3GPP TSG-T (Terminals) Meeting #14
Kyoto, Japan, 12 - 14 December 2001

Tdoc TP-010264

3GPP TSG- T1 Meeting #13
Cancun, Mexico, 29-30 Nov 2001

TSG T1-010551

Title: Response to LS on SMS testing
Source: TSG-T1
To: TSG-T2
Cc: GERAN4, GERAN5, CN1, T
Contact Person:

Name: Akira Tsukamoto (DENSO CORPORATION)

Tel. Number: +81 566 61 3653

E-mail Address: a_tuka@hcom.denso.co.jp

Attachments: T1-010418 (Update to 34.123-1 SMS test specification)

TSG-T1 thanks TSG T2 for its LS T2-010844(T1-010387) regarding the SMS test spec.

TSG-T1 agrees with this LS on SMS testing(T2-010844).

TSG-T1 put the attached CR(T1-010418) in order to reflect the LS.

In this CR, all the tests that check the SC address by UE (sub-clause 16.1.7 and 16.2.7) have been deleted.

T1 is also looking forward to a fruitful co-operation with all other groups.

3GPP TSG- T1 Meeting #13
Cancun, Mexico, 29-30 Nov 2001

TSG T1-010418

3GPP TSG- T1/SIG Meeting #20
Cancun, Mexico, 26-28 Nov 2001

TSG T1S-010313r1

CR-Form-v4

CHANGE REQUEST

⌘ **34.123-1** **CR** **00?** ⌘ ev **-** ⌘ Current version: **4.0.0** ⌘

*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:	⌘	Update to SMS tests
Source:	⌘	DENSO CORPORATION
Work item code:	⌘	TEI
Date:	⌘	2001-11-26
Category:	⌘	**F**
Release:	⌘	REL-4

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: ⌘ Correction of the replace mechanism test

Summary of change: ⌘ 1. Correction of the replace mechanism test

The Replace Short Message feature of 3GPP TS 23.040 had changed on and after release 98 in a way that the SC address is no longer checked (sub-clause 9.2.3.9).

It is being written in this core specification as follows;

- *If such a code is present, then the MS shall check the originating address and replace any existing stored message having the same Protocol Identifier code and originating address with the new short message and other parameter values. If there is no message to be replaced, the MS shall store the message in the normal way. The MS may also check the SC address as well as the Originating Address. However, in a network which has multiple SCs, it is possible for a Replace Message type for a SM to be sent via different SCs and so it is recommended that the SC address should not be checked by the MS unless the application specifically requires such a check.*

Therefore, it is unnecessary about all the test descriptions that check the SC address by MS (sub-clause 16.1.7 and 16.2.7).

Deletion of the description about using two different SC addresses (RP-OA1 and RP-OA2), in “Conformance requirement” (16.1.7.2 and 16.2.7.2), “Test procedure” (16.1.7.4 and 16.2.7.4) and “Expected sequence” (16.1.7.4 and 16.2.7.4)

		Deletion of step d) in “Test procedure” (16.1.7.4 and 16.2.7.4) Deletion of step 25 to 36 in “Expected sequence” (16.1.7.4 and 16.2.7.4) Deletion of the written description as “step 31”, in “Test procedure” (16.1.7.4 and 16.2.7.4) and “Test requirements” (16.1.7.5 and 16.2.7.5) 2. Editorial modifications After step **45** → After step **43** (sub-clause 16.2.2.5) After step **71** → After step **61** (sub-clause 16.2.2.5)
Consequences if not approved:	⌘	An inconsistency with the core specification will remain.

Clauses affected:	⌘	16.1.7, 16.2.2, 16.2,7		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘	Applicable to R99 and later releases		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

<Start of modified section>

16.1.7 Test of the replace mechanism for SM type 1-7

16.1.7.1 Definition

16.1.7.2 Conformance requirement

On receipt of a short message, the UE shall check to see if the associated Protocol Identifier contains a Replace Short Message Type code. If such a code is present, then the UE will check the associated ~~SC address (RP-OA) and~~ originating address (TP-OA) and replace any existing stored message having the same Protocol Identifier code~~, SC address~~ and originating address with the new short message.

Reference(s)

3GPP TS 23.040 clause 9.2.3.9.

16.1.7.3 Test purpose

This procedure verifies the correct implementation of the replace mechanism for Replace Short Messages.

