

## Protocol Test Solutions for Chipset R&D

Wireless devices need complex modem software development and many hours of testing. Significant research and development (R&D) investment and specialized expertise are needed. Anritsu's protocol test solutions for chipset R&D address your key challenges of time-to-market and technical complexity.

We offer a range of solutions optimally designed to meet your specific needs. All our protocol test solutions are available with the Rapid Test Designer (RTD) integrated test environment which means they offer the same efficient user interface for test creation, management and execution.

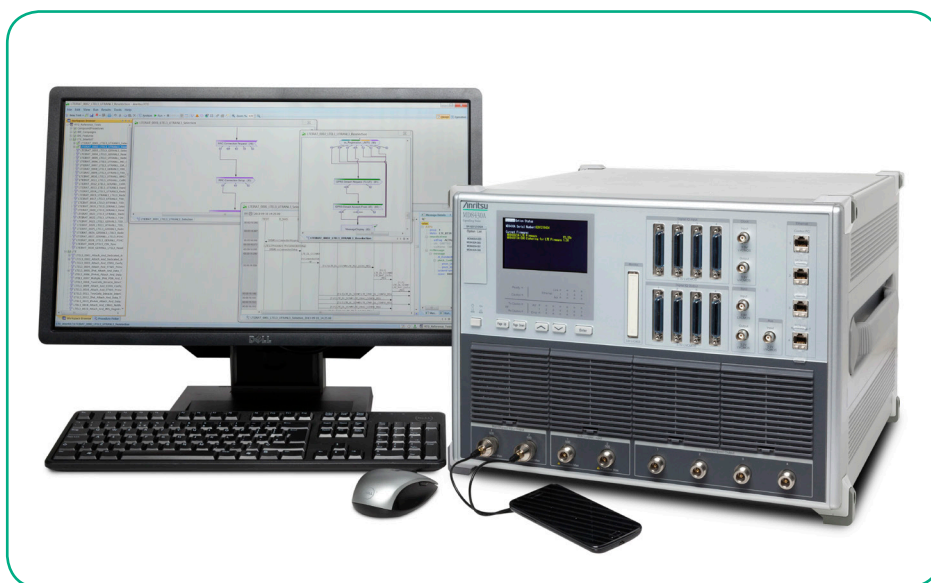
The MD8430A signaling tester for LTE technologies and the MD8480C signaling tester for WCDMA and GERAN are perfect for developing a modem chipset.

## Chipset Development – MD8430A and MD8480C

When you are under pressure to deliver you need to know your test solution is one step ahead, reliably supporting the leading edge protocol features to accelerate your progress. Many simulated cells and interfering signals are essential to reproduce complex real-world scenarios. Features like a digital baseband interface and physical layer monitoring allow you to test at the earliest opportunity to minimize risk to your development program. This is why our MD8430A and MD8480C signalling testers form the heart of the perfect chipset development solution.

## LTE-Advanced – MD8430A

The MD8430A LTE signaling tester accurately simulates an LTE-Advanced radio network with multiple base stations (eNodeBs). It supports data rates of up to 300Mbps to test LTE-Advanced devices with leading edge performance. The MD8430A is available in a range of configurations.

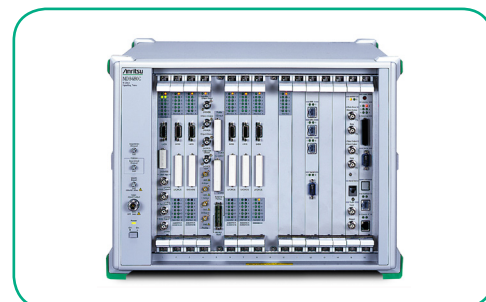


### MD8430A Capabilities

|                                      | Function Test Model | Standard Test Model         | Performance Test Model      | Enhanced Test Model               |
|--------------------------------------|---------------------|-----------------------------|-----------------------------|-----------------------------------|
| Interface                            | RF, Digital IQ      |                             |                             |                                   |
| Max. Bandwidth per Component Carrier | 20 MHz              |                             |                             |                                   |
| UE Category                          | 1, 2, 3             | 1, 2, 3, 4, 6 (PHY)         |                             | 1, 2, 3, 4, 6, 7, 9               |
| Max. Downlink Data Rate              | 75 Mbps             | 150 Mbps (300 Mbps PHY)     |                             | 450 Mbps                          |
| Max. Uplink Data Rate                | 50 Mbps             | 50 Mbps                     |                             | 100 Mbps                          |
| Max. Simultaneous Tx Frequencies     | 1                   | 4 (SISO), 2 (2x2 MIMO)      |                             | 4 (SISO),<br>(2x2 MIMO, 4x2 MIMO) |
| MIMO                                 | No                  | 2x2                         | 2x2, 4x2                    | 2x2, 4x2, 8x2                     |
| Max. Base Stations                   | 1                   | 4 (2x active, 2x neighbors) | 6 (2x active, 4x neighbors) | 6 (4x active, 2x neighbors)       |
| Downlink Carrier Aggregation         | No                  | 2 CCs (with CA option)      |                             | 3 CCs (with 3CA option)           |
| Uplink Carrier Aggregation           | No                  | 2 CCs (with CA option)      |                             | 2 CCs (with CA option)            |

