Discover What's Possible™ Anritsu

APPLICATION NOTE

MD8470A

Signalling Tester

SMS Version

ANRITSU CORPORATION

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MD8470A Signalling Tester Application Note

- SMS Version -

SMS

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Ver 1.0

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1. Glossary of Terms

3GPP:	3rd Generation Partnership Project
EMS:	Enhanced Messaging Service
SIM:	Subscriber Identity Module
SMS:	Short Message Service
SMSC:	Short Message Service Centre
UE:	User Equipment
WNS:	Wireless Network Simulator

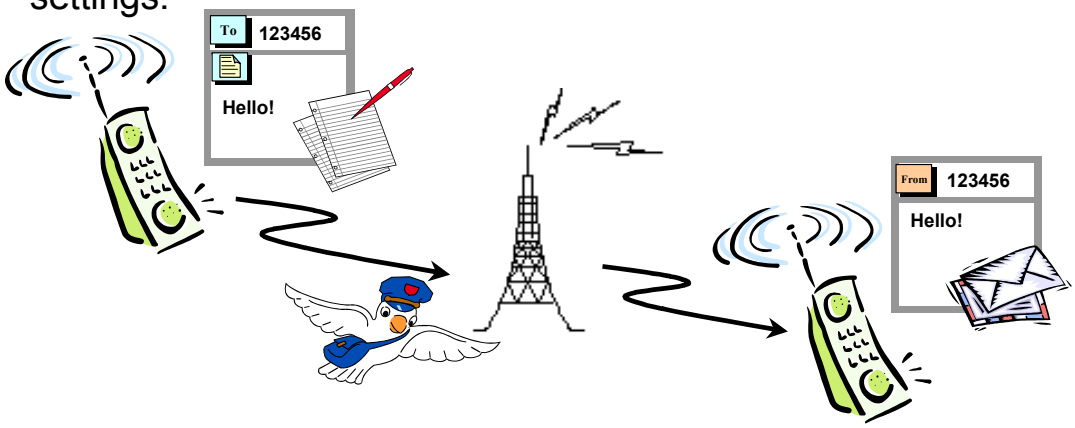
2. Reference Standards

- 3GPP TS23.040

3. What is SMS?

SMS

SMS is a service for sending and receiving text data between mobile telephones. Moreover, SMS technology can also be used for notifications from the carrier, such as “mail received” and changes to the mobile telephone settings.

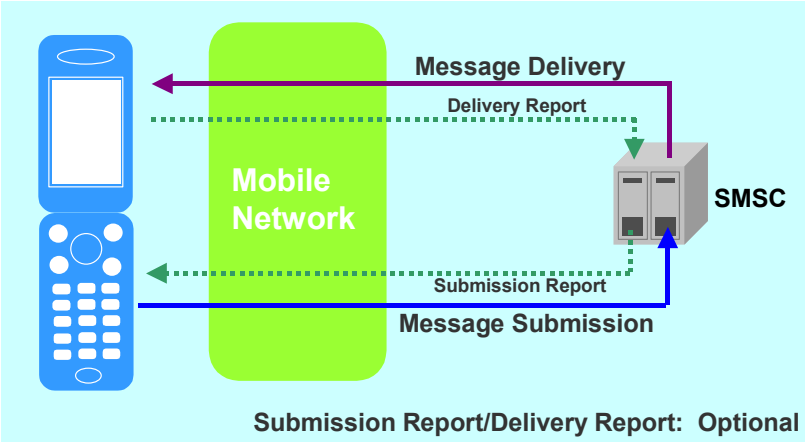


*SMS is standardized by 3GPP.

