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Technical Specification

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
Conformance testing for the Digital Mobile Radio (DMR);
Part 2: Test Suite Structure and
Test Purposes (TSS&TP) specification**

ETSI

Reference

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

The present document is part 2 of a multi-part deliverable covering the Electromagnetic compatibility and Radio spectrum Matters (ERM); Conformance testing for the Digital Mobile Radio (DMR), as identified below:

Part 1:   "Protocol Implementation Conformance Statement (PICS) proforma";

Part 2:   "Test Suite Structure and Test Purposes (TSS&TP) specification";

Part 3:   "Abstract Test Suite (ATS)".

1 Scope

The present document contains the Test Suite Structure (TSS) and Test Purposes (TP) to test the ERM DMR Call Control Layer (CCL) and Data Link Layer (DLL).

The objective of the present document is to provide a basis for conformance tests for DMR equipment giving a high probability of air interface inter-operability between different manufacturers' DMR equipment.

The ISO standard for the methodology of conformance testing, ISO/IEC 9646-1 [7], the ETSI rules for conformance testing, ETS 300 406 [6], are used as a basis for the test methodology.

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 and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

[1] ETSI TS 102 361-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Digital Mobile Radio (DMR) Systems; Part 1: DMR Air Interface (AI) protocol".

[2] ETSI TS 102 361-2: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Digital Mobile Radio (DMR) Systems; Part 2: DMR voice and generic services and facilities".

[3] ETSI TS 102 361-3: " Electromagnetic compatibility and Radio spectrum Matters (ERM); Digital Mobile Radio (DMR) Systems; Part 3: DMR Data protocol".

[4] ETSI TS 102 361-4: " Electromagnetic compatibility and Radio spectrum Matters (ERM); Digital Mobile Radio (DMR) Systems; Part 4: DMR trunking protocol".

[5] ETSI TS 102 362-1 : "Electromagnetic compatibility and Radio spectrum Matters (ERM); Conformance testing for the Digital Mobile Radio (DMR); Part 1: Protocol Implementation Conformance Statement (PICS) proforma".

[6] ETSI ETS 300 406: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[7] ISO/IEC 9646-1 (1995): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts". (See also ITU-T Recommendation X.290 (1991).

[8] ISO/IEC 9646-7 (1995): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ISO/IEC 9646-7 [8], TS 102 361-1 [1], TS 102 361-2 [2], TS 102 361-3 [3] and TS 102 361-4 [4] apply.

3.2　Abbreviations

For the purposes of the present document, the abbreviations given in ISO/IEC 9646-1 [7], ISO/IEC 9646-7 [8], TS 102 361-1 [1], TS 102 361-2 [2], TS 102 361-3 [3], TS 102 361-4 [4] and the following apply:

AC	All Call
BC	Broadcast Call
BDA	BS Downlink Activation
BS	Base Station

NOTE:　A reference designating a fixed end device.

AUTHC	AUTHentication Check
BV	Valid Behaviour
CA	Channel Access
CACH	Common Announcement CHannel
CC	Colour Code
CCL	Call Control Layer
CD	Call Diversion
CG	Channel Grant
CHT	Call HangTime
CR	CSBK Repeating
CRC	Cyclic Redundancy Checksum (for data error detection)
CSBK	Control Signalling BlocK
DEP	Disabling/Enabling a users PTT
DLL	Data Link Layer
DM	Direct Mode
DMR	Digital Mobile Radio
EMB	EMBedded signalling
FEC	Forward Error Correction
FNS	Feature Not Supported
GC	Group Call
IC	Individual Call
IMC	Illegal MS Check
IPDC	Individual Packet Data Call
ISDM	Individual Short Data Message
IUT	Implementation Under Test
IVC	Individual Voice Call
MRC	MS Radio Check
MS	Mobile Station

NOTE:　A reference designating a mobile or portable radio.

OACSU	Off Air Call SetUp
OVCM	Open Voice Channel Mode
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
PS	Power Save
RA	Random Access
REG	REGistration
RM	Repeater Mode
SDP	Short Data Polling
ST	Slot Type
SYNC	SYNChronization
TACT	TDMA Access Channel Type
TI	TImer
TP	Test Purposes
TPDC	Talkgroup Packet Data Call
TSCC	Trunk System Control Channel
TSDM	Talkgroup Short Data Message
TSPC	Trunk System Payload Channel
TSS	Test Suite Structure

TT	Traffic Timing
TVC	Talkgroup Voice Call
UC	Unaddressed voice Call
VCR	Voice Call Repeating

4 Test Suite Structure (TSS)

4.1 TSS overview

Figure 1 shows the DMR Test Suite Structure (TSS) including its subgroups defined for the conformance testing.

Group	Protocol Layer/Chanel Type	Service and Facilities	Sub-Function
BS			
	CCL		
		BS Downlink Activation	MS Initiating
		Voice Call Repeating	MS Initiating
		Voice Call Hangtime	MS Initiating
		CSBK Repeating	MS Initiating
		BS Downlink Deactivation	MS Initiating
		All Call Voice	MS Initiating
		Broadcast Call Voice	MS Initiating
	TSCC		
		TSCC Acquisition Authorisation	MS Initiating
		MS Registration	MS Initiating
		Power Save	MS Initiating
		MS Authentication	MS Initiating
		MS Stun	MS_Initiating
		Individual Voice Call	MS Initiating
		Talkgroup Voice Call	MS Initiating
		Individual Packet Data Call	MS Initiating
		Talkgroup Packet Data Call	MS Initiating
		Individual Short Data Message	MS Initiating
		Talkgroup Short Data Message	MS Initiating
		Short Data Polling	MS initiating
		Status Service	MS initiating
		Call Diversion	MS initiating
	TSPC		
		MS Radio Check	MS Terminating
		Authentication Check	MS_Initiating
		Disable/Enabling users PTT	MS_Initiating
		Illegal MS Check	MS_Initiating
		Channel Grant	MS_Initiating
		Call Cancel	MS_Initiating
	DLL		
		TACT	
		Synchronization	
		TDMA Access Channel Type	
		Slot Type	
		Traffic Timing	
		Cyclic Redundancy Checksum	
		Unconfirmed Data Packet	
		Confirmed Data Packet	
		Data Call Hangtime	

Group	Protocol Layer/Chanel Type	Service and Facilities	Sub-Function
MS			
├	CCL		
	├	Generic BS Service	MS Initiating
	├	Feature Not Supported	MS Terminating
	├	Group Call	
	│ ├		MS Initiating
	│ └		MS Terminating
	├	Individual Call	
	│ ├		MS Initiating
	│ └		MS Terminating
	├	Unaddressed Voice Call	MS Initiating
	├	All Call Voice	MS Initiating
	├	Broadcast Call Voice	MS Initiating
	├	Open Voice Channel Mode	
	│ ├		MS Initiating
	│ └		MS Terminating
	└	Transmit timeout	MS Initiating
├	TSCC		
	├	TSCC Acquisition Authorisation	MS Initiating
	├	Random Access	MS Initiating
	├	MS Registration	MS Initiating
	├	MS Authentication	MS Initiating
	├	MS Stun	MS Initiating
	├	Individual Voice Call	
	│ ├		MS Initiating
	│ └		MS Terminating
	├	Talkgroup Voice Call	MS Initiating
	├	Individual Packet Data Call	
	│ ├		MS Initiating
	│ └		MS Terminating
	├	Talkgroup Packet Data Call	MS Initiating
	├	Individual Short Data Message	
	│ ├		MS Initiating
	│ └		MS Terminating
	├	Talkgroup Short Data Message	MS Initiating
	├	Short Data Polling	
	│ ├		MS Initiating
	│ └		MS Terminating
	├	Status Call Service	
	│ ├		MS Initiating
	│ └		MS Terminating
	└	Call Diversion	MS initiating
├	TSPC		
	├	MS Radio Check	MS Terminating
	├	Authentication Check	MS_Initiating
	├	Disable/Enabling users PTT	MS_Initiating
	├	Illegal MS Check	MS_Initiating
	├	Channel Grant	MS_Initiating
	└	Call Cancel	MS_Initiating

Group	Protocol Layer/Chanel Type	Service and Facilities	Sub-Function
└	DLL		
	├	Synchronization	
	├	Slot Type	
	├	Embedded Signalling	
	├	Channel Access	
		├	Direct Mode
		└	Repeater Mode
	├	Cyclic Redundancy Checksum	
	├	IP Unconfirmed packet data	MS_Initiating
	├	IP Confirmed packet data tx	
			MS_Initiating
			MS_Terminating
	├	IP Response data tx	MS_Initiating
	├	SD Unconfirmed packet data	MS_Initiating
	├	SD Confirmed packet data	MS_Initiating
			MS_Terminating
	└	SD Response data tx	MS_Initiating

Figure 1: TSS for Digital Mobile Radio

The test suite is structured as a tree with the root defined as DMR-BS or DMR-MS, representing the two protocol test groups "DMR for BS" or "DMR for MS".

4.2   Test groups

The test groups are organized in four levels. The first level defines two entity groups, one for BS and one for MS. The second level defines two protocol groups, one for CCL and one for DLL. In the third and fourth layer, the test groups are created differently based on the second layer respectively (refer to clauses 5.1.2 and 5.1.3).

4.2.1   Protocol groups

4.2.1.1   Call Control Layer (CCL)

The Call Control Layer (CCL) provides the following services and facilities:

- generic BS services;

- feature not supported signalling;

- individual call;

- group call;

- unaddressed voice call service;

- all call service;

- broadcast voice call service;

- open voice channel call service;

- transmit timeout.

4.2.1.2　Data Link Layer (DLL)

Data Link Layer (DLL) provides the following main functions:

- channel coding (FEC, CRC);

- interleaving, de-interleaving and bit ordering;

- acknowledgement and retry mechanism;

- media access control and channel management;

- framing, superframe building and synchronization;

- burst and parameter definition;

- link addressing (source and/or destination);

- interfacing of voice applications (vocoder data) with the physical layer;

- data bearer services;

- exchanging signalling and/or user data with the CCL.

The present document focuses on the DLL layer signalling and the related PDUs. Framing, interleaving, and corresponding lower level DLL functions are not tested.

4.2.2　Main test types

4.2.2.1　Valid Behaviour (BV) tests

This test group shall verify that the IUT reacts in conformity with the base specifications after receipt or exchange of valid Protocol Data Units (PDUs). Valid PDUs means that the exchange of messages and the content of the exchanged messages are considered as valid.

4.2.2.2　Timer (TI) tests

This test group shall verify that the IUT reacts in conformity with the present document after expiry of a defined timer or exceeding of a defined time constraint.

4.2.2.3　Cyclic Redundancy Checksum (CRC) tests

This test group shall verify that the IUT applies the required CRC specified for the different PDUs in the present document.

5   CCL Test Purposes (TP)

5.1   Introduction

There are a total of 81 test purposes.

5.1.1   TP definition conventions

The TPs are defined by the rules shown in table 1.

Table 1: TP definition rules

TP definition item	Item description
TP Id	The TP Id is a unique identifier formed according to the TP naming conventions defined in clause 5.1.2.
Reference	A pointer to the base specification requirement from which the TP is derived (specification reference, clause and paragraph).
Condition	The IUT's state to which the TP is applied.
Test purpose	The events that provoke the expected behaviour given the initial condition and the events that are expected from the IUT pursuant to the base specification.

5.1.2   CCL TP naming conventions

The identifier of the TP is built according to table 2.

Table 2: TP naming convention for CCL

Identifier:	TP/<st>/<sl>/<sg>/<fm >/<x>-<nnn>		
	<st> = side type	BS	Base Station
		MS	Mobile Station
	<sl> = stack layer	CCL	Call Control Layer
		DLL	Data Link Layer
	<sg> = service group	BA	BS Downlink Activation
		VCR	Voice Call Repeating
		CHT	Voice Call Hangtime
		CR	CSBK Repeating
		BDA	BS Downlink Deactivation
		FNS	Feature Not Supported
		IC	Individual Call
		GC	Group Call
		UC	Unaddressed Voice Call
		AC	All Call Voice
		BC	Broadcast Call Voice
		OVCM	Open Voice Channel Mode
	<fm> = functional module	MS_INI	MS Initiating
		MS_TER	MS Terminating
	x = type of testing	BV	Valid Behaviour Tests
		TI	Timer and Constraints Tests
		CRC	Checksum calculation Tests
	<nnn> = sequential number	(000 etc.)	

EXAMPLE: TP/BS/CCL/BA/MS_INI/BV-000 is the first test purpose for the valid behaviour testing of the MS_INItiated BS activation procedure of the Call Control Layer (CCL) at the BS side.

5.1.3   DLL TP naming conventions

The identifier of the TP is built according to table 3.

Table 3: TP naming convention for DLL

Identifier:	TP/<st>/<sl>/<sg>/<fm>/<x>-<nnn>		
	<st> = side type	BS	Base Station
		MS	Mobile Station
	<sl> = stack layer	CCL	Call Control Layer
		DLL	Data Link Layer
	<sg> = service group	CA	Channel Access
		SYNC	Synchronization
		ST	Slot Type
		EMB	Embedded Signalling
		TACT	TDMA Access Channel Type
		TT	Traffic Timing
		DHT	Data Hang Time
		IPCPD	IP Confirmed Data Packet
		IPUPD	IP Unconfirmed Data Packet
		IPRPD	IP Response Packet Data
		SDCPD	Short Data Confirmed Packet Data
		SDUPD	Short Data Unconfirmed Packet Data
		SDRPD	Short Data Response Packet Data
	<fm> = functional module	DM	Direct Mode(Peer to Peer Mode)
		RM	Repeater Mode
	x = type of testing	BV	Valid Behaviour Tests
		TI	Timer Tests
		CRC	Checksum calculation Tests
	<nnn> = sequential number	(000 etc.)	

EXAMPLE: TP/MS/DLL/CA/DM/BV-001 is the second test purpose for the valid behaviour testing of the channel accessing procedure in direct mode of the Data Link layer at the MS side.

5.1.4　TSCC TP naming conventions

The identifier of the TP is built according to table 4.

Table 4: TP naming convention for TSCC

Identifier:	TP/<st>/<ct>/<sg>/<fm>/<x>-<nnn>		
	<st> = side type	BS	Base Station
		MS	Mobile Station
	<ct> = channel type	TSCC	Trunking System Control Channel
		TSPC	Trunking System Payload Channel
	<sg> = service group	ACQUI	TSCC Acquisition Authorisation
		RA	Rand Access
		REG	MS Registration
		AUTH	MS Authentication
		STUN	MS Stun
		PS	Power Save
		IVC	Individual Voice Call
		TVC	Talkgroup Voice Call
		IPDC	Individual Packet Data Call
		TPDC	TalkgroupPacket Data Call
		ISDM	Individual Short Data Message
		TSDM	Talkgroup Short Data Message
		SDP	Short Data Polling
		STAT	Status Service
		DIV	Call Diversion
	<fm> = functional module	MS_INI	MS Initiating
		MS_TER	MS Terminating
	x　　= type of testing	BV	Valid Behaviour Tests
		TI	Timer Tests
	<nnn> = sequential number	(000 etc.)	

EXAMPLE:　　TP/MS/TSCC/RA/ MS_INI/BV-001 is the second test purpose for the valid behaviour testing of MS_INItiated random access procedure in the Control Channel at the MS side.

5.1.5　TSPC TP naming conventions

The identifier of the TP is built according to table 5.

Table 5: TP naming convention for TSPC

Identifier:	TP/<st>/<ct>/<sg>/<fm>/<x>-<nnn>		
	<st> = side type	BS	Base Station
		MS	Mobile Station
	<ct> = channel type	TSCC	Trunking System Control Channel
		TSPC	Trunking System Payload Channel
	<sg> = service group	MRC	MS Radio Check
		AUTHC	Authentication Check
		DEP	Disable/Enabling users PTT
		IMC	Illegal MS Check
		CG	Channel Grant
		CC	Call Cancel
	<fm> = functional module	MS_INI	MS Initiating
		MS_TER	MS Terminating
	x　　= type of testing	BV	Valid Behaviour Tests
		TI	Timer Tests
	<nnn> = sequential number	(000 etc.)	

EXAMPLE:　　TP/BS/TSPC/CC/ MS_INI/BV-001 is the second test purpose for the valid behaviour testing of MS_INItiated call cancel procedure in the Payload Channel at the BS side.

5.1.6   TP selection criteria name convention

The mapping relationship between selection criteria of the TP and answer items of PICS is listed in table 6.

