

Agilent E6474A Wireless Network Optimization Platform

Technical Overview

Mobile
WiMAX™



Troubleshoot and optimize WiMAX™ wireless networks with a comprehensive, flexible solution.



Agilent Technologies

The Agilent E6474A Drive Test solution enables wireless service providers and network equipment manufacturers to efficiently deploy and optimize today's increasingly complex wireless voice and data networks. A single flexible user interface spans all the most popular wireless technologies used globally.

WiMAX Overview

Agilent's market leading drive test solution encompasses all the key measurements you need to optimize and troubleshoot your WiMAX networks. WiMAX devices based on the Beceem BCS200, Intel Echo Peak and Baxter Peak chipset are supported, together with Agilent's industry leading measurement receiver technology giving you the ultimate toolkit to solve your WiMAX network problems. You can expand your system to cover GSM, GPRS, UMTS, EDGE, HSDPA, HSUPA, cdma2000, 1xEVDO and iDEN as your network testing needs grow. Refer to the specific technical overviews for more information.

Key Features

- Beceem chipset based devices
- Intel chipset based devices
- Up to 4 handsets supported on a single PC
- Industry leading data test support
- Open architecture for post processing
- Fast, accurate receiver measurements
- Fully scalable solution from Receiver or Phone to full combo

Key Benefits

- Platform stability – Improved user productivity
- Project files allow easy sharing of test configurations – Improve consistency of collected results
- Easy to use – customize the GUI to visualize data exactly how you need it – maximize your efficiency in detecting and isolating problems
- Click'n'Sync visualization simplifies troubleshooting – Find problems faster with map, chart, events and protocol synchronization
- Single platform that can expand as your needs increase – lowers your cost of ownership
- High accuracy RF measurements reducing measurement uncertainty
- Freedom of choice for post processing tools



WiMAX Measurements Overview

Device Measurements

Server and neighbor information:
 Channel (center frequency)
 Bandwidth
 Base Station ID
 Preamble ID
 RSSI
 CINR
 TX Power

Server Details

Frame Number
 Uplink/Downlink MCS
 (modulation coding schemes)
 Uplink/Downlink Allocation
 Total PDU's received/transmitted

PHY State

RF Channel/BSID/Preamble ID
 Cellsite Database Information;
 Base Station ID
 Preamble ID
 Cell Name
 Distance

Modem State

Cell Processing Status;
 PLL Status
 PHY Sync
 Network Entry
 Modem State Message

