

Testing Messaging Applications for GSM/GPRS/EGPRS and W-CDMA

Messaging Applications (SMS/MMS/Cell Broadcast)

The short message service (SMS) is a global service for sending alphanumeric messages of up to 160 characters between mobile phones. As this technology evolves, new messaging services are being introduced, including Multimedia Message Service (MMS) and Cell-Broadcast SMS. Because SMS is also an efficient means of sending short data bursts, it has been adopted for various applications, such as provision of over-the-air services and wireless application protocol (WAP) notification. Consequently, providers are differentiating their businesses and generating new revenue streams using these messaging services — creating attractive and quality messaging applications is the key to success in the mobile market.

Messaging Application Examples:

- SMS – Text (GSM 7-bit default alphabet/Unicode)
- SMS – Binary (Short data burst for various applications)
- SMS – Status Report
- MMS (Multimedia Message Service)
- WAP-Push
- Cell Broadcast SMS (Broadcasting SMS to target cells)

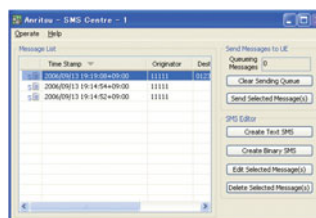
SMS/MMS

Effective Test Environment for Messaging Applications



The MD8470A Signalling Tester is the industry's most advanced test environment for messaging application developers. It offers network simulation to support end-to-end SMS and MMS. Installing the SMS Centre (SMSC) software in the MD8470A allows users to test the following SMS application items.

In addition, MD8470A users can use the SMSC store-and-forward function to test MMS transmissions between mobile phone and an external MMS Centre.



SMSC Main Parameters

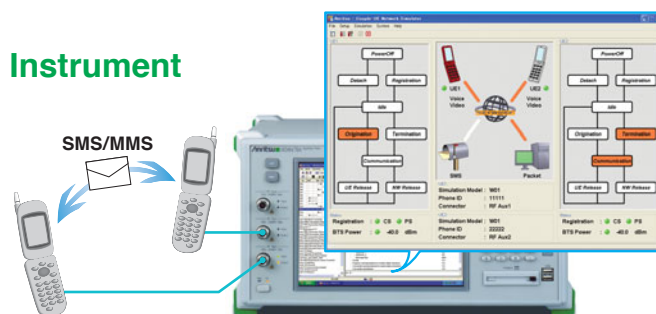
- Originator Address
- International
- Time Stamp
- User Data/Header
- Message Class (0, 1, 2, 3)
- Data Coding Scheme
- SMS Status Report

SMS/MMS Application Test Items:

- MO/MT Text SMS Message (GSM 7-bit default alphabet/Unicode – Single Page)
- MO/MT Text SMS Message (GSM 7-bit default alphabet/Unicode – Multiple Page)
- WAP-Push using Binary SMS Message
- MO/MT MMS with MMS Application Server
- SMS Status Report Check
- Messaging Memory Full Test
- Messaging SIM Full Test
- Service Interruption Test (Example: MT SMS during Packet Communications)
- SMS/MMS End-to-End Test between Two Mobile phone Test Sets

UE-to-UE Messaging Test with A Single Instrument

Users can perform SMS or MMS testing between two mobile phone sets using Anritsu's unique CNS (Couple-UE Network Simulator) software with one MD8470A. This is an effective test environment for verifying application connectivity.

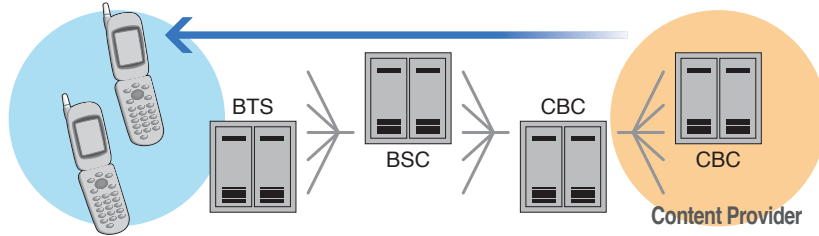


Cell Broadcast SMS

Structure of Cell Broadcast SMS (CB SMS)

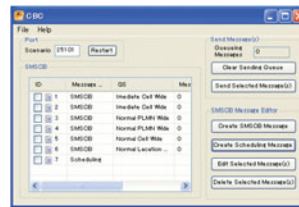
CB SMS is method of sending text and binary messages such as traffic and weather information to an unspecified number of mobile units within a service area.

The CB SMS message created by the CBE (Cell Broadcast Entity) is sent to mobile terminals via the CBC (Cell Broadcast Centre), BSC (Base Station Controller), and BTS.



Effective Test Environment for Messaging Applications

The installed CB Centre (CBC) software and reference test scripts support testing of the following CB SMS application items. Editing and sending of MT CB SMS messages is made easy by the GUI-based operations.



CBC Main Parameters (GSM)

- Geographical Scope
- Update Number
- Message Identifier
- Data Coding Scheme
- Message Content

CB SMS Application Test Items:

- MT CB SMS Message with Transmission Interval Setting
- MT CB SMS Message with Number of Retransmission Times
- Mobile phone Behavior Check with Geographic Scope Setting (including Immediate Cell Wide, Normal PLMN Wide, Normal Location Area Wide, and Normal Cell Wide)
- MT Binary CB SMS Message

The **MD8470A Signalling Tester** is the perfect benchtop tool for reducing time-to-market by helping mobile application developers verify messaging applications.

Signalling Tester
MD8470A



Key Features

- Easy SMS and CB SMS testing using GUI-based simulation
- Create and send any messages (GSM 7-bit default alphabet/Unicode/Binary SMS) using SMSC
- MMS between mobile phone and external MMS server using SMSC store-and-forward function
- Easy sending of continuous multiple SMS messages from SMSC to mobile phone for memory/SIM full test
- Various parameter combinations using CBC to test CB SMS
- Efficient SMS troubleshooting and analysis functions