_ or po_ to indicate that the test step is a preamble or postamble respectively.

NOTE 8: Protocol abbreviations are provided in table E3. Protocol abbreviations may optionally be used to clarify the scope of TTCN objects, or to resolve conflicts when the same name is required by multiple protocols within the ATS. The protocol abbreviation indicates that the object is related to a particular procedure (e.g. an MM procedure). This does not prevent the object from being used by an ATS testing a different protocol. If an object is specific to one ATS, this should be indicated in comments, rather than using a protocol abbreviation (e.g. if a timer is only used in RLC tests this should be stated in the comments, rather than using the abbreviation RLC in the timer name).If two different types exist in the ATS that represent the same information (e.g. IMSI) conversion operations shall be used to ensure consistency between the types. Also, conversion operations shall be used to avoid asking the same PIXIT question twice. For example, if a type is defined as an OCTETSTRING[4] for a NAS protocol, and the same type is represented as a BITSTRING[32] for RRC, a single PIXIT question shall be asked, and conversion operations shall be used to ensure that the same value is used for both types.

NOTE 9: The prefixes CS and PS may optionally be used to indicate that a test step is specific to circuit switched, or packet switched signalling respectively. For test steps specific to the Upper Tester, the prefixes AT or MMI or UT shall be used to indicate that, respectively, AT or MMI or both types of commands are used.

NOTE 10: The prefix AA shall be used for RRC PDU constraints to indicate that it is defined in 3GPP TS 34.123-1 [1] annex A. The prefix 108 shall be used for RRC PDU constraints to indicated that it is defined in 3GPP TS 34.108 [3] clause 9.

**Table E.3: Protocol abbreviations for prefixes**

| Protocol / prefix |
|---|
| BMC |
| CC |
| CS |
| GMM |
| MAC |
| MM |
| PDCP |
| RLC |
| RRC |
| SMS |
| SS |
| SUS (Supplementary services) |
| TC |

## E.2.4 Identifiers should not be too long (use standard abbreviations)

To assist in keeping TTCN identifiers shorter, table E.4provides a non-exhaustive set of standard abbreviations that shall be used when naming objects that are used in the body of dynamic behaviour tables. Consistent use of abbreviations will improve test suite readability, and assist maintenance.

**Table E.4: Standard abbreviations**

| Abbreviations | Meaning |
|---|---|
| Acs | access |
| Acp | accept |
| Ack | acknowledge |
| act | activation |
| addr | address |
| (re)alloc | (re)allocated, (re)allocation |
| arg | argument |
| ass | assignment |
| auth | authentication |
| ava | avail, available |
| bCap | bearer capability |
| cau | cause |
| clg | calling |
| ch | channel |
| chk | check |
| ciph | cipher, ciphering |
| cld | called |
| clsmk | classmark |
| cmd | command |
| cmpl | complete |
| cnf | confirm |
| cfg | configuration |
| conn | connect |
| ctrl | control |
| def | default |
| descr | description |
| disc | disconnect |
| enq | enquiry |
| err | error |
| (re)est | (re)establish |
| ext | extended |
| fail | failure |
| ho | handover |
| id | identity / identification |

| Abbreviations | Meaning |
|---|---|
| ie | information element |
| iel | information element length |
| ind | indication |
| info | information |
| init | initialize |
| lvl | level |
| loc | location |
| locUpd | location update |
| max | maximum |
| mgmt | management |
| min | minimum |
| misc | miscellaneous |
| mod | modification |
| ms | mobile station |
| msg | message |
| mt | mobile terminal |
| neigh | neighbour |
| ntw | network |
| num | number |
| orig | origin/-al |
| pag | page/-ing |
| params | parameters |
| perm | permission |
| phy | physical |
| qual | quality |
| rand | random |
| ref | reference |
| reg | register |
| rej | reject |
| rel | release |
| req | request |
| rsp | response |
| rx | receiver |
| sel | selection |
| seq | sequence |
| serv | service |
| st | state |
| sysInfo | system information |
| sync | synchronization |
| sys | system |
| tx | transmitter |

**RULE 4: Specific naming rules for test suite parameters/constants/variables test case variables and formal parameters**

a) The name should reflect the purpose/objective the object is used for.
b) If the type is not a predefined one, it is useful that the name reflects the type, too.
c) It could be useful, that the individual naming conventions are not the same for all object classes this rule applies to. e.g. use upper case letters for test suite parameters/constants, and use one of the other possibilities presented in ETR 141 [37] example 1 for other object classes.

See also ETR 141 [37] clauses 5.1 to 5.4 for further discussion on naming test suite parameters.

**RULE 5: Specific naming rule for timers**

If the timer is not defined in the protocol to be tested, the name should reflect the objective of the timer used for testing.
NOTE: There is no need to indicate the object type "timer" in the name, since timers only occur together with timer operations

| RULE 6: Specific naming rule for PDU/ASP/structured types |
|---|
| As far as applicable, derivation rules or mapping tables should be used to relate the names of the types to the corresponding objects in the protocol or service definition.<br>NOTE: There may be types, e.g. erroneous PDU types, that do not relate to an object in the protocol or service definition. |

Whenever names of types are derived from ASN.1 type definitions provided in the core specifications, the names shall remain the same as the ASN.1 specifications, and references shall be provided in the comment fields.

| RULE 7: Specific naming rule for PDU/ASP/structured types constraints |
|---|
| Rules should be stated to derive the names from the names of the corresponding type definitions. It is often possible to use the type name plus an appropriate suffix reflecting the specific constraint value. In case of lengthy names, useful abbreviations or a defined numbering scheme can be chosen. |

Constraint names begin with the appropriate prefix, followed by the first letter of each word in the type, followed by words describing the peculiarity of the constraint. E.g. Type = RadioBearerSetupPDU, constraint name could be cb_RBSP_GenericUM_DTCH.

| RULE 8: Specific naming rule for test suite operations |
|---|
| The name should reflect the operation being performed.<br>i.e. the name should indicate an activity, not a status. This can be achieved e.g. by using appropriate prefixes like "check", "verify", etc. |

| RULE 9: Specific naming rule for aliases |
|---|
| The name should reflect that aspect of its expansion, that is important in the situation where the alias is used. Derivation rules should be provided to derive the alias name from its macro expansion or from the name of an embedded ASP / PDU. |

See also ETR 141 [37] clauses 6.3.6 and 9 for further guidelines on naming aliases.

| RULE 10: Specific naming rule for test steps |
|---|
| The name should reflect the objective of the test step. |

| RULE 11: Selecting the ASN.1 format for type definitions |
|---|
| a) If the protocol standard uses ASN.1 to specify the PDUs, the ATS specifier should also use ASN.1.<br>b) If the protocol standard does not use ASN.1, check carefully whether features of ASN.1 that the tabular format of type definition does not present are necessary in the ATS, or could ease the design and understanding of the definitions as a whole. Check especially whether fields or parameters have to be specified, the order of appearance of which, in a received ASP/PDU, cannot be predicted. If any of these conditions apply, use ASN.1 for type and ASP/PDU type declarations.<br>c) Use the option of "ASN.1 ASP/PDU type Definitions by Reference" whenever applicable.<br>d) Example 14 shows a compatibility problem that could occur, when ASN.1 type declarations as well as tabular type declarations are used in an ATS. Use the ATS Conventions to describe how this compatibility problem is handled in the ATS, i.e. whether in expressions and assignments entities defined in ASN.1 are only related to entities defined in ASN.1 or not. |

Names of ASN.1 objects shall be kept the same as the core specifications in this case, even where the names are at odds with the naming conventions adopted for other TTCN objects.

| RULE 12: Further guidelines on type definitions |
|---|
| a) Use simple type or ASN.1 type definitions whenever an object of a base type with given characteristics (length, range, etc.) will be referenced more often than once.<br>b) Use the optional length indication in the field type or parameter type column of structured type and ASP/PDU type definitions whenever the base standard/profile restricts the length.<br>NOTE 1: This can often be achieved by references to simple types.<br>c) Map the applicable ASPs/PDUs from the service/protocol standard to corresponding ASP/PDU type definitions in the ATS.<br>NOTE 2: It may happen that not all ASPs/PDUs of a service/protocol standard are applicable to a particular ATS for the related protocol. It may also happen that additional ASP/PDU type declarations are necessary, e.g. to create syntactical errors.<br>d) Map the structure of ASPs/PDUs in the service/protocol standard to a corresponding structure in the ATS.<br>NOTE 3: This mapping is not always one-to-one, e.g. because a field in the PDU definition of the protocol standard is always absent under the specific conditions of an ATS. But it should normally not happen, that a structured element in the protocol standard is expanded using the "<-" macro expansion, so that the individual fields are still referenced, but the structure is lost in the ATS. |

| RULE 13: Specification of test suite operations |
|---|
| a) Use a test suite operation only if it cannot be substituted by other TTCN constructs.<br>b) Write down the rationale/objective of the test suite operation.<br>Reference standards if applicable.<br>c) Classify and simplify algorithm.<br>Split test suite operation if too complex.<br>d) Choose an appropriate specification language depending on the rationale/objective:<br>- predicates for Boolean tests;<br>- abstract data types for manipulation of ASN.1 objects;<br>- programming languages for simple calculation.<br>e) Check/proof the test suite operation:<br>- is the notation used known/explained;<br>- are all alternative paths fully specified;<br>- is the test suite operation returning a value in all circumstances;<br>- are error situations covered (empty input variables, etc.).<br>f) State some evident examples. |

## E.2.5 Test suite operations must not use global data

All information required by test suite operations must be passed as formal parameters. This includes test suite variables, test case variables, test suite parameters, and constraints.

| RULE 14: General aspects of specifying constraints |
|---|
| a) Develop a design concept for the complete constraints part, particularly with respect to the "conflicting" features as indicated in items i) to iv) and including naming conventions (see ETR 141 [37] clause 6).<br>b) Make extensive use of the different optional "Comment" fields in the constraint declaration tables to highlight the peculiarity of each constraint. |

| RULE 15: Relation between base constraints and modified constraints |
|---|
| a) Define different base constraints for the send- and receive direction of a PDU (when applicable).<br>b) Use modified constraints preferably when only a small number of fields or parameter values are altered with respect to a given base.<br>NOTE 1: For SEND events the creation of a further modified constraint can sometimes be avoided, if an assignment is made in the SEND statement line, thus overwriting a particular constraint value.<br>c) Design the relation between base constraints and modified constraints always in connection with parameterization of constraints (see the two subsequent subclauses).<br>NOTE 2: Additional parameters in a constraint, introduced to avoid the declaration of further base/modified constraints can reduce the amount of constraints needed in an ATS, but then the constraint reference is getting more and more unreadable.<br>d) When modified constraints are used, keep the length of the derivation path small. The length of the derivation path (resulting from the number of dots in it) is a kind of nesting level, and it is known from experience that a length greater than 2 is normally difficult to overview and maintain. |

Modified constraints should not have a derivation path longer than 1. A modified constraint should not alter more than 5 values with respect to a given base constraint. If a constraint is used as a base constraint, it must have the prefix 'cb', to warn test suite maintainers / developers that any changes to this constraint may cause side effects.

Note that if an existing constraint without the 'cb' prefix is to be used as a base constraint, either a new, identical constraint with an 'cb' prefix must be created, or the existing constraint must be renamed to include the 'cb' prefix in all places it is referenced in the test suite.

| **RULE 16: Static and dynamic chaining** |
|---|
| a) Make a careful evaluation of which embedded PDUs are needed in ASPs/PDUs, in which (profile) environment the ATS may operate and which kind of parameterization for other parameters/fields is needed, to find an appropriate balance between the use of static and/or dynamic chaining in a particular ATS. |
| b) When the ATS is used in different profile environments and the types and values of embedded PDUs cannot be predicted, dynamic chaining is normally the better choice. |
| c) When static chaining is used, chose the name of the ASP/PDU constraint such that it reflects the peculiar value of the embedded PDU (see also the clause on naming conventions in ETR 141 [37]). |

| **RULE 17: Parameterization of constraints** |
|---|
| a) Make a careful overall evaluation of which field/parameter values are needed in ASPs and PDUs to find an appropriate balance between the aim of a comparably small number of constraint declarations and readable and understandable constraint references. |
| b) Keep the number of formal parameters small.<br>Keep in mind, that the number of formal parameters in structured/ASN.1 types Constraints will add up to the total number of ASP/PDU constraints.<br>A clear border for the number of formal parameters cannot be stated, but it is known from experience that a number bigger than 5 normally cannot be handled very well. |

Constraints should not be passed more than five parameters. Instead, more constraints should be defined. Related parameters can be grouped in new structured types to reduce the number of parameters that must be passed to constraints.

NOTE 1: The value five has been selected based on the recommendation in ETR 141 [37] rule 17. If more parameters are required, we can update this rule, or use more than 5 parameters, and provide documentation indicating why more parameters are required.

A constraint should not be passed parameters to that are not processed in that constraint. If for example a parameter is to be passed from a PDU constraint to a structured type constraint then the PDU constraint should be made specific and not have that parameter passed. The reason for this is that no editors as yet can trace through this mechanism and it becomes very difficult in a complex suite to see exactly what is being passed.

For example:

```
PduA ::= SEQUENCE {
  infoElement1  InformationElementType1,
  infoElement2  INTEGER
}

InformationElementType1 ::= SEQUENCE {
  field1  INTEGER,
  field2  INTEGER
}

cb_PATypical( p_Field1: INTEGER; p_Field2: INTEGER ) ::= {
  infoElement1  c_IET1Typical( p_Field1 ),
  infoElement2  pField2
}

c_IET1Typical( p_Field1: INTEGER ) ::= {
  field1  p_Field1,
  field2  5
}
```

In the example constraint cb_PATypical, passing p_Field1 through to a nested constraint is not allowed, but the use of p_Field2 is acceptable.

| RULE 18: Constraint values |
|---|
| a) Use comments to highlight the peculiarity of the value, especially when the value is a literal, whose meaning is not apparent.<br>b) Use test suite constants instead of literals, when appropriate.<br>Normally not all literals can be defined as Test Suite Constants, but a rule by thumb is: if a literal value of a given type occurs more than once (as a constraint value or more generally in an expression), then it is useful to define it as a Test Suite Constant, letting the name reflect the value.<br>c) Use the length attribute when possible and when the length is not implicit in the value itself or given by the type definition (e.g. for strings containing "*"). |

| RULE 19: Verdict assignment in relation to the test body |
|---|
| Make sure that verdict assignment within a default tree is in relation to the test body. If an unsuccessful event arising in the test body is handled by the default tree, then assign a preliminary result "(FAIL)" within the corresponding behaviour line of the default tree. If the position of the unsuccessful event is not in the test body, assign a preliminary result "(INCONCLUSIVE)". If the behaviour line handling the unsuccessful event is a leaf of the default tree, assign a final verdict instead. |

| RULE 20: Test body entry marker |
|---|
| The entry of the test body should be marked. |

| RULE 21: State variable |
|---|
| For realizing test purposes dependent on protocol states, use a variable to reflect the current state of the IUT. |

| RULE 22: State checking event sequences |
|---|
| Combine event sequences used for checking a state of the IUT within test steps. |

| RULE 23: Easy adaptation of test steps to test cases |
|---|
| For easy adaptation of a test step to test case needs, parameterize the constraints used within a test step. |

Test steps may be parameterized, but with no more than five parameters. See also ETR 141 [37] clause12.2 and rule 28. Related parameters can be grouped in new structured types to reduce the number of parameters that must be passed to constraints.

NOTE 2: Again, the value five has been selected based on the recommendation in ETR 141 [37] rule 17. If more parameters are required, we can update this rule, or use more than 5 parameters, and provide documentation indicating why more parameters are required.

| RULE 24: Minimizing complexity of test steps |
|---|
| Minimize the complexity of test steps either by restricting the objective of a test step to atomic confirmed service primitives or by separating event sequences, which build different "logical" units into different test steps. |

| RULE 25: Nesting level of test steps |
|---|
| Keep the nesting level of test steps to a minimum. |

| RULE 26: Recursive tree attachment |
|---|
| Avoid recursive tree attachment. Where possible, use loops instead of recursive tree attachments. |

| RULE 27: Verdict assignment within test steps |
|---|
| If verdicts are assigned within a test step, guarantee at least the partial (i.e. not general) re-use of the test step. |

| RULE 28: Parameterized test steps |
|---|
| Use parameterized test steps to ensure re-use of test steps within test cases for different needs. |

| RULE 29: Combining statements in a sequence of alternatives |
|---|
| If there is no Boolean expression included in an alternative sequence, a statement of type UCS (unconditional statement) should never be followed by a statement of type UCS or CS (conditional statement) within a sequence of alternatives. |

| RULE 30: Using relational expressions as alternatives |
|---|
| a) A relational expression should never restrict the value range of a preceding relational expression in the same alternative sequence using the same variable.<br>b) The value range of a relational expression should be different from the whole value range of all preceding relational expressions in the same alternative sequence using the same variable. |

| RULE 31: Loop termination |
|---|
| Do not use conditions for terminating loops, which depend only on the behaviour of the IUT. |

| RULE 32: Avoiding deadlocks |
|---|
| a) Make sure that each alternative sequence of receive events contains an OTHERWISE statement (without any qualifier) for each PCO.<br>b) Make sure that each alternative sequence of receive events contains at least one TIMEOUT event (implying that a corresponding timer was started). |

A set of alternatives using qualifiers shall always include an alternative containing the qualifier [ TRUE ], to provide a default behaviour if none of the qualifiers match.

For example:

```
[ tcv_Value = 1 ]
  AM ! ASP_ForValue1
    ...
[ tcv_Value = 2 ]
  AM ! ASP_ForValue2
    ...
[ TRUE ]
  AM ! ASP_ForOtherValues
    ...
```

| RULE 33: Straightforward specification of test cases |
|---|
| a) Use only event sequences leading to the test body within a preamble.<br>b) Handle all event sequences not leading to the test body within the default tree of the test case/step.<br>c) If the very same event sequence can be used to transfer the IUT from each possible state to the idle state, then realize this event sequence as a postamble. |

| RULE 34: Test component configuration declaration |
|---|
| Avoid recursive test component configuration declarations. |

| RULE 35: Default trees with RETURN statement |
|---|
| Special care should be taken by using a RETURN statement within a default tree in order to avoid an endless loop resulting from the expansion of the default tree. |

# E.3 3GPP ATS implementation guidelines

This clause provides a set of guidelines that must be followed during ATS development. In general, these guidelines are intended to prevent developers from making common errors, or discuss considerations that must be taken into account before using specific features of the TTCN language.

## E.3.1 Test case groups shall reflect the TSS&TP document

Test groups shall be used to organize the test cases in the same way as the test purposes are structured in the prose specification.

The general structure of the test groups should be in the following format.

<protocol>/<group>/<subgroup>

E.g. RLC/UM/Segmentation/LengthIndicator7bit/

## E.3.2 Test case names correspond to the clause number in the prose

Test case names are derived directly from the clause number in the prose specification. Decimal points between digits in the clause number are replaced with underscores. E.g. the test case name for the test purpose specified in clause 7.2.3.2 of 3GPP TS 34.123-1 [1] is tc_7_2_3_2. If more than one test case is required to achieve a test purpose, an additional digit may be added. See also ETR 141 [37] clause 6.3.7.

## E.3.3 Use standard template for test case and test step header

Table E.5 illustrates how the Test Case dynamic behaviour header fields should be used.

**Table E.5: Template for TTCN test case table header**

<table>
<tr><th colspan="3">Field</th><th colspan="3">Contents</th></tr>
<tr><td colspan="3">Test Case Name:</td><td colspan="3">tc_NUMBER_OF_TESTCASE<br>The number of the test case, which is used in the name of the test case, is the number it has in the prose specification.<br>e.g.: "tc_26_13_1_3_1"</td></tr>
<tr><td colspan="3">Group:</td><td colspan="3">Is automatically filled and cannot be changed</td></tr>
<tr><td colspan="3">Purpose:</td><td colspan="3">This is taken directly from the prose specifications.</td></tr>
<tr><td colspan="3">Configuration:</td><td colspan="3">As required if concurrent TTCN is being used.</td></tr>
<tr><td colspan="3">Default</td><td colspan="3">The appropriate default</td></tr>
<tr><td colspan="3">Comments:</td><td colspan="3">First line contains:<br>Specification: The names and clauses of relevant core specifications.<br>Next line contains:<br>Status: OK / NOT OK (+explanation if not ok) / Version number / Validated / Reviewed, etc.<br>E.g.: Status: OK<br>Rest of lines give comments as:<br>What has to be done before running this test?<br>E.g.: 1. Generic setup procedure must be completed before running this test.<br>Any special information about what might be needed for the testing system, like specific requirements for the testing system, specific hacks, certain settings, etc. This field should be short (if long description is needed it must be put into Detailed Comments)</td></tr>
<tr><td colspan="3">Selection Ref:</td><td colspan="3">The appropriate test case selection expression.</td></tr>
<tr><td colspan="3">Description:</td><td colspan="3">Optional. Max 4 lines. If available, this should be the title of the prose clause. Note 1</td></tr>
<tr><td>Nr</td><td>Label</td><td>Behaviour Description</td><td>Constraints Ref</td><td>Verdict</td><td>Comments</td></tr>
<tr><td>1</td><td></td><td>Note 3</td><td>Note 3</td><td></td><td>Note 2</td></tr>
<tr><td colspan="3">Detailed Comments</td><td colspan="3">Contains detailed information about test steps + additional information Note 2</td></tr>
<tr><td colspan="6">NOTE 1: The description field in the test case / step header is used to generate the test suite overview, and should only include a brief overview of the test case / step with a maximum of 4 lines. For a more detailed description of the test case / step algorithm / parameters etc, the comments or detailed comments fields should be used.<br>NOTE 2: The comments field for each behaviour line should usually consist of a number that is a reference to a specific numbered comment in the detailed comments field. If this extra level of indirection reduces readability, brief comments can be used in the comments field for each behaviour line.<br>NOTE 3: If entries in the behaviour description or constraints reference column contain lists with more than one element, carriage returns should be used between list elements to prevent the line from becoming too long.</td></tr>
</table>

Table E.6 illustrates how the Test Case dynamic behaviour header fields should be used.

**Table E.6: Template for TTCN test step table header**

| | | | | | |
|---|---|---|---|---|---|
| Test Step Name | | ts_TestStepName( p_Param1: Param1Type; p_Param2: Param2Type ) | | | |
| Group | | Is automatically filled and cannot be changed | | | |
| Objective | | The objective of the test case. Provides a brief summary of the functionality of the test step. | | | |
| Default | | The appropriate default | | | |
| Comments | | A detailed description of the test step, including the relevant items from the following categories:<br><br>Algorithm<br>A detailed description of the algorithm / principles used within the test step<br><br>Parameters:<br>A description of each of the parameters passed to the test step, including the purpose of the parameter, valid values, restrictions etc.<br><br>Preconditions<br>The required state of the UE and / or SS before using this test step, including test steps that should be executed before using the present test step, and a description of all test case variables that must contain appropriate values before using this test step.<br><br>Postcondidions<br>The expected state of the UE and / or SS after using this test step, including a description of all test case variables that will be modified by this test step.<br><br>NOTE: It is too difficult to maintain the list of variables required / affected by nested test steps, so it is the users responsibility to check which variables are required / affected by nested test steps. | | | |
| Description | | Optional. Max 4 lines. Note 1 | | | |
| Nr | Label | Behaviour Description | Constraints Ref | Verdict | Comments |
| 1 | | Note 3 | Note 3 | | Note 2 |
| Detailed Comments | | Contains detailed information about test steps + additional information Note 2 | | | |

NOTE 1: The description field in the test case / step header is used to generate the test suite overview, and should only include a brief overview of the test case / step with a maximum of 4 lines. For a more detailed description of the test case / step algorithm / parameters etc, the comments or detailed comments fields should be used.

NOTE 2: The comments field for each behaviour line should usually consist of a number that is a reference to a specific numbered comment in the detailed comments field. If this extra level of indirection reduces readability, brief comments can be used in the comments field for each behaviour line.

NOTE 3: If entries in the behaviour description or constraints reference column contain lists with more than one element, carriage returns should be used between list elements to prevent the line from becoming too long.

## E.3.4 Do not use identical tags in nested CHOICE constructions

A nested CHOICE requires tags in the different alternative type lists to differ (see ISO/IEC 8824 [29], clause 24.4, example 3, INCORRECT). "The tag shall be considered to be variable, ... becomes equal to the tag of the "Type" ... from which the value was taken".

EXAMPLE: components are defined in a nested CHOICE construction, but no distinguishing tags are used to make the difference between component types, i.e. tags for different types turn out to be identical.

```
Component ::=   CHOICE {
  gSMLocationRegistration_Components   GSMLocationRegistration_Components,
  gSMLocationCancellation_Components   GSMLoactionCancellation_Components,
  ...
}

GSMLocationRegistration_Components ::= CHOICE {
  gSMLocationRegistration_InvokeCpt    [1] IMPLICIT GSMLocationRegistration_InvokeCpt,
  gSMLocationRegistration_RRCpt        [2] IMPLICIT GSMLocationRegistration_RRCpt,
  gSMLocationRegistration_RECpt        [3] IMPLICIT GSMLocationRegistration_RECpt,
  gSMLocationRegistration_RejectCpt    [4] IMPLICIT RejectComponent
}
```

```
GSMLocationCancellation_Components ::=   CHOICE {
  gSMLocationCancellation_InvokeCpt  [1] IMPLICIT GSMLocationCancellation_InvokeCpt,
  gSMLocationCancellation_RejectCpt  [4] IMPLICIT RejectComponent
}
```

gSMLocationRegistrationInvokeCpt and gSMLocationCancellation_InvokeCpt have the same tag and can therefore not distinguished anymore. Note that ITEX 3.5 does not report this error.

## E.3.5 Incorrect usage of enumerations

Enumerations may contain distinct integers only (see ISO/IEC 8824 [29], clause 15.1).

EXAMPLE: TypeOfNumber containing a NamedValueList in which there are non-distinct values.

```
TypeOfNumber ::=    ENUMERATED {
.....,
  internationalnumber  (1),
  level2RegionalNumber (1),
  nationalNumber       (2),
  level1RegionalNumber (2),
......
 }
```

## E.3.6 Structured type as OCTETSTRING should not be used

"It is required to declare all fields of the PDUs that are defined in the relevant protocol standard, …"
TR 101 101 [38] TTCN specification clause 11.15.1.

EXAMPLE 1: The ISDN Bearer Capability Information Element (BCAP) contents is defined as OCTETSTRING.

EXAMPLE 2: Usage of data type BITSTRING [7..15] as data type of the Call Reference (= 7 bits or =15 bits, but not 8 bits for example) does not correspond to the specification !!).

## E.3.7 Wildcards in PDU constraints for structured types should not be used

Contrary to popular belief, TR 101 666 [27] does not support the use of wildcards for TTCN ASP parameters, or TTCN PDU fields whose type is structured. It is not clearly stated if wildcards are permitted for TTCN structured type elements whose type is structured but it is assumed that they are not permitted because the semantics for this are not clearly specified.

Note that this does not apply to ASN.1 Type definitions, ASPs, or PDUs.

Most tools do support wildcards for TTCN ASP parameters / TTCN PDU fields / TTCN structured type elements whose type is structured, but there is ambiguity between implementations since the semantics are not clearly specified in the core specification.

This feature is commonly used by TTCN developers, and is present in many existing test suites, including the 3GPP test suite, and in constraints that are being re-used from GERAN tests.

One problem with values '?' and '*' in constraints where they are used to indicate values of structured types, is that they would allow any combinations of values - even incorrect ones - which is not admissible according to the specifications. It is to be kept in mind that in tabular form each field is optional! It would be better to create and use an "any"-constraint which would deal with all the fields in detail (mandatory, IF PRESENT, etc.).

For the purpose of the present annex, the following rules shall apply:

1. '?' shall not be used to indicate values of TTCN ASP parameters / TTCN PDU fields / TTCN structured type elements whose type is structured. Known TTCN implementations differ significantly in their implementation of this feature.

2. '*' shall not be used for TTCN PDU fields, or TTCN ASP parameters whose type is structured (i.e. at the top level).

2.1 Usage of wildcards should be avoided in structured type identifiers. Only simple type fields should use * or ?

3. '*' is permitted but discouraged for structured type elements whose type is structured. Note that this may result in ambiguous behaviour between TTCN implementations because the semantics are not specified in TR 101 666 [27].

4. One of the following two options shall be used as an alternative to using a '?' for a TTCN ASP parameter / TTCN PDU field / TTCN structured type element whose type is structured.

   4.1 Option 1: Use '*' instead (only applicable to structured type elements due to rules 2 and 3 above).

WARNING: This may result in the situation where a UE omits a mandatory field, but passes the test anyway, and / or different behaviour depending on the TTCN tool used.

   4.2 Option 2 (preferred option; supported by TR 101 666 [27]): Use an 'any' constraint, in conjunction with IF PRESENT if appropriate (whole TTCN ASP parameters / TTCN PDU fields / TTCN structured type elements may be omitted according to TR 101 666 [27]). This means that the constraint value specified for the parameter / field / element shall be a reference to another constraint of the appropriate structured type, which may in turn use wildcards for each of it's elements according to the rules specified in the present annex.

5. A structured type formal parameter should not be used together with the IF_PRESENT indication inside a structured type constraint. If this is required, then this shall be clearly commented.

## E.3.8 TSOs should be passed as many parameters as meaningful to facilitate their implementation

Parameters should be passed to TSOs to facilitate the TSO realization. If a TSO is used in various contexts, this should be reflected in the parameters passed to the TSO. Specifically, TSOs operating on well-defined (parameterized) constraints should take these constraints (including relevant parameters) as parameters if required.

BAD EXAMPLE: In this example, the TSO may be used in many contexts, but no information is passed to the TSO, which makes TSO realization difficult.

| | | | | | |
|---|---|---|---|---|---|
| | | L?SETUPr (...<br>tcv_invokeId := TSO_GET_INVOKEID ( ),<br>...) | Sr (SU_GR3(<br>GSM_IncomingCallMMInfo_Invoke(...))) | | |

GOOD EXAMPLE: In this case, the TSO is provided with information about the data object from which the invoke Id is to be extracted, and the type of component from which the invoke Id is to be extracted is identified by passing the component constraint.

| | | | | | |
|---|---|---|---|---|---|
| | | L?SETUPr (...<br>tcv_invokeId := TSO_GET_INVOKEID (<br>DL_DataInd_Setup.msg,<br>GSM_IncomingCallMMInfo_Invoke(...)),<br>...) | Sr (SU_GR3(<br>GSM_IncomingCallMMInfo_Invoke(...))) | | |

To calculate the invocation identification and store the result in variable tcv_invokeId the TSO has to be provided with information about the data object from which the invoke Id is to be extracted. PDU constraint SU_GR3 may contain several components. In the specific situation only one of these components is relevant.

Depending on the nature of the TSO, passing the received value, or a subcomponent of the received value may be more appropriate than passing the constraint.

## E.3.9 Specification of Encoding rules and variation should be indicated

TTCN does not mandate encoding rules, although TTCN foresees that applicable encoding rules and encoding variations can be indicated for the data structures used in a test suite.

There are standards defining encoding rules, e.g. the ITU-T Recommendation X.680 [39] series. However, the type of encoding called "Direct Encoding" - a bit-by-bit-mapping from the data definitions onto the data stream to be transmitted - is not defined anywhere. It therefore needs a "home".

TTCN should therefore define which encoding rules may legally be used by TTCN test suite specifiers. All the encoding rules defined in the ITU-T Recommendation X.680 [39] series should be contained in this repertoire. Additionally an encoding rule called Direct Encoding is needed in particular for tabular TTCN.

ITU-T Recommendation X.680 [39] allows to encode data objects using different length forms (short, long, indefinite). These could be used alternatively as encoding variations. Another encoding variation could be the "minimum encoding", accepting any of the length forms in reception, and using the shortest of the available forms in sending. The variation actually used has to be described somewhere (in the ATS).

## E.3.10 Use of global data should be limited

The Phase 2 ATS became extremely complex due to the global definition of data. Data should be defined locally where possible if the language allows, alternatively the names of global constraints could be given prefixes to indicate their use.

## E.3.11 Limit ATS scope to a single layer / sub-layer

Separate ATSs should be produced to test each Layer and perhaps sub Layer. By doing this preambles and common areas particular to one sub Layer can be confined to one test suite and parallel development of test suites can be facilitated.

## E.3.12 Place system information in specially designed data structures

System Information data could be stored in specially defined data structures, use of these structures to build PDUs may help to ensure that a consistent set of data is transmitted in all the channels in a cell.

## E.3.13 Place channel configuration in specially designed data structures

Likewise the configuration of a 'channel' could be stored in similar structures. This data can then be used to configure the test system and to build Assignment messages to the UE under test. This may help avoid the situation where the TTCN creates one channel and unintentionally commands the mobile to a different, non-existent, channel.

## E.3.14 PICS / PIXIT parameters

It is desirable to limit the scope of PICS / PIXIT parameters.

A default value shall be provided in the PIXIT document for all PIXIT parameters.

PICS / PIXIT parameters shall not include structured types. If a structured parameter is required, several parameters shall be used, one for each simple element within the type, and a constraint shall be created to combine the simple parameters into a structured type.

For example, to use the following structured type as a parameter.

| Type Name | LocAreaId_v | | |
|---|---|---|---|
| Encoding Variation | | | |
| Comments | Location Area Identification Value 3GPP TS 24.008 [9] clause 10.5.1.3 | | |
| Element Name | Type Definition | Field Encoding | Comments |
| mcc | HEXSTRING[3] | | MCC 3 digits |
| mnc | HEXSTRING[3] | | MNC 3 digits |
| lac | OCTETSTRING[2] | | LAC |
| Detailed Comments | | | |

| The following three PIXIT parameters should be defined: Parameter Name | Type | PICS/PIXIT Ref | Comments |
|---|---|---|---|
| px_LACDef | OCTETSTRING | PIXIT TC | default LAC |
| px_MCCDef | HEXSTRING | PIXIT TC | default MCC |
| px_MNCDef | HEXSTRING | PIXIT TC | default MNC |

And then the following constraint can be used to combine the simple parameters into a structured parameter.

| Constraint Name | cb_LocAreaIdDef_v | | |
|---|---|---|---|
| Structured Type | LocAreaId_v | | |
| Derivation Path | | | |
| Encoding Variation | | | |
| Comments | | | |
| | | | |
| Element Name | Element Value | Element Encoding | Comments |
| mcc | px_MCCDef | | |
| mnc | px_MNCDef | | |
| lac | px_LACDef | | |
| Detailed Comments | | | |

## E.3.15 Dynamic vs. static choices

Don't use wildcards for static choice constraints. For example, a type that is similar for FDD and TDD should have 2 type definitions, rather than a single type that uses an ASN.1 choice. Then in the TTCN, the correct type should be selected based on test suite parameters.

E.g.:

```
[ pxUseTddMode ] AM ! TddSpecificAsp
  AM ?
    ...
[ pxUseFddMode ] AM ! FddSpecificAsp
  AM ? …
    ...
```

## E.3.16 Definition of Pre-Ambles and Post Ambles

Test cases should, as far as possible, use one of a set of standard pre-ambles to place the user equipment in its initial conditions. These pre-ambles should align with the generic setup procedures in the conformance specification. All non-standard pre-ambles should be identified and added to the pre-amble library.

With pre-ambles readability is very important so they should not use other test steps to send message sequences, and they should be passed as few parameters as possible. This also makes the results log easier to read.

The prose message sequence charts should be analysed, and a catalogue of common ways in which the test cases can terminate (correctly or incorrectly) created. This catalogue should be used to create a set of post-ambles. All final verdicts should be assigned in the post-ambles.

Wherever possible, a post-amble should return the test system and the User Equipment under test to a known idle state.

## E.3.17 Use test steps to encapsulate AT and MMI commands

When the same AT or MMI command is to be used more than once within a test suite, the command should be placed within a test step, to ensure that the same information is provided consistently. The main intention of this guideline is to ensure that MMI commands provided to the user are consistent, and can be changed easily if required.

For example, a test step similar to the one illustrated in table E.7 should be created and attached so that the same information is provided to the user each time the test step is used, and the string to be sent only exists in one place within the test suite.

**Table E.7: Example test step to encapsulate AT / MMI commandsDefault behaviour**

| **Test Step Name** | | ts_AT_MMI_Example | | | |
|---|---|---|---|---|---|
| **Group** | | | | | |
| **Objective** | | Send an MMI command instructing the user to insert the USIM card into the UE. | | | |
| **Default** | | | | | |
| **Comments** | | Encapsulate an AT / MMI command within a test step to ensure that the same information is used consistently, and the information only exists in one place within the test suite. | | | |
| **Description** | | | | | |
| **Nr** | **Label** | **Behaviour Description** | **Constraints Ref** | **Verdict** | **Comments** |
| 1 | | Ut ! MMI_CmdReq | ca_MMICmdReq ( " Please insert the USIM card into the UE ") | | |
| 2 | | Ut ? MMI_CmdCnf | ca_MMICmdCnf | | |

Defaults are test steps that are executed when ever a receive event occurs that is not expected. Not expected means that it does not match any of the defined ASP constraints at that point in the test case. The default behaviour used in test case is defined in the test case declaration. They can be defined to stop the test case by calling a standard post-amble or receive the event as OTHERWISE and RETURN back to step where the unexpected event occurred.

A strategy for dealing with unexpected behaviour involving consistent use of defaults should be developed, and applied to test cases wherever possible.

If during a test case or test step it is necessary to change the default behaviour, the ACTIVATE statement may be used.

## E.3.18 Use system failure guard timers

A timer should be set at the beginning of each test case to guard against system failure. Behaviour on expiry of this timer should be consistent for all test cases.

## E.3.19 Mapping between prose specification and individual test cases

The ATS should map one-to-one between test cases and tests as described in 3GPP TS 34.123-1 [1]. A method for ensuring that the two specifications track each other needs to be defined.

## E.3.20 Verdict assignment

### E.3.20.1 General

Final verdicts shall only be used to indicate test case errors, or when unexpected UE behaviour occurs such that it not sensible to continue the test. When a test case reaches a leaf node, the test case ends, and the current preliminary verdict is assigned. At least one preliminary verdict shall be assigned for every test case. If a test case terminates and no final or preliminary verdicts have been assigned, the current value of the predefined variable R will be 'none', and a test case error is recorded instead of a final verdict.

Labels shall be used for every line in which a verdict is posted to improve the traceability of the conformance log produced when the test case is executed. These labels should be kept short, since they appear in the dynamic behaviour tables.

All test suites shall make use of a global boolean variable, defined in the common module, called tcv_TestBody. tcv_TestBody is updated within each test case to indicate if the test body is currently being executed. tcv_TestBody is referenced in defaults and test steps to assign a preliminary inconclusive verdict when unexpected events occur outside of the test body, or a preliminary failure verdict when unexpected events occur within the test body.

The initial value in the declaration of the test case variable tcv_TestBody shall be FALSE. The variable will be bound to this value when the ATS is initialized, and will be re-bound to this value after termination of each test case, ready for execution of the next test case.

## E.3.20.2 Test cases

A line similar to line 3 in table E.8 shall be used in all test cases to set tcv_TestBody to TRUE. This line shall have the label TBS to indicate the Test Body Start point.

A line similar to line 6 in table E.8 shall be used in all test cases to set tcv_TestBody to FALSE. This line shall have the label TBE[N] to indicate the Test Body End point. A number N (with one or more digits) may optionally be appended to the label to distinguish between multiple test body end points. If the number of possible test sequences makes management of the tcv_TestBody variable too difficult, the variable can be set to TRUE at the beginning of the test. In this case, a comment shall be added to the test case noting that tcv_TestBody is not updated, so verdicts assigned within preambles and postambles will be treated as if they are part of the test body.

Within the test body, preliminary verdicts shall be used to indicate the result of the test purpose. Each behaviour line within the test body containing a preliminary verdict shall have a label of the form TBXN, where X is one of P, F, I for pass, fail, and inconclusive respectively, and N is a number (with one or more digits) used to distinguish multiple TBPs, TBFs, or TBIs in the same test case.

If an unexpected event occurs corresponding to a test case error, a final inconclusive verdict shall be assigned, and the behaviour line shall have a label ERRN, where N is a number used to distinguish multiple ERRs, and ERR indicates that a test case error has occurred. An example of this is provided in the test step clause.

Table E.8 contains an example test case illustrating these concepts.

In case of a failure event of a time consumed test case (longer than 30 minutes), the test case can be stopped by using a final verdict after the execution of the postamble.

