

SA

E6651A Mobile WiMAX™ Test Set Revision History

epsg1117863

Application Compatibility Matrix:

E6651A	E6651A API	N6421A	N6421A API	E6655A	E6655A API	N6422C	N6423C
6.6.1.0	6.6.1.0	6.6.1.0	6.6.1.0	6.6.1.0	6.6.1.0	-	-
6.5.3.0	6.5.3.0	6.5.3.0	-	6.5.3.0	6.5.3.0	C.06.00	C.06.00
6.5.1.0	6.5.1.0	6.5.1.0	-	6.5.2.0	6.5.2.0	-	-
6.5.1.0	6.5.1.0	6.5.1.0	-	6.5.1.0	-	-	-
6.4.2.0	6.4.2.0	6.4.2.0	-	6.4.2.0	-	C.05.00	C.05.00
6.4.1.0	6.4.1.0	6.4.1.0	-	6.4.1.0	-	-	-
5.3.3.0	6.3.3.0	6.3.1.0	-	6.3.1.0	-	C.04.00	C.04.00
5.3.1.0	6.3.1.0	6.3.1.0	-	6.3.1.0	-	C.03.00	C.03.00
5.2.1.1	5.2.1.0	5.2.1.1	-	5.2.1.0	-	C.02.05	C.02.05
5.1.1.0	5.1.1.0	5.1.1.0	-	5.1.1.0	-	-	-
5.0.1.0	5.0.1.0	5.0.1.0	-	5.0.1.0	-	-	-

E6651A Instrument Patches

Other software components within the E6651A occasionally require updating (for example, internal drivers for hardware modules). These components are independent of firmware revisions and as such, are not included with firmware releases. However, they can be downloaded as separate patches to be installed as required. Agilent recommends that all available instrument patches are installed to ensure the best performance of the E6651A. Refer to individual release notes for patches and further details. If available, patches can be downloaded from the E6651A section of www.agilent.com/find/e6651a_software

E6651A Firmware Revision 6.6.1.0 – May 14th 2010 – Feature Release

Please note - Compatibility: This firmware should only be installed on Test Sets with Hardware Revision A.2.1 or later.

New Features

- Enhanced throughput up to ~ 20Mbps with DL UDP Test Mode on A.2 HW
- Enhanced throughput up to ~ 18.5Mbps End-to-End with E6655A Lab Application on A.2 HW
- PHY repetition of broadcast messages is controlled separately from other DL messages (excluding DLMAP and ULMAP, which already have individual PHY repetition settings)
- DCD/UCD transmission interval is now user-configurable
- MOB_SCN-RSP message can be populated with the parameters requested by the MS automatically

- Added user-configurable cross-coupling between channel 1 and channel 2 to test MIMO capability
- EAP/TLS support added
- E6651A now prompts to upgrade firmware if new firmware is found on USB memory during boot up
- Debug files can be saved to USB memory in the event of a Fatal error occurring for analysis by Agilent
- In the event of a non-fatal internal error in the E6651A, indicator values on the E6651A screen will be highlighted in red text.
- BS EIRP can be coupled with the Source output power of the E6651A
- New CINR Test Mode range added to extend the range to -5dB CINR (note: maximum DL transmit power is reduced in Extended CINR mode)
- It is now impossible to select both E6655A mode and TTCN mode at the same time

Profile Compatibility Matrix:

BSE : 10MHz	6.6.1.0	C133.1330.2343-D159.0000.3441
BSE : 8.75MHz	6.6.1.0	C033.1330.2343-D059.0000.3441
BSE : 7MHz	6.6.1.0	C336.1330.2343-D359.0000.3441
BSE : 5MHz	6.6.1.0	C233.1330.2343-D259.0000.3441

Previous Release Information

E6651A Firmware Revision 6.5.3.0 – August 28th 2009 – Feature Release

Please note - Compatibility: This firmware should only be installed on Test Sets with Hardware Revision A.2.1 or later.

