3GPP TSG-T Meeting #16
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CR-Form-v5.1

CHANGE REQUEST

⌘ **TS 34.123-1** **CR** **255** ⌘ **rev** **1** ⌘ Current version: **4.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	CR to section 16.1.6 & 16.2.6: Addition of test of short message type 0 (CS/PS)
Source:	⌘	T1
Work item code:	⌘	TEI
Date:	⌘	06.06.2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	For SMS Type 0 there is currently no test existing. However, this feature is used by many network operators in order to get UE positioning data or to check whether an UE is 'on air' in the network. An UE receiving such a message shall behave according to the core specifications. Since the conformance requirement has been made harder from REL-4 to REL-5, the REL-5 relevant Test Cases have been created as sections 16.1.6a and 16.2.6a respectively.
Summary of change:	⌘	Addition of a new test in section 16.1.6a (CS) and 16.2.6a (PS)
Consequences if not approved:	⌘	The UE is not tested according to this requirement and may show service affecting behaviour when receiving a Type 0 Short Message

Clauses affected:	⌘	Section 16.1.6a & 16.2.6a, new test		
Other specs affected:	⌘	☐ Other core specifications ☒ Test specifications ☐ O&M Specifications	⌘	3GPP TS 34.123-2
Other comments:	⌘	The corresponding test case of 3GPP TS 51.010-1 is 34.2.6		

16.1.6 Test of short message type 0 (R99 and REL-4 UE)

For further study.

16.1.6a Test of short message type 0 (≥ REL-5 UE)

16.1.6a.1 Definition and applicability

This tests that the UE correctly acknowledges the receipt of the short message type 0 to the SC in Circuit Switched mode. The UE shall discard the contents of the short message type 0.

This test shall apply to all ≥ REL-5 UEs supporting receipt of short messages in CS mode.

16.1.6a.2 Conformance requirement

When a mobile terminated message is type 0, the UE shall acknowledge receipt of the short message to the SC but shall discard its contents. This means that

- the UE shall be able to receive the type 0 short message irrespective of whether there is memory available in the (U)SIM or ME or not,
- the UE shall not indicate the receipt of the type 0 short message to the user,
- the short message shall neither be stored in the (U)SIM nor ME.

Reference(s)

3GPP TS 23.040, 9.2.3.9.

16.1.6a.3 Test purpose

To verify that the UE will acknowledge receipt of the short message to the SC. The UE shall discard its contents. This means that

- the UE shall be able to receive the type 0 short message irrespective of whether there is memory available in the (U)SIM or ME or not,
- the UE shall not indicate the receipt of the type 0 short message to the user,
- the short message shall neither be stored in the (U)SIM nor ME.

NOTE: failure of this test in a UE could cause it to reject a type 0 message when the network is trying to reach the UE. This could lead to unwanted repetitions between the US and the service centre. In addition service affecting restrictions could happen to the customer.

16.1.6a.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

the UE shall be in MM-state "Idle, updated".

the ME- and (U)SIM message store shall be empty.

Related ICS/IXIT Statements

Support for Short Message MT/PP.

Whether SMS messages are stored in the USIM and/or the ME.

UE capable of displaying short messages

The value of timer TC1M.

Foreseen Final State of UE

Idle, updated.

Test Procedure

a) The SS sends a type 0 short message by using the method described in step a) of clause 16.1.1 but with the TPDU described in this section.

b) The ME- and (U)SIM short message store shall be filled (for example by using the method of clause 16.1.3 test of the memory available notification).

c) The SS sends a type 0 short message as in step a).

Maximum Duration of Test

5 minutes

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2		-->	PAGING RESPONSE	
3		<--	AUTHENTICATION REQUEST	
4		-->	AUTHENTICATION RESPONSE	
5		<--	SECURITY MODE COMMAND	
6		-->	SECURITY MODE COMPLETE	
7		<--	CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), type 0 Short Message
8		-->	CP-ACK	
9		-->	CP-DATA	Contains RP-ACK TP-Protocol-Identifier (TP-PID).
10		<--	CP-ACK	
11		<--	RRC CONNECTION RELEASE	
12		-->	RRC CONNECTION RELEASE COMPLETE	
13	UE			The UE shall discard the type 0 short message. This means that the UE does not indicate the receipt of the type 0 short message to the user. The UE shall not store the message in the (U)SIM or ME. This can be checked by verifying that it is impossible to retrieve any short messages from the ME- and (U)SIM message store.
14	SS			The ME- and (U)SIM message store shall be filled (for example by using the method of 16.1.3).
15			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
16		-->	PAGING RESPONSE	
17		<--	AUTHENTICATION REQUEST	
18		-->	AUTHENTICATION RESPONSE	
19		<--	SECURITY MODE COMMAND	
20		-->	SECURITY MODE COMPLETE	
21		<--	CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), type 0 Short Message
22		-->	CP-ACK	
23		-->	CP-DATA	Contains RP-ACK TP-Protocol-Identifier (TP-PID).