**Table E.8: Example test case illustrating use of verdicts, labels and tcv_TestBody test case variable**

| Nr | Label | Behaviour Description | Constraints Ref | Verdict | Comments |
|---|---|---|---|---|---|
| 1 | | +ts_Preambles | | | |
| 2 | TBS | ( tcv_TestBody := TRUE ) | | | 1 |
| 3 | | L ! Stimulus | cs_Stimulus1 | | |
| 4 | | +lt_Response | | | |
| 5 | TBE | (tcv_TestBody := FALSE ) | | (P) | 2 |
| 6 | | +ts_Postambles | | | |
| | | lt_Response | | | |
| 7 | TBP1 | L ? Response | cr_ValidResponse1 | (P) | 3 |
| 8 | TBP2 | L ? Response | cr_ValidResponse2 | (P) | 3 |
| 9 | TBF1 | L ? Response | cr_InvalidResponse | (F) | 4 |
| 10 | TBI1 | L ? Response | cr_OtherResponse | (I) | 5 |
| **Detailed comments** | | 1. The behaviour line setting tcv_TestBody to TRUE shall have the label TBS.<br>2. The behaviour line setting tcv_TestBody to FALSE shall have the label TBE, and can optionally be used to assign a verdict indicating that the test purpose has passed or failed (i.e. if the final behaviour statement in the test body is a tree attachment).<br>3. The label TBPN is used to indicate that the test purpose has been achieved via the Nth possible valid UE behaviour.<br>4. The label TBFN is used to indicate that the test purpose has not been achieved, due to the Nth possible failure cause.<br>5. The label TBIN is used to indicate that the test result is inconclusive for the Nth possible unexpected / unknown event. | | | |

## E.3.20.3 Test steps

To promote re-use, test steps shall only assign preliminary verdicts (I) and (F). (P) verdicts shall be managed at the test case level in general, but may be used sparingly within test steps. ETR 141 [37] clause 12.4 recommends that a preliminary pass verdict should be assigned at the leaf of each passing event sequence of the test step. If a test step includes an alternative for unexpected / invalid behaviour, then either a preliminary inconclusive verdict shall be assigned if tcv_TestBody is FALSE, or a preliminary failure verdict shall be assigned if tcv_TestBody is TRUE.

Each behaviour line within the test step containing a preliminary verdict shall have a label of the form TSXN, where X is one of P, F or I for pass, fail, and inconclusive respectively, and N is a number (with one or more digits) used to distinguish multiple TSPs, TSFs, or TSIs in the same test step.

If an unexpected event occurs corresponding to a test case error, a final inconclusive verdict shall be assigned, and the behaviour line shall have a label ERRN, where N is a number used to distinguish multiple ERRs, and ERR indicates that a test case error has occurred.

Table E.9 contains an example test step illustrating these concepts.

**Table E.9: Example test step illustrating use of verdicts, labels and tcv_TestBody test case variable**

| Nr | Label | Behaviour Description | Constraints Ref | Verdict | Comments |
|---|---|---|---|---|---|
| 1 | | [ p_Mode = tsc_Mode1 ] | | | |
| 2 | | L ! Stimulus | cs_Stimulus1 | | |
| 3 | | +lt_Response | | | |
| 4 | | [ p_Mode = tsc_Mode2 ] | | | |
| 5 | | L ! Stimulus | cs_Stimulus2 | | |
| 6 | | +lt_Response | | | |
| 7 | ERR1 | [ TRUE ] | | I | 1 |
| | | lt_Response | | | |
| 8 | | L ? Response | cr_ValidResponse1 | | 2 |
| 9 | | L ? Response | cr_InvalidResponse | | |
| 10 | TSI1 | [ tcv_TestBody = FALSE ] | | (I) | 3 |
| 11 | TSF1 | [ tcv_TestBody = TRUE ] | | (F) | 4 |

| Detailed comments | |
|---|---|
| | 1. An invalid value for the parameter p_Mode has been passed to this test step, so a final inconclusive verdict is assigned, with a label indicating that a test case error has occurred.<br>2. If the expected behaviour occurs, then the test step completes at the leaf node, and the current preliminary verdict is not changed.<br>3. If unexpected / invalid behaviour occurs, and the current test step is being used as a preamble or postamble ( tcv_TestBody = FALSE ) then a preliminary inconclusive verdict is assigned.<br>4. If unexpected / invalid behaviour occurs, and the current test step is being used as part of the test purpose( tcv_TestBody = TRUE ) then a preliminary failure verdict is assigned. |

## E.3.20.4 Defaults

Each behaviour line within a default behaviour table containing a preliminary verdict shall have a label of the form DFXN, where X is one of F or I for fail, and inconclusive respectively, and N is a number (with one or more digits) used to distinguish multiple DFFs, or DFIs in the same test step.

tcv_TestBody shall be referenced from within default behaviour tables to assign the appropriate verdict when unexpected events occur.

Table E.10 contains an example default behaviour table illustrating these concepts.

**Table E.10: Example default behaviour table illustrating use of verdicts, labels and tcv_TestBody test case variable**

| Nr | Label | Behaviour Description | Constraints Ref | Verdict | Comments |
|---|---|---|---|---|---|
| 1 | | L ? Response | cr_IgnoredResponse | | 1 |
| 2 | | RETURN | | | |
| 3 | DFI1 | L ? OTHERWISE [ tcv_TestBody = FALSE ] | | (I) | 2 |
| 4 | DFF1 | L ? OTHERWISE [ tcv_TestBody = TRUE ] | | (F) | 3 |

| Detailed comments | |
|---|---|
| | 1. Valid events that are to be ignored can be included in the default behaviour, but should have no preliminary verdict assigned.<br>2. If unexpected data is received in the preambles or postambles, a preliminary inconclusive verdict is assigned, and the test case is terminated.<br>3. If unexpected data is received in the test body, a preliminary failure verdict is assigned, and the test case is terminated. |

See also ETR 141 [37] clauses 11.2, 12.4 and 14.3.

# E.3.21 Test suite and test case variables

A default value shall be provided for all test suite and test case variables.

## E.3.22 Use of macros is forbidden

The use of macros is forbidden, to support migration to TTCN3.

## E.3.23 Support for future Radio Access Technologies

To allow existing test cases to be updated in future to support other radio access technologies, test suites shall make use of a PIXIT parameter px_RAT of type RatType as shown in the following example.

| Test Case Name | tc_RAT_Example1 | | | | |
|---|---|---|---|---|---|
| **Nr** | **Label** | **Behaviour Description** | **Constraints Ref** | **Verdict** | **Comments** |
| 1 | | START t_Guard( 300 ) | | | |
| 2 | | [ px_RAT = fdd ] | | | |
| 3 | | PCO ! FDD_PDU | c_FDD_PDU1 | | FDD specific behaviour |
| 4 | TBP1 | PCO ? COMMON_PDU | c_COMMON_PDU1 | (P) | |
| 5 | | [ px_RAT = tdd ] | | | |
| 6 | | PCO ! TDD_PDU | c_TDD_PDU1 | | TDD specific behaviour |
| 7 | TBP2 | PCO ? COMMON_PDU | c_COMMON_PDU1 | (P) | |
| 8 | | [ px_RAT = other_rat ] | | I | Tests for this RAT not implemented yet |
| 9 | TCE1 | [ TRUE ] | | I | Unexpected px_RAT value |
| Detailed Comments | | | | | |

In general, alternatives should be used to separate behaviour specific for each RAT, and common behaviour should be re-used as much as possible. A final inconclusive verdict shall be used for any alternatives that have not been implemented yet.

Local trees may be used as shown in the following example to improve re-use of common behaviour.

| Test Case Name | tc_RAT_Example2 |
|---|---|

| **Nr** | **Label** | **Behaviour Description** | **Constraints Ref** | **Verdict** | **Comments** |
|---|---|---|---|---|---|
| 1 | | START t_Guard( 300 ) | | | |
| 2 | | +lt_RAT_SpecificPart | | | |
| 3 | TBP1 | PCO ? COMMON_PDU | c_COMMON_PDU1 | (P) | Common behaviour |
| | | lt_RAT_SpecificPart | | | |
| 4 | | [ px_RAT = fdd ] | | | |
| 5 | | PCO ! FDD_PDU | c_FDD_PDU1 | | FDD specific behaviour |
| 6 | | [ px_RAT = tdd ] | | | |
| 7 | | PCO ! TDD_PDU | c_TDD_PDU1 | | TDD specific behaviour |
| 8 | TCE1 | [ TRUE ] | | (I) | Unexpected px_RAT value |
| Detailed Comments | | | | | |

## E.3.24 Managing multiple representations of the same information

When the same information is represented using multiple types within the same test suite, it is necessary to manage conversions between the types, and ensure that the information remains consistent across all of the representations.

For example, IMSI is represented as 'SEQUENCE (SIZE (6..15)) OF Digit' in the RRC ASN.1 definitions, as a HEXSTRING for input as a PIXIT parameter, and as an information element defined in TTCN tabular format for MM.

### E.3.24.1 Predefined types

Conversion operations are not required to convert the following TTCN predefined types to their counterparts in ASN.1.

a) INTEGER predefined type.

b) BOOLEAN predefined type.

c) BITSTRING predefined type.

d) HEXSTRING predefined type.

e) OCTETSTRING predefined type.

f) OBJECTIDENTIFIER predefined type.

g) R_TYPE predefined type.

h) CharacterString predefined types.

Therefore it is valid to pass a value of type BIT STRING (ASN.1) as a formal parameter of type BITSTRING (TTCN predefined).

## E.3.24.2 Simple types

TR 101 666 [27] clause 11.2.1 states:

- "TTCN is a weakly typed language, in that values of any two types which have the same base type are considered to be type compatible (e.g. for the purposes of performing assignments or parameter passing)".

When simple types have restrictions, it is the TTCN author's responsibility to ensure that the restrictions are compatible. The TTCN compiler provides some assistance with this, but the extent of the checking is compiler specific.

## E.3.24.3 Structured types

For conversion between more complex representations, test suite operations will generally be required. If the mapping is simple enough, it may be possible to perform the conversion using a test step, which takes the common representation as a parameter, and stores the required representation in a test case variable. This may avoid the need for an extra test suite operation.

## E.3.24.4 Conversion responsibility

Two design approaches are possible for deciding where the responsibility of conversion lies: Calling party conversion and called party conversion.

The appropriate option should be selected on a case-by-case basis with the following restrictions:

- If one representation of the information is a PIXIT parameter, and this information must be passed to a test step, the called party conversion option shall be used, and the formal parameter to the test step shall always have the same type as the PIXIT parameter.

- If a test step provides multiple alternatives for different radio access technologies, which require different representations of the same information, the called party conversion convention shall be used. In this case a technology independent representation of the information shall be passed as a parameter, and the test step shall perform the conversion to the appropriate type depending on which RAT is being used.

## E.3.24.5 Option 1: Calling party conversions

For this approach, each test step provides an interface based on its internal representation. It is the responsibility of the test case / step attaching the test step to perform the conversion before the attachment.

### E.3.24.5.1 Advantages

- The number of calls to conversion operations is minimized.

- The complexity of the attached test steps is reduced because fewer conversions are required than for the called party conversion approach.

#### E.3.24.5.2 Disadvantages

- Different types are used to transfer the same information across the test step interfaces.
- The complexity of the attaching test steps / cases may be increased because conversions are required before attaching a test step.
- The attaching test steps / cases are responsible for ensuring that multiple representations contain consistent information.

### E.3.24.6 Option 2: Called party conversions

In this case, the same representation is used wherever the information must be used as a formal parameter value to a test step, and it is the responsibility of the test step to perform any conversions required.

#### E.3.24.6.1 Advantages

- The complexity in the attaching test case / step is reduced, which will often improve readability.
- The test step interfaces are cleaner, because the same representation is always passed as a formal parameter.
- Internal representations may be hidden within test steps so that calling parties do not need to have any knowledge of them.

#### E.3.24.6.2 Disadvantages

- Conversion operations may be called more times than necessary, for example if the same test step is attached twice within one test case.

## E.3.25 Assignment using constraint

According to TR 101 666 [27], the Right Hand Side (RHS) of an assignment shall not contain any unbound variables. The matching symbols, AnyValue or AnyOrOmit, in both tabular and ASN.1 constraints shall not be assigned to a test case variable, independent of the type of the test case variable.

## E.3.26 Guidelines for use of timers when tolerances are applicable

Timed events within the test suite should implement the timer tolerances specified in 3GPP TS 34.108 [3], clause 4.2.3. It is the TTCN author's responsibility to ensure that appropriate tolerance checks and tolerance values are being used.

NOTE: Tolerances are not applicable to guard timers as described in clause E.3.18 of the present document.

### E.3.26.1 Specific situations

The present clause provides recommendations for how to implement timers with tolerances for the following situations:

a) The timed event must occur before a given time.

b) The timed event must occur after a given time.

c) The timed event must occur between two given times.

NOTE: A specific case of this situation is when the desired event occurs at a specific time, plus or minus a tolerance.

### E.3.26.2 Example situations

The examples below assume:

a) The test case variable tcv_Duration contains the timer duration (in terms of the units used in the timer declaration).

b) The test case variable tcv_Tolerance has been initialized using one of the following assignments (it is the TTCN author's responsibility to select the calculation resulting in the greatest value of tcv_Tolerance. Reference 3GPP TS 34.108 [3], clause 4.2.3):

1) ( tcv_Tolerance := tcv_Duration / 10 )

2) ( tcv_Tolerance := 2 * tcv_TTI + tsc_T_Delta )
Where tcv_TTI contains the applicable TTI (in ms), and tsc_T_Delta is 55 ms.

NOTE: The timer value parameters used when starting the timers in the examples are recommendations only. Other timer value parameter expressions may be used if appropriate.

### E.3.26.2.1 Example of situation 1

| **Test Step Name** | | ts_TimerSituation1Example | | | |
|---|---|---|---|---|---|
| **Purpose** | | To demonstrate implementation of a timed event that must occur before a given time. | | | |
| **Nr** | **Label** | **Behaviour Description** | **Constraints Ref** | **Verdict** | **Comments** |
| 1 | | START t_UpperBound ( tcv_Duration + tcv_Tolerance ) | | | 1. |
| 2 | | +lt_TimedEvent | | | 2. |
| 3 | TSP1 | CANCEL t_UpperBound | | (P) | 3. |
| 4 | TSF1 | ? TIMEOUT t_UpperBound | | (F) | 4. |
| | | lt_TimedEvent | | | |
| 5 | | [ TRUE ] | | | 2. |
| **Detailed Comments** | | 1. Start the timer, allowing tcv_Tolerance extra units for the timed event to arrive.<br>2. The timed event is observed.<br>3. The timed event occurred before the timeout, so cancel the timer, and assign a preliminary pass verdict.<br>4. The timer expired before the timed event occurred, so assign a preliminary failure verdict. | | | |

### E.3.26.2.2 Example of situation 2

| **Test Step Name** | | ts_TimerSituation2Example | | | |
|---|---|---|---|---|---|
| **Purpose** | | To demonstrate implementation of a timed event that must occur after a given time. | | | |
| **Nr** | **Label** | **Behaviour Description** | **Constraints Ref** | **Verdict** | **Comments** |
| 1 | | START t_LowerBound ( tcv_Duration - tcv_Tolerance ) | | | 1. |
| 2 | | ? TIMEOUT t_LowerBound | | | 2. |
| 3 | | +lt_TimedEvent | | | 3. |
| 4 | TSP1 | [ TRUE ] | | (P) | 3. |
| 5 | | +lt_TimedEvent | | | 4. |
| 6 | TSF1 | CANCEL t_LowerBound | | (F) | 4. |
| | | lt_TimedEvent | | | |
| 7 | | [ TRUE ] | | | |
| **Detailed Comments** | | 1. Start the timer, allowing tcv_Tolerance extra units for the timed event to arrive.<br>2. The timeout is observed before the timed event.<br>3. The timed event is observed, so assign a preliminary pass verdict.<br>4. The timed event occurred before the timeout, so cancel the timer, and assign a preliminary failure verdict. | | | |

### E.3.26.2.3 Example of situation 3

| **Test Step Name** | | ts_TimerSituation3Example | | | |
|---|---|---|---|---|---|
| **Purpose** | | To demonstrate implementation of a timed event that must occur between two given times. | | | |
| **Nr** | **Label** | **Behaviour Description** | **Constraints Ref** | **Verdict** | **Comments** |
| 1 | | START t_UpperBound ( tcv_Duration + tcv_Tolerance ),<br>START t_LowerBound ( tcv_Duration - tcv_Tolerance ) | | | 1. |
| 2 | | ? TIMEOUT t_LowerBound | | | 2. |
| 3 | | +lt_TimedEvent | | | 3 |
| 4 | TSP1 | CANCEL t_UpperBound | | (P) | 3. |
| 5 | TSF1 | ? TIMEOUT t_UpperBound | | (F) | 4. |
| 6 | | +lt_TimedEvent | | | 5. |
| 7 | TSF2 | CANCEL t_LowerBound , CANCEL t_UpperBound | | (F) | |
| | | lt_TimedEvent | | | |
| 8 | | [ TRUE ] | | | |
| **Detailed Comments** | | 1. Start the upper and lower bound timers, allowing tcv_Tolerance extra units each side of the expected time for the timed event to arrive.<br>2. The lower bound timeout is observed before the timed event.<br>3. The timed event is observed, so cancel the upper bound timer, and a preliminary pass verdict is assigned.<br>4. The upper bound timer expired before the timed event occurred, so a preliminary failure verdict is assigned.<br>5. The timed event occurred before the lower bound timer expired, so a preliminary failure verdict is assigned. | | | |

# Annex F (informative): Void

Void.

# Annex G (informative): Recommendation of an unique ICS/IXIT electronic exchange format

With standardization of ICS/IXIT file format, same Test Suite Parameter (TSP) files can be used across different System Simulators. The ICS/PIXIT will be simple ASCII text files. The assumption is that the test suite parameters are of simple type definitions only and do not include structured types (clause E.3.14).

## G.1 Syntax

The proposed format of the ICS/IXIT file is as follows:

**[<Parameter Name> <Parameter Type> <Value>] [<#Comment>]**

- At the most one TSP value can be defined in a line.
- The comment starts with # and ends with new line.
- [..] represent OPTIONAL field(s).
- **<..>** represent MANDATORY field(s).
- Fields will be separated by one or more space characters.

The syntax for different Parameter Types will be as follows:

- **INTEGER**

  <Parameter Name> INTEGER <Integer Value>

- **BOOLEAN**

  <Parameter Name> BOOLEAN <Value>

  NOTE 1: Here Value will be either 'TRUE' or 'FALSE'.

- **BITSTRING**

  <Parameter Name> BITSTRING <Value>

- **HEXSTRING**

  <Parameter Name> HEXSTRING <Value>

- **OCTETSTRING**

  <Parameter Name> OCTETSTRING <Value>

- **ENUMERATED**

  <Parameter Name> ENUMERATED <Integer Value>

- **IA5String**

  <Parameter Name> IA5String "<Value>"

  NOTE 2: Here Value will be string and is mandatory to put the actual value in double quotes.

# G.2 Examples

This clause gives an example of ICS/IXIT file format.

```
# TSP file version 1.0.0

px_CS              BOOLEAN        TRUE              # TRUE if Circuit Switched is applicable

px_PTMSI_Def       OCTETSTRING    12345678           #Default PTMSI

px_RAT             ENUMERATED     0                  #px_RAT is of Type RatType and is of Type of ENUMERATED
                                                     {fdd(0), tdd(1)}.

px_Region          IA5String      "Europe"           #px_Region is of Type Region and is of Type IA5String
("Europe", Japan").

px_PriScrmCodeA                   INTEGER            100    #px_PriScrmCodeA is of Type PrimaryScramblingCode
and is of Type
                                                     INTEGER (0..511).

px_SRNC_Id         BITSTRING      000000000001       #px_SRNC_Id is of Type SRNC_Identity and is of Type BIT
STRING
                                                     (SIZE(12)).

px_IMSI_Def        HEXSTRING      001010123456063    #Default IMSI
```

# Annex H (informative): A-GPS ASN.1 module

```
Lcs-Definitions DEFINITIONS  ::=

BEGIN

--************************************************
-- From ITU-T Rec. X.880 (July/1994)
--************************************************



Code ::= CHOICE {
        local   INTEGER,
        global  OBJECT IDENTIFIER
        }


--*****************************************************
-- From 3GPP TS 29.002
--*****************************************************


NotificationToMSUser ::= ENUMERATED {
    notifyLocationAllowed (0),
    notifyAndVerify-LocationAllowedIfNoResponse (1),
    notifyAndVerify-LocationNotAllowedIfNoResponse (2),
    ...,
    locationNotAllowed (3) }
     -- exception handling:
     -- At reception of any other value than the ones listed the receiver shall ignore
     -- NotificationToMSUser.

LocationType ::= SEQUENCE {
    locationEstimateType            [0] IMPLICIT LocationEstimateType,
    ...,
    deferredLocationEventType   [1] IMPLICIT DeferredLocationEventType  OPTIONAL }

LocationEstimateType ::= ENUMERATED {
    currentLocation (0),
    currentOrLastKnownLocation (1),
    initialLocation (2),
    ...,
    activateDeferredLocation (3),
    cancelDeferredLocation (4) }
     -- exception handling:
     -- a ProvideSubscriberLocation-Arg containing an unrecognized LocationEstimateType
     -- shall be rejected by the receiver with a return error cause of unexpected data value

DeferredLocationEventType ::= BIT STRING {
    msAvailable (0) } (SIZE (1..16))
     -- exception handling
     -- a ProvideSubscriberLocation-Arg containing other values than listed above in
     -- DeferredLocationEventType shall be rejected by the receiver with a return error cause of
     -- unexpected data value.


LCSClientExternalID ::= SEQUENCE {
    externalAddress     [0] IMPLICIT ISDN-AddressString OPTIONAL,
    extensionContainer  [1] IMPLICIT ExtensionContainer OPTIONAL,
    ...
    }

LCSClientName ::= SEQUENCE {
    dataCodingScheme    [0] IMPLICIT USSD-DataCodingScheme,
    nameString          [2] IMPLICIT NameString,
    ...
    }

     -- The USSD-DataCodingScheme shall indicate use of the default alphabet through the following
encoding
     -- bit 7 6 5 4 3 2 1 0
     --         0 0 0 0 1 1 1 1
```

```
NameString ::= USSD-String (SIZE (1..maxNameStringLength))

maxNameStringLength  INTEGER ::= 63

USSD-DataCodingScheme ::= OCTET STRING (SIZE (1))
    -- The structure of the USSD-DataCodingScheme is defined by the Cell
    -- Broadcast Data Coding Scheme as described in TS 3GPP TS 23.038 [54]


LCSRequestorID ::= SEQUENCE {
    dataCodingScheme        [0] IMPLICIT USSD-DataCodingScheme,
    requestorIDString   [1] IMPLICIT RequestorIDString,
    ...
    }

RequestorIDString ::= USSD-String (SIZE (1..maxRequestorIDStringLength))

maxRequestorIDStringLength  INTEGER ::= 63


LCSCodeword ::= SEQUENCE {
    dataCodingScheme        [0] IMPLICIT USSD-DataCodingScheme,
    lcsCodewordString   [1] IMPLICIT LCSCodewordString,
    ...
    }

LCSCodewordString ::= USSD-String (SIZE (1..maxLCSCodewordStringLength))

maxLCSCodewordStringLength  INTEGER ::= 20

LCSServiceTypeID ::= INTEGER (0..127)
    -- the integer values 0-63 are reserved for Standard LCS service types
    -- the integer values 64-127 are reserved for Non Standard LCS service types


USSD-String ::= OCTET STRING (SIZE (1..maxUSSD-StringLength))
    -- The structure of the contents of the USSD-String is dependent
    -- on the USSD-DataCodingScheme as described in TS 3GPP TS 23.038 [25].

maxUSSD-StringLength  INTEGER ::= 160


ISDN-AddressString ::= AddressString (SIZE (1..maxISDN-AddressLength))
    -- This type is used to represent ISDN numbers.

maxISDN-AddressLength  INTEGER ::= 9


AddressString ::= OCTET STRING (SIZE (1..maxAddressLength))
    -- This type is used to represent a number for addressing purposes. It is
    -- composed of
    -- a) one octet for nature of address, and numbering plan indicator.
    -- b) digits of an address encoded as TBCD-String.

    -- a)   The first octet includes a one bit extension indicator, a
    --      3 bits nature of address indicator and a 4 bits numbering
    --      plan indicator, encoded as follows:

    -- bit 8: 1  (no extension)

    -- bits     765: nature of address indicator
    --              000 unknown
    --              001 international number
    --              010 national significant number
    --              011 network specific number
    --              100 subscriber number
    --              101 reserved
    --              110 abbreviated number
    --              111 reserved for extension

    -- bits     4321: numbering plan indicator
    --              0000        unknown
    --              0001        ISDN/Telephony Numbering Plan (Rec ITU-T E.164)
    --              0010        spare
    --              0011        data numbering plan (ITU-T Rec X.121)
    --              0100        telex numbering plan (ITU-T Rec F.69)
    --              0101        spare
```

```
    --              0110        land mobile numbering plan (ITU-T Rec E.212)
    --              0111        spare
    --              1000        national numbering plan
    --              1001        private numbering plan
    --              1111        reserved for extension

    --  all other values are reserved.

    -- b)   The following octets representing digits of an address
    --      encoded as a TBCD-STRING.

maxAddressLength  INTEGER ::= 20


LCS-QoS ::= SEQUENCE {
    horizontal-accuracy         [0] IMPLICIT Horizontal-Accuracy    OPTIONAL,
    verticalCoordinateRequest   [1] IMPLICIT NULL       OPTIONAL,
    vertical-accuracy               [2] IMPLICIT Vertical-Accuracy  OPTIONAL,
    responseTime                        [3] IMPLICIT ResponseTime   OPTIONAL,
    extensionContainer              [4] IMPLICIT ExtensionContainer OPTIONAL,
    ...
    }

Horizontal-Accuracy ::= OCTET STRING (SIZE (1))
    -- bit 8 = 0
    -- bits 7-1 = 7 bit Uncertainty Code defined in 3GPP TS 23.032. The horizontal location
    -- error should be less than the error indicated by the uncertainty code with 67%
    -- confidence.

Vertical-Accuracy ::= OCTET STRING (SIZE (1))
    -- bit 8 = 0
    -- bits 7-1 = 7 bit Vertical Uncertainty Code defined in 3GPP TS 23.032.
    -- The vertical location error should be less than the error indicated
    -- by the uncertainty code with 67% confidence.

ResponseTime ::= SEQUENCE {
    responseTimeCategory        ResponseTimeCategory,
    ...
    }
     -- note: an expandable SEQUENCE simplifies later addition of a numeric response time.

ResponseTimeCategory ::= ENUMERATED {
    lowdelay (0),
    delaytolerant (1),
    ...
    }
     -- exception handling:
     -- an unrecognized value shall be treated the same as value 1 (delaytolerant)


SupportedGADShapes ::= BIT STRING {
    ellipsoidPoint (0),
    ellipsoidPointWithUncertaintyCircle (1),
    ellipsoidPointWithUncertaintyEllipse (2),
    polygon (3),
    ellipsoidPointWithAltitude (4),
    ellipsoidPointWithAltitudeAndUncertaintyElipsoid (5),
    ellipsoidArc (6) } (SIZE (7..16))
     -- A node shall mark in the BIT STRING all Shapes defined in 3GPP TS 23.032 it supports.
     -- exception handling: bits 7 to 15 shall be ignored if received.


Ext-GeographicalInformation ::= OCTET STRING (SIZE (1..maxExt-GeographicalInformation))
    -- Refers to geographical Information defined in 3GPP TS 23.032.
    -- This is composed of 1 or more octets with an internal structure according to
    -- 3GPP TS 23.032
    -- Octet 1: Type of shape, only the following shapes in 3GPP TS 23.032 are allowed:
    --      (a) Ellipsoid point with uncertainty circle
    --      (b) Ellipsoid point with uncertainty ellipse
    --      (c) Ellipsoid point with altitude and uncertainty ellipsoid
    --      (d) Ellipsoid Arc
    --      (e) Ellipsoid Point
    -- Any other value in octet 1 shall be treated as invalid
    -- Octets 2 to 8 for case (a)  Ellipsoid point with uncertainty circle
    --      Degrees of Latitude             3 octets
    --      Degrees of Longitude                3 octets
    --      Uncertainty code                1 octet
    -- Octets 2 to 11 for case (b)  Ellipsoid point with uncertainty ellipse:
```

```
    --      Degrees of Latitude             3 octets
    --      Degrees of Longitude                3 octets
    --      Uncertainty semi-major axis             1 octet
    --      Uncertainty semi-minor axis             1 octet
    --      Angle of major axis             1 octet
    --      Confidence              1 octet
    -- Octets 2 to 14 for case (c)  Ellipsoid point with altitude and uncertainty ellipsoid
    --      Degrees of Latitude             3 octets
    --      Degrees of Longitude                3 octets
    --      Altitude                2 octets
    --      Uncertainty semi-major axis             1 octet
    --      Uncertainty semi-minor axis             1 octet
    --      Angle of major axis             1 octet
    --      Uncertainty altitude                1 octet
    --      Confidence              1 octet
    -- Octets 2 to 13 for case (d)  Ellipsoid Arc
    --      Degrees of Latitude             3 octets
    --      Degrees of Longitude                3 octets
    --      Inner radius                2 octets
    --      Uncertainty radius              1 octet
    --      Offset angle                1 octet
    --      Included angle              1 octet
    --      Confidence              1 octet
    -- Octets 2 to 7 for case (e)  Ellipsoid Point
    --      Degrees of Latitude             3 octets
    --      Degrees of Longitude                3 octets

    --
    -- An Ext-GeographicalInformation parameter comprising more than one octet and
    -- containing any other shape or an incorrect number of octets or coding according
    -- to 3GPP TS 23.032 shall be treated as invalid data by a receiver.
    --
    -- An Ext-GeographicalInformation parameter comprising one octet shall be discarded
    -- by the receiver if an Add-GeographicalInformation parameter is received
    -- in the same message.
    --
    -- An Ext-GeographicalInformation parameter comprising one octet shall be treated as
    -- invalid data by the receiver if an Add-GeographicalInformation parameter is not
    -- received in the same message.

maxExt-GeographicalInformation  INTEGER ::= 20
    -- the maximum length allows for further shapes in 3GPP TS 23.032 to be included in later
    -- versions of 3GPP TS 29.002


Add-GeographicalInformation ::= OCTET STRING (SIZE (1..maxAdd-GeographicalInformation))
    -- Refers to geographical Information defined in 3GPP TS 23.032.
    -- This is composed of 1 or more octets with an internal structure according to
    -- 3GPP TS 23.032
    -- Octet 1: Type of shape, all the shapes defined in 3GPP TS 23.032 are allowed:
    -- Octets 2 to n (where n is the total number of octets necessary to encode the shape
    -- according to 3GPP TS 23.032) are used to encode the shape itself in accordance with the
    -- encoding defined in 3GPP TS 23.032
    --
    -- An Add-GeographicalInformation parameter, whether valid or invalid, received
    -- together with a valid Ext-GeographicalInformation parameter in the same message
    -- shall be discarded.
    --
    -- An Add-GeographicalInformation parameter containing any shape not defined in
    -- 3GPP TS 23.032 or an incorrect number of octets or coding according to
    -- 3GPP TS 23.032 shall be treated as invalid data by a receiver if not received
    -- together with a valid Ext-GeographicalInformation parameter in the same message.

maxAdd-GeographicalInformation  INTEGER ::= 91
    -- the maximum length allows support for all the shapes currently defined in 3GPP TS 23.032



--*****************************************************
-- Derived from ITU-T Rec. Q.773 (June/1997)
--*****************************************************

Component ::= CHOICE {
            invoke          [1] IMPLICIT Invoke,
            returnResultLast    [2] IMPLICIT ReturnResult,
            returnError     [3] IMPLICIT ReturnError,
            reject          [4] IMPLICIT Reject
            }
```

```
-- The used part of Q.773 is almost the same as the component portion of TC messages. The only
-- difference is that returnResultNotLast is not used. (see 24.080, clause 3.6.1)

Invoke ::=  SEQUENCE {
            invokeID        InvokeIdType,
            linkedID        [0] IMPLICIT InvokeIdType OPTIONAL,
            operationCode       Code,
                        -- local:116 for lcsNotification
                        -- local:115 for lcs-MOLR

            parameter       InvokeArgument OPTIONAL
            }


ReturnResult ::= SEQUENCE {
            invokeID        InvokeIdType,
            result          SEQUENCE {
                operationCode       Code,
                            -- local:116 for lcsNotification
                            -- local:115 for lcs-MOLR

                parameter               ReturnRes
                                                } OPTIONAL
            }


ReturnError ::= SEQUENCE {
            invokeID        InvokeIdType,
            errorCode       Code,
                        -- local:34 for SystemFailure
                        -- local:36 for UnexpectedDataValue
                        -- local:35 for DataMissing
                        -- local:21 for FacilityNotSupported
                        -- local:19 for SS-SubscriptionViolation
                        -- local:54 for PositionMethodFailure

            parameter       ReturnErrPara OPTIONAL
            }


Reject ::= SEQUENCE {
            invokeID CHOICE {
                derivable               InvokeIdType,
                not-derivable       NULL },
            problem CHOICE {
                generalProblem              [0] IMPLICIT GeneralProblem,
                invokeProblem               [1] IMPLICIT InvokeProblem,
                returnResultProblem [2] IMPLICIT ReturnResultProblem,
                returnErrorProblem      [3] IMPLICIT ReturnErrorProblem }
                }

InvokeIdType ::= INTEGER (-128..127)



GeneralProblem ::=  INTEGER {
                    unrecognizedComponent (0),
                    mistypedComponent (1),
                    badlyStructuredComponent (2) }

InvokeProblem ::=   INTEGER {duplicateInvokeID (0),
                    unrecognizedOperation (1),
                    mistypedParameter (2),
                    resourceLimitation (3),
                    initiatingRelease (4),
                    unrecognizedLinkedID (5),
                    linkedResponseUnexpected (6),
                    unexpectedLinkedOperation (7) }

ReturnResultProblem ::= INTEGER {unrecognizedInvokeID (0),
                 returnResultUnexpected (1),
                 mistypedParameter (2) }

ReturnErrorProblem ::=  INTEGER {unrecognizedInvokeID (0),
                 returnErrorUnexpected (1),
                 unrecognizedError (2),
                 unexpectedError (3),
                 mistypedParameter (4) }
```

```
--**************************************************
--Derived from SS-DataTypes in 3GPP TS 24.080 ver.540
--**************************************************

Components  ::= SET OF Component


InvokeArgument  ::= CHOICE {
                            lcsNotification [0] EXPLICIT LocationNotificationArg,
                            lcs-MOLR    [1] EXPLICIT LCS-MOLRArg
                                                }


ReturnRes       ::= CHOICE {
                            lcsNotiffication [0] EXPLICIT LocationNotificationRes,
                            lcsMOLRRes  [1] EXPLICIT LCS-MOLRRes
                                        }


ReturnErrPara   ::= CHOICE {
                        lcsNotiffication [0] EXPLICIT    LcsNotificationErrPara,
                         lcs-MOLR-ResErrPara    [1] EXPLICIT    Lcs-MOLR-ErrPara
                                        }



LocationNotificationArg ::= SEQUENCE {
    notificationType            [0] IMPLICIT NotificationToMSUser,
    locationType                [1] IMPLICIT LocationType,
    lcsClientExternalID [2] IMPLICIT LCSClientExternalID    OPTIONAL,
    lcsClientName               [3] IMPLICIT LCSClientName      OPTIONAL,
    ...,
    lcsRequestorID              [4] IMPLICIT LCSRequestorID     OPTIONAL,
    lcsCodeword                 [5] IMPLICIT LCSCodeword            OPTIONAL,
    lcsServiceTypeID            [6] IMPLICIT LCSServiceTypeID   OPTIONAL
    }
     -- exception handling:
     -- At reception of an unrecognised notificationType value the receiver shall reject the
     -- operation with a return error cause of unexpected data value.
     -- At reception of an unrecognised locationType value the receiver shall reject the
     -- operation with a return error cause of unexpected data value.



LocationNotificationRes  ::= SEQUENCE {
            verificationResponse    [0] IMPLICIT VerificationResponse OPTIONAL,
...
                                                                    }

VerificationResponse::= ENUMERATED {
    permissionDenied (0),
    permissionGranted (1),
    ... }

     -- exception handling:
     -- an unrecognized value shall be treated the same as value 0 (permissionDenied)


LcsNotificationErrPara    ::= CHOICE {
                                systemFailure   [0] EXPLICIT    SystemFailureParam,
                                unexpectedDataValue [1] EXPLICIT    UnexpectedDataParam
                                                                    }
     -- This is derived from information object "lcs-LocationNotification"


LCS-MOLRArg ::= SEQUENCE {
                    molr-Type                       [0] IMPLICIT    MOLR-Type,
                    locationMethod              [1] IMPLICIT    LocationMethod          OPTIONAL,
                    lcs-QoS                         [2] IMPLICIT    LCS-QoS             OPTIONAL,
                    lcsClientExternalID [3] IMPLICIT    LCSClientExternalID     OPTIONAL,
                    mlc-Number                  [4] IMPLICIT    ISDN-AddressString      OPTIONAL,
                    gpsAssistanceData       [5] IMPLICIT    GPSAssistanceData       OPTIONAL,
    ...,
                    supportedGADShapes      [6] IMPLICIT    SupportedGADShapes      OPTIONAL
    }
```

```
     -- The parameter locationMethod shall be included if and only if the
     -- molr-Type is set to value deCipheringKeys or assistanceData.
     -- The parameter gpsAssistanceData shall be included if and only if the
     -- molr-Type is set to value assistanceData and
     -- locationMethod is set to value assistedGPS.

MOLR-Type ::= ENUMERATED {
    locationEstimate (0), assistanceData (1), deCipheringKeys (2),
    ...
    }
     -- exception handling:
     -- an unrecognized value shall be rejected by the receiver with a return error cause of
     -- unexpected data value.

LocationMethod ::= ENUMERATED {
    msBasedEOTD (0), msAssistedEOTD (1), assistedGPS    (2),
    ...,
    msBasedOTDOA    (3)
    }
     -- exception handling:
     -- When this parameter is received with value msBasedEOTD or msAssistedEOTD and the MS
     -- is camped on an UMTS Service Area then the receiver shall reject it
     -- with a return error cause of unexpected data value.
     -- When this parameter is received with value msBasedOTDOA and the MS
     -- is camped on a GSM Cell then the receiver shall reject it with
     -- a return error cause of unexpected data value.
     -- an unrecognized value shall be rejected by the receiver with
     -- a return error cause of unexpected data value.


GPSAssistanceData ::= OCTET STRING (SIZE (1..38))

     -- Octets 1 to 38 are coded in the same way as the octets 3 to 7+2n
     -- of Requested GPS Data IE in 3GPP TS 49.031.



LCS-MOLRRes ::= SEQUENCE {
    locationEstimate            [0] IMPLICIT Ext-GeographicalInformation    OPTIONAL,
    decipheringKeys         [1] IMPLICIT DecipheringKeys            OPTIONAL,
    ...,
    add-LocationEstimate    [2] IMPLICIT Add-GeographicalInformation    OPTIONAL
    }

     -- Parameters locationEstimate or add-LocationEstimate (one but not both)
     -- shall be included if and only if the
     -- molr-Type in LocationRequestArg was set to value locationEstimate.
     -- Parameter add-LocationEstimate shall not be included
     -- if the supportedGADShapes parameter was not received in the LCS-MOLRArg.
     -- The locationEstimate and the add-locationEstimate parameters shall not be
     -- sent if the supportedGADShapes parameter has been received in LCS-MOLRArg
     -- and the shape encoded in locationEstimate or add-LocationEstimate
     -- is not marked as supported in supportedGADShapes.
     -- In such a case LCS-MOLRArg shall be rejected with error
     -- FacilityNotSupported with additional indication
     -- shapeOfLocationEstimateNotSupported.
     -- Parameter decipheringKeys shall be included if and only if the molr-Type
     -- in LocationRequestArg was set to value deCipheringKeys.



DecipheringKeys ::= OCTET STRING (SIZE (15))

     -- Octets in DecipheringKeys are coded in the same way as the octets 3 to 17
     -- of Deciphering Key IE in 3GPP TS 49.031. I.e. these octets contain
     -- Current Deciphering Key, Next Deciphering Key and Ciphering Key Flag.



Lcs-MOLR-ErrPara ::= CHOICE {
                systemFailure       [0] EXPLICIT            SystemFailureParam,
                unexpectedDataValue [1] EXPLICIT            UnexpectedDataParam,
                dataMissing         [2] EXPLICIT            DataMissingParam,
                facilityNotSupported [3] EXPLICIT           FacilityNotSupParam,
                ss-SubscriptionViolation [4] EXPLICIT       SS-SubscriptionViolationParam,
                positionMethodFailure   [5] EXPLICIT        PositionMethodFailure-Param
                }
     -- This is derived from information object "lcs-MOLR"
```

```
--*****************************************************
-- Derived from MAP-Errors 3GPP 29.002
--*****************************************************



SystemFailureParam ::= CHOICE {
            networkResource                         NetworkResource,
            -- networkResource must not be used in version 3
            extensibleSystemFailureParam        ExtensibleSystemFailureParam
            -- extensibleSystemFailureParam must not be used in version <3
    }


NetworkResource ::= ENUMERATED {
    plmn (0),
    hlr (1),
    vlr (2),
    pvlr (3),
    controllingMSC (4),
    vmsc (5),
    eir (6),
    rss (7)}


ExtensibleSystemFailureParam ::= SEQUENCE {
            networkResource         NetworkResource     OPTIONAL,
            extensionContainer      ExtensionContainer  OPTIONAL
                                                        }


UnexpectedDataParam ::= SEQUENCE {
            extensionContainer      ExtensionContainer  OPTIONAL
                                    }


DataMissingParam ::= SEQUENCE {
            extensionContainer      ExtensionContainer  OPTIONAL
                    }


FacilityNotSupParam ::= SEQUENCE {
    extensionContainer                                          ExtensionContainer  OPTIONAL,
    ...,
    shapeOfLocationEstimateNotSupported                     [0] IMPLICIT NULL   OPTIONAL,
    neededLcsCapabilityNotSupportedInServingNode    [1] IMPLICIT NULL   OPTIONAL
                                                }


SS-SubscriptionViolationParam ::= SEQUENCE {
            extensionContainer      ExtensionContainer  OPTIONAL
                    }


PositionMethodFailure-Param ::= SEQUENCE {
    positionMethodFailure-Diagnostic    [0] IMPLICIT PositionMethodFailure-Diagnostic   OPTIONAL,
    extensionContainer          [1] IMPLICIT ExtensionContainer         OPTIONAL,
    ...
                                        }

PositionMethodFailure-Diagnostic ::= ENUMERATED {
    congestion (0),
    insufficientResources (1),
    insufficientMeasurementData (2),
    inconsistentMeasurementData (3),
    locationProcedureNotCompleted (4),
    locationProcedureNotSupportedByTargetMS (5),
    qoSNotAttainable (6),
    positionMethodNotAvailableInNetwork (7),
    positionMethodNotAvailableInLocationArea (8),
    ...
    }
    -- exception handling:
    -- any unrecognized value shall be ignored
```

```
ExtensionContainer ::= SEQUENCE {
    privateExtensionList    [0] IMPLICIT PrivateExtensionList   OPTIONAL,
    pcs-Extensions              [1] IMPLICIT PCS-Extensions     OPTIONAL,
    ...
       }

PrivateExtensionList ::= SEQUENCE SIZE (1..maxNumOfPrivateExtensions) OF
                PrivateExtension

PrivateExtension ::= SEQUENCE {
    extId       OBJECT IDENTIFIER,
    extType     OCTET STRING    OPTIONAL}



maxNumOfPrivateExtensions  INTEGER ::= 10



PCS-Extensions ::= SEQUENCE {...}



END
```

# Annex I (Informative): Guidance on test execution

This clause provides the guidance on test execution of the different ATSs.

## I.1 Guidelines on CS/PS domain execution

### I.1.1 L2 test

The MAC and RLC tests belong to the Layer 2 test and they are independent of the CS or PS domain applied to the test execution. The current MAC and RLC tests are written in TTCN in the way that the test bodies of the CS and PS domains have the identical test procedures. It is sufficient to perform MAC and RLC tests in the PS domain, unless the UE supports only CS domain. In the latter case, MAC and RLC tests are performed in the CS domain

### I. 1.2 RRC test

The RRC tests are generally executed in both CS and PS domains. Exceptions are found with regard to the UE capability or the test case applicability.

A large number of CELL_FACH test cases are executed only in PS domain.

In some test cases an additional CS + PS option shall be executed according to the test case initial conditions.

A few individual test cases shall be executed only in CS or PS domain according to the test case applicability.

### I.1.3 RAB, NAS, SMS, A-GPS and Idle Mode Tests

The execution of the RAB, NAS, SMS, A-GPS and Idle Mode Tests depends on the test case applicability. The distinctive execution of the CS and PS domains is not applicable.

### I.1.4 InterRAT test

FFS

## I.2 FDD Band VI test execution

A test case requires more than two radio frequencies shall avoid to execute on FDD Band VI. A list is given below.

6.1.1.4, 6.1.1.5, 6.1.1.7, 6.1.1.8, 6.1.1.9, 6.1.2.3, 6.1.2.4, 6.1.2.6, 6.1.2.8, 8.2.6.38, 8.3.1.21, 8.3.2.11, 8.4.1.42, 9.4.2.5, 9.4.5.4.1, 9.4.5.4.6, 9.4.8, 12.4.1.4b, 12.4.2.4

