

MMS (Multimedia Messaging Service)

MD8470A
Signalling Tester

MD8470A Signalling Tester Application Note

- MMS (Multimedia Messaging Service) -



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1. Glossary

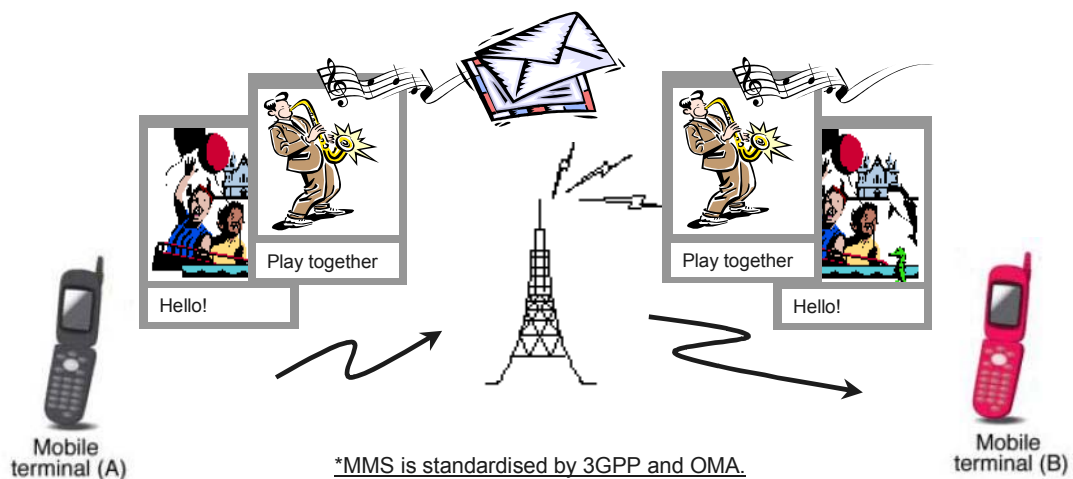


- 3GPP: 3rd Generation Partnership Project
- GCF: Global Certification Forum
- HTTP: Hyper Text Transfer Protocol
- MMS: Multimedia Messaging Service
- MMSC: Multimedia Messaging Service Centre
- OMA: Open Mobile Alliance
- PPG: Push Proxy Gateway
- SMS: Short Message Service
- SMSC: Short Message Service Centre
- UE: User Equipment
- WAP: Wireless Application Protocol
- WNS: Wireless Network Simulator

2. What is MMS?



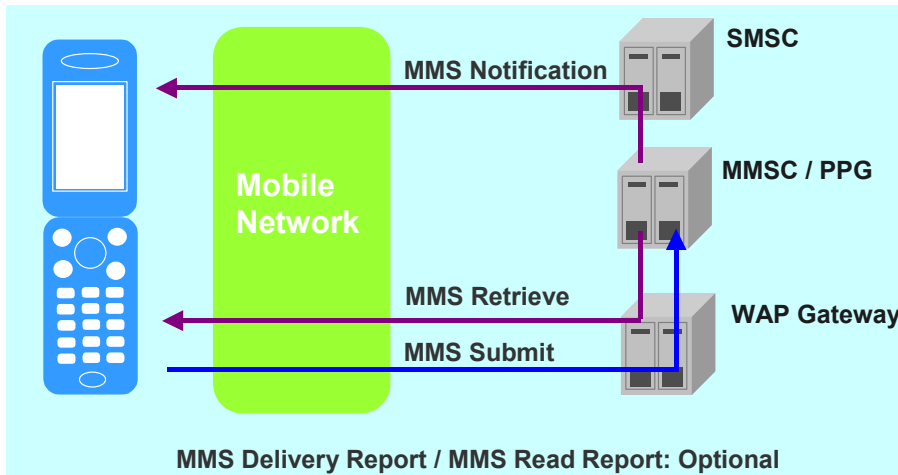
MMS is a method of sending and receiving text, photographs, video, and audio using the mail system of a mobile telephone.



3. Structure of MMS



- The mobile terminal sends (submits) a message to the MMSC using a data communications protocol such as WAP or HTTP.
- When the MMSC receives the message, it uses SMS to send a notification to the reception destination. This notification includes a link to the message contents and the mobile terminal receiving the notification retrieves the message by data communications.

