

Release Notes

# Keysight EXM Wireless Test Set E6640A

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[Software E.24.05 released 16 July 2019](#) (Removed)

[Software E.22.05 released 18 March 2019](#)

[Software E.21.13 released 15 January 2019](#)

[Software E.19.72 released 8 March 2018](#)

[Software E.19.71 released 1 February 2018](#)

[Software E.19.55 released 5-December 2017](#)

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[Software E.14.55 released 10-Oct-2014](#)

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[Software E.14.36 released 8-August-2014](#)

[Software E.14.34 released 20-June-2014](#) (removed)

[Software E.14.24 released 6-May-2014](#)

[Software E.14.14 released 8-April-2014](#)

[Software E.14.12 released 3-April-2014](#)

## Software version E.24.08

Released Date:	26 August 2019
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	Microsoft .Netframe work 4.6.1 Keysight IO libraries 18.1.2

File Name:

XSA\_Installer\_E.24.08\_Self-extractor\_x64.exe

**Software E.24.08 Enhancements**

Model	Option	Description
E6640A	COMMON	Updated TrxConfigurator utility to support CIU connection.  Added the support for multiple heads which are connected to a single TRX module.  Added ARB sequence file with 100 segments using SCPI command.
E6640A	Y9085EM0E 5GNR measurement Application	Improved DFT-s demodulation algorithm.
E6640A	Y9085EM1E 5G NR PAVT	Support PAVT measurement in 5GNR measurement application.

**Software E.24.08 Issues Resolved**

Model	Option	Description
E6640A	COMMON	Fixed the TrxUpgrade utility cannot get host id issue.
E6640A	Y9085EM0E 5GNR measurement Application	Fixed DMRS additional position coupling issue.  Fixed 5GNR In-band emission and spectral flatness not working issue.  Fixed the Spectral flatness limit issue.

		Fixed the Phase Compensation issue, the compensated frequency is incorrect when there is frequency offset.
E6640A	Y9065EM1E Sequence Analyzer	Fixed the issue that In-band Emission for low UE power case is not valid.  Fixed the issue that auto detection does not work sometimes.  Fixed the issue that UL frame summary results cannot be queried by group name.  Fixed the issue that spectrum flatness cannot work in sequence mode when frequency is hopping.
E6640A	Y9077EM0E/Y9077EM1E WLAN Measurement Application	Fixed WLAN EVM issue that Fast Channel Calibration Power result always returns -999.0 even with N7699A-D24.  Fixed the issue that Channel Power per RU value should be compensated with path loss.

## Software version E.24.05

Released Date:	16 July 2019
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	Microsoft .Netframework 4.6.1 Keysight IO libraries 18.1.2
File Name:	XSA_Installer_E.24.05_Self-extractor_x64.exe

## Hardware E.24.05 Enhancements

Model	Option	Description
E6640A		<p>Added automatic detection for E7770A (CIU) and M1740A (RRH).</p> <p>Improved the bootup speed when RRH is connected.</p> <p>Added bootup logs for CIU and RRH.</p>

## Software E.24.05 Enhancements

Model	Option	Description
E6640A	Y9072EM0E CDMA2000 Measurement Application	Added Multi-Touch UI support for CDMA2000 measurements (Remote Control Only).
E6640A	Y9076EM0E 1xEV-DO Measurement Application	Added Multi-Touch UI support for 1xEV-DO measurements (Remote Control Only).
E6640A	Y9079EM0E TD-SCDMA/HSPA Measurement Application	Added Multi-Touch UI support for TD-SCDMA/HSPA measurements (Remote Control Only).
E6640A	Y9081EM0E Bluetooth Measurement Application	<p>Added Multi-Touch UI support for Bluetooth measurements.</p> <p>Added new result of initial frequency drift rate.</p> <p>Added new limit settings.</p>
E6640A	Y9065EM1E Sequence Analyzer	<p>Added 5G NR Spectral Flatness results in list sequencer.</p> <p>Added 5G NR In-band Emission results in list</p>

		sequencer.  Added UL Frame Summary results in Modulation Analysis measurement.
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E6640A	Y9085EM0E 5G NR measurement Application	Added Spectral Flatness in Modulation Analysis measurement.  Added In-band Emission in Modulation Analysis measurement.  Added UL Frame Summary results in Modulation Analysis measurement.
E6640A	Y9080EM4E LTE V2X measurement Application	Added V2X measurement support.
E6640A	Y9077EM0E/Y9077EM1E WLAN Measurement Application	Added decoded bits for 802.11 a/b/ac/ax.  Added standard selection for 802.11b CCK EVM.  Added preamble puncturing for 802.11ax.  Added IQ data recording and playback.

