

Product Brochure

Anritsu

MX702500B

Log to Scenario Converter



Fast and Easy Debugging for FT faults

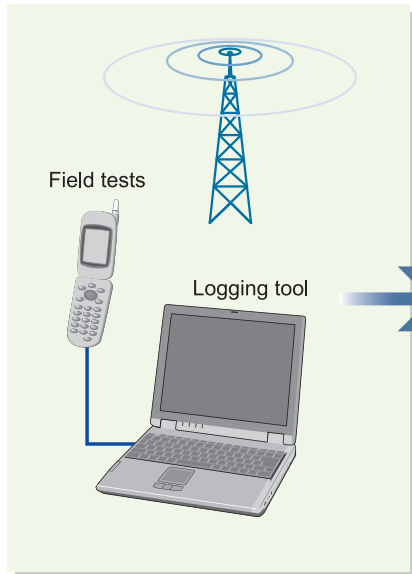
The rapid spread of global mobile phone services is leading to diversified UE designs. Key themes are supporting worldwide networks and services and improving field testing (FT) to bring products quickly to market.

The MX702500B Log to Scenario Converter (LSC) is an innovative, cost-cutting, software tool for increasing the efficiency of GSM/W-CDMA mobile UE development and FT.

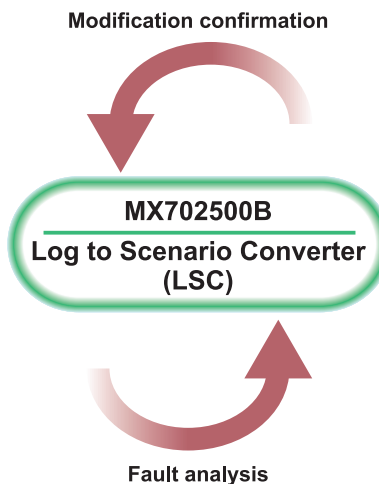
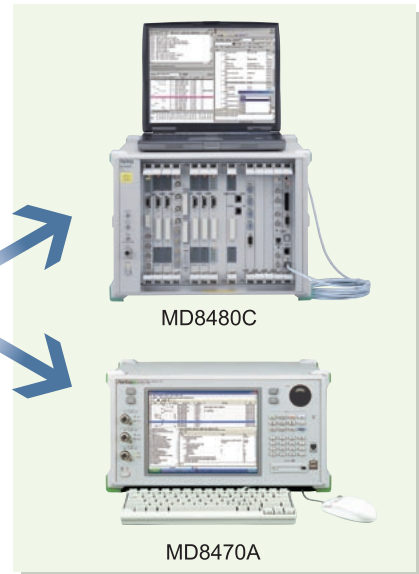
It converts UE field logs (Layer-3 messages) captured in a real network to a file format for reproducing FT faults at the MD8470A or MD8480C BTS simulators in the lab.

Easy fault reproduction in a simulated environment helps cut FT debugging time without requiring expert 3GPP knowledge, cutting development time and costs before UE rollout.

FT Team (Real Environment)



Development Team (Simulated Environment)





Applications

- Evaluate GSM/GPRS/W-CDMA/HSPA mobile UEs
- Reproduce FT faults in lab

Advantages

- Cut UE development time and costs
- Improve quality with easy test repeats
- Save test conditions and results

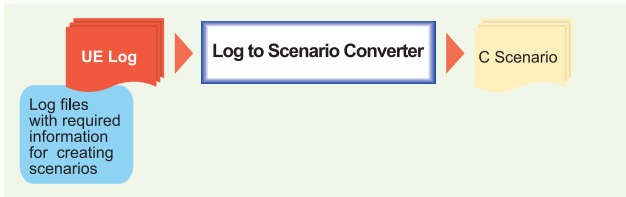
Features

- Reproduces FT faults in simulated environment
- Generates test scenarios from real-network logs
- Supports multiple W-CDMA/HSPA or GSM cells
- Supports Inter-RAT tests
- Excellent operability and flexibility

Advantages

Create Scenarios from Field Logs

The LSC software tool makes it easy to convert UE field logs from a real network to a file format for reproducing FT faults at the MD8470A or MD8480C Signalling Tester in the lab.



