Release Notes

Keysight X-Series Analyzers

View the revision history document for versions prior to A.16.05

Instrument Software Details

It is recommended that all instruments are kept up to date by installing the most recent instrument software version for the given model number. The most current instrument software version with detailed update instructions are on the web and can be downloaded from http://www.keysight.com/find/xseries_software

Press [System], {Show}, {System} on the instrument to see the version that is currently installed. Look for the Instrument S/W Revision entry on the display.

Downgrading the instrument software to an earlier version is not supported. Go here for detailed information about the downgrade risks.

The X-Series model numbers listed above support 100% of all available options at the time the instrument software posted to the web. A different X-Series model number may have this version installed if the installed options at the time of manufacturing are compatible.

Keysight X-Series Analyzers

- N9020B (Multi-touch Signal Analyzer model)

A.41.09 Version Information

Released Date:	June 2025
S/W Version Date	2025.0501
Requirements category (e.g., operating system):	Microsoft Windows 10, Windows 11
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.41.09_Win10_Win11.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are ***not*** included, and software licenses of traditional GUI X-apps are ***not*** recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.41.06

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.41.06

Issues Resolved

Core Software

- Fixed issue causing BBIQ Gain Cal / Verify Test to abort on N9020B MXA signal analyzers with Opt BBA and Opt B25 (analyzers with B40, B85, B1A, or B1A are not impacted).(XSA-55146)

Keysight X-Series Analyzers

- N9000B, N9010B, N9030B, N9032B, N9040B (Multi-touch Signal Analyzer model)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer model)

A.41.08 Version Information

Released Date:	June 2025
S/W Version Date	2025.0501
Requirements category (e.g., operating system):	Microsoft Windows 10, Windows 11
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.41.08_Win10_Win11.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are *not* included, and software licenses of traditional GUI X-apps are *not* recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.41.06

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.41.06

Issues Resolved

Core Software

- Fixed issue causing BBIQ Gain Cal / Verify Test to abort on N9020B MXA signal analyzers with Opt BBA and Opt B25 (analyzers with B40, B85, B1A, or B1A are not impacted).(XSA-55146)

N9081EM0E Bluetooth Measurement Application

- Fixed issue in IBSE measurement that caused the frequency to be reset to 2.4 GHz when two tabs are open and switching from Tx Analysis back to IBSE measurement (XSA-54656)

Keysight X-Series Analyzers

- N9000B, N9010B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.41.07 Version Information

Released Date:	May 2025
S/W Version Date	2025.0501
Requirements category (e.g., operating system):	Microsoft Windows 10, Windows 11
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.41.07_Win10_Win11.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are *not* included, and software licenses of traditional GUI X-apps are *not* recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.41.06

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.41.06

Issues Resolved

Core Software

- Fixed issue with Opt PCA and PCB CPUs that caused LEDs on 1G LAN connector to light up even when no LAN cable is connected (XSA-50392)

N90EMPSMB Power Suite Measurement Application

- Fixed issue in Occupied Bandwidth (OBW) measurement that caused the annotated sweep time to not be changed when the actual sweep time was changed (XSA-54142)

Keysight X-Series Analyzers

- N9021B, N9030B, N9032B, N9040B (Multi-touch Signal Analyzer model)

A.41.06 Version Information

Released Date:	May 2025
S/W Version Date	2025.0501
Requirements category (e.g., operating system):	Microsoft Windows 10, Windows 11
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.41.06_Win10_Win11.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are ***not*** included, and software licenses of traditional GUI X-apps are ***not*** recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

None

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Core Software

- Add M9484C (VXG-C) to External Source Control (ESC) capability for X-Series SAs (2025.0501)

N6141EM0E EMI Measurement Application

- Added ability to update settings during multi-range scanning in real time (2025.0501)

N9054EM0E Flexible Digital Demod Measurement Application, VMA

- Added support for IQ-NC (2025.0501)

N9054EM1E Custom OFDM Measurement Application, VMA
- Added support for IQ-NC (2025.0501)
- Added support for Cyclic Suffix (CS) (2025.0501)

N9055EM0E Power Amplifier Measurement Application
- Added Frequency Offset Compensation (2025.0501)

N9068EM0E Phase Noise Measurement Application
- Added support for Total Discrete Jitter and Random Jitter results to Log Plot measurement (2025.0501)

N9069EM0E Noise Figure Measurement Application
- Added support for making pulsed noise figure measurements (2025.0501)
- Added support for noise figure measurements on N9042B UXA for frequencies > 50 GHz (2025.0501)

N9077EM0x WLAN Measurement Application
- Added PSDU Length result in User Info Summary trace (2025.0501)
- Added support for fast mode EVM optimization for N9040B (2025.0501)

N9077EM2E WLAN 802.11be Measurement Application
- Added support for Wifi8 802.11bn (2025.0501)

N9081EM0E Bluetooth Measurement Application
- Updated Adjacent Channel Power (ACP) in In-Band Emissions to match limit requirements of LE1M / 2M and HDT (2025.0501)

N9085EM0E 5G-NR Measurement Application
- Added support for fast mode EVM optimization for N9040B (2025.0501)
- Added PDSCH / PUSCH EVM result reporting per Modulation Scheme (2025.0501)

N9085EM4E 5G-NR V2X/Sidelink Measurement Application
- Added support up to 40 MHz Carrier Bandwidth (CBW) on N9010B EXA (2025.0501)

Issues Resolved

Core Software
- Fixed issue causing BBIQ Gain Cal / Verify Test to abort on N9020B MXA signal analyzers with Opt BBA and Opt B25 (analyzers with B40, B85, B1A, or B1A are not impacted).(XSA-55146)
- Fixed issue that caused limit line Y-axis units of V (Volts) to not be available when the display amplitude units is in Volts (XSa-52829)
- Fixed issue that caused Limit Line editor to only accept units of dBm; units such as dBuV were not recognized (XSA-52310)
- Fixed issue with Opt PCA and PCB CPUs where it was not possible to connect to the analyzer using the USB-B (device) port (XSA-53338)

- Fixed issue in IQ Analyzer where an N9041B UXA with Opt EDC controlling an oscilloscope via USB will crash when the USB cable between the UXA and oscilloscope is disconnected (XSA-52658)
- Fixed issue with R-Cal calibration where the calibration was not properly applied when selecting multiple calibration rows (XSA-50810)
- Fixed issue when streaming data using the optical data interface (ODI) that resulted in data flow being interrupted at the beginning of the stream (XSA-54621)

N90EMPSMB Power Suite Measurement Application

- Fixed issue in ACP measurement where changing the Y-Axis units from dBm to dBmV only caused the displayed unit to change, but the values themselves remained in dBm (XSA-49973)
- Fixed issue in Spurious Emissions measurements where changing the Sweep Type from Swept to FFT caused the XSA application to crash (XSA-52952)

N6141EM0E EMI Measurement Application

- Fixed issue that prevented Measurement Report from showing Corrections 7 through 16 in report; only Corrections 1 through 6 appeared in report (XSA-52069)
- Fixed issue in Frequency Scan measurement that caused queried values of Step Size to not be accepted when the same value was sent back to the analyzer (XSA-50530)
- Fixed issue in Frequency Scan measurement that caused random responses on screen when using the Peak and Average detectors (XSA-50364)

N90xxRTxB Real Time Signal Analysis (RTSA) Measurement Application

- Fixed issue that caused using the Color Adjust feature in Spectrogram view to crash (XSA-52658)

N9055EM0E Power Amplifier Measurement Application

- Fixed issue that caused loading a *.wfm file with a 3 GHz sampling rate to generate an exception error and crash (XSA-59961)

N9056EM0E CQM / Group Delay and N9056EM1E CQM / NPR Measurement Applications

- Fixed issue in Group Delay measurements that caused an “Apply Tone to SG” message to appear when there is no connection to the signal generator (SG) (XSA-48397)
- Fixed issue in Group Delay measurement that caused the Estimated PAPR value with the internal waveform generation to not be displayed (XSA-48402)
- Fixed issue that caused traces to be cleared when switching between screens with different measurements (e.g. Group Delay on one screen, Noise Power Ratio on another screen) (XSA-49215)

N9069EM0E Noise Figure Measurement Application

- Fixed issue causing DUT Profiles to not be saved properly. All DUT Profiles inherited the same frequency range of the last DUT Profile edited (XSA-51444, XSA-54927)

N9085EM0E 5G-NR Measurement Application

- Fixed issue causing SCREEN files from versions older than A.39.28 to produce Command Protected or Illegal Parameter Value errors (XSA-49836)
- Fixed issue that caused SCPI command “DISP:EVM:WIND2:DATA?” to be unresponsive at times (XSA-49783)
- Fixed issue that caused some *.setx files to not be properly recalled (XSA-49616)
- Fixed issue in Modulation Analysis measurement resulting in the Group Delay trace being inverted (XSA-50416)

Keysight X-Series Analyzers

- N9000B, N9010B, N9020B, N9021B, N9030B, N9032B, N9040B, N9041B, N9042B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.40.07 Version Information

Released Date:	February 2025
S/W Version Date	2025.0101
Requirements category (e.g., operating system):	Microsoft Windows 10, Windows 11
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.40.07_Win10.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are ***not*** included, and software licenses of traditional GUI X-apps are ***not*** recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.40.05

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.40.05

Issues Resolved

Core Software

- Corrected Windows 11 settings such that the password for the Instrument account will not expire after 42 days (XSA-51759)
- Fixed issue that caused an Execution Error and error Event Log entries when the Peak Search or Marker buttons are pressed; equivalent SCPI commands are OK (XSA-51595)
- Fixed issue that caused crash when Display button was pressed on analyzers that did not have license for Option EDP, Enhanced Display Package (XSA-51596)
- Fixed issue that caused a “Settings conflict” error message to be generated when sending SCPI command “SENS:CORR:NOISE:FLOOR OFF” to an analyzer that did not have Opt NF2 licensed (XSA-50665)

Keysight X-Series Analyzers

- N9000B, N9010B, N9020B, N9021B, N9030B, N9032B, N9040B, N9042B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.40.05 Version Information

Released Date:	January 2025
S/W Version Date	2025.0101
Requirements category (e.g., operating system):	Microsoft Windows 10, Windows 11
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.40.05_Win10.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are ***not*** included, and software licenses of traditional GUI X-apps are ***not*** recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Core Software

- First version to support Option W11, Microsoft Windows 11 IoT Enterprise LTSC operating system
- Added support for N9042B-575, Frequency Range 2 Hz to 75 GHz for N9042B UXA Signal Analyzer

N90EMPSMB Power Suite Measurement Application

- Added support for N9042B-575, Frequency Range 2 Hz to 75 GHz

N6141EM0E EMI Measurement Application

- Added support for N9042B-575, Frequency Range 2 Hz to 75 GHz

N9042RTAB, N9042RTBB, N9042RTEB, N9042RTFB RTSA Measurement Applications

- Added support for N9042B-575, Frequency Range 2 Hz to 75 GHz

N9054EM0E and N9054EM1E VMA Digital Demod and VMA Custom OFDM Demod Measurement Applications

- Added support for N9042B-575, Frequency Range 2 Hz to 75 GHz

N9055EM0E Power Amplifier Measurement Application

- Added support for N9042B-575, Frequency Range 2 Hz to 75 GHz

N9056EM0E and N9056EM1E CQM / Group Delay and CQM / NPR Measurement Applications

- Added support for N9042B-575, Frequency Range 2 Hz to 75 GHz

N9067EM0E Pulse Measurement Application

- Added support for N9042B-575, Frequency Range 2 Hz to 75 GHz

N9068EM0E Phase Noise Measurement Application

- Added support for N9042B-575, Frequency Range 2 Hz to 75 GHz

N9085EM0E 5G-NR Measurement Application

- Added support for N9042B-575, Frequency Range 2 Hz to 75 GHz

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Core Software

- Add generic trace menu in Spectrum and Waveform measurements of the IQ Analyzer (Basic) mode

N90EMPSMB Power Suite Measurement Application

- Added ability to change FFT window in Spurious Emissions measurement
- Changed default setting of FFT IF Gain to Auto in the Spurious Emissions measurement

N90EMESCB Source Control

- Added support for N5186A MXG (2025.0101)

N6141EM0E EMI Measurement Application

- Added Group Correction indicator query

N9055EM0E Power Amplifier Measurement Application

- Query HiSLIP address before connecting to N5186A MXG and VXG signal generators

N9068EM0E Phase Noise Measurement Application

- Added support for spurious search parameters

N9069EM0E Noise Figure Measurement Application

- Added support for U1833G USB Smart Noise Source, 500 MHz to 67 GHz (2025.0101)
- Added USB Noise Sources as a selection in the Signal Path Configuration

N9080EM0E LTE FDD Measurement Application

- Modified behavior so that auto scaling is not performed when switching from one tab to another in continuous measurement mode

N9081EM0E Bluetooth Measurement Application

- Added support for Bluetooth 6.0 HDT
- Added support for “Invert Spectrum” (also known as Mirror Spectrum)

N9084EM0E Short Range Communications and IoT Measurement Application

- Added support for FCC UWB peak power measurement (2025.0101)
- Show limit line margins for Tx mask and baseband pulse mask result traces (2025.0101)
- Added support for analyzed symbols result (2025.0101)

N9085EM0E 5G-NR Measurement Application

- Added support for 2 codewords configuration for more than 4 layers cases (2025.0101)
- Added Off Power Preamp control feature in PvT and Modulation Analysis measurements
- Added support for test model preset to individual CC in Modulation Analysis measurement (2025.0101)
- Added support for Slot Summary in Modulation Analysis measurement for UE Phase Continuity measurement (TS38.521-1/2) (2025.0101)
- Added burst detection for multi-measurements based on channel allocation (2025.0101)
- Switch to the used BWP for EVM measurements after a test model preset (2025.0101)

N9085EM4E NR V2X Measurement Application

- NR-V2X to support PSBCH decoding (2025.0101)
- NR-V2C to support resource mapping auto detection (2025.0101)

N9092EM0E Avionics Measurement Application

- Added support for N9010B EXA, N9020B MXA, and N9040B UXA signal analyzers.

Issues Resolved

Core Software

- Fixed issue in IQ Analyzer (Basic) mode's Spectrum measurement where marker value was incorrect, resulting in N7814A TME calibration software app test for Noise Density failing (XSA-47871)
- Fixed issue that caused pressing Align Now Expired to stop the analyzer from sweeping if there were no expired alignments (XSA-47571)
- Fixed issue with LXI web interface that caused the Get Image feature to take 1.5 to 2 minutes to capture an image (XSA-43571)
- Fixed issue that caused the most significant digits in the Marker Table from being displayed (XSA-49469)
- Fixed issue that caused SCPI server to not work properly and display "hislip-1" device (XSA-34123)
- Fixed issue that caused the Control Instrument feature in the LXI web interface to not work properly (XSA-48920)
- Fixed issue that caused spikes to appear with Corrections On and NFE set to either Full or Adaptive (XSA-48818)
- Fixed issue causing N9032B PXA and N9042B UXA to hang when responding to SCPI command "SYST:DEF ALL" (Restore Default) (XSA-47866)
- Fixed issue that prevented access to the LXI web page on analyzers upgraded to A.39.28 (XSA-48028)
- Fixed issue in the MeasResults file in Swept SA measurements where the Marker Frequency values did not have the same precision as the frequencies displayed on screen (XSA-41595)
- Fixed issue where the Reference Level and Max Mixer Level values were not being recalled properly if Max Mixer Lvl Rules is set to Compression (XSA-46952)
- Fixed issue with Peak Table that caused the trace to show more peaks than the Max Number of Peaks value (XSA-38589)

N6141EMxE EMI Measurement Application

- Fixed issue in Real Time Scan measurement that only saved Trace 1 data of Spectrogram trace regardless of Save From Trace setting (XSA-45700)
- Fixed issue in Frequency Scan measurement that caused spikes on the trace when recalling a state that included the Corrections for MIL-STD measurements (XSA-48437)

N90EMPSMB Power Suite Measurement Application

- Fixed issue in Channel Power measurement that prevented Signal ID from being available if another screen tab is present with RTSA (XSA-46508

N90xxRTxB Real Time Signal Analysis (RTSA) Measurement Application

- Fixed issue that prevented Zone Span view to be changed back to Zone Spectrum after having selected a different Data selection, such as Waterfall (XSA-48555)
- Fixed issue in Spectrogram / Waterfall measurement where, after selecting Pause, the Resume key was restarting the measurement instead of resuming (XSA-48553, XSA-48839)

N9055EM0E Power Amplifier Measurement Application

- Fixed issue that resulted in crash if Training Eq is pressed on N9042B UXA (XSA-49641)
- Fixed issue with Dynamic EVM that resulted in the previous T1, T3, and T4 to be deleted when downloading new waveform to VXG if Burst and Formation are On (XSA-47464)

N9063EM0E Analog Demod Measurement Application

- Fixed issue that caused the AF Spectrum trace in the FM demod measurement to not display Y-scale units or trace data (XSA-48439)

N9069EM0E Noise Figure Measurement Application

- Fixed issue that caused the DUT LO and System Downconverter LO to not be recalled properly after having saved a state (XSA-46536)

N9077EMxE WLAN 802.11 Measurement Application

- Fixed issue that required Optimize EVM to be executed twice on N9041B to get good results (XSA-49729)
- Fixed issue that caused Detect Non-HT to not be enabled (XSA-47745)

N9077EM2E WLAN 802.11be Measurement Application

- Fixed application crash when doing Fast Power calibration on 802.11be signals (XSA-47133)

N9080EM0E LTE / LTE-A Measurement Application

- Fixed issue that resulted in ArgumentOutOfRangeExceptions to occur in the CCDF measurement (XSA-36799)

N9084EM0E Short Range Comms and IoT Measurement Application

- Fixed issue in HRP UWB Demod measurement that would intermittently cause the analyzer to crash when randomly changing the result window (XSA-47817)

N9085EM0E 5G-NR Measurement Application

- Fixed issue causing an alignment failure of the PreselectorTwoPointTuningAlgorithm in the Modulation Analysis measurement due to a lock on resources (XSA-45421)
- Fixed issue causing TB size mismatch for PDSCH if DMRS Additional Position = pos1 (XSA-49387)
- Fixed issue causing some traces to not be displayed in the Modulation Analysis measurements if switching the trace view back and front (XSA-48975)
- Fixed issue that prevented changing trace windows on anything except the first screen tab after a reboot (XSA-48778)

- Fixed issue that caused the Modulation type of DMRS for PUSCH DFT to be incorrect in the Modulation Analysis measurement (XSA-47678)
- Fixed issue in Modulation Analysis measurement that caused demodulation failures of Multi-UE PUCCH signals (XSA-48288)
- Fixed issue that caused the recall of *.SCREEN files that had been saved with versions <=A.38.xx to generate “Command Protected” or “Illegal Parameter Value” error messages (XSA-49836)

Keysight X-Series Analyzers

- N9000B, N9010B, N9020B, N9021B, N9030B, N9032B, N9040B, N9041B, N9042B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.39.31 Version Information

Released Date:	December 2024
S/W Version Date	2024.0801
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.39.31_Win10.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are ***not*** included, and software licenses of traditional GUI X-apps are ***not*** recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.39.28

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.39.28

Issues Resolved

Core Software

- Fixed issue that caused a “More recent calibration data available” dialog to appear when unsealing a new instrument or after performing a recovery (XSA-48512)

Keysight X-Series Analyzers

- N9030B (Multi-touch Signal Analyzer model)

A.39.29 Version Information

Released Date:	September 2024
S/W Version Date	2024.0801
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.39.29_Win10.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are ***not*** included, and software licenses of traditional GUI X-apps are ***not*** recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.39.28

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.39.28

Issues Resolved

Core Software

- Fixed issue that caused Backlight Control to not be turned back on after pressing the ESC key (XSA-47083)

N9091EM0E Measuring Receiver measurement application

- Fixed issue that caused “PM Zero Required” and “PM Cal Required” messages to appear after recalling a state (XSA-47040)

Keysight X-Series Analyzers

- N9000B, N9010B, N9020B, N9021B, N9030B, N9032B, N9040B, N9041B, N9042B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.39.28 Version Information

Released Date:	September 2024
S/W Version Date	2024.0801
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.39.28_Win10.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are ***not*** included, and software licenses of traditional GUI X-apps are ***not*** recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Core Software

- Added support for N9069EM0E Noise Figure measurement application on the N9032B-555 PXA models.

N90xxRTxB Real Time Spectrum Analysis (RTSA) measurement application

- Supported new option for Real-Time Spectrogram Streaming feature, N9032B-RRT and N9042B-RRT, to the N9032B PXA and N9042B UXA. SCPI remote access only

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Core Software

- For U9361C/F/G/M RCAL Receiver Calibrator control, added a remote SCPI command to set RCAL Tone Spacing Multiplier (:SYST:CAL:ROW[n]:TSM value) to apply to the default tone spacing used when making vector calibrations. This allows multi-tones to be denser, enabling better flatness improvements at higher frequency ranges
- Enabled the Secure Boot feature in BIOS with TPM (Trusted Platform Module)
- Added support for VDI Spectrum Analyzer Extender (SAX) WR8.0SAX and WR8.0SAX-M for F-Band (90 – 140 GHz), as Keysight models N9029AV08 and N9029BV08, respectively

N90EMPSMB Power Suite Measurement Application

- Added support for 10 MHz RBW selection to the Monitor Spectrum, Channel Power, and Occupied BW measurements (2021.1101)
- Added support for partial trace update during sweeping across span for Channel Power and Occupied BW measurements

N9054EM0E Vector Modulation Analyzer Digital Demod measurement application (VMA)

- Added support for “Optimize EVM” function when V3050A wideband external mixer is connected to N9042B UXA (license for N9042B-EXW required)
- Added SCPI remote command-only support for allowing Fast Mode for EVM Optimization with the Optimization method = Normal that manually sets input power level and bypasses power acquisition at the test port

N9054EM1E Vector Modulation Analyzer Custom OFDM Demod measurement application (VMA)

- Added support for “Optimize EVM” function when V3050A wideband external mixer is connected to N9042B UXA (license for N9042B-EXW required)
- Added SCPI remote command-only support for allowing Fast Mode for EVM Optimization with the Optimization method = Normal that manually sets input power level and bypasses power acquisition at the test port
- Added support for a new “Resource Map Length” setting under Meas Setup: Demod: Demod Settings: Resource Mapping dialog menu, that allows user to set the length of resource map in number of symbols whose value defines the total number of symbols in the resource map. (2024.0801)

N9055EM0E Power Amplifier measurement application

- Added support for WLAN Radio Standard preset selection “802.11a/g/j/p” (OFDM 20 MHz) and “802.11n: 20/40 MHz” for Demod EVM, under Meas Setup: Meas Standard: Configure Preset menu. Requires license for N9077EM0E. (2024.0801)

N9056EM0E Channel Quality and Group Delay measurement application

- In Group Delay measurement, added support for the reference multi-tone IQ waveform generation internally, and export waveform to an external signal generator (SG) or DUT. Also, estimated PAPR value of internally generated waveform is shown on Meas Setup: Tone menu panel. (2024.0801)
- In Group Delay measurement, increased maximum settable number of tones from 200,001 to 1,000,001 points (2024.0801)

N9056EM1E Channel Quality with Noise Power Ratio measurement application

- In Noise Power Ratio measurement, added support for the reference multi-tone IQ waveform generation internally, and export waveform to an external signal generator (SG) or DUT. Also, estimated PAPR value of internally generated waveform is shown on Meas Setup: Tone menu panel. (2024.0801)
- In Noise Power Ratio measurement, increased maximum settable number of tones from 200,001 to 1,000,001 points (2024.0801)

N9068EM0E Phase Noise measurement application

- Added support for a flexible amplitude weight factor (per offset frequency) file recall function via Recall: Trace Weighting menu, and apply it to the measured trace under Trace: Trace Function menu (2024.0801)
- Added new unit selection “Vrms / sqrt(Hz)” to the Average Noise Density Marker function (2024.0801)

N9077EM0E WLAN 802.11 measurement application

- Updated SEM mask limit values for the Radio Standard 802.11b/g (DSSS/CCK/PBCC) and 802.11a/g (OFDM/DSSS-OFDM) according to the new spec update: Clause 16.3.7.4 in IEEE P802.11-REVme/D.3.1 (July 2023)

N9077EMxE WLAN 802.11 measurement application

- In Modulation Analysis measurement, added support for a new EVM Floor Extension method “IQ Noise Correction (IQ-NC)” to the N9032B PXA and N9042B UXA for improving EVM noise floor performance, with a longer acquisition length to capture multiple WLAN bursts. To use IQ-NC EVM, you must execute “Characterize Noise Floor for IQ measurement” under the System: Alignment: Advanced menu, with NF2 (Noise Floor Extension) license. (2024.0801)
- In Modulation Analysis measurement, added SCPI remote command-only support for allowing Fast Mode for EVM Optimization with the Optimization method = Normal that manually sets input power level and bypasses power acquisition at the test port