New Features

- Add calling station ID and called station ID to EAP messages
- 2nd Trigger in DCD added for handover test flexibility
- Support MOB_NBR-ADV with less than three neighbors
- Automatic or manual sending of MOB_BSHO-REQ
- Additional settings for Sleep Mode: Start Frame #, SLPID

Maintenance

- Increased readability of Connection Status on front panel display

Profile Compatibility Matrix:

BSE : 10MHz	6.5.3.0	C133.1328.2341-D120.0000.3414
BSE : 8.75MHz	6.5.3.0	C033.1328.2341-D022.0000.3414
BSE : 7MHz	6.5.3.0	C336.1328.2341-D322.0000.3414
BSE : 5MHz	6.5.3.0	C233.1328.2341-D222.0000.3414

E6651A Firmware Revision 6.5.1.0 – April 30th 2009 – Feature Release

Please note - Compatibility: This firmware should only be installed on Test Sets with Hardware Revision A.2.1 or later.

New Features

- Sleep Mode – supports both Base Station (BS) and Subscriber Station (SS) initiated Sleep Modes.
- Idle Mode – improved configurability of DREG-CMD for Idle Mode.
- Handover – supports BS initiated Handover - See *Note 1
- Authentication – support for TTLS Authentication using an additional AAA Server.
- UL 2nd Zone – support for Uplink 2nd Zone with flexible start position and symbol offset.
- HARQ – improved configuration menu for UL and DL HARQ

* **Note 1** - This release also contains support for SS initiated handover. A single trigger event for SS handover initiation is currently supported. SS that require a second trigger (e.g., for Scanning Request and for SS initiated handover) require an alternate method for triggering one of these procedures. A second trigger will be available in a future firmware release. Please contact Agilent Technical support at wireless_test_support@agilent.com for more information.

Profile Compatibility Matrix:

BSE : 10MHz	6.5.1.0	C133.1327.2340-D120.0000.3407
BSE : 8.75MHz	6.5.1.0	C033.1327.2340-D022.0000.3407
BSE : 7MHz	6.5.1.0	C336.1327.2340-D322.0000.3407
BSE : 5MHz	6.5.1.0	C233.1327.2340-D222.0000.3407

E6651A Firmware Revision 6.4.2.0 – October 31st 2008 – Maintenance Release

Please note - Compatibility: This firmware should only be installed on Hardware Revision A.2.1 Test Sets

Maintenance Release

- DL Fragmentation supported when used with E6655A.
- UL Power Control IE addressed to Basic CID and not broadcast CID.

Profile Compatibility Matrix:

BSE : 8.75MHz	6.4.2.0	C033.1327.2335-D022.0000.3391
BSE : 10MHz	6.4.2.0	C133.1327.2335-D120.0000.3391
BSE : 7MHz	6.4.2.0	C336.1327.2335-D322.0000.3391
BSE : 5MHz	6.4.2.0	C233.1327.2335-D222.0000.3391

E6651A Firmware Revision 6.4.1.0 – September 4th 2008 – Feature Release

Please note - Compatibility: This firmware should only be installed on Hardware Revision A.2.1 Test Sets

New features

- Idle Mode - supports both Base Station and Subscriber Station initiated Idle Modes.
- Enhanced Throughput - supports higher data rates in both Uplink and Downlinks.
- DL MAP Logging - Enables Downlink Map logging in N6421C Protocol Logging Application
- Enhanced CQICH reporting - MIMO feedback and PHY CINR settings added

Profile Compatibility Matrix:

BSE : 8.75MHz	6.4.1.0	C033.1327.2334-D022.0000.3384
BSE : 10MHz	6.4.1.0	C133.1327.2334-D120.0000.3384
BSE : 7MHz	6.4.1.0	C336.1327.2334-D322.0000.3384
BSE : 5MHz	6.4.1.0	C233.1327.2334-D222.0000.3384

E6651A Firmware Revision 6.3.3.0 – June 5th 2008 – Feature Release

Please note – Compatibility: This firmware should only be installed on Hardware Revision A.2.1 Test Sets.

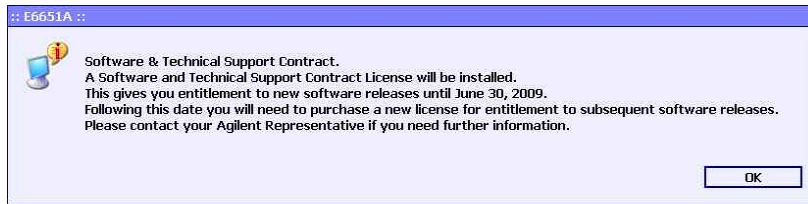
New features

- **Implementation of the “source” IP Address settings for Ping and UDP Tests.** This enables you to decouple the E6651A Test Set WiMAX IP address from its rear panel LAN connection IP Address.
Access this feature by pressing **Mode** > **BS Emulator** > **Settings** > **Test Setting** > **SS IP Setting**. Press **Source** and **Destination** and enter the required values.