Network Info

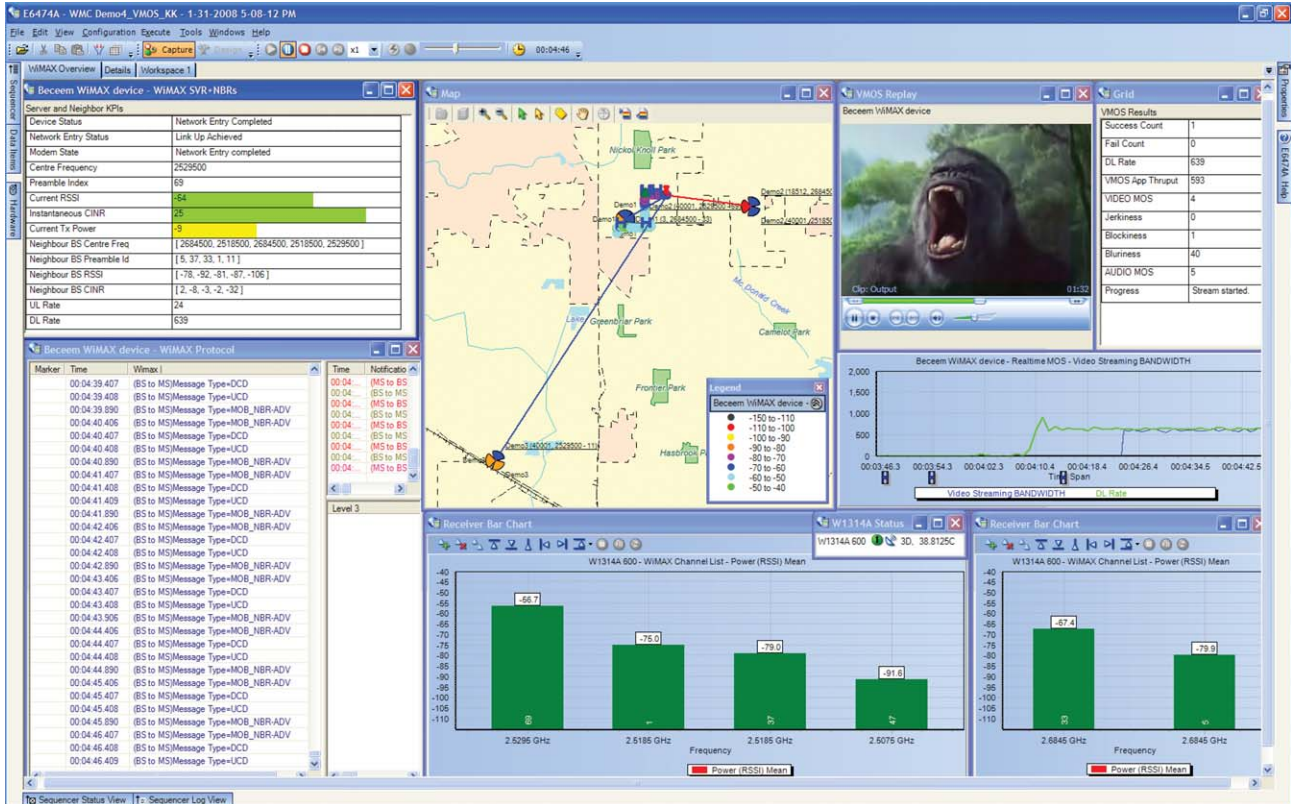
Base Station ID
 Preamble ID

WiMAX Protocol MAC Messages

Message Direction
 Frame Number
 Message detail per
 IEEE 802.16e-2005 Spec

Video MOS Tests (Purchasable Option)

Video MOS 1-5
 Audio MOS 1-5
 Blurriness %
 Blockiness %
 Jerkiness %



Agilent Receiver Measurements

In the multi-format environment of today's wireless networks it is essential to equip your RF engineers with the right tools. Tools that help them quickly establish and maintain the planned coverage and quality of your network.

Multiple technology and multi-band measurement support in a single receiver unit, combined with Agilent's E6474A Wireless Network Optimization Platform delivers market leading performance.

- Fast, accurate, network-independent RF measurements for optimization and troubleshooting tasks both in the field and in the lab.
- Multi-band (uplink/downlink, up to four RF bands) and multi-technology operation in a single compact hardware package
- In-built 12-channel GPS (Optional 50-channel) for accurate location measurements
- Software-upgradeable hardware platform for extended product life
- Integral 4-port USB 2.0 hub enabling up to four USB devices with charging.
- Combine with the Agilent E6474A Wireless Network Optimization Platform for drivetest, service testing, competitive benchmarking and RF troubleshooting.



