APPLICATION NOTE

MD8470A
Signalling Tester
SMSCB Version

ANRITSU CORPORATION
MD8470A Signalling Tester Application Note
- SMSCB Version -

Anritsu Corporation
Measurement Business Center
Wireless Measurement Division
July 2005
Version 1.0

Contents

1. Glossary of Terms
2. Reference Standards
3. What is SMSCB?
4. SMSCB Structure
5. Flow of SMSCB Protocol
6. Testing SMSCB using MD8470A
7. Receiving SMSCB Messages
8. Advantages of Using MD8470A
1. Glossary of Terms

- BSC: Base Station Controller
- BTS: Base Transfer Station
- CBC: Cell Broadcast Centre
- CBE: Cell Broadcast Entity
- MS: Mobile Station
- SMSCB: Short Message Service Cell Broadcast

2. Reference Standards

- 3GPP TS 03.41
- 3GPP TS 04.12
3. What is SMSCB?

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

4. SMSCB Structure

- The SMSCB Message created by the CBE is sent to mobile terminals via the CBC, BSC, and BTS.
- 22 Octets/block can handle messages of 4 blocks per page and up to 16 pages.
5. Flow of SMSCB Protocol

<table>
<thead>
<tr>
<th>CBC</th>
<th>BSC</th>
<th>BTS</th>
<th>MSs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB Bargain</td>
<td>Sale in progress!</td>
<td>SMS</td>
<td>SMS Broadcast Request 1</td>
</tr>
<tr>
<td>Write-Replace</td>
<td>Report-Status</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SMS Broadcast Request 2</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>SMS Broadcast Request 3</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SMS Broadcast Request 4</td>
<td></td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

*BSC is an example when using SMS Broadcast Request.

6. Testing SMSCB using MD8470A (1/2)

- **Required Hardware & Software**

- **MD8470A Signaling Tester**
6. Testing SMSCB using MD8470A (2/2)

- The MD8470A can send an SMSCB/Schedule Message from the CBC application.
- Various SMSCB tests can be performed by setting various combinations of parameters.
- Binary messages can also be sent if a scenario is used.

7. Receiving SMSCB Messages

- Set the mobile unit to receive SMSCB.
- Execute CBC scenario.
- Create SMSCB Message to be sent over CBC.
- Specify resending times and interval.
8. Advantages of Using MD8470A

- **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, it is also possible to perform testing of base stations that do not offer an SMSCB service.

- **Able to retrieve and analyze wireless protocols**
  The wireless protocols used when testing can be saved, which is useful for analyzing any unexplained points.