N9077EM1E and N9077EM2E WLAN 802.11ac/ax & be measurement applications

- In Modulation Analysis measurement, restored once removed 4096QAM demod support (in A.38.xx) back with N9077EM1E/2E (and N9077EM3E/4E) licenses because of clearance of IVL (2024.0801)

N9081EM0E Bluetooth measurement application

- In LE In-Band Emissions measurement, added support for the new LE PHY type “HDT” (High Data Throughput) based on Bluetooth 6.0, under Meas Setup: Radio menu that enables the new limit for “Freq Offset 3 MHz” under Meas Setup: Limits menu for making LE (In-band Emissions measurement for HDT (2024.0801)
- In ACP, LE & EDR In-Band Emissions measurements, added support for “Channel Frequency” setting for allowing user to change the carrier frequency manually for Bluetooth 6.0 Higher Frequency Bands setting at 5 – 6 GHz range. Note that the “Channel (Number)” setting does not follow. (2024.0801)

N9084EM0E Short Range Communications & IoT measurement application

- For HRP-UWB Demod, added support for “Baseband Pulse Mask”, “Channel Frequency Response” and “Equalizer Impulse Response” result traces (2024.0801)
- For HRP-UWB Demod, added support of a new setting, “Sync to First Path” On/Off under Meas Setup: Demod: Advanced Demod Setup menu, to cover UWB FIRA test case for multi-path: PCT2.51 and 2.52 BPRF/HPRF SP3 Packet First-Path Dynamic Range test requirements. (2024.0801)

N9085EM0E 5G NR measurement application

- Added SCPI remote command-only support for allowing Fast Mode for EVM Optimization with the Optimization method = Normal that manually sets input power level and bypasses power acquisition at the test port.
- In Modulation Analysis measurement, added support for a new EVM Floor Extension method “IQ Noise Correction (IQ-NC)” to the N9032B PXA and N9042B UXA for improving EVM noise floor performance, with a longer acquisition length to capture 5G-NR bursts. To use IQ-NC EVM, you must execute “Characterize Noise Floor for IQ measurement” under the System: Alignment: Advanced menu, with NF2 (Noise Floor Extension) license. (2024.0801)
- Added support for a new FR1 3 MHz Carrier Bandwidth in 3GPP Release 18 with Tx Conformance testing presets (2024.0801)
- In Modulation Analysis measurement, allow user to recall uplink customer PRACH configuration file that is generated in N7631C Signal Studio for 5G NR (*.scp format) and PathWave Signal Generation (PWSG) for 5G NR (*.pwsg format) (2024.0801)
- In Modulation Analysis measurement, added support for uplink TBoMS (Transport Block processing over Multiple Slots) decoding in PUSCH in the Meas Setup: Channel Profile: PUSCH: General Settings menu, according to the 3GPP Release 17 TS38.214 clause 6.1.4.2. and TS38.212 clauses 6.2.3, 6.3.2, et al. (2024.0801)
- In Modulation Analysis measurement, added support for the clause 6.4G.2.4 EVM equalizer spectrum flatness for Tx Diversity in Tx 3GPP Release 17 TS38.521-1 for UE Uplink Tx conformance testing
- In Modulation Analysis measurement, added support for a new UE Phase Continuity measurement for DMRS bundling in 3GPP Release 17 T38.521-1 and TS38.521-2, new clause 6.4.2.6. The “Phase Continuity Mode” setting is available under Meas Setup: Advanced: Advanced Demod Setup: General, and the result is available in the Frame Summary table. (2024.0801)

N9085EM4E 5G NR V2X / SideLink measurement application

- Added SCPI remote command-only support for allowing Fast Mode for EVM Optimization with the Optimization method = Normal that manually sets input power level and bypasses power acquisition at the test port.
- In Modulation Analysis measurement, added support for a new EVM Floor Extension method “IQ Noise Correction (IQ-NC)” to the N9032B PXA and N9042B UXA for improving EVM noise floor performance, with a longer acquisition length to capture 5G-NR bursts. To use IQ-NC EVM, you must execute “Characterize Noise Floor for IQ measurement” under the System: Alignment: Advanced menu, with NF2 (Noise Floor Extension) license. (2024.0801)

Issues Resolved

Core Software

- Fixed issue causing the Gate View to display the signal incorrectly when Gate Method is Video (XSA-42159)
- Fixed issue in IQ Waveform measurement that caused a step in the trace at 8,000,000th sample (XSA-42884)
- Fixed issue causing Fast Power queries to take longer to complete than necessary (XSA-46700)
- Fixed issue in External Source Control that caused both start and stop frequencies to be changed when only the start frequency or only the stop frequency needed to be changed (XSA-44786)
- Fixed issue in Complex Spectrum measurement of IQ Analyzer mode that caused the Couple Markers feature to not work (XSA-39788)
- Fixed issue in IQ Waveform measurement causing the Phase Noise Optimization (PNO) setting to not be set properly when starting the XSA application. (XSA-40116)
- Fixed issue in IQ Analyzer mode causing the Filter Alpha parameter to not be recalled properly in both the Complex Spectrum and IQ Waveform measurements (XSA-41982)
- Fixed issue causing not all peaks to be stored when saving Peak Table data (XSA-42821)
- Fixed issue in IQ Analyzer mode causing the application to crash if the marker is adjusted using the left / right arrow keys (XSA-46652)
- Fixed issue causing Res BW Switching Uncertainty performance verification test to fail (XSA-44696)
- Fixed issue to allow recalling CSV correction files that contain transducer units to be imported into Correction 2, Correction 3, etc (previously, only Correction 1 was allowed to accept transducer units) (XSA-44954)

N90xxRTxB Real Time Signal Analysis (RTSA) measurement application

- Fixed crash issue when configuring a calibration using RCal and pressing Delete Row (XSA-43804)

N6141EM0E EMI Receiver measurement application

- Fixed issue that caused Range Preset (MIL Std) to not update the dwell time when TDS was turned on (XSA-42503)
- Fixed issue that caused dropouts in the QuasiPeak trace when multiple traces are used (XSA-45099)
- Fixed issue resulting in a Mass Storage Error when saving a PDF report after recalling a *.SCREEN file (XSA-45163)

N9054EM0E Flexible Digital Demod measurement application (VMA)

- Fixed issue with SCPI command “SENSe:DDEMod:EQU:RES” to reset the equalizer for all segments, not only the Selected Segment (XSA-43591)

N9055EM0E Power Amplifier measurement application

- Fixed issue that caused DPD to show now improvement is trigger delay is used an the 5GNR TDD signal has idle at beginning (XSA-43582)
- Fixed issue causing Dynamic EVM to not work with VXG. If Burst and Formation is on when downloading a new waveform, the previous T1, T3, and T4 will be deleted (XSA-47464)

N9068EM0E Phase Noise measurement application

- Fixed issue causing Help to not be available for Trace controls (XSA-42122)

N9069EM0E Noise Figure measurement application

- Fixed issue causing 346CK40 noise source to not appear Noise Source list in the Signal Path Config (XSA-45245)
- Fixed issue preventing the deletion of the selected source in the External LO Setup menu (XSA-43265)

N9077EMxE WLAN measurement application

- Fixed issue causing Spectral Flatness to not be able to demod 4096QAM signal when the correct license is installed (XSA-46595)

N9080EM0E LTE measurement application

- Fixed SEM mask file to use the correct offset and limit settings (XSA-44021)

N9081EM0E Bluetooth measurement application

- Fixed issue causing the Guard Interval to be reported as 3.8us for Bluetooth EDR signal (XSA-43929)
- Fixed issue causing application to crash if Ref Value adjusted using up/down keys (XSA-47556)

N9085EM0E 5G-NR measurement application

- Fixed issue causing the 5G-NR modulation analysis measurement to lock the DeepCaptureToronado2 resource, thus causing alignment errors (XSA-45421)
- Fixed Uplink Limit preset values in the PvT measurement to conform to latest (TS38.521-1/2 v.17.2.0) specifications (XSA-45597)

Keysight X-Series Analyzers

- N9032B (Multi-touch Signal Analyzer models)

A.38.14 Version Information

Released Date:	July 2024
S/W Version Date	2024.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.38.14_Win10.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are *not* included, and software licenses of traditional GUI X-apps are *not* recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.38.01

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.38.01

Issues Resolved

Same as A.38.09

Keysight X-Series Analyzers

- N9000B, N9010B, N9020B, N9021B, N9030B, N9040B, N9041B, N9042B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.38.13 Version Information

Released Date:	June 2024
S/W Version Date	2024.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.38.13_Win10.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are ***not*** included, and software licenses of traditional GUI X-apps are ***not*** recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.38.01

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.38.01

Issues Resolved

Same as A.38.09

Keysight X-Series Analyzers

- N9000B, N9010B, N9020B, N9021B, N9030B, N9032B, N9040B, N9041B, N9042B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.38.09 Version Information

Released Date:	April 2024
S/W Version Date	2024.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.38.09_Win10.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are ***not*** included, and software licenses of traditional GUI X-apps are ***not*** recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.38.01

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.38.01

Issues Resolved

Core Software

- Fixed issue the prevented VSA from disconnecting when switching from VSA back to XSA application (XSA-43734)

Keysight X-Series
Analyzers

- N9032B, N9040B, N9042B (Multi-touch Signal Analyzer models)

A.38.05 Version Information

Released Date:	March 2024
S/W Version Date	2024.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.38.05_Win10.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are ***not*** included, and software licenses of traditional GUI X-apps are ***not*** recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.38.01

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.38.01

Issues Resolved

Same as A.38.01

Keysight X-Series Analyzers

- N9000B, N9010B, N9020B, N9021B, N9030B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.38.04 Version Information

Released Date:	March 2024
S/W Version Date	2024.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.38.04_Win10.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are *not* included, and software licenses of traditional GUI X-apps are *not* recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.38.01

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.38.01

Issues Resolved

Same as A.38.01

Keysight X-Series Analyzers

- N9000B, N9010B, N9020B, N9021B, N9030B, N9032B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.38.01 Version Information

Released Date:	March 2024
S/W Version Date	2024.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.38.01_Win10.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are ***not*** included, and software licenses of traditional GUI X-apps are ***not*** recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

N9077EM3E WLAN 802.11ac/ax measurement application, limited

- Replaces N9077EM1E WLAN 802.11ac/ax, disables higher order >1024 QAM Modulation Analysis capability (refer to N90EMQAMB below)

N9077EM4E WLAN 802.11be measurement application, limited

- Replaces N9077EM2E WLAN 802be, disables higher order > 1024 QAM Modulation Analysis capability (refer to N90EMQAMB below)

N90EMQAMB WLAN 4096QAM Modulation

- Adds ability to perform modulation analysis on 4096 QAM signals with N9077EM3E or N9077EM4E (IVL restricted)

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Core Software

- In Swept SA measurement, increased available markers from 12 to 24
- In IQ Analyzer Waveform measurement, added support for Marker Peak Search Start / Stop range settings, under the Peak Search Config menu
- In IQ Analyzer Waveform measurement, added support for "Adjust Attenuation for Minimum Clip" feature under the Amplitude: Attenuation menu

N90EMFP2B Fast Power measurement application

- Added support for Trigger Output settings of Off, MainTrigger, and ReadyForTrigger (2024.0301)

N90EMPSMB Power Suite Measurement Application

- In Channel Power measurement, added support for Marker Table window selection (2024.0301)
- In ACP measurement, added support for Marker Table window selection (2024.0301)
- In Spurious Emissions measurement, added support for Marker Table window selection (2024.0301)

N9054EM0E Vector Modulation Analyzer (VMA) Digital Demod application

- Added support for Frequency Deviation Tolerance and Zero Crossing Tolerance results in the Results Metrics table for 2-FSK Eye Diagram (2024.0301)

N9054EM1E Vector Modulation Analyzer (VMA) Custom OFDM Demod application

- Added support for "Pilot In Time Domain" On/Off toggle under Meas Setup: Demod: Demod Settings: Advanced menu for phase tracking DFS-s-OFDM signals (2024.0301)
- Added support for "Phase Compensation Mode & Frequency" settings (like 5G-NR OFDM) under Meas Setup: Demod: Demod Settings: Advanced menu (2024.0301)

N9055EM0E Power Amplifier measurement application

- Added support for Generalized Memory Polynomial (GMP) DPD model algorithm (2024.0301)
- Allowed to skip IQ Averaging when measuring Demod EVM, under Meas Setup: PA Meas: EVM menu (2024.0301)
- Added support for a user setting to control the confidence level (%) of synchronization, under Meas Setup: PA Meas: Advanced menu (2024.0301)
- Performance improvement for Power Servo: Execute Auto Range to get correct range settings after power servo procedure, when Gain is not correctly set

N9056EM0E Channel Quality measurement application

- In Group Delay measurement, added support for N5186A MXG Signal Generator connectivity and control, under Meas Setup: Signal Generator: Connection Management menu (2024.0301)

N9056EM1E Channel Quality for Noise Power Ratio (NPR) measurement application

- Added support for N5186A MXG Signal Generator connectivity and control, under Meas Setup: Signal Generator: Connection Management menu (2024.0301)
- Added support for "Import Table" that allows to import Notch Data and Tone Data with file types of *.txt, *.csv, and *.mtd (2024.0301)
- Added support for Marker Function feature under Marker: Marker Function menu (2024.0301)

N9069EM0E Noise Figure measurement application

- Updated the "Auto Load ENR" behavior with a USB Smart Noise Source (SNS) connection when a state file is recalled. Previously, the stored ENR data in the state file was automatically applied regardless of which SNS is currently connected. Now, the ENR data is newly reloaded from the currently connected SNS.

N9077EM1E WLAN 802.11ac/ax measurement application and
N9077EM2E WLAN 802.11bd measurement application

- Removed support of higher order >1024 QAM Modulation Analysis capability (IVL restricted)

N9077EM3E WLAN 802.11ac/ax measurement application, limited and
N9077EM4E WLAN 802.11be measurement application, limited

- Added support for TB (Trigger-Based) PPDU CRC decode setting menu "Edit Trigger-Based PPDU" in the Modulation Analysis measurement, under Meas Setup: RU Allocation: Edit RU Allocation (2024.0301)

N9080EM0E LTE / LTE-Advanced FDD measurement application

- In Modulation Analysis measurement, added support for an advanced downlink demod setup "Number of Blank RBs" under the Meas Setup: Sync / Format: Advanced Demod Setup menu for a special configuration to narrow down the number of RB carrier allocations including CRS (2024.0301)

N9082EM0E LTE / LTE-Advanced TDD measurement application

- In Modulation Analysis measurement, added support for an advanced downlink demod setup "Number of Blank RBs" under the Meas Setup: Sync / Format: Advanced Demod Setup menu for a special configuration to narrow down the number of RB carrier allocations including CRS (2024.0301)

N9084EM0E Short Range Communications and IoT measurement application

- For HRP UWB Demod, added "Pulse Jitter (second)" result metric in the Results Metrics table (2024.0301)
- For HRP UWB Demod, added support for MMS (multimillisecond) packet demod, which MMS = On parameter is available when PHY Mode is "ERDEV HPRF" and STS Packet Configuration is SP3, under Meas Setup: Radio menu, with MMS packet result table (2024.0301)

N9085EM0E 5G-NR measurement application

- Added support for allowing user to manually set time domain slot configuration for Configure Preset, under Meas Setup: Meas Standard: Duplex Mode = User Defined, with the “TDD / User Def. Configuration dialog menu (2024.0301)
- In Modulation Analysis measurement, added support for Antenna port power detection threshold setting for CSI-RS MIMO, under Meas Setup: Channel Profile: Control and User Channels: CSI-RS menu (2024.0301)
- In Modulation Analysis measurement, added support for CRC results in the Decoded Info table window and SCPI command result query (2024.0301)
- In Modulation Analysis measurement, added support for “Display SCS annotation” On/Off at IQ Meas Time and IQ Ref Time result window, under Display: Meas Display menu (2024.0301)

N9085EM4E NR V2X measurement application

- In Modulation Analysis measurement, added support for “Display SCS annotation” On/Off at IQ Meas Time and IQ Ref Time result window, under Display: Meas Display menu (2024.0301)

89600C VSA Measurement Application

- Added support for N9032B Opt 555 in VSA (requires license for 89601200C)

Issues Resolved

Core Software

- Fixed issue causing XSA application to freeze when pressing RESTART while *.screen file is in process of being recalled (XSA-31960)
- Fixed issue with Trace Math power sum feature that was limiting the sum to +30 dBm (XSA-43397)
- Fixed issue causing a null reference exception if Peak Table was activated while the display Theme was set to Dark (XSA-41404)
- Fixed issue in IQ analyzer measurement on N9042B that caused IF Path to not be set correctly when the center frequency was at its maximum value (XSA-39328)
- Fixed issue with LXI web interface that prevented the Get Image feature to work properly when connected through intranet (internet is OK) (XSA-42374)
- Fixed issue causing Backlight Intensity value to not properly survive a power cycle (XSA-41029)
- Fixed issue in Fast Power measurement that resulted in errors when making measurement on low SNR signals (XSA-37943)

N90EMPSMB Power Suite measurement application

- Removed center frequency annotation from at top of screen in Spurious Emissions measurement (XSA-39942)
- Fixed issue in Occupied Bandwidth (OBW) measurement which caused the Total Power result in the Metrics table to not be updated when the Meas Trace is changed to a trace that is in View mode (XSA-39997)

N6141EM0E EMI measurement application

- Fixed issue in Frequency Scan measurement causing crash when making LISN measurements (XSA-41615)

N9032RTxB Real Time Signal Analysis (RTSA) measurement application

- Fixed issue that caused Frequency Mask Trigger (FMT) to not be routed as Main Trigger to Trigger Out 1 (XSA-41774)

N9055EM0E Power Amplifier measurement application

- Fixed issue in Burst Shape & Mask for Dynamic EVM test and enabled this feature when signal generator is N5186A (XSA-41594)
- Modified software to connect to N5186A using hislip0 (XSA-41969)
- Removed minimum limit for T1 and T3 (XSA-42692)

N9056EM0E Channel Quality and Group Delay measurement application

- Fixed issue that caused Phase Distribution / Random Seed to not affect the random sequence for phase (XSA-41688)
- Fixed issue where Frequency Error was not being reported correctly when demod OSR is greater than 2 (XSA-41148)

N9056EM1E Channel Quality measurement with Noise Power Ratio

- Fixed issue that caused Phase Distribution / Random Seed to not affect the random sequence for phase (XSA-41688)
- Fixed issue that caused a crash in Noise Power Ratio (NPR) measurement when a notch is set outside of the actual tone span (XSA-41390)
- Fixed issue where Frequency Error was not being reported correctly when demod OSR is greater than 2 (XSA-41148)
- Fixed issue with IMD Reduction that resulted in an Execution Error occurring in some cases even if the desired suppression was reached (XSA-39988)

N9068EM0E Phase Noise measurement application

- Fixed issue in Log Plot measurement which resulted in amplitude corrections not being applied in the FFT region (XSA-38995)

N9077EM0E WLAN 802.11 measurement application

- Added dialog box text when selecting a Marker Trace that is not available for the current measurement (XSA-41854)

N9077EM1E WLAN 802.11ac/ax measurement application

- Fixed issue with Edit RU Allocation dialog menu being too wide for displays of 4U-high analyzers (e.g. CXA, EXA, MXA, PXA); displays of 6U-high analyzer such as UXA are OK (XSA-41295)

N9077EM2E WLAN 802.11be measurement application

- Fixed issue with Edit RU Allocation dialog menu being too wide for displays of 4U-high analyzers (e.g. CXA, EXA, MXA, PXA); displays of 6U-high analyzer such as UXA are OK (XSA-41295)

N9080EM3E NB IoT and eMTC measurement application

- Fixed issue which caused the PRACH EVN part of results to not be cleared in error summary table (XSA-42059)

N9080EM4E LTE V2X measurement application

- Fixed issue in SEM measurement where mask values were not loading properly if a license for N9080EM0E was not also present (XSA-42723)

N9085EM0E 5G-NR measurement application

- Fixed issue causing XSA application to freeze when pressing RESTART while *.screen file is in process of being recalled (XSA-31960)
- Fixed issue which resulted in Power Ref being incorrectly set to “Manual” when the saved setting was “L&R Carrier” (XSA-41892)

N9091EM0E Measuring Receiver measurement application

- Force turn-off of RF Calibrator when in RF Power and Tuned RF Level (TRFL) measurements (XSA-40541)
- Added on-screen indication when a power-meter zero and calibrate has completed successfully (XSA-40542)

Keysight X-Series
Analyzers

Keysight X-Series Analyzers

- N9000B, N9010B, N9020B, N9021B, N9030B, N9032B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.37.02 Version Information

Released Date:	January 2024
S/W Version Date	2023.1201
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.37.02_Win10.exe

NOTE: A.37.00 and above will only support multi-touch GUI X-apps programs inside the installer for benchtop X-Series analyzers. Traditional GUI X-apps are ***not*** included, and software licenses of traditional GUI X-apps are ***not*** recognized.

NOTE: This release does not support the Windows 7 operating system.

New Features

Core Software

- Added new security feature option, N90xxB/BU-SF3, Secure RAM Boot
- Added 55 GHz frequency range option to the N9032B as N9032B-555

N9056EM1E Noise Power Ratio measurement in Channel Quality mode

- Adds new Noise Power Ratio measurement in the Channel Quality mode

N9056PC0E Channel Quality measurement application, PC License

- Provides PC Simulation and off-line analysis mode of Channel Quality and Group Delay measurements.

N9056PC1E Channel Quality for Noise Power Ratio measurement application, PC license

- Provides PC Simulation and off-line analysis mode of Channel Quality Noise Power Ratio (NPR) measurements.

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Core Software

- Added support for Wake-on-LAN (WoL) feature via 1GB LAN port. Requires CPU option PC8, PC9, PCA, or PCBj
- Several minor UI enhancements to SCPI Recorder feature

N90EMPSMB Power Suite measurement application

- Power Stat CCDF measurement allows adjusting Minimum Probability (Y-range) down to 0.00001% (2023.1201)

N90xxRTxB Real Time Signal Analysis measurement

- Enhanced probability of intercept (POI) with Software Preselection with stepped histogram measurements

N9042B-ST1 / ST2 IQ Streaming

- Added support for SCPI queries for time zone, UTC date and time.

N9054EM0E Vector Modulation Analysis (VMA) Digital Demod measurement application

- Added support for Search Length “Auto” coupling (2023.1201)
- Support PathWave Signal Generation *.sgen setup file recall function
- Support EVM optimization look-up table for N9042B UXA with V3050A Signal Analyzer Frequency Extender

N9054EM1E Vector Modulation Analysis (VMA) Custom OFDM measurement application

- Support Horizontal Center setting to the IQ Constellation trace window (2023.1201)
- Support EVM optimization look-up table for N9042B UXA with V3050A Signal Analyzer Frequency Extender

N9055EM0E Power Amplifier measurement application

- Added support for waveform equalization for Iterative Learning Control Digital Pre-Distortion (ILC DPD) (2023.1201)
- Added support for N5182B MXG setting “Mod Attenuation” for adjusting attenuator for IQ output for DPD measurements (2023.1201)

N9056EM0E Channel Quality measurement application

- Added support for Auto Attenuation “Adjust Atten for Min Clipping” feature
- Added support for N7621B Multi-tone Signal Studio setup file (*.mtd) recall function for tone definition table configuration (2023.1201)
- Included Reference tone table information into tone definition table save and recall functions.
- Added support for captured IQ data Recording and Playback functions (2023.1201)

N9067EM0E Pulse measurement application

- Added support for Frequency Mask Trigger (FMT) on N9032B PXA and N9042B UXA (requires N9032B-FT1 / FT2 or N9042B-FT1 / FT2, as appropriate)

N9077EM0E WLAN 802.11a/b/g/j/p/n/af/ah measurement application

- Support EVM optimization look-up table for N9042B UXA with V3050A Signal Analyzer Frequency Extender

N9077EM1E WLAN 802.11 ac/ax measurement application

- Support EVM optimization look-up table for N9042B UXA with V3050A Signal Analyzer Frequency Extender
- Reconstructed Edit RU Allocation dialog menu for 802.11ax

N9077EM2E WLAN 802.11 be measurement application

- Support EVM optimization look-up table for N9042B UXA with V3050A Signal Analyzer Frequency Extender
- Reconstructed Edit RU Allocation settings and also supported the GUI for 802.11be (2023.1201)

N9081EM0E Bluetooth ™ measurement application

- In Transmit Analysis measurement, added support for Channel Sounding (CS) Physical Layer packets per definition in Bluetooth 6.0 at “Configure CS Packet” menu, for the Packet Type = LE (Low Energy) (2023.1201)

N9084EM0E Short Range Communications and IoT measurement application

- HRP-UWB Demod: Added a new dialog menu, “Advanced Demod Setup” under Meas Setup: Demod tab to support FiRa standard update CR449 for NRMSE calculation definitions.

