Functional and Application Test Solutions for Mobile Devices

Mobile devices require many hours of extensive testing to ensure software quality and an optimal user experience. The amount of testing needed to bring a modern smartphone to market necessitates a solution that is easy to use and delivers results quickly. Anritsu's functional application test solutions address your challenges of time-to-market and budget constraints.

Our solutions are built around the MD8475A Signalling Tester, a versatile multi-technology platform.

The integral SmartStudio offers simple and easy to use control. SmartStudio Manager extends the solution for fully automated testing, and also brings the ability to control multiple MD8475A units and other external equipment.

Functional Testing – Verifying Radio Access Signaling

Your test solution should be versatile and easy to use, without the need for a complex configuration or scripting.

When you are under pressure to deliver, you need to be able to quickly run different 'what-if?' scenarios. This is why our SmartStudio user interface forms the heart of the perfect functional test solution. Features like the easy-to-use state machine-based interface and integrated performance monitors place all the network components under your control. SmartStudio allows you to see the call state, radio parameters and network parameters in real time, and interactively run what-if scenarios.

The MD8475A multi-technology signaling tester accurately simulates an LTE, LTE-Advanced, WCDMA/HSPA(+), GSM/GPRS, CDMA2000 1x/EVDO, or a TD-SCDMA/TD-HSPA radio network with up to 2 base stations. The MD8475A may be flexibly configured according to the required technologies and interworking combinations.

	Radio Access Technology (RAT)				
	LTE	WCDMA/HSPA	GSM/GPRS	CDMA 1x/EVDO	TD-SCDMA
Max. Base Stations	2	2	2	1	2
Max. Downlink Data Rate	300 Mbps	42 Mbps	236 kbps	2.9 Mbps	2.8 Mbps
Max. Uplink Data Rate	50 Mbps	5.7 Mbps	118 kbps	1.8 Mbps	2.2 Mbps
Downlink Carrier Aggregation	Up to 2 carriers	Up to 2 carriers	Single carrier	Single carrier	Single carrier
MIMO	2x2*	No	No	No	No

*Carrier aggregation with MIMO requires 2x MD8475A units

Application Testing – Verifying Throughput Performance and Device Behavior

To ensure your device provides the optimal user experience, you need to benchmark the device performance with each user application, such as voice calls, file transfer and web browsing. These tests need network components such as servers and gateways, as well as performance monitors to measure the achieved throughput. SmartStudio includes all this - core network functions such as the IMS servers and PDN gateway, together with performance analysis tools such as throughput monitors.

Interactive Test Environment – SmartStudio

You need a tool that simplifies the test creation process as much as possible. The three core tasks are:

Test Design

Quickly create your own tests and run what-if scenarios.
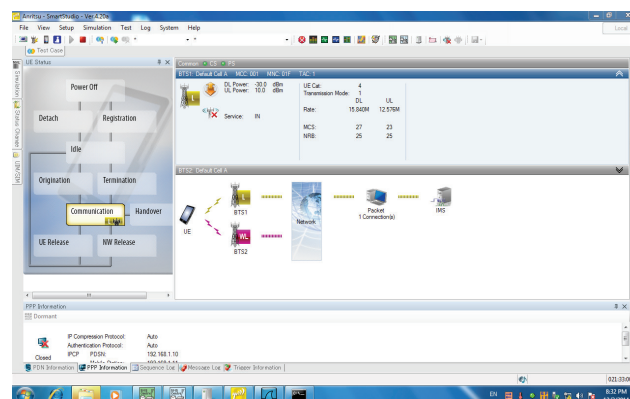
Mobile Network Simulation

Configure one or more cells along with core network and server functions, and interactively control the network settings presented to the Device Under Test (DUT).

Performance Analysis

Analyze the performance and behavior exhibited by the DUT during the test.

SmartStudio provides a perfect integrated test environment for test creation, mobile network simulation and performance analysis.