16.1.7.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in MM-state "Idle, updated";
  - the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Test procedure

a) Two different numbers n and m are drawn randomly between 1 and 7. Two different addresses for TP-Originating-Address (TPOA1 and TPOA2) are drawn.~~ Two different addresses for RP-Originating-Address (RPOA1 and RPOA2) are drawn.~~

b) The SS delivers a short message to the UE as specified in clause 16.1.1 step a). In the SMS-DELIVER TPDU, the TP-Protocol-Identifier parameter is "Replace Short Message Type n", the TP-Originating-Address is TPOA1, and the RP-Originating-Address is RPOA~~1~~.

c) Step b) is repeated but with a different TP-Originating-Address (TPOA2), and different contents of TP-User-Data in the SMS-DELIVER TPDU. The other parameters are the same as in step b).

d) ~~Step c) is repeated but with RPOA2 in the RP-Originated-Address, and contents of TP-User-Data different from the former two messages. The other parameters are the same as in step c).~~

e) Step c~~d~~) is repeated but with the TP-Protocol-Identifier equal to "Replace Short Message Type m", and contents of TP-User-Data different from the former two~~three~~ messages. The other parameters are the same as in step c~~d~~).

f) Step e) is repeated but the contents of TP-User-Data are different from that used in step e).

g) The SS prompts the operator to indicate the Short Messages stored in the UE.

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) TP-PID is "Replace Short Message Type n", TP-OA is TPOA1 and RP-OA is RPOA~~1~~
8		-->	CP-ACK	
9		-->	CP-DATA	Contains RP-ACK RPDU.
10		<--	CP-ACK	
11		<--	RRC CONNECTION RELEASE	
12		-->	RRC CONNECTION RELEASE COMPLETE	
13			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
14		-->	PAGING RESPONSE	
15		<--	AUTHENTICATION REQUEST	
16		-->	AUTHENTICATION RESPONSE	
17		<--	SECURITY MODE COMMAND	
18		-->	SECURITY MODE COMPLETE	
19		<--	CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA2 and RP-OA is RPOA~~1~~, TP-UD different from step 7
20		-->	CP-ACK	
21		-->	CP-DATA	Contains RP-ACK RPDU.
22		<--	CP-ACK	
23		<--	RRC CONNECTION RELEASE	
24		-->	RRC CONNECTION RELEASE COMPLETE	
25			~~Mobile terminated establishment of Radio Resource Connection~~(void)	~~See 3GPP TS34.108~~
26		~~-->~~	~~PAGING RESPONSE~~(void)	
27		~~<--~~	~~AUTHENTICATION REQUEST~~(void)	
28		~~-->~~	~~AUTHENTICATION RESPONSE~~(void)	
29		~~<--~~	~~SECURITY MODE COMMAND~~(void)	
30		~~-->~~	~~SECURITY MODE COMPLETE~~(void)	
31		~~<--~~	~~CP-DATA~~(void)	~~Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA2 and RP-OA is RPOA2, TP-UD different from step 7 and 19~~
32		~~-->~~	~~CP-ACK~~(void)	
33		~~-->~~	~~CP-DATA~~(void)	~~Contains RP-ACK RPDU.~~
34		~~<--~~	~~CP-ACK~~(void)	
35		~~<--~~	~~RRC CONNECTION RELEASE~~(void)	
36		~~-->~~	~~RRC CONNECTION RELEASE COMPLETE~~(void)	
37			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
38		-->	PAGING RESPONSE	

Step	Direction		Message	Comments
	UE	SS		
39	<--		AUTHENTICATION REQUEST	
40	-->		AUTHENTICATION RESPONSE	
41	<--		SECURITY MODE COMMAND	
42	-->		SECURITY MODE COMPLETE	
43	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type m", TP-OA is TPOA2 and RP-OA is RPOA~~2~~, TP-UD different from step 7~~, 19~~ and 19~~31~~
44	-->		CP-ACK	
45	-->		CP-DATA	Contains RP-ACK RPDU.
46	<--		CP-ACK	
47	<--		RRC CONNECTION RELEASE	
48	-->		RRC CONNECTION RELEASE COMPLETE	
49			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
50	-->		PAGING RESPONSE	
51	<--		AUTHENTICATION REQUEST	
52	-->		AUTHENTICATION RESPONSE	
53	<--		SECURITY MODE COMMAND	
54	-->		SECURITY MODE COMPLETE	
55	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type m", TP-OA is TPOA2 and RP-OA is RPOA~~2~~, TP-UD different from step 43
56	-->		CP-ACK	
57	-->		CP-DATA	Contains RP-ACK RPDU.
58	<--		CP-ACK	
59	<--		RRC CONNECTION RELEASE	
60	-->		RRC CONNECTION RELEASE COMPLETE	
61	SS			Prompts the operator to indicate the Short Messages stored in the UE. Only the Short Messages delivered in step 7, 19~~, 31~~ and 55 shall be retrievable and indicated

Specific Message Contents

SMS-DELIVER TPDU

Information element	CommentValue
TP-MMS	no more messages are waiting in SC "1"B
TP-PID	binary 01000xxx, xxx represents n resp. m (see test method description)

16.1.7.5 Test requirements

After step 60 only the Short Messages delivered in step 7, 19~~, 31~~ and 55 shall be retrieved and indicated.