### Software E.24.05 Issues Resolved

Model	Option	Description
E6640A	Y9081EM0E Bluetooth Measurement Application	Fixed the incorrect BLE max drift rate.

## Software version E.22.05

Released Date:	18 March 2019
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	Microsoft .Netframework 4.6.1 Keysight IO libraries 18.1.2
File Name:	XSA_Installer_E.22.05_Self-extractor_x64.exe

## Hardware E.22.05 Enhancements

Model	Option	Description
E6640A		Added TDD-LTE band 48 and band 49 support
E6640A		Add support for E7770A common interface unit and the M1740A remote radio head. This is for mmWave 5G NR Frequency Ranges, with option 5B1,5B5 and 5B6
E6640A	E6640A-5B1	Added new hardware option for Frequency Range, 24.25 to 29.5 GHz
E6640A	E6640A-5B5	Added new hardware option for Frequency Range, 37 to 40 GHz
E6640A	E6640A-5B6	Added new hardware option for Frequency Range, 40 to 43.5 GHz

## Software E.22.05 Enhancements

Model	Option	Description
E6640A	Y9071EM0E GSM Measurement Application	Added Multi-Touch UI support for GSM/EDGE/Evo measurements.

E6640A	Y9073EM0E WCDMA Measurement Application	Added Multi-Touch UI support for WCDMA/HSPA/HSPA+ measurements.
E6640A	Y9080EM0E LTE-FDD Measurement Application	Added Multi-Touch UI support for LTE/LTE- Advanced FDD measurements.
E6640A	Y9080EM3E NB-IoT and eMTC Measurement Application	Added Multi-Touch UI support for NB-IoT and eMTC measurements.
E6640A	Y9082EM0E LTE-TDD Measurement Application	Added Multi-Touch UI support for LTE/LTE- Advanced TDD measurements.
E6640A	Y9077EM0E/Y9077EM1E WLAN Measurement Application	Added Multi-Touch UI support for WLAN 802.11 a/b/g/n/ac/ax measurements.  Added new 802.11b EVM results for 3 standards - standard 1999/2007/2016.
E6640A	Y9065EM1E Sequence Analyzer	Added TDD-LTE band 48 and band49 support.

### Software E.22.05 Issues Resolved

Model	Option	Description
E6640A	Y9065EM1E Sequence Analyzer	Fixed the 5GNR EVM demodulation error in Sequence.



E6640A	Y9085EM0E 5G NR Measurement Application	Fixed the issue that SEM integration bandwidth is clipped incorrectly.  Fixed the EVM display issue when average number is 1.  Fixed OBW Center Frequency issue while changing RF input port.
E6640A	Y9077EM0EY9077EM1E WLAN Measurement Application	Fixed display frozen issue when demodulation is failure in MIMO measurement.

## Software version E.21.13

Released Date:	15 January 2019
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	Microsoft .Netframework 4.6.1 Keysight IO libraries 18.1.2
File Name:	XSA_Installer_E.21.13_Self-extractor_x64.exe

## Hardware E.21.13 Enhancements

Model	Option	Description
E6640A	E6640A-5B0	Added new hardware option for Frequency Range, 380 MHz to 6 GHz with 5G NR bands

## Software E.21.13 Enhancements

Model	Option	Description
E6640A		<p>Added Multi-Touch UI support on EXM platform.</p> <p>Added new feature to support 5G NR downlink (Sub 6GHz).</p> <p>Added “Source Trigger out” parameter into Source synchronization list.</p>
E6640A	V9060EM0E IQ Analyzer	Added Multi-Touch UI support for IQ Analyzer mode.
E6640A	Y9085EM0E 5G NR Measurement Application	Added new mode to support 5G NR (Sub 6GHz) measurements.
E6640A	Y9065EM0E/ Y9065EM1E Sequence Analyzer	<p>Added Multi-Touch UI support for Sequence Analyzer mode.</p> <p>Added new feature to support 5G NR measurements in sequence.</p> <p>Added new parameter for basic EVM measurement.</p>
E6640A	Y9077B WLAN	<p>Added new feature to support Matrix 3D parameter for 802.11ac.</p> <p>Added new feature to support Auto Detection in WLAN MIMO</p>

## Software E.21.13 Issues Resolved

Model	Option	Description
E6640A		Fixed the issue that RMS value is wrong when playing waveform sequence.

E6640A	Y9065EM1E Sequence Analyzer	Fixed the issue that ORFS measurement reports incorrect errors when analysis offset is 0.099ms.  Fixed the issue that Power Rms/Min/Max in WLAN EVM sequence didn't compensate the Amplitude correction.  Fixed the issue that Data rate result is not reported in of 802.11n 20MHz EVM measurement
E6640A	Y9077B WLAN	Fixed the data rate issue in 802.11n MIMO results.
E6640A	Y9081B Bluetooth	Fixed the crash of TX Analysis measurement when searching the burst.  Fixed the Symbol rate issue when radio standard is LE and LE Phy is 2M.