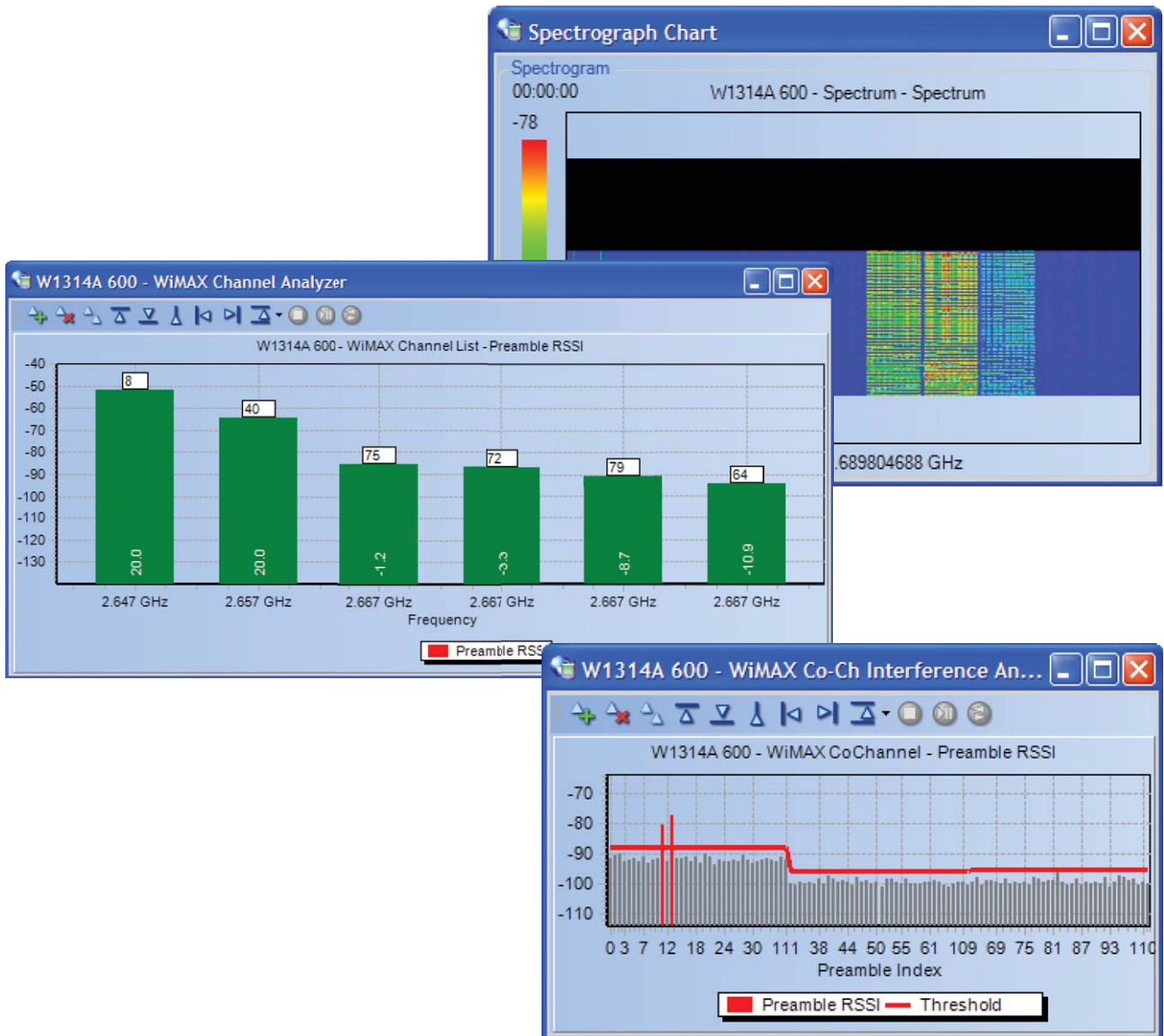
Application Measurements

Measurements include:

- Spectrum Analyzer
- CW Power
- Channel Power
- WiMAX Channel Analyzer
- WiMAX Interference Analyzer

With the Agilent drive test system, the phone and receiver measurements can be combined to provide key optimization information such as missing neighbor and interference analysis.

For full details and specifications of the Agilent W1314A Receiver refer to the Agilent W1314A Data Sheet (5989-7970EN).



E6474A Wireless Network Optimization Platform Options

E6474A #010 Multiple phone measurements license

E6474A #030 Indoor mapping license

E6474A #040 MapX mapping license

E6474A #050 Receiver addition to phone measurements license

E6474A #055 Receiver only measurement license

E6474A #650 WiMAX Receiver Channel Power and Spectrum Analysis measurement software license (only required if not using option #655)

E6474A #655 WiMAX Receiver measurements license

E6474A #656 WiMAX Phone measurements license

E6474A #744 Video streaming with MOS option

Data Test Capabilities

Agilent's data test capabilities ensure that you can measure and optimize the performance of your 2G, 3G and 4G networks. Included with the phone license, the integrated sequencer supports:

- Ping and Traceroute – basic connectivity verification
- Command line test – Connect to an iPerf server (customer provided) for TCP and/or UDP packet testing
- FTP Put test - to test uplink throughput
- FTP Get test - to test downlink throughput

Post Processing and Reporting

Agilent's open approach to post processing allows you the maximum flexibility in analysis of the collected data.

You can choose:

- In-tool playback
- Analysis reports
- Flexible user-defined export to Map Info or Excel
- The Industry's broadest selection of third party post processing tool support.

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