N9085EM0E 5G-NR measurement application

- In Modulation Analysis measurement, Downlink, added “CSI-RS” to the Sync Source selection under the Advanced Demod Setup menu (2023.1201)
- In Modulation Analysis measurement, Downlink, added support for periodicity setting (number of frames) of PDCCH and PDSCH transmissions (2023.1201)
- In Modulation Analysis measurement, Uplink, added support for new SRS Physical channel parameter definition updates in 3GPP TS38.211 clause 6.4.1.4.3: “Start RB Hopping State”, “Frequency Scaling Factor P_f”, “Start RB Index K_f”, under the Channel Profile: SRS: SRS Parameters group menu. (2023.1201)
- In Modulation Analysis measurement, added “Ignore Duplex Mode for Fulfilled RB Alloc” in the Meas Standard: Advanced Preset Parameters menu. When applying Preset, “Fulfilled QPSK & xx-QAM” RB allocation ignores Duplex Mode = TDD setting (to maintain backward code compatibility) (2023.1201)
- In Modulation Analysis measurement, added Meas Preset for TDD EVM Meas Interval “Adjust Meas Time Length (for Test Model)” = None, Frame, and 3GPP, where “3GPP” presets the Meas Interval length to cover N_dl, required in 3GPP TS38.141-1 subclause 6.5.3.5 and TS38.141-2 subclause 6.6.3.5 (2023.1201)

- In Modulation Analysis measurement, Downlink, add support for multiple frames setting and analysis for PDSCH and PDCCH up to 4 frames long.
- In Modulation Analysis measurement, support “Horizontal Center” setting to the IQ Constellation trace window, at the Amplitude: Y-Scale menu (2023.1201)
- In Modulation Analysis measurement, support “High Phase Noise Mode” and “Phase Continues across Slots” parameter settings under the Advanced Demod Setup menu that are to assume if the input signal is high phase noise and if the phase continues from slot to slot, to improve signal synchronization robustness. (2023.1201)
- In Modulation Analysis measurement, support Reference IQ data (with High SNR situation) save and recall function for preparing a low SNR signal measurement when it is hard to recover the reference IQ vector from the signal (2023.1201)
- In Modulation Analysis measurement, cross-correlated EVM (ccEVM), added support of “ccEVM vs Symbol” result trace with Log Mag, Real, or Imaginary format (selectable), under Demod Error window group (2023.1201)
- In Modulation Analysis measurement, cross-correlated EVM (ccEVM), added “Improvement Factor N” result report in ccEVM Summary result table (2023.1201)
- In Modulation Analysis measurement, support SEM Non-Contiguous Outer & Inner offset measurement at once
- Recording Playback Enhancement to analyze more chunk IQ data in the recorded file (2023.1201)
- Support EVM optimization look-up table for N9042B UXA with V3050A Signal Analyzer Frequency Extender

N9085EM4E NR V2X measurement application

- In Modulation Analysis measurement, support xOverhead for PSSCH decoding, under Meas Setup: Channel Profile: Control and User Channels: PSSCH menu (2023.1201)
- In Modulation Analysis measurement, support Flexible PSSCH DMRS time pattern and symbol number setting, under Meas Setup: Channel Profile: Control and User Channels: PSSCH menu (2023.1201)
- In Modulation Analysis measurement, support “Horizontal Center” setting to the IQ Constellation trace window, at the Amplitude: Y-Scale menu (2023.1201)
- In Modulation Analysis measurement, support “High Phase Noise Mode” and “Phase Continues across Slots” parameter settings under the Advanced Demod Setup menu that are to assume if the input signal is high phase noise and if the phase continues from slot to slot, to improve signal synchronization robustness. (2023.1201)
- In Modulation Analysis measurement, support Reference IQ data (with High SNR situation) save and recall function for preparing a low SNR signal measurement when it is hard to recover the reference IQ vector from the signal (2023.1201)
- In Modulation Analysis measurement, cross-correlated EVM (ccEVM), added support of “ccEVM vs Symbol” result trace with Log Mag, Real, or Imaginary format (selectable), under Demod Error window group (2023.1201)
- In Modulation Analysis measurement, cross-correlated EVM (ccEVM), added “Improvement Factor N” result report in ccEVM Summary result table (2023.1201)
- In Modulation Analysis measurement, support SEM Non-Contiguous Outer & Inner offset measurement at once
- Recording Playback Enhancement to analyze more chunk IQ data in the recorded file (2023.1201)

- Support EVM optimization look-up table for N9042B UXA with V3050A Signal Analyzer Frequency Extender

N9091EM0E Measuring Receiver application

- Added support for N1913B and N1914B Power Meters

Issues Resolved

Core Software

- Fixed issue causing front panel LEDs to not indicate the correct IF Input when using a VDI CCD external mixer (XSA-39149)
- Fixed issue that only allowed Wide Bandwidths (Option RBE) to be enabled when RTSA was licensed (XSA-38868)
- Fixed issue that caused Relative Burst Trigger to not be available in hardware configurations with the 25 MHz Digital IF (analyzers that did not have one or more of options B40, DP2, or MPB) (XSA-37649)
- Fixed error causing Status History log to show “Program Error; Check FPGA image” if the analyzer did not have one or more of Option B85, B1A, B1X, B2X, or B5X. (XSA-39225)
- Fixed error in SCPI Recorder causing incorrect SCPI command to be recorded for Save Trace+State (XSA-38147)
- Fixed error in SCPI Recorder causing the incorrect SCPI command to be recorded for Input External Mixer (XSA-32495)
- Fixed error in SCPI Recorder that resulted in duplicate entries being made when recalling a SCPI recording file (XSA-38789)
- Fixed issue causing font to not stand out when saving report in Filled theme (XSA-27293)
- Fixed issue causing binary files (state files) in Error Reports to be truncated (XSA-37498)
- Fixed issue causing XSA application to crash with an Argument Exception (Parameter is not valid) error being thrown by DrawEngine.wpf.DrawEngineCtl.GetHdc(). (XSA-35511)
- Fixed issue causing XSA application to crash by InvalidOperationException from SystemOverlayManagerViewModel.SuppressInformationOverlays method (XSA-35509)
- Fixed issue causing amplitudes in zero span with RBW set to 10 MHz and sweep time less than 733us to read approximately 2.5 dB low (XSA-39924)
- Fixed issue causing the internal web server to not work with instrument software versions A.36.0x (XSA-38563)

N90EMPSMB Power Suite measurement application

- Fixed issue that caused Gate Start and Gate Stop lines in Gate View to not be as expected when Gate Delay Compensation is set to either Group Delay or Until RBW Settled (XSA-36801)

N90xxRTxB Real Time Signal Analysis measurement application

- Fixed issue in Density/Spectrogram View causing minimum acquisition time to be 10ms in error on N9040B (XSA-37688)

N6141EM0E/N6141EM1E EMI measurement application

- Fixed issue that incorrectly set maximum frequency limit for RF Input ports 1 and 2 when entering Real Time Scan mode (RTSC) for the first time. (XSA-38779)
- Fixed issue causing Transducer Unit to not be applied unless Correction 1 is enabled (XSA-37538)

N9054EM0E Vector Modulation Analysis (VMA) Digital Demodulation measurement application

- Fixed issue causing BBIQ inputs to not work (XSA-37773)

N9054EM1E Vector Modulation Analysis (VMA) Custom OFDM measurement application

- Fixed issue causing Adjust Atten for Min Clipping to not always produce reasonable results (XSA-36654)
- Fixed issue causing BBIQ inputs to not work (XSA-37773)

N9055EM0E Power Amplifier measurement application

- Fixed issue causing Look-Up Table to not take into account Gain Expansion when making DPD measurements (XSA-37421)
- Fixed issue causing resampled reference waveform to appear incorrect, yielding a much better ACP value than it should (XSA-38816)
- Fixed issue causing Look-Up Table for DPD to not work correctly on burst signal with long idle; also has different pre-DPD results with *.txt and *.wfm waveform files (XSA-40120)
- Fixed issue causing RMS calculations to not be correct for WLAN burst signals, especially if the idle part is long (XSA-39793)
- Fixed issue causing PAPR results to not match with PathWave Signal Generation software and manual calculations (XSA-38593)

N9077EM1E WLAN 802.11ac/ax measurement application

- Fixed issue causing demodulation of only one active RU26 do not work after upgrading to A.36.xx (XSA-38144)

N9077EM2E WLAN 802.11be measurement application

- Corrected Spectral Flatness to measure active RU only (XSA-38930)

N9080EM0E LTE-Adv FDD measurement application

- Fixed issue in Modulation Analysis measurement which caused PRACH EVM results to differ from VSA when EVM Window length is Custom 32 samples (XSA-40029)

N9081EM0E Bluetooth measurement application

- Fixed issue in EDR In-Band Spurious Emissions measurement that resulted in the Adjacent Channel Lower and Upper values in the Metrics table to be swapped from their values in the Limit Table (XSA-36703)

N9085EM0E 5G-NR measurement application

- Fixed Transient Period PASS/FAIL results in PvT measurement for signals with no transient cross off power limit (XSA-38220)
- Fixed issue causing BBIQ inputs to not work (XSA-37773)
- Fixed issue in Modulation Analysis measurements which resulted in Phase-formatted Ch Frequency Response trace to not be scaled properly (XSA-37569)

N9091EM0E Measuring Receiver application

- Increased default timeout for Power Meter from 15s to 30s to accommodate longer time necessary for doing zero and cal (XSA-37782)

Keysight X-Series Analyzers

- N9010B, N9020B (Multi-touch Signal Analyzer models)

A.36.22 Version Information

Released Date:	October 2023
S/W Version Date	2023.0801
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.36.22_Win10.exe

NOTE: This is the last installer for benchtop X-Series analyzers N90xxB which includes both traditional and multi-touch GUI X-apps in the same installer.

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.36.04

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.36.21

Issues Resolve

Same as A.36.21

Keysight X-Series Analyzers

- N9021B, N9040B, N9042B (Multi-touch Signal Analyzer models)

A.36.21 Version Information

Released Date:	September 2023
S/W Version Date	2023.0801
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.36.21_Win10.exe

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.36.04

Enhancements (minimum Software Support Expiration Date noted, where applicable)

N90EMPSMB Power Suite measurement application

- Added WLAN 802.11ax and 802.11be presets for SEM measurement (2023.0801)

N9054EM0E Flexible Digital Demod (VMA) measurement application

- Added SOQPSK-A and SOQPSK-B presets (2023.0801)

N9055EM0E Power Amplifier measurement application

- Added support for N5186A MXG Signal Generator connectivity (2023.0801)

N9077EM2E WLAN 802.11be measurement application

- Added support for Preamble Power measurement results (2023.0801)

N9080EM0E LTE-Adv FDD measurement application

- Added support for recalling O-RAN Studio waveform file format (*.orb)

N9080EM3E NB-IoT and eMTC measurement application
- Added support for recalling O-RAN Studio waveform file format (*.orb)

N9080EM4E LTE V2X measurement application
- Added support for recalling O-RAN Studio waveform file format (*.orb)

N9082EM0E LTE-Adv TDD measurement application
- Added support for recalling O-RAN Studio waveform file format (*.orb)

N9085EM0E 5G-NR measurement application
- Added Meas Preset support for new R17 FR2-2 Downlink NR-TM RB settings (2023.0801)

Issues Resolved

Core Software

- Fixed issue causing Binblock data queries to return extra bytes when using the MMEM:DATA? query command (XSA-37735)

N90EMPSMB Power Suite measurement application

- Fixed issue that caused Gate Start and Gate Stop lines to not be positioned properly in Gate View when Gate Delay Compensation is enabled (XSA-36801)
- Fixed issue that caused the Trace 2 RMS Avg trace to be displayed lower than expected (XSA-36877)

N90xxRTxB Real Time Signal Analysis measurement application
- Fixed issue that caused the Span up/down feature to not work reliably (XSA-37992)

N9054EM0E Flexible Digital Demod (VMA) measurement application
- VMA application does not load properly if licensed by N9054C and instrument software version is A.36.0x (XSA-38296)

N9085EM0E 5G-NR measurement application
- Fixed issue in Modulation Analysis measurement that caused the Ch Freq Response in Phase format to not scale properly (XSA-37569)
- Fixed issue that resulted in SCS of 480 kHz and 960 kHz to not be selectable in FR2 range with 400 MHz CC Bandwidth (XSA-36362)
- Fixed issue in Monitor Spectrum measurement that caused the Trace 2 RMS Avg trace to be displayed lower than expected (XSA-36877)

Keysight X-Series Analyzers

- N9010B, N9020B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.36.07 Version Information

Released Date:	October 2023
S/W Version Date	2023.0801
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.36.07_Win10.exe

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.36.04

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.36.04

Issues Resolved

Core Software

- Fixed issue that caused Noise Floor Characterization to not achieve desired improvement when Noise Floor Extension (NFE) is On (XSA-37333)

Keysight X-Series Analyzers

- N9000B, N9042B (Multi-touch Signal Analyzer models)

A.36.05 Version Information

Released Date:	August 2023
S/W Version Date	2023.0801
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.36.05_Win10.exe

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.36.04

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Same as A.36.04

Issues Resolved

Same as A.36.04

Keysight X-Series Analyzers

- N9010B, N9020B, N9021B, N9030B, N9032B, N9040B, N9041B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.36.04 Version Information

Released Date:	August 2023
S/W Version Date	2023.0801
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.36.04_Win10.exe

NOTE: This release contains a defect related to Noise Floor Extension (NFE) that is fixed with A.36.07

NOTE: This release does not support the Windows 7 operating system.

New Features

Core Software

- Added support for VDI Mixer WR6.5 CCD-K5 (D-Band) on N9042B with Opt EXW
- Modified UI to allow importing corrections for VDI mixers used with Opt EXW ports on N9042B.
- Added support for VDI Mixer CCD M4 in IQ Analyzer (Basic) and Swept SA measurements on N9042B with options N9042B-EXW and N9042B-EDC

Real Time Signal Analysis (RTSA)

- Added support for RTSA with 1 GHz BW (N9032RTAB/ N9032RTBB/ N9042RTAB/ N9042RTBB) and 2 GHz BW (N9032RTEB / N9032RTFB / N9042RTEB / N9042RTFB) on N9032B and N9042B
- Added support of Average Type = Power (RMS) | Voltage selection and Avg (RMS) Detector on N9032B and N9042B only (N9032RTAB/RTBB/RTEB/RTFB and N9042RTAB/RTBB/RTEB/RTFB)

N9085EM0E 5G NR measurement application
N9085EM4E 5G NR V2X / SideLink measurement application
E9085EM0E 5G NR measurement application
E9085EM4E NR V2X measurement application

- Added support for N9010B EXA

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Core Software

- Added support of LO shift capability for V3050A Frequency Extender's software preselection, thus improving performance above 90 GHz
- Added support for VDI SAX modules in Mixer Preset menu for external mixers.
- Added Dark color theme as a choice for Display Theme in the User Interface menu.
- Extended maximum number of peaks in Marker Peak Table from 20 to 500.
- In IQ Analyzer (Basic) mode, added Spectrum Inversion Normal | Invert toggle under Meas Setup, Advanced
- In SCPI Recorder menu, added a direct access key jump.
- Added support for saving SCPI Recording as a Python Script (*.py) in SCPI Recorder
- Added a new Play behavior "Play Selected" for each row when recalling a saved SCPI recording file in SCPI Recorder.
- Added support for recording action for Save/Recall in SCPI Recorder.

N90EMPSMB Power Suite measurement application

- Added support for U9361RCAL "Use Current Meas" feature for Channel Power and Occupied Bandwidth (OBW) measurements (2023.0801)

N9054EM0E Flexible Digital Demod measurement application, VMA

- Added support for recording action for Save/Recall in SCPI Recorder.
- Added support for Option EDC, External Digitizer Control on N9042B
- Added support for U9361 RCAL "User Current Meas" in Monitor Spectrum, Channel Power, and Occupied Bandwidth (OBW) measurements (2023.0801)

N9054EM1E Custom OFDM measurement application, VMA

- Added support for recording action for Save/Recall in SCPI Recorder.
- Added support for U9361 RCAL "User Current Meas" in Monitor Spectrum, Channel Power, and Occupied Bandwidth (OBW) measurements (2023.0801)
- MIMO Enhancements (2023.0801):
    - Add "Layer Index" setting in Format: Edit Pilot IQ Values and Edit Preamble IQ Values
    - Add "Pilot IQ Values" and "Preamble IQ Values" selection including MIMO Layer Index in Save / Recall: Demod Info menu.
    - Add Demod: "MIMO Scheme" to support overlap mode and CDM group mode.
    - Support Resource Map 3 MIMO mode

N9055EM0E Power Amplifier measurement application

- Added support for recalling Complex Correction (*.s2p) files. (2023.0801)
- Allow user to skip AM-AM, AM-PM, Delta EVM, Output Power, Gain, and Crest Factor Out measurements and result reporting for improved speed (2023.0801)
- Added support for exporting resampled envelope waveform file (ET Envelope) in Save, Measurement Data (when ET is enabled) (2023.0801)

N9077EM1E WLAN 802.11ac/ax measurement application

- In Modulation Analysis measurement for 802.11ax, added support for HE (High Efficiency) Masked HE-LTF (High Efficiency Long Training Field) mode (2023.0801)
- In SEM measurement for 802.11ax, 80 / 160 MHz bandwidth to support HE (High Efficiency) Preamble Puncture mask setting (2023.0801)

N9077EM2E WLAN 802.11be measurement application

- In Modulation Analysis measurement, 320 MHz Add Gamma Phase Rotation selection setting, with default +1,-1,-1 (faster than Auto Detection) (2023.0801)

N9080EM0E LTE-Adv FDD measurement application

- In SEM measurement, support Non-Contiguous Outer and Inner offset measurements at once (2023.0801)

N9080EM3E NB-IoT and eMTC measurement application

- In SEM measurement, support Non-Contiguous Outer and Inner offset measurements at once (2023.0801)
- In Modulation Analysis measurement, added support for NPDSCH CRC decoding for Tx Diversity (2x1) configuration (2023.0801)

N9080EM4E LTE V2X measurement application

- In SEM measurement, support Non-Contiguous Outer and Inner offset measurements at once (2023.0801)

N9082EM0E LTE-Adv TDD measurement application

- In SEM measurement, support Non-Contiguous Outer and Inner offset measurements at once (2023.0801)

N9085EM0E 5G NR measurement application

- Added support for recording action for Save/Recall in SCPI Recorder.
- In Modulation Analysis measurement, Uplink PRACH to support 3GPP Rel 17 new Numerologies (2023.0801)
- In Modulation Analysis measurement, Downlink to support multiple SSBs up to 4 (2023.0801)
- In ACP and SEM measurements, support “Apply Preset” for 3GPP Rel 17 FR2-2 Downlink limit values updates based on TS38.141-2 v.2023-03 (2023.0801)
- Added support for U9361 RCAL “User Current Meas” in Monitor Spectrum, Channel Power, and Occupied Bandwidth (OBW) measurements (2023.0801)
- In Modulation Analysis Multi-Measurements, support “Auto Timing Adjust” = Off | On for Tx On/Off Power (note: Off for Downlink measurements) (2023.0801)

- In Modulation Analysis Multi-Measurements, support “View Type” selection for SEM (2023.0801)
- In Modulation Analysis measurement, marker readout for Resource Element provides “Channel Type” and “Modulation Type” information (2023.0801)
- In Modulation Analysis measurement, support trace averaging for the “RMS Error Vector Time” trace (2023.0801)
- In SEM measurement, support Non-Contiguous Outer and Inner offset measurement at once (2023.0801)

N9085EM4E 5G NR V2X / SideLink measurement application

- Added support for recording action for Save/Recall in SCPI Recorder.
- Added support for U9361 RCAL “User Current Meas” in Monitor Spectrum, Channel Power, and Occupied Bandwidth (OBW) measurements (2023.0801)
- Add support for PSSCH and PSCCH decoding functions (2023.0801)
- In Modulation Analysis Multi-Measurements, support “Auto Timing Adjust” = Off | On for Tx On/Off Power (note: Off for Downlink measurements) (2023.0801)
- In Modulation Analysis Multi-Measurements, support “View Type” selection for SEM (2023.0801)
- In Modulation Analysis measurement, marker readout for Resource Element provides “Channel Type” and “Modulation Type” information (2023.0801)
- In Modulation Analysis measurement, support trace averaging for the “RMS Error Vector Time” trace (2023.0801)
- In SEM measurement, support Non-Contiguous Outer and Inner offset measurement at once (2023.0801)

Issues Resolved

Core Software

- Fixed issue that caused a spike to appear at 3.6 GHz when sweeping across band break with NFE ON (XSA-34443)
- Fixed issue that caused Limit pass/fail message to appear even when Limit Test is Off on analyzers with multi-touch UI (softkey UI is OK) (XSA-33677)
- Fixed issue causing markers to not work properly in RTSA mode when recalling trace+state (XSA-35853)
- Corrected descriptions of CONF, INIT, READ, and MEAS topics in the Help documentation (XSA-36164)
- Corrected SCPI command that appears when pressing Show SCPI Command in SCPI Recorder for external mixing (XSA-33208)
- In several measurements, corrected the SCPI command that appears when pressing Show SCPI command. For example, in Log Plot measurement, “:SENSe:FREQuency:CENTer <value>” should be “:SENSe:FREQuency:CARRier <value>” (XSA-32736)
- Fixed issue that caused the XSA application to crash if Page Setup is clicked when no printer is available (XSA-28112)
- Corrected Help files related to Peak Excursion and Peak Threshold default settings (XSA-34434)

- Fixed issue preventing the Meas Mode to be changed between Continuous and Single on the second Spectrum Analyzer measurement tab (XSA-32792)
- Corrected Help files to properly describe parameters required for SCPI command to query trace peaks, “CALCulate:DATA[n]:PEAKs?” (XSA-35093)

N6141EM0E EMC measurement application

- Fixed issue in Frequency Scan measurement that prevented scanning when start frequency is 30 Hz and stop frequency is 3 GHz (XSA-33295)
- Measurement screen no longer freezes when a long signal list is being measured (XSA-32199)
- Fixed issue causing ~6 dB error in Real Time Scan measurement when switching between A-TDS ON and A-TDS OFF when measuring a CW signal (XSA-35912)
- Fixed issue in Real Time Scan measurement that caused the data at the 2nd data point to be recorded for all frequencies if NFE is On (Adaptive) (XSA-34857)

N90EMPSMB Power Suite measurement application

- Fixed issue that caused the averaging to restart unexpectedly when the Avg/Hold value was increased in single sweep (XSA-24588)
- In SEM measurement, corrected several limit settings for several offsets when Radio Std = is 802.11ac (XSA-35798)
- Fixed issue that caused traces in SEM measurement to appear jagged (XSA-33096)

N9054EM0E Vector Modulation Analyzer measurement application

- Fixed issue that caused enabling the Offset QPSK Align I and Q setting to cause an execution error (XSA-35988)

N9055EM0E Power Amplifier measurement application

- Fixed Connection Management dialog to display text properly on 4U-high analyzers (e.g. N9030B) (XSA-33615)
- Added error message if either I/Q inputs or External Mixer input is selected; these inputs are not supported by this measurement (XSA-31104)
- Fixed issue that caused the XSA application to crash if DPD is turned on but no input signal is applied (XSA-36159)

N9056EM0E Channel Quality measurement application

- Fixed issue that caused the Gate Polarity value set in other measurements to not be applied to the Monitor Spectrum measurement (XSA-30900)

N9063EM0E Analog Demod measurement application

- Fixed issue that caused in Ref Level to be clipped to +23 dBm on EXAs, even though Ext Gain was set to a large negative value, such as -40 dB (XSA-34851)

N9068EM0E Phase Noise measurement application

- Fixed issue causing the Auto/Man value for Signal Tracking Span to not be shared between measurements (XSA-31006)
- Fixed issue in Log Plot measurement that prevented the ADC Clipping message from appearing when the AM Rejection offset is set to a value >> 1 MHz (e.g. 40 MHz) (XSA-34282)
- Fixed issue that caused Log Plot measurements to be much slower on N9000B CXA analyzers (XSA-32305)
- In several measurements, corrected the SCPI command that appears when pressing Show SCPI command. For example, in Log Plot measurement, ":SENSe:FREQuency:CENTer <value>" should be ":SENSe:FREQuency:CARRier <value>" (XSA-32736)

N9071EM0E GSM measurement application

- Fixed issue causing high phase noise near carrier in ORFS measurement due to modulation with Wideband Noise On (XSA-35857)
- Fixed issue that caused the Gate Polarity value set in other measurements to not be applied to the Monitor Spectrum measurement (XSA-30900)

N9073EM0E W-CDMA measurement application

- Fixed issue that caused the Gate Polarity value set in other measurements to not be applied to the Monitor Spectrum measurement (XSA-30900)

N9077EMxE WLAN measurement application

- Fixed issue that caused the Gate Polarity value set in other measurements to not be applied to the Monitor Spectrum measurement (XSA-30900)
- Corrected Offset Limit settings in SEM measurement for 802.11ac preset values (XSA-35797)
- In Modulation Analysis measurement, corrected the data rate for 802.11p 10 MHz when Radio Standard is Auto (XSA-34241)