## Software version E.19.72

Released Date:	8 March 2018
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	Microsoft .Netframe work 4.6.1 Keysight IO libraries 17.2
File Name:	XSA_Installer_E.19.72_Self-extractor_x64.exe

## Software E.19.72 Enhancements

Model	Option	Description
E6640A	Y9077B WLAN	Added new SCPI to query Burst Info results.

## Software E.19.72 Issues Resolved

Model	Option	Description
E6640A		Fixed the installation issue that Active Resource Manager and Default Trigger Manager of PXI system are not properly configured in chassis with older PXIe controller installed.
E6640A	Y9077B WLAN	Fixed an issue that when STBC is on, the data rate per user is not correct.

## Software version E.19.71

Released Date:	1 February 2018
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	Microsoft .Netframework 4.6.1 Keysight IO libraries 17.2
File Name:	XSA_Installer_E.19.71_Self-extractor_x64.exe

## Software E.19.71 Enhancements

Model	Option	Description
E6640A		Add support for new Keysight M9300A Reference Module with Micron Flash Memory MNID serial number is 1E5743xxxx and greater
E6640A	Y9077B WLAN	Added new results of Unused Tone Error. Added multi-user information for 802.11ac.

## Software E.19.71 Issues Resolved

Model	Option	Description
E6640A	Y9077B WLAN	<p>Fixed an issue that MIMO EVM was crash in some corner cases, when trigger delay was positive.</p> <p>Fixed a defect that results were not updated in 802.11 af 6MHz ACLR measurement.</p> <p>Fixed a display issue that some results were not disabled in channel matrix view.</p>

## Software version E.19.55

Released Date:	13 December 2017
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	Microsoft .Netframe work 4.6.1 Keysight IO libraries 17.2
File Name:	XSA_Installer_E.19.55_Self-extractor_x64.exe

## Software E.19.55 Enhancements

Model	Option	Description
E6640A		Added new feature to support BAND71 in LTE-FDD Extended Correction table count to 64.
E6640A	Y9077B WLAN	<p>Added new feature to support auto-detection.</p> <p>Added new result CPE degree result in 802.11ac and 802.11ax</p> <p>Added new result time offset for MIMO in 802.11ac and 802.11ax</p> <p>Added new results PE duration in 802.11ax.</p>

		Added L-SIG info in burst information view of 802.11ax
E6640A	Y9080B LTE FDD /LTE-Adv FDD	Added NPRACH demodulation in NB-IoT. Added NPRACH transmit On Off support in NB-IoT. Added MPDCCH demodulation in eMTC
E6640A	Y9065B Sequence Analyzer	Added new feature to support WLAN 11ax. Supported new BAND71 of LTE FDD

### Software E.19.55 Issues Resolved

Model	Option	Description
E6640A		Fixed the crash of TRxUpdate Utility. Fixed the incorrect SN in TRxUpdate Utility Added IF Alignment key back in Alignment menu.
E6640A	Y9080B LTE FDD /LTE-Adv FDD	Fixed a crash when only Y9080B-3FP is installed. Fixed an auto-detection issue in NB-IoT.
E6640A	Y9081B Bluetooth	Fixed a crash in Bluetooth transmit analysis measurement.
E6640A	Y9077B WLAN	Fixed the channel number mismatch issue in ACLR of 802.11af.

## Software version E.19.31

Released Date:	14 June 2017
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	Microsoft .Netframework 4.6.1 Keysight IO libraries 17.2
File Name:	XSA_Installer_E.19.31_Self-extractor_x64.exe

## Software E.19.31 Enhancements

Model	Option	Description
E6640A		<p>Added new feature to support 8x8 MIMO ARB playing.</p> <p>Added new feature to support 4x4+4x4 MIMO ARB playing.</p> <p>Added new feature to support BAND 65, BAND 66, BAND 67 BAND 68, BAND 252 and BAND 255 for LTE-FDD ARB playing.</p> <p>Added new feature to support BAND 45, BAND 46 for LTE-TDD ARB playing</p>
E6640A	Y/V9077B WLAN	<p>Added new feature to support WLAN 11ax (Single user and Multiuser).</p> <p>Added new feature to support 8x8 MIMO measurements.</p> <p>Added new feature to support 4x4 + 4x4 MIMO measurements.</p> <p>Extended the span of combined SEM.</p>
E6640A	Y/V9081B Bluetooth	Added new feature to support BT5.0.