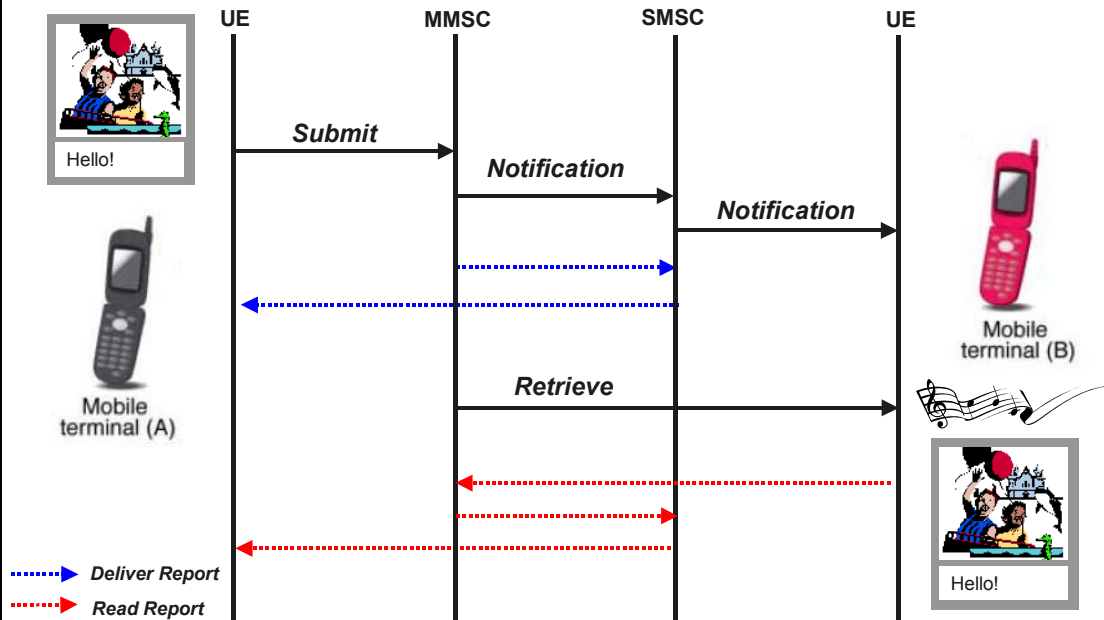


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4. MMS Protocol Flow



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5. Testing MMS



5-1. Testing MMS Submit and Retrieve Functions



5-2. Exchanging MMS Messages between Mobile Peers



5-3. Sending Any MMS Message to Mobile Terminals



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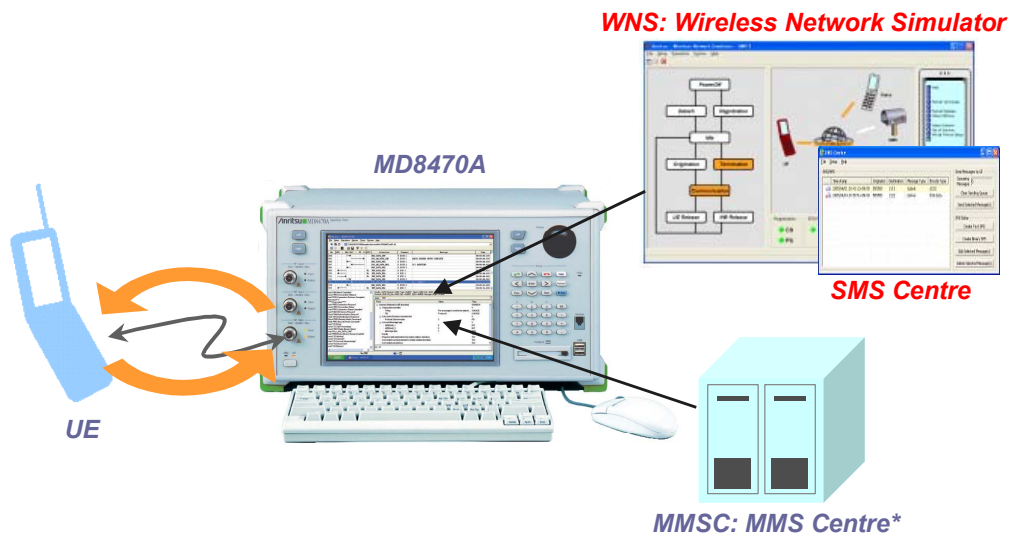
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5-1. Testing MMS Submit and Retrieval Functions (1/3)