N9080EM3E NB-IoT and eMTC measurement application

- Fixed issue in Modulation Analysis measurement that caused Sync failure with NRS on Antenna Port 1 for 2Tx transmission when NPSS/NSSS are configured to be transmitted on Antenna Port 2000 (XSA-33371)

N9083EM0E Multi-Standard Radio measurement application

- Fixed issue that caused the Gate Polarity value set in other measurements to not be applied to the Monitor Spectrum measurement (XSA-30900)

N9085EM0E 5G-NR measurement application

- Fixed issue causing constellation and allocation views to not be drawn properly when analyzer is accessed via Remote Desktop on analyzers with CPU option PCA (XSA-36816)
- Fixed issue in PvT measurement that caused the Off power results to be incorrect when Correction = On (XSA-35455)
- Fixed issue in SEM measurement that caused measurements to be made slower when using an analyzer with CPU option PCA (XSA-35881)
- Fixed issue in Modulation Analysis measurement that caused measurements to not be restarted when in continuous mode and switching between Reference Input Channel 1 and Channel 2; single mode is OK (XSA-35074)
- Fixed issue in Modulation Analysis measurement that caused Time Offset values to not be stable for recordings (XSA-32676)

N9091EM0E Measuring Receiver measurement application

- Fixed issue that caused modulation measurement ratio reference value to not be updated in result window when user keys in manual reference value (XSA-35838)

Keysight X-Series Analyzers

- N9020B (Multi-touch Signal Analyzer models)

A.35.06 Version Information

Released Date:	May 2023
S/W Version Date	2023.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.35.06_Win10.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release includes support of the N9067C and N9067EM0E Pulse measurement application

New Features

- Same as A.35.03

Enhancements

- Same as A.35.03

Issues Resolved

Core Software

- Same as A.35.04

Keysight X-Series Analyzers

- N9010B, N9020B, N9021B (Multi-touch Signal Analyzer models)

A.35.04 Version Information

Released Date:	April 2023
S/W Version Date	2023.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.35.04_Win10.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release includes support of the N9067C and N9067EM0E Pulse measurement application

New Features

- Same as A.35.03

Enhancements

- Same as A.35.03

Issues Resolved

Core Software

- Fixed issue causing negative Trigger Delays to be clipped at -150ms (should be -10s) on analyzers with 25 MHz Digital IF (XSA-33729)

Keysight X-Series Analyzers

- N9000B, N9010B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.35.03 Version Information

Released Date:	March 2023
S/W Version Date	2023.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.35.03_Win10.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release includes support of the N9067C and N9067EM0E Pulse measurement application

New Features

None

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Core Software

- Added support for VDI CCD (Keysight N9029ACST) on N9042B with N9042B-EXW to allow wide-bandwidth measurements at millimeter wave frequencies using the High LO and High IF ports
- Added support for SCPI Recording actions for SAVE/RECALL actions

N90EMPSMB PowerSuite measurements

- In PAvT measurement, phase/amplitude is plotted normalized to the first segment's phase/amplitude

N6141EM0E EMI measurement application

- Add measurement timestamps when saving traces

N9054EM0E Vector Modulation Analysis, Digital Demodulation measurement application

- Added Mixing Mode feature with selections of Normal and Alternate under Meas Setup, Advanced (2023.0301)

N9054EM1E Vector Modulation Analysis, Custom OFDM measurement application

- Add DAB Mode 2/3/4 presets (2023.0301)
- Add CDR Tx Mode1, Spectrum 9 preset (2023.0301)
- MIMO based on recording playback (2023.0301)

N9055EM0E Power Amplifier measurement application

- Support Invert Spectrum feature in all measurements (2023.0301)
- Remove idle part from waveform in ILC DPD algorithm (2023.0301)
- Add more PA results in DPD iteration view: ACP Offset B, PA Out Power, Crest Factor Out (2023.0301)
- Support Crest Factor Reduction (CFR) for reference waveform (2023.0301)
- Support LTE Demod EVM and standard preset (2023.0301)

N9056EM0E Channel Quality measurement application

- Burst Search feature for In-Orbit large group delay (2023.0301)
- Abs Group Delay 1st step: “Do Calibration” for Time Offset Result (2023.0301)
- Phase Noise Optimization selection support under Advanced menu (2023.0301)
- Support “Use Current Meas” for RCal (2023.0301)
- Show “Raw Spectrum RBW” setting in Spectrum trace window

N9069EM0E Noise Figure measurement application

- Added H-band (220 to 330 GHz) noise figure support (VDI)

N9077EM0E/1E/2E WLAN measurement application

- Modulation Format preset to “Auto” for 802.11a/b/g/j/p; “SIG Syms” for others
- Meas Interval preset to 2794 chips for 802.11b/g (DSSS/CCK/PBCC); 16 symbols for others
- Result Length and Max Result Length presets to 2816 chips for 802.11b/g (DSSS/CCD/PBCC); 16 symbols for others
- Symbol Clock Error Compensation coupling setting to OFF when switching to 802.11n/ac; ON when switching to 802.11ax/be
- Use common name for 11ax/be Demod Info file template for manual RU allocation configuration
- Add a new demo parameter, Burst Detect Window Length, to handle signals with less than 1us idle part (2023.0301)
- Implement “switch” setting for different BBIQ behavior in WLAN
- For 802.11ac/ax/be, support non-HT duplication mode in preamble puncture PPDU (2023.0301)

N9084EM0E Short Range Communications and IoT measurement application

- HRP UWB: Transmit Mask generation with multiple capture when IFBW is not enough (2023.0301)

N9085EM0E 5G-NR measurement application

- MIMO TAE composite result calculation based on all allocations (2023.0301)
- New R17 FR1 35 MHz and 45 MHz Channel BW (CBW) definitions with Apply Preset (2023.0301)
- New R17 FR2-2 120, 480, and 960 kHz SCS support (up to 2000 MHz CBW) with Apply Preset (no DL NR-TM RB Allocation preset yet) (2023.0301)
- MISO TAE Accuracy enhancement to picosecond level
- Apply Preset to add FR1 ACP/SEM limits: 6.0 < f =< 7.125 GHz range (2023.0301)
- Apply Preset to add FR2 ACP/SEM limits: 43.5 < f =< 48.2 GHz (2023.0301)

N9085EM4E NR V2X measurement application

- R16 V2X/D2D SideLink support – Apply Preset (2023.0301)
- V2X support PSSCH PTRS (2023.0301)

Issues Resolved

Core Software

- Removed :TRIGger:SEQuence:FRAMe:PATH NARRow|WIDE command from instruments that do not support the feature (XSA-31117)
- Fixed issue that caused RCal module to not be visible in Cal Source menu after having been connected and disconnected several times (XSA-30829)
- Fixed issue causing the Marker Table to not respond to changes in some parameters on N9041B (XSA-29166)
- Fixed issue causing User View to not always be recalled correctly when recalling a state file (XSA-31784)
- Fixed issue causing SENS:WAV:SRAT? to return incorrect value on analyzers with 25 MHz Digital IF installed (XSA-33554)
- Fixed issue causing RF Burst triggers to not be stable with changes in Absolute Trigger Level (XSA-32161)
- Fixed issue causing RCal corrections to be applied for IF Paths that are not being used (XSA-31094)
- Fixed issue causing excessive IF flatness errors when using the V3050A Frequency Extender with N9042B at frequencies near 106 GHz in the 4 GHz IF Path (XSA-29967)
- Fixed issue causing the Move Up and Move Down features in SCPI Recorder to behave unexpectedly (XSA-32590)
- Fixed issue causing text on the fourth row of the Meas Bar to be partially hidden (XSA-28716)
- Allow “Insert *OPC?” control to always appear in SCPI Recorder, even when Continuous SCPI Recording is Off (XSA-32591)
- Fixed memory leak issue caused by frequent loading and unloading of multiple applications (XSA-30842)
- Fixed issue causing Print function to not work properly (XSA-33528)

- Fixed issue in IQ Analyzer mode causing the IF Path (when set to Auto) to not update properly when switching from Complex Spectrum measurement to IQ Waveform measurement (XSA-27781)
- Fixed issue causing time gated measurements to auto couple to a sweep time that is too fast for analyzers without Opt EP0 (XSA-31339)
- Enlarged font of text in Metrics window of IQ Analyzer's Waveform measurement (XSA-32353)
- N-dB Points and Band Power markers now work properly if Frequency Offset is non-zero (XSA-30371)

N90EMPSMB PowerSuite measurements

- Fixed issue in PAvT measurement causing traces to not be displayed properly on analyzers with 25 MHz Digital IF (XSA-31662)
- Fixed issue in Spurious Emissions measurement causing NFE corrections to not be applied when Meas BW > 1 x RBW (XSA-30670)
- Fixed issue in Occupied Bandwidth (OBW) measurement that caused SCPI measurement results to not be updated when Measure Trace is changed (XSA-32083)

N6141EM0E EMI measurement application

- Fixed issue that caused APD measurement to hang when SCPI command :SYSTem:CALibration:DELete:ALL is sent (XSA-31610)
- Fixed issue causing abnormal noise floor and readings in Frequency Scan measurement with Scan Type set to Discrete (XSA-32990)
- Fixed issue causing only a maximum of 10s of measured data of Disturbance Analyzer / Strip Chart to be displayed (XSA-32582)

N9054EM0E Flexible Digital Demod / VMA measurement application

- Fixed issue causing BBIQ Range Auto/Man to always be set to Auto on every switch into the IQ waveform measurement (XSA-30862)

N9055EM0E Power Amplifier measurement application

- Removed idle samples of bursted signals from AM-AM and AM-PM traces (XSA-32246)
- Fixed issue causing Baseband Generator DAC to overload when making ILC DPD measurements using a UXA and MXG (XSA-31556)
- Fixed issue causing crash if the Input is set to External Mixing or IQ when switching into the Power Amplifier measurement application (XSA-31104)

N9056EM0E Channel Quality measurement application

- Changed default folder for saving the Tone Table in Group Delay measurement. It is now in Documents\CQM\data\GDEL folder. (XSA-32762)
- Added support for M9484C VXG-C source for Group Delay measurement (XSA-32534)

- Fixed issue causing BBIQ Range Auto/Man to always be set to Auto on every switch into the IQ waveform measurement (XSA-30862)

N9067EM0E Pulse measurement application

- Improved speed of saving and recalling of very large *.MAT files (XSA-29915)

N9068EM0E Phase Noise measurement application

- Fixed result of SYST:HELP:HEAD? query to return both CENTer and CARRier mnemonics (XSA-31808)

N9069EM0E Noise Figure measurement application

- Measurement now uses ENR at System Downconverter's LO frequency when making a DSB measurements (XSA-32038)
- Fixed issue causing the Fixed Frequency value to not always be displayed when Freq Context is set to System Downconverter LO (XSA-31269)

N9071EM0E GSM/EDGE measurement application

- Fixed issue causing BBIQ Range Auto/Man to always be set to Auto on every switch into the IQ waveform measurement (XSA-30862)

N9073EM0E W-CDMA measurement application

- Fixed issue causing BBIQ Range Auto/Man to always be set to Auto on every switch into the IQ waveform measurement (XSA-30862)

N9077EM0E WLAN measurement application

- Fixed auto detection for Radio Standards of 802.11j and 802.11p (XSA-31061)
- Avoid phase distortion by not using the 1 GHz IF Path for the Iterative EVM Optimization feature (XSA-33069)
- Fixed issue causing BBIQ Range Auto/Man to always be set to Auto on every switch into the IQ waveform measurement (XSA-30862)

N9080EM0E LTE-Adv FDD measurement application

- Corrected the Auto Scaling behavior in Modulation Analysis measurement for the Error Vector Spectrum trace (XSA-32593)
- Fixed issue that caused application to crash when saving a customized view (XSA-33127)

- Fixed issue causing BBIQ Range Auto/Man to always be set to Auto on every switch into the IQ waveform measurement (XSA-30862)

N9080EM3E NB-IoT and eMTC measurement application

- In EVM measurement, removed unnecessary information from download decode info trace that was from previous measurement (XSA-33333)
- Corrected the Auto Scaling behavior in Modulation Analysis measurement for the Error Vector Spectrum trace (XSA-32593)
- Fixed issue causing NSSS EVM fails when testing frequency offset of 7.5 kHz from NB-IoT center frequency (XSA-33370)

N9080EM4E LTE V2X measurement application

- Deleted extraneous result in ACP measurement when only N9080EM4E is installed (XSA-20972)

N9081EM0E Bluetooth measurement application

- Fixed issue preventing proper decoding of EDR signals with PN9 bit pattern generated by Signal Studio (XSA-31262)

N9082EM0E LTE-A TDD measurement application

- Fixed issue causing BBIQ Range Auto/Man to always be set to Auto on every switch into the IQ waveform measurement (XSA-30862)

N9083EM0E Multi-Standard Radio measurement application

- Fixed issue in ACP, SEM, CEVM and OBW measurements where changing the Carrier Reference Frequency via SCPI did not result in the expected change to the Center Frequency (XSA-32528)
- Fixed issue causing BBIQ Range Auto/Man to always be set to Auto on every switch into the IQ waveform measurement (XSA-30862)

N9084EM0E Short Range Communications measurement application

- Fixed issue causing BBIQ Range Auto/Man to always be set to Auto on every switch into the IQ waveform measurement (XSA-30862)

N9085EM0E 5G-NR measurement application

- Fixed Settings Conflict error when recalling *.scp and *.pwsg files with multi-frame setup (XSA-32368)
- Fixed issue causing BBIQ Range Auto/Man to always be set to Auto on every switch into the IQ waveform measurement (XSA-30862)
- Fixed issue in Modulation Analysis measurement causing the Time Offset reading to not be stable for recordings (XSA-32676)

Keysight X-Series Analyzers

- N9000B, N9010B, N9020B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.34.06 Version Information

Released Date:	December 2022
S/W Version Date	2022.1201
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.34.06_Win10.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release includes support of the N9067C and N9067EM0E Pulse measurement application

New Features

- Same as A.34.05

Enhancements

- Same as A.34.05

Issues Resolved

- Same as A.34.05

Keysight X-Series Analyzers

- N9021B, N9030B (Multi-touch Signal Analyzer models)

A.34.05 Version Information

Released Date:	December 2022
S/W Version Date	2022.1201
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.34.05_Win10.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release includes support of the N9067C and N9067EM0E Pulse measurement application

New Features

Core Software

- Added Optical Data Interface (ODI) option for IQ Streaming to N9032B and N9042B. Requires license N9032B-ST1/ST2 or N9042B-ST1/ST2, as appropriate
- Added new setting of Power Reference Plan to switch RF and Baseband. Requires license for N9030B-BBA or N9020B-BBA, as appropriate.
- Added new utility of Configure Applications in System menu to select applications to preload at next application startup.
- Added new feature of Unload Modes in Configure Applications to dispose the entire mode in memory without restarting application. Requires license N9060ES1E.

N9067EM0E Pulse Analysis measurement application

- Added support of N9032B PXA and N9042B UXA signal analyzers

N9085EM4E NR V2X measurement application

- Added R16 V2X/D2D SideLink support (2022.1201)

Enhancements (minimum Software Support Expiration Date noted, where applicable)

Core Software

- SCPI Recorder support added for WLAN, Bluetooth, and PA Test measurement apps (2022.1201)

N90EMPSMB PowerSuite measurements

- Oversampling support for stable peak power measurements in CCDF measurement (2022.1201)

N9054EM0E Vector Modulation Analysis, Digital Demodulation measurement application

- Added support of cross-correlated EVM (ccEVM) on 2x N9021B MXA, 2x N9030B PXA, 2x N9032B PXA and 2x N9042B UXA signal analyzers (2022.1201)
- Added support for 6 frame segments (2022.1201)

N9054EM1E Vector Modulation Analysis, Custom OFDM measurement application

- Added support of cross-correlated EVM (ccEVM) on 2x N9021B MXA, 2x N9030B PXA, 2x N9032B PXA and 2x N9042B UXA signal analyzers (2022.1201)

N9055EM0E Power Amplifier measurement application

- Support Iterative Learning Control (ILC) DPD algorithm (2022.1201)
- Support Dynamic EVM on M9484C (VXG-C) (2022.1201)
- Support Coherent Averaging in PA test (2022.1201)
- Support flexibility to turn off RF Output when Preset (2022.1201)

N9056EM0E Channel Quality measurement application

- Added SG Connection summary on Meas Setup / Signal Generator menu
- Enhancement to Auto Scaling
- Added support of V3050A Signal Analyzer Frequency Extender to N9042B. Requires license N9042B-EXW

N9067EM0E Pulse Analysis measurement application

- Added Wrapped Phase trace support for Phase modulation pulse analysis
- Added Cumulative Pulse Table support (2022.1201)
- Added support of N9032B PXA and N9042B UXA signal analyzers

N9069EM0E Noise Figure measurement application

- Added W-band support for 75 to 110 GHz with a Virginia Diodes Inc (VDI) down converter (2022.1201)
- Enhancement of markers to scroll along X-axis between measurement points to retrieve results (2022.1201)
- Enhancement of Frequency Context to be LO when system downconverter is in DSB mode (2022.1201)

N9077EM1E WLAN 802.11 ac/ax measurement application

- Added support of cross-correlated EVM (ccEVM) on 2x N9021B MXA, 2x N9030B PXA and 2x N9032B PXA signal analyzers (2022.1201)
- Added support of look-up table method for Optimize EVM on N9021B MXA analyzers with Opt 532, 544, or 550 (2022.1201)

N9077EM2E WLAN 802.11be measurement application

- Added 802.11be SEM masks for puncturing mode (2022.1201)
- Added support of ccEVM on N9021B MXA, N9030B PXA and N9032B PXA signal analyzers (2022.1201)
- Added support of look-up table method for Optimize EVM on N9021B MXA analyzers with Opt 532, 544, or 550 (2022.1201)

N9084EM0E Short Range Comm and IoT measurement application

- Add Error Vector trace (2022.1201)
- Add SEM preset for 802.15 HRP UWB (2022.1201)

N9085EM0E 5G NR measurement application

- Added cross-correlated EVM (ccEVM) on 2x N9021B MXA, 2x N9030B PXA, 2x N9032B PXA, 2x N9042B UXA signal analyzers (2022.1201)
- Added RIM-RS support (2022.1201)
- Added PDSCH/PUSCH rate matching pattern support (2022.1201)
- Added Large IQ data capture support to Tx On/Off Power measurement (2022.0301)

Issues Resolved

Core Software

- Fixed issue that caused recalling Screen Config + State to not restore Global Center Frequency selection (XSA-29462)
- Fixed issue causing the Trace Math trace to not be updated properly (XSA-29587)
- Fixed issue related to displaying Trigger Delay and setting of Trigger Delay via SCPI when the value is below +/- 100ns (XSA-28572)
- Fixed issue causing the Span to be set incorrectly in the Channel Power measurement after Meas Preset or sending CONF:CHP command with CCARrier count set to 2 (XSA-31067)
- Fixed issue that caused the Enable Wideband IF FFT in the SEM measurements to not work in modes other than WLAN (XSA-27710)
- Fixed issue with External Source Control that required the XSA application to be restarted if the source was power cycled (XSA-29991)
- Fixed issue causing 27.8 kHz frequency error when RBW Filter Type = Flattop and Options FS1 and FS2 are enabled (XSA-28901)
- Fixed issue that caused the Control Size SCPI command to not take effect immediately; manual behavior is OK (XSA-27845)
- Fixed issue causing unexpected behavior when Trigger Delay value is negative and RBW > 8 MHz when measuring in zero span (XSA-26557)
- Fixed issue causing the SW Preselector annotation to be incorrect when recalling a state (XSA-28189)
- Fixed issue that caused marker settings to be corrupted when Gate View is toggled on and off (XSA-27798)
- Fixed issue that caused the Playback of the SCPI Recorder to place the peak marker in the incorrect location (XSA-28040)
- Fixed issue causing the Min Fast line to be missing when using Time Gating with A.33.04 (XSA-28990)
- Fixed issue with SCPI Recorder that resulted in a recording limit warning not being set if Record Limit was set to zero and a key is pressed (XSA-23556)
- Fixed issue with SCPI Recorder that caused the Recording Limit to overflow instead of being clipped to the minimum value (XSA-27796)
- Fixed issue with SCPI Recorder that caused consecutive “Meas Preset” commands to not collapse (XSA-27463)
- Fixed issue in Power Suite measurements that caused Trig Holdoff to not work when Gate Source is set to RF Burst (XSA-28414)
- Fixed issue in Spurious Emissions measurement that caused NFE to not work when MeasBW > 1 x RBW (XSA-30670)
- Fixed issue with RCal causing a communication error when IF Gain = All and IF Path = 4 GHz (XSA-29996)
- Fixed issue in Spectrogram and RTSA measurements that caused a crash when toggling between Display Trace and Start Time (XSA-29112)

- Fixed issue that caused RCal cal table to be lost upon instrument crash and reboot (XSA-29998)
- Fixed issue that caused RCal CalGroup 3 to migrate to CalGroup1 or CalGroup2 after XSA is restarted or rebooted (XSA-29960)
- Fixed issue causing “Help on this setting” to not bring up the LNA help section when appropriate (XSA-27642)

N6141EM0E EMI Receiver measurement application

- Fixed issue in Frequency Scan measurement that caused the caret at the bottom of the screen to update slower than the actual trace (XSA-29227)

N9091EM0E Measuring Receiver Application

- Fixed issue that caused cal factors for U5532B to not be applied at frequencies below 50 MHz (XSA-28170)

N9055EM0E Power Amplifier measurement application

- Fixed issue that caused the XSA application to crash when a measurement was restarted but the signal generator was not connected (XSA-29283)
- Fixed issue that caused the DPD result to be corrupted if Burst and Shape Mask are turned on but T1 is too short and combined with T2 (XSA-29284)
- Updated Vcm to 1V for VXG-B and Vcm to 1.5V for VXG-C (XSA-29756)

N9063EM0E Analog Demod measurement application

- Fixed issue in FM Demod measurement that caused measurement errors when increasing the span from 40 MHz to 41 MHz (XSA-29914)

N9068EM0E Phase Noise measurement application

- Fixed issue in Log Plot measurement that prevented the Attenuator value from changing when in Continuous measure mode (XSA-28313)

N9069EM0E Noise Figure measurement application

- Fixed issue causing “ENR Table Extrapolated) to not be displayed when the System Downconverter LO is outside the ENR table’s frequency range in DSB mode (XSA-27783)
- Fixed URL link and description for the online Noise Figure Uncertainty Calculator (XSA-27911)

N9077EM0E WLAN measurement application

- Fixed issue in ccEVM measurement resulting in Valid Points not equaling Total Points even when there is no reference error (XSA-28575)
- Fixed issue in EVM measurement that resulted in a Restart not occurring when IQ Compensation was toggled On or Off (XSA-29177)
- Fixed issue causing Demod Ref Symbols menu to be grayed out when only a license for N9077EM2E is installed (XSA-28897)

- Fixed issue in Modulation Analysis measurement causing 4096QAM to not be available when only a license for N9077EM2E is present (XSA-29801)

N9080EM4E LTE – V2X measurement application

- Fixed issue in ACP measurement that incorrectly displayed a line in the ACP table when only a license for N9080EM4E was installed; OK when N9080EM3E license was also installed (XSA-30972)

N9081EM0E Bluetooth measurement application

- Fixed issue that caused the GFSK and DPSK Start/Stop Marker key to not be enabled under the EDR standard (XSA-29048)

N9085EM0E 5G-NR measurement application

- Fixed issue that caused Optimize EVM feature on PXA with Opt B5X to take more than 20 seconds if the source power is <-32 dBm and center frequency is < 3.6 GHz (XSA-30732)
- Fixed issue in PvT measurement that caused an IndexOutOfRangeException at MAC.NR5GPvt.Calculate70usAvgPwrWithMovingWin() (XSA-28710)
- Fixed issue in Modulation Analysis measurement where Continue Averaging did not work with Optimize EVM; averaging was reset, rather than continued (XSA-21219)
- Fixed issue in PvT measurement resulting in the Integrity status bit not being correctly updated (XSA-30657)
- Fixed issue in Channel Power measurement that caused the Trace Math Function to not work correctly when Average is Off in Single mode (XSA-30105)

Keysight X-Series Analyzers

- N9000B, N9010B, N9020B, N9021B, N9030B, N9032B, N9040B, N9041B, N9042B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure models)

A.33.03 Version Information

Released Date:	July 2022
S/W Version Date	2022.0801
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.33.03_Win10.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release includes support of the N9067C and N9067EM0E Pulse measurement application

New Features

Core Software

- Added support for new W-model applications (e.g. W9077EM1E WLAN 802.11ac/ae Measurement Application)
- Added support of Fault Tolerant Floating Licenses (FTFL)