E6640A	Y/V9080B LTE FDD /LTE-Adv FDD	Added new feature to support NB-IoT measurements.  Added new feature to support eMTC measurements.  Added new feature to support 256QAM on uplink measurements.
E6640A	Y/V9082B LTE TDD /LTE-Adv TDD	Added new feature to support 256QAM on uplink measurements.
E6640A	Y/V9065B Sequence Analyzer	Added new feature to support WLAN 11ax. Supported new bands of LTE FDD and LTE-TDD.
E6640A		Added support for the M9018B chassis Update to use PXIe Chassis family driver software

### Software E.19.31 Issues Resolved

Model	Option	Description
E6640A		Fixed an issue: software could not boot up correctly if the TRX1 through TRX4 files were missing from the instrument folder.
E6640A	Y9065B Sequence Analyzer	Fixed these issues: WLAN SEM limits could not be set correctly. SEQAN sometimes crashed when running very long sequences with multiple measurements on each step.

### Software version E.17.07

Released Date:	18 May 2016
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System



Requirements category (other):	Microsoft .Netframe work 4.5.2 Keysight IO libraries 17.2
File Name:	XSA_Installer_E.17.07_Self-extractor_x64.exe

### Software E.17.07 Enhancements

Model	Option	Description
E6640A		Added advisory message “Sample Rate in ARB header exceeds the supportable range” if the selected ARB's sample rate exceeds the maximum supportable sample rate of source.  Added support for M9433A TRX module
E6640A	V/Y9077B WLAN	Added V9077B-VFP option for WLAN 11ac 80+80MHz.  Added new SCPI SYSTem:COMMunicate:ANALyzer:RELease:WCOMpleted? to query whether all remote analyzers of MIMO have been released completely.
E6640A	V/Y9065B Sequence Analyzer	Added V9065B-3FP option for ZigBee feature.  Added V9065B-4FP option for Z-Wave feature.  Add BTS measurements into the EXM.

### Software E.17.07 Issues Resolved

Model	Option	Description
E6640A		Fix a defect: Fix issue in source that when preload a new mode, source will be sync stopped if it's in sync.  Fix a defect: Remove cases distinguish when check master's name using source sync setting on feature.  Fix a defect: In the mode that not supports amplitude correction, sends the correction SCPI should return error message.
E6640A	V/Y9077B WLAN	Fix a defect: WLAN EVM FFT SEM trace result is wrong  Fix a defect: Added FFT SEM pass/fail, worst margin and trace

		length results for WLAN EVM and WLAN MIMO EVM  Fix a defect: WLAN MIMO EVM FFT SEM results wrong for segment 2
E6640A	V/Y9082B LTE-A TDD	Fix a defect: For TDD SEM measurement, update the trigger source to free run and gate source to periodic for TDD uplink SEM measurement.

## Software version E.16.09

Released Date:	3 January 2016
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	Microsoft .Netframe work 4.5.1 Keysight IO libraries 16.3
File Name:	XSA_Installer_E.16.09_Self-extractor_x64.exe

## Software E.16.09 Enhancements

Model	Option	Description
E6640A		Allow “Select Waveform” button to display two lines for file name of the selected ARB.
E6640A	V/Y9077B WLAN	Add “Auto Detect” selection in WLAN MIMO EVM “Matrix Type” setting.  Add more port allocation supports for WLAN UL MIMO EVM measurement. Newly added port allocations for 2x2 are as follows: TRX2 serves as master and TRX3 serves as slave. TRX2 serves as master and TRX4 serves as slave.  Newly added port allocations for 3x3 are as follows: TRX2 serves as master, TRX3 serves as slave1 and TRX4 serves as slave2.

## Software E.16.09 Issues Resolved

Model	Option	Description
E6640A		<p>Fix a defect: for source sync control functionality, when “Sync Settings” state is on, ARB is not always loaded into the slave module when the ARB in the master module is changed.</p> <p>Fix a defect: remove inappropriate “Hardware Missing” error message when changing “Sync Settings” state in source sync control.</p>
E6640A	V/Y9077B WLAN	<p>Fix a defect: an intermittent crash issue in 4x4 80MHz MIMO EVM measurement, caused by captured data exceeding available data segment length in some cases.</p> <p>Fix a defect: data rate result always returned NaN for 2x2 80+80 WLAN MIMO EVM measurement.</p>
E6640A	V9065B Sequence Analyzer	<p>Fix a defect: sequencer analyzer can randomly send false internal trigger source list sequencer after switching from LTE-TDD mode.</p>

## Software version E.16.08

Released Date:	6 October 2015
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	Microsoft .Netframework 4.5 Keysight IO libraries 16.3
File Name:	XSA_Installer_E.16.08_Self-extractor_x64.exe