SmartStudio Capabilities

Network Simulator	Support all global mobile technology	LTE FDD&TDD, WCDMA/HSPA, GSM/GRPS, CDMA 1x/ECDO, TD-SCDMA
	Core Network function	Built-in PDN Gateway
	Server function	Built-in IMS server
Graphic User Interface	Device Call State	Real-time display of the DUT call state
	Network Settings	Easy access to change network parameters interactively
	Virtual User Agents	Simulate other devices connected to the DUT
Performance Analysis	PHY Layer throughput monitor	View ACK/NAK during test execution
	IP Layer throughput monitor	Monitor IP throughput during test execution
	RF Power Measurement	Verify UL power level
User Support	On-screen help	Context sensitive help
	Technical support	Annual support and maintenance service
	Software updates	Regular updates and feature enhancements

Automated Testing – Streamline testing and eliminate manual operations

The SmartStudio Manager PC software is an integrated test creation and execution environment for complete test automation.

Automated Test Environment – SmartStudio Manager

To speed test development and simplify test execution, you need a tool that is versatile, intelligent, and easy to use. SmartStudio Manager offers all three:

Test Development

The flowchart based interface lets you connect logical blocks to easily define the test flow.
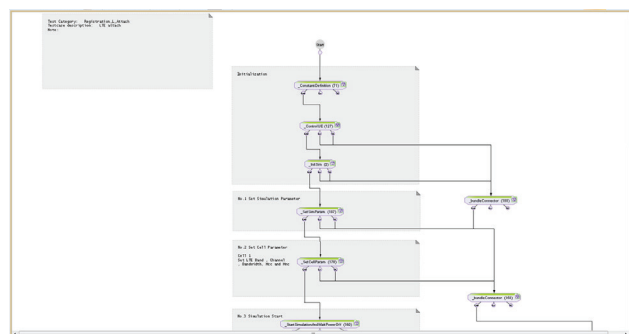
Test Execution

The intelligent test sequencer lets you select the set of tests to run and can dynamically change the sequence during execution.

Test Device Control

Automatic control of the device under test eliminates the need for manual test operations and reduces human error.

The test flow is displayed in real-time to let the operator see the test steps. Sequence log containing call events, state-machine changes, and Layer 3 messages are captured for post analysis.

SmartStudio Manager provides a perfect automated test environment for test development, test execution, and test result analysis.

SmartStudio Manager Capabilities

Test Creation	Flowchart based	Connect logical blocks to define the test flow
	Sample tests included	Cover wide range of test scenarios. Modify to meet your needs
	Test management	Manage project files and reuse procedures
Test Execution	Easy visualization of test steps	View test flow in real time
	Intelligence test sequencer	Dynamically change sequence of tests during execution
	Message Sequence Chart	Monitor message flow of each test during test execution
Test Control	Device automation	Full control of the device under test, simulate user actions*
	Devie feedback	Capture and compare results on the device screen
	Control external equipment	Control power meter, WLAN Access Point
Test Result Analysis	Sequence Log	Capture events, state machine changes, and user operations
	Trace Log	Record Layer 1 & 2 events and packets
	Message Log	Verify communication between SmartStudio Manager & MD8475A

*Android™ devices

Anritsu

● **United States**
Anritsu Company
1155 East Collins Blvd., Suite 100, Richardson,
TX 75081, U.S.A.
Toll Free: 1-800-267-4878
Phone: +1-972-644-1777
Fax: +1-972-671-1877

● **Canada**
Anritsu Electronics Ltd.
700 Silver Seven Road, Suite 120, Kanata,
Ontario K2V 1C3, Canada
Phone: +1-613-591-2003
Fax: +1-613-591-1006

● **Brazil**
Anritsu Eletrônica Ltda.
Praça Amadeu Amaral, 27 - 1 Andar
01327-010 - Bela Vista - São Paulo - SP - Brazil
Phone: +55-11-3283-2511
Fax: +55-11-3288-6940

● **Mexico**
Anritsu Company, S.A. de C.V.
Av. Ejército Nacional No. 579 Piso 9, Col. Granada
11520 México, D.F., México
Phone: +52-55-1101-2370
Fax: +52-55-5254-3147