Enhancements

Core Software

- In SCPI Recorder:
  - added error handling for unavailable SCPI commands
  - Time out handling for long-responding-time SCPI commands
  - Delete a selected recorded item

N6141EM0E EMI Measurement Application
- Support RCal “Use Current Meas” function
- Add the ability to read S2P files from PNA directly as correction files

N9054EM0E Vector Modulation Analysis Digital Demodulation
- Optimize EVM supports iteration mode

N9054EM1E Vector Modulation Analysis Custom OFDM
- Add DVB-TH and ISDB-T presets
- Optimize EVM supports iteration mode

N9055EM0E Power Amplifier Measurement Application
- Support “MATLAB script” in DPD models
- Updated Trace results per DPD iteration

N9056EM0E Channel Quality Measurement Application
- Peak Search and Marker related enhancements
- Improved Tone configuration with a new parameter, Tone Span

N9067EM0E Pulse Analysis Measurement Application
- Measurement has been reactivated

N9069EM0E Noise Figure Measurement Application
- Increase number of points to 1301 (from 501)
- Support of U1832C and U1833C/D USB Noise Sources
- UI update for support of V3050A Signal Analyzer Frequency Extender

N9077EM0E WLAN 802.11a/b/g/j/p/n/af/ah Measurement Application and
N9077EM1E WLAN 802.11ac/ax Measurement Application and
N9077EM2E WLAN 802.11be Measurement Application
- Support EVM calculation using ideal reference signal
- Support ccEVM (Cross-Correlated EVM) with two N9042B UXA analyzers for better EVM floor
- Support WLAN 11be EHT 320MHz Gamma phase rotation
- Redesign U-SIG and EHT-SIG info for 802.11be 320 MHz signals

N9080EM0E LTE / LTE-Advanced FDD Measurement Application and
N9080EM3E NB-IoT & eMTC FDD Measurement Application and
N9080EM4E LTE V2X Measurement Application and
N9082EM0E LTE / LTE-Advanced TDD Measurement Application
- Added support for SCPI Recorder

N9084EM0E Short Range Comms and IoT Measurement Application
- Add Decoded Bits and Frame Info results

N9085EM0E 5G-NR Measurement Application

- Added support for SCPI Recorder
- Added support for DL FR1 NR-TM2b & 3.1b (1024 QAM) presets
- Modulation Analysis measurement
    - Power Measurements supports multiple sequential acquisition to cover wider out-of-channel span than the available instantaneous IQ acquisition BW
    - ACP an Tx On/Off measurements support noise correction capability
    - Tx On/Off measurement support multiple bursts within meas interval up to 10 ms
    - 2-port power measurements for EIRP with two N9042B UXA analyzers for capturing V and H polarized antenna powers simultaneously
    - Added "Extended Frequency Lock Range" setting for synchronizing carrier with large frequency errors
    - Added "Composite EVM" result for multiple CCs in CC summary result table
    - Added "Symbol clock error" result per each-path in MIMO Info table
    - Supported 160 ms long SSB search period for auto SSB detection
    - Optimize EVM supports iteration mode

N9091EM0E Measuring Receiver (MMR) Measurement Application

- Add Vpp and Vp readout in Audio Level Measurement
- Support Option FBP (Full Bypass) for Modulation measurements

Issues Resolved

Core Software

- Fixed issue that caused analyzer to freeze up when set to a long sweep time, such as 2000s (XSA-25523)
- Fixed issue that prevented restoring cal files from non-secure drive onto secure drive (XSA-26976)
- Fixed issue that required the user to be logged in as "Administrator" in order to perform instrument software upgrade, even if the non-Administrator login (for example, "AdminX") has administrator privileges (XSA-26218)

IQ Analyzer (Basic) Mode

- Fixed issue on N9042B with 4 GHz analysis bandwidth option (Opt R40) that prevented using a V3050A with frequency range option F09 to tune up to 90 GHz in IQ Analyzer mode (XSA-28242)
- Fixed issue that caused setting a waveform sample rate > 300 Mbps to not auto couple the IF path to >= 1 GHz if R10, R15, R20, or R40 is present (XSA-25732)
- Fixed issue in Complex Spectrum measurement that caused maximum span to be 40 MHz when N9042B is set to center frequency >26.5 GHz on analyzer with Opt 544 (XSA-27055)

N90xxRT1B / N90xxRB2B Real Time Signal Analysis (RTSA) measurement application

- Fixed issue that prevented transportable license N90xxRT1B-1TP from being transported (XSA-27190)

N9069C / N9069EM0E Noise Figure measurement application

- Fixed issue to allow List Mode start frequencies entered manually to be above the range of the RF Input maximum when measuring downconverters. Entries entered via remote UI are OK. (XSA-26901)

N9081C / N9081EM0E Bluetooth measurement application

- Fixed issue on analyzers with license for N9081C (N9081EM0E is OK) that did not allow Packet Type to be set to anything other than Auto Detect (Basic, LE, and EDR not available) (XSA-27813)

N9085EM0E 5G-NR measurement application

- Fixed issue in ACP measurement that could cause the Meas Center frequency to be set incorrectly (XSA-24923)

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A (Non-Touch Signal Analyzer models)
- N9041B (Multi-touch Signal Analyzer model)

A.32.31 Version Information

Released Date:	October 2022
S/W Version Date	2022.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.32.31_Win10.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release does not support the N9067C and N9067EM0E Pulse measurement application

New Features

Same as A.32.01

Enhancements

Same as A.32.12

Issues Resolved

Same as A.32.12

Keysight X-Series Analyzers

- N9020B, N9021B, N9030B, N9032B, N9040B, N9041B, N9042B (Multi-touch Signal Analyzer models)

A.32.12 Version Information

Released Date:	June 2022
S/W Version Date	2022.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.32.12_Win10.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release does not support the N9067C and N9067EM0E Pulse measurement application

New Features

Same as A.32.01

Enhancements

N9085EM0E 5G NR Measurement Application

- Modulation Analysis measurement
  - Added support for DL FR1 NR-TM2b & 3.1b (1024 QAM) presets (under Meas Preset: RB Alloc preset menu)
  - Added PN23 pattern mode for DL NR-TM PDSCH reference IQ generation
  - Added UL EVM calculation to support TS38.521 Transition Capability definition

Issues Resolved

General X-Series

- Fixed issue that caused mode switching to be slower than normal (XSA-24102)

Power Suite Measurements

- Fixed issue in ACP measurement that resulted in data in Metrics Table to continue to be updated when switching View / Blank from Active to View in the Trace Control menu (XSA-22573)

N9056EM0E Channel Quality / Group Delay measurement application

- Fixed issue that prevented measurement data from being saved (XSA-25829)

N9085EM0E 5G-NR measurement application

- Fixed issue in the ACP measurement that resulted in the Meas Center Freq setting to be incorrectly set in some cases (XSA-24923)

Keysight X-Series Analyzers

- N9021B (Multi-touch Signal Analyzer model)

A.32.04 Version Information

Released Date:	April 2022
S/W Version Date	2022.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.32.04.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release does not support the N9067C and N9067EM0E Pulse measurement application

New Features

Adds support for following options on N9021B MXA Signal Analyzer:

N9021B-508 Frequency Range, 10 Hz to 8.4 GHz
N9021B-513 Frequency Range, 10 Hz to 13.6 GHz
N9021B-526 Frequency Range, 10 Hz to 26.5 GHz
N9021B-P08 Preamplifier, 8.4 GHz
N9021B-P13 Preamplifier, 13.6 GHz
N9021B-P26 Preamplifier, 26.5 GHz
N9021B-C35 Connector, RF Input, 3.5mm

Enhancements

Same as A.32.01

Issues Resolved

Same as A.32.03

Keysight X-Series Analyzers

- N9042B (Multi-touch Signal Analyzer model)

A.32.03 Version Information

Released Date:	March 2022
S/W Version Date	2022.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.32.03.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release does not support the N9067C and N9067EM0E Pulse measurement application

New Features

Same as A.32.01

Enhancements

Same as A.32.01

Issues Resolved

N6141EM0E EMI measurement application

- Fixed issue that caused absolute amplitude measurement failures when switching from external mixing input to RF Input on N9048B (XSA-25707)

Keysight X-Series Analyzers

- N9000B, N9010B, N9020B, N9021B, N9030B, N9032B, N9040B, N9041B, N9042B (Multi-touch Signal Analyzer model)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer model)

A.32.02 Version Information

Released Date:	March 2022
S/W Version Date	2022.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.32.02.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release does not support the N9067C and N9067EM0E Pulse measurement application

New Features

Same as A.32.01

Enhancements

Same as A.32.01

Issues Resolved

General X-Series

- Updated the copyright date on the XSA splash screen (XSA-25509)
- Fixed issue on N9041B that caused the XSA application to crash when setting the measurement to Swept SA, RF Input Port to RFIN2, and Sweep Type = FFT (XSA-25408)
- Fixed issue on N9042B that resulted in lower power readings in Swept SA measurement when RBW is set to 10 MHz and span is set to zero span (XSA-25551)

Power Suite Measurements

- Fixed issue that caused assertion failure on N9041B when sending the command RADio:STANdard IS95a (XSA-25450)
- Fixed issue in Power Statistics (CCDF) measurement that caused query response of Marker Y-axis value to return NaN (9.91E+32) when in single measurement and switching out of CCDF and then back into CCDF measurement (XSA-24994)

Keysight X-Series Analyzers

- N9000B, N9010B, N9020B, N9021B (Multi-touch Signal Analyzer model)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer model)

A.32.01 Version Information

Released Date:	March 2022
S/W Version Date	2022.0301
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.32.01.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release does not support the N9067C and N9067EM0E Pulse measurement application

New Features

N9056EM0E Group Delay measurement application (new application)

Support of new E-model applications (e.g. ExxxxEMxE) (new applications)

N9077EMxE WLAN measurement application (updates)

- IEEE 802.11be updates
  - Support non-HT duplicated signal as auto detection
  - Support trigger-based signal RU allocation auto detection
  - Add unused tone error result in WLAN EVM measurement
- IEEE 802.11a/b/g and 802.11n/ac/ax
  - Support non-HT duplicated signal as auto detection (802.11ax)
  - Support data decoding and CRC (802.11a/n/ac/af)
- Common to 802.11

  - Optimize EVM with new “iteration” method
  - Display speed improvement for IQ Polar diagram
  - Support Burst Info view with per-symbol power (802.11a)

N9085EM0E 5G-NR measurement application (updates)

- Modulation Analysis measurement
  - Added support for TS38.214 Table 5.1.3.1-4 with 1024QAM MCS (Rel-17)
  - Add support for ORAN IQ file (*.orb) save/recall as recording
  - Provide more results: IBE, flatness, IQ offset TAE update for MIMO and TAV case
- DL Channels adds Meas Standard preset with “Fulfilled 1024 QAM” support for DL (R17)
- UL Channels
  - MIMO/TxDiv EVM definition update
  - In-Band Emissions (IBE) to support marker on IBE trace
- Non-demod Power / Spectrum measurements
  - Tx On/Off Power supports multiple bursts to cover an entire frame (10ms)
  - SEM FR2 limit requirement support: Min(Max(ABS,REL),ABS2)
  - ACP/SEM for FR2 symmetric CA test cases (due to v.2021-03 spec)
  - ACP measurements with up to 12 offsets
  - Enhance recording + state save/recall to support the case for multiple acquisition in one measurement cycle
  -

N9069EM0E Noise Figure measurement application

- Added support on N9021B MXA signal analyzer

Enhancements

N6141EM0E EMI measurement application

- Allowed user to select User View as the default at boot-up (XSA-973)
- Improved knob response in the Monitor Spectrum measurement (XSA-20820)

N9054EM0E Vector Modulation Analyzer (VMA) measurement application

- Added support for Clock Error measurements when demodulating BPSK signals in Digital Demod measurement (XSA-22351)

N9061 Remote Language Compatibility Mode

- Added ability for *IDN? customization to apply to the ID? command query response (XSA-24218)

N9077 WLAN measurement application

- Improved Optimize EVM feature to work better on an analyzer that does not have a preamp option (XSA-23994)

N9085EM0E 5G-NR measurement application

- Added support for recalling *.orb (ORAN studio IQ data) files for playback (XSA-21792)
- Added support for selecting Slot as an analysis boundary (XSA-21557)
- Added support for Marker Trace feature for IBE limit lines (XSA-19720)
- Added Large IQ data capture support to Tx On/Off Power measurement (requires minimum Software Support Expiration date of 2022.0301)

Issues Resolved

General X-Series

- Fixed issue that caused analyzer to intermittently ignore command to set the Res BW to 51 kHz (XSA-23733)
- Fixed issue that caused Enhanced Display Package (EDP) functionality to not appear in N9042B when a license for N90E1EDP-1FP was installed (XSA-23564)
- Fixed issue that caused the attenuator in the V3050 Frequency Extender to appear to be set to 25 dB when attenuator can only be set in 2 dB steps between 0 and 26 dB (XSA-23536)
- Fixed issue that caused the Video BW annotation to disappear on a multi-touch analyzer in the Swept SA measurement when the span is set to 0 Hz (zero span) (XSA-21696)
- Fixed issue that caused 10 second delay from sweep start to Analog Out signal being active when using long sweep times (XSA-23172)
- Fixed issue that caused glitches to appear on Screen Video output (Analog Out) after an alignment completed (XSA-21698)
- Fixed issue that caused RCal SCPI command :SYST:CAL:ROW4:DUPL to duplicate row 3 instead of row 4 (XSA-23586)
- Disabled the Dock / Undock windows feature (XSA-21612)
- Fixed issue in Hardware-Accelerated Fast Power measurement that caused measurement to return invalid or stale trace data after a preceding IQ Time (SCPI: FCAP) acquisition if INIT:CONT was set to OFF (XSA-21339)

Real Time Signal Analysis (RTSA) Mode

- Fixed issue that caused a “Hardware Missing” error to appear when switching into RTSA mode on analyzers with Option B1Y (XSA-23020)
- Fixed issue causing multi-screen behavior to be unpredictable when one screen has RTSA active and another screen has SweptSA active with Wide Bandwidths (Option RBE) is enabled (XSA-21564)
- Fixed issue that caused a 10 second delay between the trace data in the Spectrum trace and the trace data in the PvT trace (XSA-20016)

IQ Analyzer (Basic) Mode

- Fixed issue that caused data saved in *.MAT format to be unreadable in MATLAB if the data contained an odd number of IQ pairs (XSA-23473)
- Fixed issue in IQ Waveform measurement that caused a “Execution error, See details to Windows Event Log Under SA” message to appear after running a simple script 31 times (XSA-23676)

N6141 EMI measurement application

- Fixed issue that caused Screen Config + State files to not be recalled properly in RTSC measurement (XSA-22349)
- Fixed issue that caused RTSC limits to not update correctly when running continuously (XSA-24576)
- Fixed issue that caused the displayed start and stop frequencies to not be displayed properly after changing the Span or using Marker Zoom (XSA-22801)
- Fixed issue that caused the User view to be reset back to Normal view after performing a Scan (XSA-22348)

N9054EM0E Vector Modulation Analyzer (VMA) measurement application

- Fixed issue that prevented RCal from working properly (XSA-22181)

N9055EM0E Power Amplifier measurement application

- Fixed issue that caused continuous errors reported by the connected signal generator to fill up the XSA error queue, ultimately causing the XSA application to lock up (XSA-22038)

N9068 Phase Noise measurement application

- Fixed issue that caused Log Plot measurement to limit the maximum Rejection Offset to 500 MHz on analyzers that had analysis bandwidth of 2 GHz (XSA-18060)
- Fixed issue in Log Plog measurement that caused the attenuator in the V3050A Frequency Extender to not be set properly (XSA-21891)

N9069 Noise Figure measurement application

- Fixed issue that caused errors when reading some *.ENR files (XSA-23842)

N9077 WLAN measurement application

- Corrected the signal length check for 802.11ax HE-MU PPDU SIG-B compression mode (XSA-24769)
- Fixed issue in Modulation Analysis measurement that resulted in the Trigger Holdoff feature to not operate properly when Holdoff Type is set to Above or Below (XSA-24198)

N9080 LTE/ LTE-A FDD measurement application

- Fixed issue in Modulation Analysis measurement that caused Execution Error “see Windows exception log” message to appear when switching modes and using IQ Recording (XSA-23945)
- Fixed issue in Channel Power measurement that caused Channel Span to be clipped to the previous setting for CHP IntegBW, even though the state saved has a CHP IntegBW that is narrower than the Channel Span (XSA-23249)

N9082 LTE/ LTE-A TDD measurement application

- Fixed issue in Modulation Analysis measurement that caused Execution Error “see Windows exception log” message to appear when switching modes and using IQ Recording (XSA-23945)
- Fixed issue in Channel Power measurement that caused Channel Span to be clipped to the previous setting for CHP IntegBW, even though the state saved has a CHP IntegBW that is narrower than the Channel Span (XSA-23249)

N9085EM0E 5G-NR measurement application

- Fixed issue that caused ACP measurements to read 10 dB lower when LNA was on in N9032B and N9042B (XSA-20448)
- Fixed issue in Channel Power measurement that caused Channel Span to be clipped to the previous setting for CHP IntegBW, even though the state saved has a CHP IntegBW that is narrower than the Channel Span (XSA-23249)
- Fixed issue in ACP measurement to allow Sub-Block Center to Offset Center (SCtoC) to the Outer Offset Freq Define (XSA-23136)
- Fixed issue in Modulation Analysis measurement that caused the 3GPP Conformance Test option to always be set to OFF when an EVM state file was loaded (XSA-22409)
- Fixed issue in Transmit On/Off Power (PvT) measurement that caused measurement to crash (XSA-24019)

Keysight X-Series Analyzers

- N9041B (Multi-touch Signal Analyzer model)

A.31.08 Version Information

Released Date:	December 2021
S/W Version Date	2021.1101
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.31.08.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release does not support the N9067C and N9067EM0E Pulse measurement application

New Features

Same as A.31.05

Enhancements

Same as A.31.05

Issues Resolved

- Fixed issue that caused DANL failures with RBW of 1 Hz when the RF Input 2 is selected (XSA-23265)
- Fixed issue that caused noise floor with Noise Floor Extension (NFE) enabled to be too high when RF Input 2 is selected (XSA-23266)

Keysight X-Series Analyzers

- N9010A, N9020A, N9030A (Non-Touch Signal Analyzer model)
- N9010B, N9020B, N9021B, N9030B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.31.05 Version Information

Released Date:	November 2021
S/W Version Date	2021.1101
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.31.05.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release does not support the N9067C and N9067EM0E Pulse measurement application

New Features

General X-Series

- New essential software license, N9060ES1E, enables SA and IQ Analyzer (Basic) modes, but does not enable Power Suite measurements (i.e. Adjacent Channel Power, Channel Power, etc). N90EMPSMB is required for Power Suite measurements if N9060EM1E is not present

N9055EM0E Power Amplifier Measurement Application (Updates)

- Add ACP / EVM iteration results per DPD iteration
- Add Envelope Tracking (ET) with 2-channel M9384B VXG

N9077EM2E WLAN 802.11be Measurement Application (Updates)

- Added support for 802.11be standard draft 1.0 June 2021
- Added following features:
  - EHT PPDU DL OFDMA with MRU and MCS 14/15 support
  - EHT PPDU DL/UL MU-MIMO support

  - EHT TB PPDU support
  - PSDU CRC and data decoding support

N9085EM0E 5G NR Measurement Application (Updates)

- Supports the following:
  - Customized modulation type by recalling customer IQ constellation state (for example 8PSK or 16-APSK)
  - Time scale factor (N x Sample Ratio) adjustment for 3GPP Rel-17 early research
  - PWSG desktop setting file *.pwsg recall
- Added features:
  - IQ imbalance per sub-carrier trace
  - FR1 TDD NR-TM reference standard based on TS38.141 or TS38.141 BC3 CS1/17

Enhancements

N9032B PXA Signal Analyzer

- Added support for Opt CRW on analyzers with Opt R15 and R20 (XSA-20579)

N9077EM2E WLAN Measurement Application

- Added support for Non-HT demodulation of 802.11be 320 MHz signals when Radio Standard Detection is set to Auto (XSA-20677)

N9080EM0D/0E LTE/LTE-A FDD Measurement Application

- Added support for Complex Corrections (*.s2p files) (XSA-19033)

N9082EM0D/0E LTE/LTE-A TDD Measurement Application

- Added support for Complex Corrections (*.s2p files) (XSA-19033)

N9084EM0E Short Range Comms and IoT Measurement Application

- Added support for Corrections feature in Input/Output menu (XSA-17599)

N9085EM0E 5G NR Measurement Application

- Added support for MSR test model for CS16/17 per TS 37.141 (XSA-14285)
- Added Custom IQ feature (XSA-18522)
- Added support for IQ Imbalance per subcarrier trace (XSA-14968)
- Added support for CSI-RS MIMO (XSA-18114)
- Added new parameter, Antenna Detection Threshold, for PDSCH/PUSCH on N9042B UXA that supports live MIMO measurements (XSA-16847)

- Added ability to display Eq Ch Freq Resp traces that were detected by Antenna Detection Threshold (XSA-16848)

Issues Resolved

General X-Series

- Fixed issue that caused misleading “Command Protected” error message to appear when floating license was not available (XSA-21853)
- Fixed issue causing exception errors to occur when performing a User Preset (XSA-21247)
- Fixed issue causing Constraint Exception to occur after performing Auto Tune and then pressing Undo on multi-touch analyzer (XSA-18505)
- Fixed issue on analyzers with Opt EDC to set oscilloscope V/div setting to yield more optimum signal-to-noise ratio (XSA-21269)
- Fixed issue that caused Gating feature to not work in some instances when Gate Method is LO and Gate View is Off (XSA-21409)
- Fixed issue causing “Error communicating with RCal module” in cases where the RCal module does not have Opt CPX (XSA-21326)
- Fixed issue that caused amplitude errors near 26.8 GHz on millimeter wave EXA and MXA analyzers when Sweep Time Rules = Normal (XSA-18739)
- Fixed issue that caused the noise floor to not be properly displayed when Noise Floor Extension (NFE) is used in conjunction with RCal (XSA-17573)
- Fixed issue that caused analyzer to stop sweeping in some External Mixing setups after a few hours (XSA-18912)
- Fixed issue that caused crash when analyzer is performing an alignment (XSA-19239)
- Fixed issue that caused XSA application to crash due to OutOfMemory condition caused by underestimation of memory demand (XSA-16290)
- Fixed issue that caused DLL loading errors (XSA-21239)
- Fixed issue that issue that caused Video Trigger level to be clipped to +30 dBm even when there was a large negative value for External Gain entered (XSA-21804)

Power Suite Measurements

- Fixed issue in Channel Power measurement that prevented the ability to acquire data when the measurement frequency range exceeds the hardware limits (XSA-16873)
- Fixed issue that caused Adjust Range for Min Clipping to unexpectedly reset the Average Count after the Terminal Count is increased by Continue Averaging (XSA-20145)

- Modified error / warning messages to provide consistent messages when frequency is out of range. Applies to all measurement applications. (XSA-18033)
- Fixed issue in ACP measurement that caused crashes due to Noise Correction (XSA-19184)
- Fixed issue in Spurious Emissions measurement that caused spur to appear with no signal applied to analyzer input (XSA-16940)
- Fixed issue in CCDF measurement that caused the Gaussian trace to disappear when switching to other measurement such as Channel Power or ACP and then returning to CCDF. This is GUI-only issue; remote operation is OK (XSA-12133)

Monitor Spectrum Measurement (multiple modes)

- Fixed issue that caused Next Peak behavior to be inconsistent with Swept SA behavior when Marker Function = Band Power (XSA-18404)

IQ Analyzer (Basic) Measurement Application

- Fixed issue in IQ Waveform measurement that caused trace updates to stop when maximum number of acquisition points is reached on analyzers with Opt R20 (XSA-18180)

89600 VSA Application

- Fixed issue that caused Segment Capture to result in a crash on PXA and UXA analyzers with Opt B5X when using VSA 2022 (XSA-19815)

N6141EM0E EMI Measurement Application

- Fixed issue in Amplitude Probability Distribution (APD) measurement that caused the Data Invalid marker to be displayed after toggling Auto-range. Applies to analyzers with Opt DP2. (XSA-20344)
- Fixed issue in Real Time Scan measurement that caused the Peak Search All Traces feature to not work correctly (XSA-20407)
- Fixed issue in Real Time Scan measurement that caused noise floor to be incorrect with Preamp Low setting and switching between Next Segment (XSA-20232)
- Fixed issue that caused crash under certain settings (XSA-20126)

N9054EM0E Flexible Digital Demod Application (VMA)

- Fixed issue causing BER measurements to not work properly is ASK format; Custom IQ format is OK (XSA-18931)

N9061EM0E Remote Language Compatibility Application

- Allowed selection of either Auto Align Partial or Auto Align Normal when ADJIF ON command is sent (XSA-17257)

N9071EM0E GSM/EDGE Measurement Application

- Fixed ORFS measurement that caused GUI to improperly show measurement results for offsets that are out of band; remote behavior is OK (XSA-19467)

N9077EM0D/0E WLAN Measurement Application

- Fixed issue in Modulation Analysis (EVM) measurement that resulted in a crash when an auto-saved view was being either saved or recalled (XSA-20938)
- Fixed issue in CCDF measurement that caused the Gaussian trace to disappear when switching to other measurement such as Channel Power or ACP and then returning to CCDF. This is GUI-only issue; remote operation is OK (XSA-12133)

N9080EM0E LTE/LTE-A FDD Measurement Application

- Fixed issue in ACP measurement that caused Upper ACP Rel results to not be reported when Power Ref is set to Max (Min) Pwr Carrier in SubBlock, with Carrier Allocation = Contiguous (XSA-18176)

N9082EM00E LTE/LTE-A TDD Measurement Application

- Fixed issue in ACP measurement that caused Upper ACP Rel results to not be reported when Power Ref is set to Max (Min) Pwr Carrier in Sub-Block, with Carrier Allocation = Contiguous (XSA-18176)

N9083EM0E Multi-Standard Radio (MSR) Measurement Application

- Fixed issue causing Err 255, Out of memory; insufficient resources to load mode when modes such as MSR and 5G-NR are selected (XSA-20332)
- Fixed issue in ACP measurement that caused Upper ACP Rel results to not be reported when Power Ref is set to Max (Min) Pwr Carrier in Sub-Block, with Carrier Allocation = Contiguous (XSA-18176)

N9085EM0E 5G-NR Measurement Application

- Fixed issue in Modulation Analysis measurement that resulted in differences in measured EVM of TM3.1 64 QAM signals when PTRS is Enabled (XSA-21472)
- Fixed issue that caused Noise Floor Characterization to fail when launched from the Modulation Analysis measurement (XSA-20326)
- Fixed issue in Modulation Analysis measurement that resulted in MIMO TAE measurements of 2x2 MIMO 4x100 MHz signals to not be stable (XSA-20170)
- Fixed issue causing Err 255, Out of memory; insufficient resources to load mode when modes such as MSR and 5G-NR are selected (XSA-20332)

- Fixed issue in ACP measurement that caused Upper ACP Rel results to not be reported when Power Ref is set to Max (Min) Pwr Carrier in SubBlock, with Carrier Allocation = Contiguous (XSA-18176)
- Fixed issue that caused Adjust Range for Min Clipping to unexpectedly reset the Average Count after the Terminal Count is increased by Continue Averaging (XSA-20145)
- Fixed issue in ACP measurement that caused the Reference Carrier to not be drawn in the appropriate color (XSA-17363)

Keysight X-Series Analyzers

- N9042B (Multi-touch Signal Analyzer model)

A.30.13 Version Information

Released Date:	December 2021
S/W Version Date	2021.0701
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.30.13.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release does not support the N9067C and N9067EM0E Pulse measurement application

New Features

Same as A.30.05

Enhancements

Same as A.30.05

Issues Resolved

- Fixed issue that caused the AifNGBVariableAttenuatorAlignmentAlgorithm to fail during power-up alignments (XSA-23114)

Keysight X-Series Analyzers

- N9040B (Multi-touch Signal Analyzer model)

A.30.12 Version Information

Released Date:	November 2021
S/W Version Date	2021.0701
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.30.12.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release does not support the N9067C and N9067EM0E Pulse measurement application

New Features

Same as A.30.05

Enhancements

Same as A.30.05

Issues Resolved

- Fixed issue which caused DANL failures at the lowest frequency in the Full Bypass (FBP) signal path when Sweep Type is FFT (XSA-22654)

Keysight X-Series Analyzers

- N9030A (Non-Touch Signal Analyzer model)
- N9000B, N9030B (Multi-touch Signal Analyzer models)

A.30.11 Version Information

Released Date:	November 2021
S/W Version Date	2021.0701
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.30.11.exe

NOTE: This release does not support the Windows 7 operating system.

NOTE: This release does not support the N9067C and N9067EM0E Pulse measurement application

New Features

Same as A.30.05

Enhancements

Same as A.30.05

Issues Resolved

Same as A.30.05

Keysight X-Series Analyzers

- N9010A, N9020A, N9030A (Non-Touch Signal Analyzer model)
- N9000B, N9010B, N9020B, N9021B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure Analyzer models)

A.30.05 Version Information

Released Date:	July 2021
S/W Version Date	2021.0701
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.30.05.exe

NOTE: This release does not support the Windows 7 operating system.

New Features

General X-Series / SA Mode

- Added support for PC8 and PC9 CPUs
- Introduced N90EMPSMB Power Suite measurement application, which adds enhancements to analyzers with N9060C or N9060EM1E; N90EMPSMB will be required for all Power Suite measurements for analyzers with N9060ES1E.

N9054EM0E VMA Digital Modulation

- Add presets of 32/64-FSK and 802.11ay

N9055EM0E Power Amplifier measurement application

- Added support for user-defined waveform types (text/binary/CSV)
- Added support for marker function in graphical traces (ACP, Raw Main Time, EVM vs Power)

N9067EM0E Pulse Analysis

- Support wrapped phase trace and cumulative pulse table

N9077EM1E/2E WLAN 802.11 measurement application

- Auto-detection of WLAN formats including 802.11b (non-OFDM) and new 802.11be
- Support 802.11be spectral flatness measurement
- Support 802.11be User Information in EHT-SIG & Common Field
- Speed improvement with SEM measurement

N9085EM0E 5G-NR measurement application

- Update conformance test presets based upon 3GPP Rel-16 v.2020-12
- "Optimize EVM" with N9042B UXA support
- "Optimize EVM" with manual configuration of hardware setting per component carrier
- 5G-NR setting file recall from PathWave Signal Generation Desktop software
- PUSCH auto-detection with DFT-S-OFDM in uplink
- New hardware support of N9032B PXA

N9091EM0E Measuring Receiver application

- Added manual settings for low-pass and high-pass filters

Enhancements

General X-Series / SA Mode

- Added support for 10 MHz RBW in SA model across all measurements (XSA-15801)

N9080EM0D/N9080EM0E LTE / LTE-A FDD Measurement application

- Added support for Complex Corrections (XSA-19033)

N9082EM0D/N9082EM0E LTE / LTE-A TDD Measurement application

- Added support for Complex Corrections (XSA-19033)

N9085EM0E 5G-NR Measurement application

- Added support for setting / reading individual optimizations parameters in sequential acquisition mode for each CC (XSA-13223)

Issues Resolved

General X-Series

- Fixed issue that prevented RCal module from being selected as a calibrator source (XSA-18247)
- Fixed issue that caused a spur to appear in the Spurious Emissions measurement when no signal was applied to the RF Input (XSA-16940)
- Fixed in Adjacent Channel Power measurement that caused Noise Correction to only be applied to Trace 1 (XSA-17513)
- Fixed issue that caused analyzer to lock up when Sig ID was on in External Mixing with very wide spans (i.e. 50 GHz) (XSA-17153)
- Fixed issue that caused Gating to not work properly for faster sweep times (XSA-17255)
- Fixed issue in external mixing that caused amplitude under-response and LO unlocks when using an M1971V Harmonic Mixer in the Dual Conversion path at 60 GHz (XSA-17636)
- Fixed issue that caused RCal calibration to fail if stop frequency is >= 3.3 GHz on MXA (UXA and PXA are OK) (XSA-19051)
- Fixed issue with the internal web pages where the links to the software download pages were directing the user to the pages for a different model (XSA-13585)
- Fixed issue that caused slow-downs to occur under specific conditions (XSA-16431)
- Fixed issue in ACP measurement that caused sweeps to appear incomplete, although the measurement data is still valid (XSA-16046)

I/Q Analyzer (Basic) Mode

- Fixed issue that caused Fast Capture transfer times to be slower in A.28.05 compared to A.27.02 (XSA-16326)

N6141EM0D / N6141EM0E EMI Measurement Application

- Fixed issue that caused quasi-peak detector reading to be lower than EMI detector with NFE On in TDS scan on EXA and MXA analyzers (XSA-15050)
- Fixed issue that caused RBW in the Monitor Spectrum measurement to be changed when EMI mode is exited and then re-entered (XSA-16466)
- Fixed issue that caused the displayed Video BW (VBW) value to not be updated when the scan crosses to the next range with a different RBW/ VBW value (XSA-16658)
- Fixed issue that caused the start frequency value in the Frequency Scan measurement to not be properly updated when a new value is set via SCPI (XSA-16857)

N9077EM0D/ N9077EM0E WLAN Measurement Application

- Changed default filter type for Waveform measurement to Flattop (XSA-19070)

N9080EM0D LTE / LTE-A FDD Measurement Application

- Fixed incorrect text on mode softkey when licenses for N9080EM0D and N9080EM3D were installed (XSA-16358)

N9080EM3E NB-IoT and eMTC FDD Measurement Application

- Fixed issue that caused the CALC:EVM:DATA table queries to return unexpected results for the Error Summary table when using NB-IoT. Regular LTE measurements are OK. (XSA-18178)

N9081EM0D / N9081EM0E Bluetooth Measurement Application

- Fixed issue that caused inconsistent demodulation of BT LE signal when Freq Offset is high (XSA-15422)

N9085EM0E 5G-NR Measurement Application

- Added annotation for External Gain value in Modulation Analysis measurement (XSA-15422)

Keysight X-Series Analyzers

- N9020A, N9030A (Non-Touch Signal Analyzer model)
- N9020B, N9030B, N9040B (Multi-touch Signal Analyzer models)

A.29.05 Version Information

Released Date:	June 2021
S/W Version Date	2021.0201
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.29.05.exe

NOTE: This release does not support the Windows 7 operating system.

New Features

Same as A.29.04

Enhancements

Same as A.29.04

Issues Resolved

Same as A.29.04

Keysight X-Series Analyzers

- N9010A (Non-Touch Signal Analyzer model)
- N9000B, N9010B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure analyzers)

A.29.04 Version Information

Released Date:	June 2021
S/W Version Date	2021.0201
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.29.04.exe

NOTE: This release does not support the Windows 7 operating system.

New Features

N9077EM2E WLAN 802.11be Measurement Application

- New application

N9069EM0E Noise Figure Measurement Application

- Added support by N9021B MXA Signal Analyzer

N9091EM0E Measuring Receiver Measurement Application

- Added THD (Total Harmonic Distortion) for modulation

Enhancements

General X-Series / SA Mode

- Gate Length is now grayed out when Gate Type is set to Variable (XSA-11109)

N9054EM0E Vector Modulation Analyzer Application

- Added support in Digital Demodulation measurement for Full DVB-S2X Preset (XSA-10048)
- Added support in Digital Demodulation measurement to recall *.scp file from N7608C (XSA-10047)

N9082EM0E Bluetooth Measurement Application

- Added support for Delta-f1 / f2 results for Advertiser Packet in Tx Analysis measurement (XSA-12103)

N9085EM0E 5G-NR Measurement Application

- Added support for SSB measurement with parameters “half frame index = 1” (XSA-8391)j
- Added ability to display and refresh ACP Gate View window in a User View along with the Gate and Metrics windows (XSA-14740)

Issues Resolved

General X-Series

- Fixed issue that caused floating licenses to not always be checked-in and checked-out as expected (XSA-16479)
- Fixed issue causing Sequencer to ignore the measurement standards setting when switching between different measurements (for example, from ACP to Channel Power) (XSA-10513)
- Fixed issue on CXA that caused crash if a frequency offset value was entered that resulted in the new stop frequency being greater than the maximum frequency of the analyzer (XSA-13270)
- Fixed issue that caused the Local button to obscure some of the display annotation when display is set to Full Screen on multi-touch analyzers (XSA-15436)

Adjacent Channel Power (ACP) Measurement (all modes)

- Fixed issue that caused ACP measurements to be incorrect when Noise Correction is On and Ref Level Offset is non-zero (XSA-16166)

CCDF Measurement

- Fixed issue that caused the Meas Cycles entry to sometimes be incorrect when Meas Standard is preset to a new bandwidth (XSA-16359)
- Fixed issue that caused signals with bandwidth of 30 MHz or greater to not display the proper CCDF curve, even after applying Crest Factor Reduction (CFR) (XSA-15572, XSA-16565)

Spurious Response Measurement

- Fixed issue that caused Spur Table results to be based upon only the first acquisition when averaging is on (XSA-16144)
- Fixed issue that prevented the Detector 2 trace from being disabled after it was enabled (XSA-14328)

TOI Measurement

- Fixed issue that caused the touch screen and keyboard response to be slow in TOI measurement when set to low center frequencies (XSA-12919)

I/Q Analyzer (Basic) Mode

- Fixed issue that caused VSA to not be able to read BBIQ pairs under specific circumstances (XSA-16629)

N9061EM0E Remote Language compatibility

- Fixed issue that caused FULBAND command to not work the same way as it did in the 8560-Series portable SAs. (XSA14961)

N9067EM0E Pulse Measurement Application

- Added ability to save and recall Correction files (XSA-11600)

N9068EM0D / N9068EM0E Phase Noise Measurement Application

- Fixed issue that caused a NullReferenceException to occur when switching from SA mode to Phase Noise mode (XSA-16079)

N9071EM0E GSM/EDGE Measurement Application

- Fixed issue in PvT measurement that resulted in the Max Hold and Min Hold traces to not be cleared by a Restart (XSA-12974)

N9077EM0D/ N9077EM0E WLAN Measurement Application

- Fixed issue that caused the Optimize EVM to yield different results on PXA (XSA-14247)
- Added help for Auto Leveling feature in Modulation Analysis measurement (XSA-109)

N9080EM0D LTE / LTE-A FDD Measurement Application

- Fixed issue in softkey GUI that caused trace and menu refresh rates to be very slow when doing EVM measurement (XSA-13102)

N9080EM0E LTE / LTE-A FDD Measurement Application

- Fixed issue that prevented Marker All Off from not working in the PvT measurement (XSA-10778)

N9081EM0E Bluetooth Measurement Application

- Fixed issue that caused demodulation of BT LE signal to be inconsistent when Freq Offset was high (XSA-15422)

N9082EM0D LTE / LTE-A TDD Measurement Application

- Fixed issue in softkey GUI that caused trace and menu refresh rates to be very slow when doing EVM measurement (XSA-13102)

N9082EM0E LTE / LTE-A TDD Measurement Application

- Fixed issue that prevented Marker All Off from not working in the PvT measurement (XSA-10778)

N9085EM0E 5G-NR Measurement Application

- Fixed issue in Spurious Response measurement that caused error in trace data with Corrections On and Video BW <= 3.3 kHz (XSA-14539)
- Fixed issue that caused Copy to Manual feature to crash with SSB Auto Detect enabled but without the signal including SSB (XSA-12469)

- Fixed issue that caused EVM measurement results to be degraded when USB preamp (for example, U7227C) is connected to the analyzer (XSA-10699)
- Fixed issue in PvT measurement that caused the Uplink Meas Interval preset value to be incorrect in some cases (XSA-13581)
- Fixed issue in Transmit On / Off Power measurement that caused Off Power to be 3.2 dB better when averaging 10 measurements compared to Off Power without averaging (XSA-15113)
- Fixed issue in ACP measurement that caused the default and preset Integration BW values to not be updated to the largest transmission BW (XSA-13297)
- Fixed issue in PvT measurement to add ability to recall Correction data (XSA-13106)
- Fixed issue that prevented Marker All Off from not working in the PvT measurement (XSA-10778)
- Fixed issue that caused carrier power measurement errors in when making gated measurements in the Channel Power and SEM measurements (XSA-13445)

N9091EM0E Measuring Receiver Measurement Application

- Fixed issue that caused a “Cannot start Connection Expert” exception to occur (XSA-14881)

Keysight X-Series Analyzers

- N9010A, N9020A, N9030A (Non-Touch Signal Analyzer model)
- N9000B, N9010B, N9020B, N9021B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure analyzers)

A.28.05 Version Information

Released Date:	December 2020
S/W Version Date	2020.1101
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.28.05.exe

NOTE: This release does not support the Windows 7 operating system.

New Features

General / SA Mode

- Added support for U9361M/F RCal modules
- Added Phase and Amplitude vs Time (PAvT) measurement

N9054EM0E Vector Modulation Analysis Measurement Application

- Added Phase and Amplitude vs Time (PAvT) measurement

N9085EM0E 5G-NR Measurement Application

- Added Phase and Amplitude vs Time (PAvT) measurement

N9021B MXA Signal Analyzer

- Added support for N9021B-EMC Basic EMC Functionality
- Added support for the following measurement applications:
  - N9061EM0E Remote Language Compatibility
  - N9062EM0E R&S SCPI Compatibility
  - N9063EM0E Analog Demod Measurement Application

- N9067EM0E Pulse Measurement Application
- N9071EM0E GSM/EDGE/Evo Measurement Application
- N9077EM1E WLAN 11ac/ax Measurement Application
- N9081EM0E Bluetooth Measurement Application
- N9083EM0E Multi Standard Radio Measurement Application
- N9084EM0E Short Range Communications and IoT Measurement Application
- N6141EM0E EMI Measurement Application

Enhancements

N9061EM0D / N9061EM0E Remote Language Compatibility

- Modified behavior when Sweep Time Rules are set to Legacy to not use the Fast Sweeps normally enabled by option FS1 (XSA-10651)

N9077EM0D/ N9077EM0E WLAN Measurement Application

- Added support for External Trigger 3 for WLAN EVM measurements (XSA-10546)

N9085EM0E 5G-NR Measurement Application

- Added support for CA TAE in the MIMO Info table (XSA-7099)
- Added ability to save measurement results in *.csv file for Meas IQ and Error Vectors (XSA-7713)
- Added ability to change External Gain setting when averaging is paused (XSA-8126)
- Added support for new Power Ref Left and Right subblocks for ACP and SEM measurements (XSA-8823)

Issues Resolved

General X-Series

- Modified Help information to note that Corrections data are included when saving a State or saving a Screen Config + State (XSA-11418)
- Fixed issue that resulted in the analyzer not detecting when a USB external mixer (i.e. M1970-Series or M1971-Series) is unplugged from USB (XSA-12444)
- Fixed issue when using USB external mixers that resulted in LO Alignment failures when instrument software version A.27.xx is installed (XSA-12474)
- Fixed issue that caused Help system to encounter an error when searching for IEEE-488.2 commands (for example, *TRG, *IDN, etc) (XSA-12902)

Swept SA Measurement

- Fixed an issue in Wide Bandwidth mode (Option RBE) that resulted in amplitude errors when External Gain setting was a non-zero value (XSA-11409)
- Fixed issue in N9030B and N9040B analyzers with Opt EP0 that resulted in trace data saved in CSV format reporting the incorrect Phase Noise Optimization setting for settings of Best Close, Balanced, and Best Wide (XSA-9225)

Adjacent Channel Power (ACP) Measurement (all modes)

- Fixed issue that causes Gate View to not display correctly with specific Sweep Point settings (XSA-8310)

Channel Power Measurement

- Fixed issue that caused Reference Level Offset value saved in a state file to not be properly recalled (XSA-10124)
- Fixed issue in all modes that causes Gate View to not display correctly with specific Sweep Point settings (XSA-8310)

Occupied Bandwidth Measurement

- Fixed issue that resulted in states saved with non-zero Frequency Offset values not being recalled correctly (XSA-13034)
- Fixed issue that caused Reference Level Offset value saved in a state file to not be properly recalled (XSA-10124)
- Fixed issue in all modes that causes Gate View to not display correctly with specific Sweep Point settings (XSA-8310)
- Fixed issue that resulted in Gated sweeps providing incorrect trace under certain conditions such as 601 sweep points and sweep time > 1 second (XSA-12031)

Spectrum Emission Mask (SEM) Measurement

- Fixed issue that resulted in amplitude errors when measuring CW signals at the inner offset with average detector (XSA-9475)

Burst Power Measurement

- Fixed issue that caused Max Hold and Min Hold traces to not be cleared when changing settings such as Center Frequency (XSA-12834)

I/Q Analyzer (Basic) Mode

- Fixed issue on UXA that caused a segmented capture with VSA to return 0 Acquisition Points (XSA-12625)
- Fixed issue on millimeter wave EXAs running A.27.02 that resulted in 4.8 GHz calibrator to not appear immediately after boot-up (XSA-10411)

Real Time Signal Analysis (RTSA) Mode

- Fixed issue that resulted in only Free Run trigger being functional in PvT Spectrogram and Powergram Spectrogram measurements on analyzers with either Opt B2X or Opt B5X (XSA-12833)
- Fixed issue that resulted in Trigger Offset to not work when using Periodic Trigger and no Sync Source (XSA-8440)

N6141EM0D / N6141EM0E EMI Measurement Application

- Fixed issue in Frequency Scan and Strip Chart measurements that resulted in the Single/Continuous hardkey not properly toggling between Single and Continuous on multi-touch analyzers (XSA-242)
- Fixed issue that caused reading Meter values on an N9000B to intermittently take much longer than expected (> 11 seconds compared to between 1 and 3 seconds) (XSA-5039)
- Fixed issue that caused non-zero frequency offset values to modify the frequencies in the Signal List (XSA-9776)
- Fixed issue that caused the sweep to pause in the middle of a Time Domain Scan (TDS) for frequency scan range 4 when Noise Floor Extension (NFE) was set to On (XSA-8601)

N9068EM0D / N9068EM0E Phase Noise Measurement Application

- Fixed issue in Log Plot measurement that caused large false spur to appear when changing the number of sweep points to large values (for example, >4000) (XSA-9757)

N9071EM0D / N9071EM0E GSM/ EDGE Measurement Application

- Fixed issue in Transmit Power measurement that caused Max Hold and Min Hold traces to not be cleared when changing settings such as Center Frequency (XSA-12834)

N9080EM0D/ N9080EM0E LTE-FDD Measurement Application

- Fixed issue that resulted in the Enter key not behaving as expected when setting marker value in a trace for LTE-FDD modulation Detected Allocations measurement (XSA-134)
- Fixed issue that resulted in crash for EVM measurements made when in Continuous measurement setting (XSA-5449)
- Fixed issue that allowed Number of Layers to be set > 1 when precoding type is set to Spatial Multiplexing (XSA-5983)
- Fixed issue in ACP measurement resulting in Power Ref = Max Power Carrier detecting the carrier with maximum integrated power when Measurement Type = PSD Ref (XSA-11365)

N9082EM0D / N90EM0E LTE-TDD Measurement Application

- Fixed issue that resulted in crash for EVM measurements made when in Continuous measurement setting (XSA-5449)
- Fixed issue that allowed Number of Layers to be set > 1 when precoding type is set to Spatial Multiplexing (XSA-5983)
- Fixed issue in ACP measurement resulting in Power Ref = Max Power Carrier detecting the carrier with maximum integrated power when Measurement Type = PSD Ref (XSA-11365)

N9083EM0D / N9083EM0E Multi-Standard Radio (MSR) Measurement Application

- Fixed issue in ACP measurement resulting in Power Ref = Max Power Carrier detecting the carrier with maximum integrated power when Measurement Type = PSD Ref (XSA-11365)

N9085EM0E 5G-NR Measurement Application

- Fixed issue that resulted in “CAL:EXP?” command not working properly in Modulation Analysis measurement (XSA-11442)
- Fixed issue in PvT measurement that resulted in the Measuring status bit not being set to 1 after continuing averaging (XSA-11578)
- Fixed issue in Power Stat CCDF measurement that resulted in Info BW not being set to default after Apply Preset (XSA-10480)
- Fixed issue in I/Q Waveform measurement that resulted in Digital IF and Filter Type settings not being set to default after Apply Preset (XSA-10480)
- Fixed issue in ACP measurement resulting in Power Ref = Max Power Carrier detecting the carrier with maximum integrated power when Measurement Type = PSD Ref (XSA-11365)
- Fixed issue in ACP measurement on analyzers with Opt H1G resulting in the number of points in the Gate View trace not being the same as the number of points in the Gate Sync trace (XSA-11463)
- Fixed issue that caused Apply Preset (to all CCs) to not enable “Measure Carrier” of the CCs which are all within “Number of Component Carriers” (XSA-11283)

- Fixed issue in ACP measurement where turning on Gate View to change view to carrier info and not allowing view to be set to Metrics via SCPI (XSA-11388)

N9091EM0E Measuring Receiver Measurement Application

- Fixed issue that resulted in the Go to Row feature not working when editing the Cal Factors table (XSA-10689)
- Fixed issue that resulted in measurement application crashing after connecting U5532C power sensor (XSA-11097)
- Fixed issue in Audio Frequency measurement that caused empty message box to be displayed when selecting a grayed-out 300 kHz Low Pass Filter (XSA-10493)
- Fixed issue in Tuned RF Level measurement that caused the Reference unit to be displayed with a question mark (?) (XSA-10681)
- Fixed issue that resulted in Cal Factor files not being loaded properly when the calibration date in the file was stored in the DD/MM/YYYY format; the default format of MM/DD/YYYY is OK. (XSA-9646)
- Fixed issue that caused XSA application to crash with “VISA Exception” when a USB power sensor with old, incompatible firmware installed (XSA-9595)

Keysight X-Series Analyzers

- N9030B (Multi-touch Signal Analyzer model)

A.27.07 Version Information

Released Date:	September 2020
S/W Version Date	2020.0701
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.27.07.exe

NOTE: This release does not support the Windows 7 operating system.

New Features

None

Enhancements

None

Issues Resolved

General

- Fixed issue that caused errors when restoring calibration file from Internal flash memory on PC6S or PC7S CPUs running A.27.02 (XSA-10697)

Keysight X-Series Analyzers

- N9020A, N9030A (Non-Touch Signal Analyzer model)
- N9020B, N9021B, N9030B, N9040B (Multi-touch Signal Analyzer models)

A.27.05 Version Information

Released Date:	August 2020
S/W Version Date	2020.0701
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.27.05.exe

NOTE: This release does not support the Windows 7 operating system.

New Features

None

Enhancements

N9077EM0D/ N9077EM0E WLAN Measurement Application

- Added ability for Optimize EVM feature to take advantage of Option FBP, Full Bypass Path, on PXA (XSA-9893)

N9085EM0E 5G-NR Measurement Application

- Added ability for Optimize EVM feature to take advantage of Option FBP, Full Bypass Path, on PXA (XSA-9893)

Issues Resolved

N9069EM0D/ N9069EM0E Noise Figure Measurement Application

- Fixed issue that caused unstable noise figure measurement values at frequencies > 3 GHz on CXA (XSA-3426)

N9080EM0D / N9080EM0E LTE-A FDD Measurement Application

- Fixed issue in Modulation Analysis measurement that caused some values of External Gain BTS to be ignored, resulting in false Input Overload messages (XSA-8135)

N9077EM0D / N9077EM0E WLAN Measurement Application

- Fixed issue that caused Execution Error to appear when activating Subcarrier I/Q Estimation when Radio Standard is 802.11ac or 802.11ax (XSA-9468)

89600 VSA

- Fixed issue that caused errors when trying to launch VSA on X-Series analyzers with A.27.02 instrument software version (CS 1535834)

Keysight X-Series Analyzers

- N9010A, N9020A, N9030A (Non-Touch Signal Analyzer model)
- N9000B, N9010B, N9020B, N9021B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure analyzers)

A.27.02 Version Information

Released Date:	July 2020
S/W Version Date	2020.0701
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.27.02.exe

NOTE: This release does not support the Windows 7 operating system.

New Features

General / SA Mode

- Added support for U9361M/F RCal modules
- Added Phase and Amplitude vs Time (PAvT) measurement

N9054EM0E Vector Modulation Analysis Measurement Application

- Added Phase and Amplitude vs Time (PAvT) measurement

N9085EM0E 5G-NR Measurement Application

- Added Phase and Amplitude vs Time (PAvT) measurement

N9021B MXA Signal Analyzer

- Added support for N9021B-EMC Basic EMC Functionality
- Added support for the following measurement applications:
  - N9061EM0E Remote Language Compatibility
  - N9062EM0E R&S SCPI Compatibility
  - N9063EM0E Analog Demod Measurement Application

- N9067EM0E Pulse Measurement Application
- N9071EM0E GSM/EDGE/Evo Measurement Application
- N9077EM1E WLAN 11ac/ax Measurement Application
- N9081EM0E Bluetooth Measurement Application
- N9083EM0E Multi Standard Radio Measurement Application
- N9084EM0E Short Range Communications and IoT Measurement Application
- N6141EM0E EMI Measurement Application

Enhancements

N9054EM0E Vector Modulation Analysis Measurement Application

- Added IQ Symbol Group Delay vs Time trace in Digital Demod measurement (XSA-3961)
- Added support for Input Port 2 on N9041B UXA (XSA-3963)
- Support Wi-SUN MR-OQPSK presets (XSA-3958)

N9063EM0D / N9063EM0E Analog Demod Measurement Application

- Added support for External Mixing on analyzers with Opt EXM (XSA-3660)

N9077EM0D/ N9077EM0E WLAN Measurement Application

- Added ability to perform one FFT using Wideband IF (Opt B85, B1A, B1X, B2X, B5X, and H1G) for SEM measurement (XSA-3653)

N9084EM0E Short Range Communications and IoT Measurement Application

- Added LoRa CSS decode for physical header (XSA-1303)
- Added LoRa CSS decode for payload and CRC (XSA-1305)
- Support Zigbee O-QPSK presets for 780M, 868M, and 915M (XSA-5604)

N9085EM0E 5G-NR Measurement Application

- Updated preset-to-standard for ACP, SEM, and PvT measurements (XSA-3615)
- Allow greater than 8 MHz Meas BW for Spurious Emissions measurement (XSA-3619)
- Added EVM metrics per slot for Modulation Analysis measurement (Slot Summary Table) (XSA-3787)

N9091EM0E Measuring Receiver Application

- Added support for new USB Sensor On-Board Storage (with new sensor firmware) (XSA-3536)

Issues Resolved

Swept SA Measurement

- Fixed issue that caused crashes when sequence of tuning analyzer and reading peak amplitude is repeated under remote control (XSA-5682)
- Fixed issue that caused incorrect results in FFT sweeps with FFT Width = 40 MHz (XSA-8766)
- Fixed issue that caused sweep times to be much slower in Swept SA measurement when switching from SA mode to Analog Demod mode and then back to SA mode. Only occurs on analyzers with Opt FS1 and/or FS2 and when an alignment has been performed while in Analog Demod mode (XSA-6725)
- Fixed issue that caused time domain signals measured with Video Trigger and negative trigger delay settings to exhibit intermittent time shift. Problem only occurs on analyzers with 25 MHz Digital IF assembly. (XSA-5642)
- Fixed issue that caused time domain signals measured with negative trigger delay to exhibit excessive jitter and trace dropouts. Problem only occurs on analyzers with 25 MHz Digital IF assembly. (XSA-5641)
- Fixed in with zero span measurements made with Average detector where trace appears much coarser than it should be (~31 sweep points versus 1001 sweep points) (XSA-5951)

Spurious Emissions Measurement (all modes)

- Fixed issue that caused Video Trigger selection to be missing in Spurious Emissions Measurement (SEM) (XSA-8364)

I/Q Analyzer (Basic) Mode

- Fixed issue that caused N9040Bs with older Opt H1G hardware to exhibit poor flatness when the Full Bypass Path (Opt FBP) is selected (XSA-7688)

N6141EM0D / N6141EM0E EMI Measurement Application

- Fixed issue in Real Time Scan measurement that caused Overload conditions to not be properly reported on screen (XSA-7196)
- Fixed default Dwell Time value in Real Time Scan measurement to be 50ms (was 20ms) when Bias QPD is defaulted to On. (XSA-7195)
- Fixed issue in Frequency Scan measurement that caused trace data set through SCPI commands to not be reflected on screen (XSA-8152)
- Fixed issue in Real Time Scan measurement that caused measurement update rate to be slower than the dwell time indicated when RBW is 1 Hz (XSA-5059)

- Fixed issue in Strip Chart measurement where Expand Meters was not working properly after changing view on multi-touch UI analyzers (XSA-6281)
- Fixed issue that caused the Description and Comment field for limit lines to not be recalled properly (XSA-370)
- Fixed issue that caused Search function to search on both active and non-active traces; it should only search active traces. (XSA-227)
- Added pre-loaded limit lines for testing the RTC DO-160 G revision of the standard (XSA-964)
- Fixed issue on traditional GUI analyzers where states were not being saved and recalled properly; the screen display did not match with menu settings (XSA-4008)

N9062EM0D / N9062EM0E SCPI Language Compatibility Mode

- Fixed issue causing marker amplitude query responses to not use the correct Y-Axis unit (XSA-5770)

N9069EM0D/ N9069EM0D Noise Figure Measurement Application

- Fixed issue that caused current User Calibration to be invalidated the first time a SNS Noise Source is connected, even though Auto Read SNS is set to Off and noise source preference is set to Normal (XSA-5733)
- Fixed issue causing unstable calibrated trace in noise figure measurement on N9000B CXA when frequency is > 3 GHz. (XSA-3426)

N9077EM0D / N9077EM0E WLAN Measurement Application

- Fixed issue causing XSA application to crash when changing modulation format of the input signal (XSA-5497)

N9080EM0E LTE-A FDD Measurement Application

- Fixed issue in ACP measurement that caused “Hardware Missing” error to occur when changing System BW to 20 MHz (100 RB) (XSA-8334)
- Fixed issue that caused slow state file recall times with Windows10 compared to Windows7 (XSA-5507)
- Fixed issue that caused EVM measurement to hang when repeatedly sending a sequence of SCPI commands. (XSA-6279)

N9080EM3E NB-IoT /eMTC Measurement Application

- Fixed issue causing “Hardware Missing” error to occur on some X-Series signal analyzers with Opt P03 but without Opt EA3 (XSA-6230)
- Fixed issue causing MPDCCH from being decoded properly when using multiple Tx antennas (XSA-6119)

N9082EM0D / N9082EM0E LTE-A TDD Measurement Application

- Fixed issue that caused EVM measurement to hang when repeatedly sending a sequence of SCPI commands. (XSA-6279)
- Fixed issue in ACP measurement that caused “Hardware Missing” error to occur when changing System BW to 20 MHz (100 RB) (XSA-8334)
- Fixed issue that caused slow state file recall times with Windows10 compared to Windows7 (XSA-5507)

N9083EM0D / N9083EM0D Multi-Standard Radio Measurement Application

- Fixed issue in Composite EVM (CEVM) measurement where only data for LTE FDD carrier is shown; W-CDMA carrier is not shown (XSA-7684)

N9084C Short Range Communications Measurement Application

- Fixed issue causing a crash when Measurement Standard is changed to Z-Wave. Issue does not occur with N9084EM0E. (XSA-7188)

N9084EM0E Short Range Communications and IoT Measurement Application

- Fixed issue that caused “Option not installed” message to appear when switching into LoRa CSS demodulation under some circumstances (XSA-5588)

N9085EM0E 5G-NR Measurement Application

- Updated UE In-Band Emissions (UBE) General Limit definition (XSA-8620)
- Fixed issue that caused ACP measurements to be incorrect when Power Reference was set to Aggr Chan BW (XSA-6181)
- Fixed issue in SEM measurement that caused Power Ref value to be set incorrectly when recalling a state. (XSA-9340)
- Fixed issue causing Continuous Averaging to not work properly when in a multi-screen mode (XSA-6122)
- Fixed issue that caused DL Off Power Start point to not be set correctly (XSA-9127)
- In PvT measurement, changed default values for UL Meas Offset to -2 and for UL Meas Interval to 6 (XSA-7680)

Keysight X-Series Analyzers

- N9021B (Multi-touch Signal Analyzer model)

A.26.11 Version Information

Released Date:	April 2020
S/W Version Date	2020.0220
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.26.11.exe

NOTE: This release does not support the Windows 7 operating system.

New Features

- Same as A.26.07

Enhancements

- Same as A.26.07

Issues Resolved

- Same as A.26.10

Keysight X-Series Analyzers

- N9010A, N9020A, N9030A (Non-Touch Signal Analyzer model)
- N9010B, N9020B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure analyzers)

A.26.10 Version Information

Released Date:	March 2020
S/W Version Date	2020.0220
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.26.10.exe

NOTE: This release does not support the Windows 7 operating system.

New Features

- Same as A.26.07

Enhancements

- Same as A.26.07

Issues Resolved

N6141EM0D/0E EMI Measurement Application

- Fixed issue that caused marker readings to change unexpectedly when sweeping with Averaging On and NFE On (XSA-5845)

Keysight X-Series Analyzers

- N9000B (Multi-touch Signal Analyzer model)

A.26.07 Version Information

Released Date:	March 2020
S/W Version Date	2020.0220
Requirements category (e.g., operating system):	Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.26.07.exe

NOTE: This release does not support the Windows 7 operating system.

New Features

- Sweep Time Rules added to Preferences menu of Remote Language Compatibility measurement application (N9061EM0D and N9061EM0E)
- Added support for Custom BPSK to Pulse measurement application (N9067C and N9067EM0E)
- Added Preset for DVB-S2X (to support 128APSK and 256APSK) in the Vector Modulation Analysis measurement application (N9054EM0E)
- Added Power over Time/Symbol to EVM measurement in WLAN measurement application (N9077EM1E)
- Added support for 4096QAM demodulation for 802.11ax in WLAN measurement application (N9077EM1E)
- Added Auto Peak Excursion and Auto Peak Threshold features. Default setting is On.

Enhancements

- Removed requirement to enter administrator password to perform calibration data backup and restore (XSA-1003)
- Added SCPI command to N9061A, N9061C, N9061EM0D, and N9061EM0E Remote Language Compatibility measurement application to set the Atten Offset (SCPI command: [:SENSe]:RLC:ATTenuation:OFFSet <val>) (XSA-999)
- Added SCPI command to turn Peak Threshold Line On/Off (SCPI command: MARKer:PEAK:THReshold:LINe[:STATe]) (XSA-960)

Issues Resolved

General X-Series

- Fixed issue that caused analyzer to boot up in a non-sweeping state if Power-On State was set to User Preset but the User Preset State was set to its defaults (Save User Preset had not been pressed) (XSA-4685)
- Fixed issue in SEM measurement that caused limit mask to move slightly when averaging is on (XSA-4050)
- Added support for NFE corrections to be applied to Trace 2 and Trace 3 in the ACP measurement (XSA-3935)
- Modified the maximum span in an SEM measurement to be dependent upon the input port (for example, RF Input versus External Mixing input) (XSA-4093)
- Fixed issue that caused a glitch in the first division when using the sample detector in zero span with a 1us sweep time (XSA-782)
- Fixed issue with Auto Excursion that resulted in peak excursion values that were much too small when the Wide Bandwidths feature (Option RBE) was enabled (XSA-742)

N9054C and N9054EM0E Vector Modulation Analyzer Measurement Application

- Fixed issue that caused “Full Bypass Enabled” warning message to not disappear when it should (XSA-918)

N6141EM0D/0E EMI Measurement Application

- Fixed issue that caused state files saved with A.23.13 to not utilize the correction data when recalled with A.24.56 (XSA-3512)
- Fixed issue that caused saved screen images from multi-touch analyzers using the Outline theme to have some portions of the screen that are not using the Outline theme (XSA-4690)
- Fixed issue in Frequency Scan measurement that caused noise floor to change appearance when Correction was On versus Off (XSA-892)
- Fixed issue on multi-touch analyzers where a blank pop-up screen would appear when moving between Time Domain Scan and Discrete Scan and trying to set the scan time and points for the step control setting. Need to run one scan manually before being able to select the step control setting. (XSA-816)

N9054EM0E Vector Modulation Analyzer Measurement Application

- Fixed issue that caused constellation to rotate when changing points/symbol under specific conditions (XSA-807)

N9061EM0D/0E Remote Language Compatibility Measurement Application

- Fixed issue that caused a preset to occur when MXRMODE INT command was received while analyzer was already set to internal mixing (XSA-4431)

N9063A, N9063C, N9063EM0D, and N9063EM0E Analog Demod Measurement Application

- Fixed issue that caused x-axis data to not appear in *.csv files when saving trace data (XSA-3877)

N9069A, N9069C, N9069EM0D and N9069EM0E Noise Figure Measurement Application

- Fixed Help text on multitouch analyzers to indicate that SCPI commands [:SENSe]:NFIGure:CORRection:LOSS:BEFore|AFTer:TABLe:DATA and [:SENSe]:NFIG:CORRection:LOSS:BEFore|AFTer:TABLe:COUNt? are supported (XSA-3117)
- Fixed issue that caused NF measurements made using RBW > 4 MHz on analyzers with Opt FS1 to be approximately 0.5 dB worse than when RBW = 4 MHz is used (XSA-3757)

N9077A, N9077C, N9077EM0D, and N9077EM0E WLAN Measurement Application

- Fixed issue to handle case when both DCM and STBC equal 1 (XSA-5267)

N9077EM0D/0E WLAN Measurement Application

- Fixed issue that caused Adjust Atten for Min Clip to not always set the attenuation correctly on wideband digital signals (XSA-552)
- Fixed issue with PSD Limits not changing to reflect change in PSD Units (XSA-917)

N9077EM0E WLAN Measurement Application

- Fixed issue with Optimize EVM that caused WLAN EVM measurements in UXA to be degraded when upgraded to A.24.58 (XSA-3950)
- Fixed issue that caused “Full Bypass Enabled” warning message to not disappear when it should (XSA-918)

N9080EM0E LTE / LTE-A FDD Measurement Application

- Fixed issue that caused crash when making unsupported MIMO measurement and sending the :SENSe:EVM:DLINKk:SYNC:SS:ANTenna:PORT? query command (XSA-983)

N9082EM0E LTE / LTE-A TDD Measurement Application

- Fixed issue that caused continuous EVM measurement to crash if RB allocation is set to zero (XSA-3814)

N9085EM0E 5G-NR Measurement Application

- Fixed issue that signals with 2 CCs and u = 15 to not be demodulated properly (XSA-4903)
- Fixed issue that caused In-Band Emission TT value to not work properly (XSA-5583)
- Fixed issue that caused “Full Bypass Enabled” warning message to not disappear when it should (XSA-918)
- Fixed issue with Optimize EVM that caused EVM measurements in UXA to be degraded when upgraded to A.24.58 (XSA-3950)

N9091EM0E Measuring Receiver Application

- Fixed issue that caused USB power meter or power sensor to not respond or cause a connection timeout (XSA-923)

Keysight X-Series Analyzers

- N9041B (Multi-touch Signal Analyzer model)

A.25.09 Version Information

Released Date:	March 2020
S/W Version Date	2019.1107
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.25.09.exe

New Features

- Same as A.25.05

Enhancements

- Provides improved control of LO drive levels to the instrument front end mixing stages, which should improve reliability on the N9041B. (CS 1517893)

Issues Resolved

- Same as A.25.05

Keysight X-Series Analyzers

- N9020A, N9030A (Non-Touch Signal Analyzer model)
- N9020B, N9030B, N9040B (Multi-touch Signal Analyzer models)

A.25.08 Version Information

Released Date:	February 2020

S/W Version Date	2019.1107
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.25.08.exe

New Features

- Same as A.25.05

Enhancements

- Provides full support of the secure flash memory that resides in the new CPUs, designated as N90xxA/B-PC6S and N90xxA/B-PC7S

Issues Resolved

- Same as A.25.05

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A (Non-Touch Signal Analyzer model)
- N9000B, N9010B, N9020B, N9030B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure analyzers)

A.25.05 Version Information

Released Date:	December 2019
S/W Version Date	2019.1107
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.25.05.exe

New Features

- 5G NR X-App supports new features including the ability to save and recall Channel Resource maps, updates to the Preset to Standard capabilities, and ACLR / SEM speed enhancements
- LTE C-V2X X-App adds support for PSCCH decoding and Tx On/Off Power presets
- NB-IoT X-App adds support for EUTRA carrier cell ID in the In-Band Different PCI mode
- Short Range Comms X-App has been renamed "IoT" X-App and adds support for LoRa CSS demodulation
- VMA X-App adds support for eye diagram metrics and general Tx BER measurements
- WLAN X-App supports 80 MHz + 80 MHz decoding, plus other enhancements
- Bluetooth X-App shows a new result for Initial Frequency Drift for Low Energy measurements

Enhancements

- N9063EM0D / N9063EM0E Analog Demod measurement application enhanced to allow PM demodulation when Span or Demod BW is > 25.8 MHz (521631)
- N9069EM0D / N9069EM0E Noise Figure measurement application enhanced to allow up to 12 markers (519525)

Issues Resolved

General X-Series

- Fixed issue causing Trace Normalize to not work when NFE is set to Full or Adaptive (530667)
- Fixed issue that caused fixed and delta markers to not always be recalled properly the first time. A second recall of the same state was necessary for the markers to be properly positioned. (529181)
- Fixed issue that caused Coupled Markers to not be recalled properly unless previous state was Preset state or a state without Coupled Markers (529572)
- Fixed issue with Corrections feature where the current register was not properly updated when importing data into a new register (526854)
- Fixed issue in I/Q Analyzer mode where the Remote Command Results table was missing in the help text for the Complex Spectrum measurement. Issue is only with multi-touch GUI; traditional GUI is OK. (527064)
- Fixed issue that caused keyboard response to be very slow when using Spectrogram display in zero span with 40us sweep time setting (526362)
- Fixed issue with multi-touch GUI where the measurement app may hang-up after pressing the touchscreen for a long time (530990)
- Fixed calculation of Auto Sweep Time in Power Suite measurements to be more consistent with Swept SA measurements (527365)
- Fixed issue where RF Burst Trigger was not working properly when set to negative trigger delay (528627)
- Fixed issue where VSA would get a SocketException error with reason of “An address incompatible with the requested protocol was used” when using IPv6 address and segmented capture with UXA (VSA is running on UXA). OK if using IPv4 address. (531252)

N6141EM0E EMI Measurement Application (Multi-touch GUI)

- Fixed issue in Frequency Scan measurement that caused Max Hold not to work properly when Noise Floor Extension (NFE) is set to Adaptive or Full (512477)
- Fixed issue in Real Time Scan measurement that caused intermittent dip or spike in noise floor (527146)
- Fixed issue in Real Time Scan measurement that caused measurement to lag if NFE was set to Adaptive or On and Dwell Time is <25ms (526223)
- Fixed issue in Frequency Scan measurement that caused the Dwell Time of Measure at Marker to revert back to the default after performing a Measure at Marker (531384)
- Fixed issue in Frequency Scan and Real Time Scan measurements where changing certain parameters did not automatically cause the measurement to restart (529676)
- Fixed issue that that caused state files saved in A.23.13 to not be recalled properly to A.24.56 (530589)
- Fixed issue in Disturbance Analyzer that caused the grayed-out Click Rate value to not be changed to “User Defined” when the Click Rate is changed via SCPI command (530934)

N9054EM0E Vector Modulation Analyzer Measurement Application

- Fixed issue that caused OQPSK demodulations to be unstable (525562)

N9061EM0D/0E Remote Language Compatibility Measurement Application

- Fixed issue when emulating 856xE/EC analyzers that causes crash (System.IndexOutOfRangeException) when you attempt to increase the RBW from a value of 1 Hz (527194)

N9068EM0D/0E Phase Noise Measurement Application

- In Log Plot measurement, fixed minor error between integrated noise marker values reported in dBc compared to values reported in degrees, radians, or seconds (jitter) (515294)
- In Log Plot measurement, fixed calculation of Residual FM, which could report 22% higher than the true value (527110)

N9077EM0D/0E WLAN Measurement Application

- Fixed issue in 802.11ax measurement where the CRC flag was set to fail rather than invalid, since all users are inactive (519039)
- Fixed issue in 802.11ax Modulation Analysis measurement that was preventing getting SIG-B length information as 80+80MHz format (520405)
- Fixed issue in Modulation Analysis measurement that caused “demod error” to be reported when measuring a single burst with only one symbol (527357)

N9077EM0E WLAN Measurement Application

- Fixed issue in Modulation Analysis measurement that caused OFDM Signal and OFDM Data demod bits to be the same (525650)

N9085EM0E 5G-NR Measurement Application

- Changed Average Counter in PVT measurement to read in % rather than an integer value (520107)
- Fixed issue in Channel Power measurement that caused the Average/Continue function to not work as expected (531760)
- Fixed issue that caused complex corrections to not work properly from 20 to 28 GHz when using a M8190A and PSG as the generator (527646)
- Fixed error in calculating the Transient Ramp Up when Auto Timing Adjust is set to Off (528977)

N9091EM0E Measuring Receiver Application

- Fixed issue in RF Power measurement where Channel B of the N1914A power meter could not be used to apply calibration data, or zero or cal the sensor module (528623)

Keysight X-Series Analyzers

- N9040B, N9041B (Multi-touch Signal Analyzer models)

A.24.58 Version Information

Released Date:	August 2019
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.24.58.exe

New Features

- None

Enhancements

- None

Issues Resolved

Same as for A.24.56

Keysight X-Series Analyzers

- N9020A, N9030A (Non-Touch Signal Analyzer model)
- N9020B, N9030B (Multi-touch Signal Analyzer models)

A.24.57 Version Information

Released Date:	August 2019
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.24.57.exe

New Features

- None

Enhancements

- None

Issues Resolved

Same as for A.24.56

Keysight X-Series Analyzers

- N9000A, N9010A (Non-Touch Signal Analyzer model)
- N9000B, N9010B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure analyzers)

A.24.56 Version Information

Released Date:	August 2019
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.24.56.exe

New Features

- None

Enhancements

- Added display trace caret when waiting for gate or trigger (508390)
- Improved limit line annotation to display the comment associated with a limit line (462419)
- In N9063EM0D / 0E Analog Demod Measurement Application, added PEP result for AM DSB measurement (513711)
- In N9081EM0D /0E Bluetooth Measurement Application, added coding scheme information for Low Entergy in Transmit Analysis metric results window (511127)