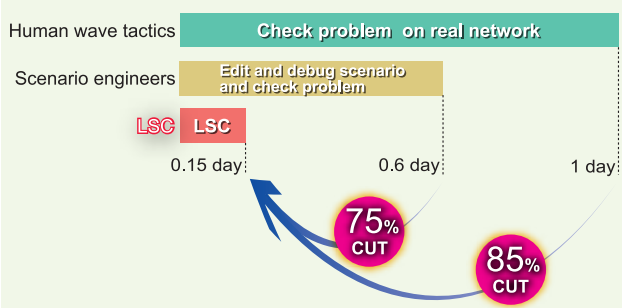
<Features of scenarios generated by LSC>

- Reproduces Layer-3 message sequences
- Checks message type sent by UE at testing
- Changes USIM information and packet communication server information depending on test environment

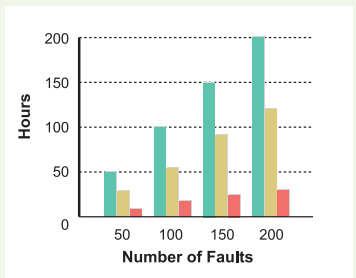
Cuts UE Evaluation Time and Costs

Real network faults and problem are easily reproduced in a lab environment. Automatic scenario creation without expert 3GPP knowledge cuts troubleshooting downtime.

Time to reproduce faults

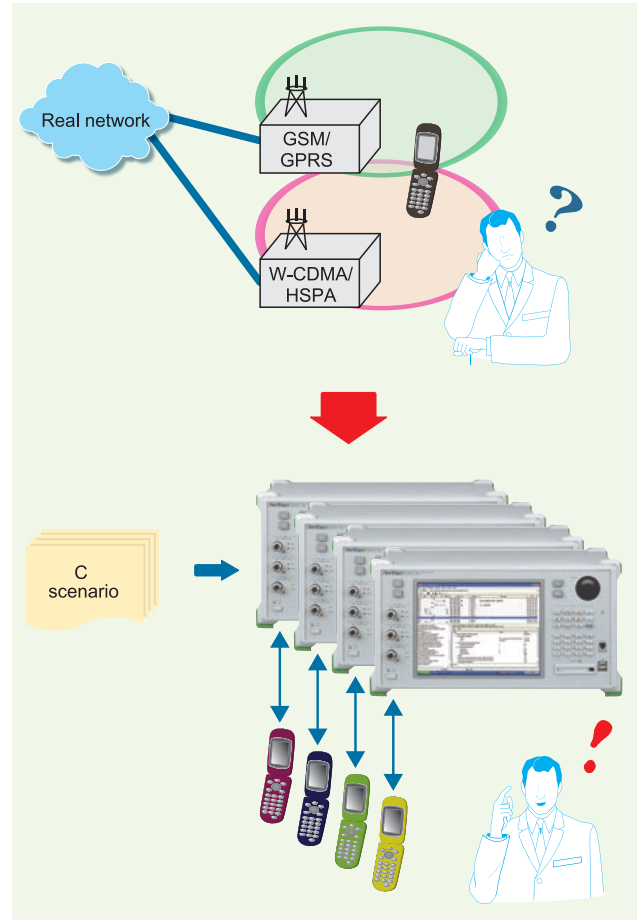


LSC saves most time with more faults



Repeat Tests Improve Quality

Field debugging is difficult and time consuming. Using the LSC to reproduce field faults in the lab with a BTS simulator makes it easy to find the causes of transient faults while quick and easy repeat testing under the same conditions improves UE quality too.