● **United Kingdom**
Anritsu EMEA Ltd.
200 Capability Green, Luton, Bedfordshire, LU1 3LU, U.K.
Phone: +44-1582-433200
Fax: +44-1582-731303

● **France**
Anritsu S.A.
12 avenue du Québec, Bâtiment Iris 1- Silic 612,
91140 VILLEBON SUR YVETTE, France
Phone: +33-1-60-92-15-50
Fax: +33-1-64-46-10-65

● **Germany**
Anritsu GmbH
Nemetschek Haus, Konrad-Zuse-Platz 1
81829 München, Germany
Phone: +49-89-442308-0
Fax: +49-89-442308-55

● **Italy**
Anritsu S.r.l.
Via Elio Vittorini 129, 00144 Roma, Italy
Phone: +39-6-509-9711
Fax: +39-6-502-2425

● **Sweden**
Anritsu AB
Kistagången 20B, 164 40 KISTA, Sweden
Phone: +46-8-534-707-00
Fax: +46-8-534-707-30

● **Finland**
Anritsu AB
Teknobulevardi 3-5, FI-01530 VANTAA, Finland
Phone: +358-20-741-8100
Fax: +358-20-741-8111

● **Denmark**
Anritsu A/S
Kay Fiskers Plads 9, 2300 Copenhagen S, Denmark
Phone: +45-7211-2200
Fax: +45-7211-2210

● **Russia**
Anritsu EMEA Ltd.
Representation Office in Russia
Tverskaya str. 16/2, bld. 1, 7th floor.
Russia, 125009, Moscow
Phone: +7-495-363-1694
Fax: +7-495-935-8962

● **United Arab Emirates**
Anritsu EMEA Ltd.
Dubai Liaison Office
P O Box 500413 - Dubai Internet City
Al Thuraya Building, Tower 1, Suit 701, 7th Floor
Dubai, United Arab Emirates
Phone: +971-4-3670352
Fax: +971-4-3688460

● **India**
Anritsu India Private Limited
2nd & 3rd Floor, #837/1, Binnamangla 1st Stage,
Indiranagar, 100ft Road, Bangalore - 560038, India
Phone: +91-80-4058-1300
Fax: +91-80-4058-1301

● **Singapore**
Anritsu Pte. Ltd.
11 Chang Charn Road, #04-01, Shiro House
Singapore 159640
Phone: +65-6282-2400
Fax: +65-6282-2533

● **P.R. China (Shanghai)**
Anritsu (China) Co., Ltd.
Room 2701-2705, Tower A,
New Caohejing International Business Center
No. 391 Gui Ping Road Shanghai, 200233, P.R. China
Phone: +86-21-6237-0898
Fax: +86-21-6237-0899

● **P.R. China (Hong Kong)**
Anritsu Company Ltd.
Unit 1006-7, 10/F., Greenfield Tower, Concordia Plaza,
No. 1 Science Museum Road, Tsim Sha Tsui East,
Kowloon, Hong Kong, P.R. China
Phone: +852-2301-4980
Fax: +852-2301-3545

● **Japan**
Anritsu Corporation
8-5, Tamura-cho, Atsugi-shi, Kanagawa, 243-0016 Japan
Phone: +81-46-296-1221
Fax: +81-46-296-1238

● **Korea**
Anritsu Corporation, Ltd.
5FL, 235 Pangyoyeok-ro, Bundang-gu, Seongnam-si,
Gyeonggi-do, 463-400 Korea,
Phone: +82-31-696-7750
Fax: +82-31-696-7751

● **Australia**
Anritsu Pty. Ltd.
Unit 21/270 Ferntree Gully Road, Notting Hill,
Victoria 3168, Australia
Phone: +61-3-9558-8177
Fax: +61-3-9558-8255

● **Taiwan**
Anritsu Company Inc.
7F, No. 316, Sec. 1, NeiHu Rd., Taipei 114, Taiwan
Phone: +886-2-8751-1816
Fax: +886-2-8751-1817

Please Contact: