E7495A/B Base Station Test Set Firmware History

Rev: 28 October 2010

http://www.agilent.com/find/e7495_firmware

Note: This list is provided for informational purposes only and is subject to change.

A.06.25 (October 2010)

Defect fixes / improvements / other changes:

- Fixed issue with T1 analyzer where loop-up indicator wasn't properly indicating when looping up a CSU.
- Improved robustness when remotely controlling E7495B via LAN sockets

A.06.24 (January 12 2009)

Defect fixes / improvements / other changes:

- Fixed compatibility issue with N8482A-CFT power sensor

A.06.23 (November 1 2007)

Defect fixes / improvements / other changes:

- Fixed regression in A.06.21 firmware that reduced the dynamic range of the insertion loss measurement.

A.06.21 (20 July 2007)

New Features:

- Added CDMA2000 Band 0 Subclass Bands 2 and 3 to the North America Cellular Channel Standard
- Increased the CW source output power to -5dBm for the E7495B. (unleveled when > -23dBm, not available on the E7495A)
- Added the following features to the **W-CMDA Analyzer**
  - Added Pilot (CPICH) EVM results to WCDMA mode. User selectable between composite and pilot.
  - Added IF flatness equalizer for improved EVM noise floor improvements. (User selectable)
    - **Off** (default IF Eq Status setting: also the method used for firmware versions prior to A.06.20)
    - **Run** (New: Current trace data is used to generate an approximate IF Slope Correction, each trace generates an approximate IF Slope Correction which is averaged and then applied to the trace to remove the effects of noise)
    - **Hold** (New: Uses the last averaged IF Slope correction made while in Run mode, no additional corrections are made to the IF Slope Corrects.
    - Note: the If slope correction is cleared when set to "Off", or any other parameters are changed,
- Added the following features to the **Spectrum Analyzer**
  - Added W-CDMA fixed mask SEM measurement with multiple RBW segments and sloped limit lines.
  - Added Korean PCS Channel Standard in the Format List for the Adjacent Channel Power mode. (Non-equidistant adjacent channels, with different bandwidths and absolute results (dBm vs. dBc). Limits handling updated to match.
  - Noise correction On/Off (using sensitivity attenuator) available in W-CDMA SEM mode.

Defect fixes / improvements / other changes:

- Improved Channel Power Measurement Accuracy for RF Input levels greater than -10dBm
- Added support in the firmware to allow the Remote GUI program to work with the latest version of JAVA
- CDMA Over Air Menu; Added a Quick Page Channel control key (same as in the CDMA TX Analyzer)
- Signal Generator fields are disabled until the Enable Sig Gen softkey is set to "Yes" to prevent inaccurate field status.
- Adjacent Channel Power;
    - Fixed issue where the Channel Standard was not being updated after a Preset
    - ACP limits keys have been updated to display the correct units (dB, dBm, dBc)
    - Improved handling of Save/Recall State settings
- Reduced the W-CDMA ACP measurement interval to 2ms (HSDPA subframe)

A.06.10 (02 January 2007)

New Features:

- Added UTRA Band IV Channel Standard
- Added the following ARB signals to the Complex Modulation Option
    - 1xEVDO reverse link Rev A 9.6Kbps
    - 1xEVDO reverse link Rev A 460.8Kbps
    - iDEN Inbound 1/6 Duty Cycle 16 QAM
- Added Progress Event message on screen (% complete) for large ARB files
- For the 1xEV-DO measurements, added "Data" to the list of CDP Type selections

Defect fixes / improvements / other changes:

- Fixed: Complex Source Lockup issue which could occur when repetitively setting the Mod Format
- Fixed: For the 1xEV-DO measurements, MAC Index conversion from Walsh Code when CDP Type "MAC 128" was selected

A.06.00 (28 February 2006)

New Features: (SeeE7495A/B Base Station Test Set, Options 230,235,270 & Antenna Test Post Processing Software Brochure 5989-4563EN on the E7495B website for more details**)**

- EDGE Measurements added to GSM Analyzer and GSM OTA (Option 235)
  Display Views:
    - Channel Scanner
    - Power Versus Time
        - Slot Sync supports Highest Power, Auto, GMSK, 8PSK, Specific Timeslot # (w/BCCH)
        - Limit masks for individual slot and full frame (supports mixed modulations GMSK and 8PKSK, and mixed slot powers)
        - Individual active and inactive timeslot powers reported for full frame following demodulated timeslot
        - Supports both Slots view (up to 8 slots max), and Rise/Fall view (for specific slot)
        - Supports post capture, single mode zoom offset, and zoom interval for close examination of time domain signal
        - Supports Trace Markers
    - Spectrum View
        - Displays gated spectrum of demodulated timeslot
        - Supports Trace Averaging
        - Supports Trace Markers