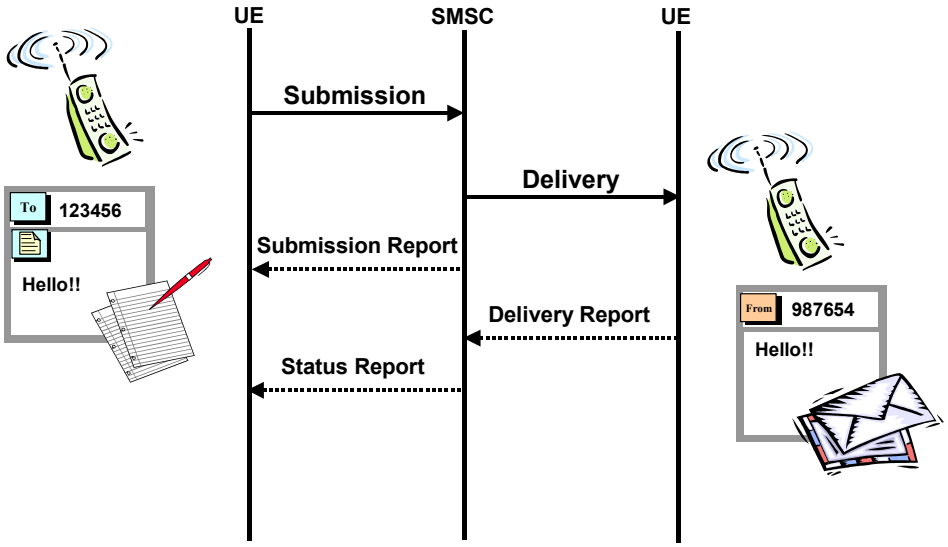
4. SMS Structure

SMS

- The message created by the UE is submitted to the SMSC.
- The SMSC delivers the received message to the UE.
- Delivery and submission reports are provided according to requests from the UE.



5. Flow of SMS Protocol



6. Testing SMS

6-1. Simple Testing of SMS Send/Receive Functions

6-2. Sending/Receiving Any SMS

6-3. Testing SMS Push

6-1. Simple Testing of SMS Send/Receive Functions (1/2)

SMS

- **Required Hardware & Software**

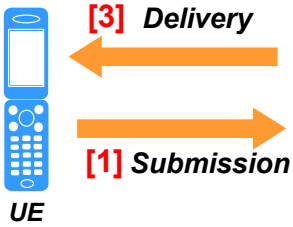
MD8470A (WNS/SMSC)

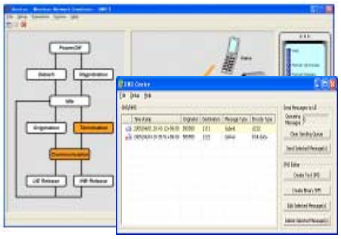
6-1. Simple Testing of SMS Send/Receive Functions (1/2)

SMS

- Testing SMS with Loopback
  - ✓ The message is edited by the UE and submitted to the address set using the SMS loopback ID. **[1]**
  - ✓ The SMSC receives the message and performs loopback automatically. **[2]**
  - ✓ The message delivered from the SMSC confirmed by the UE **[3]**

SMS Loopback ID





[2] ***WNS/SMSC***

6-2. Sending/Receiving Any SMS (1/3)

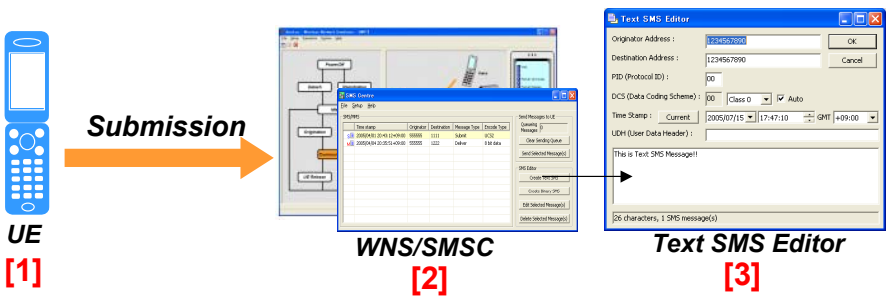
SMS

- **Required Hardware & Software**

6-2. Sending/Receiving Any SMS (2/3)

