

AMENDMENT

ETS 300 563

A1

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**This amendment A1, modifies
the European Telecommunication Standard ETS 300 563 (1994)**

**European digital cellular telecommunications system (Phase 2);
Radio Link Protocol (RLP) for data and telematic services on the
Mobile Station - Base Station System (MS - BSS) Interface and the
Base Station System - Mobile-services Switching Centre (BSS -
MSC) interface
(GSM 04.22)**

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Foreword

This Amendment to ETS 300 563 (1994) has been produced by the Special Mobile Group (SMG) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This Amendment to ETS 300 563 (1994) corresponds to the changes to GSM Technical Specification (GSM-TS) 04.22 from version 4.3.0 to version 4.4.0, as approved by TC-SMG.

This Amendment modifies pages 19, 23, 27 to 30, 31, and 38 of ETS 300 563 (1994).

Amendments

Page 19, subclause 5.4.3.

Replace the existing table with the following table:

Name	Range of values	Default and recommended value
k MS > IWF	0 - 61	61
k IWF > MS	0 - 61	61
T1	> 380 ms > 440 ms > 600 ms	480 ms (fullrate on 12 kbit/s) 540 ms (fullrate on 6 kbit/s) 780 ms (halfrate)
T2		<80 ms (fullrate on 12 kbit/s) <80 ms (fullrate on 6 kbit/s) <80 ms (halfrate)
N2	> 0	6

Page 22, subclause 6.4.

Replace the final list entitled "Test" with the following: paragraph with the following new text:

"Test

RLP-TESTDATA-REQUEST (INF)
RLP-TESTDATA-CONFIRM (-NEG) (INF)"

Pages 27 to 30, annex A, subclause A.1.2.

Replace annex A subclause A.1.2 with the following:

A.1.2 state variables

The main states are further distinguished by the values of the state variables.

However, not every state variable is used (evaluated/ defined) in every state.

First some constants need to be defined:

M = 62	number of different sequence numbers (modulus)
Nmin = 0	smallest sequence number
Nmax = 61	largest sequence number (= M - 1)
N2 = 6	maximum number of retransmissions

variable name	variable type and range	semantic
Ackn_FBit	(0, 1)	Value of the F-Bit used in the next acknowledging PDU.
Ackn_State	(idle, send)	Ackn_State = send means, an acknowledging PDU (Supervisory or Data) has to be sent.

C	(0, 1)	to store the C/R-Bit value of a received S- or I-frames
Data	char[25]	to store temporarily the information part (user data) of a received I-frame.
DISC_Count	(0, 1,..., N2)	to count the transmissions of DISC.
DISC_PBit	(0, 1)	The value of the P-bit in the next DISC command PDU.
DISC_State	(idle,send,wait)	if (DISC_State = send) the DISC command PDU has to be sent at the next possible opportunity. if (DISC_State = wait) the RLP entity waits for the corresponding response.
DM_FBit	(0, 1)	Value of the F-Bit used in the next DM response PDU.
DM_State	(idle, send)	if (DM_State = send) the PDU DM has to be sent.
DTX_SF	(N, RR, RNR)	to store the last Supervisory frame for DTX (only RR or RNR can be suppressed)
DTX_VR	(0, 1,..., Nmax)	to store the last transmitted value of VR (used to decide the DTX condition)
F	(0, 1)	to store temporarily the F-bit of a received response PDU.
NR	(0, 1,..., Nmax)	to store temporarily the receive sequence number of a received S- or I-frame.
NS	(0, 1,..., Nmax)	to store temporarily the send sequence number of a received I-frame.
P	(0, 1)	to store temporarily the P-bit of a received command PDU
P_F	(0, 1)	to store temporarily the P- or F-bit of received command or response PDUs.
Poll_Count	(0, 1,..., N2)	to count the transmissions of poll requests.
Poll_State	(idle,send,wait)	(Poll_State = send) means, a supervisory PDU with P-bit set to one has to be sent. (Poll_State = wait) means, the RLP entity waits for the response with F-bit set to one.