Table 6: TP Selection Criteria name convention

Identifier:	Selection Criteria in TP	Answer Items in PICS (see note)	Criteria
1	PIC_BA_BS	A.58/1 [5]	BS Downlink Activation of BS
2	PIC_BA_MS	A.8/1 [5]	BS Downlink Activation from MS
3	PIC_BDA_BS	A.58/2 [5]	BS Downlink Deactivation
4	PIC_FNS	A.8/5 [5]	MS Feature Not Supported
5	PIC_LT	A.8/2 [5]	MS Late Entry
6	PIC_IC	A.8/6 [5]	Individual Call
7	PIC_GC	A.8/7 [5]	Group Call
8	PIC_UC	A.8/8 [5]	Unaddressed Voice Call
9	PIC_AC_BS	A.59/4 [5]	All Call of BS
10	PIC_AC_MS	A.8/9 [5]	All Call of MS
11	PIC_BC_BS	A.59/5 [5]	Broadcast Call of BS
12	PIC_BC_MS	A.8/10 [5]	Broadcast Call of MS
13	PIC_OVCM	A.8/11 [5]	OVCM
14	PIC_PRE_CK	A.13/2 [5]	Presence Check (OACSU)
15	PIC_2FRQ	A.57/2 [5]	Two frequency BS
16	PIC_RM_BS	A.56/1 [5]	Repeater mode of BS
17	PIC_RM_MS	A.5/2 [5]	Repeater mode of MS
18	PIC_DM	A.4/1 [5] OR A.5/1 [5]	Direct mode
19	PIC_POLITE	A.42/1 [5] OR A.42/2 [5]	Channel access policy
20	PIC_POLITE_TO_ALL	A.42/1 [5]	Channel access policy - Polite to all
21	PIC_POLITE_TO_CC	A.42/2 [5]	Channel access policy - Polite to own Colour Code
22	PIC_IMPOLITE	A.42/3 [5]	Channel access policy - Impolite
23	PIC_TT	A.8/12 [5]	MS Transmit timeout
24	PIC_VCR_BS	A.59/1 [5]	Voice call repeating of BS
25	PIC_VHT_BS	A.59/2 [5]	Voice call hangtime of BS
26	PIC_CSBK_BS	A.59/3 [5]	CSBK repeating of BS
27	PIC_VHT_BS	A.80/12 [5]	Data Call Hangtime of BS
28	PIC_BS	A.3/2 [5]	Role BS
29	PIC_TS	A.2/3 [5]	Tier 3 (Trunk mode)
30	PIC_TS_AUTH	A.90/1 [5]	Authentication by TS
31	PIC_TS_PWS	A.79/6 [5]	Powersave by TS
32	PIC_TS_STRV	A.90/2 [5]	Stun/Revive by TS
33	PIC_TS_VOS	A.81/2 [5]	TS voice services
34	PIC_TS_CD	A.90/3 [5]	Call diversion by TS
35	PIC_TS_MPV	A.83/3 [5]	Multi-part voice call setup TS
36	PIC_TS_SUP	A.90/4 [5]	Supplementary data transfer TS
37	PIC_TS_TCS	A.83/1 [5]	Talkgroup voice call service TS
38	PIC_TS_PDS	A.81/3 [5]	Packet data call service TS
39	PIC_TS_PTS	A.86/2 [5]	Packet data talkgroup call service, TS
40	PIC_TS_MPP	A86/3 [5]	Multi-part data packet call setup TS
41	PIC_TS_SDM	A.85/2 [5]	Short data message service TS
42	PIC_TS_SDP	A.85/3 [5]	Short data polling service TS
43	PIC_TS_SCS	A.85/4 [5]	Status call service TS
44	PIC_TS_PVR	A.95/1 [5]	Payload channel voice radio check TS
45	PIC_TS_PDR	A.96/1 [5]	Payload channel packet data radio check TS
46	PIC_TS_PVA	A.95/2 [5]	Payload channel voice authentication check TS
47	PIC_TS_PDA	A.96/2 [5]	Payload channel packet data authentication check TS
48	PIC_TS_PVDE	A.95/3 [5]	Payload channel voice disable/enable PTT TS
49	PIC_TS_PDDE	A.96/3 [5]	Payload channel packet data disable/enable data transmission TS

Identifier:	Selection Criteria in TP	Answer Items in PICS (see note)	Criteria
50	PIC_TS_PVSC	A.95/4 [5]	Payload channel voice swap payload channel TS
51	PIC_TS_PDSC	A.96/4 [5]	Payload channel packet data swap payload channel TS
50	PIC_TS_PVRM	A.95/5 [5]	Payload channel voice remove MS from channel, TS
51	PIC_TS_PDRM	A.96/5 [5]	Payload channel packet data remove MS from channel, TS
52	PIC_TS_PVCC	A.95/6 [5]	Payload channel voice cancel call, TS
53	PIC_TS_PDCC	A.96/6 [5]	Payload channel packet data cancel call, TS
54	PIC_MS	A.3/1 [5]	Role MS
55	PIC_MT_IC	A.19/2	Individual voice call, trunked MS
56	PIC_MT_RG	A.18/4	Explicit registration procedure, trunked MS
57	PIC_MT_AU	A.27/1	Authentication, trunked MS
58	PIC_MT_SR	A.27/2	Stun/Revive, trunked MS
59	PIC_MT_ICM	A.21/2	Multi-part setup for Individual call. Trunked MS
60	PIC_MT_TC	A.19/1	Talkgroup voice call, trunked MS
61	PIC_MT_TMC	A.20/2	Talkgroup multi-part voice setup, trunked MS
62	PIC_MT_PDS	A.22/1	Packet data service, trunked MS
63	PIC_MT_ MPP	A.23/3	Multi-part packet data call setup, trunked MS
64	PIC_MT_TPD	A.23/2	Talkgroup packet data, trunked MS
65	PIC_MT_SDM	A.22/2	Short data message, trunked MS
66	PIC_MT_SDP	A.22/3	Short data polling, trunked MS
67	PIC_MT_SCS	A.22/4	Status call service, trunked MS
68	PIC_MT_CD	A.27/3	Call diversion, trunked MS
69	PIC_MT_PRV	A.29/1	Payload channel radio check, voice, trunked MS
70	PIC_MT_PRD	A.30/1	Payload channel radio check, packet data, trunked MS
71	PIC_MT_PAV	A.29/2	Payload channel authentication check, voice, trunked MS
72	PIC_MT_PAD	A.30/2	Payload channel authentication check, packet data, trunked MS
73	PIC_MT_PVDE	A.29/3	Payload channel disable/enable PTT, voice, trunked MS
74	PIC_MT_PDDE	A.30/3	Payload channel disable/enable data transmission, trunked MS
75	PIC_MT_PVSC	A.29/4	Payload channel voice swap channel, trunked MS
76	PIC_MT_PDSC	A.30/4	Payload channel data swap channel, trunked MS
77	PIC_MT_PVRM	A.29/7	Payload channel voice remove MS from channel, trunked MS
78	PIC_MT_PDRM	A.30/7	Payload channel data remove MS from channel, trunked MS
79	PIC_MT_PVCC	A.29/6	Payload channel voice clear channel, trunked MS
80	PIC_MT_PDCC	A.30/6	Payload channel data clear channel, trunked MS
81	PIC_MS_UPD	A.46/3	Unconfirmed packet data DLL bearer service, MS
82	PIC_MS_UR12	A.49/1	Unconfirmed 1/2 rate code data continuation, MS
83	PIC_MS_UR34	A.49/2	Unconfirmed 3/4 rate code data continuation, MS
84	PIC_MS_CPD	A.46/4	Confirmed packet data DLL bearer service, MS
85	PIC_MS_CR12	A.47/1	Confirmed 1/2 rate code data continuation, MS

Identifier:	Selection Criteria in TP	Answer Items in PICS (see note)	Criteria
86	PIC_MS_CR34	A.47/2	Confirmed 3/4 rate code data continuation, MS
87	PIC_MS_CSW	A.48/2	Sliding window protocol supported, MS
88	PIC_MS_SDD	A.16/3	Short data defined data, MS
89	PIC_MS_SRD	A.16/1	Short data, raw data, MS
90	PIC_MS_SSP	A.16/2	Short data, Status/precoded data, MS
91	PIC_MS_SD	A.15/2	Short data, MS
92	PIC_TS_VEM	A.84/1	Emergency voice call service, TS
93	PIC_TS_PEM	A.87/1	Emergency packet data service, TS
94	PIC_MT_VEM	A.19/6	Emergency voice call, trunked MS
95	PIC_MT_PEM	A.24/1	Emergency packet data call, trunked MS
96	PIC_MT_VCB	A.19/7	Voice call back service, trunked MS
97	PIC_TS_SMR	A.88/1	Short data message radio check, TS
98	PIC_TS_SPR	A.89/1	Short data polling radio check, TS
NOTE: An example of the notation used: A.5/4 [5] is a reference to the answer of item 4 in table A.5, in TS 102 362-1 [5].			

5.2 Test purposes for Base Station (BS)

5.2.1 Call Control Layer (CCL)

5.2.1.1 BS Downlink Activation (BDA)

5.2.1.1.1 MS Initiating (MS_INI)

TP ID	TP/BS/CCL/BA/MS_INI/BV-000
Reference	Clause 5.1.1.1.3 of TS 102 361-2 [2]
Selection criteria	PIC_BA_BS and PIC_RM_BS
Initial condition	The IUT is in BS_Hibernating state
Test purpose	Check, that after receiving a BS_Dwn_Act PDU, the IUT starts to send Idle messages.

5.2.1.2 Voice Call Repeating (VCR)

5.2.1.2.1 MS Initiating (MS_INI)

TP ID	TP/BS/CCL/VCR/MS_INI/BV-000
Reference	Clause 5.1.1.2 of TS 102 361-2 [2]
Selection criteria	PIC_RM_BS and PIC_VCR_BS
Initial condition	The IUT is in Channel_Hangtime state
Test purpose	Check, that after receiving a Grp_V_Ch_Usr PDU, the IUT repeats this PDU.

TP ID	TP/BS/CCL/VCR/MS_INI/BV-001
Reference	Clause 5.1.1.2 of TS 102 361-2 [2]
Selection criteria	PIC_RM_BS and PIC_VCR_BS
Initial condition	The IUT is in Channel_Hangtime state
Test purpose	Check, that after receiving a UU_V_Ch_Usr PDU, the IUT repeats this PDU.

5.2.1.3   Voice Call Hangtime (CHT)

5.2.1.3.1   MS Initiating (MS_INI)

TP ID	TP/BS/CCL/CHT/MS_INI/TI-000
Reference	Clauses 5.1.1.3 of TS 102 361-2 [2], 5.2.1.4 and F.1 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS and PIC_VHT_BS
Initial condition	The IUT is in Repeating_Slot_1 state and timer T_CallHt is not equal 0
Test purpose	Check, that after receiving Grp_V_Ch_Usr PDU(Voice_Terminator_with_LC), the IUT keeps repeating Grp_V_Ch_Usr(Voice_Terminator_with_LC) PDU until T_CallHt expires.

TP ID	TP/BS/CCL/CHT/MS_INI/TI-001
Reference	Clauses 5.1.1.3 of TS 102 361-2 [2], 5.2.1.4 and F.1 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS and PIC_VHT_BS
Initial condition	The IUT is in Repeating_Slot_1 state, timer T_CallHt is not equal 0 and timer T_MSInactiv > T_CallHt, and T_CallHt starts
Test purpose	Check, that after expiry of T_CallHt, IUT starts to send idle messages.

TP ID	TP/BS/CCL/CHT/MS_INI/TI-002
Reference	Clauses 5.1.1.3 of TS 102 361-2 [2], 5.2.1.4and F.1 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS and PIC_VHT_BS
Initial condition	The IUT is in Repeating_Slot_1 state, timer T_CallHt is not equal 0 and timer T_MSInactiv > T_CallHt, and T_CallHt starts
Test purpose	Check, that after expiry of T_CallHt, IUT keeps sending idle messages until T_MSInactiv expires.

TP ID	TP/BS/CCL/CHT/MS_INI/TI-003
Reference	Clauses 5.1.1.3 of TS 102 361-2 [2] and 5.2.1.4 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS and PIC_VHT_BS
Initial condition	The IUT is in Repeating_Slot_1 state and timer T_CallHt is not equal 0
Test purpose	Check, that after receiving UU_V_Ch_Usr PDU(Voice_Terminator_with_LC), the IUT keeps repeating UU_V_Ch_Usr PDU(Voice_Terminator_with_LC) until T_CallHt expires.

TP ID	TP/BS/CCL/CHT/MS_INI/TI-004
Reference	Clauses 5.1.1.3 of TS 102 361-2 [2] and 5.2.1.4 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS and PIC_VHT_BS
Initial condition	The IUT is in Repeating_Slot_1 state, timer T_CallHt is not equal 0 and timer T_MSInactiv > T_CallHt, and T_CallHt starts.
Test purpose	Check, that after expiry of T_CallHt, IUT starts to send idle messages.

TP ID	TP/BS/CCL/CHT/MS_INI/TI-005
Reference	Clauses 5.1.1.3 of TS 102 361-2 [2] and 5.2.1.4 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS and PIC_VHT_BS
Initial condition	The IUT is in Repeating_Slot_1 state, timer T_CallHt is not equal 0 and timer T_MSInactiv > T_CallHt, and T_CallHt starts.
Test purpose	Check, that after expiry of T_CallHt, IUT keeps sending idle messages until T_MSInactiv expires.

5.2.1.4 CSBK Repeating (CR)

5.2.1.4.1 MS Initiating (MS_INI)

TP ID	TP/BS/CCL/CR/MS_INI/BV-000
Reference	Clause 5.1.1.4 of TS 102 361-2 [2]
Selection criteria	PIC_RM_BS and PIC_CSBK_BS
Initial condition	The IUT is in Channel_Hangtime state
Test purpose	Check, that after receiving a UU_V_Req PDU, the IUT repeats this PDU.

TP ID	TP/BS/CCL/CR/MS_INI/BV-001
Reference	Clause 5.1.1.4 of TS 102 361-2 [2]
Selection criteria	PIC_RM_BS and PIC_CSBK_BS
Initial condition	The IUT is in Channel_Hangtime state
Test purpose	Check, that after receiving a UU_Ans_Rsp PDU, the IUT repeats this PDU.

TP ID	TP/BS/CCL/CR/MS_INI/BV-002
Reference	Clause 5.1.1.4 of TS 102 361-2 [2]
Selection criteria	PIC_RM_BS and PIC_CSBK_BS
Initial condition	The IUT is in Channel_Hangtime state
Test purpose	Check, that after receiving a NACK_Rsp PDU, the IUT repeats this PDU.

5.2.1.5 BS Downlink Deactivation (BDA)

5.2.1.5.1 MS Initiating (MS_INI)

TP ID	TP/BS/CCL/BDA/MS_INI/TI-000
Reference	Clause 5.1.1.5 of TS 102 361-2 [2]
Selection criteria	PIC_BDA_BS and PIC_RM_BS
Initial condition	The IUT is in BS_Hibernating state
Test purpose	Check, that upon receiving a BS_Dwn_Act PDU, BS keeps sending the idle messages until T_MSInactiv expires.

TP ID	TP/BS/CCL/BDA/MS_INI/TI-001
Reference	Clause 5.1.1.5 of TS 102 361-2 [2]
Selection criteria	PIC_BDA_BS and PIC_RM_BS
Initial condition	The IUT is in BS_Hibernating state
Test purpose	Check, that upon receiving a BS_Dwn_Act PDU, BS keeps sending the idle messages until T_MSInactiv expires, then BS stops sending any burst.

5.2.1.6 All Call Voice (AC)

5.2.1.6.1 MS Initiating (MS_INI)

TP ID	TP/BS/CCL/AC/MS_INI/BV-000
Reference	Clause 5.3.2.3.1 of TS 102 361-2 [2]
Selection criteria	PIC_RM_BS and PIC_AC_BS
Initial condition	The IUT is in Repeating_Slot_1 state and timer T_CallHt is not equal 0
Test purpose	Check, that after receiving Grp_V_Ch_Usr PDU(Voice_Terminator_with_LC) of an All Call Voice call, the IUT repeats this PDU once and then starts to send idle messages.

5.2.1.7   Broadcast Call Voice (BC)

5.2.1.7.1   MS Initiating (MS_INI)

TP ID	TP/BS/CCL/BC/MS_INI/BV-000
Reference	Clause 5.3.3.3.2 of TS 102 361-2 [2]
Selection criteria	PIC_RM_BS and PIC_BC_BS
Initial condition	The IUT is in Repeating_Slot_1 state and timer T_CallHt is not equal 0
Test purpose	Check, that after receiving Grp_V_Ch_Usr PDU(Voice_Terminator_with_LC) of a Broadcast Call Voice call, the IUT repeats this PDU once and then starts to send idle messages.

5.2.2   Trunking System Control Channel (TSCC)

5.2.2.1   TSCC Acquisition Authorisation (ACQUI)

5.2.2.1.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSCC/ACQUI/MS_INI/BV-000
Reference	Clause 6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check that the System Identity Code can be derived from every Aloha PDU.

5.2.2.2   MS Registration (REG)

5.2.2.2.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSCC/REG/MS_INI/BV-000
Reference	Clause 6.4.4 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access, requesting registration (Reg = 1) in the Aloha.
Test purpose	Check, that after the register request C_RAND PDU is received, IUT sends out one of the following valid response: C_ACKD(Reason=Reg_Accepted), C_NACKD(Reason=Reg_Refused), or C_NACKD(Reason=Reg_Denied).
NOTE: No authentication is needed for MS registration.	

TP ID	TP/BS/TSCC/REG/MS_INI/BV-001
Reference	Clause 6.4.4.1.5 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_AUTH
Initial condition	The IUT is transmitting Aloha PDUs to invite random access, requesting registration (Reg = 1) in the Aloha.
Test purpose	Check, that after the register request C_RAND PDU is received, the IUT sends out C_AHOY PDU for authentication challenge.
NOTE: Authentication is needed for MS registration.	