  Key Measurement Metrics:
    - BSIC
    - TSC (Training Sequence Code, 0 thru 7)

- Modulation Type (GMSK or 8PSK)
- TS Power (power of timeslot detected specified by Slot Sync setting)
- OBW
- I/Q Offset
- Phase Error (reported for GMSK signals, includes RMS and Peak values)
- EVM (reported for 8PSK signals, includes RMS, Peak and 95%tile values)

Key Setup Parameters:

- Slot Sync supports Highest Power, Auto, GMSK, 8PSK, Specific Timeslot # (w/BCCH), and affects both the PVT view trace synchronization and the resulting detected timeslot, from which the measured metrics are derived. Provides user wit the ability to extract on GMSK or 8PSK timeslot metrics from mixed signal environments.
- Averaging behavior was modified. When Running Average or Max Hold is enabled, we now hold and display the last valid result metrics obtained. These metrics are held and displayed whenever the signal sync is lost due to noisy signal environment (live traffic) even if the Average number is "1". This feature improves the usefulness of the GSM (w/EDGE) application in an OTA environment where intermittent timeslot signals may be observed.
- Limits have been extended to include new 8PSK EVM results

- Added Temporary Option License feature; all 200-300 series options can be enabled for a set timeframe allowing them to be provided to customers for demo purposes.
- Added CDMA OS-95 Reverse Link- RC2 Zero Data Traffic Channel signal to the Complex Source
- GSM(w/EDGE) application Averaging now applied to all metrics and spectrum trace, and to the Channel Scanner trace
- Markers feature added as part of new PVT and Spectrum views
- Band/Chan selection added to the Start Chan/Freq soft key to provide the ability to switch quickly between Band/Channel measurements
- Antenna Measurements Post Process now available on the web **at:** **www.agilent.com/find/e7495_software**

Defect fixes / improvements / other changes:

- Fixed: Source Level Accuracy error which could occur when changing mod formats or when changing from 375MHz
- Fixed: GSM application Group Max Average was not implemented, now works for both Metrics and Traces
- Fixed: DTF, Fault indicators not visible after toggling them off/on
- Improved: GSM(w/EDGE) OTA support now practical due to new Average Hold feature
- Improved: GSM(w/EDGE) OTA much more stable due to bug fixes in BSIC detect & decode algorithms
- Improved: GSM signal GMSK Phase Error Metric performance improved by implementing new resampler.
- Improved: GSM application IQ Offset Metric accuracy increased when Freq Error is greater than +/- 200 Hz
- Improved: ACP measurement results in W-CDMA mode
- Fixed: HSDPA Analyzer EVM & PCDE metrics reported a PASS when no signal is present
- Resolved: Interference Analysis Marker and threshold level were not being displayed
- Improved: GSM Pass/Fail now indicates "Failure" when no signal is present
- Improved: Nortel Software connection diagram screen load times
- Fixed: On GSM Analyzer, setting the stop channel below the start channel causes lockup
- Resolved: Unable to format a PCMCIA or CF Card under certain conditions
- Improved: Changed the background color for the Print Screen when GPS is on so text more legible
- Improved: The Signal Generator Ampl Step Size can now be set down to 0.1dB (used to be 1dB only)
- Improved: Many updates and improvements to the Online Help

A.05.00 (15 November 2005)

New Features:
• HSDPA Measurements added to W-CDMA Analyzer and W-CDMA OTA (Option 245)
• 1xEV-DO Over Air Analyzer (OTA feature added to Option 205)
    • Pilot scanner for 10 pilots
    • Pilot Dominance
    • Multipath Power
• Made the Spectrogram a standard feature (was part of option 270 Interference Analyzer)
• Added support for the 8481D power sensor
Defect fixes / improvements / other changes:
• Fixed: TCP/UDP communication issue when LMF testing is run for extended periods
• Improvement: Added features to the Enhanced Calibrations for DTF, Return Loss and 1-Port
    • Added setup data to the Save Data file for Return Loss and 1-Port Insertion Loss
    • Allows the user calibrations to be retained for both auto and manual frequency range
    • Fixed issues with the Calibration Start and Stop frequency settings
• Resolved: DTF Limit Lines were not being preset
• Fixed: Cable Type label was not being retained between the DTF and Return Loss screens
• Fixed: Calibration Status and Marker annotation retained when exiting and returning to the Antenna/Cable measurement screens
• Fixed: Return Loss accuracy issue when the start/stop frequency was not the same as the calibration start/stop frequency. (E7495B only with A.04.00 firmware)
• Fixed: Various marker and limit line display issues
• Fixed: Help Screen; fixed missing topic links in several screens

A.04.00 (15 June 2005)

New Features:
• 1xEV-DO Analyzer (Option 205)
    • 1xEV-DO Forward Link demodulation measurement capability
    • 1xEV-DO Reverse Link Signal Generator capability
• Improved Distance To Fault measurements
    • Added Start/Stop Distance settings to allow user to zoom in to a section of feed line
    • Added the option to select between 256, 512, or 1024 data points for optimum resolution
    • Several cable types added
    • Added VSWR results to metrics display
•Updated the Save Data capture to include start/stop distance, calibration frequencies, and cable type information
• Added Spurious Emissions mask for cdma2000 and 1xEV-DO
• The MAC address is now displayed on the startup screen
• Enhanced Calibrations for DTF, Return Loss, and One Port Insertion Loss
    • Allows for a common calibration between the DTF, Return Loss, and 1-Port measurements
    • Allows users to select the Start/Stop calibration frequencies to cover the frequency range of the Distance to Fault, Return Loss, and One Port Insertion Loss Measurement Screens.
Defect fixes / improvements / other changes:
• Fixed: Intermittent lockup issue when switching source modulation formats rapidly
• Fixed: WCDMA Amp Capacity was being reported as 200% on revisions A.03.10 and A.03.20
• Resolved: Spectrum Analyzer Limits Span setting would not update with the RPG
• Fixed: Two Port Insertion Loss Source Level did not change when switching from Auto to Manual until a new value was entered.
• Fixed: Pass/Fail indicator still present after a preset.

A.03.20 / A.03.21 (10 March 2005)

New Features:

• Nortel CDMA Test Software (Option 330)
• Flexible Limit Lines and Limits added to the following Screens: Return Loss, Distance to Fault, Spectrum Analyzer, and Channel Scanner
• Flexible Limits added to the following Screens: 2 Port Insertion Loss, CDMA Analyzer, and CDMA Over Air Analyzer
• Added 3 new detector types to the Spectrum Analyzer: Sample, Average, and Negative Peak
• Added GSM OBW metric to the GSM TX Analyzer

Defect fixes / improvements / other changes:

• Improved the OBW Occupied Power measurement accuracy by using the Average detector
• Fixed an issue with formatting the PCMCIA and CF media cards
• Resolved an issue with Saving Data and Printing Screen results to the PCMCIA and CF media cards
• Fixed an intermittent lockup caused by switching Source mod formats repetitively

A.03.10 (15 September 2004)

New Features:

• GSM Analyzer (Option 230)

Defect fixes / improvements / other changes:

• Fixed the Save State function to allow long save state names to prevent measurement server errors
• W-CDMA (UMTS) Over Air measurement improvements:
    • Better decode of signals with low pilot power (as in Test Model 4)
    • Improved the Multipath Power and Pilot Dominance measurements
    • Allow display of the PSCH and SSCH in the control channel view display when the multipath power exceeds the Valid Measurement Setting

A.03.00 (01 July 2004)

New Features:

• Occupied Bandwidth measurement
• W-CDMA (UMTS) Over Air measurement (Option 250)
• Interference Analysis (Option 270)
• Faster W-CDMA (UMTS) measurement
• Print to light background (**System → Save Data Setup → Light Background**)
• Range Up/Down control in Spectrum Analyzer, Channel Scanner, and Adjacent Channel Power
• Save trace data (**System → Save Data Setup → Include Trace** toggles on/off)
• Running Average count
• Codogram screen added to W-CDMA (UMTS) & W-CDMA (UMTS) Over Air measurements
• Remote Graphical User Interface of E7495A/B using a PC
• Implemented a more reliable Firmware upgrade process
• Implemented an improved Flash File System (JFFS2) for increased reliability
• Added E-GSM and R-GSM channelizations

Defect fixes / improvements / other changes:

• Copyright on Splash Screen and via **System → System Stats → Copyrights**
• Can now turn on Signal Generator after Preset
• RF IN LOSS now handled correctly on Preset
• Fixed Spectrum Analyzer Start/Stop Frequency over/under frequency entry errors
• Can now enter negative frequency offsets for Delta Markers

A.02.12 (14 April 2004)

Defect fixes / improvements / other changes:

• W-CDMA measurement will now work with DTX signals.
• Modified the Firmware update process to reload the DSP code during the Firmware upgrade.
• Fixed some problems as a result of going into sleep mode (ADS board compatibility).