<End of modified section>

<Start of modified section>

16.2.2 SMS mobile originated

16.2.2.1 Definition

16.2.2.2 Conformance requirements

An active UE shall be able to submit short message TPDU (SMS-SUBMIT) at any time, independently of whether or not there is a PDP context in progress.

Reference

3GPP TS 23.040 clause 3.1.

16.2.2.3 Test purpose

To verify that the UE is able to correctly send a short message where the SMS is provided for the point to point service.

16.2.2.4 Method of test

Initial Conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in GMM-state "GMM-REGISTERED";
  - the SMS message storage shall be empty.

Related ICS/IXIT Statements

Support for Short message MO/PP.

Support for state PDP-ACTIVE of session management.

The value of timer TC1M.

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

Maximum length (characters) of a mobile originated short message.

Test procedure

a) The UE shall be set up to send a SM to the SS. The SS responds to RRC CONNECTION REQUEST by allocating a CCCH. The SS receives RRC CONNECTION SETUP COMPLETE on DCCH and then performs the authentication.

b) After receiving SECURITY MODE COMMAND UE shall send SECURITY COMMAND COMPLETE.

c) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message within TC1M followed by a CP-DATA message containing the correct RP-ACK RPDU. The SS waits a maximum of 25 s for the CP-ACK message.

d) The SS sends a channel release message to the UE.

e) Steps a) and b) are repeated. The SS is configured not to send the CP-ACK message. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 5 s after the last CP-DATA retransmission the SS initiates channel release. The 5 s is the appropriate time to wait to verify that the UE does not send more than the maximum CP-DATA retransmissions.

f) Steps a) and b) are repeated. On receipt of the CP-DATA from the UE the SS sends a CP-ERROR message within TC1M containing a "Network Failure" cause. Then the SS initiates channel release.

g) A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered. The UE is set up to send an SM to the SS. After the reception of the SERVICE REQUEST, the SS sends a SERVICE ACCEPT message.

h) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message within TC1M followed by a CP-DATA message containing the correct RP-ACK RPDU. The SS waits a maximum of 25 s for the CP-ACK message. Then the SS sends a channel release message to the UE.

i) Step g) is repeated. The SS is configured not to send the CP-ACK message. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 15 s after the last CP-DATA retransmission the SS initiates channel release. The 15 s is the appropriate time to wait to verify that the UE does not send more than the maximum CP-DATA retransmissions (during a PDP context in progress).

j) (void)

k) The UE is set up to send an SM to the SS. On receipt of the SERVICE REQUEST the SS sends a SERVICE REJECT message with the reject cause set to "GPRS services not allowed". After 5 s the SS initiates channel release.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION	BCCH
2	-->		RRC CONNECTION REQUEST	CCCH
3	<--		RRC CONNECTION SETUP	CCCH
4	-->		RRC CONNECTION SETUP COMPLETE	DCCH
5	-->		SERVICE REQUEST	
6	<--		AUTHENTICATION AND CIPHERING REQUEST	
7	-->		AUTHENTICATION AND CIPHERING RESPONSE	
8	<--		SECURITY MODE COMMAND	
9	-->		SECURITY MODE COMPLETE	
10	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
11	<--		CP-ACK	Sent within TC1M after step 10
12	<--		CP-DATA	Contains RP-ACK RPDU
13	SS			Waits max 25 s for CP-ACK
14	-->		CP-ACK	
15	<--		RRC CONNECTION RELEASE	RRC connection is released.
16	-->		RRC CONNECTION RELEASE COMPLETE	
17	<--		SYSTEM INFORMATION	BCCH
18	-->		RRC CONNECTION REQUEST	CCCH
19	<--		RRC CONNECTION SETUP	CCCH
20	-->		RRC CONNECTION SETUP COMPLETE	DCCH
21	-->		SERVICE REQUEST	
22	<--		AUTHENTICATION AND CIPHERING REQUEST	
23	-->		AUTHENTICATION AND CIPHERING RESPONSE	
24	<--		SECURITY MODE COMMAND	
25	-->		SECURITY MODE COMPLETE	
26	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
27	SS			SS configured not to send CP-ACK