Poll_xchg	(idle, wait)	(Poll_xchg = idle) means, sending of a frame with P-bit set is allowed. (Poll_xchg = wait) means, an acknowledgement of a previous P-bit is outstanding.
R[M]	record array	Receiver slots (M slots, numbered 0 to M-1)
R[n].Data	char[25]	to store user information
R[n].State	(idle, rcvd, ackn, srej, wait)	(R[n].State = rcvd) means, data has been received (with sequence number n). (R[n].State = ackn) means, data has been received and acknowledged. (R[n].State = srej) means, the retransmission of data has to be requested using srej(n). (R[n].State = wait) means, the entity waits for the requested retransmitted data.
REJ_State	(idle, send, wait)	The REJ_State is send if and only if a REJ PDU has to be sent.
returncode	Integer	used in procedures to report a result
RRReady	Boolean	Remote Receiver Ready
SABM_Count	(0, 1,..., N2)	to count the transmissions of SABM.
SABM_State	(idle, send, wait)	if (._State = send) the SABM PDU has to be sent. if (._State = wait) the RLP entity waits for the UA response.
S[M]	record array	Sender Slots (M slots, numbered 0 to M-1)
S[n].Data	char[25]	user information to be sent.
S[n].State	(idle, send, wait)	(S[n].State = send) means, data has to be sent (with sequence# n).
SF	(RR,RNR,REJ,SREJ)	to store the last superv. PDU type
T	Timer	used by the data sender if waiting for I-frame acknowledgements or F-bits.
TEST_Count	(0, 1,...,N2)	to count the transmissions of TEST.
TEST_C_Data	char [25]	data to be sent in the next TEST command PDU.
TEST_C_PBit	(0, 1)	value of the P-Bit used in the next TEST command PDU.

TEST_C_State	(idle, send, wait)	if (.._State = send) the TEST command PDU has to be sent. if (.._State = wait) the RLP entity waits for the next TEST reponse.
TEST_R_Data	char[25]	data to be sent in the next TEST response PDU.
TEST_R_FBit	(0, 1)	value of the P-Bit used in the next TEST response PDU.
TEST_R_State	(idle, send)	if (.._State = send) the TEST response PDU has to be sent.
T_RCVR	Timer	used by the receiver to timeout a REJ condition.
T_RCVS(n)	Timer	used by the receiver to timeout a SREJ condition for Slot n.
T_TEST	Timer	used by the sender of a TEST frame if waiting for a TEST response.
T_XID	Timer	used by the sender of a XID frame if waiting for the XID response.
UA_FBit	(0, 1)	value of the F-Bit used in the next UA response.
UA_State	(idle, send)	if (UA_State = send) an UA PDU has to be sent.
UI_Data	char[25]	data to be sent in the next UI PDU.
UI_PBit	(0, 1)	value of the P-Bit used in the next UI PDU.
UI_State	(idle, send)	if (UI_State = send) a UI PDU has to be sent.
VA	(0, 1,..., Nmax)	frame sequence number of oldest not yet acknowledged I-frame (if VA = VS then there are no unacknowledged frames).
VD	(0, 1, ..., Nmax)	slot number used in the next Data_Req.
VR	(0, 1, ..., Nmax)	receiver sequence number (the next received I-frame is expected to carry this sequence number).
VS	(0, 1, ..., Nmax)	sender sequence number (under normal operating conditions the next I-frame is assigned this number).
XID_Count	(0, 1,...,N2)	to count the transmissions of XID commands.
XID_C_Data	char [25]	data to be sent in the next XID command PDU.
XID_C_PBit	(0, 1)	value of the P-Bit used in the next XID command PDU.
XID_C_State	(idle, send, wait)	if (.._State = send) the XID command PDU has to be sent. if (.._State = wait) the RLP entity waits for the next XID reponse.

XID_R_FBit	(0, 1)	value of the P-Bit used in the next XID response PDU.
XID_R_State	(idle, send)	if (._State = send) the XID response PDU has to be sent.

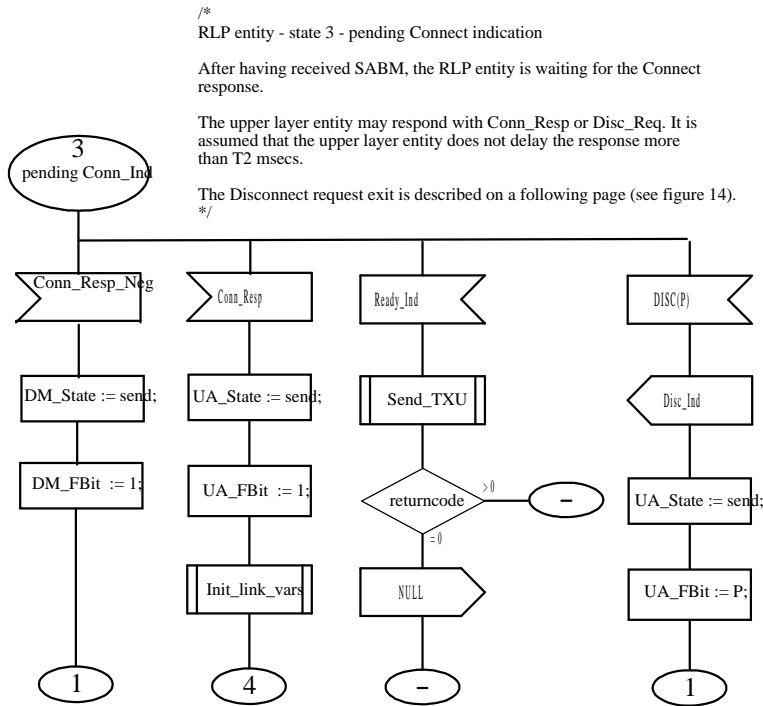
Page 31, annex A, clause A.2.