TP ID	TP/BS/TSCC/REG/MS_INI/BV-002
Reference	Clause 6.4.4.1.5 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_AUTH
Initial condition	The IUT is transmitting Aloha PDUs to invite random access, requesting registration (Reg = 1) in the Aloha.
Test purpose	Check, that after the register request C_RAND PDU is received, the IUT sends out C_AHOY to the MS for authentication challenge, then C_ACKD is sent out when a valid authentication response is received.
NOTE: Authentication is needed for MS registration.	

TP ID	TP/BS/TSCC/REG/MS_INI/BV-003
Reference	Clause 6.4.4.1.5 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_AUTH
Initial condition	The IUT is transmitting Aloha PDUs to invite random access, requesting registration (Reg = 1) in the Aloha.
Test purpose	Check, that after the register request C_RAND PDU is received, the IUT sends out C_AHOY to the MS for authentication challenge, then C_NACKD is sent out when an invalid authentication response is received.
NOTE:	Authentication is needed for MS registration.

5.2.2.3   POWER SAVE (PS)

5.2.2.3.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSCC/PS/MS_INI/BV-000
Reference	Clause 6.4.7 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PWS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access, requesting registration (Reg = 1) in the Aloha.
Test purpose	Check, that after the registration request with Service Options information field PowerSaveRQ=1 is received, IUT sends out C_ACKD with the PowerSave_Offset in the range 0 to 1.
NOTE:	No authentication is needed for MS registration.

TP ID	TP/BS/TSCC/PS/MS_INI/BV-001
Reference	Clause 6.4.7 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PWS
Initial condition	The IUT is transmitting Aloha PDU to invite random access, requesting registration (Reg = 1) in the Aloha.
Test purpose	Check, that after the register request with PowerSaveRQ=2 is received, IUT sends out C_ACKD with the PowerSave_Offset in the range 0 to 3.
NOTE:	No authentication is needed for MS registration.

5.2.2.4   MS Authentication (AUTH)

5.2.2.4.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSCC/AUTH/MS_INI/BV-000
Reference	Clause 6.4.8 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_AUTH
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that C_AHOY for authentication poll sent out by IUT is valid.
NOTE:	Requires an Upper Tester make the IUT send out C_AHOY PDU as an authentication poll.

5.2.2.5   MS Stun (STUN)

5.2.2.5.1   MS Initiating (TS_INI)

TP ID	TP/BS/TSCC/STUN/MS_INI/BV-000
Reference	Clause 6.4.9.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_STRV
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that the stun C_AHOY PDU sent out by the IUT is valid.
NOTE:	Requires an Upper Tester to make the IUT send out the stun C_AHOY.

TP ID	TP/BS/TSCC/STUN/MS_INI/BV-001
Reference	Clause 6.4.9.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_STRV
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that the revive C_AHOY PDU sent out by IUT is valid.
NOTE:	Requires an Upper Tester to make the IUT send out the revive C_AHOY.

TP ID	TP/BS/TSCC/STUN/MS_INI/BV-002
Reference	Clause 6.4.9.2 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_STRV and PIC_TS_AUTH
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that the IUT first sends out the stun C_AHOY, and then transmits the challenge response C_ACKD after a challenge C_ACKVIT PDU is received.
NOTE:	Requires an Upper Tester to make the IUT send out the stun C_AHOY.

5.2.2.6   Individual Voice Call (IVC)

5.2.2.6.1   MS Initiating (TS_INI)

TP ID	TP/BS/TSCC/IVC/MS_INI/BV-000
Reference	Clause 6.6.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and the payload channel is idle.
Test purpose	Check, that after an individual voice call request to an individual MS address is received, the IUT sends out C_AHOY to the called MS for the availability check, after C_ACKU(Reason=Message_Accepted) is received from called MS, the IUT sends out a PV_GRANT PDU.

TP ID	TP/BS/TSCC/IVC/MS_INI/BV-001
Reference	Clause 6.6.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and the payload channel is idle.
Test purpose	Check, that after an individual voice call request to an individual MS is received, the IUT sends out C_AHOY to the called MS for the availability check, after C_ACKU(Reason=Callback) is received from called MS, IUT sends out C_ACKD to the calling MS with the echoed reason.

TP ID	TP/BS/TSCC/IVC/MS_INI/BV-002
Reference	Clause 6.6.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and the payload channel is idle.
Test purpose	Check, that after an individual voice call request to an individual MS address is received, the IUT sends out C_AHOY to the called MS for the availability check, after C_NACKU is received from called MS, IUT sends out C_NACKD to the calling MS with the echoed reason.

TP ID	TP/BS/TSCC/IVC/MS_INI/BV-003
Reference	Clause 6.6.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS and PIC_TS_VEM
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and the payload channel is idle.
Test purpose	Check, that after an emergency individual voice call request to an individual MS address is received, IUT sends out C_AHOY to the called MS for the availability check, after C_ACKU(Reason=Message_Accepted) is received from called MS, IUT sends out PV_GRANT.

TP ID	TP/BS/TSCC/IVC/MS_INI/BV-004
Reference	Clause 6.6.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS and PIC_TS_CD
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and the voice call to the called MS is diverted.
Test purpose	Check, that after individual voice call request to an individual MS address is received, IUT sends out UDT header block with Source address=DIVERTI.

TP ID	TP/BS/TSCC/IVC/MS_INI/BV-005
Reference	Clause 6.6.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_MPV
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after an individual voice call request to a PSTN address is received, IUT sends out C_AHOY with the Gateway_Address = PSTNI.

TP ID	TP/BS/TSCC/IVC/MS_INI/BV-006
Reference	Clause 6.6.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_MPV
Initial condition	The IUT is transmitting Aloha PDU to invite random access.
Test purpose	Check, that after an individual voice call request to PABX address is received, IUT sends out C_AHOY with the Gateway_Address = PABXI.

TP ID	TP/BS/TSCC/IVC/MS_INI/BV-007
Reference	Clause 6.6.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SUP
Initial condition	The IUT is transmitting Aloha PDU to invite random access.
Test purpose	Check, that after an individual voice call request to an individual MS address with Service_Options field SUPED_SV equals 1 is received, IUT sends out C_AHOY with the Gateway_Address = SUPLI.

5.2.2.7 Talkgroup Voice Call (TVC)

5.2.2.7.1 MS Initiating (MS_INI)

TP ID	TP/BS/TSCC/TVC/MS_INI/BV-000
Reference	Clause 6.6.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_TCS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and the payload channel is idle.
Test purpose	Check, that after a talkgroup voice call request with a Service_Options field value (BCAST_SV=0) to a talkgroup MS address is received, the IUT sends out a TV_GRANT PDU.

TP ID	TP/BS/TSCC/TVC/MS_INI/BV-001
Reference	Clause 6.6.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_TCS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and the payload channel is idle.
Test purpose	Check, that after a talkgroup voice call request with a Service_Options field value (BCAST_SV=1) to a talkgroup MS address is received, the IUT sends out BTV_GRANT PDU.

TP ID	TP/BS/TSCC/TVC/MS_INI/BV-002
Reference	Clause 6.6.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_TCS and PIC_TS_CD
Initial condition	The IUT is translating Aloha PDUs to invite random access and voice call is diverted.
Test purpose	Check, that after a talkgroup voice call request to a talkgroup MS address is received, IUT sends out UDT header with Source_Address = DIVERTI.

TP ID	TP/BS/TSCC/TVC/MS_INI/BV-003
Reference	Clause 6.6.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_TCS and PIC_TS_MPV
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after a talkgroup voice call request to a PSTN address is received, the IUT sends out C_AHOY with the Gateway_Address = PSTNI.

TP ID	TP/BS/TSCC/TVC/MS_INI/BV-004
Reference	Clause 6.6.2.1.2 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_TCS and PIC_TS_MPV
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after a talkgroup voice call request to a PABXI address is received, the IUT sends out C_AHOY with the Gateway_Address = PABXI.

TP ID	TP/BS/TSCC/TVC/MS_INI/BV-005
Reference	Clause 6.6.2.1.2 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SUP
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after a talkgroup voice call request to an individual address with Service_Options field SUPED_SV equals 1 is received, IUT sends out C_AHOY with the Gateway_Address = SUPLI.

5.2.2.8   Individual Packet Data Call (IPDC)

5.2.2.8.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSCC/IPDC/MS_INI/BV-000
Reference	Clause 6.6.3.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and the payload channel is idle.
Test purpose	Check, that after an individual packet data call request to an individual MS address is received, the IUT sends out C_AHOY to the called MS for the availability check, after C_ACKU(Reason=Message_Accept) is received from called MS, the IUT sends out a PD_GRANT PDU.

TP ID	TP/BS/TSCC/IPDC/MS_INI/BV-001
Reference	Clause 6.6.3.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and the payload channel is idle.
Test purpose	Check, that after an individual packet data call request to an individual MS address is received, the IUT sends out C_AHOY to the called MS for the availability check, after C_NACKU is received from called MS, the IUT sends out C_NACKD to the calling MS with the echoed reason.

TP ID	TP/BS/TSCC/IPDC/MS_INI/BV-002
Reference	Clause 6.6.3.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_PEM
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and the payload channel is idle.
Test purpose	Check, that after an emergency individual packet data call request to an individual MS address is received, the IUT sends out C_AHOY to the called MS for the availability check, after C_ACKU(Reason=Message_Accepted) is received from called MS, the IUT sends out PD_GRANT.

TP ID	TP/BS/TSCC/IPDC/MS_INI/BV-003
Reference	Clause 6.6.3.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_CD
Initial condition	The IUT is transmitting Aloha PDUs to invite random access, and packet data call is diverted.
Test purpose	Check, that after individual packet data call request to an individual MS address is received, the IUT sends out UDT header block with Source_Address = DIVERTI.

TP ID	TP/BS/TSCC/IPDC/MS_INI/BV-004
Reference	Clause 6.6.3.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_MPP
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after an individual packet data call request to a PSTN address is received, the IUT sends out C_AHOY with the Gateway_Address = PSTNI.

TP ID	TP/BS/TSCC/IPDC/MS_INI/BV-005
Reference	Clause 6.6.3.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_MPP
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after an individual packet data call request to a PABX address is received, the IUT sends out C_AHOY with the Gateway_Address = PABXI.

TP ID	TP/BS/TSCC/IPDC/MS_INI/BV-006
Reference	Clause 6.6.3.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SUP
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after an individual packet data call request to an individual MS address with Service_Options field SUPED_SV equals 1 is received, the IUT sends out C_AHOY with the Gateway_Address = SUPLI.

5.2.2.9 Talkgroup Packet Data Call (TPDC)

5.2.2.9.1 MS Initiating (MS_INI)

TP ID	TP/BS/TSCC/TPDC/MS_INI/BV-000
Reference	Clause 6.6.3.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_PTS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and payload channel is idle.
Test purpose	Check, that after a talkgroup packet data call request to a talkgroup MS address is received, IUT sends out TD_GRANT.

TP ID	TP/BS/TSCC/TPDC/MS_INI/BV-001
Reference	Clause 6.6.3.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_CD and PIC_TS_PTS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and packet data call is diverted.
Test purpose	Check, that after a talkgroup packet data call request to talkgroup MS address is received, IUT sends out UDT header withSource_Address = DIVERTI.

TP ID	TP/BS/TSCC/TPDC/MS_INI/BV-002
Reference	Clause 6.6.2.1 of TS 102 361-4 [4] v
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_MPP and PIC_TS_PTS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after a talkgroup packet data call request to a PSTN address is received, the IUT sends out C_AHOY with the Gateway_Address = PSTNI.

TP ID	TP/BS/TSCC/TPDC/MS_INI/BV-003
Reference	Clause 6.6.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_MPP and PIC_TS_PTS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after a talkgroup packet data call request to a PABX address is received, the IUT sends out C_AHOY with the Gateway_Address = PABXI.

TP ID	TP/BS/TSCC/TPDC/MS_INI/BV-004
Reference	Clause 6.6.3.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_SUP and PIC_TS_PTS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after a talkgroup packet data call request to an individual address with Service Options field SUPED_SV equals 1 is received, the IUT sends out C_AHOY with the Gateway_Address = SUPLI.

5.2.2.10   Individual Short Data Message (ISDM)

5.2.2.10.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSCC/ISDM/MS_INI/BV-000
Reference	Clause 6.6.4.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDM
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after individual short data message request to an individual MS address is received, the IUT sends out C_AHOY to request the short data upload from the calling MS.

TP ID	TP/BS/TSCC/ISDM/MS_INI/BV-001
Reference	Clause 6.6.4.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDM and PIC_TS_MPP
Initial condition	The IUT is transmitting aloha PDUs to invite random access.
Test purpose	Check, that after individual short data message request to a PSTN gateway address is received, the IUT sends out two C_Ahoys, one is for the short data upload, the other is for PSTN digits upload.

TP ID	TP/BS/TSCC/IVC/MS_INI/BV-002
Reference	Clause 6.6.4.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDM and PIC_TS_SUP
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after individual short data message request with Supplementary Data Transfer service required to an individual MS address is received, the IUT sends out two C_AHOYs, one is for the short data upload, the other is for the supplementary data upload.

TP ID	TP/BS/TSCC/ISDM/MS_INI/BV-003
Reference	Clause 6.6.4.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDM and PIC_TS_CD
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and short data message is diverted.
Test purpose	Check, that after an individual short data message request to an individual MS address is received, the IUT sends out a UDT Header with Source_Address = DIVERTI.

TP ID	TP/BS/TSCC/ISDM/MS_INI/BV-004
Reference	Clause 6.6.4.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDM
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and no radio check is needed for short data.
Test purpose	Check, that after an individual short data message request to an individual MS address is received, IUT sends out C_AHOY to the calling MS for the short data upload, and then sends out the received short data to the called MS using the UDT procedure.

TP ID	TP/BS/TSCC/ISDM/MS_INI/BV-005
Reference	Clause 6.6.4.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDM and PIC_TS_SMR
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and radio check is needed for short data.
Test purpose	Check, that after an individual short data message request to an individual MS address is received, IUT sends out C_AHOY to the called ms to check its availability. When C_NACKU is received, the IUT sends out C_NACKD to the calling MS with the echoed reason.

5.2.2.11   Talkgroup Short Data Message (TSDM)

5.2.2.11.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSCC/TSDM/MS_INI/BV-000
Reference	Clause 6.6.4.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDM
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after a talkgroup short data message request to a talkgroup MS address is received the IUT sends C_AHOY to request the short data upload.

TP ID	TP/BS/TSCC/TSDM/MS_INI/BV-001
Reference	Clause 6.6.4.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDM
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after a talkgroup voice call request to a PABX gateway address is received, the IUT sends out two C_AHOYs, one is for the short data upload, the other is for PABX digits upload.

TP ID	TP/BS/TSCC/TSDM/MS_INI/BV-002
Reference	Clause 6.6.4.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDM and PIC_TS_CD
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and short data message is diverted.
Test purpose	Check, that after a talkgroup short data message request to a talkgroup MS address is received, the IUT sends out a UDT Header with the Source_Address = DIVERTI.

TP ID	TP/BS/TSCC/TSDM/MS_INI/BV-003
Reference	Clause 6.6.4.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDM
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after a talkgroup short data message request to a talkgroup MS address is received, IUT sends out C_AHOY to request the short data upload, and then sends out the received short data to the called MS using the UDT procedure.

5.2.2.12   Short Data Polling (SDP)

5.2.2.12.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSCC/SDP/MS_INI/BV-000
Reference	Clause 6.6.5.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDP
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and no radio check is needed for data polling request.
Test purpose	Check, that after short data polling request C_RAND is received, IUT sends C_AHOY to request the called MS to upload the short data. After UDT Head + appended block(s) for short data is received from the called MS, the IUT sends out the short data to the calling MS.

TP ID	TP/BS/TSCC/SDP/MS_INI/BV-001
Reference	Clause 6.6.5.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDP and PIC_TS_SPR
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and radio check is needed for data polling request.
Test purpose	Check, that after individual short data polling request C_RAND is received, the IUT sends C_AHOY to the called MS to check its availability. After C_ACKU is received, another C_AHOY is sent out to the called MS to request the polled data upload.

TP ID	TP/BS/TSCC/SDP/MS_INI/BV-002
Reference	Clause 6.6.5.1 of TS 102 361-4 [[4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDP and
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and radio check is needed for data polling request.
Test purpose	Check, that after individual short data polling request C_RAND is received, IUT sends C_AHOY to the called MS to check its availability. After C_NACKU is received from called MS, IUT sends out C_NACKD to the calling MS with the echoed reason from C_NACKU.

5.2.2.13   Status Call Service (STAT)

5.2.2.13.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSCC/STAT/MS_INI/BV-000
Reference	Clause 6.6.6.1.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SCS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after status call request to an individual MS address is received, IUT sends C_AHOY PDU containing the status information to the called MS, if C_ACKU is received from called MS, IUT sends out the C_ACKD to the calling MS.

TP ID	TP/BS/TSCC/STAT/MS_INI/BV-001
Reference	Clause 6.6.6.1.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SCS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after status call request to an individual MS address is received, IUT sends C_AHOY PDU containing the status information to the called MS, if C_NACKU is received, IUT sends out C_NACKD with the echoed reason to the calling MS.

TP ID	TP/BS/TSCC/STAT/MS_INI/BV-002
Reference	Clause 6.6.6.1.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SCS
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after status call request to a PSTN address is received, IUT sends C_AHOY PDU to the calling MS to send the extended address information.