## WCDMA, HSPA(+), GSM, (E)GPRS – MD8480C

The MD8480C WCDMA signaling tester accurately simulates a WCDMA/HSPA(+) radio network with multiple base stations (NodeBs). GSM/(E)GPRS capability may be added as an option for interRAT testing. It supports data rates of up to 42Mbps to test 3G devices with leading edge performance. The MD8480C can be easily combined with the MD8430A for a complete 2G/3G/4G test solution. The MD8480C is available in a range of configurations.



### MD8430C Capabilities

|                          | Release 99<br>- Release 6 | Release 7<br>(Options MX848001C-12,<br>-13, -14)   | Release 8<br>(Options MX848001E-15,<br>-16, -17)                     | Release 9<br>(Options MX848001E-18,<br>-20) | Release 10<br>(Option MX848001E-21) |
|--------------------------|---------------------------|--|--|---|-------------------------------------|
| Interface                | RF, Digital IQ (optional) |  |  |   |                                     |
| Max. WCDMA Base Stations | 4                         |  |  |   |                                     |
| Max. GSM Base Stations   | 2                         |  |  |   |                                     |
| Max. Downlink Data Rate  | 14                        | 28   | 42   | 42  | 42 (63 in L1)                       |
| Max. Uplink Data Rate    | 5.7                       | 11   | 11   | 11 (23 in L1)                               | 11 (23 in L1)                       |
| Release 7 HSPA+          | -                         | CPC, Enhanced CELL FACH DL, DL L2 Improvements, CS Voice over HSPA, 64QAM DL, 16QAM UL, 2x2 MIMO |  |   |                                     |
| Release 8 HSPA+          | -                         |  | Enhanced CELL FACH UL, UL L2 Improvements, DC-HSDPA, 64QAM with MIMO |   |                                     |
| Release 9 HSPA+          | -                         |  |  | DB-DC-HSDPA, DC-HSUPA                       |                                     |
| Release 10 HSPA+         | -                         |  |  |   | MC-HSDPA<br>(3C-HSDPA/4C-HSDPA)     |

## Integrated Test Environment - Rapid Test Designer (RTD)

When you need to rapidly design and create a test you need a tool that simplifies the process as much as possible. The three core tasks are:

### Test Design

Quickly and easily create your own bespoke tests.

### Mobile Network Simulation

Configure one or more base station simulators and control the messages exchanged with the Device Under Test (DUT).

### Protocol Analysis

Analyze signaling procedures and messages to pinpoint and fix complex protocol issues.



RTD software provides a perfect integrated test environment for test creation, mobile network simulation and protocol analysis.

### RTD Capabilities

|                          |                             |   |
|--------------------------|-----------------------------|---|
| <b>Test Editor</b>       | Graphical flowchart         | Drag and drop procedural blocks to define the test flow |
|                          | Layer 3 parameterization    | Automatic configuration of PHY/MAC/RLC                  |
|                          | Multiple windows            | Search/compare across multiple open tests and results   |
|                          | Example tests               | Leverage a comprehensive set of examples                |
| <b>Test Executive</b>    | Campaign Manager            | Create complex intelligent test sequences               |
|                          | Remote Control              | Integrate with automated test environments              |
|                          | Device Automation           | Standard or custom interfaces for unattended operation  |
| <b>Protocol Analysis</b> | Message sequence chart      | View signaling during test execution                    |
|                          | Measurement, monitor, trace | Monitor PHY/MAC/RLC parameters during test execution    |
|                          | Protocol Analyzer           | Analyze decoded message logs                            |
|                          | Log export                  | Export logs to HTML for sharing                         |
| <b>User Support</b>      | On-screen help              | Context sensitive help                                  |
|                          | Technical support           | Annual support and maintenance service                  |
|                          | Software updates            | Annual support and maintenance service                  |
|                          | Training and consultancy    | Bespoke training courses and professional services      |

To find out more about Anritsu's solutions for protocol R&D testing, please contact your local sales representative or visit [www.anritsu.com](http://www.anritsu.com)



Specifications are subject to change without notice.

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