## Software E.16.08 Enhancements

Model	Option	Description
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E6640A	V/Y9081B Bluetooth	Added new test results for Delta F1F0 and Max Frequency offset for Bluetooth LE measurement according to standard
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### Software E.16.08 Issues Resolved

Model	Option	Description
E6640A	V9065B Sequence Analyzer	<p>Fixed defect: LSEQ Edge EVM returned similar results of different acquisitions in some cases.</p> <p>Fixed defect: cannot recall sequencer analyzer sequence file and source list sequence file by means of user interface.</p> <p>Fixed defect: random crashes occur when exiting sequence analyzer mode.</p> <p>Fixed defect: Demodulation of LTE FDD EVM sometimes occurred in Sequencer Analyzer mode.</p>
E6640A	V/Y9077B WLAN	<p>Fixed defect: FFT SEM trace provided with WLAN MIMO Mod Analysis was incorrect.</p> <p>Fixed defect: could not release remote analyzers when deleting all remote analyzers for MIMO.</p> <p>Fixed defect: WLAN 11af EVM cannot demodulated successfully.</p>
E6640A		<p>Fixed defect: random crashes when editing source ARB sequence file.</p> <p>Fixed defect: License-checking errors occurred with Signal Studio waveform MEU licenses.</p> <p>Fixed defect: Loading Signal Studio waveforms into ARB memory sometimes caused SW crash.</p> <p>Fixed defect: Application can't recognize old configuration file after upgrade to new version.</p>
E6640A	V/Y9080B LTE FDD /LTE-	<p>Fixed defect: Performing auto range for LTE measurement was causing SW crashes.</p> <p>Fixed defect: LTE/LTE-A mode cannot be pre-loaded at startup.</p>

	Adv FDD	
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## Software version E.16.06

Released Date:	7 July 2015
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	Microsoft .Netframe work 4.5
File Name:	XSA_Installer_E.16.06_Self-extractor_x64.exe

## Software E.16.06 Enhancements

Model	Option	Description
E6640A		Microsoft .Net 4.5 is required for this release. (.Net 4.5 should be manually uninstalled if you want to downgrade to an older release / previous version.)  Adds trigger type to DL MIMO single entry control list
E6640A		Added weekly alignments buttons: RF, IF and Source the user interface
E6640A	V/Y9077B WLAN	Added new feature to support WLAN 802.11ah. Added new feature to support WLAN 802.11af. Added WLAN measurement ACLR for 802.11af. Added support for M9432A TRX module to provide 802.11af /ah measurement capability

## Software E.16.06 Issues Resolved

Model	Option	Description

E6640A	V9065B Sequence Analyzer	<p>Fixed an application crash when Basic IQ is queried in an unsupported mode</p> <p>Fixed a defect: correct help link of WCDMA Band 19 and LTE Band 30</p> <p>Fixed a defect: added WLAN EVM “Track Timing” in Sequence Analyzer</p> <p>Fixed a defect: LTE EVM reports error in Sequence mode when signal has large IQ offsets</p>
E6640A	V/Y9077B WLAN	<p>Fixed a defect: EXM WLAN supports negative Gate Delay</p> <p>Fixed a defect: WLAN FFT SEM Detector should be Average</p>
E6650A	V/Y9081B Bluetooth	<p>Fixed a defect: Sometimes, Bluetooth results were NaN.</p> <p>Fixed a defect: Bluetooth LE Trigger Hold off Type sometimes cannot be adjusted correctly.</p> <p>Fixed a defect: BER is not zero when frequency offset is big.</p>

## Software Version E.15.07

Released Date:	5 May 2015
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	Microsoft .Netframe work 4.5
File Name:	XSA_Installer_E.15.07_Self-extractor_x64.exe

## Software E.15.07 Enhancements

Model	Option	Description
E6640A		Microsoft .Net 4.5 is required for this release. (.Net 4.5 should be manually uninstalled if you want to downgrade to an older release / previous version.)

		<p>Introduced “Y” license for several applications (for example, the V9077B WLAN app is also available as Y9077B). The “Y” version supports unlimited waveform playback.</p> <p>Added new feature to support LTE Band30.</p> <p>Added a trigger polarity to the source external trigger.</p>
E6640A	V/Y9077B WLAN	<p>Added new feature to support 1024QAM for 802.11ac.</p> <p>Added new feature to support 802.11p and 802.11j.</p> <p>Added new feature to support WLAN 2x2 80+80MHz.</p> <p>Added new SCPI command for “Frequency Sync” to improve EVM results.</p> <p>[.:SENSe]:EVM:FREQuency:SYNC PPIlot   PPData   PREamble</p> <p>Added new softkey “User Select Field” for EVM.</p> <p>Added new SCPI commands to change trace.</p> <p>:DISPlay:EVMMimo:TRACe[1] 2 3 4:STReam &lt;integer&gt;</p> <p>:DISPlay:EVMMimo:TRACe[1] 2 3 4:CHANnel &lt;integer&gt;</p>
E6640A	V/Y9081B Bluetooth	Added Bluetooth v4.2 packet data length extension support
E6640A	V/Y9080B LTE FDD/LTE-Adv FDD	Added new feature to support LTE-Advanced FDD.
E6640A	V/Y9082B LTE TDD/LTE-Adv TDD	Added new feature to support LTE-Advanced TDD.
E6640A	V/Y9065B Sequence Analyzer	Added new feature to support LTE Band30.