TP ID	TP/BS/TSCC/STAT/MS_INI/BV-003
Reference	Clause 6.6.6.1.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SCS and PIC_TS_CD
Initial condition	The IUT is transmitting Aloha PDUs to invite random access and status call service is diverted.
Test purpose	Check, that after status delivery request to an individual MS address is received, the IUT sends out UDT Header + appended block(s) with the diverted address.

5.2.2.14   Call Diversion (CD)

5.2.2.14.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSCC/CD/MS_INI/BV-000
Reference	Clause 6.6.7.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS and PIC_TS_CD
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after set call diversion request (Gateway address = PSTNI) for voice call is received, IUT sends C_AHOY PDU to the calling MS to upload the diverted address.

TP ID	TP/BS/TSCC/CD/MS_INI/BV-001
Reference	Clause 6.6.7.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_CD
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after set call diversion request (Gateway address = PABXI) for packet data call is received, IUT sends C_AHOY PDU to the calling MS to upload the diverted address.

TP ID	TP/BS/TSCC/CD/MS_INI/BV-002
Reference	Clause 6.6.7.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SDM and PIC_TS_CD
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after set call diversion request (Gateway address = IPI) for short data call is received, IUT sends C_AHOY PDU to the calling MS to upload the diverted IPV4 address.

TP ID	TP/BS/TSCC/CD/MS_INI/BV-003
Reference	Clause 6.6.7.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_SCS and PIC_TS_CD
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after set call diversion request (Gateway address = IPI) for status call is received, IUT sends C_AHOY PDU to the calling MS to upload the diverted IPV6 address.

TP ID	TP/BS/TSCC/CD/MS_INI/BV-004
Reference	Clause 6.6.7.1 of TS 102 361-4 [4]
Selection criteria	PIC_RM_BS and PIC_VCR_BS
Initial condition	PIC_BS and PIC_TS and PIC_TS_CD and (PIC_TS_VOS or PIC_TS_PDS)
Test purpose	Check, that after set call diversion request (Gateway address = MSI) for voice and packet data call is received, IUT sends C_AHOY PDU to the calling MS to upload the diverted address.

TP ID	TP/BS/TSCC/CD/MS_INI/BV-005
Reference	Clause 6.6.7.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_CD
Initial condition	The IUT is transmitting Aloha PDUs to invite random access.
Test purpose	Check, that after set call diversion request (Gateway address = TGI) for all the calls is received, IUT sends C_AHOY PDU to the calling MS to upload the diverted address.

TP ID	TP/BS/TSCC/CD/MS_INI/BV-006
Reference	Clause 6.6.7.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_CD
Initial condition	The IUT is transmitting Aloha PDUs to invite random access
Test purpose	Check, that after clear call diversion request for voice call is received, IUT sends out C_ACKD(Reason = Message_Accepted).

5.2.3   Trunking System Payload Channel (TSPC)

5.2.3.1   MS Radio Check (MRC)

5.2.3.1.1   MS Terminating (MS_TER)

TP ID	TP/BS/TSPC/MRC/MS_TER/BV-000
Reference	Clause 6.6.2.3.1.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS and PIC_TS_PVR
Initial condition	The IUT is repeating the voice to the called MS in the payload channel.
Test purpose	Check, that after P_ACKU is received, IUT continues the voice repeating operation.
NOTE: Requires an Upper Tester to make the IUT send out P_AHOY for radio check.	

TP ID	TP/BS/TSPC/MRC/MS_TER/BV-001
Reference	Clause 6.6.2.3.1.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS and PIC_TS_PVR
Initial condition	The IUT is repeating the voice to a talkgroup address in the payload channel.
Test purpose	Check, that the sending out P_AHOY to called MS for radio check is valid.
NOTE: Requires an Upper Tester to make the IUT send out P_AHOY for radio check.	

TP ID	TP/BS/TSPC/MRC/MS_TER/BV-002
Reference	Clause 6.6.3.3.1.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_PDR
Initial condition	The IUT is repeating the packet data to the called MS in the payload channel.
Test purpose	Check, that the sending out P_AHOY to called MS for radio check, if P_ACKU is received, IUT continues the packet data burst repeating operation.
NOTE: Requires an Upper Tester to make the IUT send out P_AHOY for radio check.	

TP ID	TP/BS/TSPC/MRC/MS_TER/BV-003
Reference	Clause 6.6.3.3.1.1 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_PDR
Initial condition	The IUT is repeating the packet data to a talkgroup address in the payload channel.
Test purpose	Check, that the sending out P_AHOY to called MS for radio check is valid.
NOTE: Requires an Upper Tester to make the IUT send out P_AHOY for radio check.	

5.2.3.2   Authentication Check (AUTHC)

5.2.3.2.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSPC/AUTHC/MS_INI/BV-000
Reference	Clause 6.6.2.3.1.2 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS and PIC_TS_PVA
Initial condition	The IUT repeating the voice from calling MS in the payload channel.
Test purpose	Check, that after valid authentication response P_ACKU is received, the IUT continues the voice repeating operation.
NOTE: Requires an Upper Tester to make the IUT send out P_AHOY for authentication check.	

TP ID	TP/BS/TSPC/AUTHC/MS_INI/BV-001
Reference	Clause 6.6.3.1.2 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_PDA
Initial condition	The IUT repeating the packet data from calling MS in the payload channel.
Test purpose	Check, that after valid authentication response P_ACKU is received, the IUT continues the packet data repeating operation.
NOTE:	Requires an Upper Tester to make the IUT send out P_AHOY for authentication check.

5.2.3.3   Disabling/Enabling a users PTT (DEP)

5.2.3.3.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSPC/DEP/MS_INI/BV-000
Reference	Clause 6.6.2.3.1.3 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS and PIC_TS_PVDE
Initial condition	The IUT repeating the voice from calling MS in the payload channel.
Test purpose	Check, that the IUT sends out a valid P_PROTECT PDU with Protect_Kind=DIS_PTT.
NOTE:	Requires an Upper Tester to make the IUT send out P_PROTECT(protect_Kind=DIS_PTT).

TP ID	TP/BS/TSPC/DEP/MS_INI/BV-001
Reference	Clause 6.6.2.3.1.3 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS and PIC_TS_PVDE
Initial condition	The IUT repeating the voice from calling MS in the payload channel.
Test purpose	Check, that the IUT sends out a valid P_PROTECT PDU with Protect_Kind=EN_PTT.
NOTE:	Requires an Upper Tester to make the IUT send out P_PROTECT(protect_Kind=EN_PTT).

TP ID	TP/BS/TSPC/DEP/MS_INI/BV-002
Reference	Clause 6.6.3.3.1.3 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_PDDE
Initial condition	The IUT repeating the packet data from calling MS in the payload channel.
Test purpose	Check, that the IUT sends out a valid P_PROTECT PDU with Protect_Kind=DIS_PTT.
NOTE:	Requires an Upper Tester to make the IUT send out P_PROTECT(protect_Kind=DIS_PTT).

TP ID	TP/BS/TSPC/DEP/MS_INI/BV-003
Reference	Clause 6.6.3.3.1.3 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_PDDE
Initial condition	The IUT repeating the packet data from calling MS in the payload channel.
Test purpose	Check, that the IUT sends out a valid P_PROTECT PDU with Protect_Kind=EN_PTT.
NOTE:	Requires an Upper Tester to make the IUT send out P_PROTECT(protect_Kind=EN_PTT).

5.2.3.4   Channel Grant (CG)

5.2.3.4.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSPC/CG/MS_INI/BV-000
Reference	Clause 6.6.2.3.1.4 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS and PIC_TS_PVSC
Initial condition	The IUT repeating the voice from calling MS in the payload channel.
Test purpose	Check, that the sending out P_GRANT is valid.
NOTE:	Requires an Upper Tester to make the IUT send out P_GRANT.

TP ID	TP/BS/TSPC/CG/MS_INI/BV-001
Reference	Clause 6.6.3.3.2.4 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_PDSC
Initial condition	The IUT repeating the packet data from calling MS in the payload channel.
Test purpose	Check, that the sending out P_GRANT is valid.
NOTE: Requires an Upper Tester to make the IUT send out P_GRANT.	

5.2.3.5   Illegal MS Check (IMC)

5.2.3.5.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSPC/IMC/MS_INI/BV-000
Reference	Clause 6.6.2.3.1.5 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS and PIC_TS_PVRM
Initial condition	The IUT repeating the voice from calling MS in the payload channel.
Test purpose	Check, that the P_PROTECT PDU with Protect_Kind=ILLEGALLY_PARKED sent out by the IUT is valid.
NOTE: Requires an Upper Tester to make the IUT send out P_PROTECT(ILLEGALLY_PARKED).	

TP ID	TP/BS/TSPC/IMC/MS_INI/BV-001
Reference	Clause 6.6.3.3.1.5 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_PDRM
Initial condition	The IUT repeating the packet data from calling MS in the payload channel.
Test purpose	Check, that the P_PROTECT PDU with Protect_Kind=ILLEGALLY_PARKED sent out by the IUT is valid.
NOTE: Requires an Upper Tester to make the IUT send out P_PROTECT(ILLEGALLY_PARKED).	

5.2.3.6   Cancel Call (CC)

5.2.3.6.1   MS Initiating (MS_INI)

TP ID	TP/BS/TSPC/CC/MS_INI/BV-000
Reference	Clause 6.6.2.3.1.7 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_VOS and PIC_TS_PVCC
Initial condition	The IUT repeating the voice from calling MS in the payload channel.
Test purpose	Check, that the sending out P_CLEAR is valid.
NOTE: Requires an Upper Tester to make the IUT send out P_CLEAR to the calling MS individual address.	

TP ID	TP/BS/TSPC/CC/MS_INI/BV-001
Reference	Clause 6.6.3.3.1.7 of TS 102 361-4 [4]
Selection criteria	PIC_BS and PIC_TS and PIC_TS_PDS and PIC_TS_PDCC and PIC_TS_PTS
Initial condition	The IUT repeating the packet data from calling MS in the payload channel.
Test purpose	Check, that the sending out P_CLEAR is valid.
NOTE: Requires an Upper Tester to make the IUT send out P_CLEAR to one of the talkgroup address of calling MS.	

5.2.4   Data Link Layer (DLL)

5.2.4.1   TDMA Access Channel Type (TACT)

TP ID	TP/BS/DLL/TACT/BV-000
Reference	Clauses 6.3 and 9.1.4 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS and PIC_2FRQ
Initial condition	The IUT is configured for 2:1 mode operation and in BS_Hibernating state
Test purpose	Check, that after receiving control burst with BS_Dwn_Act PDU, the IUT sends TACT PDUs in the CACH burst indicating that both inbound channels are idle.

TP ID	TP/BS/DLL/TACT/BV-001
Reference	Clauses 6.3 and 9.1.4 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS and PIC_2FRQ
Initial condition	The IUT is configured for 2:1 mode operation and in Hangtime state
Test purpose	Check, that after the tester starts traffic transmission in both slots, the IUT sends TACT PDUs in the CACH burst indicating that both inbound channels are busy.

TP ID	TP/BS/DLL/TACT/BV-002
Reference	Clauses 6.3 and 9.1.4 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS and PIC_2FRQ
Initial condition	The IUT is configured for 2:1 mode operation and in Hangtime state
Test purpose	Check, that after the tester starts traffic transmission on inbound slot 1, the IUT sends TACT PDUs in the CACH burst indicating that inbound channel 1 is busy and inbound channel 2 is idle.

TP ID	TP/BS/DLL/TACT/BV-003
Reference	Clauses 6.3 and 9.1.4 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS and PIC_2FRQ
Initial condition	The IUT is configured for 2:1 mode operation and in Hangtime state
Test purpose	Check, that after the tester starts traffic transmission on inbound slot 2, the IUT sends TACT PDUs in the CACH burst indicating that inbound channel 2 is busy and inbound channel 1 is idle.

5.2.4.2   Synchronization (SYNC)

TP ID	TP/BS/DLL/SYNC/BV-000
Reference	Clause 9.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS
Initial condition	The IUT is in Channel_Hangtime state
Test purpose	Check, that after receiving a burst with UU_V_Ch_Usr PDU, the IUT repeats this PDU using the SYNC PDU pattern - "BS sourced Data SYNC pattern".

TP ID	TP/BS/DLL/SYNC/BV-001
Reference	Clause 9.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS
Initial condition	The IUT is in Repeating_Slot_1 state
Test purpose	Check, that after receiving a voice burst in slot 1, the IUT repeats this voice burst with SYNC PDU pattern - "BS sourced voice SYNC pattern".

5.2.4.3   Slot Type (ST)

TP ID	TP/BS/DLL/ST/BV-000
Reference	Clauses 9.1.3 and 9.3.6 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS
Initial condition	The IUT is in BS_Hibernating state
Test purpose	Check, that after receiving control burst with BS_Dwn_Act PDU, the IUT sends Idle messages with SLOT Type PDU in which information element "Data Type" = idle.

5.2.4.4   Traffic Timing (TT)

TP ID	TP/BS/DLL/TT/BV-000
Reference	Clause 5.1.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS and PIC_2FRQ
Initial condition	IUT configured for Aligned channel timing and IUT is in Hangtime state
Test purpose	Check, that after receiving voice bursts in inbound slot 2, the IUT repeats these voice bursts in outbound slot 1.

TP ID	TP/BS/DLL/TT/BV-001
Reference	Clause 5.1.1.2 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS and PIC_2FRQ
Initial condition	IUT configured for Offset channel timing and IUT is in Hangtime state
Test purpose	Check, that after receiving voice bursts in inbound slot 2, the IUT repeats these voice bursts in outbound slot 2.

5.2.4.5   Cyclic Redundancy Checksum (CRC)

TP ID	TP/BS/DLL/CRC/BV-000
Reference	Clauses 9.1.7, 7.1.4 and B.3.8 of TS 102 361-1 [1]
Selection criteria	PIC_RM_BS and PIC_2FRQ
Initial condition	IUT is repeating voice traffic in Slot 1
Test purpose	Check that for each 4 CACH bursts received a embedded Short LC PDU with an 8 bit checksum can be derived.

5.2.4.6   Unconfirmed data packet

TP ID	TP/BS/DLL/PDP/UPD/BV-000
Reference	Clauses 5.3.3.3 of TS 102 361-3 [3]
Selection criteria	PIC_RM_BS and PIC_2FRQ
Initial condition	IUT configured for Offset channel timing and the IUT is in BS_Hibernating state.
Test purpose	Check that when the IUT receives a U_HEAD PDU in inbound slot 1, it stops transmitting idle PDUs and repeats the U_HEAD in the outbound slot 1.

5.2.4.7   Confirmed data packet

TP ID	TP/BS/DLL/PDP/CPD/BV-000
Reference	Clauses 5.4.3.3.1 of TS 102 361-3 [3]
Selection criteria	PIC_RM_BS and PIC_2FRQ
Initial condition	IUT configured for Offset channel timing and the IUT is in BS_Hibernating state.
Test purpose	Check that when the IUT receives a C_HEAD PDU in inbound slot 1, it stops transmitting idle PDUs and repeats the C_HEAD in the outbound slot 1.

5.2.4.8   Data Call Hangtime (DHT)

TP ID	TP/BS/DLL/PDP/DHT/TI-000
Reference	Clauses 5.4.3.3.2 of TS 102 361-3 [3
Selection criteria	PIC_RM_BS and PIC_VHT_BS
Initial condition	The IUT is in Repeating_Slot_1 state repeating confirmed data and timer T_DataHangtime is not equal 0.
Test purpose	Check, that after receiving a confirmed last data block, the IUT keeps repeating the TD_LC PDU until T_CallHt expires.

5.3   Test purposes for Mobile Station (MS)

5.3.1   Call Control Layer (CCL)

5.3.1.1   BS Downlink Activation (BDA)

5.3.1.1.1   MS Initiating (MS_INI)

TP ID	TP/MS/CCL/BA/MS_INI/BV-000
Reference	Clause 5.1.1.1.3 of TS 102 361-2 [2]
Selection criteria	PIC_BA_MS and PIC_RM_MS
Initial condition	The IUT is in Out_of_Sync state
Test purpose	Check, that when the IUT initiates a PTT_Request, the IUT initially sends a BS_Dwn_Act PDU.

TP ID	TP/MS/CCL/BA/MS_INI/TI-000
Reference	Clauses 5.1.1.1.3 of TS 102 361-2 [2], 5.2.2.2.4 and annex F of TS 102 361-1 [1]
Selection criteria	PIC_BA_MS and PIC_RM_MS
Initial condition	The IUT is in Out_of_Sync state and wakeup message threshold N_Wakeup > 0
Test purpose	Check, that when IUT initiates a PTT_Request, the IUT sends the first BS_Dwn_Act PDU, only after expiry of timer T_SyncWu without receiving idle message from the BS, the IUT sends another BS_Dwn_Act PDU.

TP ID	TP/MS/CCL/BA/MS_INI/TI-001
Reference	Clauses 5.1.1.1.3 of TS 102 361-2 [2], 5.2.2.2.4 and annex F of TS 102 361-1 [1]
Selection criteria	PIC_BA_MS and PIC_RM_MS
Initial condition	The IUT is in Out_of_Sync state and wakeup message threshold N_Wakeup > 1
Test purpose	Check, that when the IUT initiate a PTT_Request, the IUT sends N_Wakeup times BS_Dwn_Act PDUs without receiving idle message.