## I.3 Inter band HO test execution

FFS

# Annex J (informative): Change history

| Meeting | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| TP-18 | TP-020301 | | | Approval of the specification | | 2.0.0 | 3.0.0 | |
| TP-19 | TP-030051 | 001 | - | Change to test case 9.2.3 required for approval | F | 3.0.0 | 3.1.0 | T1-030120 |
| TP-19 | TP-030051 | 002 | - | Change to test case 9.2.4 required for approval | F | 3.0.0 | 3.1.0 | T1-030121 |
| TP-19 | TP-030051 | 003 | - | Change to test case 10.1.3.4.1 required for approval | F | 3.0.0 | 3.1.0 | T1-030122 |
| TP-19 | TP-030051 | 004 | - | Inclusion of RLC test case 7.2.2.3 to RLC ATS V3.0.0 | F | 3.0.0 | 3.1.0 | T1-030123 |
| TP-19 | TP-030051 | 005 | - | Inclusion of RLC test case 7.2.2.4 to RLC ATS V3.0.0 | F | 3.0.0 | 3.1.0 | T1-030124 |
| TP-19 | TP-030051 | 006 | - | Inclusion of RLC test case 7.2.2.7 to RLC ATS V3.0.0 | F | 3.0.0 | 3.1.0 | T1-030125 |
| TP-19 | TP-030051 | 007 | - | Inclusion of RLC test case 7.2.3.4 to RLC ATS V3.0.0 | F | 3.0.0 | 3.1.0 | T1-030126 |
| TP-19 | TP-030051 | 008 | - | Inclusion of RLC test case 7.2.3.5 to RLC ATS V3.0.0 | F | 3.0.0 | 3.1.0 | T1-030127 |
| TP-19 | TP-030051 | 009 | - | Changes to TS34.123-3 V200 to introduce TC_8_1_1_4 | F | 3.0.0 | 3.1.0 | T1-030128 |
| TP-19 | TP-030051 | 010 | - | TTCN changes to the approved test cases in V300 | F | 3.0.0 | 3.1.0 | T1-030129 |
| TP-19 | TP-030051 | 011 | 1 | CR 34.123-3, V300 as T1S030009rev1 | F | 3.0.0 | 3.1.0 | T1-030260 |
| TP-19 | TP-030051 | 012 | - | Indroducing Test Case 8.1.2.7 | F | 3.0.0 | 3.1.0 | T1-030245 |
| TP-19 | TP-030051 | 013 | - | Introduction of Test Case 8.2.1.1 | F | 3.0.0 | 3.1.0 | T1-030246 |
| TP-19 | TP-030051 | 014 | - | Introduction of Test Case 8.2.3.1 | F | 3.0.0 | 3.1.0 | T1-030247 |
| TP-19 | TP-030051 | 015 | - | Addition of RRC test case 8.1.9 to RRC ATS V3.0.0<br>NOTE: There was a missing TTCN fix in TP-030051. In the TTCN line 6 of TC_8_1_2_1, replace +ts_SendDefSysInfo( tsc_CellA) with +ts_SendSysInfoWithSpecialSIB11( tsc_CellA, tcv_SIB11IntraFreqRepQuantiyRACH). Otherwise, a good UE would be failed at the regression test. | F | 3.0.0 | 3.1.0 | T1-030248 |
| TP-20 | TP-030104 | 016 | - | Test Case 7.1.1.2 | F | 3.1.0 | 3.2.0 | T1-030397 |
| TP-20 | TP-030104 | 017 | - | Test Case 7.1.1.8 | F | 3.1.0 | 3.2.0 | T1-030399 |
| TP-20 | TP-030104 | 018 | - | Test Case 8.1.1.2 | F | 3.1.0 | 3.2.0 | T1-030401 |
| TP-20 | TP-030104 | 019 | - | Test Case 8.1.1.3 | F | 3.1.0 | 3.2.0 | T1-030403 |
| TP-20 | TP-030104 | 020 | - | Test Case 8.1.1.8 | F | 3.1.0 | 3.2.0 | T1-030411 |
| TP-20 | TP-030104 | 021 | - | Test Case 8.2.1.8 | F | 3.1.0 | 3.2.0 | T1-030413 |
| TP-20 | TP-030104 | 022 | - | Test Case 8.2.1.10 | F | 3.1.0 | 3.2.0 | T1-030415 |
| TP-20 | TP-030104 | 023 | - | Test Case 8.1.5.1 | F | 3.1.0 | 3.2.0 | T1-030425 |
| TP-20 | TP-030104 | 024 | - | Test Case 8.1.5.4 | F | 3.1.0 | 3.2.0 | T1-030427 |
| TP-20 | TP-030104 | 025 | - | Test Case 8.2.3.7 | F | 3.1.0 | 3.2.0 | T1-030429 |
| TP-20 | TP-030104 | 026 | - | Addition of RLC test case 7.2.3.6 to RLC ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030438 |
| TP-20 | TP-030104 | 027 | - | Addition of RLC test case 7.2.3.25 to RLC ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030440 |
| TP-20 | TP-030104 | 028 | - | Addition of RLC test case 7.2.3.14 to RLC ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030442 |
| TP-20 | TP-030104 | 029 | - | Addition of RLC test case 7.2.3.15 to RLC ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030444 |
| TP-20 | TP-030104 | 030 | - | Addition of RLC test case 7.2.3.16 to RLC ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030446 |
| TP-20 | TP-030104 | 031 | - | Addition of RLC test case 7.2.3.33 to RLC ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030448 |
| TP-20 | TP-030104 | 032 | - | Addition of NAS test case 10.1.2.5.1 to NAS ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030450 |
| TP-20 | TP-030104 | 033 | - | 7.1.1.1 | B | 3.1.0 | 3.2.0 | T1-030452 |
| TP-20 | TP-030104 | 034 | - | 7.1.1.3 | B | 3.1.0 | 3.2.0 | T1-030454 |
| TP-20 | TP-030104 | 035 | - | 7.1.1.4 | B | 3.1.0 | 3.2.0 | T1-030456 |
| TP-20 | TP-030104 | 036 | - | Introduction of Test Case 7.1.1.5 | B | 3.1.0 | 3.2.0 | T1-030458 |
| TP-20 | TP-030104 | 037 | - | Test Case 8.2.3.15 | F | 3.1.0 | 3.2.0 | T1-030464 |
| TP-20 | TP-030104 | 038 | - | Test Case 8.2.3.18 | F | 3.1.0 | 3.2.0 | T1-030466 |
| TP-20 | TP-030104 | 039 | - | Test Case 8.2.3.19 | F | 3.1.0 | 3.2.0 | T1-030468 |
| TP-20 | TP-030104 | 040 | - | Test Case 12.3.1.2 | F | 3.1.0 | 3.2.0 | T1-030474 |
| TP-20 | TP-030104 | 041 | - | Test Case 8.3.3.1 | F | 3.1.0 | 3.2.0 | T1-030479 |
| TP-20 | TP-030104 | 042 | - | Addition of RLC test case 7.2.3.13 to RLC ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030484 |
| TP-20 | TP-030104 | 043 | - | Addition of RLC test case 7.2.3.18 to RLC ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030486 |
| TP-20 | TP-030104 | 044 | - | Addition of RLC test case 7.2.2.5 to RLC ATS V3.0.0 | B | 3.1.0 | 3.2.0 | T1-030490 |
| TP-20 | TP-030104 | 045 | - | Addition of RLC test case 7.2.2.6 to RLC ATS V3.0.0 | B | 3.1.0 | 3.2.0 | T1-030492 |
| TP-20 | TP-030104 | 046 | - | Addition of RLC test case 7.2.3.17 to RLC ATS | B | 3.1.0 | 3.2.0 | T1-030495 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| | | | | V3.0.0 | | | | |
| TP-20 | TP-030104 | 047 | - | Addition of RLC test case 7.2.3.20 to RLC ATS V3.0.0 | B | 3.1.0 | 3.2.0 | T1-030496 |
| TP-20 | TP-030104 | 048 | - | Addition of RLC test case 7.2.3.34 to RLC ATS V3.0.0 | B | 3.1.0 | 3.2.0 | T1-030498 |
| TP-20 | TP-030104 | 049 | - | Addition of SM test case 11.1.1.1 to NAS ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030500 |
| TP-20 | TP-030104 | 050 | - | Addition of RLC test case 7.2.3.23 to RLC ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030535 |
| TP-20 | TP-030104 | 051 | - | Addition of RLC test case 7.2.3.24 to RLC ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030537 |
| TP-20 | TP-030104 | 052 | - | Addition of RLC test case 7.2.3.26 to RLC ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030539 |
| TP-20 | TP-030104 | 053 | - | Addition of RLC test case 7.2.3.27 to RLC ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030541 |
| TP-20 | TP-030104 | 054 | - | Addition of SM test case 11.3.1 to NAS ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030576 |
| TP-20 | TP-030104 | 055 | - | Addition of SM test case 11.3.2 to NAS ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030577 |
| TP-20 | TP-030104 | 056 | - | Addition of GMM test case 12.3.1.5 to NAS ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030578 |
| TP-20 | TP-030104 | 057 | - | Addition of GMM test case 12.7 to NAS ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030580 |
| TP-20 | TP-030104 | 058 | - | Test Case 8.2.1.9 | F | 3.1.0 | 3.2.0 | T1-030594 |
| TP-20 | TP-030104 | 059 | - | Test Case 8.2.3.8 | F | 3.1.0 | 3.2.0 | T1-030596 |
| TP-20 | TP-030104 | 060 | - | Test Case 12.3.1.1 | F | 3.1.0 | 3.2.0 | T1-030614 |
| TP-20 | TP-030104 | 062 | - | Test Case 12.9.2 | F | 3.1.0 | 3.2.0 | T1-030626 |
| TP-20 | TP-030104 | 063 | - | Addition of GMM test case 12.3.2.1 to NAS ATS V3.1.0 | B | 3.1.0 | 3.2.0 | T1-030638 |
| TP-20 | TP-030104 | 064 | - | CR for correction of generic test step in RLC ATS V3.1.0 | F | 3.1.0 | 3.2.0 | T1-030654 |
| TP-20 | TP-030104 | 065 | - | ASP Enhancement | F | 3.1.0 | 3.2.0 | T1-030665 |
| TP-20 | TP-030104 | 066 | - | Test Case 8.1.2.2 | F | 3.1.0 | 3.2.0 | T1-030395 |
| TP-20 | TP-030104 | 067 | - | Test Case 8.1.2.9 | F | 3.1.0 | 3.2.0 | T1-030396 |
| TP-20 | TP-030110 | 068 | - | Add new approved test cases in test case list in Annex A | F | 3.1.0 | 3.2.0 | -- |
| TP-20 | TP-030141 | 069 | - | Test Case 8.1.3.3 | F | 3.1.0 | 3.2.0 | T1-030460 |
| TP-20 | - | - | - | Regeneration of RRC and RLC ATS | | 3.2.0 | 3.2.1 | - |
| TP-21 | TP-030194 | 073 | - | CR to 34.123-3 R99, Moving baseline from March 02 to March 03 and error corrections | F | 3.2.1 | 3.3.0 | T1-031242 |
| TP-21 | TP-030194 | 074 | - | CR to 34.123-3, R99, Update and remove unnecessary PIXIT parameters, so they are aligned with the 3GPP conformance TTCN | F | 3.2.1 | 3.3.0 | T1-031278 |
| TP-21 | TP-030199 | - | - | Add new approved TTCN test cases in test case list in Annex A | F | 3.2.1 | 3.3.0 | - |
| TP-21 | TP-030194 | 070 | - | Corrections to Package 1 test cases in RRC ATS v3.2.1 for PS mode | F | 3.2.1 | 3.3.0 | T1-031054 |
| TP-21 | TP-030194 | 071 | - | Corrections to Package 1 test cases in RRC ATS v3.2.1 for Integrity | F | 3.2.1 | 3.3.0 | T1-031055 |
| TP-21 | TP-030194 | 072 | - | Corrections to Package 1 test cases in RRC ATS v3.2.1 for configuration of Radio Bearer -3 | F | 3.2.1 | 3.3.0 | T1-031140 |
| TP-21 | TP-030194 | 079 | - | Changes to TS34.123-3 V310 to introduce TC_8_1_1_5 | F | 3.1.0 | 3.3.0 | T1-030405 |
| TP-21 | TP-030194 | 080 | - | Changes to TS34.123-3 V310 to introduce TC_8_1_1_6 | F | 3.1.0 | 3.3.0 | T1-030407 |
| TP-21 | TP-030194 | 084 | - | Changes to TS34.123-3 V310 to introduce TC_12_2_1_1 | F | 3.1.0 | 3.3.0 | T1-030423 |
| TP-21 | TP-030194 | 119 | - | Changes to TS34.123-3 V310 to introduce TC_8_3_4_1 | F | 3.1.0 | 3.3.0 | T1-030602 |
| TP-21 | TP-030194 | 120 | - | Changes to TS34.123-3 V310 to introduce TC_8_3_4_2 | F | 3.1.0 | 3.3.0 | T1-030604 |
| TP-21 | TP-030194 | 121 | - | Changes to TS34.123-3 V310 to introduce TC_8_3_4_3 | F | 3.1.0 | 3.3.0 | T1-030606 |
| TP-21 | TP-030194 | 122 | - | Changes to TS34.123-3 V310 to introduce TC_8_4_1_1 | F | 3.1.0 | 3.3.0 | T1-030608 |
| TP-21 | TP-030194 | 124 | - | Changes to TS34.123-3 V310 to introduce TC_12_9_1 | F | 3.1.0 | 3.3.0 | T1-030624 |
| TP-21 | TP-030194 | 127 | - | CR to 34.123-3 V310 to introduce test case 7.2.3.19 | B | 3.1.0 | 3.3.0 | T1-030657 |
| TP-21 | TP-030194 | 128 | - | CR to 34.123-3 V320 to introduce test case 14.2.13.1 | B | 3.2.0 | 3.3.0 | T1-030877 |
| TP-21 | TP-030194 | 129 | - | CR to 34.123-3 V320 to introduce test case 7.2.2.2 | B | 3.2.0 | 3.3.0 | T1-030879 |
| TP-21 | TP-030194 | 130 | - | CR to 34.123-3 V320 to introduce test case 7.2.3.2 | B | 3.2.0 | 3.3.0 | T1-030881 |
| TP-21 | TP-030194 | 131 | - | Changes to TS34.123-3 V320 to introduce TC_8_2_3_9 | B | 3.2.0 | 3.3.0 | T1-030896 |
| TP-21 | TP-030194 | 132 | - | Changes to TS34.123-3 V320 to introduce TC_7_2_3_21 | F | 3.2.0 | 3.3.0 | T1-030897 |
| TP-21 | TP-030194 | 133 | - | Changes to TS34.123-3 V320 to introduce | F | 3.2.0 | 3.3.0 | T1-030898 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| | | | | TC_7_2_3_22 | | | | |
| TP-21 | TP-030194 | 134 | - | CR to 34.123-3 V320 to introduce test case TC_8_2_6_20 | F | 3.2.1 | 3.3.0 | T1-030928 |
| TP-21 | TP-030194 | 135 | - | CR to 34.123-3 V320 to introduce test case TC_9.2.1 | B | 3.2.1 | 3.3.0 | T1-031016 |
| TP-21 | TP-030194 | 136 | - | CR to 34.123-3 V320 to introduce test case TC_9.3.1 | B | 3.2.1 | 3.3.0 | T1-031018 |
| TP-21 | TP-030194 | 137 | - | CR to 34.123-3 V320 to introduce test case TC_9_4_5_2 | B | 3.2.1 | 3.3.0 | T1-031020 |
| TP-21 | TP-030194 | 138 | - | CR to 34.123-3 V320 to introduce test case TC_9.5.2 | B | 3.2.1 | 3.3.0 | T1-031022 |
| TP-21 | TP-030194 | 139 | - | Changes to TS34.123-3 V321 to introduce TC_8_1_1_7 | F | 3.2.1 | 3.3.0 | T1-031141 |
| TP-21 | TP-030208 | 140 | - | Addition of RRC test case 8.2.2.1 to 34.123-3 | F | 3.2.1 | 3.3.0 | T1-031280 |
| TP-21 | TP-030208 | 141 | - | Addition of RRC test case 8.2.2.11 to 34.123-3 | F | 3.2.1 | 3.3.0 | T1-031281 |
| TP-21 | TP-030208 | 142 | - | Addition of RRC test case 8.2.6.1 to 34.123-3 | F | 3.2.1 | 3.3.0 | T1-031282 |
| TP-21 | TP-030208 | 143 | - | Addition of RRC test case 8.2.2.17 to 34.123-3 | F | 3.2.1 | 3.3.0 | T1-031283 |
| TP-21 | TP-030208 | 144 | - | Addition of RRC test case 8.2.4.10 to 34.123-3 | F | 3.2.1 | 3.3.0 | T1-031284 |
| TP-21 | TP-030208 | 145 | - | Addition of RRC test case 8.2.6.7 to 34.123-3 | F | 3.2.1 | 3.3.0 | T1-031285 |
| TP-21 | TP-030208 | 146 | - | Addition of RRC test case 8.2.2.8 to 34.123-3 | F | 3.2.1 | 3.3.0 | T1-031286 |
| TP-21 | TP-030208 | 147 | - | Addition of RRC test case 8.2.2.10 to 34.123-3 | F | 3.2.1 | 3.3.0 | T1-031287 |
| TP-21 | TP-030208 | 148 | - | Test case 12.5 | F | 3.2.1 | 3.3.0 | T1-031288 |
| TP-21 | TP-030209 | 149 | - | CR to 34.123-3 V321 to introduce test case TC_8_2_2_23 | F | 3.2.1 | 3.3.0 | T1-031289 |
| TP-21 | TP-030209 | 156 | - | CR to 34.123-3 V321 to introduce test case TC_8_2_6_19 | F | 3.2.1 | 3.3.0 | T1-031296 |
| TP-21 | TP-030209 | 157 | - | CR to 34.123-3 V321 to introduce test case TC_8_2_2_7 | F | 3.2.1 | 3.3.0 | T1-031297 |
| TP-21 | TP-030209 | 158 | - | CR to 34.123-3 V321 to introduce test case TC_8_2_2_9 | F | 3.2.1 | 3.3.0 | T1-031298 |
| TP-21 | TP-030209 | 159 | - | CR to 34.123-3 V321 to introduce test case TC_8_3_1_11 | F | 3.2.1 | 3.3.0 | T1-031299 |
| TP-21 | TP-030209 | 160 | - | CR to 34.123-3 V321 to introduce test case TC_8_2_6_8 | F | 3.2.1 | 3.3.0 | T1-031300 |
| TP-21 | TP-030209 | 161 | - | CR to 34.123-3 V321 to introduce test case TC_8_4_1_16 | F | 3.2.1 | 3.3.0 | T1-031301 |
| TP-22 | TP-030284 | 142 | 2 | ASP changes and MMI string corrections | F | 3.3.0 | 3.4.0 | T1-031707 |
| TP-22 | TP-030284 | 252 | - | Security ASP changes | F | 3.3.0 | 3.4.0 | T1-031732 |
| TP-22 | TP-030285 | 251 | - | Updating Annex A | F | 3.3.0 | 3.4.0 | - |
| TP-23 | TP-040042 | 151 | - | GERAN ASP changes | F | 3.4.0 | 3.5.0 | T1-040412 |
| TP-23 | TP-040044 | - | - | Updating Annex A | F | 3.4.0 | 3.5.0 | - |
| TP-23 | TP-040019 | 189 | | Addition of RAB test case 14.2.29 to RAB ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1s040199 |
| TP-23 | TP-040019 | 190 | | Addition of RAB test case 14.2.31.1 to RAB ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1s040198 |
| TP-23 | TP-040019 | 191 | | Addition of RAB test case 14.2.32.1 to RAB ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1s040197 |
| TP-23 | TP-040019 | 193 | | Addition of RAB test case 14.4.3 to RAB ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1s040196 |
| TP-23 | TP-040043 | 232 | | To add verified GCF package 1 RRC test case 8.3.1.3 to the approved RRC ATS V3.4.0 | | 3.4.0 | 3.5.0 | T1-031926 |
| TP-23 | TP-040043 | 171 | | Addition of RAB test case 14.2.26 to RAB ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1s040002 |
| TP-23 | TP-040043 | 172 | | Addition of RAB test case 14.2.4 to TS 34.123-3, V3.4.0 | B | 3.4.0 | 3.5.0 | T1s040004 |
| TP-23 | TP-040043 | 205 | | Addition of RRC test case 8.3.2.1 to RRC ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1-031823 |
| TP-23 | TP-040043 | 206 | | Addition of RRC test case 8.3.2.4 to RRC ATS V3.4.0 | B | 3.3.0 | 3.5.0 | T1-031825 |
| TP-23 | TP-040043 | 224 | | Addition of RRC test case 8.3.1.31 to RRC ATS V3.4.0 | B | 3.3.0 | 3.5.0 | T1-031909 |
| TP-23 | TP-040043 | 152 | | Addition of NAS test case 9.1 to NAS ATS V3.4.0 | B | 3.3.0 | 3.5.0 | T1-031755 |
| TP-23 | TP-040043 | 153 | | Addition of NAS test case 9.2.2 to NAS ATS V3.4.0 | B | 3.3.0 | 3.5.0 | T1-031757 |
| TP-23 | TP-040043 | 154 | | Addition of NAS test case 9.4.1 to NAS ATS V3.4.0 | B | 3.3.0 | 3.5.0 | T1-031759 |
| TP-23 | TP-040043 | 155 | | Addition of NAS test case 9.4.2.1 to NAS ATS V3.4.0 | B | 3.3.0 | 3.5.0 | T1-031761 |
| TP-23 | TP-040043 | 156 | | Addition of NAS test case 9.4.2.4.1 to NAS ATS V3.4.0 | B | 3.3.0 | 3.5.0 | T1-031763 |
| TP-23 | TP-040043 | 157 | | Addition of NAS test case 9.4.4 to NAS ATS V3.4.0 | B | 3.3.0 | 3.5.0 | T1-031765 |
| TP-23 | TP-040043 | 158 | | Addition of NAS test case 9.4.5.3 to NAS ATS V3.4.0 | B | 3.3.0 | 3.5.0 | T1-031767 |
| TP-23 | TP-040043 | 159 | | Addition of RRC test case 8.3.7.1 to RRC ATS V3.4.0 | B | 3.3.0 | 3.5.0 | T1-031771 |
| TP-23 | TP-040043 | 160 | | Addition of RRC test case 8.3.7.2 to RRC ATS V3.4.0 | F | 3.4.0 | 3.5.0 | T1-031918 |
| TP-23 | TP-040043 | 161 | | Addition of RRC test case 8.3.7.4 to RRC ATS V3.4.0 | F | 3.4.0 | 3.5.0 | T1-031772 |
| TP-23 | TP-040043 | 210 | | Addition of NAS test case 12.2.2.1 to NAS ATS V3.4.0 | F | 3.4.0 | 3.5.0 | T1-031936 |
| TP-23 | TP-040043 | 211 | | Addition of NAS test case 12.4.3.1 to NAS ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1-031937 |
| TP-23 | TP-040043 | 222 | | Addition of NAS test case 12.2.1.3 to NAS ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1-031938 |
| TP-23 | TP-040043 | 221 | | Addition of RRC test case 8.2.2.19 to RRC ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1-031939 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| TP-23 | TP-040043 | 220 | | Addition of RRC test case 8.4.1.17 to RRC ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1-031940 |
| TP-23 | TP-040043 | 162 | | Addition of NAS test case 12.2.1.7 to NAS ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1s040029 |
| TP-23 | TP-040043 | 163 | | Addition of RAB test case 14.2.27 to RAB ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1s040033 |
| TP-23 | TP-040043 | 164 | | Introducing test case 12_6_1_1 to NASv330 | B | 3.4.0 | 3.5.0 | T1-031745 |
| TP-23 | TP-040043 | 184 | | Introducing test case 8.3.1.1 to RRCv340 | F | 3.3.0 | 3.5.0 | T1-031733 |
| TP-23 | TP-040043 | 165 | | Introducing test case 8.2.4.3 to RRCv330 | F | 3.4.0 | 3.5.0 | T1-031747 |
| TP-23 | TP-040043 | 166 | | Introducing test case 8.2.4.4 to RRCv330 | F | 3.3.0 | 3.5.0 | T1-031749 |
| TP-23 | TP-040043 | 192 | | Introducing test case 8.3.1.22 to RRCv340 | F | 3.3.0 | 3.5.0 | T1-031797 |
| TP-23 | TP-040043 | 195 | | Introducing test case 8.2.2.18 to RRCv340 | F | 3.4.0 | 3.5.0 | T1-031932 |
| TP-23 | TP-040043 | 234 | | Introducing test case 12_4_2_1 to NASv340 | F | 3.4.0 | 3.5.0 | T1-031930 |
| TP-23 | TP-040043 | 233 | | Introducing test case 8.3.1.4 to RRCv340 | F | 3.4.0 | 3.5.0 | T1s040087 |
| TP-23 | TP-040043 | 216 | | Revised CR for Changes to Introducing test case 8.2.6.9 required for approvalto RRCv340 | F | 3.4.0 | 3.5.0 | T1s040088 |
| TP-23 | TP-040043 | 167 | | Introduction of Package 2 test case 8.3.1.21 | F | 3.4.0 | 3.5.0 | T1s040049 |
| TP-23 | TP-040043 | 207 | | Addition of RRC test case 8.3.2.7 to RRC ATS V3.4.0 | F | 3.4.0 | 3.5.0 | T1-031827 |
| TP-23 | TP-040043 | 168 | | Addition of NAS test case 9.4.2.2.1 to NAS ATS V3.4.0 | B | 3.3.0 | | T1s040025 |
| TP-23 | TP-040043 | 169 | | Addition of NAS test case 9.4.2.2.2 to NAS ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1s040027 |
| TP-23 | TP-040043 | 170 | | Addition of NAS test case 9.4.9 to NAS ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1s040014 |
| TP-23 | TP-040043 | 171 | | Addition of NAS test case 9.4.2.5 to NAS ATS V3.4.0 | B | 3.4.0 | 3.5.0 | T1s040082 |
| TP-23 | TP-040043 | 172 | | Correction to RRC Package 1 TC 8.2.1.8 and 8.2.1.9 for the mismatch between Radio Bearer setup and PDP context Activation Accept message | B | 3.4.0 | 3.5.0 | T1s040071 |
| TP-23 | TP-040043 | 226 | | Validation of TMSI status in ATTACH REQUEST message for tc 12.3.1.5 | F | 3.4.0 | 3.5.0 | T1-031913 |
| TP-23 | TP-040043 | 227 | | Validation of optional old PTMSI signature in ATTACH REQUEST message for tc 12.2.1.1 | F | 3.3.0 | 3.5.0 | T1-031914 |
| TP-23 | TP-040043 | 173 | | Incorrect timer poll value used for SS RLC transmit entity in tcs 8.2.1.8, 8.2.1.9 (Revision of T1-031782) | F | 3.3.0 | 3.5.0 | T1-031842 |
| TP-23 | TP-040043 | 174 | | Correction of Poll bit checking in tc 7.2.3.13 (Revision of T1-031839) | F | 3.3.0 | 3.5.0 | T1-031921 |
| TP-23 | TP-040043 | 230 | | Validation of CS CKSN in paging response in tc 9.2.1 | F | 3.3.0 | 3.5.0 | T1-031922 |
| TP-23 | TP-040043 | 175 | | Modification to Radio Bearer Release message in tc 8.2.3.18 and 8.2.3.19 | F | 3.3.0 | 3.5.0 | T1-031924 |
| TP-23 | TP-040043 | 176 | | Maximum allowed UL TX power should not be present in tcs 8.2.2.8, 8.2.2.9 and 8.2.2.23 | F | 3.3.0 | 3.5.0 | T1-031925 |
| TP-23 | TP-040043 | 177 | | New C-RNTI should not be present in tc 8.2.6.20 | F | 3.3.0 | 3.5.0 | T1-031787 |
| TP-23 | TP-040043 | 178 | | Unnecessary waiting time for reconfiguration in tc 8.2.2.23 | F | 3.3.0 | 3.5.0 | T1-031788 |
| TP-23 | TP-040043 | 179 | | Modification to validate TI flag and TI value in TCs 11.3.1 and 11.3.2 | F | 3.3.0 | 3.5.0 | T1-031795 |
| TP-23 | TP-040043 | 180 | | Change U-RNTI and remove UTRAN DRX cycle length coefficient tc 8.3.3.1 | F | 3.3.0 | 3.5.0 | T1-031841 |
| TP-23 | TP-040043 | 181 | | Corrections of Status PDU checking in tc 7.2.3.34 | F | 3.3.0 | 3.5.0 | T1-031786 |
| TP-23 | TP-040043 | 182 | | Correction of number of negatively acknowledged PDUs in tc 7.2.3.16 | F | 3.3.0 | 3.5.0 | T1-031789 |
| TP-23 | TP-040043 | 183 | | Correction of sequence number checking and Verdict assessments in tc 7.2.3.17 | F | 3.3.0 | 3.5.0 | T1-031790 |
| TP-23 | TP-040043 | 184 | | Poll Bit and Status PDU content checking in tc 7.2.3.14 | F | 3.3.0 | 3.5.0 | T1-031791 |
| TP-23 | TP-040043 | 185 | | Additional verdicts assigned in tc 7.2.3.20 | F | 3.3.0 | 3.5.0 | T1-031792 |
| TP-23 | TP-040043 | 186 | | SERVICE ACCEPT message NOT to be sent to UE in GMM idle state in tc 11.3.1 and 11.3.2 | F | 3.3.0 | 3.5.0 | T1-031794 |
| TP-23 | TP-040043 | 187 | | Change to performing integrity protection in tc 12.2.1.1 | F | 3.3.0 | 3.5.0 | T1-031778 |
| TP-23 | TP-040043 | 188 | | Correction of Poll bit checking in tc 7.2.3.18 | F | 3.3.0 | 3.5.0 | T1-031781 |
| TP-23 | - | - | | Editorial clean-up by ETSI | | 3.5.0 | 3.5.1 | - |
| TP-23 | - | - | | Sections 8.3.28 - 8.3.31 were misplaced | | 3.5.1 | 3.5.2 | - |
| TP-24 | TP-040117 | 233 | | Clarification of Section 8.5.1 Authentication: Explicitly stating that Authentication after IDT is an optional/dependent procedure. | F | 3.5.2 | 3.6.0 | T1-040761 |
| TP-24 | TP-040117 | 234 | | GERAN generic procedures and TTCN encoding rules for CSN.1 specific encoding | F | 3.5.2 | 3.6.0 | T1-040940 |
| TP-24 | TP-040123 | 359 | | Updating Annex A | F | 3.5.2 | 3.6.0 | - |
| TP-24 | TP-040118 | 255 | | Addition of MAC test case 7.1.3.1 to MAC ATS V3.5.1 | B | 3.5.1 | 3.6.0 | T1s040295 |
| TP-24 | TP-040118 | 256 | | Addition of RAB test case 14.2.49.1 to RAB ATS V3.5.1 | B | 3.5.1 | 3.6.0 | T1s040254 |
| TP-24 | TP-040118 | 257 | | Addition of GCF P1 test case 8.4.1.2 to RRC ATS V3.5.1 | B | 3.5.1 | 3.6.0 | T1s040252 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| TP-24 | TP-040118 | 260 | | Addition of GCF P3 test case 8.4.1.31 to RRC ATS v3.5.1 | B | 3.5.1 | 3.6.0 | T1s040285 |
| TP-24 | TP-040118 | 261 | | Revised CR for addition of GCF P2 test case 12.4.2.2 to NAS ATS V3.5.1 | B | 3.5.1 | 3.6.0 | T1s040283 |
| TP-24 | TP-040118 | 262 | | Addition of RRC test case 8.3.2.11 to RRC ATS V3.5.1 | B | 3.5.1 | 3.6.0 | T1s040262 |
| TP-24 | TP-040118 | 263 | | Addition of RRC test case 8.4.1.30 to RRC ATS V3.5.1 | B | 3.5.1 | 3.6.0 | T1s040260 |
| TP-24 | TP-040118 | 264 | | Addition of RRC test case 8.4.1.29 to RRC ATS V3.5.1 | B | 3.5.1 | 3.6.0 | T1s040258 |
| TP-24 | TP-040118 | 265 | | Addition of RAB test case 14.2.7a to RAB ATS V3.5.1 | B | 3.5.1 | 3.6.0 | T1s040249 |
| TP-24 | TP-040118 | 266 | | Addition of RAB test case 14.2.5a to RAB ATS V3.5.1 | B | 3.5.1 | 3.6.0 | T1s040247 |
| TP-24 | TP-040118 | 267 | | Addition of RAB test case 14.2.4a to RAB ATS V3.5.1 | B | 3.5.1 | 3.6.0 | T1s040245 |
| TP-24 | TP-040118 | 268 | | Addition of GCF P1 test case 12.4.1.1a to NAS ATS V3.5.1 | B | 3.5.1 | 3.6.0 | T1s040266 |
| TP-24 | TP-040118 | 269 | | Test Case 13.2.1.1 | B | 3.5.1 | 3.6.0 | T1s040237 |
| TP-24 | TP-040118 | 270 | | Addition of GCF P3 test case 10.1.2.6.6 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040234 |
| TP-24 | TP-040118 | 271 | | Addition of GCF P3 test case 10.1.2.7.2 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040233 |
| TP-24 | TP-040118 | 272 | | Addition of GCF P3 test case 10.1.2.5.5 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040231 |
| TP-24 | TP-040118 | 273 | | Addition of GCF P3 test case 10.1.2.6.2 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040232 |
| TP-24 | TP-040118 | 274 | | Addition of GCF P3 test case 10.1.2.4.10 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040230 |
| TP-24 | TP-040118 | 275 | | Addition of GCF P3 test case 10.1.2.3.3 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040229 |
| TP-24 | TP-040118 | 276 | | Addition of NAS test case 8.3.1.2 to RRC ATS V3.4.0 (revision of T1-031735) | B | 3.4.0 | 3.6.0 | T1s040226 |
| TP-24 | TP-040118 | 277 | | Addition of NAS test case 8.3.1.5 to RRC ATS V3.4.0 (revision of T1-031807) | B | 3.4.0 | 3.6.0 | T1s040227 |
| TP-24 | TP-040118 | 278 | | Addition of NAS test case 8.3.1.6 to RRC ATS V3.4.0 (revision of T1-031809) | B | 3.4.0 | 3.6.0 | T1s040228 |
| TP-24 | TP-040118 | 279 | | Addition of GCF P3 test case 14.2.12 to RAB ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040225 |
| TP-24 | TP-040118 | 280 | | Addition of NAS test case 10.1.3.3.1 to NAS ATS V3.4.0 (Revision of T1s040170) | B | 3.4.0 | 3.6.0 | T1s040222 |
| TP-24 | TP-040118 | 281 | | Addition of RRC test case 8.1.10.1 to RRC ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040223 |
| TP-24 | TP-040118 | 282 | | Addition of GCF P2 test case 8.4.1.18 to RRC ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040215 |
| TP-24 | TP-040118 | 283 | | Addition of GCF P2 test case 8.4.1.19 to RRC ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040216 |
| TP-24 | TP-040118 | 284 | | Addition of NAS test case 10.1.3.5.6 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040213 |
| TP-24 | TP-040118 | 285 | | Addition of NAS test case 10.1.2.2.2 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040209 |
| TP-24 | TP-040118 | 286 | | Addition of RRC test case 8.4.1.26 to RRC ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040207 |
| TP-24 | TP-040118 | 287 | | Addition of GCF P1 test case 8.4.1.3 to RRC ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040205 |
| TP-24 | TP-040118 | 288 | | Addition of RRC test case 8.3.7.3 to RRC ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1-040084 |
| TP-24 | TP-040118 | 289 | | Introducing package 2 test case 8.3.1.10 to RRCv340 (revision of T1-031739) | B | 3.4.0 | 3.6.0 | T1s040204 |
| TP-24 | TP-040118 | 290 | | Introducing package 2 test case 8.3.1.9 to RRCv340 (revision of T1-031737) | B | 3.4.0 | 3.6.0 | T1s040203 |
| TP-24 | TP-040118 | 291 | | Addition of NAS test case 10.1.2.1.1 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040178 |
| TP-24 | TP-040118 | 292 | | Addition of NAS test case 10.1.3.3.2 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040172 |
| TP-24 | TP-040118 | 293 | | Addition of NAS test case 10.1.3.3.4 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040174 |
| TP-24 | TP-040118 | 294 | | Addition of NAS test case 10.1.2.7.3 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040161 |
| TP-24 | TP-040118 | 295 | | Addition of NAS test case 10.1.2.5.2 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040149 |
| TP-24 | TP-040118 | 296 | | Addition of RAB test case 14.2.23a.1 to RAB ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040065 |
| TP-24 | TP-040118 | 297 | | Addition of RAB test case 14.2.23b to RAB ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040067 |
| TP-24 | TP-040118 | 298 | | Addition of RAB test case 14.2.23c to RAB ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040069 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| TP-24 | TP-040118 | 299 | | Addition of RAB test case 14.2.14.1 to RAB ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040055 |
| TP-24 | TP-040118 | 300 | | Addition of RAB test case 14.2.14.2 to RAB ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040057 |
| TP-24 | TP-040118 | 301 | | Addition of RAB test case 14.2.15 to RAB ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040059 |
| TP-24 | TP-040118 | 302 | | Addition of RAB test case 14.2.16 to RAB ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040061 |
| TP-24 | TP-040118 | 303 | | Addition of RAB test case 14.2.17 to RAB ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040063 |
| TP-24 | TP-040118 | 304 | | Addition of RAB test case 14.2.13.2 to RAB ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040053 |
| TP-24 | TP-040118 | 305 | | Addition of NAS test case 10.1.2.4.9 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040129 |
| TP-24 | TP-040118 | 306 | | Addition of NAS test case 10.1.2.4.4 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040121 |
| TP-24 | TP-040118 | 307 | | Addition of NAS test case 10.1.2.4.6 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040123 |
| TP-24 | TP-040118 | 308 | | Addition of NAS test case 10.1.2.6.3 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040139 |
| TP-24 | TP-040118 | 309 | | Addition of NAS test case 10.1.2.4.7 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040099 |
| TP-24 | TP-040118 | 310 | | Addition of NAS test case 10.1.2.4.8 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040101 |
| TP-24 | TP-040118 | 311 | | Addition of NAS test case 10.1.2.9.1 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040107 |
| TP-24 | TP-040118 | 312 | | Addition of NAS test case 10.1.2.3.1 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040091 |
| TP-24 | TP-040118 | 313 | | Addition of NAS test case 10.1.2.4.3 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040093 |
| TP-24 | TP-040118 | 314 | | Addition of NAS test case 9.4.2.3 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040080 |
| TP-24 | TP-040118 | 315 | | Addition of NAS test case 9.4.8 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040023 |
| TP-24 | TP-040118 | 316 | | Addition of NAS test case 12.6.1.2 to NAS ATS V3.4.0 | B | 3.4.0 | 3.6.0 | T1s040016 |
| TP-24 | TP-040118 | 258 | | Revised CR for P3 NAS test case 13.2.2.1 to NAS ATS V3.5.1 (revision of T1-040239 | B | 3.5.1 | 3.6.0 | T1s040330 |
| TP-24 | TP-040118 | 259 | | Revised CR for P3 NAS test case 13.2.2.2 to NAS ATS V3.5.1 (revision of T1-040241) | B | 3.5.1 | 3.6.0 | T1s040331 |
| TP-24 | TP-040119 | 357 | | Corrections to RRC Package 1 TC 8.1.2.9 to modify timers and RRC Setup Request Constraints | F | 3.4.0 | 3.6.0 | T1s040077 |
| TP-24 | TP-040119 | 358 | | Corrections to Package 1 test case tc_8_1_1_1 | F | 3.4.0 | 3.6.0 | T1s040079 |
| TP-24 | TP-040119 | 355 | | Correction to RRC Package 1 TC 8.2.1.8 and 8.2.1.9 for the mismatch between Radio Bearer setup and PDP context Activation Request message (Revision of T1s040071). | F | 3.4.0 | 3.6.0 | T1s040163 |
| TP-24 | TP-040119 | 356 | | Modification to ATT flag usage in TC 12.3.1.5. (Re-submission of T1-031923 on v3.4.0) | F | 3.4.0 | 3.6.0 | T1s040164 |
| TP-24 | TP-040119 | 354 | | General correction to approved GCF P1 (Cell FACH) MAC test cases | F | 3.4.0 | 3.6.0 | T1s040185 |
| TP-24 | TP-040119 | 352 | | Error correction lists to iWD-wk04 and iWD-wk07 | F | 3.4.0 | 3.6.0 | T1s040188 |
| TP-24 | TP-040119 | 353 | | TTCN corrections to Generic Setup Procedures | F | 3.4.0 | 3.6.0 | T1s040189 |
| TP-24 | TP-040119 | 349 | | Correction to RRC Package 2 TC 8.2.2.7 for radio bearer messages with specified IEs and correction of default PS RAB and SRBs RLC configurations in RRC ATS. (Revision of T1s040165). | F | 3.4.0 | 3.6.0 | T1s040219 |
| TP-24 | TP-040119 | 350 | | Correction to NAS Package 1 TC 12.5 for selecting UE operation mode C only when mode A not supported and validating RRC connection establishment cause | F | 3.4.0 | 3.6.0 | T1s040220 |
| TP-24 | TP-040119 | 351 | | Correction to RRC Package 1 TC 8.1.2.1 modification to UE system specific capabilities (Revision of T1s040078). | F | 3.4.0 | 3.6.0 | T1s040221 |
| TP-24 | TP-040119 | 348 | | Correction to Approved RRC Package 1 TC 8.3.4.1 | F | 3.5.0 | 3.6.0 | T1s040224 |
| TP-24 | TP-040119 | 347 | | Correction to Approved RRC Package 1 TC 8.3.4.2 and 8.3.4.3 | F | 3.5.0 | 3.6.0 | T1s040235 |
| TP-24 | TP-040119 | 346 | | Correction to GFC P3 RAB test cases 14.2.26 and 14.2.27 | F | 3.5.1 | 3.6.0 | T1s040251 |
| TP-24 | TP-040119 | 345 | | Correction to GFC P1 RAB test case 14.2.4 | F | 3.5.1 | 3.6.0 | T1s040272 |
| TP-24 | TP-040119 | 344 | | Correction to Package 2 MM TC 9.4.9 to handle situation when pc_PS is TRUE also. | F | 3.5.2 | 3.6.0 | T1s040273 |
| TP-24 | TP-040119 | 343 | | Regression error corrections to wk12 and wk15. | F | 3.5.1 | 3.6.0 | T1s040274 |
| TP-24 | TP-040119 | 341 | | Changes to the test step ts_CC_InitTCV_MO | F | 3.5.1 | 3.6.0 | T1s040277 |
| TP-24 | TP-040119 | 342 | | Correction to Package 1 GMM test case 12.3.1.2 for P-TMSI signature check at Step 12. | F | 3.5.1 | 3.6.0 | T1s040278 |
| TP-24 | TP-040119 | 340 | | Correction to Approved RRC Package 1 TC 8.4.1.1 | F | 3.5.0 | 3.6.0 | T1s040279 |
| TP-24 | TP-040119 | 339 | | Correction to package 2 TC 9.1 to handle PS attach | F | 3.5.2 | 3.6.0 | T1s040282 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| | | | | and detach. | | | | |
| TP-24 | TP-040119 | 338 | | Correction to Approved Package 1 TC 11.1.1.1 | F | 3.5.0 | 3.6.0 | T1S040284 |
| TP-24 | TP-040119 | 337 | | Correction to Package 1 SM TC 11.1.1.1, 11.3.1 and 11.3.2 to harmonize the timer handling and to account for T1-040514, T1s040243 and T1s040244 concerning RAB release and detaching. | F | 3.5.1 | 3.6.0 | T1s040287 |
| TP-24 | TP-040119 | 333 | | Correction to Package 3 NAS CC test case 10.1.2.7.3 for assigning FAIL verdict on receiving unexpected RELEASE message. | F | 3.5.1 | 3.6.0 | T1s040288 |
| TP-24 | TP-040119 | 322 | | Correction to Package 2 GMM test case 12.2.1.3 for supporting USIM removal without power off | F | 3.5.2 | 3.6.0 | T1s040289 |