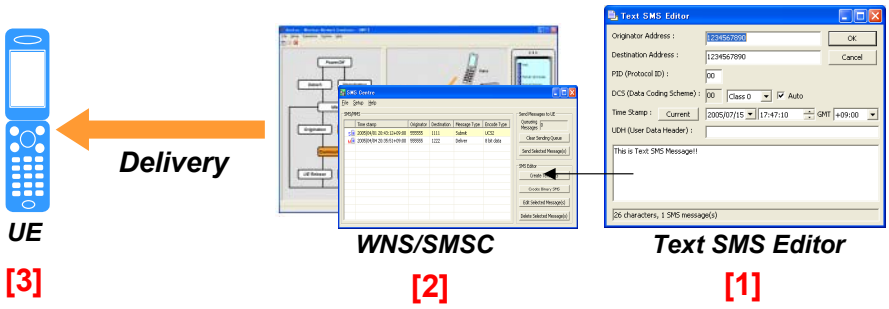
SMS

- Checking Message Sent from UE
  - ✓ The message edited at the UE is submitted. [1]
  - ✓ When the SMSC receives the message, the message is displayed on screen. [2]
  - ✓ The message details are displayed to confirm the sent message notification. [3]



6-2. Sending/Receiving Any SMS (3/3)

- Checking Message Created by UE
  - ✓ The message is created at the SMSC message editing screen. [1]
  - ✓ Select the message at the SMSC and send (deliver) it to the the UE. [2]
  - ✓ The message is displayed at the UE to confirm the sent message notification. [3]



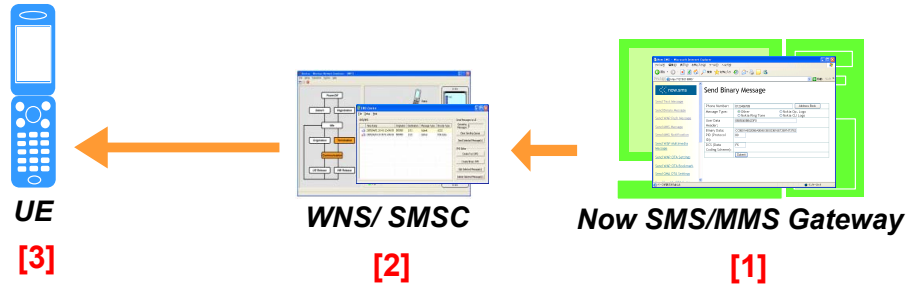
6-3. Testing SMS Push (1/2)

- **Required Hardware & Software**

6-3. Testing SMS Push (2/2)

SMS

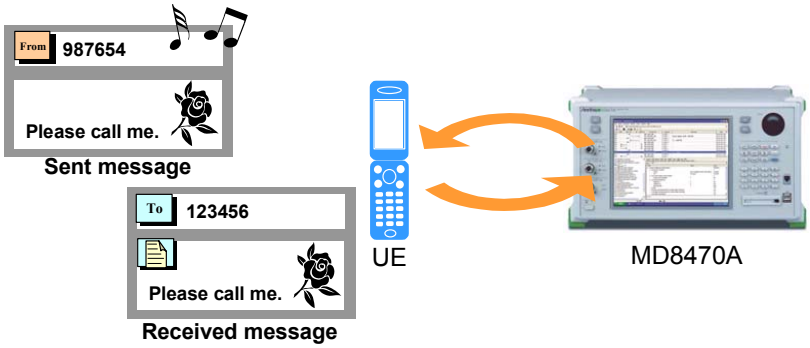
- Using Now Wireless Now SMS/MMS Gateway
  - ✓ The message is created using SMS Push on the Now SMS/MMS Gateway Web and is sent. [1]
  - ✓ Select the message on the SMSC and is sent to the UE. [2]
  - ✓ Operate the UE according to the SMS Push message. [3]



7. Testing EMS

SMS

- EMS is an extension service of SMS that can send messages including graphics sound and animation.
  1. Create a message conforming to EMS with graphics and sound at the UE and send the message.
  2. The message is displayed on the MD8470A SMSC. Select the displayed message and send it.
  3. Confirm the message contents at the UE.



8. Advantages of Using MD8470A

- **No other required equipment or PC**

  Since the message can be confirmed and created on the SMSC built into the MD8470A, it is possible to perform testing using one unit without any other equipment.

- **Independent of actual network conditions**

  Compared to testing using an online network, the connection environment is stable and the test reproducibility is high so testing can be performed with good efficiency. It is also possible to send/receive messages during voice, packet and videophone communications, making it easy to perform competitive application testing.

- **Able to retrieve and analyze wireless protocol**

  The wireless protocol log used when testing can be saved, which is useful for analyzing any unexplained points.

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Specifications are subject to change without notice.

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