## Software E.15.07 Issues Resolved

Model	Option	Description
E6640A		Fixed a defect: External trigger level range is not correct. Fixed a defect: Source sync operation occasionally causes inconsistency status.
E6640A	V/Y9065B Sequence Analyzer	Fixed a defect: Some 802.11 results are not displayed occasionally. Fixed a defect: Switch MIMO cannot display results occasionally.
E6640A	V/Y9077B WLAN	Fixed a defect: 2x2 MIMO doesn't work correctly with TRX3 and TRX4.
E6640A	V/Y9082B LTE TDD/LTE-Adv TDD	Fixed a defect: When no RF burst signal presents, application completes measurements immediately without showing "Waiting for Trigger".

## Software Version E.14.69

Released Date:	2 February 2015
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	none
File Name:	XSA_Installer_E.14.69_Self-extractor_x64.exe

## Software E.14.69 Enhancements

Model	Option	Description
E6640A		Added a new feature to support "External Trigger Delay" for source input trigger. Added a new feature in downlink MIMO: the source setting



		changes can be automatically applied to the other TRXs.
E6640A	V9077B WLAN	Added Spectrum Emission Mask in MIMO EVM measurement. Enhanced and optimized user-interface display for 4x4 MIMO EVM measurement.
E6640A	V9065B Sequence Analyzer	In Sequence Analyzer mode, reduced minimum transition time between acquisition steps for some configurations.

### Software E.14.69 Issues Resolved

Model	Option	Description
E6640A		Fixed a defect: LAN ports 1 and 2 the IP addresses incorrectly reported in system display. Fixed a defect: Source sequence initialization occasionally causes operation time-out. Fixed a defect: Source sync operation occasionally times out. Fixed a defect: TRX Configurator launch failed occasionally. Must refresh connection with IO libraries. Fixed a defect: Intermittent “Source Synthesizer Unlocked – DETECTED” errors when executing a source list sequence.
E6640A	V9065B Sequence Analyzer	Fixed a defect: Sequence file cannot be recalled occasionally. Fixed a defect: Bluetooth result displayed incorrectly. Fixed a defect: Intermittent timeout errors during sequence execution or when fetching sequence results.
E6640A	V9077B WLAN	Fixed a defect: Incorrect trace indicator in MIMO EVM display.

## Software Version E.14.55

Released Date:	10 October 2014
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	none
File Name:	XSA_Installer_E.14.55_Self-extractor_x64.exe

## Software E.14.55 Enhancements

Model	Option	Description
E6640A		<p>Added new feature RMS Calculation Mode according to waveform IQ sample or waveform marker.</p> <p>Added new feature to support WLAN 4x4 MIMO ARB playing</p> <p>Improvements in Error reporting and handling</p> <p>Keysight branding related changes</p>
E6640A	V9077B WLAN	<p>Burst searching in PvT is improved by optimizing the algorithm.</p> <p>Added new feature: WLAN 4x4 MIMO measurements are supported.</p>
E6640A	V9065B Sequence Analyzer	<p>Added "Pilot Tracking Mode" setting into Sequencer Analyzer for WLAN Switch MIMO EVM measurement.</p> <p>Added new feature: Multiple WLAN radio standards are supported in single sequence.</p> <p>Added new SCPI command to improve and simplify the sequence setup.</p>

## Software E.14.55 Issues Resolved

Model	Option	Description
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E6640A		<p>Fixed a defect: Incorrect source list sequence output power when waveform does not specify RMS in waveform header.</p> <p>Fixed defect: all zero IQ sample waveforms are not allowed to play.</p> <p>Minor improvements and defect Fixes related to Sequence setup, Sequence acquisition completion.</p>
E6640A	V9077B WLAN	<p>Fixed a defect: WLAN true MIMO EVM pass/fail checking malfunction.</p> <p>Fixed a defect: WLAN 80+80 SEM mask is not updated correctly.</p> <p>Fixed a defect: WLAN Combined SEM does not work occasionally.</p>
E6640A	V9065B Sequence Analyzer	<p>Fixed a defect: Switch MIMO failed in some corner case.</p> <p>Fixed a defect: Incorrect limit checking in WLAN 802.11n EVM measurement.</p> <p>Fixed a defect: Incorrect limit checking in WLAN SEM measurement.</p>