| TP-24 | TP-040119 | 334 | | Correction to RRC TC 8.2.2.10 on contents of radio bearer reconfiguration message. | F | 3.5.1 | 3.6.0 | T1s040291 |
| TP-24 | TP-040119 | 335 | | Correction to RRC Package 2 TC 8.4.1.16 and 8.4.1.17 for contents of SIB 11 and Measurement reporting Interval. | F | 3.5.1 | 3.6.0 | T1s040292 |
| TP-24 | TP-040119 | 336 | | Correction to common test step "ts_SS_2_FACH_1_RACH_ModifyDCH_Cfg" of RRC ATS to release unused RLC entity, related to test cases 8.4.1.18 and 8.4.1.19 | F | 3.5.1 | 3.6.0 | T1s040293 |
| TP-24 | TP-040119 | 323 | | Correction to Package 3 NAS CC test cases 10_1_2_5_5, 10_1_2_6_2 and 10_1_2_7_2 to validate the current TI value. | F | 3.5.1 | 3.6.0 | T1s040297 |
| TP-24 | TP-040119 | 324 | | Correction to Package 3 NAS CC test cases 10.1.2.6.6; introducing PIXIT parameter for UE Call waiting support. | F | 3.5.1 | 3.6.0 | T1s040298 |
| TP-24 | TP-040119 | 325 | | Correction to Package 1 SM test case 11.1.1.1 in handling Modify PDP Context procedure. | F | 3.5.1 | 3.6.0 | T1s040299 |
| TP-24 | TP-040119 | 326 | | Correction to Radio Bearer setup message for Package 1 RAB test case 14.2.13.1 and package 2 RAB test case 14.2.15. | F | 3.5.1 | 3.6.0 | T1s040300 |
| TP-24 | TP-040119 | 327 | | Correction to Package 3 RAB test case 14.2.14.1 Radio Bearer setup in the SS. | F | 3.5.1 | 3.6.0 | T1s040301 |
| TP-24 | TP-040119 | 328 | | Correction to RRC TC 8.2.2.18 and 8.2.2.17 on contents of radio bearer reconfiguration message and comments in test steps of TC 8.2.2.18. | F | 3.5.1 | 3.6.0 | T1s040302 |
| TP-24 | TP-040119 | 329 | | Correction to RRC Package 2 TC 8.3.1.3 to delete the Radio Bearer BCCH mapped to FACH(RB_BCCH_FACH) in the old cell before configuring in the new cell. | F | 3.5.1 | 3.6.0 | T1s040303 |
| TP-24 | TP-040119 | 330 | | Correction to Package 3 NAS MM test case 9.4.2.2.2 to disable cell C ATT flag | F | 3.5.1 | 3.6.0 | T1s040304 |
| TP-24 | TP-040119 | 331 | | Correction to Package 2 NAS MM test case 9.4.9; introducing postamble to remove PLMN2 from USIM forbidden PLMN list. | F | 3.5.2 | 3.6.0 | T1s040305 |
| TP-24 | TP-040119 | 332 | | Modification to RLC 7.2.3.33 TTCN to meet Test Procedure 'f' in Prose 34.123-1-571. | F | 3.5.1 | 3.6.0 | T1s040306 |
| TP-24 | TP-040119 | 317 | | Quality of Service (QoS) initialisation when setting up a PS call | F | 3.5.1 | 3.6.0 | T1s040320 |
| TP-24 | TP-040119 | 321 | | Correction to RRC Package 1 TC 8.1.1.2 and 8.1.1.3 to add delay before switching to CELL_PCH or URA_PCH | F | 3.5.1 | 3.6.0 | T1s040321 |
| TP-24 | TP-040119 | 318 | | Correction to RRC Package 2 TC 8.3.1.4 to stop the timer t_WaitS after receiving expected UTRAN MOBILITY INFORMATION CONFIRM message from UE. | F | 3.5.1 | 3.6.0 | T1s040322 |
| TP-24 | TP-040119 | 319 | | Corrections to RRC package 1 and 2 test cases from sections 8.1.x, 8.2.x and 8.3.x to add a delay before SS reconfigures MAC according to the new C-RNTI or U-RNTI assigned to UE. | F | 3.5.1 | 3.6.0 | T1s040323 |
| TP-24 | TP-040119 | 320 | | Correction to RRC TC 8.3.1.3 on the contents of CELL UPDATE CONFIRM message | F | 3.5.1 | 3.6.0 | T1s040324 |
| TP-24 | - | | | One correction performed in the NAS ATS part (the other ATS parts remain in v.3.6.0) | | 3.6.0 | 3.6.1 | - |
| TP-25 | TP-040162 | 359 | | ASP updating and other corrections | F | 3.6.1 | 3.7.0 | T1-041407 |
| TP-25 | TP-040149 | 360 | - | Addition of GCF P3 test case 16.1.1 to SMS ATS V3.5.1 | B | 3.5.1 | 3.7.0 | T1s040264 |
| TP-25 | TP-040149 | 361 | - | Addition of GCF P3 test case 16.1.9.1 to SMS ATS V3.5.1 | B | 3.5.1 | 3.7.0 | T1s040307 |
| TP-25 | TP-040149 | 362 | - | Addition of GCF P3 test case 16.1.9.2 to SMS ATS V3.5.1 | B | 3.6.1 | 3.7.0 | T1s040309 |
| TP-25 | TP-040149 | 363 | - | Addition of GCF P3 test case 16.1.10 to SMS ATS V3.5.1 | B | 3.6.1 | 3.7.0 | T1s040311 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| TP-25 | TP-040149 | 364 | - | Addition of GCF P3 test case 16.2.1 to SMS ATS V3.6.1 | B | 3.5.1 | 3.7.0 | T1s040313 |
| TP-25 | TP-040149 | 365 | - | Addition of GCF P3 test case 16.2.2 to SMS ATS V3.5.1 | B | 3.6.1 | 3.7.0 | T1s040315 |
| TP-25 | TP-040149 | 366 | - | Addition of GCF P3 test case 16.2.10 to SMS ATS V3.5.1 | B | 3.6.0 | 3.7.0 | T1s040317 |
| TP-25 | TP-040149 | 367 | - | Addition of P2 NAS test case 9.4.2.4 proc 2 to NAS ATS V3.5.1 (revision of T1-040109) | B | 3.6.0 | 3.7.0 | T1s040329 |
| TP-25 | TP-040149 | 368 | - | Addition of NAS test case 12.4.2.5a.2 to NAS ATS V3.5.1 | B | 3.5.1 | 3.7.0 | T1s040337 |
| TP-25 | TP-040149 | 369 | - | Revised CR for addition of GCF P3 test case 8.2.4.1a to RRC ATS V3.5.1 | B | 3.5.1 | 3.7.0 | T1s040339 |
| TP-25 | TP-040149 | 370 | - | Revised CR for Addition of P2 test case 6.2.1.1 to IR_U ATS v3.5.1 (Revision of T1s040325) | B | 3.6.1 | 3.7.0 | T1s040345 |
| TP-25 | TP-040149 | 371 | - | Revised CR for Addition of P2 test case 6.2.1.6 to IR_U ATS v3.5.1 (Revision of T1s040327) | B | 3.5.1 | 3.7.0 | T1s040346 |
| TP-25 | TP-040149 | 372 | - | Addition of RRC test case 8.4.1.40 to RRC ATS V3.5.1 | B | 3.5.1 | 3.7.0 | T1s040352 |
| TP-25 | TP-040149 | 373 | - | Addition of RRC Package 3 test case 8.4.1.33 to IR_U ATS V3.5.1 | B | 3.5.1 | 3.7.0 | T1s040358 |
| TP-25 | TP-040149 | 374 | - | Revised CR for addition of GCF P3 test case 16.1.2 to SMS ATS V3.5.1 | B | 3.6.1 | 3.7.0 | T1s040360 |
| TP-25 | TP-040149 | 375 | - | Revised CR for the addition of GCF P3 test case 8.4.1.35 to IR_U ATS V3.5.1 | B | 3.6.1 | 3.7.0 | T1s040361 |
| TP-25 | TP-040149 | 376 | - | CR for the addition of GCF P3 test case 8.4.1.36 to IR_U ATS V3.6.1 | B | 3.6.1 | 3.7.0 | T1s040364 |
| TP-25 | TP-040149 | 377 | - | Addition of GCF P3 test case 8.3.2.12 to RRC ATS V3.6.1 | B | 3.6.1 | 3.7.0 | T1s040385 |
| TP-25 | TP-040149 | 378 | - | Addition of RAB Package 3 test case 14.2.57 to RAB ATS V3.6.1 | B | 3.6.1 | 3.7.0 | T1s040387 |
| TP-25 | TP-040149 | 379 | - | Addition of GCF P3 test case 14.2.58 to RAB ATS V3.6.1 | B | 3.6.1 | 3.7.0 | T1s040395 |
| TP-25 | TP-040149 | 380 | - | Addition of GCF P1 test cases 8.1.7.1 to RRC ATS v3.6.1 | B | 3.6.1 | 3.7.0 | T1s040398 |
| TP-25 | TP-040149 | 381 | - | Addition of GCF P1 test case 8.1.7.2 to RRC ATS v3.6.1 | B | 3.5.1 | 3.7.0 | T1s040400 |
| TP-25 | TP-040149 | 382 | - | Addition of RAB Package 2 test case 14.4.2.1 to RAB ATS V3.6.1 | B | 3.5.1 | 3.7.0 | T1s040430 |
| TP-25 | TP-040149 | 383 | - | Addition of RAB Package 3 test case 14.2.38a to RAB ATS V3.6.1 | B | 3.5.1 | 3.7.0 | T1s040432 |
| TP-25 | TP-040149 | 384 | - | Addition of RAB Package 3 test case 14.2.38e to RAB ATS V3.6.1 | B | 3.5.1 | 3.7.0 | T1s040433 |
| TP-25 | TP-040149 | 385 | - | Addition of RAB Package 2 test case 14.4.2.2 to RAB ATS V3.6.1 | B | 3.5.1 | 3.7.0 | T1s040462 |
| TP-25 | TP-040149 | 386 | - | Addition of RAB Package 2 test case 14.4.2.3 to RAB ATS V3.6.1 | B | 3.6.1 | 3.7.0 | T1s040464 |
| TP-25 | TP-040149 | 387 | - | Addition of RAB test case 14.2.51.1 to RAB ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040466 |
| TP-25 | TP-040149 | 388 | - | Addition of RAB test case 14.2.51a.1 to RAB ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040468 |
| TP-25 | TP-040149 | 389 | - | Addition of P3 test case 8.4.1.27 to RRC ATS V3.6.1 | B | 3.6.1 | 3.7.0 | T1s040470 |
| TP-25 | TP-040149 | 390 | - | Revision CR to introduce GCF P3 Test Case 8.4.1.24 to ATS v3.6.0 | B | 3.5.1 | 3.7.0 | T1s040482 |
| TP-25 | TP-040149 | 391 | - | Revision CR to introduce GCF P3 Test Case 8.4.1.25 to ATS v3.6.0 | B | 3.5.1 | 3.7.0 | T1s040483 |
| TP-25 | TP-040149 | 392 | - | Addition of NAS test case 9.4.7 to NAS ATS V3.6.0 | B | 3.6.1 | 3.7.0 | T1s040513 |
| TP-25 | TP-040149 | 393 | - | Addition of GCF P3 test case 8.4.1.34 to IR_U ATS v3.6.1 | B | 3.6.1 | 3.7.0 | T1s040479 |
| TP-25 | TP-040148 | 394 | - | TTCN correction to P2 test case 8.1.10.1 | F | 3.5.2 | 3.7.0 | T1s040236 |
| TP-25 | TP-040148 | 395 | - | Correction to Approved RRC Package 1 TC 8.3.1.1 | F | 3.5.1 | 3.7.0 | T1s040334 |
| TP-25 | TP-040148 | 396 | - | Correction to Package 2 NAS MM test case 9.4.2.2.1 to validate of LOCATION UPDATE REQUEST message and disable ATT flag. | F | 3.5.1 | 3.7.0 | T1s040335 |
| TP-25 | TP-040148 | 397 | - | Correction to RRC Package 2 TC 8.4.1.18 and TC 8.4.1.19 for inconsistency in System Information Block 12. | F | 3.5.1 | 3.7.0 | T1s040336 |
| TP-25 | TP-040148 | 398 | - | Correction to Approved Package 1 RRC TC 8.1.2.2 | F | 3.5.1 | 3.7.0 | T1s040341 |
| TP-25 | TP-040148 | 399 | - | Corrections to RRC test case 6.2.1.1 | F | 3.5.1 | 3.7.0 | T1s040347 |
| TP-25 | TP-040148 | 400 | - | Corrections to RRC test case 6.2.1.6 | F | 3.5.1 | 3.7.0 | T1s040349 |
| TP-25 | TP-040148 | 401 | - | Correction to Approved RRC Package 1 TC 8.3.4.2 | F | 3.5.0 | 3.7.0 | T1s040351 |
| TP-25 | TP-040148 | 402 | - | Correction to Approved RRC Package 2 TC 8.2.4.3 | F | 3.5.0 | 3.7.0 | T1s040363 |
| TP-25 | TP-040148 | 403 | - | Correction to Approved RRC Package 1 TC 8.3.4.3 | F | 3.6.0 | 3.7.0 | T1s040366 |
| TP-25 | TP-040148 | 404 | - | Regression error corrections to wk17, wk20 and | F | 3.6.1 | 3.7.0 | T1s040367 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| | | | | wk23. | | | | |
| TP-25 | TP-040148 | 405 | - | TTCN Correction to GCF P2 IR_U 8.3.7.1 & 8.3.7.4 | F | 3.6.0 | 3.7.0 | T1s040374 |
| TP-25 | TP-040148 | 406 | - | Correction to Package 2 NAS CCMM test cases 9.4.8; for removal of 'USIM removal possible while UE is powered' support. | F | 3.6.1 | 3.7.0 | T1s040375 |
| TP-25 | TP-040148 | 407 | - | Correction to RRC TC 8.3.2.4 on value of the wait timer started for the UE to enter Idle mode. | F | 3.6.1 | 3.7.0 | T1s040376 |
| TP-25 | TP-040148 | 408 | - | Correction to RRC Package 2 TC 8.2.1.9 to handle cell update before configuring radio bearer from DCH to FACH. | F | 3.6.1 | 3.7.0 | T1s040377 |
| TP-25 | TP-040148 | 409 | - | Correction to RRC TC 8.2.6.19 and 8.2.6.20 to add delay before switching to CELL_PCH/URA_PCH | F | 3.6.1 | 3.7.0 | T1s040378 |
| TP-25 | TP-040148 | 410 | - | Correction to Package 3 RAB test case 14.2.27, 14.2.29, 14.2.31.1and 14.2.32.1 for the dl_TxPower in DL DPCH Info during Radio Bearer Setup at the SS. | F | 3.6.1 | 3.7.0 | T1s040383 |
| TP-25 | TP-040148 | 411 | - | Correction to Package 2 RAB test case 14.4.3 | F | 3.6.1 | 3.7.0 | T1s040384 |
| TP-25 | TP-040148 | 412 | - | Correction to test steps "ts_ReceiveFirstSDUs_RB10" and "ts_ReceiveFirstSDUs_RB13" of Package 3 RAB test case 14.2.49.1 | F | 3.6.1 | 3.7.0 | T1s040389 |
| TP-25 | TP-040148 | 423 | - | TTCN Correction to test case 8.4.1.1 to RRC ATS V3.6.0 | F | 3.6.0 | 3.7.0 | T1s040390 |
| TP-25 | TP-040148 | 413 | - | Correction to GMM Package 2 approved TC 12.6.1.2 in handling Attach procedure. | F | 3.6.1 | 3.7.0 | T1s040402 |
| TP-25 | TP-040148 | 414 | - | Delay to ensure the proper transmission of Cell Update Confirm in 8.3.4.2. | F | 3.6.1 | 3.7.0 | T1s040403 |
| TP-25 | TP-040148 | 415 | - | Guard timer setting if registration is made to a PLMN different from the normal one | F | 3.6.1 | 3.7.0 | T1s040420 |
| TP-25 | TP-040148 | 416 | - | Correction to RRC Package 2 TC 8.3.1.31. | F | 3.6.1 | 3.7.0 | T1s040422 |
| TP-25 | TP-040148 | 417 | - | Correction to Package 2 RAB test case 14.4.3 to assign tcv_CN_Domain. | F | 3.6.1 | 3.7.0 | T1s040423 |
| TP-25 | TP-040148 | 418 | - | Addition of a delay after reception of an RRC Connection Release Complete Message | F | 3.6.1 | 3.7.0 | T1s040424 |
| TP-25 | TP-040148 | 419 | - | General correction for test cases where UE is switched off Cell(s) relased and reconfigured | F | 3.6.1 | 3.7.0 | T1s040425 |
| TP-25 | TP-040148 | 422 | - | Correction to Approved RRC Package 2 TC 8.3.1.22 | F | 3.6.0 | 3.7.0 | T1s040426 |
| TP-25 | TP-040148 | 420 | - | Corrections to RRC Package 3 TC 8.4.1.29 and 8.4.1.30. | F | 3.6.1 | 3.7.0 | T1s040429 |
| TP-25 | TP-040148 | 421 | - | Correction to RRC TC 8.2.3.8 in ts_RRC_ReceiveRB_SetupCmpl. | F | 3.6.1 | 3.7.0 | T1s040478 |
| TP-25 | TP-040167 | 424 | - | Addition of NAS test case 9.4.3.5 to NAS ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040460 |
| TP-25 | TP-040167 | 425 | - | Addition of GCF P4 test case 10.1.2.2.1 ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040410 |
| TP-25 | TP-040167 | 426 | - | Addition of GCF P4 test case 9.5.5 ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040408 |
| TP-25 | TP-040167 | 427 | - | Addition of NAS test case 12.6.1.3.2 to NAS ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040456 |
| TP-25 | TP-040167 | 428 | - | Addition of NAS test case 12.9.14 to NAS ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040458 |
| TP-25 | TP-040167 | 429 | - | Addition of NAS test case 12.4.1.3 to NAS ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040452 |
| TP-25 | TP-040167 | 430 | - | Addition of NAS test case 12.9.3 to NAS ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040519 |
| TP-25 | TP-040167 | 431 | - | Addition of NAS test case 12.9.4 to NAS ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040521 |
| TP-25 | TP-040167 | 432 | - | Addition of RRC test case 8.2.2.4 to RRC ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040515 |
| TP-25 | TP-040167 | 433 | - | Addition of RRC test case 8.2.6.12 to RRC ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040517 |
| TP-25 | TP-040167 | 434 | - | Addition of RAB test case 14.2.38c to RAB ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040527 |
| TP-25 | TP-040167 | 435 | - | Addition of RAB test case 14.2.38f to RAB ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040529 |
| TP-25 | TP-040167 | 436 | - | Addition of RAB test case 14.2.40 to RAB ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040523 |
| TP-25 | TP-040167 | 437 | - | Addition of RAB test case 14.2.41 to RAB ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040525 |
| TP-25 | TP-040167 | 438 | - | Addition of RRC Package 4 test case 8.1.3.5 to RRC ATS V3.6.1 | B | 3.6.1 | 3.7.0 | T1s040500 |
| TP-25 | TP-040167 | 439 | - | Addition of RRC Package 4 test case 8.2.1.4 to RRC ATS V3.6.1 | B | 3.6.1 | 3.7.0 | T1s040502 |
| TP-25 | TP-040167 | 440 | - | Addition of RRC Package 4 test case 8.2.1.7 to RRC ATS V3.6.1 | B | 3.6.1 | 3.7.0 | T1s040504 |
| TP-25 | TP-040167 | 441 | - | Addition of RRC Package 4 test case 8.1.2.3 to RRC ATS V3.6.1 | B | 3.6.1 | 3.7.0 | T1s040498 |
| TP-25 | TP-040167 | 442 | - | Addition of P4 RRC test case 8.3.2.9 | B | 3.6.1 | 3.7.0 | T1s040495 |
| TP-25 | TP-040167 | 443 | - | Addition of P4 RRC test case 8.2.6.2 | B | 3.6.1 | 3.7.0 | T1s040573 |
| TP-25 | TP-040167 | 444 | - | Addition of P4 RRC test case 8.3.1.17 | B | 3.6.1 | 3.7.0 | T1s040493 |
| TP-25 | TP-040167 | 445 | - | Addition of P4 RRC test case 8.1.6.1 | B | 3.6.1 | 3.7.0 | T1s040489 |
| TP-25 | TP-040167 | 446 | - | Addition of GCF P4 test case 8.3.1.12 to RRC ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040446 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| TP-25 | TP-040167 | 447 | - | Addition of GCF P4 test case 8.2.6.11 to RRC ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040444 |
| TP-25 | TP-040167 | 448 | - | Addition of GCF P4 test case 9.5.4 ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040440 |
| TP-25 | TP-040167 | 449 | - | Addition of P3 test case 8.4.1.37 to RRC ATS V3.6.1 | B | 3.6.1 | 3.7.0 | T1s040474 |
| TP-25 | TP-040167 | 450 | - | Addition of P3 test case 8.4.1.38 to RRC ATS V3.6.1 | B | 3.6.1 | 3.7.0 | T1s040476 |
| TP-25 | TP-040167 | 451 | - | Addition of GCF P4 test case 12.2.1.2 ATS V3.6.0 | B | 3.6.0 | 3.7.0 | T1s040450 |
| TP-25 | TP-040167 | 452 | - | Addition of RAB Package 3 test case 14.2.38b to RAB ATS V3.6.1 | B | 3.6.1 | 3.7.0 | T1s040533 |
| TP-25 | TP-040167 | 453 | - | Modification to MAC Package 2 test case 7.1.3.1 | F | 3.6.1 | 3.7.0 | T1s040531 |
| TP-25 | TP-040167 | 454 | - | Correction to NAS test cases 9.4.2.3 (P2), 9.4.2.4 Proc 2 (P2), and 12.4.1.1a (P1) | F | 3.6.1 | 3.7.0 | T1s040514 |
| TP-25 | TP-040167 | 455 | - | Correction to Package 3 SMS test case 16.2.1. | F | 3.6.1 | 3.7.0 | T1s040497 |
| TP-25 | TP-040167 | 456 | - | Correction to GCF P1 test case 8.3.1.1 | F | 3.6.0 | 3.7.0 | T1s040484 |
| TP-25 | TP-040193 | 460 | - | Updating Annex A | F | 3.6.1 | 3.7.0 | - |
| TP-26 | TP-040237 | 463 | - | ASP change for Radio Link Modification | F | 3.7.0 | 3.8.0 | T1-041694 |
| TP-26 | TP-040237 | 461 | - | ASP update and other corrections | F | 3.7.0 | 3.8.0 | T1-041975 |
| TP-26 | TP-040237 | 462 | - | Addition of AT command lists used in ATSs | F | 3.7.0 | 3.8.0 | T1-041976 |
| TP-26 | TP-040238 | 1185 | - | Updating Annex A | F | 3.7.0 | 3.8.0 | - |
| TP-26 | TP-040241 | 1050 | - | Addition of GCF P4 test case 8.2.2.35 to RRC ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040743 |
| TP-26 | TP-040241 | 1051 | - | Addition of RRC test case 8.3.1.18 to RRC ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040448 |
| TP-26 | TP-040241 | 1052 | - | Addition of GCF P1 test case 8.4.1.5 to RRC ATS v3.7.0 | B | 3.7.0 | 3.8.0 | T1s040739 |
| TP-26 | TP-040241 | 1053 | - | Addition of GCF P4 test case 8.1.7.1d to RRC ATS v3.7.0 | B | 3.7.0 | 3.8.0 | T1s040717 |
| TP-26 | TP-040241 | 1054 | - | Addition of RRC Package 3 test case 6.1.1.5 to RRC ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040698 |
| TP-26 | TP-040241 | 1055 | - | Addition of GCF P4 test case 12.2.1.4.1 ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040690 |
| TP-26 | TP-040241 | 1056 | - | Addition of GCF P4 test case 12.4.1.4a ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040679 |
| TP-26 | TP-040241 | 1057 | - | Addition of RRC test case 8.2.3.29 to RRC ATS V3.7.0 (Revision of T1s040688) | B | 3.7.0 | 3.8.0 | T1s040703 |
| TP-26 | TP-040241 | 1058 | - | Changes to GCF package 2 IR_U test case 12.8 required for approval | B | 3.7.0 | 3.8.0 | T1s040615 |
| TP-26 | TP-040241 | 1059 | - | Addition of P4 test case 8.3.11.1 to IR_U ATS v3.7.0, (Revision of T1s040633). | B | 3.7.0 | 3.8.0 | T1s040684 |
| TP-26 | TP-040241 | 1060 | - | Addition of GCF P4 test cases 8.1.7.1c to RRC ATS v3.7.0 | B | 3.7.0 | 3.8.0 | T1s040677 |
| TP-26 | TP-040241 | 1061 | - | Correction to Package 4 test case 12.9.7b ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040674 |
| TP-26 | TP-040241 | 1062 | - | Addition of GCF P4 test case 12.4.1.4b ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040628 |
| TP-26 | TP-040241 | 1063 | - | Correction to Package 4 GMM test case 12.4.1.1b (Revised CR T1s040467) | B | 3.7.0 | 3.8.0 | T1s040656 |
| TP-26 | TP-040241 | 1064 | - | Addition of RRC test case 8.3.1.24 to RRC ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040671 |
| TP-26 | TP-040241 | 1065 | - | Addition of RRC test case 8.3.2.2 to RRC ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040669 |
| TP-26 | TP-040241 | 1066 | - | Addition of NAS test case 12.4.1.4c2 to NAS ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040664 |
| TP-26 | TP-040241 | 1067 | - | Addition of RRC test case 8.3.1.25 to RRC ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040658 |
| TP-26 | TP-040241 | 1068 | - | Addition of NAS test case 12.6.1.3.3 to NAS ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040651 |
| TP-26 | TP-040241 | 1069 | - | Addition of RRC test case 8.3.2.13 to RRC ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040653 |
| TP-26 | TP-040241 | 1070 | - | Addition of P4 test case 8.1.3.4 to the RRC ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040649 |
| TP-26 | TP-040241 | 1071 | - | Addition of P4 test case 8.3.7.13 to IR_U ATS v3.7.0 | B | 3.7.0 | 3.8.0 | T1s040638 |
| TP-26 | TP-040241 | 1072 | - | Addition of P4 test case 8.3.7.7 to IR_U ATS v3.7.0 | B | 3.7.0 | 3.8.0 | T1s040640 |
| TP-26 | TP-040241 | 1073 | - | Addition of NAS test case 12.9.8 to NAS ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040613 |
| TP-26 | TP-040241 | 1074 | - | Addition of NAS test case 12.4.1.4d1 to NAS ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040635 |
| TP-26 | TP-040241 | 1075 | - | Addition of P2 test case 6.2.1.9 to IR_U ATS v3.7.0 | B | 3.7.0 | 3.8.0 | T1s040604 |
| TP-26 | TP-040241 | 1076 | - | Addition of GCF P4 test case 12.2.1.5b ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040595 |
| TP-26 | TP-040241 | 1077 | - | Addition of GCF P4 test case 12.9.7c ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040587 |
| TP-26 | TP-040241 | 1078 | - | Addition of GCF P4 test case 8.2.2.31 to RRC ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040485 |
| TP-26 | TP-040241 | 1079 | - | Addition of RAB Package 4 test case 14.4.2a.3 to RAB ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040626 |
| TP-26 | TP-040241 | 1080 | - | Addition of RAB Package 4 test case 14.4.2a.2 to RAB ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040624 |
| TP-26 | TP-040241 | 1081 | - | Addition of RAB Package 4 test case 14.4.2a.1 to RAB ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040622 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| TP-26 | TP-040241 | 1082 | - | Addition of RRC Package 4 test case 8.2.3.11 to RRC ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040620 |
| TP-26 | TP-040241 | 1083 | - | Addition of NAS test case 12.4.3.4 to NAS ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040609 |
| TP-26 | TP-040241 | 1084 | - | Addition of NAS test case 12.9.6 to NAS ATS V3.7.0 | B | 3.7.0 | 3.8.0 | T1s040607 |
| TP-26 | TP-040241 | 1085 | - | Changes to GCF package 4 IR_U test case 8.3.7.9 required for approval. | B | 3.7.0 | 3.8.0 | T1s040552 |
| TP-26 | TP-040241 | 1086 | - | Changes to GCF package 4 IR_U test case 8.3.7.5 required for approval. | B | 3.7.0 | 3.8.0 | T1s040548 |
| TP-26 | TP-040241 | 1087 | - | Addition of GCF P4 test case 12.4.1.2 ATS V3.6.0 | B | 3.7.0 | 3.8.0 | T1s040585 |
| TP-26 | TP-040241 | 1088 | - | Addition of GCF P4 test case 10.1.2.2.3 ATS V3.6.0 | B | 3.7.0 | 3.8.0 | T1s040412 |
| TP-26 | TP-040241 | 1089 | - | Addition of GCF P4 test case 9.5.7.1 ATS V3.6.0 | B | 3.7.0 | 3.8.0 | T1s040404 |
| TP-26 | TP-040241 | 1090 | - | Addition of GCF P4 test cases 8.1.12 to RRC ATS v3.6.1 | B | 3.7.0 | 3.8.0 | T1s040602 |
| TP-26 | TP-040241 | 1091 | - | Addition of GCF P4 test cases 8.1.7.1b to RRC ATS v3.6.1 | B | 3.7.0 | 3.8.0 | T1s040600 |
| TP-26 | TP-040241 | 1092 | - | Addition of GCF P4 test case 12.2.1.6.2 ATS V3.6.0 | B | 3.7.0 | 3.8.0 | T1s040436 |
| TP-26 | TP-040241 | 1093 | - | Addition of GCF P4 test case 12.2.1.5a.1 ATS V3.6.0 | B | 3.7.0 | 3.8.0 | T1s040434 |
| TP-26 | TP-040241 | 1094 | - | Addition of GCF P4 test case 8.3.1.15 to RRC ATS V3.6.0 | B | 3.7.0 | 3.8.0 | T1s040487 |
| TP-26 | TP-040241 | 1095 | - | Addition of GCF P4 test case 8.1.2.4 ATS V3.6.0 | B | 3.7.0 | 3.8.0 | T1s040442 |
| TP-26 | TP-040241 | 1096 | - | Addition of NAS test case 12.4.1.4d2 to NAS ATS V3.6.0 | B | 3.7.0 | 3.8.0 | T1s040579 |
| TP-26 | TP-040241 | 1097 | - | Addition of GCF P3 test case 6.1.1.7 ATS V3.6.0 | B | 3.7.0 | 3.8.0 | T1s040427 |
| TP-26 | TP-040241 | 1098 | - | Addition of GCF P3 test case 12.4.2.5a.1 ATS V3.6.0 | B | 3.7.0 | 3.8.0 | T1s040472 |
| TP-26 | TP-040241 | 1099 | - | Re-submission of GCF package 2 IR_U test case 6.2.2.1 for approval. | B | 3.7.0 | 3.8.0 | T1s040534 |
| TP-26 | TP-040241 | 1100 | - | Addition of RAB test case 14.2.51b.1 to RAB ATS V3.6.0 | B | 3.7.0 | 3.8.0 | T1s040570 |
| TP-26 | TP-040241 | 1101 | - | Addition of RRC test case 10.1.2.3.7 to RRC ATS V3.6.1 | B | 3.7.0 | 3.8.0 | T1s040508 |
| TP-26 | TP-040241 | 1102 | - | Addition of RRC test case 10.1.2.7.1 to RRC ATS V3.6.1 | B | 3.7.0 | 3.8.0 | T1s040510 |
| TP-26 | TP-040241 | 1103 | - | Addition of RRC test case 10.1.2.3.2 to RRC ATS V3.6.1 | B | 3.7.0 | 3.8.0 | T1s040506 |
| TP-26 | TP-040241 | 1104 | - | Addition of NAS Package 4 test case 12.2.1.6 Proc1 to NAS ATS V3.6.1 | B | 3.7.0 | 3.8.0 | T1s040565 |
| TP-26 | TP-040241 | 1105 | - | Addition of NAS Package 4 test case 12.2.1.4 proc2 to NAS ATS V3.6.1 | B | 3.7.0 | 3.8.0 | T1s040561 |
| TP-26 | TP-040241 | 1106 | - | Addition of NAS Package 4 test case 12.2.1.5a Proc2 to NAS ATS V3.6.1 | B | 3.7.0 | 3.8.0 | T1s040563 |
| TP-26 | TP-040241 | 1107 | - | Addition of NAS Package 4 test case 12.2.1.10 to NAS ATS V3.6.1 | B | 3.7.0 | 3.8.0 | T1s040559 |
| TP-26 | TP-040241 | 1108 | - | Addition of RAB test case 14.2.23a2 to RAB ATS V3.6.0 | B | 3.7.0 | 3.8.0 | T1s040556 |
| TP-26 | TP-040241 | 1109 | - | Addition of NAS test case 12.6.1.3.1 to NAS ATS V3.6.0 | B | 3.7.0 | 3.8.0 | T1s040454 |
| TP-26 | TP-040241 | 1110 | - | Addition of GCF P2 RRC 8.4.1.7 - Revision of T1s040381 | B | 3.7.0 | 3.8.0 | T1s040766 |
| TP-26 | TP-040242 | 1111 | - | Correction to RRC P3 TC 8.4.1.37 | F | 3.7.0 | 3.8.0 | T1s040735 |
| TP-26 | TP-040242 | 1112 | - | Correction to RRC P2 TC 8.3.1.31 for the timer value before step 5. | F | 3.7.0 | 3.8.0 | T1s040736 |
| TP-26 | TP-040242 | 1113 | - | Correction to approved GCF P4 test cases 8.1.7.1c | F | 3.7.0 | 3.8.0 | T1s040734 |
| TP-26 | TP-040242 | 1114 | - | Correction to approved package 4 NAS Test case tc_12_6_1_3_2 | F | 3.7.0 | 3.8.0 | T1s040737 |
| TP-26 | TP-040242 | 1115 | - | Corrections to RRC Package 1 TC 8.4.1.1. | F | 3.7.0 | 3.8.0 | T1s040738 |
| TP-26 | TP-040242 | 1116 | - | Correction to the RRC default message handler on Dc SAP for Deactivate PDP Context Request message in RRC ATS. | F | 3.7.0 | 3.8.0 | T1s040731 |
| TP-26 | TP-040242 | 1117 | - | Correction to TTCN for MultiRAB test cases. | F | 3.7.0 | 3.8.0 | T1s040732 |
| TP-26 | TP-040242 | 1118 | - | Correction to approved package 4 NAS Test case tc_12_6_1_3_1 | F | 3.7.0 | 3.8.0 | T1s040733 |
| TP-26 | TP-040242 | 1119 | - | Summary of regression errors in the wk45 ATS. | F | 3.7.0 | 3.8.0 | T1s040723 |
| TP-26 | TP-040242 | 1120 | - | Correction to RRC P4 TC 8.1.7.1b for comments in test steps. | F | 3.7.0 | 3.8.0 | T1s040711 |
| TP-26 | TP-040242 | 1121 | - | Correction to GCF P3 NAS test Cases 13.2.1.1, 13.2.2.1 and 13.2.2.2 | F | 3.7.0 | 3.8.0 | T1s040712 |
| TP-26 | TP-040242 | 1122 | - | Correction to GCF P4 NAS test Case 12.2.1.6.2 | F | 3.7.0 | 3.8.0 | T1s040713 |
| TP-26 | TP-040242 | 1123 | - | Correction to RAB test case 14.4.2.3 and 14.4.2a.3. | F | 3.7.0 | 3.8.0 | T1s040714 |
| TP-26 | TP-040242 | 1124 | - | Correction to RRC Package 2 TC 8.3.1.3. | F | 3.7.0 | 3.8.0 | T1s040722 |
| TP-26 | TP-040242 | 1125 | - | Correction to AT Command used for GCF P1 NAS test Case 10.1.2.5.1 | F | 3.7.0 | 3.8.0 | T1s040724 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| TP-26 | TP-040242 | 1126 | - | Correction in TTCN for execution of Opmode C UE. | F | 3.7.0 | 3.8.0 | T1s040725 |
| TP-26 | TP-040242 | 1127 | - | Correction to RRC Package 4 TC 8.1.2.3 | F | 3.7.0 | 3.8.0 | T1s040726 |
| TP-26 | TP-040242 | 1128 | - | Correction to RRC test cases 8.1.2.1 and 8.1.2.7 | F | 3.7.0 | 3.8.0 | T1s040727 |
| TP-26 | TP-040242 | 1130 | - | Correction to RRC test cases 8.1.3.1, 8.1.3.3, 8.1.3.4 and 8.1.3.5 | F | 3.7.0 | 3.8.0 | T1s040729 |
| TP-26 | TP-040242 | 1131 | - | Correction to RRC Package 1 TC 8.1.2.9 | F | 3.7.0 | 3.8.0 | T1s040730 |
| TP-26 | TP-040242 | 1132 | - | Correction to Package 2 RRC test case 8.3.1.4 | F | 3.7.0 | 3.8.0 | T1s040721 |
| TP-26 | TP-040242 | 1133 | - | Correction to Package 3 RRC inter-RAT measurement test cases 8.4.1.31 + 8.4.1.33 + 8.4.1.34 + 8.4.1.35 + 8.4.1.36 + 8.4.1.40 | F | 3.7.0 | 3.8.0 | T1s040715 |
| TP-26 | TP-040242 | 1134 | - | Correction to approved NAS test case 12.9.4 | F | 3.7.0 | 3.8.0 | T1s040716 |
| TP-26 | TP-040242 | 1135 | - | Correction to Approved RRC Package 2 TC 8.3.7.2 | F | 3.7.0 | 3.8.0 | T1s040709 |
| TP-26 | TP-040242 | 1136 | - | Correction to Approved RRC Package 3 TC 8.2.4.1a | F | 3.7.0 | 3.8.0 | T1s040708 |
| TP-26 | TP-040242 | 1137 | - | Correction to Approved RRC Package 3 TC 8.4.1.31 | F | 3.7.0 | 3.8.0 | T1s040707 |
| TP-26 | TP-040242 | 1138 | - | Correction to GCF P2 test cases 6.2.1.1, 6.2.1.6 and 6.2.1.9 to IR_U ATS v3.7.0 to check the displayed PLMN. | F | 3.7.0 | 3.8.0 | T1s040693 |
| TP-26 | TP-040242 | 1139 | - | Correction to Package 2 RAB test case 14.4.2.2 and 14.4.2.3. | F | 3.7.0 | 3.8.0 | T1s040697 |
| TP-26 | TP-040242 | 1140 | - | Correction to GCF P4 NAS test Case 12.4.1.2 (Revision of T1-040673) | F | 3.7.0 | 3.8.0 | T1s040696 |
| TP-26 | TP-040242 | 1141 | - | Correction of GCF P1 test case 7.2.3.23 | F | 3.7.0 | 3.8.0 | T1s040694 |
| TP-26 | TP-040242 | 1142 | - | Global correction of Structured Type Constraints containing wildcards violating coding convention E.3.7 | F | 3.7.0 | 3.8.0 | T1s040695 |
| TP-26 | TP-040242 | 1143 | - | Correction to GCF P4 RRC test Case 8.3.1.15 | F | 3.7.0 | 3.8.0 | T1s040675 |
| TP-26 | TP-040242 | 1144 | - | Extension to Guard Timer for Approved NAS GMM Test Cases | F | 3.7.0 | 3.8.0 | T1s040692 |
| TP-26 | TP-040242 | 1145 | - | Correction to RRC TC 8.1.12 for handling correct number of RRC Connection Release Complete message based on the value of N308 | F | 3.7.0 | 3.8.0 | T1s040687 |
| TP-26 | TP-040242 | 1146 | - | Corrections Required for the wk42 ATS | F | 3.7.0 | 3.8.0 | T1s040682 |
| TP-26 | TP-040242 | 1147 | - | Corrections to release of SS resources for a cell during test case execution | F | 3.7.0 | 3.8.0 | T1s040681 |
| TP-26 | TP-040242 | 1148 | - | Correction to approved RRC Package 1 8.3.1.1 | F | 3.7.0 | 3.8.0 | T1s040668 |
| TP-26 | TP-040242 | 1149 | - | Correction to approved RRC Package 4 TC 8.2.6.11 | F | 3.7.0 | 3.8.0 | T1s040667 |
| TP-26 | TP-040242 | 1150 | - | Regression test error corrections to TTCN deliveries of wk40 | F | 3.7.0 | 3.8.0 | T1s040666 |
| TP-26 | TP-040242 | 1151 | - | Correction of GCF P1 test case 7.2.3.14 | F | 3.7.0 | 3.8.0 | T1s040660 |
| TP-26 | TP-040242 | 1152 | - | Correction of GCF P1 test case 11.1.1.1 | F | 3.7.0 | 3.8.0 | T1s040661 |
| TP-26 | TP-040242 | 1153 | - | Correction of GCF P3 SMS test cases 16.1.1, 16.1.2, 16.1.9.1, 16.1.9.2, 16.1.10, 16.2.1, 16.2.2, 16.2.10 | F | 3.7.0 | 3.8.0 | T1s040662 |
| TP-26 | TP-040242 | 1154 | - | Corrections Required for the wk40 ATS | F | 3.7.0 | 3.8.0 | T1s040663 |
| TP-26 | TP-040242 | 1155 | - | Correction to Approved RRC Package 2 TC 8.2.4.3 | F | 3.7.0 | 3.8.0 | T1s040655 |
| TP-26 | TP-040242 | 1156 | - | Correction to Package 3 SMS test cases. | F | 3.7.0 | 3.8.0 | T1s040637 |
| TP-26 | TP-040242 | 1157 | - | Correction to approved package 4 NAS Test case tc_12_4_1_4d2 | F | 3.7.0 | 3.8.0 | T1s040648 |
| TP-26 | TP-040242 | 1158 | - | Correction to Package 4 NAS test case 12.2.1.2 for increasing the guard timer. | F | 3.7.0 | 3.8.0 | T1s040630 |
| TP-26 | TP-040242 | 1159 | - | Regression error corrections to TTCN deliveries of wk34 and wk37 | F | 3.7.0 | 3.8.0 | T1s040636 |
| TP-26 | TP-040242 | 1160 | - | Summary of regression errors in the wk37 ATS. | F | 3.7.0 | 3.8.0 | T1s040617 |
| TP-26 | TP-040242 | 1161 | - | Correction to RRC Package 1 test cases 8.1.7.1 and 8.1.7.2 (Revision of T1s040532) | F | 3.7.0 | 3.8.0 | T1s040618 |
| TP-26 | TP-040242 | 1162 | - | Corrections Required for the wk37 ATS (Revision of T1s040606) | F | 3.7.0 | 3.8.0 | T1s040619 |
| TP-26 | TP-040242 | 1163 | - | Correction to Package 2 RRC test case 8.3.2.11 to increase the timer while waiting for URA Update. | F | 3.7.0 | 3.8.0 | T1s040599 |
| TP-26 | TP-040242 | 1164 | - | Correction to Approved RRC Package 1 TC 8.1.2.2 | F | 3.7.0 | 3.8.0 | T1s040584 |
| TP-26 | TP-040242 | 1165 | - | Radiolink removal and subsequent addition to align the TTCN with 34.123-1 | F | 3.7.0 | 3.8.0 | T1s040583 |
| TP-26 | TP-040242 | 1166 | - | TTCN Correction to Test Case 14.2.12 and 14.2.16 | F | 3.7.0 | 3.8.0 | T1s040581 |
| TP-26 | TP-040242 | 1167 | - | Correction to Approved RRC Package 2 TC 8.4.1.2 | F | 3.7.0 | 3.8.0 | T1s040582 |
| TP-26 | TP-040242 | 1168 | - | Corrections to GCF package 2 IR_U test case 6.2.1.1 | F | 3.7.0 | 3.8.0 | T1s040536 |
| TP-26 | TP-040242 | 1169 | - | Corrections to GCF package 2 IR_U test case 6.2.1.6 | F | 3.7.0 | 3.8.0 | T1s040538 |
| TP-26 | TP-040242 | 1170 | - | Correction of GCF package 2 IR_U test case 8.3.7.1. | F | 3.7.0 | 3.8.0 | T1s040540 |
| TP-26 | TP-040242 | 1171 | - | Correction of GCF package 2 IR_U test case 8.3.7.2. | F | 3.7.0 | 3.8.0 | T1s040542 |
| TP-26 | TP-040242 | 1172 | - | Correction of GCF package 2 IR_U test case 8.3.7.3. | F | 3.7.0 | 3.8.0 | T1s040544 |
| TP-26 | TP-040242 | 1173 | - | Correction of GCF package 2 IR_U test case 8.3.7.4. | F | 3.7.0 | 3.8.0 | T1s040546 |
| TP-26 | TP-040242 | 1174 | - | Correction of GCF package 2 IR_U test case 8.4.1.40. | F | 3.7.0 | 3.8.0 | T1s040554 |
| TP-26 | TP-040242 | 1175 | - | TTCN changes to approved package 1 RRC testcase 8.4.1.3 | F | 3.7.0 | 3.8.0 | T1s040576 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| TP-26 | TP-040242 | 1176 | - | Correction to MultiRAB test cases 14.2.38a, 14.2.38b and 14.2.38e | F | 3.7.0 | 3.8.0 | T1s040575 |
| TP-26 | TP-040242 | 1177 | - | Correction to Approved RRC Package 2 TC 8.4.1.2 | F | 3.7.0 | 3.8.0 | T1s040572 |
| TP-26 | TP-040242 | 1178 | - | Addition of verdicts in RRC default message handler on Dc SAP for Deactivate PDP Context Request message in RRC ATS.(Revision of T1s040512) | F | 3.7.0 | 3.8.0 | T1s040569 |
| TP-26 | TP-040242 | 1179 | - | Regression error corrections to TTCN deliveries of wk26 and wk31 | F | 3.7.0 | 3.8.0 | T1s040558 |
| TP-26 | TP-040242 | 1180 | - | Modification to MAC Package 2 test case 7.1.3.1 | F | 3.7.0 | 3.8.0 | T1s040531 |
| TP-26 | TP-040242 | 1181 | - | Correction to NAS test cases 9.4.2.3 (P2), 9.4.2.4 Proc 2 (P2), and 12.4.1.1a (P1) | F | 3.7.0 | 3.8.0 | T1s040514 |