TP ID	TP/MS/CCL/BA/MS_INI/TI-002
Reference	Clauses 5.1.1.1.3 of TS 102 361-2 [2], 5.2.2.2.4 and annex F of TS 102 361-1 [1]
Selection criteria	PIC_BA_MS and PIC_RM_MS
Initial condition	The IUT is in Out_of_Sync state and wakeup message threshold N_Wakeup > 1
Test purpose	Check, that when the IUT initiates a PTT_Request and sends the BS_Dwn_Act PDU N_Wakeup times without receiving idle message, the IUT stops to send BS_Dwn_Act PDU.

5.3.1.2   Feature Not Supported (FNS)

5.3.1.2.1   MS Terminating (MS_TER)

TP ID	TP/MS/CCL/FNS/MS_TER/BV-000
Reference	Clauses 5.1.2.2 and 5.2.2.1 of TS 102 361-2 [2]
Selection criteria	PIC_FNS and PIC_IC and NOT (PIC_PRE_CK)
Initial condition	IUT is in inactive state and IUT does not support presence check (OACSU) for Individual Call feature
Test purpose	Check, that after receiving a UU_V_Req PDU, the IUT starts to send NACK_Rsp PDU.

5.3.1.3   Group Call (GC)

5.3.1.3.1   MS Initiating (MS_INI)

TP ID	TP/MS/CCL/GC/MS_INI/BV-000
Reference	Clauses 5.2.1.3.3.3 [2] and 5.2.1.3.1 of TS 102 361-2 [2]
Selection criteria	PIC_GC and PIC_IMPOLITE
Initial condition	Both channels of the tester are busy. IUT is in Inactive state.
Test purpose	Check, that when the IUT initiates a PTT_Request, the IUT sends a Grp_V_Ch_Usr PDU.

TP ID	TP/MS/CCL/GC/MS_INI/BV-001
Reference	Clauses 5.2.1.3.3.3 [2] and 5.2.1.3.1 of TS 102 361-2 [2]
Selection criteria	PIC_GC
Initial condition	Both channels of the tester are idle. IUT is in Inactive state.
Test purpose	Check, that when the IUT initiates a PTT_Request, the IUT sends a Grp_V_Ch_Usr PDU.

TP ID	TP/MS/CCL/GC/MS_INI/BV-002
Reference	Clause 5.2.1.3.3.6 of TS 102 361-2 [2]
Selection criteria	PIC_GC
Initial condition	IUT is in Transmit state.
Test purpose	Check, that when the IUT initiates a Dekey_Indication, the IUT sends a Grp_V_Ch_Usr PDU(Voice_Terminator_with_LC).

5.3.1.3.2   MS Terminating (MS_TER)

TP ID	TP/MS/CCL/GC/MS_TER/BV-000
Reference	Clause 5.2.1.3.3.4 of TS 102 361-2 [2]
Selection criteria	PIC_GC
Initial condition	IUT is in Not_In_Call state.
Test purpose	Check, that after receiving a Grp_V_Ch_Usr PDU with a group address to which the IUT belongs, the IUT joins the call.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/CCL/GC/MS_TER/BV-001
Reference	Clauses 5.2.1.3.3.5 of TS 102 361-2 [2], 5.1.2.1 and 7.1.3.1 of TS 102 361-1 [1]
Selection criteria	PIC_GC and PIC_LT
Initial condition	A group call is established to a group address to which the IUT belongs.
Test purpose	Check, that after receiving a Grp_V_Ch_Usr PDU (Voice_Header_LC) from Embedded LCs of voice bursts without voice header, the IUT joins the call.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/CCL/GC/MS_TER/BV-002
Reference	Clause 5.2.1.3.3.7 of TS 102 361-2 [2]
Selection criteria	PIC_GC
Initial condition	IUT is in My_Call state.
Test purpose	Check, that after receiving a Grp_V_Ch_Usr PDU (Terminate_with_LC) which indicates call termination, the IUT mutes the speaker.
NOTE:	Requires an Upper Tester.

TP ID	TP/MS/CCL/GC/MS_TER/BV-003
Reference	Clause 5.2.1.3.3.8 of TS 102 361-2 [2]
Selection criteria	PIC_GC
Initial condition	IUT is in In_Session state.
Test purpose	Check, that after receiving the last Grp_V_Ch_Usr PDU (Terminator_with_LC), the IUT starts to send End_of_Call service primitive to User IO.
NOTE:	Requires an Upper Tester.

TP ID	TP/MS/CCL/GC/MS_TER/BV-004
Reference	Clause 5.2.1.3.3.9 of TS 102 361-2 [2]
Selection criteria	PIC_GC
Initial condition	IUT is in In_Session state.
Test purpose	Check, that after receiving a Grp_V_Ch_Usr PDU(Voice_Header_LC) with Destination ID = Not_My_ID, the IUT sends message End_of_Call.
NOTE:	Requires an Upper Tester.

5.3.1.4   Individual Call (IC)

5.3.1.4.1   MS Initiating (MS_INI)

TP ID	TP/MS/CCL/IC/MS_INI/BV-000
Reference	Clauses 5.2.2.4.2 and 5.2.2.4 of TS 102 361-2 [2]
Selection criteria	PIC_IC and PIC_PRE_CK
Initial condition	IUT is in Inactive state
Test purpose	Check, that when the IUT initiates a PTT_Request, the IUT initially sends a UU_V_Req PDU.
NOTE:	Requires an Upper Tester.

TP ID	TP/MS/CCL/IC/MS_INI/BV-001
Reference	Clause 5.2.2.4.2.2 of TS 102 361-2 [2]
Selection criteria	PIC_IC and PIC_PRE_CK
Initial condition	IUT is in inactive state
Test purpose	Check, that when the IUT initiates a PTT_Request with presence check and after receiving a UU_Ans_Rsp PDU that accepts the call, the IUT sends a UU_V_Ch_Usr PDU.

TP ID	TP/MS/CCL/IC/MS_INI/BV-002
Reference	Clause 5.2.2.4.2.2 of TS 102 361-2 [2]
Selection criteria	PIC_IC and PIC_PRE_CK
Initial condition	IUT is in inactive state
Test purpose	Check, that when the IUT initiates a PTT_Request with presence check and after receiving a UU_Ans_Rsp PDU that rejects the call, the IUT will not continue the call.

TP ID	TP/MS/CCL/IC/MS_INI/BV-003
Reference	Clauses 5.2.2.4.2.2 and 5.2.1.3.3.3 of TS 102 361-2 [2]
Selection criteria	PIC_IC and NOT (PIC_PRE_CK) and PIC_IMPOLITE
Initial condition	Both channels of the tester are busy. IUT is in Inactive state.
Test purpose	Check, that when the IUT initiates a PTT_Request, the IUT sends a UU_V_Ch_Usr PDU.

TP ID	TP/MS/CCL/IC/MS_INI/BV-004
Reference	Clauses 5.2.2.4.2.2 and 5.2.1.3.3.3 of TS 102 361-2 [2]
Selection criteria	PIC_IC and NOT (PIC_PRE_CK)
Initial condition	Both channels of the tester are idle. The IUT is in Inactive state.
Test purpose	Check, that when the IUT initiates a PTT_Request, the IUT sends a UU_V_Ch_Usr PDU.

TP ID	TP/MS/CCL/IC/MS_INI/BV-005
Reference	Clauses 5.2.2.4 and 5.2.1.3.3.6 of TS 102 361-2 [2]
Selection criteria	PIC_IC
Initial condition	IUT is in Transmit state.
Test purpose	Check, that when the IUT initiates a Dekey_Indication, the IUT sends a UU_V_Ch_Usr PDU(Terminator_with_LC).
NOTE:	Requires an Upper Tester.

TP ID	TP/MS/CCL/IC/MS_INI/TI-000
Reference	Clauses 5.2.1.7 of TS 102 361-1 [1], 5.2.2.3.1, 5.2.2.4.2.1 and annex A of TS 102 361-2 [2]
Selection criteria	PIC_IC and PIC_PRE_CK
Initial condition	IUT is in Inactive state and CSBK_Retry_Limit N_CSBKRetry > = 1
Test purpose	Check, that when the IUT sends the first UU_V_Req PDU by initiating a PTT_Request, on no reply and after expiry of timer T_AckWait, the IUT sends the second UU_V_Req PDU.
NOTE:	Requires an Upper Tester.

TP ID	TP/MS/CCL/IC/MS_INI/TI-001
Reference	Clauses 5.2.1.7 of TS 102 361-1 [1], 5.2.2.3.1, 5.2.2.4.2.1 and A.2 of TS 102 361-2 [2]
Selection criteria	PIC_IC and PIC_PRE_CK
Initial condition	IUT is in Inactive state and CSBK_Retry_Limit N_CSBKRetry defined
Test purpose	Check, after initiating a PTT_Request and on no reply, that the IUT sends the UU_V_Req PDU N_CSBKRetry + 1 times.
NOTE:	Requires an Upper Tester.

TP ID	TP/MS/CCL/IC/MS_INI/TI-002
Reference	Clauses 5.2.1.7 of TS 102 361-1 [1], 5.2.2.3.1, 5.2.2.4.2.1 and annex A of TS 102 361-2 [2]
Selection criteria	PIC_IC and PIC_PRE_CK
Initial condition	IUT is in Inactive state and CSBK_Retry_Limit N_CSBKRetry defined
Test purpose	Check, after initiating a PTT_Request and on no reply, and having sent the UU_V_Req PDU N_CSBKRetry + 1 times, receiving no UU_Ans_Rsp PDU in return the IUT does not send any UU_V_Ch_Usr PDU.
NOTE:	Requires an Upper Tester.

5.3.1.4.2   MS Terminating (MS_TER)

TP ID	TP/MS/CCL/IC/MS_TER/BV-000
Reference	Clause 5.2.2.4.2.2 of TS 102 361-2 [2]
Selection criteria	PIC_IC and PIC_PRE_CK
Initial condition	IUT is in Inactive state
Test purpose	Check, that after receiving a UU_V_Req PDU and if the channel is idle, the IUT responds with UU_Ans_Rsp PDU.

TP ID	TP/MS/CCL/IC/MS_TER/BV-001
Reference	Clause 5.2.2.3.2 of TS 102 361-2 [2]
Selection criteria	PIC_IC and PIC_PRE_CK
Initial condition	IUT is in Inactive state
Test purpose	Check, that after receiving a UU_V_Req PDU and if the channel is busy, the IUT does not respond to this request.

TP ID	TP/MS/CCL/IC/MS_TER/BV-002
Reference	Clauses 5.2.2.4 and 5.2.1.3.3.4 of TS 102 361-2 [2]
Selection criteria	PIC_IC
Initial condition	IUT is in Inactive state.
Test purpose	Check, that after receiving a UU_V_Ch_Usr PDU, the IUT joins the call.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/CCL/IC/MS_TER/BV-003
Reference	Clauses 5.2.2.4 and 5.2.1.3.3.5 of TS 102 361-2 [2], 5.1.2.1 and 7.1.3.1 of TS 102 361-1 [1]
Selection criteria	PIC_IC and PIC_LT
Initial condition	An individual call is established.
Test purpose	Check, that after receiving a UU_V_Ch_Usr PDU(Voice_Header_LC) from Embedded LCs of voice bursts without voice header, the IUT joins the call.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/CCL/IC/MS_TER/BV-004
Reference	Clauses 5.2.2.4 and 5.2.1.3.3.7 of TS 102 361-2 [2]
Selection criteria	PIC_IC
Initial condition	IUT is in My_Call state.
Test purpose	Check, that after receiving a UU_V_Ch_Usr PDU(Terminator_with_LC), the IUT mutes speaker.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/CCL/IC/MS_TER/BV-005
Reference	Clauses 5.2.2.4 and 5.2.1.3.3.8 of TS 102 361-2 [2]
Selection criteria	PIC_IC
Initial condition	IUT is in In_Session state.
Test purpose	Check, that after receiving the last UU_V_Ch_Usr PDU(Terminator_with_LC), the IUT starts to send End_of_Call service primitive to User IO.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/CCL/IC/MS_TER/BV-006
Reference	Clauses 5.2.2.4 and 5.2.1.3.3.9 of TS 102 361-2 [2]
Selection criteria	PIC_IC
Initial condition	IUT is in In_Session state.
Test purpose	Check, that after receiving a UU_V_Ch_Usr PDU with Destination ID = Not_My_ID, the IUT sends message End_of_Call.
NOTE: Requires an Upper Tester.	

5.3.1.5   Unaddressed Voice Call (UC)

5.3.1.5.1   MS Initiating (MS_INI)

TP ID	TP/MS/CCL/UC/MS_INI/BV-000
Reference	Clause 5.3.1 of TS 102 361-2 [2] and annex A of TS 102 361-1 [1]
Selection criteria	PIC_GC and PIC_UC
Initial condition	IUT is in My_System state
Test purpose	Check, that after IUT initiates an Unaddressed Voice Call by pressing PTT, an Grp_V_Ch_Usr is sent using a valid unaddressed group address.

5.3.1.6   All Call Voice (AC)

5.3.1.6.1   MS Initiating (MS_INI)

TP ID	TP/MS/CCL/AC/MS_INI/BV-000
Reference	Clause 5.3.2 of TS 102 361-2 [2] and annex A of TS 102 361-1 [1]
Selection criteria	PIC_GC and PIC_AC_MS
Initial condition	IUT is in My_System state
Test purpose	Check, that after IUT initiates an All Call Voice call by pressing PTT, a Grp_V_Ch_Usr is sent using a valid All-talk group address and with the broadcast field bit set.

5.3.1.7   Broadcast Call Voice (BC)

5.3.1.7.1   MS Initiating (MS_INI)

TP ID	TP/MS/CCL/BC/MS_INI/BV-000
Reference	Clause 5.3.3 of TS 102 361-2 [2]
Selection criteria	PIC_GC and PIC_BC_MS
Initial condition	IUT is in My_System state
Test purpose	Check, that after IUT initiates a Broadcast Call Voice call by pressing PTT, an Grp_V_Ch_Usr is sent with the broadcast field bit set.

5.3.1.8   Open Voice Channel Mode (OVCM)

5.3.1.8.1   MS Initiating (MS_INI)

TP ID	TP/MS/CCL/OVCM/MS_INI/BV-000
Reference	Clause 5.3.4 of TS 102 361-2 [2]
Selection criteria	PIC_OVCM and PIC_GC
Initial condition	IUT is in My_System state
Test purpose	Check, that after IUT initiates an Open Voice Channel Mode group call by pressing PTT, an Grp_V_Ch_Usr is sent with the OVCM bit set.

TP ID	TP/MS/CCL/OVCM/MS_INI/BV-001
Reference	Clause 5.3.4 of TS 102 361-2 [2]
Selection criteria	PIC_OVCM and PIC_IC
Initial condition	IUT is in My_System state
Test purpose	Check, that after IUT initiates an Open Voice Channel Mode individual call by pressing PTT, an UU_V_Ch_Usr is sent with the OVCM bit set.

5.3.1.8.2   MS Terminating (MS_TER)

TP ID	TP/MS/CCL/OVCM/MS_TER/BV-000
Reference	Clause 5.3.4 of TS 102 361-2 [2]
Selection criteria	PIC_OVCM and PIC_GC
Initial condition	IUT is in My_System state
Test purpose	Check, that after receiving an Grp_V_Ch_Usr PDU with Destination ID = Not_My_ID and OVCM bit set, the IUT joins the call.

TP ID	TP/MS/CCL/OVCM/MS_TER/BV-001
Reference	Clause 5.3.4 of TS 102 361-2 [2]
Selection criteria	PIC_OVCM and PIC_IC
Initial condition	IUT is in My_System state
Test purpose	Check, that after receiving an UU_V_Ch_Usr PDU with Destination ID = Not_My_ID and OVCM bit set, the IUT joins the call.

5.3.1.9   Transmit timeout

5.3.1.9.1   MS Initiating (MS_INI)

TP ID	TP/MS/CCL/TI/MS_INI/BV-000
Reference	Clause 6.1 of TS 102 361-2 [2]
Selection criteria	PIC_GC or PIC_IC and PIC_TT
Initial condition	IUT is in My_System state
Test purpose	Check, that after IUT initiates a call by pressing PTT and after time T_TO has passed, the IUT stops transmitting even if PTT is still pressed.

5.3.2   Trunking System Control Channel(TSCC)

5.3.2.1   TSCC Acquisition Authorisation (ACQUI)

5.3.2.1.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSCC/ACQUI/MS_INI/BV-000
Reference	Clause 6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_IC
Initial condition	The IUT is hunting through the candidate TSCC list .
Test purpose	Check, that the call request C_RAND is sent out because it is authorized by the received C_ALOHA PDU.
NOTE:	Requires an Upper Tester to make the IUT send out an individual voice call request after the acquisition procedure.

TP ID	TP/MS/TSCC/ACQUI/ MS_INI /BV-001
Reference	Clause 6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_IC
Initial condition	The IUT is hunting through the candidate TSCC list, and the control category of the IUT is not one of the categories permitted by TS.
Test purpose	Check, that no C_RAND PDU is sent out because it is not authorized by the received C_ALOHA PDU.
NOTE:	Requires an Upper Tester to make the IUT send out an individual voice call request after the acquisition procedure.