### Software Version E.14.44

Released Date:	2 September 2014
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	none
File Name:	XSA_Installer_E.14.44_Self-extractor_x64.exe

### Software E.14.44 Enhancements

Model	Option	Description
E6640A		<p>Adds the capability for Source List to play continuously.</p> <p>IQ points are shown in source arb memory in user interface view.</p> <p>Adds a new SCPI command to query if a specific waveform is</p>

		<p>available in ARB memory.</p> <p>Adds WCDMA Band19 to the internal source</p>
E6640A	V9077B WLAN	<p>Adds Spectral Flatness trace and Data Rate for MIMO WLAN EVM measurement.</p> <p>Adds a new WLAN EVM parameter [:SENSe]:EVM:USElect SU   MU   SIG.</p> <p>EVM results are improved by optimizing the algorithm and providing more parameter options.</p>
E6640A	V9065B Sequence Analyzer	<p>Adds Data Rate, Average Burst Power, and Peak Burst Power to List Sequence WLAN measurement.</p> <p>Adds WCDMA Band19.</p>

### Software E.14.44 Issues Resolved

Model	Option	Description
E6640A		<p>Fixed a defect: internal source could not correctly play ARB waveforms with all zero samples.</p> <p>Fixed a defect: internal source couldn't play correctly play ARB waveforms with bursts having different power levels.</p> <p>Fixed a defect: multi-pack license operations should only be allowed on the default TRX.</p> <p>Fixed a defect: Range and Trigger Level didn't include Amplitude Correction at the first run after being changed.</p> <p>Fixed a defect: multi-pack license needed to be unlocked occasionally due to a slower startup of common services.</p> <p>Fixed a spurious "Source Synthesizer Unlock" event that was typically followed by an "Unlock Cleared" event.</p> <p>Fixed a frequency Synch error which occurred after a large (~200) number of transitions between Sequence Analyzer mode and the native measurement mode.</p>

E6640A	V9064B VXA Mode	Fixed a defect: IF path selection wasn't shown correctly according to the available IF path.
E6640A	V9077B WLAN	Fixed a defect: MIMO Mod Acc pass/fail results in the user interface were not consistent with limitation.  Fixed a defect: Tx BF measurement sometimes reported a "Data too short" error.
E6640A	V9081B Bluetooth	Fixed a defect: screen update was slow with the radio standard set to EDR, and the trigger set to Free Run.
E6640A	V9065B Sequence Analyzer	Fixed a defect: number of Phase Discontinuity results was missed.  Fixed a defect: WCDMA BER sometimes reported an "Insufficient Data" error

## Software Version E.14.36

Released Date:	8 August 2014
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	none
File Name:	XSA_Installer_E.14.36_Self-extractor_x64.exe

## Software E.14.36 Enhancements

Model	Option	Description
E6640A		Added a service to monitor the chassis backplane fan for proper functioning.
E6640A		Added support of M9037A Quad core controller.

**Software E.14.36 Issues Resolved**

Model	Option	Description
E6640A		Fixed a defect – Field upgrade issue for HW license option.

**Software Version E.14.34**

Released Date:	20 June 2014
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	none
File Name:	XSA_Installer_E.14.34_Self-extractor_x64.exe

**Software E.14.34 (Not recommended for customers because, it disables Field HW upgrade licenses)**

**Software E.14.34 Enhancements**

Model	Option	Description
E6640A		<p>Adds support for fully independent Source and Analyzer</p> <p>Adds auto adjustment to Gate View Sweep Time value on EXM.</p> <p>SCPI command has been added for Cal Date query</p> <p>Controller information added in show hardware screen</p> <p>Continuous Abort is supported as a new source list step playing mode.</p> <p>Adds support for V9075B WiMax</p> <p>Adds support for V9064B PHS</p>
E6640A	V9077B WLAN	Adds support for 3x3 MIMO

E6640A	V9065B Sequence Analyzer	"Matrix Type" is added for WLAN switched MIMO EVM under SEQAN mode
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### Software E.14.34 Issues Resolved