A.02.11 (4 February 2004)

Defect fixes / other changes:
• Instrument boot-up increased by 2 seconds to keep GUI from occasionally hanging during startup.

A.02.10 (16 January 2004)

New Features:
• Codogram added to CDMA Analyzer and CDMA Over the Air (Options 200 and 210)
• Group Max averaging has been added to the spectrum analyzer, channel analyzers, and antenna measurements.
• Help system now available for submenu buttons on W-CDMA Analyzer (Option 240) and Adjacent Channel Power (Option 220) (minimal)
• Noise correction now available for Adjacent Channel Power (Option 220).
• Simultaneous operation of CW and complex signal generator now available in Spectrum Analyzer Channel Analyzers and Antenna Measurements.
• Faster sweep speed in Spectrum Analyzer mode
• Frequency panning (Agilent patented feature) now added to Spectrum Analyzer
• Distance to Fault display resolution improvement
• Improved Time Gating in Distance to Fault mode (0 dB Step response at 0 distance after calibration)
• Distance to Fault display now shows the DC component and has 4 fault indicators.
• Upen cables added as a selection in Distance to Fault measurement.
• Graphic User Interface (GUI) responsiveness improvement (all measurement modes)
• New Power save mode with auto-dimming display brightness timer
• Battery Reconditioning now available via front panel interface (only available on instruments with serial numbers US43410240 and later)
• New Battery Status Metrics (only available on instruments with serial numbers US43410240 and later)
• Internal time base can now be field adjusted via front panel using GPS signal
Defect fixes / improvements / other changes:
• W-CDMA code domain power marker to next peak now works properly (Option 240).
• Channel Scanner step size now saved with Save State (Option 220).
• Channel Scanner Meas Time and Meas BW are now restored with a Recall State (Option 220).
• Save Data and Print Screen will prompt the user if a file is going to be overwritten.
• Agilent Technologies added to Print Screen images
• The default Recall State changed from a default of "Powerup" to "User"
• Problem of help system getting lost in E1/T1 (Options 700 and 710) and Channel Scanner (Option 220) now corrected.
• External loss buttons now have on/off toggle.
• Fraction channel numbers now displayed when toggling from a frequency that doesn't correspond to a channel.
• A decimal point can now be entered for Adjacent Channel Power offsets (Option 220).

A.02.00 (15 October 2003)

New Features:

• Support for E7495B hardware
• W-CDMA (UMTS) Analyzer (Option 240)
• E1 Analyzer (Option 710)
• DC Bias – 12 volt output (E7495B only, Option 300)
• Adjacent Channel Power Measurements added to Channel Scanner (Option 220)
• Additional External Reference input frequencies (E7495B Only):
1 MHz, 2.048 MHz, 4.95 MHz, 13 MHz, 15MHz
• Group averaging type (on most receiver measurements)
• Sub-hertz frequency error resolution on Channel Scanner

Defect fixes / improvements / other changes:

• Fixed some marker problems for Spectrum Analyzer mode
• Fixed signal resolution problem in Spectrum Analyzer mode
• Fixed channel scanner frequency list entry defect
• Fixed some problems as a result of going into sleep mode
• Lowered the default T1 volume

A.01.60

New Features and Enhancements:

• Single Port Insertion Loss
• Antenna Measurement improvements
• File Name on Print Screen
• Channel Scanner Peak Power
• Improved Upgrade Process
• T1 Sound and Volume
• Insertion Loss Range vs. Accuracy Optimization
• Help System Enhancements
• Spectrum and Channel Scanner Auto Range Hold

A.01.51

New Features and Enhancements:

• Made setting Signal Generator amplitude work correctly when RF Out Loss was also entered

A.01.50

New Features and Enhancements:

• CDMA2000 modulation for Signal Generator
• GPS Receiver always on
• GSM 950 Channel Standard added
• Channel standard coupled to the format in the channel scanner
• Interference Rejection has been added to the antenna measurements
• Higher and low sensitivity setting added to the Spectrum Analyzer mode and Channel Scanner
• Improved T1 response time