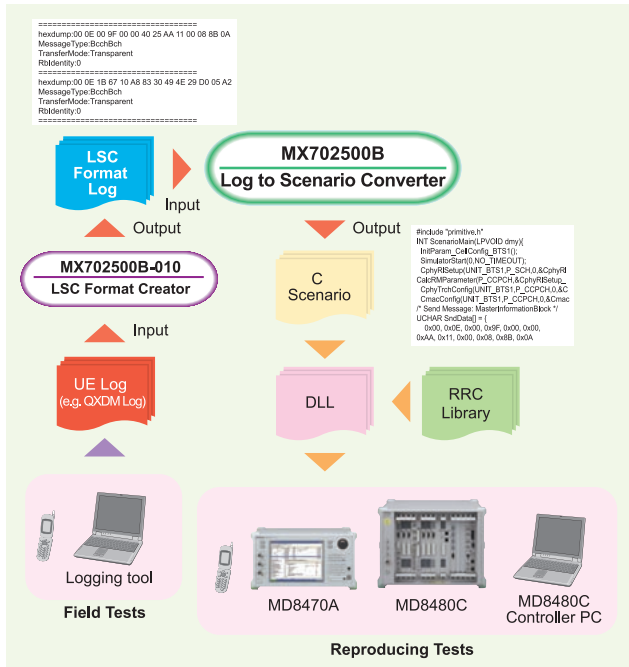
Save Test Conditions and Results

In addition to simulating hard to reproduce field tests in the lab, scenarios created by the LSC tool from UE field logs can be run on the BTS simulator and saved as an easy to reproduce record of test conditions and evaluation results for any UE model. Moreover, by incorporating the knowledge and skills of development engineers and field testers, the simulator scenarios are a useful future-proof evaluation resource.

Key Features

Convert UE Field Logs to LSC Format

The MX702500B-010 LSC Format Creator option (LFC) is a software tool for reading UE logs and outputting LSC format log files for creating scenarios. It uses a Perl converter engine to extract data, such as protocol sequences and Layer-3 messages (Message Type, Hex dump data) and generate LSC log files.

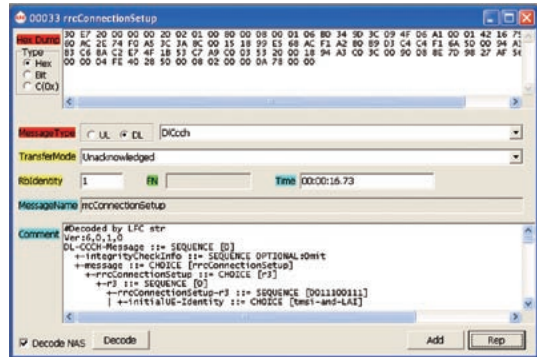


The users can develop this Perl converter engine by themselves; However, Anritsu can also develop this Perl converter engine for the users, with the help of specific UE log format*1 provided under the contract of "Log Importing Customized Service (MX702500B-SS180)". The MX702500B-011 Log Importing for QXDM option reads QXDM format*2 UE logs to reproduce field tests in a lab environment without log format conversions.

- *1: Requires sample UE logs
- *2: QXDM (Qualcomm UE logging tool) Operation confirmed with QCAT 05.21.00, 05.24.00 and 05.25.00

Excellent Operability

Test scenarios for the MD8470A or MD8480C are created just by dragging and dropping without any expert knowledge of 3GPP standards. Moreover, the message decoder displaying Layer 3- message results supports easy fault analysis of UE logs.



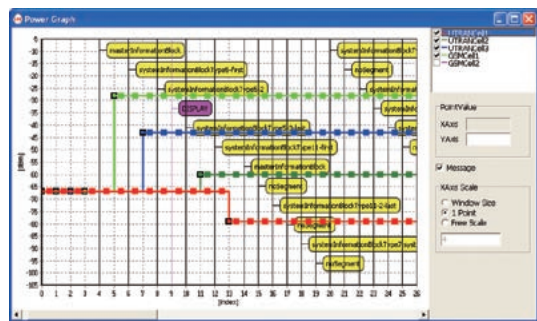
Example of rrcConnectionSetup message analysis

Excellent Flexibility

Even if the LSC occasionally cannot obtain the full UE field log, it can create a scenario by completing the missing information. In addition, it can create customized scenarios matching the re-evaluation conditions, such as the timing adjustment from message reception to response sending, USIM and server data settings, etc. Furthermore, not only can the LFC option create test scenarios just by reading the UE logs, it can also troubleshoot FT faults by changing sequences and parameters at fault locations.

< LFC Flexibility >

- Log format conversion, dividing, coupling
- Message sequence editing
- Downlink signal power setting, etc



Example of Power Graph Display

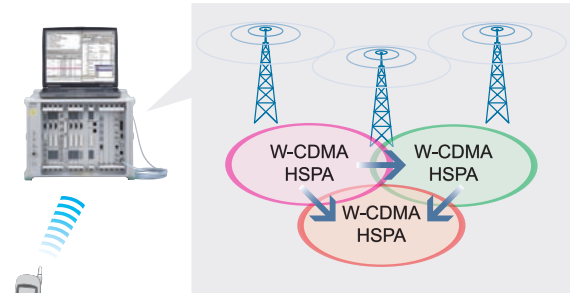
Cell Configuration Options

The LSC requires one of the following cell configuration options to generate scenarios.

W-CDMA Multi-cell Configuration*1

MX702500B-030 LSC WCDMA Package

This option reproduces scenarios in W-CDMA and HSPA multi-cell environments to reproduce and troubleshoot various FT faults.



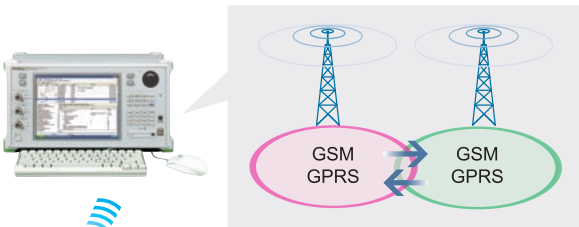
Soft Handover (max. 3 cells)*2
 Hard Handover (max. 2 cells)
 Cell Reselection (max. 2 cells)

- *1: Generated scenarios can be executed on W-CDMA/HSPA multi-cell signalling testers.
- *2: Max. 2 cells when using MD8470A Signalling Tester.

GSM Multi-cell Configuration*3

MX702500B-040 LSC GSM Package

This option reproduces scenarios in GSM and GPRS multi-cell environments to support GSM handover tests and troubleshoot FT faults.



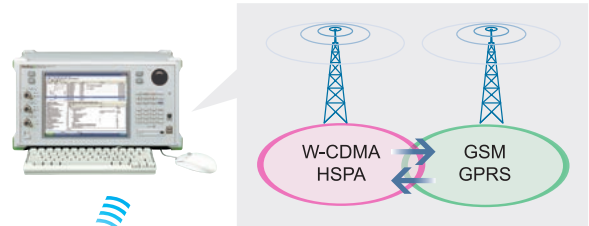
GSM Handover (max. 2 cells)
 GPRS Packet Cell Change Order (max. 2 cells)
 Cell Reselection (max. 2cells)

- *3: Generated scenarios can be executed on GSM/GPRS multi-cell signalling testers.

Inter-RAT Cell Configuration (includes W-CDMA/GSM Multi-cell Configuration)

MX702500B-020 LSC InterRAT Package

This option combines the LSC WCDMA Package (MX702500B-030) and GSM (MX702500B-040) Package to execute Inter-RAT handover tests between W-CDMA and GSM cells. Intra-RAT handover tests in the same system are also supported. The connection status of W-CDMA and GSM networks is based on captured UE field logs.



Inter-RAT Handover (max. 2 cells)
 Intra-RAT Handover (max. 2 cells)
 W-CDMA SHO, HHO, Cell Reselection (max. 2 cells)
 GSM Handover (max. 2 cells)
 GPRS Packet Cell Change (max. 2 cells)
 GSM Cell Reselection (max. 2 cells), etc.

Signalling tester and maximum number of cells

	Inter-RAT*4	W-CDMA HSPA	GSM GPRS
MD8470A Signalling Tester	√	√ Max. 2 cells	√ Max. 2 cells
MD8480C W-CDMA Signalling Tester	√	√ Max. 3 cells	√ Max. 2 cells

*4: W-CDMA multi-cells and GSM cannot be used simultaneously.

Support Option/Main Functions

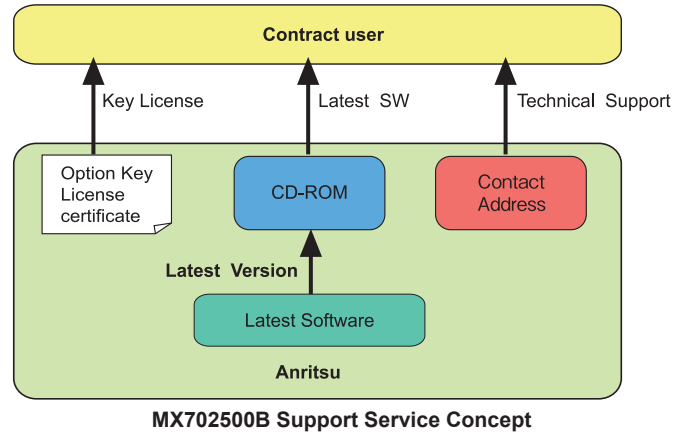
Maintenance and Technical Support

MX702500B-TS110* 1 Year Technical Support Service

This option provides the following services for 1 year

- Latest software revisions
- Technical support for troubleshooting

*: Refer to the attached for details.