Model	Option	Description
E6640A		<p>Fixed a defect – Duration Time not set from RUI when duration type is set to Continuous Abort.</p> <p>Fixed a defect - Internal source hang up issue after setting the Input /Output settings to default value.</p> <p>Fixed a defect - FW startup may fail occasionally due to a slower startup of common services.</p> <p>Fixed a defect - Source power level error may be incorrect after startup</p> <p>Fixed a defect - Source output triggers might not occur in some cases</p> <p>Fixed a defect – Source output level is incorrect when ARB waveform RMS &gt; 1</p> <p>Fix a defect - Intermittent incorrect source list timing</p>
E6640A	V9071A GSM/EDGE/ EDGE Evo	Fixed a defect - Carrier not correctly displayed with Reference power calculation in EDGE ORFS.
E6640A	V9077B WLAN	<p>Fixed a defect - "Auto Power Range" function is not supported for WLAN MIMO EVM measurement.</p> <p>Fixed a defect - Marker not shown correctly on Equalization. Impulse Response view.</p> <p>Fixed a defect - Marker issue in the MIMO EVM vs Symbol graph.</p> <p>Fixed a defect - WLAN EVM constellation reference point disappears at first run.</p> <p>Fixed a defect - MIMO EVM failure because of unsynchronized single capture</p> <p>Fixed a defect - FETCh:EVMM0? - should return raw IQ values for</p>

		<p>channel one channel, not all channels.</p> <p>Fixed a defect - In any Grid 2x2 view of WLAN MIMO Modulation Analysis measurement, Marker &gt; Properties &gt; Marker Trace 2 refers to lower left one, Trace 3 refers to upper right one</p> <p>Fixed a defect - When MIMO Type is 2x2, the IQ Polar view does not show the Peak/Avg. Burst Power</p>
E6640A	V9081B	<p>Fixed a defect - Invalid Gate View Zero Span BW for Bluetooth ACP measurement.</p> <p>Fixed a defect – with results of DPSK Avg. Pwr and Rel Avg. Pwr for EDR 3DH5 multiple packet</p>
E6640A	V9065B Sequence Analyzer	<p>Fixed a defect – Setting conflict not reported when measurement step exceeds the limitation for a sequence with only Basic Transmit Power.</p> <p>Fixed a defect – Random Phase Error result variation in LTE EVM measurement.</p> <p>Fixed a defect - Inaccurate DPE estimation will lead to the large frequency error if there is only one RB.</p> <p>Fixed a defect - Bluetooth sequence may crash while switching signal format between LE and EDR</p>

### Software Version E.14.24

Released Date:	6 May 2014
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	none
File Name:	XSA_Installer_E.14.24_Self-extractor_x64.exe

### Software E.14.24 Enhancements

Model	Option	Description
E6640A		Added support for M9431A (4 FD) TRX module



E6640A		Added robust alignment data storage mechanism to prevent vulnerability/data loss during power shutdowns/hard power off
E6640A		Self-test additions - PLL Test and Source detector test
E6640A		Improved IF Response Alignment performance
E6640A		General error checking improvements with Sequencer Analyzer application

### Software E.14.24 Issues Resolved

Model	Option	Description
E6640A		RUI source list initiate operation not blocked while “Include Source” is turned on.  FPGA update tool did not indicate which sub-instrument had errors (in log file).
E6640A	V9065A Sequence Analyzer	Analyzer Sequence doesn't checking transition time internal limitation correctly  Latency issue in source set up on GSM waveform sequence fixed.
E6640A	V9077A	WLAN Mod Acc random crash because of internal parameter mismatch.

### Software Version E.14.14

Released Date:	8 April 2014
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System

Requirements category (other):	none
File Name:	XSA_Installer_E.14.14_Self-extractor_x64.exe

### Software E.14.14 Issues Resolved

Model	Option	Description
E6640A		Fixed a defect in system initialize to avoid any occasional TRX module boot failure.

### Software Version E.14.12

Released Date:	3 April 2014
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	none
File Name:	XSA_Installer_E.14.12_Self-extractor_x64.exe

### Software E.14.12 Enhancements

Model	Option	Description
E6640A		Added support for 5FM option (Option E6640A-5FM - Lower frequency extension).

### Software E.14.12 Issues Resolved

Model	Option	Description
E6640A		Fixed a defect – Running alignments or self-tests could result in accidental over-writing of arbitrary waveform data already loaded into waveform memory.  Fixed a defect – “Align All” was improperly adding amplitude correction factors to internal alignment data.  Fixed a defect – At times the Source user interface became unresponsive when configuring a new waveform while another waveform was playing.

E6640A	V9065A Sequence Analyzer	Fixed a defect – LTE demodulation wasn't working correctly when EXCLUSIVE time setting was active.
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## (First)Software Version E.14.02

Released Date:	3 April 2014
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	CoreTM i7-4700EQ quad-core, 2.4 GHz processor Windows Embedded Standard 7 (WES7) 32-bit or 64-bit Operating System
Requirements category (other):	None
File Name:	XSA_Installer_F.14.02_Self-extractor_x64.exe

Initial Release for E6640A, Keysight EXM Wireless Test Set

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