● Required Hardware & Software



*Requires software for operating as MMS Center

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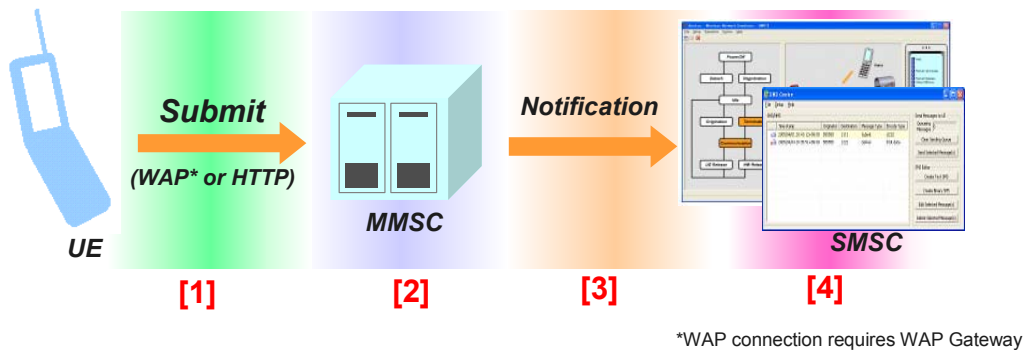
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5-1. Testing MMS Submit and Retrieval Functions (2/3)



● Submitting Message

- ✓ Edit message at UE and submit [1]
- ✓ MMSC receives and saves message [2]
- ✓ MMSC notifies message reception to SMSC [3]
- ✓ SMSC confirms notification contents [4]



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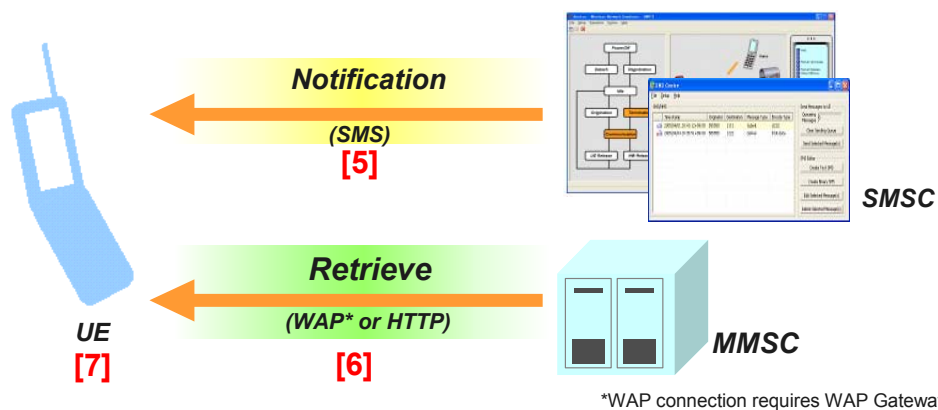
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5-1. Testing MMS Submit and Retrieval Functions (3/3)



● Retrieving Message

- ✓ SMSC sends notification about message (Notification) [5]
- ✓ UE receiving notification retrieves message from MMSC [6]
- ✓ UE confirms received message [7]