TP ID	TP/MS/TSCC/ACQUI/ MS_INI /BV-002
Reference	Clause 6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_IC
Initial condition	The IUT is hunting through the candidate TSCC list, and the SYS_AREA of the TS is in the denied registration list of IUT.
Test purpose	Check, that no C_RAND PDU is sent out because it is not authorized by the received C_ALOHA PDU.
NOTE:	Requires an Upper Tester to make the IUT send out an individual voice call request after the acquisition procedure.

5.3.2.2   Random Access (RA)

5.3.2.2.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSCC/RA/MS_INI/BV-000
Reference	Clause 6.2 and 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_IC
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after received applicable C_ALOHA PDU, C_Rand is sent out when IUT requests a voice call.
NOTE:	Requires an Upper Tester to make the IUT sends out voice call request.

TP ID	TP/MS/TSCC/RA/MS_INI/BV-001
Reference	Clause 6.2 and 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_IC
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that no C_Rand is sent out when IUT request a voice call because the received C_ALOHA PDU is not applicable (the address does not match).
NOTE:	Requires an Upper Tester to make the IUT send out voice call request.

TP ID	TP/MS/TSCC/RA/MS_INI/BV-002
Reference	Clause 6.2 and 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_IC
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that no C_Rand is sent out when IUT request a voice call because the received C_ALOHA PDU is not applicable (voice call is not invited in the C_ALOHA).
NOTE:	Requires an Upper Tester to make the IUT send out voice call request.

TP ID	TP/MS/TSCC/RA/MS_INI/BV-003
Reference	Clause 6.2.1.1.7 and 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_IC
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that if no response to a C_RAND PDU is received within Nwait+1 TDMA-frames, IUT retries sending a C_RAND PDU a maximum of NRand_NR times until TRand_TC times out.
NOTE:	Requires an Upper Tester to make the IUT send out a non-emergency voice call request.

TP ID	TP/MS/TSCC/RA/MS_INI/BV-004
Reference	Clause 6.2.1.1.7 and 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_IC and PIC_MT_VEM
Initial condition	The IUT is making an individual voice call request
Test purpose	Check, that if no response to a C_RAND PDU is received within Nwait+1 TDMA-frames, IUT retries sending a C_RAND PDU a maximum of NRand_NE times until TRand_TC times out.
NOTE:	Requires an Upper Tester to make the IUT send out an emergency voice call request.

5.3.2.3   MS Registration (REG)

5.3.2.3.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSCC/REG/MS_INI/BV-001
Reference	Clause 6.4.5 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_RG
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after receiving the broadcast C_BCAST PDU with Announcement_type = mass_re-registration, the IUT sends out C_Rand for register request.

5.3.2.4   MS Authentication (AUTH)

5.3.2.4.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSCC/AUTH/MS_INI/BV-000
Reference	Clause 6.4.8 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_AU
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after C_AHOY for authentication challenge is received, IUT sends out the C_ACKU authentication response PDU.

5.3.2.5   MS Stun (STUN)

5.3.2.5.1   MS Initiating (TS_INI)

TP ID	TP/MS/TSCC/STUN/MS_INI/BV-000
Reference	Clause 6.4.9.1 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SR
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after stun C_AHOY is received, IUT sends out C_ACKU with reason (Reason=Message_Accepted).
NOTE: Stun/Revive is supported by IUT and no authentication is needed for Stun/Revive.	

TP ID	TP/MS/TSCC/STUN/MS_INI/BV-001
Reference	Clause 6.4.9.1 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after stun C_AHOY is received, IUT sends out C_NACKU with reason (Reason=MSNot_Supported).
NOTE: Stun/Revive is not supported by IUT.	

TP ID	TP/MS/TSCC/STUN/MS_INI/BV-002
Reference	Clause 6.4.9.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SR and PIC_MT_AU
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after stun C_AHOY is received, IUT sends out authentication challenge C_ACKVIT PDU.
NOTE: Stun/Revive is supported by IUT and authentication is needed for Stun/Revive.	

TP ID	TP/MS/TSCC/STUN/MS_INI/BV-003
Reference	Clause 6.4.9.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SR and PIC_MT_AU
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after stun C_AHOY is received, IUT sends out authentication challenge C_ACKVIT, and then sends out a final C_ACKU PDU if a valid C_ACKD response is received.
NOTE: Stun/Revive is supported by IUT and authentication is needed for Stun/Revive.	

TP ID	TP/MS/TSCC/STUN/MS_INI/BV-004
Reference	Clause 6.4.9.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SR and PIC_MT_AU
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after stun C_AHOY is received, IUT sends out authentication challenge C_ACKVIT, and then sends out a final C_NACKU if an invalid response C_ACKD is received.
NOTE: Stun/Revive is supported by IUT and authentication is needed for Stun/Revive.	

5.3.2.6   Individual Voice Call (IVC)

5.3.2.6.1   MS Initiating (TS_INI)

TP ID	TP/MS/TSCC/IVC/MS_INI/BV-000
Reference	Clause 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_IC
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for individual voice call request first, if no response is received in the NWait+1 TDMA-frames , IUT sends out C_RAND PDU again.
NOTE:	Requires an Upper Tester to make the IUT send out an individual voice call request to an individual MS address.

TP ID	TP/MS/TSCC/IVC/MS_INI/BV-001
Reference	Clause 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_IC
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for individual voice call request first, if C_NACKD PDU is received as a response, no C_RAND PDU is sent out by IUT later.
NOTE:	Requires an Upper Tester to make the IUT send out an individual voice call request to an individual MS address.

TP ID	TP/MS/TSCC/IVC/MS_INI/BV-002
Reference	Clause 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_IC and PIC_MT_VCB
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for individual voice call request first, if C_ACKD PDU with Reason=Callback is received as a response , no C_RAND PDU is sent out by IUT later.
NOTE:	Requires an Upper Tester to make the IUT send out an individual voice call request to an individual MS address.

TP ID	TP/MS/TSCC/IVC/MS_INI/BV-003
Reference	Clause 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_IC and PIC_MT_VEM
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that the EMERG in the Service_options information field of the C_RAND sent out by IUT equals 1 when requesting an emergency voice call.
NOTE:	Requires an Upper Tester to make the IUT send out an emergency individual voice call request to an individual MS address.

TP ID	TP/MS/TSCC/IVC/MS_INI/BV-004
Reference	Clause 6.6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_ICM
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after a C_AHOY PDU is received, the IUT sends out UDT Header with Target_Address = PSTNI to upload the PSTN address.
NOTE:	Requires an Upper Tester to make the IUT send out an individual voice call request to a PSTN address.

TP ID	TP/MS/TSCC/IVC/MS_INI/BV-005
Reference	Clause 6.6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_ICM
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after C_AHOY is received, the IUT sends out UDT Header with Target_Address = PABXI to upload the PABX address.
NOTE:	Requires an Upper Tester to make the IUT send out an individual voice call request to a PABX address.

5.3.2.6.2   MS Terminating (MS_TER)

TP ID	TP/MS/TSCC/IVC/MS_TER/BV-000
Reference	Clause 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_IC
Initial condition	The IUT is active on the TSCC, and can receive voice call from calling MS.
Test purpose	Check, that after the C_AHOY PDU to check availability for individual voice call is received, the IUT sends out C_ACKU(Reason=Message_Accepted).

TP ID	TP/MS/TSCC/IVC/MS_TER/BV-001
Reference	Clause 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_ICM and PIC_MT_VCB
Initial condition	The IUT is active on the TSCC, and voice call can be accepted for call back.
Test purpose	Check, that after the C_AHOY PDU to check availability for individual voice call is received, the IUT sends out C_ACKU(Reasons=Callback).

5.3.2.7   Talkgroup Voice Call (TVC)

5.3.2.7.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSCC/TVC/MS_INI/BV-000
Reference	Clause 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_TC
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for talkgroup voice call request, if no response is received in the NWait+1 TDMA-frames , IUT sends out C_RAND PDU again..
NOTE: Requires an Upper Tester to make the IUT send out a talkgroup voice call request to a talkgroup MS address.	

TP ID	TP/MS/TSCC/TVC/MS_INI/BV-001
Reference	Clause 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_TC
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for talkgroup voice call request first, if C_NACKD PDU is received as a response, no C_RAND PDU is sent out by IUT later.
NOTE: Requires an Upper Tester to make the IUT send out a talkgroup voice call request to a talkgroup MS address.	

TP ID	TP/MS/TSCC/TVC/MS_INI/BV-002
Reference	Clause 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_TC and PIC_MT_TMC
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after C_AHOY is received, the IUT sends out UDT Header with the Target_Address = PSTNI to upload the PSTN address.
NOTE: Requires an Upper Tester to make the IUT send out a talkgroup voice call request to a PSTN address.	

TP ID	TP/MS/TSCC/TVC/MS_INI/BV-003
Reference	Clause 6.6.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_TC and PIC_MT_TMC
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after C_AHOY is received, the IUT sends out UDT Header with the Target_Address = PABXI to upload the PABX address.
NOTE: Requires an Upper Tester to make the IUT send out a talkgroup voice call request to a PABX address.	

5.3.2.8   Individual Packet Data Call (IPDC)

5.3.2.8.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSCC/IPDC/MS_INI/BV-000
Reference	Clause 6.6.3.2 and 6.2.1.1.7 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PDS
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for individual packet data call request, if no response is received in the NWait+1 TDMA-frames , IUT sends out C_RAND PDU again.
NOTE:	Requires an Upper Tester to make the IUT send out an individual packet data call to individual MS address request.

TP ID	TP/MS/TSCC/IPDC/MS_INI/BV-001
Reference	Clause 6.6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PDS
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for individual voice call request first, if C_NACKD PDU is received as a response, no C_RAND PDU is sent out by IUT later.
NOTE:	Requires an Upper Tester to make the IUT send out an individual packet data call to individual MS address request.

TP ID	TP/MS/TSCC/IPDC/MS_INI/BV-002
Reference	Clause 6.6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PDS and PIC_MT_PEM
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that the EMERG in the Service_Options information field of C_RAND PDU sent out by IUT equals 1 when requesting an emergency packet data call.
NOTE:	Requires an Upper Tester to make the IUT send out an emergency individual packet data call to individual MS address.

TP ID	TP/MS/TSCC/IPDC/MS_INI/BV-003
Reference	Clause 6.6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PDS and PIC_MT_ MPP
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after C_AHOY is received, IUT sends out UDT Header with Target_Address = PSTNI to upload the PSTN address.
NOTE:	Requires an Upper Tester to make the IUT send out an individual packet data call to a PSTN address.

TP ID	TP/MS/TSCC/IPDC/MS_INI/BV-004
Reference	Clause 6.6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PDS and PIC_MT_ MPP
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after C_AHOY is received, IUT sends out UDT Header with Target_Address = PABXI to upload the PABX address.
NOTE:	Requires an Upper Tester to make the IUT send out an individual packet data call to a PABX address

5.3.2.8.2   MS Terminating (MS_TER)

TP ID	TP/MS/TSCC/IPDC/MS_TER/BV-000
Reference	Clause 6.6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PDS
Initial condition	The IUT is active on the TSCC, and can receive packet data call from calling MS.
Test purpose	Check, that after C_AHOY for availability check about individual packet call is received, IUT sends out C_ACKU(Reason=Message_Accepted).

5.3.2.9   Talkgroup Packet Data Call (TPDC)

5.3.2.9.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSCC/TPDC/MS_INI/BV-000
Reference	Clause 6.6.3.2 and 6.2.1.1.7 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_TPD
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_Rand for talkgroup packet data call request, if no response is received in the NWait+1 TDMA-frames, IUT sends out C_RAND PDU again.
NOTE: Requires an Upper Tester to make the IUT send out a talkgroup packet data call request to a talkgroup MS address.	

TP ID	TP/MS/TSCC/TPDC/MS_INI/BV-001
Reference	Clause 6.6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_TPD
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for talkgroup packet data call request first, if C_NACKD PDU is received as a response, no C_RAND PDU is sent out by IUT later.
NOTE: Requires an Upper Tester to make the IUT send out a talkgroup packet data call request to a talkgroup MS address.	

TP ID	TP/MS/TSCC/IVC/MS_INI/BV-002
Reference	Clause 6.6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_TPD and PIC_MT_ MPP
Initial condition	The IUT is active on the TSCC
Test purpose	Check, that after C_AHOY PDU is received, IUT sends out UDT Header with Target_Address = PSTNI to upload the PSTN address.
NOTE: Requires an Upper Tester to make the IUT send out a talkgroup packet data call request to a PSTN address.	

TP ID	TP/MS/TSCC/IVC/MS_INI/BV-003
Reference	Clause 6.6.3.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_TPD and PIC_MT_ MPP
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after C_AHOY is received, IUT sends out UDT Header with Target_Address = PABXI to upload the PABX address.
NOTE: Requires an Upper Tester to make the IUT send out a talkgroup packet data call request to a PABX address.	

5.3.2.10   Individual Short Data Message (ISDM)

5.3.2.10.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSCC/ISDM/MS_INI/BV-000
Reference	Clause 6.6.4.2 and 6.2.1.1.7 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDM
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for an individual short data request, if no response is received in the NWait+1 TDMA-frams, IUT sends out C_RAND PDU again.
NOTE: Requires an Upper Tester to make the IUT send out an individual short data message request to an individual MS address.	

TP ID	TP/MS/TSCC/ISDM/MS_INI/BV-001
Reference	Clause 6.6.4.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDM
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for an individual short data message request, if C_NACKD PDU is received as a response, no C_RAND PDU is sent out by IUT later.
NOTE:	Requires an Upper Tester to make the IUT send out an individual short data message request to an individual MS address.

TP ID	TP/MS/TSCC/ISDM/MS_INI/BV-002
Reference	Clause 6.6.4.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDM
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after C_AHOY is received, the IUT sends out UDT Header to upload the short data message.
NOTE:	Requires an Upper Tester to make the IUT send out an individual short data message request to an individual MS address.

TP ID	TP/MS/TSCC/ISDM/MS_INI/BV-003
Reference	Clause 6.6.4.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDM and PIC_MT MPP
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after C_AHOY PDU with (Gateway address = PSTNI) is received, the IUT sends out UDT Header to upload the PSTN address.
NOTE:	Requires an Upper Tester to make the IUT send out an individual short data message request to a PSTN address.

5.3.2.10.2   MS Terminating (MS_TER)

TP ID	TP/MS/TSCC/ISDM/MS_TERI/BV-000
Reference	Clause 6.6.4.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDM
Initial condition	The IUT is active on the TSCC and can receive short data message.
Test purpose	Check, that after UDT Head + appended block(s) for short data message is received, the IUT sends out C_ACKU PDU.

5.3.2.11   Talkgroup Short Data Message (TSDM)

5.3.2.11.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSCC/TSDM/MS_INI/BV-000
Reference	Clause 6.6.4.2 and 6.2.1.1.7 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDM
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for a talkgroup short data request, if no response is received in the NWait+1 TDMA-frams, IUT sends out C_RAND PDU again.
NOTE:	Requires an Upper Tester to make the IUT send out a talkgroup short data message request to a talkgroup MS address.

TP ID	TP/MS/TSCC/TSDM/MS_INI/BV-001
Reference	Clause 6.6.4.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDM
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for a talkgroup short data message request, if C_NACKD PDU is received as a response, no C_RAND PDU is sent out by IUT later.
NOTE:	Requires an Upper Tester to make the IUT send out a talkgroup short data message request to a talkgroup MS address.

TP ID	TP/MS/TSCC/TSDM/MS_INI/BV-002
Reference	Clause 6.6.4.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDM
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after C_AHOY PDU is received, IUT sends out UDT Header to upload the short data message.
NOTE:	Requires an Upper Tester to make the IUT send out a talkgroup short data message request to a talkgroup MS address.

TP ID	TP/MS/TSCC/TSDM/MS_INI/BV-003
Reference	Clause 6.6.4.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDM
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after C_AHOY PDU with (Gateway address=PABXI) is received, the IUT sends out UDT Header to upload the PABX address.
NOTE:	Requires an Upper Tester to make the IUT send out a talkgroup short data message request to a PSTN address.

5.3.2.12   Short Data Polling (SDP)

5.3.2.12.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSCC/SDP/MS_INI/BV-000
Reference	Clause 6.6.5.2 and 6.2.1.1.1.7 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDP
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for short data polling, if no response is received in the NWait+1 TDMA-frams, IUT sends out C_RAND PDU again.
NOTE:	Requires an Upper Tester to make the IUT send out a short data polling request to an individual MS address.

TP ID	TP/MS/TSCC/SDP/MS_INI/BV-001
Reference	Clause 6.6.4.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDP
Initial condition	The IUT is active on the TSCC
Test purpose	Check, that IUT sends out C_RAND for short data polling, if C_NACKD is received as a response, no C_RAND PDU is sent out by IUT later.
NOTE:	Requires an Upper Tester to make the IUT send out a short data polling request to an individual MS address.

TP ID	TP/MS/TSCC/SDP/MS_INI/BV-002
Reference	Clause 6.6.4.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDP
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after UDT Header + appended block(s) for polling data is received, the IUT sends out C_ACKU.
NOTE:	Requires an Upper Tester to make the IUT send out a short data polling request to an individual MS address.