Replace Page 31 the "List of RLP entity events" on Page 31 with the following list:

event#	name	semantic	interface
1	Attach_Req	Switch to "ADM and Attached"	m
2	Conn_Ind	Connect indication	u
3	Conn_Conf	Connect confirm	u
4	Conn_Conf_Neg	Connect confirm negative	u
5	Conn_Req	Connect request	u
6	Conn_Resp	Connect reponse	u
7	Conn_Resp_Neg	Connect response negative	u
8	Data_Ind(Date)	Data transfer indication (user data in data)	u
9	Data_Req(Data)	Data transfer request (user data in data)	u
10	Detach_Req	Switch to "ADM and Detached"	m
11	Disc_Ind	Disconnection indication	u
12	Disc_Req	Disconnect request	u
13	DISC(P)	PDU DISC received (P-bit in P)	l
14	DM(F)	PDU DM received (F-bit in F)	l
15	Error_Ind	Error Indication	u
16	LL_Data_Req	Data request to lower layer	l
17	LL_Data_Ind	Data indication from lower layer	l
18	NULL	PDU NULL received	l
19	Ready_Ind	Indication that a new PDU may be sent	m
20	Reset_Conf	Reset confirm	u
21	Reset_Ind	Reset indication	u
22	Reset_Req	Reset request	u
23	Reset_Resp	Reset response	u
24	RR_I(C,P_F,NR,NS,Data)	I-frame RR received	l
25	RNR_I(C,P_F,NR,NS,Data)	I-frame RNR received	l
26	REJ_I(C,P_F,NR,NS,Data)	I-frame REJ received	l
27	SREJ_I(C,P_F,NR,NS,Data)	I-frame SREJ received	l
28	RR(C,P_F,NR)	S-frame RR received	l
29	RNR(C,P_F,NR)	S-frame RNR received	l
30	REJ(C,P_F,NR)	S-frame REJ received	l
31	SREJ(C,P_F,NR)	S-frame SREJ received	l
32	SABM(P)	PDU SABM received	l
33	UA(F)	PDU UA received (F-bit in F)	l
34	UI_Req(Data)	Unnumbered Information transfer request	u
35	UI(C,P_F,Data)	UI PDU received	l
36	T	Timeout (Timer of the sender expired)	m
37	Test_Conf(Data)	Test confirm (received data in Data)	u
38	Test_Conf_Neg(Data)	Test confirm negative (received data in Data)	u
39	T_RCVR	Timeout (Timer of the receiver for REJ exp.)	m
40	T_RCVS(n)	Timeout (Timer of the receiver for SREJ ep.)	m
41	T_TEST	Timeout (Test timer expired)	m
42	T_XID	Timeout (Xid timer expired)	m
43	Test_Req(Data)	Test request (Test data in Data)	m
44	TEST(C,P_F,Data)	TEST command/response PDU received (C/R-bit in C, P/F-bit in P_F, Data in Data)	l
45	XID_Req(Data)	Exchange ID request	m
46	XID_Ind(Data)	Exchange ID indication	m
47	XID(C,P_F,Data)	XID command/response PDU received	l

Page 38, annex A, clause A.2.

Replace Page 38 figure "04.22 Annex A, Figure 07" with the following new figure:



04.22 Annex A, Figure 07

History

Document history	
September 1994	First Edition of ETS 300 563
March 1995	Unified Approval Procedure UAP 26: 1995-03-06 to 1995-06-30
July 1995	Amendment 1 to First Edition of ETS 300 563 (September 1994)
November 1995	Converted into Adobe Acrobat Portable Document Format (PDF)
Note :	The references to the changed pages in the standard refer to an old presentation. See history box at the end of the standard itself. The new presentation format, applied from 1 December 1995, might have different page numbering. The clause numbering has not changed.