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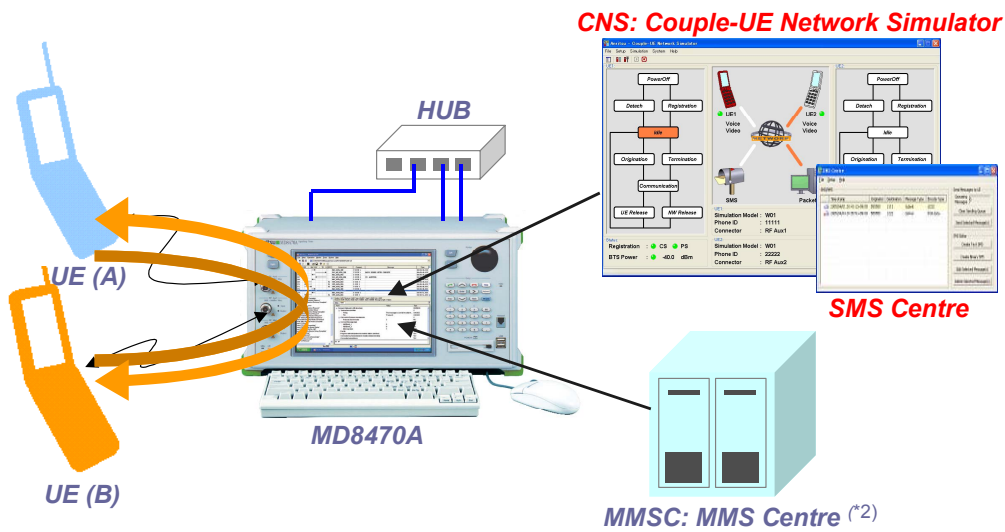
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5-2. Exchanging Mobile Messages between Mobile Peers (1/2)



Required Hardware^(*1) & Software



(*1) Requires Second RF Option and two W-CDMA Signalling Units or two GSM Signalling Units
 (*2) Requires software for operating as MMS Center

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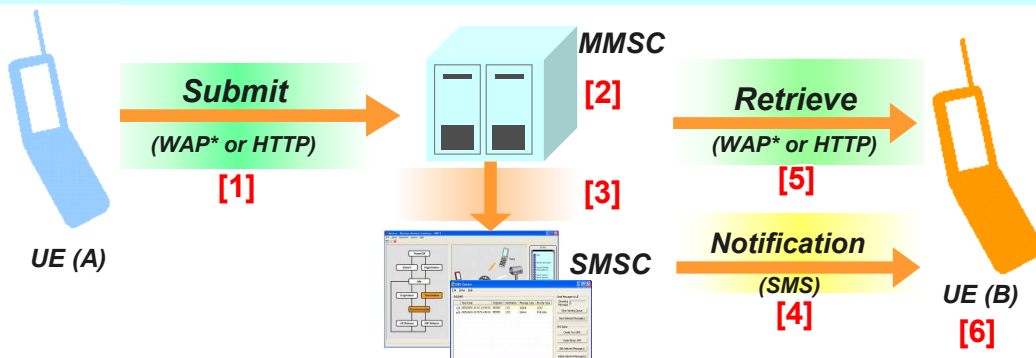
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5-2. Exchanging Mobile Messages between Mobile Peers (2/2)



Exchanging Messages with Mobile Peers

- ✓ UE (A) edits and submits message [1]
- ✓ MMSC receives and saves message [2]
- ✓ MMSC notifies message reception to SMSC [3]
- ✓ SMSC confirms notification contents [4]
- ✓ UE (B) receiving notification retrieves message from MMSC [5]
- ✓ UE (B) confirms received message [6]



*WAP connection requires WAP Gateway

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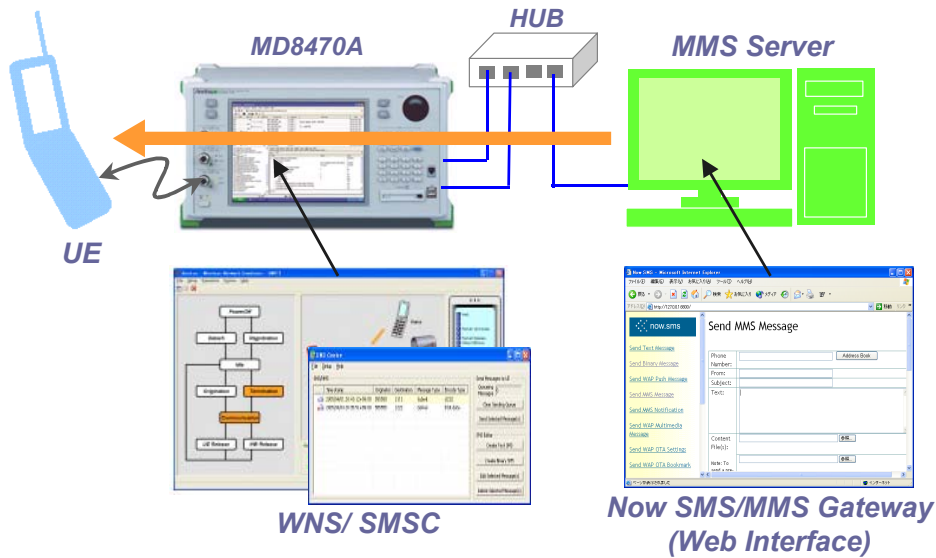
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5-3. Sending Any MMS to Mobile Terminal (1/2)