Reference Specifications

- RRC: 3GPP TS 25.331 Chapter 11 (Release 6, Dec 2006)
- NAS: 3GPP TS 24.008 Chapter 9 (Release 6, Jun 2006)
- RLC/MAC Control Message: 3GPP TS 04.60 Chapter 11 CSN.1 definition

Supported Functions

Test Item	Scenario UE Operation
Voice Call (MO/MT)	Voice call status
Video Call (MO/MT)	Video call status ^{*1}
Packet Calling	PPP or IP packet connection ^{*2}
Multi Call	Voice call and video telephony call (MO/MT) with packet connection
Integrity	Validate at validity request ^{*3}
Ciphering	Performs ciphering at validity request
Multi Cell	Handover and cell re-selection between cells
Inter-RAT	Handover and cell re-selection between W-CDMA and GSM ^{*4}
HSDPA (3GPP Release 5)	High-speed packet communication using HSDPA
HSUPA (3GPP Release 6)	High-speed packet communication using HSUPA

*1: Requires external video call terminal supporting 3G-324M connected to signalling tester

*2: Requires packet test server

*3: Integrity based on TS 34.108 Test Algorithm

*4: Requires MX702500B-020 LSC InterRAT Package

Operating Environment

	Item	Condition
Personal Computer	OS	Microsoft Windows 2000 Professional SP4 or later Microsoft Windows XP Professional SP2 or later
	CPU	1GHz or faster Intel Pentium Processor
	Memory	≥256 MB
	HDD	≥20 MB free space
	Display	1024 × 768 pixels or more, display adapter, high-color (16 bit) or better
	Drive	CD-ROM
	Interface	One USB Port (Version 1.1/2.0), keyboard, and mouse
Signalling Tester	Signalling Tester	MD8480B/C Ver.5.30 or later MD8470A Ver.3.00 or later
	Required Software	Microsoft Visual C++ 6.0, .Net or 2005 (for compiling scenario-depends on signalling tester version)

- Windows® Visual C++ is a registered trademark of Microsoft Corporation in the USA and other countries.
- Intel Pentium® is registered trademarks of Intel Corporation or its subsidiaries in the USA and other countries.
- Other companies, product names and service names are registered trademarks of their respective companies.

Ordering Information

Model/Ordering No.	Name	Reference
MX702500B	-Main Frame- Log to Scenario Converter	Includes Software CD-ROM, license dongle key (USB type)
MX702500B-010 MX702500B-011 MX702500B-020 MX702500B-021 MX702500B-022 MX702500B-030 MX702500B-040	-Option- LSC Format Creator Log Importing for QXDM LSC InterRAT Package LSC InterRAT Upgrade from WCDMA LSC InterRAT Upgrade from GSM LSC WCDMA Package LSC GSM Package	License certificate License certificate License certificate License certificate License certificate License certificate License certificate
MX702500B-TS110	-Technical Support Service- 1 Year Technical Support Service	License certificate
MX702500B-SS180	-Customized Service- Log Importing Customized Service (1Year)	License certificate
MX702500B-TL051 MX702500B-TL052 MX702500B-TL053	-Time-based License- Time-based License (6months) Time-based License (12months) Time-based License (24months)	License certificate License certificate License certificate
MD8470A MD8480C	-Application Parts (BTS Simulator for Tests)- Signalling Tester W-CDMA Signalling Tester	For details, refer to the separate MD8470A catalog. For details, refer to the separate MD8480C catalog.

*: The MD8470A Signalling Tester and MD8480C W-CDMA Signalling Tester require hardware and software options matching the test items.
The LSC RRC library (bundled with this product) is required to compile scenarios.



Specifications are subject to change without notice.

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