Step	Direction		Message	Comments
	UE	SS		
28	-->		CP-DATA	Retransmitted CP-DATA message within twice TC1M after step 26
29	UE			Depending on the maximum number of CP-DATA retransmissions implemented, step 28 may be repeated. The maximum number of retransmissions may however not exceed three.
30	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released after a duration of TC1M + 5 s after the last CP-DATA retransmission.
31	-->		RRC CONNECTION RELEASE COMPLETE	
32	<--		SYSTEM INFORMATION	BCCH
33	-->		RRC CONNECTION REQUEST	CCCH
34	<--		RRC CONNECTION SETUP	CCCH
35	-->		RRC CONNECTION SETUP COMPLETE	DCCH
36	-->		SERVICE REQUEST	
37	<--		AUTHENTICATION AND CIPHERING REQUEST	
38	-->		AUTHENTICATION AND CIPHERING RESPONSE	
39	<--		SECURITY MODE COMMAND	
40	-->		SECURITY MODE COMPLETE	
41	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
42	<--		CP-ERROR	Sent within TC1M containing "Network Failure" cause.
43	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released.
44	-->		RRC CONNECTION RELEASE COMPLETE	
45	SS			A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
46	UE			The UE is set up to send an SM
47	-->		SERVICE REQUEST	
48	<--		SERVICE ACCEPT	
49	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
50	<--		CP-ACK	Sent within TC1M after step 49
51	<--		CP-DATA	Contains RP-ACK RPDU
52	SS			Waits max 25 s for CP-ACK
53	-->		CP-ACK	
54	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released.
55	-->		RRC CONNECTION RELEASE COMPLETE	
56	SS			A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
57	-->		SERVICE REQUEST	
58	<--		SERVICE ACCEPT	
59	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
60	SS			SS configured not to send CP-ACK
61	-->		CP-DATA	Transmitted CP-DATA message within twice TC1M after step 59
62	UE			Depending on the maximum number of CP-DATA retransmissions implemented, step 61 may be repeated. The maximum number of retransmissions may however not exceed three.
63	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released after a duration of TC1m + 15 s after the last CP-DATA retransmission.
64	-->		RRC CONNECTION RELEASE COMPLETE	
65-77			(void)	
78	-->		RRC CONNECTION REQUEST	initiate outgoing call
79	<--		RRC CONNECTION SETUP	
80	-->		RRC CONNECTION SETUP COMPLETE	
81	-->		SERVICE REQUEST	
82	<--		SERVICE REJECT	Reject cause set to "GPRS services not allowed"
83	<--		RRC CONNECTION RELEASE	Sent 5 s after SERVICE REJ
84	-->		RRC CONNECTION RELEASE COMPLETE	

Step	Direction		Message	Comments
	UE	SS		
NOTE: Time values for SS wait times are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.				

Specific Message Contents

SMS SUBMIT TPDU

Information element	CommentValue
TP-UDL TP-UD (140 octets max)	as applicable maximum number of characters (text of message) as defined by the manufacturer (see ICS/IXIT)

16.2.2.5 Test requirements

After step 9 UE shall send a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 26 UE shall retransmit a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 43~~45~~ UE shall send the RRC CONNECTION RELEASE COMPLETE.

After step 48 UE shall send a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 61~~71~~ UE shall repeat CP-DATA retransmissions as many times as the decided maximum number.

After step 82 UE shall not send CP-DATA.

<End of modified section>

<Start of modified section>

16.2.7 Test of the replace mechanism for SM type 1-7

16.2.7.1 Definition

16.2.7.2 Conformance requirement

On receipt of a short message, the UE shall check to see if the associated Protocol Identifier contains a Replace Short Message Type code. If such a code is present, then the UE will check the associated ~~SC address (RP-OA) and~~ originating address (TP-OA) and replace any existing stored message having the same Protocol Identifier code~~, SC address~~ and originating address with the new short message.

Reference(s)

3GPP TS 23.040; clause 9.2.3.9.

16.2.7.3 Test purpose

This procedure verifies the correct implementation of the replace mechanism for Replace Short Messages.