| TP-26 | TP-040242 | 1182 | - | Correction to Package 3 SMS test case 16.2.1. | F | 3.7.0 | 3.8.0 | T1s040497 |
| TP-26 | TP-040242 | 1183 | - | Correction to GCF P1 test case 8.3.1.1 | F | 3.7.0 | 3.8.0 | T1s040484 |
| TP-26 | TP-040242 | 1184 | - | Regression test error corrections to TTCN deliveries of wk42 | F | 3.7.0 | 3.8.0 | T1s040699 |
| TP-27 | TP-050039 | 1185 | | RRC Connection Establishment: Reject with InterRATInfo is set to GSM and selection to the designated system fails | B | 3.8.0 | 5.0.0 | T1s050056 |
| TP-27 | TP-050039 | 1186 | | RRC Connection Establishment: Reject with interRATInfo is set to GSM | B | 3.8.0 | 5.0.0 | T1s050054 |
| TP-27 | TP-050039 | 1187 | | MM connection / abortion by the network / cause not equal to #6 | B | 3.8.0 | 5.0.0 | T1s050044 |
| TP-27 | TP-050039 | 1188 | | PS detach / rejected / PS services not allowed in this PLMN/ test1 | B | 3.8.0 | 5.0.0 | T1s050046 |
| TP-27 | TP-050039 | 1189 | | Routing area updating / abnormal cases / attempt counter check / miscellaneous reject causes | B | 3.8.0 | 5.0.0 | T1s050018 |
| TP-27 | TP-050039 | 1190 | | RRC / Paging for Connection in connected mode (URA_PCH, multiple paging records) | B | 3.8.0 | 5.0.0 | T1s050038 |
| TP-27 | TP-050039 | 1191 | | Combined routing area updating / abnormal cases / access barred due to access class control / test procedure 1 | B | 3.8.0 | 5.0.0 | T1s050036 |
| TP-27 | TP-050039 | 1192 | | Combined routing area updating / abnormal cases / access barred due to access class control / test procedure 2 | B | 3.8.0 | 5.0.0 | T1s050034 |
| TP-27 | TP-050039 | 1193 | | Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH / 20 ms TTI | B | 3.8.0 | 5.0.0 | T1s050025 |
| TP-27 | TP-050039 | 1194 | | Measurement Report on INITIAL DIRECT TRANSFER message and UPLINK DIRECT TRANSFER message | B | 3.8.0 | 5.0.0 | T1s050031 |
| TP-27 | TP-050039 | 1195 | | Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | B | 3.8.0 | 5.0.0 | T1s050023 |
| TP-27 | TP-050039 | 1196 | | Interactive or background / UL:384 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 10 ms TTI | B | 3.8.0 | 5.0.0 | T1s050010 |
| TP-27 | TP-050039 | 1197 | | Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH | B | 3.8.0 | 5.0.0 | T1s050008 |
| TP-27 | TP-050039 | 1198 | | Cell change order from UTRAN/To GPRS/CELL_DCH/Failure (Physical channel & Reversion Failure) | B | 3.8.0 | 5.0.0 | T1s050001 |
| TP-27 | TP-050039 | 1199 | | RRC Connection Release in CELL_DCH state (Network Authentication Failure): Success | B | 3.8.0 | 5.0.0 | T1s050006 |
| TP-27 | TP-050039 | 1200 | | Inter system handover from UTRAN/To GSM/Speech/Failure (Physical channel Failure and Reversion Failure) | B | 3.8.0 | 5.0.0 | T1s040798 |
| TP-27 | TP-050039 | 1201 | | Cell reselection using cell status and cell reservations | B | 3.8.0 | 5.0.0 | T1s040794 |
| TP-27 | TP-050039 | 1202 | | RRC / Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH (Frequency band modification): Success | B | 3.8.0 | 5.0.0 | T1s040796 |
| TP-27 | TP-050039 | 1203 | | Correct Selection of RACH parameters (FDD) | B | 3.8.0 | 5.0.0 | T1s040755 |
| TP-27 | TP-050039 | 1204 | | Measurement Control and Report: Additional Measurements list | B | 3.8.0 | 5.0.0 | T1s040791 |
| TP-27 | TP-050039 | 1205 | | PS attach / rejected / PS services not allowed in this PLMN | B | 3.8.0 | 5.0.0 | T1s040779 |
| TP-27 | TP-050039 | 1206 | | Access Service class selection for RACH transmission | B | 3.8.0 | 5.0.0 | T1s040757 |
| TP-27 | TP-050039 | 1207 | | Selection of RAT for UPLMN; Automatic mode | B | 3.8.0 | 5.0.0 | T1s040746 |
| TP-27 | TP-050039 | 1208 | | Selection of RAT for OPLMN; Automatic mode | B | 3.8.0 | 5.0.0 | T1s040748 |
| TP-27 | TP-050039 | 1209 | | Cell reselection if cell becomes barred or S<0; UTRAN to GPRS (CELL_FACH) | B | 3.8.0 | 5.0.0 | T1s040701 |
| TP-27 | TP-050039 | 1210 | | Service Request / RAB re-establishment / UE initiated / multiple PDP contexts | B | 3.8.0 | 5.0.0 | T1s040719 |
| TP-27 | TP-050040 | 1211 | | Summary of regression errors in the wk04 ATS | F | 3.8.0 | 5.0.0 | T1s050063 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| TP-27 | TP-050040 | 1212 | | Summary of regression errors in the wk04 ATS. | F | 3.8.0 | 5.0.0 | T1s050062 |
| TP-27 | TP-050040 | 1213 | | Correction to RRC P2 TC 8.4.1.7 | F | 3.8.0 | 5.0.0 | T1s050040 |
| TP-27 | TP-050040 | 1214 | | Summary of regression errors in the wk04 ATS. | F | 3.8.0 | 5.0.0 | T1s050061 |
| TP-27 | TP-050040 | 1215 | | Summary of regression errors in the wk04 ATS. | F | 3.8.0 | 5.0.0 | T1s050058 |
| TP-27 | TP-050040 | 1216 | | Correction to approved package 4 NAS Test case 12_6_1_3_3 | F | 3.8.0 | 5.0.0 | T1s050052 |
| TP-27 | TP-050040 | 1217 | | Correction to Approved RRC Package 3 TC 8.4.1.38 | F | 3.8.0 | 5.0.0 | T1s050051 |
| TP-27 | TP-050040 | 1218 | | Correction to Approved NAS Package 3 TC 9.4.7 | F | 3.8.0 | 5.0.0 | T1s050053 |
| TP-27 | TP-050040 | 1219 | | Correction to Approved RRC Package 2 TC 8.3.7.2 / 8.3.7.3 | F | 3.8.0 | 5.0.0 | T1s050050 |
| TP-27 | TP-050040 | 1220 | | Correction to Approved RRC Package 3 TC 8.4.1.36 | F | 3.8.0 | 5.0.0 | T1s050048 |
| TP-27 | TP-050040 | 1221 | | Correction to Approved IR_U Package 2 test case 6.2.2.1 | F | 3.8.0 | 5.0.0 | T1s050042 |
| TP-27 | TP-050040 | 1222 | | Correction to Approved IR_U Package 4 Test Case 8.3.7.12 | F | 3.8.0 | 5.0.0 | T1s050043 |
| TP-27 | TP-050040 | 1223 | | Correction to test step "ts_AT_TerminateCall". | F | 3.8.0 | 5.0.0 | T1s050041 |
| TP-27 | TP-050040 | 1224 | | Wk51 regression error report on unapproved and approved Idlemode testcases 6.1.2.x | F | 3.8.0 | 5.0.0 | T1s050027 |
| TP-27 | TP-050040 | 1225 | | Correction to approved package 3 NAS Test case 9_4_7 | F | 3.8.0 | 5.0.0 | T1s050030 |
| TP-27 | TP-050040 | 1226 | | Summary of regression errors in the wk51 ATS. | F | 3.8.0 | 5.0.0 | T1s050028 |
| TP-27 | TP-050040 | 1227 | | Correction to RRC P1 TC 8.4.1.3 | F | 3.8.0 | 5.0.0 | T1s050020 |
| TP-27 | TP-050040 | 1228 | | Correction to RRC P2 TC 8.3.1.22 for removing check of "FOR" field value from ROUTING AREA UPDATING REQUEST message. | F | 3.8.0 | 5.0.0 | T1s050021 |
| TP-27 | TP-050040 | 1229 | | Correction to Package 4 NAS test case 12.9.14 | F | 3.8.0 | 5.0.0 | T1s050022 |
| TP-27 | TP-050040 | 1230 | | Summary of regression errors in the wk51 ATS. | F | 3.8.0 | 5.0.0 | T1s050033 |
| TP-27 | TP-050040 | 1231 | | Correction to 34.123-3, section 16, SMS test cases regarding Validity Period Formats | F | 3.8.0 | 5.0.0 | T1s050029 |
| TP-27 | TP-050040 | 1232 | | Additional Corrections required for 14.4.2.2 test cases in the RAB ATS. | F | 3.8.0 | 5.0.0 | T1s050017 |
| TP-27 | TP-050040 | 1233 | | Revised corrections to approved IR_U test cases 6_2_1_1, 6_2_1_7 and 6_2_1_8. | F | 3.8.0 | 5.0.0 | T1s050012 |
| TP-27 | TP-050040 | 1234 | | Corrections required for "Combinations on SCCPCH" test cases in the RAB ATS. | F | 3.8.0 | 5.0.0 | T1s040801 |
| TP-27 | TP-050040 | 1235 | | Correction to RRC P1 TC 8.4.1.5 | F | 3.8.0 | 5.0.0 | T1s040797 |
| TP-27 | TP-050040 | 1236 | | Additional Corrections Required for the wk47 ATS | F | 3.8.0 | 5.0.0 | T1s040765 |
| TP-27 | TP-050040 | 1237 | | Correction to Package 4 NAS test case 12.2.1.5a Proc1 | F | 3.8.0 | 5.0.0 | T1s040773 |
| TP-27 | TP-050040 | 1238 | | Summary of regression errors in the wk49 ATS. | F | 3.8.0 | 5.0.0 | T1s040790 |
| TP-27 | TP-050040 | 1239 | | Summary of regression errors in wk49 ATS. | F | 3.8.0 | 5.0.0 | T1s040789 |
| TP-27 | TP-050040 | 1240 | | Correction to Approved RRC Package 4 TC 8.3.11.1 | F | 3.8.0 | 5.0.0 | T1s040788 |
| TP-27 | TP-050040 | 1241 | | Correction required to Package 4 NAS test case 12.9.13. | F | 3.8.0 | 5.0.0 | T1s040787 |
| TP-27 | TP-050040 | 1242 | | Correction to approved GCF P4 NAS test case 12.9.8: improvement of incomplete implementation of T1-041930 | F | 3.8.0 | 5.0.0 | T1s040786 |
| TP-27 | TP-050040 | 1243 | | Correction to SIB1 contents for approved RRC Idle Mode and InterRAT test cases. | F | 3.8.0 | 5.0.0 | T1s040774 |
| TP-27 | TP-050040 | 1244 | | Correction to Package 4 NAS test cases 12.4.3.4. | F | 3.8.0 | 5.0.0 | T1s040781 |
| TP-27 | TP-050040 | 1245 | | Corrections to RRC Package 3 TC 8.4.1.26 to change the Downlink Power level settings of Cell A at Time Instant 'T1'. | F | 3.8.0 | 5.0.0 | T1s040782 |
| TP-27 | TP-050040 | 1246 | | Correction to GMM Test cases for removing check of "FOR" field value from ATTACH REQUEST and ROUTING AREA UPDATING REQUEST messages. (Revision to TTCN CR T1s040763) | F | 3.8.0 | 5.0.0 | T1s040783 |
| TP-27 | TP-050040 | 1247 | | Correction to RRC P1 TC 8.4.1.5 (Revision of T1s040739) | F | 3.8.0 | 5.0.0 | T1s040770 |
| TP-27 | TP-050040 | 1248 | | Corrections required to rlc_SizeIndex in the RAB ATS | F | 3.8.0 | 5.0.0 | T1s040772 |
| TP-27 | TP-050040 | 1249 | | Corrections to RRC 8.3.2.x for Special LI | F | 3.8.0 | 5.0.0 | T1s040769 |
| TP-27 | TP-050040 | 1250 | | Summary of regression errors in the wk47 ATS. | F | 3.8.0 | 5.0.0 | T1s040768 |
| TP-27 | TP-050040 | 1251 | | Summary of regression errors in the wk47 ATS. | F | 3.8.0 | 5.0.0 | T1s040760 |
| TP-27 | TP-050040 | 1252 | | Correction to Package 2 RRC test case 8.3.2.11 to increase the wait time while checking that UE does not send URA Update. | F | 3.8.0 | 5.0.0 | T1s040752 |
| TP-27 | TP-050040 | 1253 | | Correction to RRC Test Case 8.3.1.22. | F | 3.8.0 | 5.0.0 | T1s040753 |
| TP-27 | TP-050040 | 1254 | | Correction to approved package 2 NAS Test case 9.4.2.3 | F | 3.8.0 | 5.0.0 | T1s040761 |
| TP-27 | TP-050040 | 1255 | | Corrections to RRC Package 1 TC 8.3.1.1 to add a delay before SS reconfigures MAC according to the | F | 3.8.0 | 5.0.0 | T1s040762 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| | | | | new C-RNTI or U-RNTI assigned to UE. | | | | |
| TP-27 | TP-050040 | 1256 | | Summary of regression errors in the wk47 ATS. | F | 3.8.0 | 5.0.0 | T1s040750 |
| TP-27 | TP-050040 | 1257 | | Corrections Required for the wk47 ATS | F | 3.8.0 | 5.0.0 | T1s040758 |
| TP-27 | TP-050040 | 1258 | | Summary of regression errors in IR_U wk47 ATS. | F | 3.8.0 | 5.0.0 | T1s040754 |
| TP-27 | TP-050040 | 1259 | | Correction to package 1 test case 8.3.4.3. | F | 3.8.0 | 5.0.0 | T1s040742 |
| TP-27 | TP-050040 | 1260 | | Correction to approved package 4 NAS Test cases 12.2.1.6 proc1, 12.2.1.6 proc2 and 12.9.8 | F | 3.8.0 | 5.0.0 | T1s040745 |
| TP-27 | TP-050036 | 1263 | - | Corrections Required for "Combinations on SCCPCH" configurations. | F | 3.8.0 | 5.0.0 | T1-050201r3 |
| TP-27 | TP-050036 | 1264 | - | Introduce ASP for HSDPA | B | 3.8.0 | 5.0.0 | T1-050036 |
| TP-27 | TP-050036 | 1265 | - | Introduce ASP for LCR TDD | B | 3.8.0 | 5.0.0 | T1-050037 |
| TP-27 | TP-050036 | 1266 | - | Replacement of 34.123-3 Release 99 by a pointer to the newly created Release 5 version | F | 3.8.0 | 3.9.0 | T1-050250 |
| TP-27 | TP-050036 | 1267 | - | Corrections of encoding rules and postambles | F | 3.8.0 | 5.0.0 | T1-050282 |
| TP-27 | TP-050036 | 1268 | - | Introduce ASP for A-GPS | B | 3.8.0 | 5.0.0 | T1-050284 |
| TP-27 | TP-050037 | 1261 | - | Add new verified TTCN test cases CR to 34.123-3 (prose) in Annex A | F | 3.8.0 | 5.0.0 | - |
| RP-28 | RP-050278 | 1334 | - | Correction to specification version references | F | 5.0.0 | 5.1.0 | R5-050639 |
| RP-28 | RP-050278 | 1335 | - | Modifying AT Commands, ASPs, TSOs and PIXITs | F | 5.0.0 | 5.1.0 | R5-050955 |
| RP-28 | RP-050278 | 1336 | - | HSDPA ASP Modification | F | 5.0.0 | 5.1.0 | R5-050975 |
| RP-28 | RP-050278 | 1337 | - | Modifying G_L2_SYSINFO_REQ ASP | F | 5.0.0 | 5.1.0 | R5-050980 |
| RP-28 | RP-050278 | 1338 | - | CR to 34.123-3 Rel-5: Addition of a new ASP required for test case tc_8_1_7_1d | F | 5.0.0 | 5.1.0 | R5-050983 |
| RP-28 | RP-050281 | 1289 | - | Summary of regression errors for IR_U_r3_wk17. | F | 5.0.0 | 5.1.0 | R5s050146 |
| RP-28 | RP-050281 | 1290 | - | Correction to Approved RRC Package 4 TC 8.4.1.40 | F | 5.0.0 | 5.1.0 | R5s050169 |
| RP-28 | RP-050281 | 1291 | - | Correction of a missing LB entity in LB setup introduced in Rel-5 in the definition of CLOSE UE TEST LOOP | F | 5.0.0 | 5.1.0 | R5s050168 |
| RP-28 | RP-050281 | 1292 | - | Correction to approved testcase 8.2.2.4 and 8.2.4.4 | F | 5.0.0 | 5.1.0 | R5s050165 |
| RP-28 | RP-050281 | 1293 | - | Summary of additional regression errors in the wk17 ATS. | F | 5.0.0 | 5.1.0 | R5s050166 |
| RP-28 | RP-050281 | 1294 | - | Correction to approved testcase 8.2.1.9 | F | 5.0.0 | 5.1.0 | R5s050163 |
| RP-28 | RP-050281 | 1295 | - | Correction in TTCN to support Band II UE for UE capability Information | F | 5.0.0 | 5.1.0 | R5s050167 |
| RP-28 | RP-050281 | 1296 | - | Correction to value of periodic RA update timer IE in Attach Accept message | F | 5.0.0 | 5.1.0 | R5s050152 |
| RP-28 | RP-050281 | 1297 | - | Correction to Order of AT commands used for initiation of PS call | F | 5.0.0 | 5.1.0 | R5s050153 |
| RP-28 | RP-050281 | 1298 | - | Correction to approved testcase 8.1.7.1b | F | 5.0.0 | 5.1.0 | R5s050154 |
| RP-28 | RP-050281 | 1299 | - | Regression Error Report based on wk17ATS | F | 5.0.0 | 5.1.0 | R5s050164 |
| RP-28 | RP-050281 | 1300 | - | Correction in TTCN to enable ciphering for 3G to 2G handover. | F | 5.0.0 | 5.1.0 | R5s050149 |
| RP-28 | RP-050281 | 1301 | - | Correction to approved RRC testcases 8.1.3.3 and 8.1.3.4 | F | 5.0.0 | 5.1.0 | R5s050148 |
| RP-28 | RP-050281 | 1302 | - | Correction to GCF WI-10 test case 8.4.1.3 | F | 5.0.0 | 5.1.0 | R5s050140 |
| RP-28 | RP-050281 | 1303 | - | Corrections to WI-010 P3 RAB test cases 14.2.12, 14.2.16 & 14.2.17 | F | 5.0.0 | 5.1.0 | R5s050127 |
| RP-28 | RP-050281 | 1304 | - | Correction required for WI-010 P3 RAB Testcase 14.2.38c. | F | 5.0.0 | 5.1.0 | R5s050124 |
| RP-28 | RP-050281 | 1305 | - | Correction to GCF Package 3 RRC test case 8.3.1.24 | F | 5.0.0 | 5.1.0 | R5s050123 |
| RP-28 | RP-050281 | 1306 | - | Summary of additional regression errors in the wk09 ATS. | F | 5.0.0 | 5.1.0 | R5s050116 |
| RP-28 | RP-050281 | 1307 | - | Correction to approved RRC Package 4 TC 8.3.1.18 | F | 5.0.0 | 5.1.0 | R5s050117 |
| RP-28 | RP-050281 | 1308 | - | Correction to WI-12 Test Case 8.3.7.16 | F | 5.0.0 | 5.1.0 | R5s050115 |
| RP-28 | RP-050282 | 1309 | - | Correction to RRC P3 TC 8.3.2.13 | F | 5.0.0 | 5.1.0 | R5s050113 |
| RP-28 | RP-050282 | 1310 | - | Regression Error Report based on wk09 ATS | F | 5.0.0 | 5.1.0 | R5s050114 |
| RP-28 | RP-050282 | 1311 | - | Summary of regression errors for IR_U_wk09. | F | 5.0.0 | 5.1.0 | R5s050110 |
| RP-28 | RP-050282 | 1312 | - | Correction to RRC P2 TC 8.3.1.21 | F | 5.0.0 | 5.1.0 | R5s050111 |
| RP-28 | RP-050282 | 1313 | - | Correction to Approved NAS Package 4 TC 12.4.1.4a | F | 5.0.0 | 5.1.0 | R5s050109 |
| RP-28 | RP-050282 | 1315 | - | Correction for the MM test step "ts_GMM_RAU_AcceptEPLMN" | F | 5.0.0 | 5.1.0 | R5s050105 |
| RP-28 | RP-050282 | 1316 | - | Correction to SMS Test Suite for AT Commands | F | 5.0.0 | 5.1.0 | R5s050104 |
| RP-28 | RP-050282 | 1317 | - | Changes required to support Release 5 | F | 5.0.0 | 5.1.0 | R5s050095 |
| RP-28 | RP-050282 | 1318 | - | Correction to approved package WI-12 NAS Test case 9_5_7_2 | F | 5.0.0 | 5.1.0 | R5s050103 |
| RP-28 | RP-050282 | 1320 | - | Handling of L2 Acknowledgement on GERAN side. | F | 5.0.0 | 5.1.0 | R5s050094 |
| RP-28 | RP-050282 | 1321 | - | Correction to Approved RRC Package 4 TC 8.3.1.18 | F | 5.0.0 | 5.1.0 | R5s050093 |
| RP-28 | RP-050282 | 1322 | - | Correction to IR_U P4 Approved test case 8.3.11.4 | F | 5.0.0 | 5.1.0 | R5s050091 |
| RP-28 | RP-050282 | 1323 | - | Summary of iWD_07 regression test errors | F | 5.0.0 | 5.1.0 | R5s050078 |
| RP-28 | RP-050282 | 1324 | - | Corrections to section 16 SMS test cases to improve AT command handling | F | 5.0.0 | 5.1.0 | R5s050090 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| RP-28 | RP-050282 | 1325 | - | Correction to approved GCF P4 test cases 8.1.7.1c | F | 5.0.0 | 5.1.0 | R5s050086 |
| RP-28 | RP-050282 | 1326 | - | Summary of regression errors in the wk07 ATS. | F | 5.0.0 | 5.1.0 | R5s050088 |
| RP-28 | RP-050282 | 1327 | - | Correction to approved NAS WI 12 test case 12.4.1.5. | F | 5.0.0 | 5.1.0 | R5s050083 |
| RP-28 | RP-050282 | 1328 | - | Correction to approved GCF P4 test cases 8.1.7.1d | F | 5.0.0 | 5.1.0 | R5s050087 |
| RP-28 | RP-050282 | 1329 | - | Correction to approved package 2 NAS Test case 9_5_2 | F | 5.0.0 | 5.1.0 | R5s050082 |
| RP-28 | RP-050282 | 1330 | - | Correction to RRC P1 TC 8.4.1.1, 8.4.1.3 and P3 TC 8.4.1.29 | F | 5.0.0 | 5.1.0 | R5s050065 |
| RP-28 | RP-050283 | 1314 | - | Summary of regression errors in the wk09 ATS. | F | 5.0.0 | 5.1.0 | R5s050106 |
| RP-28 | RP-050283 | 1319 | - | Correction to approved testcase 8.1.10.1 | F | 5.0.0 | 5.1.0 | R5s050102 |
| RP-28 | RP-050365 | 1270 | - | Addition of NAS WI 12 test case 12.3.2.7 to NAS ATS V5.0.0 | B | 5.0.0 | 5.1.0 | R5s050128 |
| RP-28 | RP-050365 | 1271 | - | Addition of WI-012 NAS test case 12.9.7a to NAS ATS V5.0.0 | B | 5.0.0 | 5.1.0 | R5s050134 |
| RP-28 | RP-050365 | 1272 | - | Addition of NAS WI 12 test case 12.9.9 to NAS ATS V3.8.0 | B | 5.0.0 | 5.1.0 | R5s050080 |
| RP-28 | RP-050365 | 1273 | - | Addition of WI-010 P3 RAB test case 14.2.43.1 to RAB ATS V5.0.0 | B | 5.0.0 | 5.1.0 | R5s050100 |
| RP-28 | RP-050365 | 1274 | - | Addition of WI-012 RAB test case 14.2.43.2 to RAB ATS V5.0.0 | B | 5.0.0 | 5.1.0 | R5s050098 |
| RP-28 | RP-050365 | 1275 | - | Addition of WI-012 RAB test case 14.2.58a to RAB ATS V5.0.0 | B | 5.0.0 | 5.1.0 | R5s050096 |
| RP-28 | RP-050365 | 1276 | - | Addition of WI-012 RLC test case 7.2.3.28 to RLC ATS V3.8.0 | B | 5.0.0 | 5.1.0 | R5s050066 |
| RP-28 | RP-050365 | 1277 | - | Addition of WI-012 RLC test case 7.2.3.32 to RLC ATS V3.8.0 | B | 5.0.0 | 5.1.0 | R5s050068 |
| RP-28 | RP-050365 | 1278 | - | Addition of WI-012 RLC test case 7.2.3.35 to RLC ATS V3.8.0 | B | 5.0.0 | 5.1.0 | R5s050070 |
| RP-28 | RP-050365 | 1279 | - | Addition of WI12 test case 8.1.1.9 to RRC ATS v5.0.0 (Revision of R5s050125) | B | 5.0.0 | 5.1.0 | R5s050141 |
| RP-28 | RP-050365 | 1280 | - | Addition of WI12 test cases 8.1.2.11 to RRC ATS v3.8.0 | B | 5.0.0 | 5.1.0 | R5s050074 |
| RP-28 | RP-050365 | 1281 | - | Addition of RRC WI-012 test case 8.3.1.30 to RRC ATS V5.0.0 | B | 5.0.0 | 5.1.0 | R5s050138 |
| RP-28 | RP-050365 | 1282 | - | Addition of WI-012 test case 8.3.7.16 to IR_U ATS 3.8.0. | B | 5.0.0 | 5.1.0 | R5s050076 |
| RP-28 | RP-050365 | 1283 | - | Regression changes on TC 8.3.9.5 - WK09 | B | 5.0.0 | 5.1.0 | R5s050112 |
| RP-28 | RP-050365 | 1284 | - | Addition of RRC WI-012 test case 8.4.1.6 to RRC ATS V5.0.0 | B | 5.0.0 | 5.1.0 | R5s050132 |
| RP-28 | RP-050365 | 1285 | - | Addition of WI-012 NAS test case 9.4.5.4.6 to NAS ATS V5.0.0 | B | 5.0.0 | 5.1.0 | R5s050136 |
| RP-28 | RP-050365 | 1286 | - | Addition of NAS P4 test case 12.4.1.4c Proc1 to NAS ATS V5.0.0 | B | 5.0.0 | 5.1.0 | R5s050170 |
| RP-28 | RP-050365 | 1287 | - | Revision and Addition of WI-10 (P2) test cases 6.2.2.2 to IR_U ATS v5.0.0 | B | 5.0.0 | 5.1.0 | R5s050173 |
| RP-28 | RP-050365 | 1331 | - | Revision of RRC WI-14 test case 8.2.3.30 to RRC ATS v5.0.0 | B | 5.0.0 | 5.1.0 | R5s050179 |
| RP-28 | RP-050365 | 1332 | - | Addition of RRC WI-014 test case 8.2.4.36 to RRC ATS V5.0.0 (Revision of R5s050161) | B | 5.0.0 | 5.1.0 | R5s050199 |
| RP-28 | RP-050366 | 1333 | 1 | Add new verified and e-mail approved TTCN test cases in the TC lists in 34.123-3 (prose), Annex A | F | 5.0.0 | 5.1.0 | - |
| RP-29 | RP-050527 | 1334 | - | Addition of WI-10 NAS test case 12.4.2.4 to NAS ATS V5.1.0 | B | 5.1.0 | 5.2.0 | R5s050295 |
| RP-29 | RP-050527 | 1335 | - | Addition of WI12 test case 8.2.1.24 to RRC ATS V5.1.0 | B | 5.1.0 | 5.2.0 | R5s050259 |
| RP-29 | RP-050527 | 1336 | - | Addition of WI12 test case 8.2.1.34 to RRC ATS V5.1.0 | B | 5.1.0 | 5.2.0 | R5s050261 |
| RP-29 | RP-050527 | 1337 | - | Addition of RRC WI-012 test case 8.2.1.33 to RRC ATS V5.1.0 | B | 5.1.0 | 5.2.0 | R5s050242 |
| RP-29 | RP-050527 | 1338 | - | Addition of NAS WI-012 test case 12.2.1.11 to NAS ATS V5.0.0 | B | 5.1.0 | 5.2.0 | R5s050236 |
| RP-29 | RP-050527 | 1339 | - | Addition of WI-10 RRC test case 8.4.1.14 to RRC ATS V5.0.0 | B | 5.1.0 | 5.2.0 | R5s050228 |
| RP-29 | RP-050527 | 1340 | - | Addition of RRC WI-14 test case 8.2.6.42 to RRC ATS v5.0.0 | B | 5.1.0 | 5.2.0 | R5s050225 |
| RP-29 | RP-050527 | 1341 | - | Addition of WI-010 (P4) test case 8.3.9.3 to IR_U ATS V5.0.0 | B | 5.1.0 | 5.2.0 | R5s050219 |
| RP-29 | RP-050527 | 1342 | - | Addition of RRC WI-010 (P2) test case 8.2.4.1 to RRC ATS V5.0.0 | B | 5.1.0 | 5.2.0 | R5s050210 |
| RP-29 | RP-050527 | 1343 | - | Addition of RRC WI-014 test case 8.3.1.32 to RRC ATS V5.0.0 | B | 5.1.0 | 5.2.0 | R5s050217 |
| RP-29 | RP-050527 | 1344 | - | Addition of RRC WI-014 test case 8.2.1.28 to RRC ATS V5.0.0 | B | 5.1.0 | 5.2.0 | R5s050212 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| RP-29 | RP-050527 | 1345 | - | Addition of RRC WI-14 test case 8.2.1.32 to RRC ATS v5.0.0 | B | 5.1.0 | 5.2.0 | R5s050206 |
| RP-29 | RP-050527 | 1346 | - | Addition of RRC WI-14 test case 8.2.1.31 to RRC ATS v5.0.0 | B | 5.1.0 | 5.2.0 | R5s050204 |
| RP-29 | RP-050527 | 1347 | - | Addition of RRC WI-014 test case 8.2.2.38 to RRC ATS V5.0.0 (Revision of R5s050157) | B | 5.1.0 | 5.2.0 | R5s050197 |
| RP-29 | RP-050527 | 1348 | - | Addition of WI-010 RRC test case 6.1.2.1 to RRC ATS V5.0.0 | B | 5.1.0 | 5.2.0 | R5s050189 |
| RP-29 | RP-050527 | 1349 | - | Addition of RRC WI-14 test case 8.2.1.30 to RRC ATS v5.0.0 | B | 5.1.0 | 5.2.0 | R5s050184 |
| RP-29 | RP-050527 | 1350 | - | Addition of RRC WI-10 test case 8.3.1.23 to RRC ATS V5.0.0 | B | 5.1.0 | 5.2.0 | R5s050175 |
| RP-29 | RP-050527 | 1351 | - | Addition of RRC WI-14 test case 8.2.1.29 to RRC ATS v5.0.0 | B | 5.1.0 | 5.2.0 | R5s050182 |
| RP-29 | RP-050527 | 1352 | - | Addition of WI-014 test case 8.3.1.34 to HS_ENH ATS V5.1.0 | B | 5.1.0 | 5.2.0 | R5s050347 |
| RP-29 | RP-050527 | 1353 | - | Addition of WI14 test case 8.3.1.35 to HS_ENH ATS V5.1.0 | B | 5.1.0 | 5.2.0 | R5s050321 |
| RP-29 | RP-050528 | 1354 | - | Addition of WI14 test case 8.2.6.40 to HS_ENH ATS V5.1.0 | B | 5.1.0 | 5.2.0 | R5s050323 |
| RP-29 | RP-050528 | 1355 | - | Addition of WI-014 MAC test case 7.1.5.4 to HS_ENH ATS V5.1.0 | B | 5.1.0 | 5.2.0 | R5s050318 |
| RP-29 | RP-050528 | 1356 | - | Addition of WI14 test case 7.1.5.3 to HS_ENH ATS V5.1.0 | B | 5.1.0 | 5.2.0 | R5s050315 |
| RP-29 | RP-050528 | 1357 | - | Revision (of R5s0500248) to introduce test case 8_2_2_40 based on wk31 ATS | B | 5.1.0 | 5.2.0 | R5s050339 |
| RP-29 | RP-050528 | 1358 | - | Revision (of R5s050253) to introduce test case 8_3_1_33 based on wk31 ATS | B | 5.1.0 | 5.2.0 | R5s050341 |
| RP-29 | RP-050528 | 1359 | - | Revision (of R5s050250) to introduce test case 14_6_1 based on wk31 ATS | B | 5.1.0 | 5.2.0 | R5s050345 |
| RP-29 | RP-050528 | 1360 | - | Addition of WI14 test case 7.1.5.5 to HS_ENH ATS V5.1.0 (Revision of R5s050276) | B | 5.1.0 | 5.2.0 | R5s050313 |
| RP-29 | RP-050528 | 1361 | - | Addition of WI14 test case 7.1.5.1 to HS_ENH ATS V5.1.0 (Revision of R5s050257) | B | 5.1.0 | 5.2.0 | R5s050311 |
| RP-29 | RP-050528 | 1362 | - | Addition of WI-014 test case 8.2.1.27 to HS_ENH ATS V5.1.0 (Revision of CR R5s050263) | B | 5.1.0 | 5.2.0 | R5s050307 |
| RP-29 | RP-050528 | 1363 | - | Addition of WI-014 test case 8.2.6.49 to HS_ENH ATS V5.1.0 (Revision of R5s050265) | B | 5.1.0 | 5.2.0 | R5s050309 |
| RP-29 | RP-050528 | 1364 | - | Re-submission of WI-014 test case 8.3.11.9 to HS_ENH ATS V5.1.0. (Revision of R5s050150). | B | 5.1.0 | 5.2.0 | R5s050349 |
| RP-29 | RP-050528 | 1365 | - | Addition of WI-014 test case 8.2.2.36 to HS_ENH ATS V5.1.0 (Revision of CR R5s050267) | B | 5.1.0 | 5.2.0 | R5s050360 |
| RP-29 | RP-050529 | 1366 | - | Correction required in HSDPA constraint cbr_108_RRC_ConnReq_r5 | F | 5.1.0 | 5.2.0 | R5s050351 |
| RP-29 | RP-050529 | 1367 | - | Correction to approved WI-010 MM Test Cases 9_4_2_2_1 and 9_4_2_2_2 | F | 5.1.0 | 5.2.0 | R5s050337 |
| RP-29 | RP-050529 | 1368 | - | Corrections to test step ts_C4_CheckCellPCH and ts_C4_CheckCellPCH_r5 | F | 5.1.0 | 5.2.0 | R5s050326 |
| RP-29 | RP-050529 | 1369 | - | Correction to GCF P1(WI-10) approved RRC test case 8.1.1.2 | F | 5.1.0 | 5.2.0 | R5s050320 |
| RP-29 | RP-050529 | 1370 | - | Correction required in HSDPA step ts_RRC_RAB_EstPS_MO_P25 | F | 5.1.0 | 5.2.0 | R5s050317 |
| RP-29 | RP-050529 | 1371 | - | Upgrade HSENH ATS to full R5 | F | 5.1.0 | 5.2.0 | R5s050294 |
| RP-29 | RP-050529 | 1372 | - | Correction to GCF approved RRC test case 8.3.1.18 | F | 5.1.0 | 5.2.0 | R5s050293 |
| RP-29 | RP-050529 | 1373 | - | Correction asn.1 calculated values. | F | 5.1.0 | 5.2.0 | R5s050255 |
| RP-29 | RP-050529 | 1374 | - | Corrections to teststep ts_C5_CheckURA_PCH | F | 5.1.0 | 5.2.0 | R5s050280 |
| RP-29 | RP-050529 | 1375 | - | Correction to approved testcases 8.3.1.5 and 8.3.1.6 | F | 5.1.0 | 5.2.0 | R5s050287 |
| RP-29 | RP-050529 | 1376 | - | Correction to Inter-RAT Test cases | F | 5.1.0 | 5.2.0 | R5s050288 |
| RP-29 | RP-050529 | 1377 | - | Correction to the SMS Test Case 16.1.10 and 16.2.10 | F | 5.1.0 | 5.2.0 | R5s050291 |
| RP-29 | RP-050529 | 1378 | - | Summary of regression errors in the wk27 ATS. | F | 5.1.0 | 5.2.0 | R5s050292 |
| RP-29 | RP-050529 | 1379 | - | Correction to test step ts_CRLC_DL_CipherCfgRB | F | 5.1.0 | 5.2.0 | R5s050290 |
| RP-29 | RP-050529 | 1380 | - | Correction to GCF WI-12 approved NAS test case 9.4.5.4.6 | F | 5.1.0 | 5.2.0 | R5s050281 |
| RP-29 | RP-050529 | 1381 | - | Correction to GCF WI-10 approved IR_U test case 8.4.1.31 | F | 5.1.0 | 5.2.0 | R5s050289 |
| RP-29 | RP-050529 | 1382 | - | Corrections to Approved WI10 test case 9.4.5.2 | F | 5.1.0 | 5.2.0 | R5s050282 |
| RP-29 | RP-050529 | 1383 | - | Correction to GCF WI-10 test case 8.4.1.5 | F | 5.1.0 | 5.2.0 | R5s050234 |
| RP-29 | RP-050529 | 1384 | - | Correction to the RRC test case 8.4.1.14 | F | 5.1.0 | 5.2.0 | R5s050278 |
| RP-29 | RP-050529 | 1385 | - | Corrections to teststep ts_HO_SS_ReconfDCH_HS_ToFACH used for WI-14 Test Cases | F | 5.1.0 | 5.2.0 | R5s050279 |
| RP-29 | RP-050530 | 1386 | - | Correction to 8_1_x series approved testcases | F | 5.1.0 | 5.2.0 | R5s050271 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| RP-29 | RP-050530 | 1387 | - | Correction to test step ts_RRC_ReceiveRB_SetupCmpl to handle IE 'Start' for the ciphering path | F | 5.1.0 | 5.2.0 | R5s050272 |
| RP-29 | RP-050530 | 1388 | - | Correction to approved Inter-RAT IR_U testcase 8.3.7.13 | F | 5.1.0 | 5.2.0 | R5s050273 |
| RP-29 | RP-050530 | 1389 | - | Correction to approved testcase 8.2.4.1 | F | 5.1.0 | 5.2.0 | R5s050274 |
| RP-29 | RP-050530 | 1390 | - | Correction required for WI-010 P4 RRC Testcase 6.1.2.9. | F | 5.1.0 | 5.2.0 | R5s050275 |
| RP-29 | RP-050530 | 1391 | - | Correction to GCF WI-12 approved RRC test case 8.3.1.30, 8.4.1.6 and NAS test case 12.3.2.7 | F | 5.1.0 | 5.2.0 | R5s050270 |
| RP-29 | RP-050530 | 1392 | - | Correction to Approved RRC Package 4 TC 8.4.1.33 | F | 5.1.0 | 5.2.0 | R5s050269 |
| RP-29 | RP-050530 | 1393 | - | Guard timer setting needs to be longer in test case 9.4.2.4 Procedure 2. | F | 5.1.0 | 5.2.0 | R5s050252 |
| RP-29 | RP-050530 | 1394 | - | Corrections to WI-012 approved testcases 8.2.2.9 & 8.2.6.12 | F | 5.1.0 | 5.2.0 | R5s050246 |
| RP-29 | RP-050530 | 1395 | - | Corrections to WI-014 approved testcases 8.2.1.28, 8.2.4.36 & 8.2.1.30 | F | 5.1.0 | 5.2.0 | R5s050247 |
| RP-29 | RP-050530 | 1396 | - | Correction in Approved Test Case 12.2.2.1 of NAS_wk07.mp in iWD-TVB2003-03_D05wk07.zip | F | 5.1.0 | 5.2.0 | R5s050245 |
| RP-29 | RP-050530 | 1397 | - | Correction to GCF WI-12 approved RRC test case 8.1.6.3 | F | 5.1.0 | 5.2.0 | R5s050233 |
| RP-29 | RP-050530 | 1398 | - | Multiple PICs definitions | F | 5.1.0 | 5.2.0 | R5s050241 |
| RP-29 | RP-050530 | 1399 | - | ASN.1 changes required for introduction of band V & band VI | F | 5.1.0 | 5.2.0 | R5s050215 |
| RP-29 | RP-050530 | 1400 | - | Summary of regression errors in the wk21 IR_U and IR_G ATS. | F | 5.1.0 | 5.2.0 | R5s050240 |
| RP-29 | RP-050530 | 1401 | - | Correction to GCF WI-10 and WI-12 IR_U and IR_G test cases | F | 5.1.0 | 5.2.0 | R5s050239 |
| RP-29 | RP-050530 | 1402 | - | Correction to IdleMode P1 TC 6.1.2.1 | F | 5.1.0 | 5.2.0 | R5s050238 |
| RP-29 | RP-050530 | 1403 | - | Summary of regression errors in the wk21 IR_U ATS. | F | 5.1.0 | 5.2.0 | R5s050230 |
| RP-29 | RP-050530 | 1404 | - | Correction to GCF WI-10 test case 8.3.1.1 | F | 5.1.0 | 5.2.0 | R5s050224 |
| RP-29 | RP-050530 | 1405 | - | Correction to approved WI-010 RRC Test case 6_1_2_1 | F | 5.1.0 | 5.2.0 | R5s050221 |
| RP-29 | RP-050531 | 1406 | - | Correction to approved WI-010 RRC Test case 6_1_2_9 | F | 5.1.0 | 5.2.0 | R5s050227 |
| RP-29 | RP-050531 | 1407 | - | Correction to GCF WI-10 test case 8.2.1.10, 8.3.4.1, 8.3.4.2, 12.4.2.5a Proc 2 | F | 5.1.0 | 5.2.0 | R5s050144 |
| RP-29 | RP-050531 | 1408 | - | Correction to WI 12 approved testcase 8.3.1.30 | F | 5.1.0 | 5.2.0 | R5s050222 |
| RP-29 | RP-050531 | 1409 | - | Correction to approved testcase 8.2.6.19 and 8.2.6.20 | F | 5.1.0 | 5.2.0 | R5s050223 |
| RP-29 | RP-050531 | 1410 | - | Correction to GCF high priority MAC test case 7.1.2.4a | F | 5.1.0 | 5.2.0 | R5s050214 |
| RP-29 | RP-050531 | 1411 | - | Correction to approved testcase 14.2.51b.1 | F | 5.1.0 | 5.2.0 | R5s050209 |
| RP-29 | RP-050531 | 1412 | - | Correction to approved testcase 8.3.7.12 | F | 5.1.0 | 5.2.0 | R5s050203 |
| RP-29 | RP-050531 | 1413 | - | Correction to GCF high priority NAS test case 12.4.1.4b | F | 5.1.0 | 5.2.0 | R5s050181 |
| RP-29 | RP-050531 | 1414 | - | Regression Error Report based on wk19ATS | F | 5.1.0 | 5.2.0 | R5s050202 |
| RP-29 | RP-050531 | 1415 | - | Summary of regression errors in the wk19 ATS. | F | 5.1.0 | 5.2.0 | R5s050196 |
| RP-29 | RP-050531 | 1416 | - | Correction to approved testcase 14.2.58 | F | 5.1.0 | 5.2.0 | R5s050194 |
| RP-29 | RP-050531 | 1417 | - | Correction to WI-12 test case 12.9.7a | F | 5.1.0 | 5.2.0 | R5s050195 |
| RP-29 | RP-050531 | 1418 | - | Summary of regression errors in the wk19 ATS. | F | 5.1.0 | 5.2.0 | R5s050186 |
| RP-29 | RP-050531 | 1419 | - | Correction to IE 'radioPrioTOM8' in Attach Accept message. | F | 5.1.0 | 5.2.0 | R5s050193 |
| RP-29 | RP-050531 | 1420 | - | Correction to softhandover test cases in RRC ATS v5.0.0 | F | 5.1.0 | 5.2.0 | R5s050191 |
| RP-29 | RP-050531 | 1421 | - | Correction to RRC and RAB ATS v5.0.0 – regression errors | F | 5.1.0 | 5.2.0 | R5s050192 |
| RP-29 | RP-050531 | 1422 | - | Correction of syntax error in approved test cases | F | 5.1.0 | 5.2.0 | R5s050178 |
| RP-29 | RP-050531 | 1423 | - | Correction to the approved IR_U test cases 8.4.1.33, 8.4.1.34, 8.4.1.35, 8.4.1.36 and 8.4.1.40. | F | 5.1.0 | 5.2.0 | R5s050187 |
| RP-29 | RP-050531 | 1424 | - | Correction to RRC Package 2 TC 8.4.1.23 | F | 5.1.0 | 5.2.0 | R5s050188 |
| RP-29 | RP-050531 | 1425 | - | Correction to RRC P4 TC 8.4.1.41 | F | 5.1.0 | 5.2.0 | R5s050172 |
| RP-29 | RP-050532 | 1426 | - | Correction to approved testcase 14.2.38c and 14.2.40 | F | 5.1.0 | 5.2.0 | R5s050177 |
| RP-29 | RP-050532 | 1427 | - | Summary of regression errors in the wk31 ATS. | F | 5.1.0 | 5.2.0 | R5s050354 |
| RP-29 | RP-050532 | 1428 | - | Corrections to Approved Test case 8_2_1_29 based on wk31 ATS | F | 5.1.0 | 5.2.0 | R5s050327 |
| RP-29 | RP-050532 | 1429 | - | Corrections to Approved test case 8_2_1_30 based on wk31 ATS | F | 5.1.0 | 5.2.0 | R5s050329 |
| RP-29 | RP-050532 | 1430 | - | Corrections to Approved test case 8_2_1_31 based on wk31 ATS | F | 5.1.0 | 5.2.0 | R5s050331 |
| RP-29 | RP-050532 | 1431 | - | Corrections to Approved test case 8_2_1_32 based on wk31 ATS | F | 5.1.0 | 5.2.0 | R5s050333 |
| RP-29 | RP-050532 | 1432 | - | Corrections to Approved test case 8_2_6_42 based | F | 5.1.0 | 5.2.0 | R5s050335 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| | | | | on wk31 ATS | | | | |
| RP-29 | RP-050532 | 1433 | - | Corrections to Approved test case 8_2_3_30 based on wk31 ATS | F | 5.1.0 | 5.2.0 | R5s050343 |
| RP-29 | RP-050532 | 1434 | - | Corrections to Approved Testcase 8_2_1_28 based on wk31 ATS | F | 5.1.0 | 5.2.0 | R5s050297 |
| RP-29 | RP-050532 | 1435 | - | Corrections to Approved Testcase 8_2_2_38 based on wk31 ATS | F | 5.1.0 | 5.2.0 | R5s050299 |
| RP-29 | RP-050532 | 1436 | - | Corrections to Approved Testcase 8_2_3_30 based on wk31 ATS | F | 5.1.0 | 5.2.0 | R5s050301 |
| RP-29 | RP-050532 | 1437 | - | Corrections to Approved Testcase 8_2_4_36 based on wk31 ATS | F | 5.1.0 | 5.2.0 | R5s050303 |
| RP-29 | RP-050532 | 1438 | - | Corrections to Approved Testcase 8_3_1_32 based on wk31 ATS | F | 5.1.0 | 5.2.0 | R5s050305 |
| RP-29 | RP-050562 | 1439 | - | Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A. | F | 5.1.0 | 5.2.0 | - |
| RP-29 | RP-050526 | 1440 | - | Clarifying L2 Tests - Update TSOs and PIXITs – New configurations for WI-13/14 TCs | F | 5.1.0 | 5.2.0 | R5-051510 |
| RP-30 | RP-050713 | 1441 | - | CR to 34.123-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A | F | 5.2.0 | 5.3.0 | - |
| RP-30 | RP-050766 | 1442 | - | Addition of GCF WI-015 AGPS test case 17.2.4.7 to AGPS ATS V5.2.0 | B | 5.2.0 | 5.3.0 | R5s050480 |
| RP-30 | RP-050766 | 1443 | - | Addition of GCF WI-015 AGPS test case 17.2.4.6 to AGPS ATS V5.2.0 | B | 5.2.0 | 5.3.0 | R5s050478 |
| RP-30 | RP-050766 | 1444 | - | Addition of GCF WI-015 AGPS test case 17.2.4.10 to AGPS ATS V5.2.0 | B | 5.2.0 | 5.3.0 | R5s050476 |
| RP-30 | RP-050766 | 1445 | - | Addition of GCF WI-015 AGPS test case 17.2.4.3 to RLC ATS V5.1.0 | B | 5.2.0 | 5.3.0 | R5s050419 |
| RP-30 | RP-050766 | 1446 | - | Addition of GCF WI-015 AGPS test case 17.2.4.1 to RLC ATS V5.1.0 | B | 5.2.0 | 5.3.0 | R5s050410 |
| RP-30 | RP-050768 | 1447 | - | Addition of GCF WI-14/2 test case 8.2.3.32 to HS_ENH ATS V5.2.0 (Revision of R5s050451) | B | 5.2.0 | 5.3.0 | R5s050495 |
| RP-30 | RP-050768 | 1448 | - | Addition of GCF WI-14/2 test case 8.2.3.34 to HS_ENH ATS V5.2.0 | B | 5.2.0 | 5.3.0 | R5s050449 |
| RP-30 | RP-050768 | 1449 | - | Addition of GCF WI-014 test case 8.2.2.41 to HS_ENH ATS V5.2.0 (Revision of R5s050455) | B | 5.2.0 | 5.3.0 | R5s050466 |
| RP-30 | RP-050768 | 1450 | - | Addition of GCF WI-014 RAB test case 14.6.3a to HS_ENH ATS V5.2.0 | B | 5.2.0 | 5.3.0 | R5s050464 |
| RP-30 | RP-050768 | 1451 | - | Addition of GCF WI-014 RAB test case 14.6.3 to HS_ENH ATS V5.2.0 | B | 5.2.0 | 5.3.0 | R5s050462 |
| RP-30 | RP-050768 | 1452 | - | Addition of GCF WI-014 test case 8.3.4.9 to HS_ENH ATS V5.2.0 | B | 5.2.0 | 5.3.0 | R5s050457 |
| RP-30 | RP-050768 | 1453 | - | Addition of GCF WI-014 test case 8.2.3.31 to HS_ENH ATS V5.2.0 | B | 5.2.0 | 5.3.0 | R5s050444 |
| RP-30 | RP-050768 | 1454 | - | Addition of GCF WI-014 RAB test case 14.6.2 to HS_ENH ATS V5.1.0 | B | 5.2.0 | 5.3.0 | R5s050424 |
| RP-30 | RP-050768 | 1455 | - | Additional Changes to GCF WI-014 test case 8.3.1.37 | B | 5.2.0 | 5.3.0 | R5s050421 |
| RP-30 | RP-050768 | 1456 | - | Addition of GCF WI-014 test case 8.3.11.10 to RRC ATS V5.1.0 | B | 5.2.0 | 5.3.0 | R5s050412 |
| RP-30 | RP-050768 | 1457 | - | Addition of GCF WI-014 test case 8.2.3.35 to HS_ENH ATS V5.1.0 | B | 5.2.0 | 5.3.0 | R5s050407 |
| RP-30 | RP-050768 | 1458 | - | Addition of GCF WI-14/2 test case 8.2.6.46 to HS_ENH ATS V5.1.0 | B | 5.2.0 | 5.3.0 | R5s050405 |
| RP-30 | RP-050768 | 1459 | - | Addition of GCF WI-14/2 test case 8.2.6.41 to HS_ENH ATS V5.1.0 | B | 5.2.0 | 5.3.0 | R5s050403 |
| RP-30 | RP-050768 | 1460 | - | Addition of GCF WI-14/2 test case 8.3.1.36 to HS_ENH ATS V5.1.0 | B | 5.2.0 | 5.3.0 | R5s050385 |
| RP-30 | RP-050768 | 1461 | - | Addition of RRC GCF WI-14 test case 7.1.5.6 to RRC ATS v5.1.0 | B | 5.2.0 | 5.3.0 | R5s050379 |
| RP-30 | RP-050775 | 1462 | - | Addition of BMC GCF WI-10/3 test case 14.4.4 to RAB ATS V5.1.0 | B | 5.2.0 | 5.3.0 | R5s050401 |
| RP-30 | RP-050775 | 1463 | - | Revision of R5s050442 - Addition of GCF WI-10 Idle Mode Test Case 6.1.1.4 to RRC ATS 5.2.0 | B | 5.2.0 | 5.3.0 | R5s050453 |
| RP-30 | RP-050775 | 1464 | - | Addition of NAS GCF WI-12 test case 9.4.3.3 to NAS ATS V5.1.0 | B | 5.2.0 | 5.3.0 | R5s050416 |
| RP-30 | RP-050775 | 1465 | - | Addition of Cell Broadcast GCF WI-12 test case 16.3 to SMS ATS V5.1.0 | B | 5.2.0 | 5.3.0 | R5s050399 |
| RP-30 | RP-050775 | 1466 | - | Addition of NAS GCF WI-10 P4 test case 12.9.12 to NAS ATS V5.1.0 | B | 5.2.0 | 5.3.0 | R5s050395 |
| RP-30 | RP-050775 | 1467 | - | Addition of NAS GCF WI-12 test case 9.4.2.4 proc 4 to NAS ATS V5.1.0 | B | 5.2.0 | 5.3.0 | R5s050231 |
| RP-30 | RP-050778 | 1468 | - | Addition of GCF WI-013 RRC test case 8.1.2.15 to HS_ENH ATS V5.2.0 | B | 5.2.0 | 5.3.0 | R5s050473 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| RP-30 | RP-050778 | 1469 | - | Addition of GCF WI-013 RRC test case 8.1.2.14 to HS_ENH ATS V5.2.0 | B | 5.2.0 | 5.3.0 | R5s050471 |
| RP-30 | RP-050778 | 1470 | - | Addition of GCF WI-013 test case 8.3.11.13 to HS_ENH_r5 ATS V5.2.0. | B | 5.2.0 | 5.3.0 | R5s050437 |
| RP-30 | RP-050778 | 1471 | - | Addition of GCF WI-13 RRC test case 8.1.6.5 to HS_ENH ATS V5.2.0 | B | 5.2.0 | 5.3.0 | R5s050497 |
| RP-30 | RP-050778 | 1472 | - | Addition of GCF WI-013 RRC test case 8.3.1.40 to HS_ENH ATS V5.2.0 | B | 5.2.0 | 5.3.0 | R5s050500 |
| RP-30 | RP-050768 | 1473 | - | Removal of use of deprecated alternative value in RRC Connection Release message (Cell DCH) in HS_ENH suite | F | 5.2.0 | 5.3.0 | R5s050487 |
| RP-30 | RP-050768 | 1474 | - | Removal of use of deprecated alternative value in RRC Connection Setup message (Cell FACH) in HS_ENH suite | F | 5.2.0 | 5.3.0 | R5s050489 |
| RP-30 | RP-050768 | 1475 | - | Correction to GCF WI-14/2 HSDPA RRC test case 8.3.1.37 | F | 5.2.0 | 5.3.0 | R5s050492 |
| RP-30 | RP-050768 | 1476 | - | Additional changes required for addition of GCF WI-014 test case 8.3.11.10 to RRC ATS V5.2.0. | F | 5.2.0 | 5.3.0 | R5s050460 |
| RP-30 | RP-050768 | 1477 | - | Correction to GCF WI-14/2 testcase 8.3.1.36 | F | 5.2.0 | 5.3.0 | R5s050439 |
| RP-30 | RP-050768 | 1478 | - | Corrections to GCF WI-014/1 test cases 8.3.1.34 | F | 5.2.0 | 5.3.0 | R5s050427 |
| RP-30 | RP-050768 | 1479 | - | Correction to RRC HSDPA testcase 8.2.2.40 | F | 5.2.0 | 5.3.0 | R5s050431 |
| RP-30 | RP-050773 | 1480 | - | Removal of use of deprecated alternative value in RRC Connection Release message (Cell DCH) in all GCF WI-10 and WI-12 test suites | F | 5.2.0 | 5.3.0 | R5s050488 |
| RP-30 | RP-050773 | 1481 | - | Correction to GCF WI-12 RRC test case 8.4.1.6 | F | 5.2.0 | 5.3.0 | R5s050486 |
| RP-30 | RP-050773 | 1482 | - | Corrections to RLC test cases to add check for the PIXIT px_CipheringOnOff | F | 5.2.0 | 5.3.0 | R5s050485 |
| RP-30 | RP-050773 | 1483 | - | Removal of use of deprecated alternative value in RRC Connection Setup message (Cell FACH) in all GCF WI-10 and WI-12 test suites | F | 5.2.0 | 5.3.0 | R5s050490 |
| RP-30 | RP-050773 | 1484 | - | Correction to the GCF WI-10 NAS test case 12.2.1.2 | F | 5.2.0 | 5.3.0 | R5s050491 |
| RP-30 | RP-050773 | 1485 | - | Correction to GCF WI-10 MAC test case 7.1.2.3.1 | F | 5.2.0 | 5.3.0 | R5s050494 |
| RP-30 | RP-050773 | 1486 | - | Correction to GCF WI-10 Idle Mode Test Case 6.1.2.1 | F | 5.2.0 | 5.3.0 | R5s050469 |
| RP-30 | RP-050773 | 1487 | - | Corrections required to GCF WI-10 approved test case 8.3.1.18 | F | 5.2.0 | 5.3.0 | R5s050448 |
| RP-30 | RP-050773 | 1488 | - | Corrections required to GCF WI-14 approved HSDPA test cases | F | 5.2.0 | 5.3.0 | R5s050435 |
| RP-30 | RP-050773 | 1489 | - | TTCN correction to RRC TC 8.2.4.1 | F | 5.2.0 | 5.3.0 | R5s050436 |
| RP-30 | RP-050773 | 1490 | - | Corrections required to GCF W-I10 approved test case 8.4.1.40 | F | 5.2.0 | 5.3.0 | R5s050434 |
| RP-30 | RP-050773 | 1491 | - | Correction to the NAS Test Case 12.9.7a | F | 5.2.0 | 5.3.0 | R5s050429 |
| RP-30 | RP-050773 | 1492 | - | Correction to the IR_U Test Case 8.3.7.3 | F | 5.2.0 | 5.3.0 | R5s050430 |
| RP-30 | RP-050773 | 1493 | - | Correction to MultiRAB Test Cases | F | 5.2.0 | 5.3.0 | R5s050432 |
| RP-30 | RP-050773 | 1494 | - | Correction to GCF WI-10/2 RRC test case 8.3.1.21 | F | 5.2.0 | 5.3.0 | R5s050426 |
| RP-30 | RP-050773 | 1495 | - | Summary of regression errors in the wk38 ATS | F | 5.2.0 | 5.3.0 | R5s050428 |
| RP-30 | RP-050773 | 1496 | - | Summary of regression errors in wk38 of RRC ATS | F | 5.2.0 | 5.3.0 | R5s050414 |
| RP-30 | RP-050773 | 1497 | - | Correction in TTCN for test case 7.2.3.19 | F | 5.2.0 | 5.3.0 | R5s050415 |
| RP-30 | RP-050773 | 1498 | - | Regression Error report based on wk36 ATS | F | 5.2.0 | 5.3.0 | R5s050409 |
| RP-30 | RP-050773 | 1499 | - | Summary of regression results for wk36 version of IR_U ATS V5.1.0 | F | 5.2.0 | 5.3.0 | R5s050384 |
| RP-30 | RP-050774 | 1500 | - | Corrections required to GCF WI-10 approved test cases 6.2.1.7 and 6.2.1.8 | F | 5.2.0 | 5.3.0 | R5s050394 |
| RP-30 | RP-050774 | 1501 | - | Corrections required to GCF WI-10 approved test cases 8.3.7.5, 8.3.7.7 and 8.3.7.12 | F | 5.2.0 | 5.3.0 | R5s050397 |
| RP-30 | RP-050774 | 1502 | - | Correction to teststep ts_RRC_NAS_SessionActPS_MO_DCH_ToFACH. | F | 5.2.0 | 5.3.0 | R5s050390 |
| RP-30 | RP-050774 | 1503 | - | Correction to GCF WI-10/4 RRC test case 8.1.3.9 | F | 5.2.0 | 5.3.0 | R5s050378 |
| RP-30 | RP-050774 | 1504 | - | Summary of regression errors in the wk36 ATS | F | 5.2.0 | 5.3.0 | R5s050391 |
| RP-30 | RP-050774 | 1505 | - | Summary of regression errors in the wk36 IR_U ATS. | F | 5.2.0 | 5.3.0 | R5s050392 |
| RP-30 | RP-050774 | 1506 | - | Correction to HS_ENH_wk36 – Regression errors | F | 5.2.0 | 5.3.0 | R5s050389 |
| RP-30 | RP-050774 | 1507 | - | Correction to GCF WI-12 RRC test case 8.4.1.6 | F | 5.2.0 | 5.3.0 | R5s050376 |
| RP-30 | RP-050774 | 1508 | - | Correction to Inter-RAT IR_U test case 8.3.11.4 | F | 5.2.0 | 5.3.0 | R5s050377 |
| RP-30 | RP-050774 | 1509 | - | Correction to generic procedure C.1 (Idle mode check) | F | 5.2.0 | 5.3.0 | R5s050375 |
| RP-30 | RP-050774 | 1510 | - | Summary of regression errors in the wk31 ATS | F | 5.2.0 | 5.3.0 | R5s050367 |
| RP-30 | RP-050774 | 1511 | - | Correction to the test case 14.2.43.1 | F | 5.2.0 | 5.3.0 | R5s050368 |
| RP-30 | RP-050774 | 1512 | - | Correction to the NAS Test Case 12.9.13 | F | 5.2.0 | 5.3.0 | R5s050374 |
| RP-30 | RP-050774 | 1513 | - | Correction to all approved Test Cases using ciphering | F | 5.2.0 | 5.3.0 | R5s050373 |
| RP-30 | RP-050774 | 1514 | - | Corrections required for approved GCF WI-10 RRC test cases 8.3.1.21 and 8.3.2.11 | F | 5.2.0 | 5.3.0 | R5s050369 |
| RP-30 | RP-050774 | 1515 | - | Corrections required for approved GCF WI-10 NAS test cases 9.4.2.3 and 9.4.2.5 | F | 5.2.0 | 5.3.0 | R5s050370 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| RP-30 | RP-050774 | 1516 | - | Summary of regression errors in the wk31 ATS Batch 2. | F | 5.2.0 | 5.3.0 | R5s050372 |
| RP-30 | RP-050774 | 1517 | - | Correction to GCF WI-010 test case 6.1.2.1 for manual attach UE | F | 5.2.0 | 5.3.0 | R5s050366 |
| RP-30 | RP-050774 | 1518 | - | Correction to agreed testcase 8.2.6.8 | F | 5.2.0 | 5.3.0 | R5s050357 |
| RP-30 | RP-050774 | 1519 | - | Correction to agreed IR_U_wk31 MRAT testcases 8.3.9.1 and 8.3.9.5 | F | 5.2.0 | 5.3.0 | R5s050358 |
| RP-30 | RP-050775 | 1520 | - | Correction to P1 NAS Test Case 11.3.1 for AT command confirmation | F | 5.2.0 | 5.3.0 | R5s050359 |
| RP-30 | RP-050775 | 1521 | - | Correction of the NAS Test Case 12.9.14 | F | 5.2.0 | 5.3.0 | R5s050362 |
| RP-30 | RP-050775 | 1522 | - | Correction to the test step ts_RRC_ReceiveRB_RelCmpl | F | 5.2.0 | 5.3.0 | R5s050363 |
| RP-30 | RP-050775 | 1523 | - | Corrections required for QOS constraint in R99 ATS | F | 5.2.0 | 5.3.0 | R5s050364 |
| RP-30 | RP-050775 | 1524 | - | Corrections required for QOS constraint in HSDPA/Rel-5 enhancement ATS | F | 5.2.0 | 5.3.0 | R5s050365 |
| RP-30 | RP-050775 | 1525 | - | Summary of regression errors in the wk42 ATS. | F | 5.2.0 | 5.3.0 | R5s050499 |
| RP-30 | RP-050775 | 1526 | - | Correction to Approved RRC TC 8.3.11.1 | F | 5.2.0 | 5.3.0 | R5s050459 |
| RP-30 | RP-050769 | 1527 | - | Update PIXIT and TSO, clarifications of a TSO and an AT / MMI commands in 34.123-3 | F | 5.2.0 | 5.3.0 | R5-052110 |
| RP-30 | RP-050775 | 1528 | - | Correction to iWD_wk38 IR_U ATS | F | 5.2.0 | 5.3.0 | R5s050470 |
| RP-31 | RP-060158 | 1529 | - | Addition of GCF WI-015 AGPS test case 17.2.2.1 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050561 |
| RP-31 | RP-060158 | 1530 | - | Addition of GCF WI-015 AGPS test case 17.2.2.2 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050563 |
| RP-31 | RP-060158 | 1531 | - | Addition of GCF WI-015 AGPS test case 17.2.2.3 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050565 |
| RP-31 | RP-060158 | 1532 | - | Addition of GCF WI-015 AGPS test case 17.2.2.4 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050587 |
| RP-31 | RP-060158 | 1533 | - | Addition of GCF WI-015 AGPS test case 17.2.3.2 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050567 |
| RP-31 | RP-060158 | 1534 | - | Addition of GCF WI-015 AGPS test case 17.2.3.3 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050589 |
| RP-31 | RP-060158 | 1535 | - | Addition of GCF WI-015 AGPS test case 17.2.3.4 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050591 |
| RP-31 | RP-060158 | 1536 | - | Addition of GCF WI-015 AGPS test case 17.2.3.8 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050593 |
| RP-31 | RP-060158 | 1537 | - | Addition of GCF WI-015 AGPS test case 17.2.3.9 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050569 |
| RP-31 | RP-060158 | 1538 | - | Addition of GCF WI-015 AGPS test case 17.2.4.2 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050595 |
| RP-31 | RP-060158 | 1539 | - | Addition of GCF WI-015 AGPS test case 17.2.4.4 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050572 |
| RP-31 | RP-060158 | 1540 | - | Addition of GCF WI-015 AGPS test case 17.2.4.5 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050574 |
| RP-31 | RP-060158 | 1541 | - | Addition of GCF WI-015 AGPS test case 17.2.4.8 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050576 |
| RP-31 | RP-060158 | 1542 | - | Addition of GCF WI-015 AGPS test case 17.2.4.9 to AGPS ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050578 |
| RP-31 | RP-060148 | 1543 | - | Addition of GCF WI-014 RAB test case 14.6.4 to HS_ENH ATS V5.3.0 | B | 5.3.0 | 5.4.0 | R5s050604 |
| RP-31 | RP-060148 | 1544 | - | Addition of GCF WI-014 RAB test case 14.6.4a to HS_ENH ATS V5.3.0 | B | 5.3.0 | 5.4.0 | R5s050606 |
| RP-31 | RP-060148 | 1545 | - | Addition of GCF WI-014 RAB test case 14.6.5 to HS_ENH ATS V5.3.0 | B | 5.3.0 | 5.4.0 | R5s050608 |
| RP-31 | RP-060148 | 1546 | - | Addition of GCF WI-014 RAB test case 14.6.5a to HS_ENH ATS V5.3.0 | B | 5.3.0 | 5.4.0 | R5s050610 |
| RP-31 | RP-060148 | 1547 | - | Addition of GCF WI-014/1 test case 7.1.5.2 to HS_ENH ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050534 |
| RP-31 | RP-060148 | 1548 | - | Addition of RRC GCF WI-14 test case 8.2.2.39 to RRC ATS v5.2.0 | B | 5.3.0 | 5.4.0 | R5s050510 |
| RP-31 | RP-060148 | 1549 | - | Addition of GCF WI-014 test case 8.2.2.42 to HS_ENH ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050536 |
| RP-31 | RP-060148 | 1550 | - | Addition of GCF WI-014/2 test case 8.2.3.33 to HS_ENH ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050540 |
| RP-31 | RP-060148 | 1551 | - | Addition of GCF WI-014 RRC test case 8.2.6.39a to HS_ENH ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050516 |
| RP-31 | RP-060148 | 1552 | - | Addition of GCF WI-014 RRC test case 8.2.6.39b to HS_ENH ATS V5.3.0 | B | 5.3.0 | 5.4.0 | R5s050598 |
| RP-31 | RP-060148 | 1553 | - | Addition of GCF WI 14/2 test case 8.3.7.14 to HS_ENH ATS V5.3.0 | B | 5.3.0 | 5.4.0 | R5s050618 |
| RP-31 | RP-060158 | 1554 | - | Addition of GCF WI-10/1 test case 6.1.2.2 to RRC ATS v5.2.0 | B | 5.3.0 | 5.4.0 | R5s050556 |
| RP-31 | RP-060158 | 1555 | - | Addition of RRC GCF WI-10 test case 6.1.2.3 to RRC | B | 5.3.0 | 5.4.0 | R5s050614 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| | | | | ATS v5.3.0 | | | | |
| RP-31 | RP-060158 | 1556 | - | Addition of GCF WI-10 Idle Mode test case 6.1.2.5 | B | 5.3.0 | 5.4.0 | R5s060017 |
| RP-31 | RP-060158 | 1557 | - | Addition of GCF WI-10 RRC test case 6.1.2.6 to RRC ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050584 |
| RP-31 | RP-060158 | 1558 | - | Addition of GCF WI-10/2 RRC test case 6.1.2.8 to RRC ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050547 |
| RP-31 | RP-060158 | 1559 | - | Addition of GCF WI-010/2 test case 6.2.2.3 to IR_U ATS V5.2.0 | B | 5.3.0 | 5.4.0 | R5s050483 |
| RP-31 | RP-060158 | 1560 | - | Addition of GCF WI-12 test case 8.4.1.48 | B | 5.3.0 | 5.4.0 | R5s050612 |
| RP-31 | RP-060165 | 1561 | - | Addition of GCF WI-13 test case 6.1.2.10 | B | 5.3.0 | 5.4.0 | R5s060013 |
| RP-31 | RP-060165 | 1562 | - | Addition of GCF WI-013 RRC test case 8.3.1.38 to HS_ENH ATS V5.3.0 | B | 5.3.0 | 5.4.0 | R5s050600 |
| RP-31 | RP-060165 | 1563 | - | Addition of GCF WI-013 RRC test case 8.3.1.39 to HS_ENH ATS V5.3.0 | B | 5.3.0 | 5.4.0 | R5s050602 |
| RP-31 | RP-060149 | 1564 | - | Summary of regression errors in the wk03 HSD_ENH ATS | F | 5.3.0 | 5.4.0 | R5s060011 |
| RP-31 | RP-060149 | 1565 | - | Corrections to GCF WI-014 RAB testcases 14.6.4 and 14.6.4a | F | 5.3.0 | 5.4.0 | R5s060038 |
| RP-31 | RP-060149 | 1566 | - | Corrections to Approved GCF WI-014 RRC testcases 8.2.3.33 | F | 5.3.0 | 5.4.0 | R5s060035 |
| RP-31 | RP-060149 | 1567 | - | Summary of regression errors in wk03 HSDPA ATS. | F | 5.3.0 | 5.4.0 | R5s060030 |
| RP-31 | RP-060149 | 1568 | - | Wk49 regression errors in HS_ENH ATS | F | 5.3.0 | 5.4.0 | R5s050623 |
| RP-31 | RP-060149 | 1569 | - | Summary of regression errors in the wk49 HS_ENH ATS | F | 5.3.0 | 5.4.0 | R5s050621 |
| RP-31 | RP-060149 | 1570 | - | Summary of regression errors in the wk49 HS_ENH ATS | F | 5.3.0 | 5.4.0 | R5s050617 |
| RP-31 | RP-060149 | 1571 | - | Correction to GCF WI14 test case 8.3.4.9 | F | 5.3.0 | 5.4.0 | R5s050620 |
| RP-31 | RP-060149 | 1572 | - | Summary of regression errors in the wk49 HS_ENH ATS | F | 5.3.0 | 5.4.0 | R5s050581 |
| RP-31 | RP-060149 | 1573 | - | Correction to GCF WI14 test case 14.6.1 and 14.6.2 | F | 5.3.0 | 5.4.0 | R5s050560 |
| RP-31 | RP-060149 | 1574 | - | Summary of regression errors in the wk47 HS_ENH ATS | F | 5.3.0 | 5.4.0 | R5s050532 |
| RP-31 | RP-060149 | 1575 | - | Summary of regression errors in the wk47 HSDPA ATS | F | 5.3.0 | 5.4.0 | R5s050550 |
| RP-31 | RP-060149 | 1576 | - | Summary of regression errors in the HSENH_r5_wk42 ATS. | F | 5.3.0 | 5.4.0 | R5s050529 |
| RP-31 | RP-060149 | 1577 | - | Correction to GCF WI-014/2 test case 8.2.2.41 | F | 5.3.0 | 5.4.0 | R5s050525 |
| RP-31 | RP-060149 | 1578 | - | Summary of regression errors in the wk42 HS_ENH ATS | F | 5.3.0 | 5.4.0 | R5s050513 |
| RP-31 | RP-060149 | 1579 | - | Corrections to Testcase 8.3.1.35 | F | 5.3.0 | 5.4.0 | R5s050518 |
| RP-31 | RP-060149 | 1580 | - | Update to HS_ENH_r5 ATS to allow 64k uplink data rate to be tested for RRC Testcases. | F | 5.3.0 | 5.4.0 | R5s050519 |
| RP-31 | RP-060149 | 1581 | - | Errors identified in RAB HSDPA testcases in wk42 ATS. | F | 5.3.0 | 5.4.0 | R5s050520 |
| RP-31 | RP-060149 | 1582 | - | Summary of regression errors in the wk42 HSDPA ATS | F | 5.3.0 | 5.4.0 | R5s050503 |
| RP-31 | RP-060159 | 1583 | - | Correction to GCF WI-10 test case 8.4.1.14 | F | 5.3.0 | 5.4.0 | R5s050512 |
| RP-31 | RP-060159 | 1584 | - | TTCN correction to Approved RRC TCs 8.3.4.1, 8.3.4.2 and 8.3.4.3 | F | 5.3.0 | 5.4.0 | R5s060044 |
| RP-31 | RP-060159 | 1585 | - | Summary of regression errors in wk03 RRC and RAB ATS. | F | 5.3.0 | 5.4.0 | R5s060042 |
| RP-31 | RP-060159 | 1586 | - | Correction of GCF WI-10 RRC test case 8.4.1.2,8.4.1.24,8.4.1.25 | F | 5.3.0 | 5.4.0 | R5s060043 |
| RP-31 | RP-060159 | 1587 | - | Summary of regression errors in the wk03 GCF WI-10 and GCF WI-12 ATS | F | 5.3.0 | 5.4.0 | R5s060010 |
| RP-31 | RP-060159 | 1588 | - | Correction to GCF WI-10 RRC Test Case 6.1.1.4 | F | 5.3.0 | 5.4.0 | R5s060024 |
| RP-31 | RP-060159 | 1589 | - | Correction to GCF WI-12 Testcase 9.4.5.4.6 | F | 5.3.0 | 5.4.0 | R5s060025 |
| RP-31 | RP-060159 | 1590 | - | Correction to GCF WI-10 NAS Test Case 12.4.1.4a | F | 5.3.0 | 5.4.0 | R5s060040 |
| RP-31 | RP-060159 | 1591 | - | Correction of GCF WI-10 RRC test case 8.1.7.1d | F | 5.3.0 | 5.4.0 | R5s060039 |
| RP-31 | RP-060159 | 1592 | - | Corrections to approved GCF WI-12/1 Inter-RAT test case 8.4.1.48 | F | 5.3.0 | 5.4.0 | R5s060029 |
| RP-31 | RP-060159 | 1593 | - | Corrections to approved GCF WI-10/3 InterRAT test case 8.4.1.31 | F | 5.3.0 | 5.4.0 | R5s060028 |
| RP-31 | RP-060159 | 1594 | - | Corrections to GCF WI-012 GMM testcase 12.9.9 | F | 5.3.0 | 5.4.0 | R5s060037 |
| RP-31 | RP-060159 | 1595 | - | Corrections to Approved GCF WI-012 RRC testcases 8.2.1.24 & 8.2.1.34 | F | 5.3.0 | 5.4.0 | R5s060036 |
| RP-31 | RP-060159 | 1596 | - | Correction of GCF WI-10 RRC test case 8.4.1.26 | F | 5.3.0 | 5.4.0 | R5s060033 |
| RP-31 | RP-060159 | 1597 | - | Correction of GCF WI-12 MM test case 9.4.3.3 | F | 5.3.0 | 5.4.0 | R5s060032 |
| RP-31 | RP-060159 | 1598 | - | Summary of regression errors in wk49 ATS. | F | 5.3.0 | 5.4.0 | R5s060009 |
| RP-31 | RP-060159 | 1599 | - | Correction to GCF WI-12 RLC Test Case 7.2.3.35 | F | 5.3.0 | 5.4.0 | R5s060008 |
| RP-31 | RP-060159 | 1600 | - | Correction to GCF WI-10 test case 6.1.2.9 | F | 5.3.0 | 5.4.0 | R5s060007 |
| RP-31 | RP-060159 | 1601 | - | Correction to GCF WI-10 test case 8.1.3.9 | F | 5.3.0 | 5.4.0 | R5s060003 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| RP-31 | RP-060159 | 1602 | - | Summary of regression errors in the wk49 IR_U ATS. | F | 5.3.0 | 5.4.0 | R5s060006 |
| RP-31 | RP-060160 | 1603 | - | Summary of regression errors in the wk47 ATS. | F | 5.3.0 | 5.4.0 | R5s050551 |
| RP-31 | RP-060160 | 1604 | - | TTCN correction to Approved GMM TC 12.4.2.4 | F | 5.3.0 | 5.4.0 | R5s060004 |
| RP-31 | RP-060160 | 1605 | - | Corrections to GCF WI-012 approved testcases 9.4.3.3 | F | 5.3.0 | 5.4.0 | R5s060002 |
| RP-31 | RP-060160 | 1606 | - | Correction to GCF WI-10 RRC Test Case 8.1.7.1c | F | 5.3.0 | 5.4.0 | R5s060001 |
| RP-31 | RP-060160 | 1607 | - | TTCN Correction for GCF WI-10 RRC test case 6.1.2.8 | F | 5.3.0 | 5.4.0 | R5s050586 |
| RP-31 | RP-060160 | 1608 | - | TTCN correction to Approved IRAT TCs 8.3.7.1, 8.3.7.2, 8.3.7.3, 8.3.7.4, 8.3.7.13, 8.3.7.16 and 8.3.11.1 . | F | 5.3.0 | 5.4.0 | R5s050622 |
| RP-31 | RP-060160 | 1609 | - | Correction to approved RRC test cases 8.1.6.3, 8.4.1.1, 8.4.1.3 and 8.4.1.29 on Wk49 ATS | F | 5.3.0 | 5.4.0 | R5s050571 |
| RP-31 | RP-060160 | 1610 | - | Correction to GCF WI 10 RLC testcase 7.2.2.2 | F | 5.3.0 | 5.4.0 | R5s050583 |
| RP-31 | RP-060160 | 1611 | - | Summary of regression errors in the wk49 GCF WI-10 and GCF WI-12 ATS | F | 5.3.0 | 5.4.0 | R5s050580 |
| RP-31 | RP-060160 | 1612 | - | Corrections to approved GCF WI-010 / GCF WI-012 test cases 14.2.51b.1 and 14.2.58a | F | 5.3.0 | 5.4.0 | R5s050597 |
| RP-31 | RP-060160 | 1613 | - | TTCN correction to Approved IRAT TC 8.3.7.16 | F | 5.3.0 | 5.4.0 | R5s050552 |
| RP-31 | RP-060160 | 1614 | - | Correction to GCF WI-10 approved RRC Test Case 8.1.7.1d | F | 5.3.0 | 5.4.0 | R5s050582 |
| RP-31 | RP-060160 | 1615 | - | Correction to GCF Test Case 8.4.1.2, 8.4.1.24, 8.4.1.25, 8.4.1.6, 8.4.1.8 and HSDPA Test Cases | F | 5.3.0 | 5.4.0 | R5s050545 |
| RP-31 | RP-060160 | 1616 | - | Summary of regression errors in the wk47 GCF WI-10 and GCF WI-12 ATS | F | 5.3.0 | 5.4.0 | R5s050533 |
| RP-31 | RP-060160 | 1617 | - | Correction to the GCF WI 10 testcase 7.2.3.13 | F | 5.3.0 | 5.4.0 | R5s050538 |
| RP-31 | RP-060160 | 1618 | - | Correction to GCF WI 10 MAC test case 7.1.2.3.1 | F | 5.3.0 | 5.4.0 | R5s050539 |
| RP-31 | RP-060160 | 1619 | - | Correction to IR_U test cases 8.3.7.1, 8.3.7.2, 8.3.7.3, 8.3.7.12 and 8.3.7.16 | F | 5.3.0 | 5.4.0 | R5s050493 |
| RP-31 | RP-060160 | 1620 | - | Correction to GCF WI 10 test case 7.1.2.4a | F | 5.3.0 | 5.4.0 | R5s050555 |
| RP-31 | RP-060160 | 1621 | - | Corrections to GCF WI-012 approved test case 16.3 | F | 5.3.0 | 5.4.0 | R5s050554 |
| RP-31 | RP-060160 | 1622 | - | Correction to approved GCF WI-010 Test Case 16.1.1 | F | 5.3.0 | 5.4.0 | R5s050549 |
| RP-31 | RP-060161 | 1623 | - | TTCN correction to Approved RRC TC 8.1.2.7 | F | 5.3.0 | 5.4.0 | R5s050553 |
| RP-31 | RP-060161 | 1624 | - | Correction to GCF WI-10 RRC Test Case 8.3.1.18 | F | 5.3.0 | 5.4.0 | R5s050543 |
| RP-31 | RP-060161 | 1625 | - | Correction to GCF WI-10 RRC Test Case 8.1.1.9 | F | 5.3.0 | 5.4.0 | R5s050544 |
| RP-31 | RP-060161 | 1626 | - | Correction to GCF WI-12 test case 8.1.6.3 | F | 5.3.0 | 5.4.0 | R5s050531 |
| RP-31 | RP-060161 | 1627 | - | Summary of regression errors in the wk42 ATS. | F | 5.3.0 | 5.4.0 | R5s050528 |
| RP-31 | RP-060161 | 1628 | - | Correction to GCF WI-10/3 Testcase 12.4.2.4 | F | 5.3.0 | 5.4.0 | R5s050505 |
| RP-31 | RP-060161 | 1629 | - | Correction to test step ts_Exit_Testcase used in MultiRAB test cases | F | 5.3.0 | 5.4.0 | R5s050514 |
| RP-31 | RP-060161 | 1630 | - | Correction to GCF WI-010/1 test case 7.1.2.4a | F | 5.3.0 | 5.4.0 | R5s050524 |
| RP-31 | RP-060161 | 1631 | - | Correction to the GCF WI 12 NAS Test Case 9.4.3.3 | F | 5.3.0 | 5.4.0 | R5s050515 |
| RP-31 | RP-060161 | 1632 | - | Correction to GCF WI 10 and GCF WI 12 ATS to support IPv6 format for PDP Context | F | 5.3.0 | 5.4.0 | R5s050521 |
| RP-31 | RP-060161 | 1633 | - | Summary of regression errors in the wk42 GCF WI-10 and GCF WI-12 ATS | F | 5.3.0 | 5.4.0 | R5s050482 |
| RP-31 | RP-060161 | 1634 | - | Correction to GCF WI-13 test case 8.1.2.14 | F | 5.3.0 | 5.4.0 | R5s050526 |
| RP-31 | RP-060161 | 1635 | - | Correction to GCF WI-13 test case 8.1.2.15 | F | 5.3.0 | 5.4.0 | R5s050527 |
| RP-31 | RP-060161 | 1636 | - | Correction to GCF WI-12 test case 9.4.3.3 | F | 5.3.0 | 5.4.0 | R5s050509 |
| RP-31 | RP-060161 | 1637 | - | Correction to GCF WI-10 test case 8.1.3.9 | F | 5.3.0 | 5.4.0 | R5s050507 |
| RP-31 | RP-060161 | 1638 | - | Corrections of TC_16_2_1, TC_16_2_2, TC_16_1_9_1, TC_16_1_9_2 | F | 5.3.0 | 5.4.0 | R5s050506 |
| RP-31 | RP-060161 | 1639 | - | Correction to GCF WI-10 RAB Test Case 14.2.38c | F | 5.3.0 | 5.4.0 | R5s050504 |
| RP-31 | RP-060165 | 1640 | - | Correction to GCF WI 13/1 RRC testcases 8.3.1.38 and 8.3.1.39 | F | 5.3.0 | 5.4.0 | R5s060023 |
| RP-31 | RP-060165 | 1641 | - | Corrections to Approved GCF WI-013 RRC testcase 8_1_2_14 & WI-014 RRC testcase 8_2_2_42 | F | 5.3.0 | 5.4.0 | R5s060034 |
| RP-31 | RP-060165 | 1642 | - | Summary of regression errors in wk03 HSDPA ATS (GCF WI-13). | F | 5.3.0 | 5.4.0 | R5s060031 |
| RP-31 | RP-060165 | 1643 | - | Corrections to GCF WI-013 test cases 8.1.6.5 and 8.3.1.40 | F | 5.3.0 | 5.4.0 | R5s050523 |
| RP-31 | RP-060165 | 1644 | - | Correction to Rel-5 (HSENH) ATS to support IPv6 format for PDP Context. | F | 5.3.0 | 5.4.0 | R5s050522 |
| RP-31 | RP-060162 | 1645 | - | Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A | F | 5.3.0 | 5.4.0 | - |
| RP-31 | RP-060166 | 1646 | - | Introduce ASP for HSUPA in 34.123-3 | B | 5.3.0 | 5.4.0 | R5-060560 |
| RP-31 | RP-060147 | 1647 | - | Introduce ASP for HSDPA of LCR TDD | B | 5.3.0 | 5.4.0 | R5-060317 |
| RP-31 | RP-060147 | 1648 | - | Updating Information in section 8.2.4 (Table 35 ) | F | 5.3.0 | 5.4.0 | R5-060287 |
| RP-31 | RP-060154 | 1649 | - | Correction of default value for IXIT parameter "px_CipherAlg". | F | 5.3.0 | 5.4.0 | R5-060178 |
| RP-31 | RP-060154 | 1650 | - | New ASP for DTM and other corrections in 34.123-3 | F | 5.3.0 | 5.4.0 | R5-060505 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| | | | | – Release 99 | | | | |
| RP-31 | RP-060164 | 1651 | - | Update configurations, introduce frequency band indicator for SS in 34.123-3 - Release 5. | F | 5.3.0 | 5.4.0 | R5-060316 |
| RP-32 | RP-060338 | 1652 | - | Update HSDPA test configuration | F | 5.4.0 | 5.5.0 | R5-061004 |
| RP-32 | RP-060338 | 1653 | - | Change of ASP and IEs for LCR TDD | F | 5.4.0 | 5.5.0 | R5-061300 |
| RP-32 | RP-060333 | 1654 | - | Update E-DCH test model and ASP (CR to 34.123-3) | F | 5.4.0 | 5.5.0 | R5-061285 |
| RP-32 | RP-060324 | 1655 | - | Update PIXIT | F | 5.4.0 | 5.5.0 | R5-061003 |
| RP-32 | RP-060324 | 1656 | - | Correction to ASP CPHY_TFCI_Detected_IND | F | 5.4.0 | 5.5.0 | R5-061377 |
| RP-32 | RP-060321 | 1657 | - | CR to 34.123-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A | F | 5.4.0 | 5.5.0 | - |
| RP-32 | RP-060339 | 1658 | - | Addition of GCF WI14 test case 8.2.6.48 to HSD_ENH ATS V5.4.0 | B | 5.4.0 | 5.5.0 | R5s060139 |
| RP-32 | RP-060327 | 1659 | - | Addition of GCF WI-12 test case 8.3.4.8 | B | 5.4.0 | 5.5.0 | R5s060019 |
| RP-32 | RP-060327 | 1660 | - | Addition of GCF WI12 RRC test case 8.2.2.43 to RRC ATS v5.3.0 | B | 5.4.0 | 5.5.0 | R5s060084 |
| RP-32 | RP-060327 | 1661 | - | Addition of GCF WI12 RRC test case 8.2.6.39 to RRC ATS v5.4.0 (Revision of R5s060076) | B | 5.4.0 | 5.5.0 | R5s060080 |
| RP-32 | RP-060327 | 1662 | - | Addition of GCF WI12 RRC test case 8.2.6.44 to RRC ATS v5.4.0 (Revision of R5s060078) | B | 5.4.0 | 5.5.0 | R5s060082 |
| RP-32 | RP-060327 | 1663 | - | Addition of GCF WI-10 MM test case 9.4.5.4.1 | B | 5.4.0 | 5.5.0 | R5s060066 |
| RP-32 | RP-060330 | 1664 | - | Addition of GCF WI-13 RRC test case 8.4.1.47 to HSD_ENH ATS v5.3.0 | B | 5.4.0 | 5.5.0 | R5s060070 |
| RP-32 | RP-060330 | 1665 | - | Addition of GCF WI13 Inter-RAT cell change order from UTRAN test case 8.3.11.12 to HSD_ENH ATS v5.4.0 (Revision of R5s060092) | B | 5.4.0 | 5.5.0 | R5s060094 |
| RP-32 | RP-060339 | 1666 | - | Correction to GCF WI14 RAB test case 14_6_1, 14_6_2, 14_6_3, 14_6_3a, 14_6_4, 14_6_4a, 14_6_5, 14_6_5a | F | 5.4.0 | 5.5.0 | R5s060059 |
| RP-32 | RP-060339 | 1667 | - | Correction to GCF WI14 test case 8_3_1_34 and 8_3_1_36 | F | 5.4.0 | 5.5.0 | R5s060061 |
| RP-32 | RP-060339 | 1668 | - | Change of the relative channel powers for HS-PDSCH and HS-SCCH | F | 5.4.0 | 5.5.0 | R5s060074 |
| RP-32 | RP-060339 | 1669 | - | Corrections to RAB testcase 14.6.3a | F | 5.4.0 | 5.5.0 | R5s060121 |
| RP-32 | RP-060339 | 1670 | - | Correction to teststep ts_RRC_MultiCallEstPS_MO_HSDPA, ts_RRC_NAS_SessionActPS_MO_P9_P10_HS | F | 5.4.0 | 5.5.0 | R5s060114 |
| RP-32 | RP-060339 | 1671 | - | Corrections to GCF WI 14 RRC test case 8.2.3.34 | F | 5.4.0 | 5.5.0 | R5s060115 |
| RP-32 | RP-060330 | 1672 | - | Revised summary of regression errors in IR_U and HSD_ENH_R5 ATS (wk03, 2006) | F | 5.4.0 | 5.5.0 | R5s060088 |
| RP-32 | RP-060330 | 1673 | - | Correction to GCF WI13 test case 6.1.2.10 | F | 5.4.0 | 5.5.0 | R5s060075 |
| RP-32 | RP-060330 | 1674 | - | Correction to GCF WI-13 Idle Mode test case 6.1.2.10 | F | 5.4.0 | 5.5.0 | R5s060089 |
| RP-32 | RP-060330 | 1675 | - | Corrections to Approved GCF WI-013 RRC testcases 8.4.1.47 | F | 5.4.0 | 5.5.0 | R5s060135 |
| RP-32 | RP-060330 | 1676 | - | Additional CR for agreed TC 8.3.11.12 (8.3.11.13 implicitly affected) | F | 5.4.0 | 5.5.0 | R5s060118 |
| RP-32 | RP-060325 | 1677 | - | Correction to GCF WI-10 RRC Test Case 6.2.2.2 | F | 5.4.0 | 5.5.0 | R5s060050 |
| RP-32 | RP-060325 | 1678 | - | Correction of GCF WI-10 test case 8.4.1.5 | F | 5.4.0 | 5.5.0 | R5s060049 |
| RP-32 | RP-060325 | 1679 | - | Summary of regression errors in the wk06 ATS. | F | 5.4.0 | 5.5.0 | R5s060056 |
| RP-32 | RP-060325 | 1680 | - | Corrections to Security procedure to make UL SRB3 ciphering preconfiguration optional | F | 5.4.0 | 5.5.0 | R5s060057 |
| RP-32 | RP-060325 | 1681 | - | Summary of regression errors in the wk06 GCF WI-10 and GCF WI-12 ATS | F | 5.4.0 | 5.5.0 | R5s060047 |
| RP-32 | RP-060325 | 1682 | - | Correction to the test step ts_DownlinkTBFEstablishment | F | 5.4.0 | 5.5.0 | R5s060060 |
| RP-32 | RP-060325 | 1683 | - | Change to expected value of Qos 'DeliveryOrder' IE. | F | 5.4.0 | 5.5.0 | R5s060058 |
| RP-32 | RP-060325 | 1684 | - | Clarification of the usage of 4 PICS parameters | F | 5.4.0 | 5.5.0 | R5s060053 |
| RP-32 | RP-060325 | 1685 | - | Correction to approved GCF WI-10/2 InterRAT test case 6.2.2.2 | F | 5.4.0 | 5.5.0 | R5s060055 |
| RP-32 | RP-060325 | 1686 | - | Correction to approved GCF WI-10/2 InterRAT test case 6.2.2.1 | F | 5.4.0 | 5.5.0 | R5s060054 |
| RP-32 | RP-060325 | 1687 | - | Corrections to IRU Measurement test cases for handling of UL only and Dl only compressed mode branches | F | 5.4.0 | 5.5.0 | R5s060051 |
| RP-32 | RP-060325 | 1688 | - | Generic correction to test step "ts_MM_IMSI_Detach" | F | 5.4.0 | 5.5.0 | R5s060069 |
| RP-32 | RP-060325 | 1689 | - | Correction to GCF WI-12 RAB Test Case 14.2.9 | F | 5.4.0 | 5.5.0 | R5s060068 |
| RP-32 | RP-060325 | 1690 | - | Summary of regression errors in the wk09 GCF WI-10 and GCF WI-12 ATS | F | 5.4.0 | 5.5.0 | R5s060073 |
| RP-32 | RP-060325 | 1691 | - | Corrections to GCF WI-10 IR_U test case 6.2.1.7 and 6.2.1.8 | F | 5.4.0 | 5.5.0 | R5s060072 |
| RP-32 | RP-060325 | 1692 | - | Correction to RRC test cases 8.1.1.1 and 8.1.1.9 | F | 5.4.0 | 5.5.0 | R5s060086 |
| RP-32 | RP-060325 | 1693 | - | Correction to WI10 Idle Mode test case 6.1.2.6 | F | 5.4.0 | 5.5.0 | R5s060087 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| RP-32 | RP-060325 | 1694 | - | Correction to the IR_U test case 6.2.2.3 | F | 5.4.0 | 5.5.0 | R5s060091 |
| RP-32 | RP-060325 | 1695 | - | Correction to SM GCF WI 10 test case 11.3.1 | F | 5.4.0 | 5.5.0 | R5s060090 |
| RP-32 | RP-060325 | 1696 | - | Correction to GCF WI-12 Testcase 9.4.3.3 | F | 5.4.0 | 5.5.0 | R5s060101 |
| RP-32 | RP-060326 | 1697 | - | Correction to GCF WI-12 Testcase 9.4.5.4.6 | F | 5.4.0 | 5.5.0 | R5s060102 |
| RP-32 | RP-060326 | 1698 | - | Correction to GCF WI-10 Testcase 8.1.7.1c | F | 5.4.0 | 5.5.0 | R5s060103 |
| RP-32 | RP-060326 | 1699 | - | Correction to GCF WI-15 Test Cases | F | 5.4.0 | 5.5.0 | R5s060104 |
| RP-32 | RP-060326 | 1700 | - | TTCN correction to Approved RRC TCs 8.3.4.1, 8.3.4.2 and 8.3.4.3 | F | 5.4.0 | 5.5.0 | R5s060096 |
| RP-32 | RP-060326 | 1701 | - | TTCN correction to Approved RRC TC 8.4.1.14 | F | 5.4.0 | 5.5.0 | R5s060095 |
| RP-32 | RP-060326 | 1702 | - | Correction of approved IR_U test case 8.3.11.1. | F | 5.4.0 | 5.5.0 | R5s060097 |
| RP-32 | RP-060326 | 1703 | - | Correction of approved HSD_ENH_R5 test cases 8.3.11.9, 8.3.11.13 and of 8.3.11.12 (under approval). | F | 5.4.0 | 5.5.0 | R5s060098 |
| RP-32 | RP-060326 | 1704 | - | Correction to GCF WI-10 GMM test case 12.4.2.4 | F | 5.4.0 | 5.5.0 | R5s060110 |
| RP-32 | RP-060326 | 1705 | - | Correction in TTCN for RLC Test cases 7.2.3.21, 7.2.3.22 and 7.2.3.24 | F | 5.4.0 | 5.5.0 | R5s060109 |
| RP-32 | RP-060326 | 1706 | - | Correction to RRC GCF WI 12 test case 8.3.1.30 | F | 5.4.0 | 5.5.0 | R5s060106 |
| RP-32 | RP-060326 | 1707 | - | Corrections to RAB testcase 14.2.41 | F | 5.4.0 | 5.5.0 | R5s060120 |
| RP-32 | RP-060326 | 1708 | - | Correction to GCF WI-10 RRC Test Case 8.1.1.9 | F | 5.4.0 | 5.5.0 | R5s060119 |
| RP-32 | RP-060326 | 1709 | - | Correction to the constraints used for the Radio Bearer Reconfiguration Message | F | 5.4.0 | 5.5.0 | R5s060113 |
| RP-32 | RP-060326 | 1710 | - | Correction to RRC test cases 8.3.1.21 and 8.3.2.11 | F | 5.4.0 | 5.5.0 | R5s060112 |
| RP-32 | RP-060326 | 1711 | - | Summary of regression errors in the wk11 ATS. | F | 5.4.0 | 5.5.0 | R5s060111 |
| RP-32 | RP-060326 | 1712 | - | Corrections to TTCN test cases due to the review of 34.123-2 and, related, the implementation of test case selection expressions in the TTCN. | F | 5.4.0 | 5.5.0 | R5s060116 |
| RP-32 | RP-060326 | 1713 | - | Empty all PCOs when TC begins | F | 5.4.0 | 5.5.0 | R5s060064 |
| RP-32 | RP-060326 | 1714 | - | Correction to QOS parameters for UMTS only mobiles | F | 5.4.0 | 5.5.0 | R5s060041 |
| RP-32 | RP-060326 | 1715 | - | Correction to GCF Test Case 8.4.1.25 | F | 5.4.0 | 5.5.0 | R5s060141 |
| RP-32 | RP-060326 | 1716 | - | Correction to GCF WI-10 Testcase 7.2.3.21 | F | 5.4.0 | 5.5.0 | R5s060126 |
| RP-32 | RP-060327 | 1717 | - | Correction to GCF WI-12 Testcase 9.4.3.3 | F | 5.4.0 | 5.5.0 | R5s060127 |
| RP-32 | RP-060327 | 1718 | - | Correction to GCF WI-10 IR-U Test Case 6.2.2.3 | F | 5.4.0 | 5.5.0 | R5s060128 |
| RP-32 | RP-060327 | 1719 | - | Correction to the RRC test case 6.1.2.8 | F | 5.4.0 | 5.5.0 | R5s060123 |
| RP-32 | RP-060327 | 1720 | - | Correction to GCF WI-12 NAS Test Case 9.4.3.3 | F | 5.4.0 | 5.5.0 | R5s060122 |
| RP-32 | RP-060327 | 1721 | - | Correction to GCF WI-10 SMS Test Case 16.x | F | 5.4.0 | 5.5.0 | R5s060136 |
| RP-32 | RP-060327 | 1722 | - | Correction to the IR_U test case 8.3.11.1 | F | 5.4.0 | 5.5.0 | R5s060130 |
| RP-32 | RP-060327 | 1723 | - | Correction to the approved IR_U test cases 8.3.7.1 and 8.3.7.3 | F | 5.4.0 | 5.5.0 | R5s060131 |
| RP-32 | RP-060327 | 1724 | - | Correction to the GCF WI-12 test case 8.4.1.48 | F | 5.4.0 | 5.5.0 | R5s060134 |
| RP-32 | RP-060327 | 1725 | - | Correction to the common security teststeps to add the default test step | F | 5.4.0 | 5.5.0 | R5s060133 |
| RP-32 | RP-060327 | 1726 | - | Correction to Cell Broadcast test case 16.3 | F | 5.4.0 | 5.5.0 | R5s060125 |
| RP-32 | RP-060327 | 1727 | - | Correction to the RRC test case 8.1.1.9 | F | 5.4.0 | 5.5.0 | R5s060124 |
| RP-32 | RP-060327 | 1728 | - | Correction to the RRC compressed mode testcases | F | 5.4.0 | 5.5.0 | R5s060132 |
| RP-32 | RP-060327 | 1729 | - | Correction of erroneous determination of OP-Mode in multiple ATSs | F | 5.4.0 | 5.5.0 | R5s060117 |
| RP-33 | RP-060548 | 1730 | - | CR to 34.123-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A | F | 5.5.0 | 5.6.0 | - |
| RP-33 | RP-060555 | 1731 | - | Correction to the RRC testcase 8.4.1.23 | F | 5.5.0 | 5.6.0 | R5s060225 |
| RP-33 | RP-060555 | 1732 | - | Correction to the RRC testcase 8.4.1.25 | F | 5.5.0 | 5.6.0 | R5s060226 |
| RP-33 | RP-060555 | 1733 | - | Correction to the GMM test case 12.9.7b | F | 5.5.0 | 5.6.0 | R5s060223 |
| RP-33 | RP-060555 | 1734 | - | Correction of Inter RAT testcase 12.8 | F | 5.5.0 | 5.6.0 | R5s060222 |
| RP-33 | RP-060555 | 1735 | - | Summary of regression errors in wk29 GCF WI-10 ATS | F | 5.5.0 | 5.6.0 | R5s060227 |
| RP-33 | RP-060555 | 1736 | - | Correction to GCF WI-010/1 approved test case 7.2.3.27 | F | 5.5.0 | 5.6.0 | R5s060230 |
| RP-33 | RP-060555 | 1737 | - | Correction to GCF WI-12/1 approved test case 8.2.2.43 | F | 5.5.0 | 5.6.0 | R5s060231 |
| RP-33 | RP-060569 | 1738 | - | Correction to test cases 14.6.4 | F | 5.5.0 | 5.6.0 | R5s060229 |
| RP-33 | RP-060555 | 1739 | - | Correction to test cases 8.2.2.35 & tcv_BcapMmedia | F | 5.5.0 | 5.6.0 | R5s060232 |
| RP-33 | RP-060555 | 1740 | - | Correction to GCF WI10 RRC Test Case 8.4.1.5 | F | 5.5.0 | 5.6.0 | R5s060218 |
| RP-33 | RP-060555 | 1741 | - | Correction to approved GCF WI-12 RAB test case 14.2.58a | F | 5.5.0 | 5.6.0 | R5s060221 |
| RP-33 | RP-060555 | 1742 | - | Correction to approved GCF WI-12 RRC test cases 8.2.6.39 and 8.2.6.44 | F | 5.5.0 | 5.6.0 | R5s060220 |
| RP-33 | RP-060555 | 1743 | - | Correction to approved GCF WI-10 RLC test case 7.2.3.17 | F | 5.5.0 | 5.6.0 | R5s060219 |
| RP-33 | RP-060555 | 1744 | - | Summary of Regression Errors in NAS wk29 ATS | F | 5.5.0 | 5.6.0 | R5s060217 |
| RP-33 | RP-060569 | 1745 | - | Correction GCF WI-14 HSDPA Test Case 8.2.1.27 | F | 5.5.0 | 5.6.0 | R5s060214 |
| RP-33 | RP-060569 | 1746 | - | Correction to test cases 14.6.6 | F | 5.5.0 | 5.6.0 | R5s060215 |
| RP-33 | RP-060555 | 1747 | - | Summary of Regression Errors in WK29 ATS | F | 5.5.0 | 5.6.0 | R5s060212 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| RP-33 | RP-060555 | 1748 | - | ASP enhancement for HSUPA testing | F | 5.5.0 | 5.6.0 | R5s060196 |
| RP-33 | RP-060569 | 1749 | - | Summary of regression errors in the wk27 HSD Suite | F | 5.5.0 | 5.6.0 | R5s060209 |
| RP-33 | RP-060555 | 1750 | - | Summary of regression errors in the wk27 RLC ATS | F | 5.5.0 | 5.6.0 | R5s060210 |
| RP-33 | RP-060555 | 1751 | - | Corrections to GCF WI-12/1 approved test case 7.1.3.2 | F | 5.5.0 | 5.6.0 | R5s060208 |
| RP-33 | RP-060554 | 1752 | - | Addition of GCF WI10 RRC test case 8.4.1.8 to RRC ATS v5.5.0 | B | 5.5.0 | 5.6.0 | R5s060201 |
| RP-33 | RP-060555 | 1753 | - | Corrections to GCF WI-12/1 approved test case 12.9.7a. | F | 5.5.0 | 5.6.0 | R5s060206 |
| RP-33 | RP-060569 | 1754 | - | Summary of Regression Errors in HSDPA ATS | F | 5.5.0 | 5.6.0 | R5s060207 |
| RP-33 | RP-060555 | 1755 | - | Summary of regression errors in the wk27 GCF WI-10 and GCF WI-12 ATS | F | 5.5.0 | 5.6.0 | R5s060205 |
| RP-33 | RP-060555 | 1756 | - | Correction to GCF WI-10 Idle Mode test case 6.1.2.5 | F | 5.5.0 | 5.6.0 | R5s060203 |
| RP-33 | RP-060556 | 1757 | - | Correction to GCF WI-10 RRC test case 8.3.4.3 | F | 5.5.0 | 5.6.0 | R5s060204 |
| RP-33 | RP-060556 | 1758 | - | Regression Error report for RRC & MAC ATS | F | 5.5.0 | 5.6.0 | R5s060199 |
| RP-33 | RP-060559 | 1759 | - | Regression Error report for HSD_ENH_r5 ATS | F | 5.5.0 | 5.6.0 | R5s060200 |
| RP-33 | RP-060559 | 1760 | - | Correction of CC procedure for multimedia calls | F | 5.5.0 | 5.6.0 | R5s060063 |
| RP-33 | RP-060556 | 1761 | - | Corrections to GCF WI-10 RRC Test Case 8.4.1.24 and 8.4.1.25 | F | 5.5.0 | 5.6.0 | R5s060198 |
| RP-33 | RP-060554 | 1762 | - | Addition of GCF WI-015 AGPS test case 17.2.3.7 to AGPS ATS V5.5.0 | B | 5.5.0 | 5.6.0 | R5s060193 |
| RP-33 | RP-060554 | 1763 | - | Addition of GCF WI-015 AGPS test case 17.2.3.6 to AGPS ATS V5.5.0 | B | 5.5.0 | 5.6.0 | R5s060192 |
| RP-33 | RP-060556 | 1764 | - | Correction to GCF WI-12 NAS Test Case 12.9.9 | F | 5.5.0 | 5.6.0 | R5s060197 |
| RP-33 | RP-060556 | 1765 | - | Correction to the RRC testcase 8.2.3.8 | F | 5.5.0 | 5.6.0 | R5s060190 |
| RP-33 | RP-060556 | 1766 | - | Correction to the RRC testcase 8.2.4.1 | F | 5.5.0 | 5.6.0 | R5s060191 |
| RP-33 | RP-060556 | 1767 | - | Correction of GCF WI-10 RRC Test Case 8.3.1.10 and 8.3.2.4 | F | 5.5.0 | 5.6.0 | R5s060186 |
| RP-33 | RP-060556 | 1768 | - | Correction to the Security procedure | F | 5.5.0 | 5.6.0 | R5s060189 |
| RP-33 | RP-060556 | 1769 | - | Correction to GCF WI-10 NAS Test Case 11.1.1.1 | F | 5.5.0 | 5.6.0 | R5s060178 |
| RP-33 | RP-060556 | 1770 | - | Correction to GCF WI-12 RRC Test Case 8.1.1.10 | F | 5.5.0 | 5.6.0 | R5s060187 |
| RP-33 | RP-060556 | 1771 | - | Correction to the test step ts_ToStateMOCompressMode_CS_6_9_PS_6_10 | F | 5.5.0 | 5.6.0 | R5s060188 |
| RP-33 | RP-060561 | 1772 | - | Moving baseline to the June 06, Rel-6 | F | 5.5.0 | 5.6.0 | R5s060183 |
| RP-33 | RP-060556 | 1773 | - | Corrections to GCF WI-10 SMS Test Cases 16.1.1 and 16.1.2 | F | 5.5.0 | 5.6.0 | R5s060185 |
| RP-33 | RP-060559 | 1774 | - | Corrections to GCF WI-13 Test Case 8.3.11.13 | F | 5.5.0 | 5.6.0 | R5s060184 |
| RP-33 | RP-060556 | 1775 | - | Correction GCF WI-12 Inter-RAT Test Case 8.4.1.48 | F | 5.5.0 | 5.6.0 | R5s060182 |
| RP-33 | RP-060569 | 1776 | - | Corrections to GCF WI 14 test case 14.6.4 | F | 5.5.0 | 5.6.0 | R5s060181 |
| RP-33 | RP-060556 | 1777 | - | Correction of GCF WI-10 Idle Mode Testcase 6.1.2.6 | F | 5.5.0 | 5.6.0 | R5s060180 |
| RP-33 | RP-060556 | 1778 | - | Correction of value for t_IdlePageTimer timer | F | 5.5.0 | 5.6.0 | R5s060175 |
| RP-33 | RP-060556 | 1779 | - | Correction to GCF WI-12 NAS Test Case 12.9.9 | F | 5.5.0 | 5.6.0 | R5s060176 |
| RP-33 | RP-060556 | 1780 | - | Correction to Approved GCF WI-10 NAS test case 12.9.6 | F | 5.5.0 | 5.6.0 | R5s060179 |
| RP-33 | RP-060556 | 1781 | - | Summary of regression errors in wk23 GCF WI-10 and GCF WI-12 ATS | F | 5.5.0 | 5.6.0 | R5s060177 |
| RP-33 | RP-060556 | 1782 | - | Correction to the test step ts_U2GCellChange_RAUpdate | F | 5.5.0 | 5.6.0 | R5s060174 |
| RP-33 | RP-060556 | 1783 | - | Corrections to GCF WI 12/1 IR_U test case 8_4_1_48 | F | 5.5.0 | 5.6.0 | R5s060173 |
| RP-33 | RP-060569 | 1784 | - | Correction to test case 8.2.6.48 | F | 5.5.0 | 5.6.0 | R5s060170 |
| RP-33 | RP-060559 | 1785 | - | Correction to test case 8.1.6.5 | F | 5.5.0 | 5.6.0 | R5s060171 |
| RP-33 | RP-060557 | 1786 | - | Correction to test step ts_ SS_Rel | F | 5.5.0 | 5.6.0 | R5s060172 |
| RP-33 | RP-060557 | 1787 | - | Correction to the GCF WI-12 RRC testcase 8.1.6.3 | F | 5.5.0 | 5.6.0 | R5s060169 |
| RP-33 | RP-060557 | 1788 | - | Correction to the GCF WI-10 NAS test case 12.4.2.4 | F | 5.5.0 | 5.6.0 | R5s060166 |
| RP-33 | RP-060557 | 1789 | - | Correction to the GCF WI-10 RRC test case 8.4.1.2 | F | 5.5.0 | 5.6.0 | R5s060167 |
| RP-33 | RP-060557 | 1790 | - | Summary of regression errors in the wk21 GCF WI-10 and WI-12 ATS | F | 5.5.0 | 5.6.0 | R5s060168 |
| RP-33 | RP-060569 | 1791 | - | Summary of regression errors in the wk21 HSD_ENH ATS | F | 5.5.0 | 5.6.0 | R5s060165 |
| RP-33 | RP-060569 | 1792 | - | Correction to GCF WI14 test case 8.2.6.39a and 8.2.6.39b | F | 5.5.0 | 5.6.0 | R5s060164 |
| RP-33 | RP-060557 | 1793 | - | Correction of GCF WI-12 and 10 NAS Test cases 9.4.5.4.6 and 9.4.5.4.1 | F | 5.5.0 | 5.6.0 | R5s060163 |
| RP-33 | RP-060554 | 1794 | - | Addition of GCF WI-012 MAC test case 7.1.3.2 to MAC ATS V5.4.0 | B | 5.5.0 | 5.6.0 | R5s060161 |
| RP-33 | RP-060557 | 1795 | - | Correction of GCF WI-10 IR_U Testcase 8.3.11.4 | F | 5.5.0 | 5.6.0 | R5s060158 |
| RP-33 | RP-060569 | 1796 | - | Addition of GCF WI14/3 test case 14.6.6 to HSD_ENH ATS V5.4.0 | B | 5.5.0 | 5.6.0 | R5s060159 |
| RP-33 | RP-060569 | 1797 | - | Correction of GCF WI-14 HSDPA Testcase 8.3.11.10 | F | 5.5.0 | 5.6.0 | R5s060156 |
| RP-33 | RP-060557 | 1798 | - | Correction of GCF WI-12 RRC Testcase 8.3.1.30 | F | 5.5.0 | 5.6.0 | R5s060157 |
| RP-33 | RP-060569 | 1799 | - | Addition of GCF WI14/3 test case 14.6.1a to HSD_ENH ATS V5.4.0 | B | 5.5.0 | 5.6.0 | R5s060154 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| RP-33 | RP-060557 | 1800 | - | Summary of regression errors in the wk18 GCF WI-10 and GCF WI-12 ATS | F | 5.5.0 | 5.6.0 | R5s060148 |
| RP-33 | RP-060557 | 1801 | - | Correction to common teststeps ts_RRC_ReceiveUE_CapabilityInfo and ts_Check_UE_Capability | F | 5.5.0 | 5.6.0 | R5s060146 |
| RP-33 | RP-060557 | 1802 | - | Correction to the constraint cbr_108_RRC_SecModeCmpl in approved teststep ts_RRC_Security | F | 5.5.0 | 5.6.0 | R5s060147 |
| RP-33 | RP-060569 | 1803 | - | Correction to test step ts_RRC_ConnRel_AfterSwitchOff_r5 | F | 5.5.0 | 5.6.0 | R5s060153 |
| RP-33 | RP-060569 | 1804 | - | Correction of GCF WI-14 HSDPA MAC test case 7.1.5.4 | F | 5.5.0 | 5.6.0 | R5s060149 |
| RP-33 | RP-060557 | 1805 | - | Proposed enhancement for calculation of DPCH Frame Offset | F | 5.5.0 | 5.6.0 | R5s060150 |
| RP-33 | RP-060557 | 1806 | - | Correction of PLMN presentation in test step ts_MMI_PLMN_SelPerf | F | 5.5.0 | 5.6.0 | R5s060152 |
| RP-33 | RP-060557 | 1807 | - | Correction to InterRAT Idle Mode frequency lists | F | 5.5.0 | 5.6.0 | R5s060151 |
| RP-33 | RP-060557 | 1808 | - | Correction to GCF WI-10 Idle Mode test case 6.1.2.3 | F | 5.5.0 | 5.6.0 | R5s060144 |
| RP-33 | RP-060557 | 1809 | - | Correction of integrity error in TC 8.1.7.1d | F | 5.5.0 | 5.6.0 | R5s060145 |
| RP-33 | RP-060569 | 1810 | - | TTCN correction to mac-hs testcase 7.1.5.6 | F | 5.5.0 | 5.6.0 | R5s060143 |
| RP-33 | RP-060558 | 1811 | - | Summary of regression errors in wk29 IRAT ATSs. | F | 5.5.0 | 5.6.0 | R5s060236 |
| RP-33 | RP-060558 | 1812 | - | Correction to Approved GCF WI-10 NAS test case 12.4.1.1a | F | 5.5.0 | 5.6.0 | R5s060243 |
| RP-33 | RP-060558 | 1813 | - | Summary of Regression Errors in RRC wk34 ATS | F | 5.5.0 | 5.6.0 | R5s060248 |
| RP-33 | RP-060558 | 1814 | - | Summary of Regression Errors in NAS wk34 ATS | F | 5.5.0 | 5.6.0 | R5s060249 |
| RP-33 | RP-060558 | 1815 | - | Summary of Regression Errors in SMS wk34 ATS | F | 5.5.0 | 5.6.0 | R5s060250 |
| RP-33 | RP-060559 | 1816 | - | Summary of Regression Errors in HSD_ENH wk34 ATS | F | 5.5.0 | 5.6.0 | R5s060256 |
| RP-33 | RP-060558 | 1817 | - | Correction to GCF WI-12_IR_U Test Case 8.4.1.48 | F | 5.5.0 | 5.6.0 | R5s060253 |
| RP-33 | RP-060558 | 1818 | - | Summary of regression errors in wk34 GCF WI-10 and GCF WI-12 ATS | F | 5.5.0 | 5.6.0 | R5s060255 |
| RP-33 | RP-060558 | 1819 | - | Correction to UE capability constraints | F | 5.5.0 | 5.6.0 | R5s060254 |
| RP-33 | RP-060558 | 1820 | - | Addition of GCF WI-017 test case 8.3.7.17 to IR_U_r3 ATS V5.5.0. | B | 5.5.0 | 5.6.0 | R5s060234 |
| RP-33 | RP-060564 | 1821 | - | CR to 34.123-3: ASP changes for EDCH test | F | 5.5.0 | 5.6.0 | R5-062325 |
| RP-33 | RP-060551 | 1822 | - | New ASP and updated ASP to resolve SRB3 UL ciphering | F | 5.5.0 | 5.6.0 | R5-062534 |
| RP-33 | RP-060551 | 1825 | - | CR to 34.123-3: Update TSO and PIXIT | F | 5.5.0 | 5.6.0 | R5-062395 |
| RP-33 | RP-060551 | 1826 | - | CR to 34.123-3: SFN offset issue in the CFN timing-maintained test | F | 5.5.0 | 5.6.0 | R5-062046 |
| RP-33 | RP-060560 | 1827 | - | CR to 34.123-3: GERAN additional bands for interRAT test | F | 5.5.0 | 5.6.0 | R5-062537 |
| RP-33 | RP-060553 | 1823 | - | Production of pointer version 5.6.0 of TS 34.123-3 with no technical contents | F | 5.5.0 | 5.6.0 | R5-062535 |
| RP-33 | RP-060560 | 1824 | - | Upgrade TS 34.123-3 to version 6.0.0 | F | 5.5.0 | 6.0.0 | R5-062536 |
| RP-34 | RP-060744 | 1828 | - | CR to 34.123-3, Corrections of ASP and EDCH configurations | F | 6.0.0 | 6.1.0 | R5-063063 |
| RP-34 | RP-060734 | 1829 | - | CR to 34.123-3: New PIXIT for band VI test | F | 6.0.0 | 6.1.0 | R5-063375 |
| RP-34 | RP-060734 | 1830 | - | CR to 34.123-3: New annex guidance to TC executions | F | 6.0.0 | 6.1.0 | R5-063546 |
| RP-34 | RP-060741 | 1831 | - | CR to 34.123-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A | F | 6.0.0 | 6.1.0 | - |
| RP-34 | RP-060745 | 1832 | - | Addition of E-DCH MAC test case 7.1.6.2.3 to HSU_ENH ATS v5.5.0 | B | 6.0.0 | 6.1.0 | R5s060311 |
| RP-34 | RP-060745 | 1833 | - | Addition of EDCH test case 8.2.6.50 to HSU ATS v5.5.0 | B | 6.0.0 | 6.1.0 | R5s060304 |
| RP-34 | RP-060745 | 1834 | - | Addition of E-DCH RRC test case 8.3.1.41 to HSU_ENH ATS v5.5.0 | B | 6.0.0 | 6.1.0 | R5s060286 |
| RP-34 | RP-060745 | 1835 | - | Addition of E-DCH InterRAT test case 8.3.11.14 to HSU_ENH_r6 ATS. | B | 6.0.0 | 6.1.0 | R5s060272 |
| RP-34 | RP-060745 | 1836 | - | Addition of GCF WI-25 E-DCH test case 14.7.1 to HSU_ENH_r6 ATS. | B | 6.0.0 | 6.1.0 | R5s060259 |
| RP-34 | RP-060745 | 1837 | - | Addition of GCF WI-25 E-DCH test case 8.2.1.35 to HSU_ENH_r6 ATS. | B | 6.0.0 | 6.1.0 | R5s060270 |
| RP-34 | RP-060736 | 1838 | - | Addition of GCF WI10 RRC test case 8.2.6.38 to RRC ATS v6.0.0 | B | 6.0.0 | 6.1.0 | R5s060295 |
| RP-34 | RP-060736 | 1839 | - | Addition of GCF WI10 RRC test case 8.4.1.28 to RRC ATS v6.0.0 | B | 6.0.0 | 6.1.0 | R5s060265 |
| RP-34 | RP-060736 | 1840 | - | Addition of GCF WI10 RRC test case 6.1.2.4 to RRC ATS v6.0.0 | B | 6.0.0 | 6.1.0 | R5s060257 |
| RP-34 | RP-060738 | 1841 | - | Addition of HSDPA RAB test case 14.6.7 to | B | 6.0.0 | 6.1.0 | R5s060313 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| | | | | HSD_ENH ATS v5.5.0 | | | | |
| RP-34 | RP-060740 | 1842 | - | Addition of DSAC test case 8.1.2.16 to HSU_ENH_r6 ATS. | B | 6.0.0 | 6.1.0 | R5s060288 |
| RP-34 | RP-060740 | 1843 | - | Addition of DSAC test case 12.4.2.12 to HSU_ENH_r6 ATS | B | 6.0.0 | 6.1.0 | R5s060283 |
| RP-34 | RP-060740 | 1844 | - | Addition of DSAC test case 12.4.2.11 to HSU_ENH_r6 ATS. | B | 6.0.0 | 6.1.0 | R5s060281 |
| RP-34 | RP-060740 | 1845 | - | Addition of GCF WI-24 DSAC test case 12.9.15 to HSU ATS v6.0.0 | B | 6.0.0 | 6.1.0 | R5s060263 |
| RP-34 | RP-060740 | 1846 | - | Addition of DSAC test case 9.4.3.6 to HSU_ENH_ATS V5.5.0 | B | 6.0.0 | 6.1.0 | R5s060251 |
| RP-34 | RP-060740 | 1847 | - | Addition of DSAC test case 12.2.1.12 to HSU_ENH_ATS V6.0.0 | B | 6.0.0 | 6.1.0 | R5s060246 |
| RP-34 | RP-060740 | 1848 | - | Addition of DSAC test case 9.5.9 to HSU_ENH_ATS V6.0.0 | B | 6.0.0 | 6.1.0 | R5s060244 |
| RP-34 | RP-060736 | 1849 | - | Correction to GCF WI-10 IR-U Test Case 8.3.7.1 | F | 6.0.0 | 6.1.0 | R5s060338 |
| RP-34 | RP-060736 | 1850 | - | Summary of regression errors in wk38 GCF WI-10 and WI-12 ATS | F | 6.0.0 | 6.1.0 | R5s060337 |
| RP-34 | RP-060736 | 1851 | - | Correction to SMS testcase 16.2.1 | F | 6.0.0 | 6.1.0 | R5s060320 |
| RP-34 | RP-060736 | 1852 | - | Correction to the NAS Test Case 12.9.12 and 12.9.13 | F | 6.0.0 | 6.1.0 | R5s060334 |
| RP-34 | RP-060736 | 1853 | - | Corrections to GCF WI-10 Test Cases 8.1.10.1 and 7.1.1.8 | F | 6.0.0 | 6.1.0 | R5s060332 |
| RP-34 | RP-060736 | 1854 | - | Introduction of Band 6 to test cases | F | 6.0.0 | 6.1.0 | R5s060324 |
| RP-34 | RP-060736 | 1855 | - | Summary of Regression Errors in RLC wk38 ATS | F | 6.0.0 | 6.1.0 | R5s060331 |
| RP-34 | RP-060736 | 1856 | - | Corrections to GCF WI-12 RRC Test Cases 8.2.6.39 & 8.2.6.44 | F | 6.0.0 | 6.1.0 | R5s060330 |
| RP-34 | RP-060736 | 1857 | - | Correction to GCF WI-10 RRC Test Case 6.1.1.7 | F | 6.0.0 | 6.1.0 | R5s060325 |
| RP-34 | RP-060736 | 1858 | - | Correction to approved GCF WI-12/1 RAB test case 14.2.58a | F | 6.0.0 | 6.1.0 | R5s060321 |
| RP-34 | RP-060736 | 1859 | - | Summary of regression errors in the wk38 InterRAT ATSs. | F | 6.0.0 | 6.1.0 | R5s060315 |
| RP-34 | RP-060736 | 1860 | - | Summary of regression errors in wk38 GCF WI-10 and GCF WI-12 ATS | F | 6.0.0 | 6.1.0 | R5s060309 |
| RP-34 | RP-060736 | 1861 | - | Correction to the RRC test case 8.4.1.8 | F | 6.0.0 | 6.1.0 | R5s060307 |
| RP-34 | RP-060736 | 1862 | - | Corrections to GCF WI-10 RAB testcases 14.4.2.3 and 14.4.2a.3 | F | 6.0.0 | 6.1.0 | R5s060308 |
| RP-34 | RP-060736 | 1863 | - | Correction to IR_U testcase 8.4.1.48 | F | 6.0.0 | 6.1.0 | R5s060302 |
| RP-34 | RP-060736 | 1864 | - | Correction of GCF WI-10 RRC testcase 8.1.10.1 | F | 6.0.0 | 6.1.0 | R5s060303 |
| RP-34 | RP-060736 | 1865 | - | Correction to GCF WI-12 RRC Test Case 8.3.1.30 | F | 6.0.0 | 6.1.0 | R5s060306 |
| RP-34 | RP-060737 | 1866 | - | Correction to IR_U testcases for XID negotiation | F | 6.0.0 | 6.1.0 | R5s060298 |
| RP-34 | RP-060737 | 1867 | - | Correction to RRC testcase 8.2.2.9 | F | 6.0.0 | 6.1.0 | R5s060299 |
| RP-34 | RP-060737 | 1868 | - | Correction to RRC testcase 8.3.1.30 | F | 6.0.0 | 6.1.0 | R5s060300 |
| RP-34 | RP-060737 | 1869 | - | iWD_wk36 ATS Regression Errors Corrections | F | 6.0.0 | 6.1.0 | R5s060294 |
| RP-34 | RP-060737 | 1870 | - | Summary of regression errors in the wk36 IR_U_r3 ATS. | F | 6.0.0 | 6.1.0 | R5s060290 |
| RP-34 | RP-060737 | 1871 | - | TTCN Correction to GCF WI-10 RRC Test Cases 8.1.1.4, 8.1.1.5 and 8.1.1.6 | F | 6.0.0 | 6.1.0 | R5s060292 |
| RP-34 | RP-060737 | 1872 | - | TTCN correction to GCF WI-10 RRC Test Cases 8.1.2.2 and 8.1.2.9 | F | 6.0.0 | 6.1.0 | R5s060293 |
| RP-34 | RP-060737 | 1873 | - | Correction to WI 10/2 RRC testcase 8.4.1.8 | F | 6.0.0 | 6.1.0 | R5s060285 |
| RP-34 | RP-060737 | 1874 | - | Summary of regression errors in wk36 GCF WI-10 and GCF WI-12 ATS | F | 6.0.0 | 6.1.0 | R5s060274 |
| RP-34 | RP-060737 | 1875 | - | Summary of Regression Errors in wk36 ATS | F | 6.0.0 | 6.1.0 | R5s060280 |
| RP-34 | RP-060737 | 1876 | - | Correction to approved GCF WI-010 Test Case 16.2.1 | F | 6.0.0 | 6.1.0 | R5s060278 |
| RP-34 | RP-060737 | 1877 | - | Correction to GCF WI-12 RRC Test Case 8.2.2.43 | F | 6.0.0 | 6.1.0 | R5s060279 |
| RP-34 | RP-060737 | 1878 | - | Correction to testcase 14.2.58 | F | 6.0.0 | 6.1.0 | R5s060267 |
| RP-34 | RP-060737 | 1879 | - | TTCN CR to extend Guard Timer for GCF WI-10 and 12 RRC & RAB Test Cases | F | 6.0.0 | 6.1.0 | R5s060261 |
| RP-34 | RP-060738 | 1880 | - | Correction to testcase 8.2.6.48 | F | 6.0.0 | 6.1.0 | R5s060335 |
| RP-34 | RP-060738 | 1881 | - | Correction of PDP_Context_Status mandatory IE for Rel 5 and above | F | 6.0.0 | 6.1.0 | R5s060333 |
| RP-34 | RP-060738 | 1882 | - | Corrections to GCF WI-14/1 test case 8.3.11.9 | F | 6.0.0 | 6.1.0 | R5s060323 |
| RP-34 | RP-060738 | 1883 | - | Corrections to GCF WI 14/1 test case 8.2.3.35 | F | 6.0.0 | 6.1.0 | R5s060310 |
| RP-34 | RP-060738 | 1884 | - | Correction to GCF WI 14 RRC testcases in Non Ciphering path. | F | 6.0.0 | 6.1.0 | R5s060301 |
| RP-34 | RP-060738 | 1885 | - | Correction to HSDPA MRAT testcase 8.3.7.14 | F | 6.0.0 | 6.1.0 | R5s060297 |
| RP-34 | RP-060738 | 1886 | - | Summary of regression errors in wk36 HSD_ENH ATS | F | 6.0.0 | 6.1.0 | R5s060277 |
| RP-34 | RP-060738 | 1887 | - | TTCN CR to extend Guard Timer for GCF WI-14 RAB Test Case | F | 6.0.0 | 6.1.0 | R5s060262 |
| RP-34 | RP-060745 | 1888 | - | Addition of E-DCH MAC test case 7.1.6.2.7 to | B | 6.0.0 | 6.1.0 | R5s060343 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| | | | | HSU_ENH ATS v6.0.0 | | | | |
| RP-34 | RP-060745 | 1889 | - | Addition of E-DCH MAC test case 7.1.6.2.4 to HSU_ENH ATS v6.0.0 | B | 6.0.0 | 6.1.0 | R5s060347 |
| RP-34 | RP-060737 | 1890 | - | Correction to approved GCF WI-10/3 RRC test case 6.1.2.6 | F | 6.0.0 | 6.1.0 | R5s060339 |
| RP-34 | RP-060737 | 1891 | - | Correction to GCF WI-10 Idle Mode Test Case 6.1.2.8 | F | 6.0.0 | 6.1.0 | R5s060340 |
| RP-34 | RP-060737 | 1892 | - | Correction to GCF WI-10 RRC Test Case 8.3.1.31 | F | 6.0.0 | 6.1.0 | R5s060342 |
| RP-34 | RP-060737 | 1896 | - | Corrections of approved GCF WI-12 test case 8.2.2.43. | F | 6.0.0 | 6.1.0 | R5s060317 |
| RP-34 | RP-060737 | 1897 | - | Correction to GCF WI-10 RRC Test Case 8.4.1.8 | F | 6.0.0 | 6.1.0 | R5s060322 |
| RP-35 | RP-070099 | 1898 | | Addition of GCF WI-25 HSUPA MAC Test Case 7.1.6.4.3 | B | 6.1.0 | 6.2.0 | R5s060401 |
| RP-35 | RP-070099 | 1899 | | Addition of GCF WI-25 RAB Test Case 14.7.4 | B | 6.1.0 | 6.2.0 | R5s060399 |
| RP-35 | RP-070099 | 1900 | | Addition of GCF WI-25 HSUPA Test Case 7.1.6.2.10 | B | 6.1.0 | 6.2.0 | R5s060378 |
| RP-35 | RP-070099 | 1901 | | Addition of GCF WI-25 HSUPA MAC Test Case 7.1.6.4.2 | B | 6.1.0 | 6.2.0 | R5s060395 |
| RP-35 | RP-070099 | 1902 | | Addition of GCF WI-25 HSUPA Test Case 8.2.2.45 | B | 6.1.0 | 6.2.0 | R5s060384 |
| RP-35 | RP-070099 | 1903 | | Addition of GCF WI-25 HSUPA MAC Test Case 7.1.6.1.3 | B | 6.1.0 | 6.2.0 | R5s060380 |
| RP-35 | RP-070099 | 1904 | | Addition of GCF WI-25 HSUPA MAC Test Case 7.1.6.2.8 | B | 6.1.0 | 6.2.0 | R5s060376 |
| RP-35 | RP-070099 | 1905 | | Addition of GCF WI-25 HSUPA Test Case 7.1.6.2.9 | B | 6.1.0 | 6.2.0 | R5s060381 |
| RP-35 | RP-070106 | 1906 | | Addition of GCF WI-10 Idle mode test case 6.1.2.9a | B | 6.1.0 | 6.2.0 | R5s070027 |
| RP-35 | RP-070106 | 1907 | | Addition of GCF WI-10 Idle mode test case 6.1.2.9b | B | 6.1.0 | 6.2.0 | R5s070029 |
| RP-35 | RP-070110 | 1908 | | Addition of WB-AMR RAB test case 14.2.4b to HSD_ENH_r5 ATS V6.1.0 | B | 6.1.0 | 6.2.0 | R5s070033 |
| RP-35 | RP-070099 | 1909 | | Addition of E-DCH RAB test case 14.7.5 to HSU_ENH_r6 ATS V6.0.0 | B | 6.1.0 | 6.2.0 | R5s060328 |
| RP-35 | RP-070099 | 1910 | | Addition of E-DCH RAB test case 14.7.2 to HSU_ENH_r6 ATS V6.0.0 | B | 6.1.0 | 6.2.0 | R5s060326 |
| RP-35 | RP-070099 | 1911 | | Addition of E-DCH MAC test case 7.1.6.3.1 to HSU_ENH_r6 ATS V6.0.0 | B | 6.1.0 | 6.2.0 | R5s060364 |
| RP-35 | RP-070099 | 1912 | | Addition of E-DCH MAC test case 7.1.6.1.2 to HSU_ENH_r6 ATS V6.0.0 | B | 6.1.0 | 6.2.0 | R5s060362 |
| RP-35 | RP-070099 | 1913 | | Addition of E-DCH MAC test case 7.1.6.1.1 to HSU_ENH_r6 ATS V6.0.0 | B | 6.1.0 | 6.2.0 | R5s060360 |
| RP-35 | RP-070099 | 1914 | | Correction to GCF WI-025 test case 8.3.1.41 | F | 6.1.0 | 6.2.0 | R5s060404 |
| RP-35 | RP-070099 | 1915 | | Correction to GCF WI-25 RAB Test Case 14.7.5 | F | 6.1.0 | 6.2.0 | R5s060408 |
| RP-35 | RP-070106 | 1916 | | Summary of Regression Errors in NAS wk49 ATS | F | 6.1.0 | 6.2.0 | R5s060406 |
| RP-35 | RP-070106 | 1917 | | Summary of regression errors in wk49 ATS | F | 6.1.0 | 6.2.0 | R5s060405 |
| RP-35 | RP-070106 | 1918 | | Correction to GCF WI-10 SMS test case 16.3 | F | 6.1.0 | 6.2.0 | R5s070005 |
| RP-35 | RP-070106 | 1919 | | Correction to GCF WI-10 SMS test cases 16.1.1 and 16.1.2 | F | 6.1.0 | 6.2.0 | R5s070006 |
| RP-35 | RP-070106 | 1920 | | Correction to GCF WI-10 RRC test case 6.1.2.3 | F | 6.1.0 | 6.2.0 | R5s070007 |
| RP-35 | RP-070106 | 1921 | | Summary of regression errors in wk49 IRAT ATSs. | F | 6.1.0 | 6.2.0 | R5s070004 |
| RP-35 | RP-070106 | 1922 | | Correction to GCF WI-10 NAS Test Case 12.9.12 | F | 6.1.0 | 6.2.0 | R5s070001 |
| RP-35 | RP-070106 | 1923 | | Correction to GCF WI-10 RRC Test Case 8.4.1.25 and 8.4.1.48 | F | 6.1.0 | 6.2.0 | R5s070002 |
| RP-35 | RP-070106 | 1924 | | Correction to GCF WI-10 RAB Test Case 14.2.58 | F | 6.1.0 | 6.2.0 | R5s070003 |
| RP-35 | RP-070099 | 1925 | | Correction to GCF WI-025 test case 14.7.4 | F | 6.1.0 | 6.2.0 | R5s070019 |
| RP-35 | RP-070106 | 1926 | | Correction to GCF WI-10 RRC Test Case 8.4.1.2 | F | 6.1.0 | 6.2.0 | R5s070026 |
| RP-35 | RP-070106 | 1927 | | Correction to GCF WI-10 IR-U Test Case 12.8 | F | 6.1.0 | 6.2.0 | R5s070025 |
| RP-35 | RP-070106 | 1928 | | Corrections to GCF WI-17 DTM test case 8.3.7.17 | F | 6.1.0 | 6.2.0 | R5s070023 |
| RP-35 | RP-070106 | 1929 | | Correction to approved test case 8.4.1.8 | F | 6.1.0 | 6.2.0 | R5s070020 |
| RP-35 | RP-070106 | 1930 | | Correction to approved test case 8.2.6.38 | F | 6.1.0 | 6.2.0 | R5s070021 |
| RP-35 | RP-070106 | 1931 | | Correction to the NAS test case 9.2.2 | F | 6.1.0 | 6.2.0 | R5s070011 |
| RP-35 | RP-070106 | 1932 | | Correction to NAS test cases 12.4.1.1b and 12.9.9 | F | 6.1.0 | 6.2.0 | R5s070012 |
| RP-35 | RP-070106 | 1933 | | Correction to RRC testcase 8.4.1.2 | F | 6.1.0 | 6.2.0 | R5s070013 |
| RP-35 | RP-070106 | 1934 | | Correction to DSAC testcases 12.9.15, 12.4.2.11 and 12.4.2.12 | F | 6.1.0 | 6.2.0 | R5s070014 |
| RP-35 | RP-070107 | 1935 | | Correction to AGPS ASP Retri_GPS_AssistanceData_CNF | F | 6.1.0 | 6.2.0 | R5s070015 |
| RP-35 | RP-070107 | 1936 | | Correction to the RRC testcase 8.3.4.8 | F | 6.1.0 | 6.2.0 | R5s070017 |
| RP-35 | RP-070107 | 1937 | | Summary of Regression Errors in wk49 ATSs | F | 6.1.0 | 6.2.0 | R5s070018 |
| RP-35 | RP-070107 | 1938 | | Introduction of Band 8 | F | 6.1.0 | 6.2.0 | R5s070008 |
| RP-35 | RP-070107 | 1939 | | Correction of CC procedure for multimedia calls | F | 6.1.0 | 6.2.0 | R5s070010 |
| RP-35 | RP-070110 | 1940 | | Correction to RRC TC 8.3.4.9 to avoid possible radio link failure. | F | 6.1.0 | 6.2.0 | R5s070022 |
| RP-35 | RP-070110 | 1941 | | Correction to GCF WI-14 HSDPA Test Case 14.6.4a | F | 6.1.0 | 6.2.0 | R5s070024 |
| RP-35 | RP-070107 | 1942 | | Step enhancement for the introduction of InterBand Test cases | F | 6.1.0 | 6.2.0 | R5s070031 |
| RP-35 | RP-070107 | 1943 | | Correction to GCF WI-10 RRC Test Case 8.3.1.5 | F | 6.1.0 | 6.2.0 | R5s070039 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| RP-35 | RP-070107 | 1944 | | Correction to Inter-RAT testcase 8.3.7.3 | F | 6.1.0 | 6.2.0 | R5s070038 |
| RP-35 | RP-070110 | 1945 | | Correction to GCF WI-13 Test Case 8.3.1.40 | F | 6.1.0 | 6.2.0 | R5s070040 |
| RP-35 | RP-070110 | 1946 | | Correction to Idle mode testcase 6.1.2.10 | F | 6.1.0 | 6.2.0 | R5s070036 |
| RP-35 | RP-070112 | 1947 | | Correction to DSAC RRC testcase 8.1.2.16 | F | 6.1.0 | 6.2.0 | R5s070037 |
| RP-35 | RP-070110 | 1948 | | Correction to test case 8.2.6.39b & 8.3.4.9 | F | 6.1.0 | 6.2.0 | R5s070041 |
| RP-35 | RP-070107 | 1949 | | Correction to the NAS Test Case 12.3.2.1 | F | 6.1.0 | 6.2.0 | R5s060352 |
| RP-35 | RP-070107 | 1950 | | Correction to GCF WI-012 test case 12.3.2.7 | F | 6.1.0 | 6.2.0 | R5s060351 |
| RP-35 | RP-070107 | 1951 | | Correction to approved GCF WI-10 test case 8.3.7.1. | F | 6.1.0 | 6.2.0 | R5s060345 |
| RP-35 | RP-070107 | 1952 | | Correction of approved GCF WI-010 test case 8.1.7.1c | F | 6.1.0 | 6.2.0 | R5s060316 |
| RP-35 | RP-070107 | 1953 | | Correction to GCF WI-12 MAC Test Case 7.1.3.2 | F | 6.1.0 | 6.2.0 | R5s060354 |
| RP-35 | RP-070107 | 1954 | | Correction to QOS checking for UE not support AT commands to start MO PS call | F | 6.1.0 | 6.2.0 | R5s060353 |
| RP-35 | RP-070112 | 1955 | | Correction to GCF WI-24 DSAC Test Case 12.4.2.11 | F | 6.1.0 | 6.2.0 | R5s060355 |
| RP-35 | RP-070107 | 1956 | | Summary of regression errors in wk43 ATS | F | 6.1.0 | 6.2.0 | R5s060341 |
| RP-35 | RP-070107 | 1957 | | Correction to GCF WI 10/2 RRC testcase 8.4.1.8 | F | 6.1.0 | 6.2.0 | R5s060389 |
| RP-35 | RP-070107 | 1958 | | TTCN correction to GMM Test Case 12.4.1.4b | F | 6.1.0 | 6.2.0 | R5s060357 |
| RP-35 | RP-070107 | 1959 | | Summary of regression errors in wk47 IRAT ATSs. | F | 6.1.0 | 6.2.0 | R5s060372 |
| RP-35 | RP-070107 | 1960 | | Change of PDU type definition REGISTER used in MM test cases | F | 6.1.0 | 6.2.0 | R5s060388 |
| RP-35 | RP-070107 | 1961 | | Correction to GCF WI-10 RRC Test Case 8.4.1.25 | F | 6.1.0 | 6.2.0 | R5s060374 |
| RP-35 | RP-070108 | 1962 | | Summary of Regression Errors in NAS wk47 ATS – Batch2 | F | 6.1.0 | 6.2.0 | R5s060371 |
| RP-35 | RP-070108 | 1963 | | Summary of Regression Errors in NAS wk47 ATS | F | 6.1.0 | 6.2.0 | R5s060369 |
| RP-35 | RP-070108 | 1964 | | Summary of Regression Errors in RAB wk47 ATS | F | 6.1.0 | 6.2.0 | R5s060370 |
| RP-35 | RP-070108 | 1965 | | Correction to GCF WI-10 RRC Test Case 8.1.2.4 | F | 6.1.0 | 6.2.0 | R5s060367 |
| RP-35 | RP-070108 | 1966 | | Correction to GCF WI-10 RRC Test Case 6.1.2.1 | F | 6.1.0 | 6.2.0 | R5s060366 |
| RP-35 | RP-070110 | 1967 | | TTCN correction to GCF WI-014 RRC HSDPA Test Case 8.3.1.35 | F | 6.1.0 | 6.2.0 | R5s060359 |
| RP-35 | RP-070110 | 1968 | | Summary of Regression Errors in HSDPA wk47 ATS | F | 6.1.0 | 6.2.0 | R5s060368 |
| RP-35 | RP-070099 | 1969 | | Corrections to E-DCH test case 14.7.1 | F | 6.1.0 | 6.2.0 | R5s060403 |
| RP-35 | RP-070099 | 1970 | | Corrections to E-DCH test case 7.1.6.2.3 and 7.1.6.2.7 | F | 6.1.0 | 6.2.0 | R5s060394 |
| RP-35 | RP-070099 | 1971 | | Summary of Regression Errors in HSU wk47 ATS | F | 6.1.0 | 6.2.0 | R5s060375 |
| RP-35 | RP-070108 | 1972 | | Correction to approved test case 8.4.1.2, 8.4.1.6, 8.4.1.24 | F | 6.1.0 | 6.2.0 | R5s060391 |
| RP-35 | RP-070110 | 1973 | | Summary of regression errors in wk47 ATS | F | 6.1.0 | 6.2.0 | R5s060393 |
| RP-35 | RP-070110 | 1974 | | Correction to approved GCF WI-014 test case 8.2.6.48 | F | 6.1.0 | 6.2.0 | R5s060392 |
| RP-35 | RP-070108 | 1975 | | Correction to RRC constraint "cr_RRC_RrcConnSetupCmplRadioCap_BandList2" for Band VIII | F | 6.1.0 | 6.2.0 | R5s070035 |
| RP-35 | RP-070108 | 1976 | | Addition of GCF WI-010 P4 test case 8.2.6.37 to RRC ATS V6.1.0 | B | 6.1.0 | 6.2.0 | R5s070050 |
| RP-35 | RP-070108 | 1977 | | Correction to GCF WI-10 NAS test cases using SETUP ul constraints | F | 6.1.0 | 6.2.0 | R5s070043 |
| RP-35 | RP-070108 | 1978 | | Correction to GCF WI-10 NAS test cases 9.1 and 12.9.7c | F | 6.1.0 | 6.2.0 | R5s070044 |
| RP-35 | RP-070108 | 1979 | | Correction to GCF WI-10 NAS test case 9.4.2.2 Procedure 2 | F | 6.1.0 | 6.2.0 | R5s070045 |
| RP-35 | RP-070100 | 1981 | | CR to 34.123-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A | F | 6.1.0 | 6.2.0 | - |
| RP-35 | RP-070108 | 1982 | | Correction to the MAC suite for Band VI | F | 6.1.0 | 6.2.0 | R5s070052 |
| RP-35 | RP-070108 | 1983 | | Summary of regression errors in 07wk03 ATSs | F | 6.1.0 | 6.2.0 | R5s070053 |
| RP-35 | RP-070108 | 1984 | | Cell setup issue in 15 Idle Mode, RRC and NAS test cases | F | 6.1.0 | 6.2.0 | R5s070054 |
| RP-35 | RP-070108 | 1985 | | Correction to RRC testcase 6.1.2.6 | F | 6.1.0 | 6.2.0 | R5s070059 |
| RP-35 | RP-070108 | 1986 | | Correction to constraint cr_UE_CapabilityInfoAM_BandList2 for Band VIII | F | 6.1.0 | 6.2.0 | R5s070061 |
| RP-35 | RP-070108 | 1987 | | Corrections to wk03 AGPS ATS | F | 6.1.0 | 6.2.0 | R5s070032 |
| RP-35 | RP-070108 | 1988 | | Recovering LAI checking in RRC CONNECTION REQUEST in 8.1.2.x. test cases | F | 6.1.0 | 6.2.0 | R5s070057 |
| RP-35 | RP-070108 | 1989 | | Correction to RRC testcase 8.4.1.2 | F | 6.1.0 | 6.2.0 | R5s070056 |
| RP-35 | RP-070108 | 1990 | | Cleaning of UE capability check procedure and band PICS | F | 6.1.0 | 6.2.0 | R5s070042 |
| RP-35 | RP-070109 | 1991 | | Correction to remove dependency on px_CipheringOnOff in L2 test cases | F | 6.1.0 | 6.2.0 | R5s070055 |
| RP-35 | RP-070110 | 1992 | | Correction to HSDPA testcase 8.2.4.36 | F | 6.1.0 | 6.2.0 | R5s070060 |
| RP-35 | RP-070099 | 1993 | | Addition of GCF WI 25 RRC test case 8.2.3.36 to HSU_ENH_r6 ATS V6.1.0. | B | 6.1.0 | 6.2.0 | R5s070062 |
| RP-35 | RP-070099 | 1994 | | Addition of GCF WI-25 EDCH RRC test case 8.2.2.46 | B | 6.1.0 | 6.2.0 | R5s070064 |

| Meet-ing | TSG doc | CR | Rev | Subject | Cat | Old vers | New vers | WG doc |
|---|---|---|---|---|---|---|---|---|
| RP-35 | RP-070109 | 1995 | | Correction to RLC Test case 7.2.3.35 | F | 6.1.0 | 6.2.0 | R5s070058 |

# History

| Document history | | |
|---|---|---|
| V6.0.0 | October 2006 | Publication |
| V6.1.0 | December 2006 | Publication |
| V6.2.0 | March 2007 | Publication |
| | | |
| | | |