5.3.2.12.2   MS Terminating (MS_TER)

TP ID	TP/MS/TSCC/SDP/MS_TER/BV-000
Reference	Clause 6.6.5.1.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDP
Initial condition	The IUT is active on the TSCC and can receive short data polling request.
Test purpose	Check, that after the C_AHOY PDU for availability check is received, the IUT sends out C_ACKU (Reason=Message_Accepted).

TP ID	TP/MS/TSCC/SDP/MS_TER/BV-001
Reference	Clause 6.6.5.7 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SDP
Initial condition	The IUT is active on the TSCC and can receive short data polling request.
Test purpose	Check, that after C_AHOY PDU for short data polling is received, the IUT sends out UDT Header for the short data upload.

5.3.2.13   Status Call Service (STAT)

5.3.2.13.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSCC/STAT/MS_INI/BV-000
Reference	Clause 6.6.6.1.2 and 6.2.1.1.7 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SCS
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for status call, if no response is received in the NWait+1 TDMA-frams, IUT sends out C_RAND PDU again.
NOTE:	Requires an Upper Tester to make the IUT send out a status call request to an individual MS address.

TP ID	TP/MS/TSCC/STAT/MS_INI/BV-001
Reference	Clause 6.6.6.1.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SCS
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that IUT sends out C_RAND for status call, if C_NACKD is received as a response, no C_RAND PDU is sent out by IUT later.
NOTE:	Requires an Upper Tester to make the IUT send out a status call request to an individual MS address.

TP ID	TP/MS/TSCC/STAT/MS_INI/BV-002
Reference	Clause 6.6.6.1.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SCS
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after C_AHOY PDU with Gateway address=PSTNI is received, the IUT sends out UDT Header to upload the PSTN address.
NOTE:	Requires an Upper Tester to make the IUT send out a status call request to a PSTN address.

5.3.2.13.2   MS Terminating (MS_TER)

TP ID	TP/MS/TSCC/STAT/MS_TER/BV-000
Reference	Clause 6.6.6.1.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_SCS
Initial condition	The IUT is active on the TSCC and can receive status call from calling MS.
Test purpose	Check, that after C_AHOY PDU containing the status information from calling MS is received, IUT sends out_ACKU((Reason=Message_Accepted).

5.3.2.14   Call Diversion (CD)

5.3.2.14.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSCC/SDP/MS_INI/BV-000
Reference	Clause 6.6.7.1.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_CD
Initial condition	The IUT is active on the TSCC.
Test purpose	Check, that after C_AHOY is received, IUT sends out UDT Head + appended block(s) to upload the corresponding diverted address.
NOTE: Requires an Upper Tester to make the IUT send out a voice call diversion setup request.	

5.3.3   Trunking System Payload Channel (TSPC)

5.3.3.1   MS Radio Check (MRC)

5.3.3.1.1   MS Terminating (MS_TER)

TP ID	TP/MS/TSPC/MRC/MS_TER/BV-000
Reference	Clause 6.6.2.3.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PRC
Initial condition	The IUT is located on the payload channel to receive voice to its individual address.
Test purpose	Check, that after P_AHOY for radio check is received, IUT responds with a C_ACKU PDU with Reason=Message_Accepted.

TP ID	TP/MS/TSPC/MRC/MS_TER/BV-001
Reference	Clause 6.6.2.3.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PRV
Initial condition	The IUT is located on the payload channel to receive voice to one of its talkgroup address.
Test purpose	Check, that after P_AHOY for individual radio check is received, the IUT responds with a C_ACKU PDU with Reason=Message_Accepted.

TP ID	TP/MS/TSPC/MRC/MS_TER/BV-002
Reference	Clause 6.6.3.3.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PRD
Initial condition	The IUT is located on the payload channel to receive packet data to its individual address.
Test purpose	Check, that after P_AHOY for radio check is received, IUT responds with a C_ACKU PDU with Reason=Message_Accepted.

TP ID	TP/MS/TSPC/MRC/MS_TER/BV-003
Reference	Clause 6.6.3.3.2.1 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PRD
Initial condition	The IUT is located on the payload channel to receive packet data to one of its talkgroup address.
Test purpose	Check, that after P_AHOY for radio check is received, IUT responds with a C_ACKU PDU with Reason=Message_Accepted.

5.3.3.2   Authentication Check (AUTHC)

5.3.3.2.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSPC/AUTHC/MS_INI/BV-000
Reference	Clause 6.6.2.3.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PAV
Initial condition	The IUT is located on the payload channel to sending voice to called MS.
Test purpose	Check, that after P_AHOY for authentication check is received, the IUT responds with a P_ACKU PDU with a valid authentication response.

TP ID	TP/MS/TSPC/AUTHC/MS_INI/BV-001
Reference	Clause 6.6.3.3.2.2 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PAD
Initial condition	The IUT is located on the payload channel to sending packet data to called MS
Test purpose	Check, that after P_AHOY for authentication check is received, the IUT responds with a P_ACKU PDU with a valid authentication response.

5.3.3.3   Disabling/Enabling a users PTT (DEP)

5.3.3.3.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSPC/DEP/MS_INI/BV-000
Reference	Clause 6.6.2.3.2.3 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PVDE
Initial condition	The IUT is located on the payload channel to send out voice to the called MS.
Test purpose	Check, that after P_PROTECT PDU with (Protect_Kind=DIS_PTT) is received, the IUT disables its PTT.

TP ID	TP/BS/TSPC/DEP/MS_INI/BV-001
Reference	Clause 6.6.2.3.2.3 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PVDE
Initial condition	The IUT is located on the payload channel to send out voice to the called MS.
Test purpose	Check, that after P_PROTECT PDU with (Protect_Kind=EN_PTT) is received, the IUT enables its PTT.
NOTE:	The IUT must have PTT enabled when moving to the payload channel and it must be checked that the IUT stops transmitting when an P_PROTECT PDU with (Protect_Kind=DIS_PTT) is received.

TP ID	TP/BS/TSPC/DEP/MS_INI/BV-002
Reference	Clause 6.6.3.3.2.3 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PDDE
Initial condition	The IUT is located on the payload channel to send out packet data to the called MS.
Test purpose	Check, that after P_PROTECT PDU with (Protect_Kind=DIS_PTT) is received, the IUT disables its PTT.

TP ID	TP/BS/TSPC/DEP/MS_INI/BV-003
Reference	Clause 6.6.3.3.2.3 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PDDE
Initial condition	The IUT is located on the payload channel to send out packet data to the called MS.
Test purpose	Check, that after P_PROTECT PDU with (Protect_Kind=EN_PTT) is received, the IUT enables its PTT and may continue to transmit data.
NOTE:	The IUT must have PTT enabled when moving to the payload channel and it must be checked that the IUT stops transmitting when an P_PROTECT PDU with (Protect_Kind=DIS_PTT) is received.

5.3.3.4   Channel Grant (CG)

5.3.3.4.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSPC/CG/MS_INI/BV-000
Reference	Clause 6.6.2.3.2.4 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PVSC
Initial condition	The IUT is located on the payload channel to send out voice to the called MS.
Test purpose	Check, that after P_GRANT is received, the IUT moves to the designated physical/logical channel.

TP ID	TP/MS/TSPC/CG/MS_INI/BV-001
Reference	Clause 6.6.3.3.2.4 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PDSC
Initial condition	The IUT is located on the payload channel to send out packet data to the called MS.
Test purpose	Check, that after P_GRANT is received, the IUT moves to the designated physical/logical channel.

5.3.3.5   Illegal MS Check (IMC)

5.3.3.5.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSPC/IMC/MS_INI/BV-000
Reference	Clause 6.6.2.3.1.5 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PVRM
Initial condition	The IUT is located on the payload channel to send out voice to the called MS.
Test purpose	Check, that after a P_PROTECT PDU (ILLEGALLY_PARKED) is received, IUT returns to the TSCC.
NOTE: IUT returned to TSCC can be checked by registration.	

TP ID	TP/MS/TSPC/IMC/MS_INI/BV-001
Reference	Clause 6.6.3.3.1.5 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PDRM
Initial condition	The IUT is located on the payload channel to send out packet data to the called MS.
Test purpose	Check, that after P_PROTECT (ILLEGALLY_PARKED) is received, the IUT returns to the TSCC.

5.3.3.6   Cancel Call (CC)

5.3.3.6.1   MS Initiating (MS_INI)

TP ID	TP/MS/TSPC/CC/MS_INI/BV-000
Reference	Clause 6.6.2.3.2.7 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PVCC
Initial condition	The IUT is located on the payload channel to send out voice to the called MS.
Test purpose	Check, that after P_CLEAR to the IUT's individual address is received, returns to the TSCC.

TP ID	TP/MS/TSPC/CC/MS_INI/BV-001
Reference	Clause 6.6.3.3.2.7 of TS 102 361-4 [4]
Selection criteria	PIC_MS and PIC_TS and PIC_MT_PDCC
Initial condition	The IUT is located on the payload channel to send out packet data to the called MS.
Test purpose	Check, that after P_CLEAR to one of the talkgroup address of, the IUT abandons the payload channel and returns to the TSCC.

5.3.4   Data Link Layer (DLL)

5.3.4.1   Synchronization (SYNC)

TP ID	TP/MS/DLL/SYNC/BV-000
Reference	Clause 9.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_RM_MS
Initial condition	The IUT is in Out_of_Sync state
Test purpose	Check, that when the IUT initiates a PTT_Request, the IUT initially sends a wake up message with SYNC pattern matching MS sourced data SYNC pattern.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/SYNC/BV-001
Reference	Clause 9.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_IC or PIC_GC
Initial condition	IUT is in In_Session state
Test purpose	Check, that when the IUT initiates a PTT_Request, the IUT sends voice bursts with SYNC pattern matching MS sourced voice SYNC pattern following the LC header.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/SYNC/BV-002
Reference	Clause 9.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_IC
Initial condition	The IUT is in Out_of_Sync state
Test purpose	Check, that when the IUT receives a UU_V_Req request from the tester for individual call presence check, the IUT either responds with a UU_Ans_Rsp or a NACK_Rsp PDU in a CSBK burst with SYNC PDU in which the SYNC pattern matches the MS sourced data SYNC pattern.

5.3.4.2   Slot Type (ST)

TP ID	TP/MS/DLL/ST/BV-000
Reference	Clauses 5.1.2.2, 5.2.2.2.8 and 9.1.3 of TS 102 361-1 [1]
Selection criteria	PIC_IC or PIC_GC
Initial condition	IUT is in In_Session state
Test purpose	Check, that when the IUT initiates a PTT request, the IUT sends a Full Link Control burst with a Slot Type PDU in which the data type field = Voice_LC_Header.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/ST/BV-001
Reference	Clauses 5.1.2.3, 9.1.3 and G.1.2 of TS 102 361-1 [1]
Selection criteria	PIC_IC or PIC_GC
Initial condition	IUT is in Transmit state
Test purpose	Check, that when the IUT initiates a Dekey_Indication, the IUT sends a Full Link Control burst with a Slot Type PDU in which the data type field = Terminator with LC
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/ST/BV-002
Reference	Clauses 9.3.6, 9.1.3 and 5.2.2.2.1 of TS 102 361-1 [1] and 5.1.1.1 of TS 102 361-2 [2]
Selection criteria	PIC_RM_MS
Initial condition	The IUT is in Out_of_Sync state
Test purpose	Check, that when the IUT initiates a PTT_Request, the IUT sends a CSBK burst with a Slot Type PDU in which the data type field = CSBK.
NOTE: Requires an Upper Tester.	

5.3.4.3 Embedded signalling (EMB)

TP ID	TP/MS/DLL/EMB/DM/BV-000
Reference	Clauses 7.1.3.2, 9.1.2 and 9.3.3 of TS 102 361-1 [1]
Selection criteria	(PIC_IC or PIC_GC) and PIC_DM
Initial condition	IUT is in In_Session state
Test purpose	Check, that when in direct mode the IUT initiates a PTT request, the IUT sends a voice superframe with 4 continuous embedded signalling PDUs in which the information element Link Control Start/Stop (LCSS) is filled correctly.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/EMB/RM/BV-000
Reference	Clauses 7.1.3.2, 9.1.2 and 9.3.3 of TS 102 361-1 [1]
Selection criteria	(PIC_IC or PIC_GC) and PIC_RM
Initial condition	IUT is In_Session state
Test purpose	Check, that when in repeater mode the IUT initiates a PTT request, the IUT sends a voice superframe with 4 continuous embedded signalling PDUs in which the information element Link Control Start/Stop (LCSS) is filled correctly.
NOTE: Requires an Upper Tester.	

5.3.4.4 Channel Access (CA)

5.3.4.4.1 Direct Mode (DM)

TP ID	TP/MS/DLL/CA/DM/BV-000
Reference	Clause 5.2.2.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE_TO_ALL and PIC_DM
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when the IUT transitions to In_Sync state by detecting SYNC PDUs on the channel, the IUT does not initiate transmission.

TP ID	TP/MS/DLL/CA/DM/BV-001
Reference	Clause 5.2.2.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE_TO_CC and PIC_DM
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when IUT transitions to In_Sync state by detecting SYNC PDU, after IUT receives a control burst with Slot Type PDU in which the Colour Code does not match that of the IUT, the IUT start to transmit.

TP ID	TP/MS/DLL/CA/DM/BV-002
Reference	Clause 5.2.2.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE_TO_CC and PIC_DM
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when the IUT comes to In_Sync state by detecting SYNC, after IUT receives a voice burst with Embedded Signalling PDU in which Colour Code does not match that of the IUT, the IUT starts to transmit.

TP ID	TP/MS/DLL/CA/DM/BV-003
Reference	Clause 5.2.2.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE_TO_CC and PIC_DM
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when IUT comes to In_Sync state by detecting SYNC and after IUT receives a control burst with Slot Type PDU in which Colour Code matches that of the IUT, the IUT does not initiate transmission.

TP ID	**TP/MS/DLL/CA/DM/BV-004**
Reference	Clause 5.2.2.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE_TO_CC and PIC_DM
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when IUT comes to In_Sync state by detecting SYNC and after IUT receives a voice burst with Embedded Signalling PDU in which Colour Code matches that of the IUT, the IUT does not initiate transmission.

TP ID	**TP/MS/DLL/CA/DM/BV-005**
Reference	Clauses 5.2.2.1.1 and 5.2.1.6 of TS 102 361-1 [1]
Selection criteria	PIC_IMPOLITE and PIC_DM
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that the IUT initiates transmission, even if the channel is busy with non-DMR activity with RF level greater than the N_RssiLo value for impolite channel access.

TP ID	**TP/MS/DLL/CA/DM/BV-006**
Reference	Clauses 5.2.2.1.1 and 5.2.1.6 of TS 102 361-1 [1]
Selection criteria	PIC_IMPOLITE and PIC_DM
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that the IUT initiates transmission, even if the channel is busy with DMR traffic with colour code different from that of the IUT.

TP ID	**TP/MS/DLL/CA/DM/BV-007**
Reference	Clauses 5.2.2.1.1 and 5.2.1.6 of TS 102 361-1 [1]
Selection criteria	PIC_IMPOLITE and PIC_DM
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that the IUT initiates transmission, even if the channel is busy with DMR traffic with the same colour code as that of the IUT.

TP ID	**TP/MS/DLL/CA/DM/TI-000**
Reference	Clause 5.2.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE and PIC_DM
Initial condition	IUT changes to new channel and the tester does not transmit anything on this channel.
Test purpose	Check, when the IUT initiates PTT, then only after expiry of timer T_ChMonTo, the IUT transmits.

TP ID	**TP/MS/DLL/CA/DM/TI-001**
Reference	Clause 5.2.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE and PIC_DM
Initial condition	IUT changes to new channel and try to synchronize the received signal. The tester keeps transmitting voice bursts on this channel with unknown SYNC pattern.
Test purpose	Check, when the IUT initiates PTT, then only after expiry of T_ChSyncTo, the IUT transmits.

TP ID	**TP/MS/DLL/CA/DM/TI-002**
Reference	Clause 5.2.2.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE_TO_CC and PIC_DM
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when IUT transitions to In_Sync state by detecting SYNC and after expiry of T_TxCC without receiving any burst with Embedded Signalling PDU or Slot Type PDU which contains a matching Colour Code, the IUT initiates transmission.

5.3.4.4.2 Repeater Mode (RM)

TP ID	TP/MS/DLL/CA/RM/BV-000
Reference	Clause 5.2.2.2.3 of TS 102 361-1 [1]
Selection criteria	PIC_IMPOLITE and PIC_RM_MS
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when the IUT transitions to In_Sync state by detecting SYNC and after IUT receives an idle burst with Slot Type PDU in which Colour Code does not match that of the IUT, the IUT sends a CSBK PDU with a BS wake up message.

TP ID	TP/MS/DLL/CA/RM/BV-001
Reference	Clause 5.2.2.2.3 of TS 102 361-1 [1]
Selection criteria	PIC_IMPOLITE and PIC_RM_MS
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when the IUT transitions to In_Sync state by detecting SYNC and after IUT receives a voice burst with Embedded Signalling PDU in which Colour Code does not match that of the IUT, the IUT sends a CSBK PDU with a BS wake up message.

TP ID	TP/MS/DLL/CA/RM/BV-002
Reference	Clause 5.2.2.2.3 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE_TO_CC and PIC_RM_MS
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when the IUT transitions to In_Sync state by detecting SYNC and after IUT receives an idle burst with Slot Type PDU in which Colour Code PDU does not match IUT's, the IUT sends a CSBK PDU with a BS wake up message.