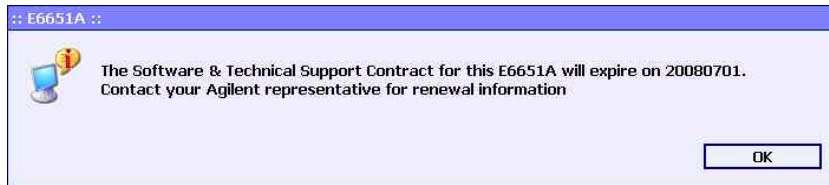
For remote access via the API use E6651_SetSSIPSource and E6651_GetSSIPSource.

- Default Source IP address: 100.100.100.100
- Default Destination IP address: 100.100.100.10
- **Implementation of Software and Technical Support Contract (STSC), E6651AS-1SY.** Agilent has recently introduced a Software & Technical Contract for the E6651A Mobile WiMAX Test Set (E6651AS-1SY). This contract entitles customers to software updates and access to technical support for a fixed duration (usually 1 year) and is referenced as E6651AS-1SY. For units purchased on or before 1st May 2008 installation of firmware version 6.3.3.0 (or above) automatically installs an STSC (option 1SY) license which expires on 30th June 2009. At this time it will be necessary to renew the STSC to receive subsequent firmware releases and technical support.
For additional information refer to <http://agilent.com/find/E6651A> and contact your local Agilent representative.

- The following screens are part of the E6651A option 1SY implementation:
 - To indicate the installation of the STSC license:



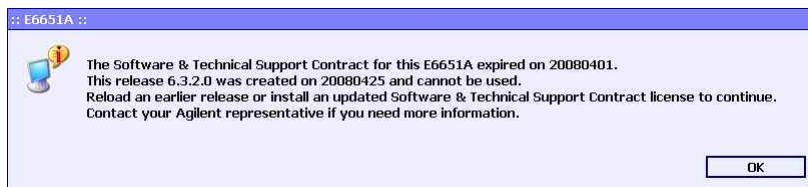
- 90 day warning of STSC license expiry. Contact your Agilent sales office for renewal of STSC if required:



- Expiry of STSC license has been reached. No subsequent firmware updates can be installed on this Test Set:



- Failed attempt to load firmware released after the expiry of the STSC license:



Profile Compatibility Matrix:

BSE : 8.75MHz	6.3.3.0	C020. 1324. 2329-D022. 0000. 3365
BSE : 10MHz	6.3.3.0	C120. 1324. 2329-D120. 0000. 3365
BSE : 7MHz	6.3.3.0	C320. 1324. 2329-D322. 0000. 3365
BSE : 5MHz	6.3.3.0	C220. 1324. 2329-D222. 0000. 3367

E6651A Firmware Revision 6.3.1.0 – March 28th 2008 – First Release

New features

To enable mobile stations to be tested to the latest WiMAX standards, MIMO options for Wave 2 testing are available on the E6651A. In addition to features supported in version 5.3.1.0 firmware, capabilities include an additional downlink channel for mobile station testing including:

- MAP Support - can select normal and compressed MAP
- 7 MHz BW - supports 7MHz BW profiles 4B, 5B, 5LB, and 5HB
- IP Protocol - Supports IPv6 protocol to enable end-to-end operation
- IP Protocol – Can generate IPv6 based packet for DL Ping and UDP Test
- Save/Recall - Save/Recall up to 9 Test Set setups
- **Second Zone** - Allocation of a second zone in the DL subframe for support of MIMO STC and SM modes. User data (including Ping and UDP Test Modes) uses this zone for packet transfer.
- **Detection and decoding** of UL for collaborative SM MIMO mode signal. UL-MAP is defined to support UL collaborative SM mode.

When released, firmware updates will be available for download from <http://www.agilent.com/find/E6651A>. To receive notification of updates, please subscribe to the Agilent e-mail update service at <http://www.agilent.com/find/emailupdates>.

WiMAX™ is a certification mark of the WiMAX Forum.