Required Hardware & Software



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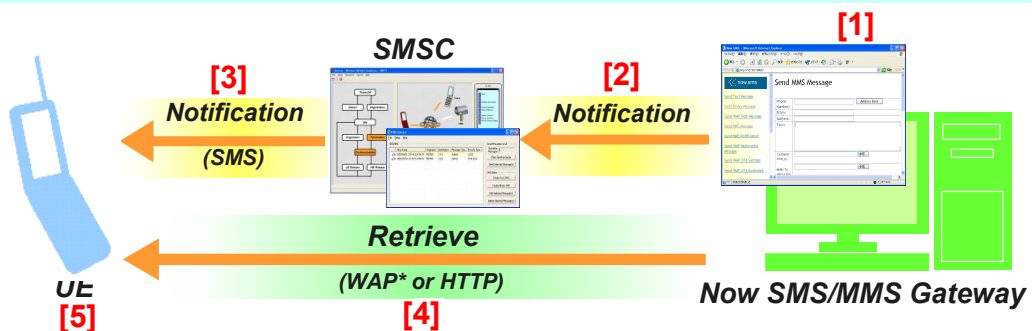
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5-3. Sending Any MMS to Mobile Terminal (2/2)



Using Now Wireless Corp. Now SMS/MMS Gateway

- ✓ Create message at Now SMS Web Interface and submit—message saved by MMSC [1]
- ✓ MMSC notifies message reception to SMSC [2]
- ✓ SMSC notifies message to UE [3]
- ✓ UE receiving notification retrieves message from MMSC [4]
- ✓ UE confirms received message [5]



*WAP connection requires WAP Gateway

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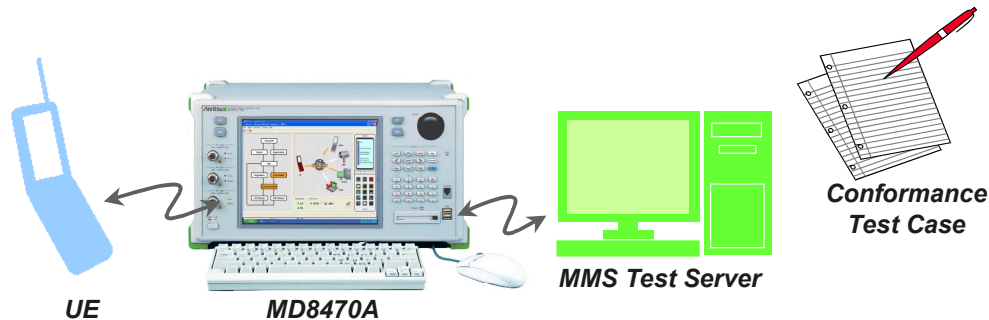
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6. Testing MMS Conformance



- ✓ GCF (Global Certification Forum) defines MMS conformance test cases.
- ✓ The MD8470A is used as a test platform for GCF-approved MMS conformance test cases.
- ✓ So more than 80 test cases have been approved using the MD8470A. (June 2007)



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7. Advantages of MD8470A



■ No PC or other equipment required

When using the MD8470A for performing the MMS test, the MMSC is the only other required equipment. When the MMSC software is installed in the built-in PC, no other equipment is required and testing can be performed with one cabinet.

■ 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. Moreover, base stations that do not offer an MMS service can also be tested.

■ Capture and analyze wireless and MMS protocols

The wireless and MMS protocols used at testing can be saved for later analysis of any unexplained items.

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