TP ID	TP/MS/DLL/CA/RM/BV-003
Reference	Clause 5.2.2.2.3 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE_TO_CC and PIC_RM_MS
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when the IUT transitions to In_Sync state by detecting SYNC and after IUT receives a voice with Embedded Signalling PDU in which Colour Code PDU does not match that of the IUT, the IUT sends a CSBK PDU with a BS up message.

TP ID	TP/MS/DLL/CA/RM/BV-004
Reference	Clause 5.2.2.2.3 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE_TO_ALL and PIC_RM_MS
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when the IUT transitions to In_Sync state by detecting SYNC and after IUT receives an idle burst with Slot Type PDU in which Colour Code PDU does not match that of the IUT, the IUT does not initiate transmission.

TP ID	TP/MS/DLL/CA/RM/BV-005
Reference	Clause 5.2.2.2.3 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE_TO_ALL and PIC_RM_MS
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when the IUT transitions to In_Sync state by detecting SYNC and after IUT receives a voice burst with Embedded Signalling PDU in which Colour Code does not match that of the IUT, the IUT does not initiate transmission.

TP ID	TP/MS/DLL/CA/RM/BV-006
Reference	Clause 5.2.2.2.5 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE and PIC_RM_MS
Initial condition	The IUT is in state Not_In_Call and initiates PTT_Request
Test purpose	Check, after IUT receives CACH bursts with a TACT PDU indicating channel idle, the IUT transmits.

TP ID	TP/MS/DLL/CA/RM/BV-007
Reference	Clause 5.2.2.2.5 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE and PIC_RM_MS
Initial condition	The IUT is in Not_In_Call and initiates PTT_Request
Test purpose	Check, after IUT receives CACH bursts with a TACT PDU indicating channel busy, the IUT does not initiate transmission.

TP ID	TP/MS/DLL/CA/RM/BV-008
Reference	Clauses 5.2.2.2.1 and 5.2.2.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_IMPOLITE and PIC_RM_MS
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that the IUT sends a CSBK PDU with a BS wake up message even if the channel is busy with non-DMR activity with RF level greater than the N_RssiLo value for impolite channel access.

TP ID	TP/MS/DLL/CA/RM/BV-009
Reference	Clauses 5.2.2.2.1 and 5.2.2.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE_TO_CC and PIC_RM_MS
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that the IUT sends a CSBK PDU with a BS wake up message, even if the channel is busy with non-DMR activity with RF level greater than the N_RssiLo value for polite to own Colour Code channel access.

TP ID	TP/MS/DLL/CA/RM/BV-010
Reference	Clauses 5.2.2.2.1 and 5.2.2.1.1 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE_TO_ALL and PIC_RM_MS
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when the channel is busy with non-DMR activity with RF level greater than the N_RssiLo value for polite to all channel access, the IUT does not start transmission.

TP ID	TP/MS/DLL/CA/RM/TI-000
Reference	Clause 5.2.2.2.3 of TS 102 361-1 [1]
Selection criteria	(PIC_POLITE_TO_CC or PIC_IMPOLITE) and PIC_RM_MS
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when the IUT transitions to In_Sync_unknown_System state by detecting SYNC and after expiry of timer T_TxCCSlot receiving only voice bursts with (Embedded Signalling PDU or Slot Type PDU) which does not contain a matching Colour Code, the IUT sends a CSBK PDU with a wake up message.

TP ID	TP/MS/DLL/CA/RM/TI-001
Reference	Clause 5.2.2.2.3 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE_TO_ALL and PIC_RM_MS
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when the IUT transitions to In_Sync_unknown_System state by detecting SYNC and after expiry of timer T_TxCCSlot receiving only voice bursts with Embedded Signalling PDU or Slot Type PDU which not contain a matching Colour Code, the IUT does not initiate transmission.

TP ID	TP/MS/DLL/CA/RM/TI-002
Reference	Clause 5.2.2.2.5 of TS 102 361-1 [1]
Selection criteria	PIC_POLITE and PIC_RM_MS
Initial condition	The IUT changes to new channel and initiates PTT_Request
Test purpose	Check, that when the IUT transitions to Not_In_Call state when receiving the first idle message and after expiry of T_IdleSrch without finding an idle inbound channel from the TACT PDU, the IUT does not initiate transmission.

5.3.4.5   Cyclic Redundancy Checksum (CRC)

TP ID	TP/MS/DLL/CRC/BV-000
Reference	Clauses 9.1.6, 7.1.1 and B.3.7 of TS 102 361-1 [1]
Selection criteria	PIC_IC or PIC_GC
Initial condition	IUT is in In_Session state
Test purpose	Check, that when the IUT initiates a PTT request, the IUT sends a Full Link Control burst with a voice header burst (Voice_LC_Header) and a 24-bit checksum calculated using a Reed-Solomon (12,9) FEC.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/CRC/BV-001
Reference	Clauses 9.1.6, 7.1.2 and B.3.7 of TS 102 361-1 [1]
Selection criteria	PIC_IC or PIC_GC
Initial condition	IUT is in Transmit state
Test purpose	Check, that when the IUT initiates a Dekey_Indication, the IUT sends a Full Link Control burst with a voice terminator burst (Terminator_With_LC) and a 24-bit checksum calculated using a Reed-Solomon (12,9) FEC.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/CRC/BV-002
Reference	Clauses 9.1.6, 7.1.3.2 and B.3.12 of TS 102 361-1 [1]
Selection criteria	PIC_IC or PIC_GC
Initial condition	IUT is in In_Session state
Test purpose	Check, that when the IUT initiates a PTT request, the IUT sends a voice superframe with 4 continuous embedded signalling PDUs making up a Full LC PDU with a 5 bit checksum.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/CRC/BV-003
Reference	Clauses 9.1.8, 7.2.1 and B.3.9 of TS 102 361-1 [1]
Selection criteria	(PIC_IC or PIC_GC) and PIC_RM_MS
Initial condition	IUT is in Out_of_Sync state
Test purpose	Check, that when the IUT initiates a PTT_Request, the IUT initially sends a wake up message in a CSBK PDU with a 16 bit checksum calculated using a CRC-CCITT algorithm.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/CRC/BV-004
Reference	Clauses 9.1.8, 7.2.1 and B.3.9 of TS 102 361-1 [1]
Selection criteria	PIC_IC and PIC_DM
Initial condition	IUT is in Out_of_Sync state
Test purpose	Check, that when the IUT receives a UU_V_Req request from the tester for individual call presence check, the IUT either responds with a UU_Ans_Rsp or a NACK_Rsp PDU in a CSBK PDU with a 16 bit checksum calculated using a CRC-CCITT algorithm.

5.3.4.6   IP Unconfirmed Packet Data

5.3.4.6.1   MS initiating

TP ID	TP/MS/DLL/IPUPD/MS_INI/BV-000
Reference	Clause 5.3 of TS 102 361-3 [3], clause 9.3.8 of TS 102 361-1 [1].
Selection criteria	PIC_MS_UPD
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits an unconfirmed packet data header for an IP data transmission the transmitted U_HEAD PDU contains the "IP based Packet data" value in the SAP Identifier information element and the "Format" information element contains value 0010 (Data packet with unconfirmed delivery).
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/IPUPD/MS_INI/BV-001
Reference	Clause 5.3 and 5.3.1.2 of TS 102 361-3 [3], clause 9.3.6 of TS 102 361-1 [1].
Selection criteria	PIC_MS_UPD and PIC_MS_UR12
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits an unconfirmed packet data for an IP data transmission using Rate 1/2 coded data, the IUT sends a U_HEAD PDU followed by Rate ½ coded data continuation PDUs (R_1_2_DATA or R_1_2_LDATA) associated with Slot Type PDUs with Data Type information element value "Rate 1/2 Data Continuation".
NOTE:	Requires an Upper Tester.

TP ID	TP/MS/DLL/IPUPD/MS_INI/BV-002
Reference	Clause 5.3 and 5.3.1.2 of TS 102 361-3 [3], clause 9.3.6 of TS 102 361-1 [1].
Selection criteria	PIC_MS_UPD and PIC_MS_UR34
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits an unconfirmed packet data for an IP data transmission using Rate 3/4 coded data, the IUT sends a U_HEAD PDU followed by Rate 3/4 coded data continuation PDUs (R_3_4_DATA or R_3_4_LDATA) associated with Slot Type PDUs with Data Type information element value "Rate 3/4 Data Continuation".
NOTE:	Requires an Upper Tester.

TP ID	TP/MS/DLL/IPUPD/MS_INI/BV-003
Reference	Clause 5.3.2 and 5.3.3.1 of TS 102 361-3 [3].
Selection criteria	RM and PIC_MS_UPD
Initial condition	IUT is in Tx_Idle state and the channel is busy.
Test purpose	Check, that when the IUT is requested to transmit an unconfirmed packet data and the channel is busy it will not transmit any data PDUs during the channel access attempt period T_DataTxLmt.
NOTE:	Requires an Upper Tester.

5.3.4.7   IP Confirmed Packet Data

5.3.4.7.1   MS initiating

TP ID	TP/MS/DLL/IPCPD/MS_INI/BV-000
Reference	Clause 5.4 of TS 102 361-3 [3], clause 9.3.8, 9.3.16 of TS 102 361-1 [1].
Selection criteria	PIC_MS_CPD
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits a first confirmed packet data header for an IP data transmission the transmitted C_HEAD PDU contains the "IP based Packet data" value in the SAP Identifier information element, the "Format" information element contains value 0011(Data packet with confirmed delivery), the Full Message Flag information element set to "First try for complete package" and the Response Requested information element shall be set to "Response Required".
NOTE:	Requires an Upper Tester.

TP ID	TP/MS/DLL/IPCPD/MS_INI/BV-001
Reference	Clause 5.4, 5.4.1.1 of TS 102 361-3 [3].
Selection criteria	PIC_MS_CPD and PIC_MS_CR12
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits a confirmed packet data for an IP data transmission using Rate ½ coded data, the IUT sends a C_HEAD PDU followed by Rate ½ coded data continuation PDUs (R_1_2_DATA or R_1_2_LDATA) associated with Slot Type PDUs with Data Type information element value "Rate ½ Data Continuation".
NOTE:	Requires an Upper Tester.

TP ID	TP/MS/DLL/IPCPD/MS_INI/BV-002
Reference	Clause 5.4, 5.4.1.2 of TS 102 361-3 [3].
Selection criteria	PIC_MS_CPD and PIC_MS_CR34
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits a confirmed packet data for an IP data transmission using Rate ¾ coded data, the IUT sends a C_HEAD PDU followed by Rate 3/4 coded data continuation PDUs (R_3_4_DATA or R_3_4_LDATA) associated with Slot Type PDUs with Data Type information element value "Rate ¾ Data Continuation".
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/IPCPD/MS_INI/BV-003
Reference	Clause 5.4.2.1 of TS 102 361-3 [3].
Selection criteria	PIC_MS_CPD
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits a confirmed packet data for an IP data transmission but receives no confirmation on the transmission, the IUT will repeat transmission of the packet data N_RtryLmt number of times.
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/IPCPD/MS_INI/BV-004
Reference	Clause 5.4.2.1 of TS 102 361-3 [3].
Selection criteria	PIC_MS_CPD and PIC_MS_CSW
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits a confirmed packet data using sliding window flow control, the IUT sends out a number of C_HEAD PDUs with information element "Response requested" set to "0" followed by a C_HEAD PDU with information element "Response requested" set to "1" to request a confirmation response.
NOTE: Requires an Upper Tester.	

5.3.4.7.2   Direct Mode

TP ID	TP/MS/DLL/IPCPD/DM/MS_INI/BV-000
Reference	Clause 5.4 of TS 102 361-3 [3].
Selection criteria	PIC_MS_CPD and PIC_DM
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits confirmed data for an IP data transmission, after the last data block PDU of the last fragment is transmitted the IUT transmits a TD_LC PDU in a LC Data type burst.
NOTE: Requires an Upper Tester.	

5.3.4.8   IP Response Packet Data

5.3.4.8.1   MS terminating

TP ID	TP/MS/DLL/IPRPD/MS_TER/BV-000
Reference	Clauses 5.4 and 5.4.2.2 of TS 102 361-3 [3].
Selection criteria	PIC_MS_CPD
Initial condition	IUT is in In_Sync state
Test purpose	Check, that when the IUT successfully receives confirmed data packet and a terminator data link control TD_LC PDU, the IUT will transmit as confirmation a C_RHEAD PDU with information elements "Class" set to "00", "Type" set to "001" to indicate all blocks of packets are successfully received.

TP ID	TP/MS/DLL/ IPRPD/MS_TER/BV-001
Reference	Clauses 5.4 and 5.4.2.2 of TS 102 361-3 [3].
Selection criteria	PIC_MS_CPD
Initial condition	IUT is in In_Sync state
Test purpose	Check, that when the IUT receives a confirmed data packet with incorrect block CRC, the IUT sends a response using a C_RHEAD PDU with information elements "Class" set to "10", and "Type" set to the "000" to request the retry of received data block.

5.3.4.9   Short Data Unconfirmed Data Packet

5.3.4.9.1   MS initiating

TP ID	TP/MS/DLL/SDUPD/MS_INI/BV-000
Reference	Clause 6.1 of TS 102 361-3 [3], clause 9.2.12 of TS 102 361-1 [1].
Selection criteria	PIC_MS_SDD
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits an unconfirmed short data defined data header, the DD_HEAD PDU contains the "Short Data" ("1010") value in the SAP Identifier information element, "Format" information element set to "1101", "Response Requested" information element with value "No Response" ("0"), and a non-zero value for information element "Appended Blocks".
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/SDUPD/MS_INI/BV-001
Reference	Clause 6.2 of TS 102 361-3 [3], clause 9.2.11 of TS 102 361-1 [1].
Selection criteria	PIC_MS_SRD
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits an unconfirmed short data raw data header, the R_HEAD PDU contains the "Short Data" ("1010") value in the SAP Identifier information element, "Format" information element" set to "1110", "Response Requested" information element with value "No Response" ("0"), and a non-zero value for information element "Appended Blocks".
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/SDUPD/MS_INI/BV-002
Reference	Clause 6.3 of TS 102 361-3 [3], clause 9.2.10 of TS 102 361-1 [1].
Selection criteria	PIC_MS_SSP
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits an unconfirmed short data status/precoded data header, the SP_HEAD PDU contains the "Short Data" ("1010") value in the SAP Identifier information element, "Format" information element" set to "1110", "Response Requested" information element with value "No Response" ("0"), and a information element "Appended Blocks" set to "000000".
NOTE: Requires an Upper Tester.	

5.3.4.10   Short Data Confirmed Data Packet

5.3.4.10.1   MS initiating

TP ID	TP/MS/DLL/SDCPD/MS_INI/BV-000
Reference	Clause 6.1 of TS 102 361-3 [3], clause 9.2.12 of TS 102 361-1 [1].
Selection criteria	PIC_MS_SDD
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits a confirmed short data defined data header, the DD_HEAD PDU contains the "Short Data" ("1010") value in the SAP Identifier information element, "Format information element set to "1101", "Response Requested" information element with value "Response Required" ("1"), and a non-zero value for information element "Appended Blocks".
NOTE: Requires an Upper Tester.	

TP ID	TP/MS/DLL/SDCPD/MS_INI/BV-001
Reference	Clause 6.2 of TS 102 361-3 [3], clause 9.2.11 of TS 102 361-1 [1].
Selection criteria	PIC_MS_SRD
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits a confirmed short data raw data header, the R_HEAD PDU contains the "Short Data" ("1010") value in the SAP Identifier information element, "Format" information element" set to "1110", "Response Requested" information element with value "Response Required" ("1"), and a non-zero value for information element "Appended Blocks".
NOTE:	Requires an Upper Tester.

TP ID	TP/MS/DLL/SDCPD/MS_INI/BV-002
Reference	Clause 6.3 of TS 102 361-3 [3], clause 9.2.10 of TS 102 361-1 [1].
Selection criteria	PIC_MS_SSP
Initial condition	IUT is in TX_Idle state
Test purpose	Check, that when the IUT transmits a confirmed short data status/precoded data header, the SP_HEAD PDU contains the "Short Data" ("1010") value in the SAP Identifier information element, "Format" information element" set to "1110", "Response Requested" information element with value "Response Required" ("1"), and a information element "Appended Blocks" set to "000000".
NOTE:	Requires an Upper Tester.

5.3.4.11 Short Data Response Packet Data

5.3.4.11.1 MS terminating

TP ID	TP/MS/DLL/SDRPD/MS_TER/BV-000
Reference	Clause 6.4 of TS 102 361-3 [3].
Selection criteria	PIC_MS_SD
Initial condition	IUT is in In_Sync state
Test purpose	Check, that when the IUT successfully receives a confirmed data packet for status/precoded data SP_HEAD PDU, the IUT will transmit as confirmation an acknowledgement C_RHEAD PDU with information elements "Class" set to "00" and "Type" set to "001".

Annex A (informative):
Bibliography

- ISO/IEC 9646-2 (1991): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification". (See also ITU-T Recommendation X.291 (1991).

- ISO/IEC 9646-6 (1991): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 6: Protocol profile test specification".

- ETSI ETR 266: "Methods for Testing and Specification (MTS); Test Purpose style guide".

History

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