Step	Direction		Message	Comments
	UE	SS		
24	<--		CP-ACK	
25	<--		RRC CONNECTION RELEASE	
26	-->		RRC CONNECTION RELEASE COMPLETE	
27	UE			The UE shall discard the type 0 short message. This means that the UE does not indicate the receipt of the type 0 short message to the user. The UE shall not store the message in the (U)SIM or ME. This can be checked by verifying that it is impossible to retrieve any short messages from the ME- and (U)SIM message store.

Specific Message Contents:

SMS-DELIVER TPDU (containing a type 0 message) (SS to UE):

Information element	Comment Value
TP-MIT	SMS-DELIVER "00"B
TP-MMS	more messages are waiting in SC "0"B
TP-RP	no reply path "0"B
TP-UDHI	TP-UD contains only the SM"0"B
TP-SRI	no status report returned0
TP-OA	an international number coded E.164
TP-PID	Type 0: "01000000"B
TP-DCS	default alphabet "0000 0000"B
TP-SCTS	any legal value (cf. 3GPP TS 23.040)
TP-UDL	160
TP-UD (140 octets)	text of message (160 characters)

[…]

16.2 Short message service point to point on PS mode

All of test cases in this clause are applied to the UE supported PS mode.

[…]

16.2.6 Test of short message type 0 (R99 and REL-4 UE)

For further study.

16.2.6a Test of short message type 0 (≥ REL-5 UE)

16.2.6a.1 Definition and applicability

This tests that the UE correctly acknowledges the receipt of the short message type 0 to the SC in Packet Switched mode. The UE discards the contents of the short message type 0.

This test shall apply to all ≥ REL-5 UEs supporting receipt of short messages in PS mode.

16.2.6a.2 Conformance requirement

When a mobile terminated message is type 0, the UE shall acknowledge receipt of the short message to the SC but shall discard its contents. This means that

- the UE shall be able to receive the type 0 short message irrespective of whether there is memory available in the (U)SIM or ME or not,
- the UE shall not indicate the receipt of the type 0 short message to the user,

- the short message shall neither be stored in the (U)SIM nor ME.

Reference(s)

3GPP TS 23.040, 9.2.3.9.

16.2.6a.3 Test purpose

To verify that the UE will acknowledge receipt of the short message to the SC. The UE shall discard its contents. This means that

- the UE shall be able to receive the type 0 short message irrespective of whether there is memory available in the (U)SIM or ME or not,
- the UE shall not indicate the receipt of the type 0 short message to the user,
- the short message shall neither be stored in the (U)SIM nor ME.

NOTE: failure of this test in a UE could cause it to reject a type 0 message when the network is trying to reach the UE. This could lead to unwanted repetitions between the US and the service centre. In addition service affecting restrictions could happen to the customer.

16.2.6a.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

the UE shall be in GMM-state "GMM-REGISTERED";

the ME- and (U)SIM message store shall be empty.

Related ICS/IXIT Statements

Support for Short Message MT/PP.

Whether SMS messages are stored in the USIM and/or the ME.

UE capable of displaying short messages

The value of timer TC1M.

Foreseen Final State of UE

Idle, updated.

Test Procedure

a) The SS sends a type 0 short message by using the method described in step a) of clause 16.2.1 but with the TPDU described in this section.

b) The ME- and (U)SIM short message store shall be filled (for example by using the method of clause 16.2.3 test of the memory available notification).

c) The SS sends a type 0 short message as in step a).

Maximum Duration of Test

5 minutes

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), type 0 Short Message
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK TP-Protocol-Identifier (TP-PID).
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13	UE			The UE shall discard the type 0 short message. This means that the UE does not indicate the receipt of the type 0 short message to the user. The UE shall not store the message in the (U)SIM or ME. This can be checked by verifying that it is impossible to retrieve any short messages from the ME- and (U)SIM message store.
14		SS		The ME- and (U)SIM message store shall be filled (for example by using the method of 16.1.3).
15			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
16	-->		PAGING RESPONSE	
17	<--		AUTHENTICATION REQUEST	
18	-->		AUTHENTICATION RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), type 0 Short Message
22	-->		CP-ACK	
23	-->		CP-DATA	Contains RP-ACK TP-Protocol-Identifier (TP-PID).
24	<--		CP-ACK	
25	<--		RRC CONNECTION RELEASE	
26	-->		RRC CONNECTION RELEASE COMPLETE	
27	UE			The UE shall discard the type 0 short message. This means that the UE does not indicate the receipt of the type 0 short message to the user. The UE shall not store the message in the (U)SIM or ME. This can be checked by verifying that it is impossible to retrieve any short messages from the ME- and (U)SIM message store.

Specific Message Contents:

SMS-DELIVER TPDU (containing a type 0 message) (SS to UE):

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TP-MMS	more messages are waiting in SC "0"B
TP-RP	no reply path "0"B
TP-UDHI	TP-UD contains only the SM"0"B
TP-SRI	no status report returned0
TP-OA	an international number coded E.164
TP-PID	Type 0: "01000000"B
TP-DCS	default alphabet "0000 0000"B
TP-SCTS	any legal value (cf. 3GPP TS 23.040)
TP-UDL	160
TP-UD (140 octets)	text of message (160 characters)

[…]