16.2.7.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in GMM-state "GMM-REGISTERED";
  - the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Test procedure

a) Two different numbers n and m are drawn randomly between 1 and 7. Two different addresses for TP-Originating-Address (TPOA1 and TPOA2) are drawn.~~ Two different addresses for RP-Originating-Address (RPOA1 and RPOA2) are drawn.~~

b) The SS delivers a short message to the UE as specified in clause 16.2.1 step a). In the SMS-DELIVER TPDU, the TP-Protocol-Identifier parameter is "Replace Short Message Type n", the TP-Originating-Address is TPOA1, and the RP-Originating-Address is RPOA~~1~~.

c) Step b) is repeated but with a different TP-Originating-Address (TPOA2), and different contents of TP-User-Data in the SMS-DELIVER TPDU. The other parameters are the same as in step b).

d) ~~Step c) is repeated but with RPOA2 in the RP-Originated-Address, and contents of TP-User-Data different from the former two messages. The other parameters are the same as in step c).~~

e) Step c~~d)~~ is repeated but with the TP-Protocol-Identifier equal to "Replace Short Message Type m", and contents of TP-User-Data different from the former two~~three~~ messages. The other parameters are the same as in step c~~d~~).

f) Step e) is repeated but the contents of TP-User-Data are different from that used in step e).

g) The SS prompts the operator to indicate the Short Messages stored in the UE.

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) TP-PID is "Replace Short Message Type n", TP-OA is TPOA1 and RP-OA is RPOA~~1~~
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
14	-->		SERVICE REQUEST	
15	<--		AUTHENTICATION AND CIPHERING REQUEST	
16	-->		AUTHENTICATION AND CIPHERING RESPONSE	
17	<--		SECURITY MODE COMMAND	
18	-->		SECURITY MODE COMPLETE	
19	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA2 and RP-OA is RPOA1, TP-UD different from step 7
20	-->		CP-ACK	
21	-->		CP-DATA	Contains RP-ACK RPDU.
22	<--		CP-ACK	
23	<--		RRC CONNECTION RELEASE	
24	-->		RRC CONNECTION RELEASE COMPLETE	
25			~~Mobile terminated establishment of Radio Resource Connection~~(void)	~~See 3GPP TS34.108~~
26	~~-->~~		~~SERVICE REQUEST~~(void)	
27	~~<--~~		~~AUTHENTICATION AND CIPHERING REQUEST~~(void)	
28	~~-->~~		~~AUTHENTICATION AND CIPHERING RESPONSE~~(void)	
29	~~<--~~		~~SECURITY MODE COMMAND~~(void)	
30	~~-->~~		~~SECURITY MODE COMPLETE~~(void)	
31	~~<--~~		~~CP-DATA~~(void)	~~Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA2 and RP-OA is RPOA2, TP-UD different from step 7 and 19~~
32	~~-->~~		~~CP-ACK~~(void)	
33	~~-->~~		~~CP-DATA~~(void)	~~Contains RP-ACK RPDU.~~
34	~~<--~~		~~CP-ACK~~(void)	
35	~~<--~~		~~RRC CONNECTION RELEASE~~(void)	

Step	Direction		Message	Comments
	UE	SS		
36	~~-->~~		~~RRC CONNECTION RELEASE COMPLETE~~(void)	
37			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
38	-->		SERVICE REQUEST	
39	<--		AUTHENTICATION AND CIPHERING REQUEST	
40	-->		AUTHENTICATION AND CIPHERING RESPONSE	
41	<--		SECURITY MODE COMMAND	
42	-->		SECURITY MODE COMPLETE	
43	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type m", TP-OA is TPOA2 and RP-OA is RPOA~~2~~, TP-UD different from step 7~~, 19~~ and 19~~31~~
44	-->		CP-ACK	
45	-->		CP-DATA	Contains RP-ACK RPDU.
46	<--		CP-ACK	
47	<--		RRC CONNECTION RELEASE	
48	-->		RRC CONNECTION RELEASE COMPLETE	
49			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
50	-->		SERVICE REQUEST	
51	<--		AUTHENTICATION AND CIPHERING REQUEST	
52	-->		AUTHENTICATION AND CIPHERING RESPONSE	
53	<--		SECURITY MODE COMMAND	
54	-->		SECURITY MODE COMPLETE	
55	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type m", TP-OA is TPOA2 and RP-OA is RPOA~~2~~, TP-UD different from step 43
56	-->		CP-ACK	
57	-->		CP-DATA	Contains RP-ACK RPDU.
58	<--		CP-ACK	
59	<--		RRC CONNECTION RELEASE	
60	-->		RRC CONNECTION RELEASE COMPLETE	
61	SS			Prompts the operator to indicate the Short Messages stored in the UE. Only the Short Messages delivered in step 7, 19~~, 31~~ and 55 shall be retrievable and indicated

Specific Message Contents

SMS-DELIVER TPDU

Information element	CommentValue
TP-MMS	no more messages are waiting in SC "1"B
TP-PID	binary 01000xxx, xxx represents n resp. m (see test method description)

16.2.7.5 Test requirements

After step 60 only the Short Messages delivered in step 7, 19~~, 31~~ and 55 shall be retrieved and indicated.

<End of modified section>