Issues Resolved

General X-Series

- Fixed issue that caused “Settings conflict: Timebase DAC not available with Pulse selected” error message to appear when Freq Ref In was set to Pulse or Sense and 1pps signal is connected to EXT REF INPUT (519362)
- Fixed issue that caused “INST:SCReen:MULTiple ON” SCPI command to not work on multi-touch analyzers in software versions A.19.xx through A.22.xx (518624)
- Corrected help text relating to Delete a User View on multi-touch analyzers (520252)

- Fixed issue that caused traces to turn red when the trace did not in fact exceed the limit line (516558)
- Fixed issue on analyzers with licenses for N7699A-D24 or N90x0A/B-DST that prevented the Update FPGA feature to recognize and enable the TDS FPGA (513412)
- Added documentation to Complex Spectrum for interpreting results of MeasResults.csv files (513794)
- Fixed issue to allow Corrections files with an extension of either “CSV” or “csv” to be recognized as valid files to be recalled (522622)
- NFE corrections are applied to correctly to multiple traces with all detector scenarios (523620)
- Removed erroneous “Settings Conflict; Feature not available for option SF2” message that would appear on boot-up of analyzers with Option SF2 (512876)
- Fixed issue causing query timeout when using External Mixing SCPI command [:SENSe]:MIXer:MPATh:AUX:CORRection? (513182)
- Fixed saving Measurement Data on Spurious Emissions measurement (522161)
- Fixed issue that caused XSA application to crash when creating a new measurement screen after having activated the Marker Function in the Monitor Spectrum measurement (521453)
- Fixed issue in SEM measurement that caused the table value for Lower Freq (Hz) to not be displayed correctly (520636)
- Corrected the Phase Noise Optimizations settings for CXA and PXAs with Opt EP1 (524328)
- Fixed issue in Spurious Emissions measurement where some N9030As with Opt FS1 might make an erroneous measurement in narrow (i.e. 100 Hz) RBW (522601)

N6141A, W6141A and N6141EM0D EMI Measurement Application (traditional GUI)

- Fixed issue in Frequency Scan measurement where communications could be lost if Dwell Time is set to 2ms and Measure at Marker is executed (523857)
- Fixed issue that caused error message, “Directory not found; Mass Storage not found” when trying to save Measurement Report as a pdf file on a USB flash drive (518439)

N6141C and N6141EM0E EMI Measurement Application (Multi-touch GUI)

- Fixed issue in Frequency Scan measurement where functionality of “Move Meters to Marker Freq” and “Move Marker to Meters Freq” seem to be interchanged (520794)
- Fixed issue that caused error message, “Directory not found; Mass Storage not found” when trying to save Measurement Report as a pdf file on a USB flash drive (518439)
- Fixed issue in Frequency Scan measurement where communications could be lost if Dwell Time is set to 2ms and Measure at Marker is executed (523857)

N9061EM0D / 0E Phase Noise Measurement Application

- Fixed issue in Log Plot measurement that caused Signal Tracking to not track well when slow FM is applied to a CW signal under test and AM Rejection is ON (520873)

N9063A / W9063A Analog Demod Measurement Application

- Fixed crash that could occur when attempting to save measurement data (traditional GUI only) (524481)

N9063EM0D / 0E Analog Demod Measurement Application

- Changed “Carrier Power Unit” in Display menu to “Power Unit” to make it clear that this setting affects all power results (514709)

N9077EM0D/0E WLAN Measurement Application

- Enhanced Optimize EVM algorithm to properly handle case when internal preamp is not available (522081)
- Fixed saving Measurement Data on Spurious Emissions measurement (522161)
-

N9080EM0D/0E LTE / LTE-A FDD Measurement Application

- Enabled Electronic Attenuator in PVT and SPUR measurements when Carrier Ref Freq is <= 3.6 GHz and Center Freq is > 3.6 GHz (519990)
- Fixed issue that caused updates to not occur when 2 measurement screens are running in Sequencing mode (523035)
- Fixed EVM failures in Modulation Analysis measurement in the case of an MBFSN downlink signal with Cell ID = 1, 4,7,10,13... (522402)
- Fixed saving Measurement Data on Spurious Emissions measurement (522161)

N9082EM0D/0E LTE / LTE-A TDD Measurement Application

- Enabled Electronic Attenuator in PVT and SPUR measurements when Carrier Ref Freq is <= 3.6 GHz and Center Freq is > 3.6 GHz (519990)
- Fixed crash that could occur in Modulation Analysis measurement when Preset to Standard is executed with Sync Type set to PRACH (520581)
- Fixed saving Measurement Data on Spurious Emissions measurement (522161)
-

N9085EM0E 5G-NR Measurement Application

- Fixed issue that caused DFT-s OFDM demodulation to produce unstable EVM results (524724)
- Fixed incorrect limit lines for Spectrum Flatness in Modulation Analysis measurement (525112)
- Fixed saving Measurement Data on Spurious Emissions measurement (522161)

- Fixed issue that caused Gate parameters to be preset when Duplex Mode is FDD or RB Alloc Preset is not NR-TM (522336)
- Fixed backward compatibility when changing bandwidth presets (521335)
- Fixed issue in ACP and SEM measurements that caused Detector settings to not be correct when using Preset to Standard (522603)

N9091EM0E Measuring Receiver Application

- Added scroll bar for Measurements in Mode/Measurement screen (522594)
- Fixed issue in Tuned RF Level measurement that caused Cal Factor 1 to not be cleared when changing frequency (522643)
- Fixed error message for cases when Power Meter or sensor zero and calibration is needed to make message more obvious to user (522596)

Keysight X-Series Analyzers

- N9020B, N9030B, N9040B (Multi-touch Signal Analyzer models)

A.24.05 (5G NR and LTE V2X Limited Release) Version Information

Released Date:	June 2019
S/W Version Date	2019.0430
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.24.05.exe

Note:

- This is a special release, only intended for users of the 5G-NR Measurement Application (N9085EM0E) and LTE V2X Measurement Application (N9080EM4E)
- This version has been superseded by the A.24.57 and A.24.58 releases of X-Series Analyzers Instrument Software, which was released in August 2019

New Features

- Added support for the N9080EM4E LTE V2X measurement application (this is a standalone license for the LTE V2X functionality, split off from the N9082EM0E LTE and LTE-A TDD application) (512339)

Enhancements

- Enhanced Preset to Standard functionality with NR-TM support (506743)
- Added support for 3GPP presets for Tx On/Off Time Mask per 3GPP 2018-12, UI and DL (505240)
- Added support for Power-Based Auto-RB detection, UL and AL (504591 and 513483)
- Added support for a new OBW power-integration algorithm for asymmetric power distribution cases (513493)
- Speed enhancements for ACLR (5113494)
- Added support for MISO mode (TAE among antennas with mixed 1 port input), DL and UL (504600 and 504601)
- Added support for UE In-Band Emission measurements per 3GPP TS 38.521-1 (3 numeric results for different cases) (513487)

- Added support for DL NR-TM preset recall (504584)
- Added support for Optimize EVM feature (504594)
- Added the OSTP (OFDM Symbol Tx Power) result in the Error Summary window (513484)
- Added the RSRP, RSRQ, RSSI results in the BWP Summary window (513488)
- Added support for Auto CC freq offset allocation in Config CC setup menu (513577)
- Added ability to recall configuration files from VXG (513485)
- Enhanced IQ recording playback feature to support multiple channels for MIMO cases (513486)
- Added a shortcut for the Resource Grid tab in the Config CC menu into the Channel Profile menu (513489)

Issues Resolved

None

Keysight X-Series Analyzers

- N9040B, N9041B (Multi-touch Signal Analyzer models)

A.23.14 Version Information

Released Date:	May 2019
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.23.14.exe

New Features

- None

Enhancements

- None

Issues Resolved

General X-Series

- Fixed issue on analyzers with Option H1G that caused Chirp Cal Alignment to indicate false failures (CS1498333)

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A (Non-Touch Signal Analyzer model)
- N9000B, N9010B, N9020B, N9030B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure analyzers)

A.23.13 Version Information

Released Date:	May 2019
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.23.13.exe

New Features

- None

Enhancements

- None

Issues Resolved

General X-Series

- Fixed issue that caused false RF Alignment errors upon boot-up on N9010A/B, N9020A/B, N9030A/B analyzers with Option B40 running A.23.05, A.23.06, or A.23.07 instrument software version (519951)

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A (Non-Touch Signal Analyzer model)
- N9000B, N9010B, N9020B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure analyzers)

A.23.07 Version Information

Released Date:	April 2019
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.23.07.exe

NOTE: The information below for A.23.07 also applies to A.23.05 and A.23.06

New Features

- None

Enhancements

General X-Series

- In measurements that have Auto Sweep Points selection, added “Settings Alert: Set Auto Sweep Points to On” message if the RBW is set to a value narrower than one sweep point (511012)
- Added ability to show USB preamp serial number in the Show Hardware screen (488354)
- Added ability to select Average Detector when Wide Bandwidths (Option RBE) is On (CS-1471668)

Power Suite

- On analyzers with multi-touch UI, added the ability to set Sweep Points in the SEM measurement to values between 201 and 10,001 (509004)
- In measurements that have Auto Sweep Points selection, added “Settings Alert: Set Auto Sweep Points to On” message if the RBW is set to a value narrower than one sweep point (511012)

N9085EM0E 5G-NR Measurement Application

- Updated 3GPP 5G NR BTW FR1 100 MHz preset mask limits for ACP and SEM to conform to the latest 3GPBB TS38.141-1 v2018-09 BS Conformance Test requirements (508897)

Issues Resolved

General X-Series

- Fixed issue on multi-touch UI that caused Zoom Sweep Time to not be set properly in the Zoom Span if Span = 0 Hz (508979)
- Fixed issue that caused some text to not switch back to English after having the Language previously been set to Japanese and then back to English (508980)
- Fixed issue that caused a crash when recalling a VSA state file and the VSA version installed is something other than the preferred version (509971)
- Fixed issue in IQ Analyzer mode of N9041B that caused “Error locking IF Output resource” error when IF Path was set to External prior to switching into VSA software (510105)
- Fixed issue in millimeter-wave analyzers that caused Coupling annotation to display “AC” when recalling a state that had been saved on an analyzer that had AC coupling set; millimeter-wave analyzers do not support AC coupling (510473)
- VSA: Fixed issue that caused inability to connect VSA to XSA application when analyzer is using a local link address, such as a self-assigned IP address or a router-assigned IP address (514710)
- Fixed issue that caused analyzers running Win10 to minimize the XSA application approximately every 10 minutes, shutting off SCPI communications due to analyzer being set to Tablet mode (510743)
- Fixed issue that caused “FREQ:SYNT:AUTO ON” SCPI command to generate (Settings Conflict” message when sent to an older N9000A that did not have LO Synthesizer hardware to support the command (509881)
- Fixed issue in SEM measurement when Radio Std Preset is set to 802.11ay caused by insufficient trace points for sweeping the Carrier Power region (509483)
- Fixed issue that caused the Dual Conversion path of the M1971-Series mixers to not be available in several Power Suite measurements that used Swept LO and supported Signal ID (509777)
- In ACP measurement on multi-touch UI, fixed issue that caused Noise Correction to not initiate a new noise trace acquisition when the Meas Method changed (510312)
- Fixed issue in ACP and SEM measurements to update the 5G-NR preset limit values to the latest standard (510317)

- Fixed issue in ACP measurement that caused Noise Corrections to not be applied correctly for complex corrections and amplitude corrections (510980)
- Fixed issue in Burst Power measurement where CSV measurement results could contain one million zeros for MeasResults3 and MeasResults4 if Min and Max traces not used (510987)
- Fixed issue in Spurious Emissions measurement which caused intermittent Memory Access Violation Exception errors (511130)
- Fixed issue on N9041B which caused the input to be switched momentarily from Input 2 to Input 1 and then back to Input 2 if a Preselector Center is being performed at frequencies less than 50 GHz (507949)

N9061A/C Remote Language Compatibility Application

- Fixed issue that caused “Settings Conflict” message to appear when RB AUTO command is received after having the detector set to Normal (DET NRM) and span changed from zero span to non-zero span (512749)

N9063EM0E Analog Demod Measurement Application

- Fixed defect in AM LSB/USB measurement where changing the power unit under Display between dBm and W does not change the PEP and RMS values.

N9068C and N9068EM0E Phase Noise Measurement Application

- Fixed issue in Log Plot measurement that caused the application to crash if the decade table was enabled and the results were read back using “READ:LPL6?” SCPI command (512460)

N9069C and N9069EM0E Noise Figure Measurement Application

- Fixed issue for NFA-B SNS that caused noise source write functionality to be dysfunctional (513607)
- Fixed issue where Instrument Noise Figure changed after alignment or temperature change, invalidating user cal (CS1481424)
- Fixed issue in NFA-B analyzers to allow new ENR table to be written to SNS via SCPI command (513879)

N9073A/C and N9073EM0E/0E W-CDMA Measurement Application

- Fixed issue in QPSK EVM measurement with view set to I/Q where Next Peak will not change marker position if current marker is at a negative peak (502561)

N9085EM0E 5G-NR Measurement Application

- Fixed issue with Preset to Standard for BW or FR when the settings were being applied only to the selected Component Carriers rather than all Component Carriers (512727)
- Fixed issue with the Save Screen Config + State feature that was not sving the demodulation parameters. (513020)

N9091EM0E Measuring Receiver Application

- Fixed issue in RF Power measurement which caused an amplitude error when measuring RF power below 10 MHz unless User Power Meter/Sensor was toggled to No and then back to Yes (511259)

Keysight X-Series Analyzers

- N9030A (Non-Touch Signal Analyzer model)
- N9030B, N9040B (Multi-touch Signal Analyzer models)

A.22.10 Version Information

Released Date:	January 2019
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.22.10.exe

New Features

- None

Enhancements

- None

Issues Resolved

General X-Series

- Fixed issue that caused Power Bandwidth Accuracy to not meet specification (512822)

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A (Non-Touch Signal Analyzer models)
- N9000B, N9010B, N9020B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure analyzers)

A.22.08 Version Information

Released Date:	December 2018
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.22.08.exe

NOTE: The information below for A.22.08 also applies to A.22.06 and A.22.07

New Features

- None

Enhancements

General X-Series

- Added ability to change the Screen Video level (for Opt YAS or YAV) between 0 to 1V into an open circuit (current behavior) and 0 to 2V into an open circuit. This allows compatibility with 856x portable spectrum analyzers whose Video Out signal was 0 to 1 V into 50ohms.
- Added SCPI command to lock the analyzer's PC. New command is :SYSTem:LWSTation to lock the workstation.
- Added WLAN 802.11ay presets to Power Suite on N9060EM1E

N9068C Phase Noise Measurement Application (multi-touch UI only)

- Added PM Rejection feature, which rejects PM phase noise contribution, thus showing AM phase noise contribution. This is a complementary feature to the existing AM Rejection feature.
- Added ability to save Marker Table results to the Save, Measurement Data menu for the Log Plot measurement.

N9077EM1E WLAN 802.11ac/ax Measurement Application

- Added Per User CRC check for 802.11ax

N9080EM0D/0E LTE/LTE-A FDD Measurement Application

- Added support for R15 DL 1024QAM decode
- Added support for E-TM2b/3.1b decode
- Added support for UL Virtual Cell ID demodulation

N9082EM0D/0E LTE/LTE-A TDD Measurement Application

- Added support for R15 DL 1024QAM decode
- Added support for E-TM2b/3.1b decode
- Added support for UL Virtual Cell ID demodulation

N9083EM0E Multi-Standard Radio Measurement Application

- Added support for DL 1024QAM

N9082EM0E LTE-A TDD Measurement Application

- Added C-V2X SideLink support

N9085EM0E 5G-NR Measurement Application

- Added support for 3GPP v.2018-06
- Added IQ recording/playback (.csv) function support
- Added Signal Studio (N7631C) .scp file recall support
- Added color coding in Frame Summary and marker readout to align with VSA

N9091EM0E Measuring Receiver Application

- Changed the default path for cal factor files to be non-measurement-specific, thus allowing sharing among measurements

Issues Resolved

General X-Series

- Fixed issue with External Mixing that caused LO Alignment of M1970V-002 mixer to fail when the customer's state was recalled (503999)
- Fixed incorrect links for Support and Manuals on LXI web pages of N90x0B models (506259)
- Fixed issue that caused Zoomed trace to not function if trace is in View (507086)
- Fixed issue in External Mixer mode where amplitude corrections were not being applied for non-smart mixers on multi-touch analyzers (509264)
- Fixed issue that caused the Limit Line settings to be lost when switching between two SA measurement tabs on multi-touch analyzers (506629)
- Fixed issue that caused the USB-TMC driver to not be properly installed when upgrading instrument software on analyzers with Windows10 OS (508386)
- Fixed issue with External Source Control (Option ESC) on multi-touch analyzers causing the annotated sweep time in the lower right corner of the display to be much faster than the actual sweep time (506358)
- Fixed issue that caused negative trigger delay to not work as expected on EXAs and MXAs with the 25 MHz Digital IF assembly and all CXAs (501933)
- Fixed issue in SEM measurement with Gate View displayed where changing the Gate View Sweep Time from initial value of 20ms causes Gate View Sweep Time annotation to be replaced with "Span 0 Hz" (503197)
- Fixed issue on analyzers with Option LNP that caused signals at exactly 3.6 GHz to disappear if the RBW is set to 300 Hz or less in a span of 100 kHz (502167)

Real Time Signal Analysis (RTSA) Measurement Application

- Fixed issue that caused Spectrum and PVT measurements to be off by one trace point at the upper and lower trace points (490230)
- Fixed issue that caused some state files to not be recalled properly, depending upon what measurement (Spectrum or Power vs Time) is active prior to the state being recalled (508107)
- Fixed issue on analyzers with Option DUA and have a multiple window layout that causes amplitude of PvT results to be inaccurate when the tune frequency is in Band 0 (508543)
- Fixed issue in RTSA that caused trace to stop updating when Marker Table was activated on analyzers with Option B5X (508034)

N6141A/C and N6141EM0D/0E EMI Measurement Application

- Fixed issue that caused Teffective marker values to not match with the Y-axis scaling (503016)
- Fixed issue in multi-touch analyzers that caused Meter's Max Hold values to not be updated when in Expanded View (497259)

- Fixed issue in Strip Chart measurement that caused application to crash when changing X-scale per division value (506805)
- Fixed issue in Frequency Scan measurement that caused the XSA application to close unexpectedly during a pre-scan when using QP and AVE detectors (507335)
- Fixed issue in Disturbance Analyzer measurement that caused many execution errors to appear when switching between screens in a multi-screen setup (507441)
- Fixed issue in Frequency Scan measurement that caused marker values to disappear when switching between two screens (507487)
- Fixed issue in Frequency Scan measurement that causes NFE to not work if two traces with the same detector are active (508357)

N9054C and N9054EM0E Vector Modulation Analysis (VMA) Application

- Fixed issue where internal preamp was not available unless Electronic Attenuator (Option EA3) was also licensed (503368)

N9061A/C Remote Language Compatibility Application

- Fixed incorrect RBW coupling issue when switching from zero span to non-zero span (504230)

N9071A/C and N9071EM0D/0E GSM/EDGE Measurement Application

- Fixed issue where internal preamp was not available unless Electronic Attenuator (Option EA3) was also licensed (503368)

N9073A/C and N9073EM0D/0E W-CDMA Measurement Application

- Fixed issue where internal preamp was not available unless Electronic Attenuator (Option EA3) was also licensed (503368)

N9080B/C LTE / LTE-Advanced FDD Measurement Application

- Fixed issue that caused ACP measurement to crash if Noise Correction was toggled between On and Off (505744)

N9080C-3FP/3TP NB-IoT and eMTC Measurement Application

- Fixed issue to correct Time Offset in EVM measurement so that the measurement specification is satisfied for NB-IoT In-Band mode (503694)

N9085EM0E 5G-NR Measurement Application

- Fixed issue where internal preamp was not available unless Electronic Attenuator (Option EA3) was also licensed (503368)
- Fixed issue for UXAs with Opt H1G that limited Information Bandwidth to 255 MHz for I/Q Waveform and Tx On/Off Power measurements (504312)

N9091EM0E Measuring Receiver Application

- Added several SCPI commands for backward compatibility to PSA (502529)
- Improved messaging regarding power meter connection timeout when using U5532C at low power levels (503346)
- Fixed issue with Frequency Counter measurement where Manual Frequency Tuning was not working properly for frequencies >= 13.5 GHz (507177)
- Fixed issue in Tuned RF Level measurement that causes a debug assert warning to appear when recalling cal factors (508540)

N9092EM0E Avionics Measurement Application

- Fixed issue in Demod Waveform measurement where knob increment for Scale/Div was not set to 1% (501324)
- Fixed issue that caused Marker Beacon and ADF AF Spectrum graph to show incorrect amplitude (504701)

Keysight X-Series Analyzers

- N9041B

A.21.13 Version Information

Released Date:	September 2018
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.21.13.exe

New Features

- Adds support for N9041B-EDC, External Digitizer Control

Enhancements

- Same as A.21.04

Issues Resolved

- Same as A.21.06

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A (Non-Touch Signal Analyzer models)
- N9000B, N9010B, N9020B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure analyzers)

A.21.06 Version Information

Released Date:	August 2018
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.21.06.exe

New Features

- Same as A.21.04

Enhancements

- Same as A.21.04

Issues Resolved

N6141A/C EMI Measurement Application

- In Frequency Scan measurement, fixed issue that caused application to crash with a System.IndexOutOfRangeException error. Index was outside the bounds of the array. (503209)

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A (Non-Touch Signal Analyzer models)
- N9000B, N9010B, N9020B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure analyzers)

A.21.04 Version Information

Released Date:	July 2018
Requirements category (e.g., operating system):	Microsoft Windows 7 or Microsoft Windows 10
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.21.04.exe

New Features

- Added support for N9085EM0E 5G-NR Measurement application on N9020B, N9030B, N9040B, and N9041B (multi-touch signal analyzers that offer analysis bandwidth options >= 100 MHz)
- Added support for N9083EM0E, Multi-Standard Radio (MSR) Measurement Application on multi-touch X-series analyzers
- Added support for N9092EM0E, Avionics Measurement Application
    - Only supported on N9030B as part of N5531X MMR-X system bundle
- Added support for Option EDC, External Digitizer Control, on the N9041B in IQ Analyzer (Basic) mode.
- Added support for new, traditional UI X-Series Signal Analyzer platform software options models:
    - N90EMEMCA Basic EMC functionality (replacing N90x0A-EMC) to N9000A, N9010A, N9020A, N9030A, and M9290A
    - N90EMTDSA Time Domain Scan (replacing N90x0A-TDS) to N9010A, N9020A, N9030A, and N9038A
    - N90EMEDPA Enhanced Display Package (replacing N90x0A-EDP) to N9000A, N9010A, N9020A, N9030A, and M9290A
    - N90x0RT1A Real-time analysis up to maximum available BW, basic detection license (replacing N90x0A-RT1) to N9020A, and N9030A

    - N9038RT1A Real-time analysis up to maximum available BW, basic detection license (replacing N9038A-RT1) to N9038A
    - N90x0RT2A Real-time analysis up to maximum available BW, optimum detection license (replacing N90x0A-RT2) to N9020A, and N9030A
    - N90EMFP2A Fast Power, up to 40 MHz bandwidth (replacing N90x0A-FP2) to N9010A, N9020A, and N9030A
    - N90EMRBEA Resolution Bandwidth Extended (replacing N90x0A-RBE) to N9020A, and N9030A
    - N90EMESCA External Source Control (replacing N90x0A-ESC) to N9000A, N9010A, N9020A, N9030A, and N9038A
- Added support for new, multi-touch UI X-Series Signal Analyzer platform software option models:
    - N90EMEMCB Basic EMC functionality (replacing N90x0B-EMC) to N9000B, N9010B, N9020B, N9030B, N9040B, and N9041B
    - N90EMTDSB Time Domain Scan (replacing N90x0B-TDS) to N9010B, N9020B, N9030B, N9040B, and N9041B
    - N90EMEDPB Enhanced Display Package (replacing N90x0B-EDP) to N9000B, N9010B, N9020B, and N9030B
    - N90x0RT1B Real-time analysis up to maximum available BW, basic detection license (replacing N90x0B-RT1) to N9020B, N9030B, N9040B, and N9041B
    - N90x0RT2B Real-time analysis up to maximum available BW, optimum detection license (replacing N90x0B-RT2) to N9020B, N9030B, N9040B, and N9041B
    - N90EMFT1B Frequency Mask Trigger, basic detection license (replacing N90x0B-FT1) to N9020B, N9030B, N9040B, and N9041B
    - N90EMFT2B Frequency Mask Trigger, optimum detection license (replacing N90x0B-FT1) to N9020B, N9030B, N9040B, and N9041B
    - N90EMDUAB Duplex IF RTSA (replacing N90x0B-DUA) to N9030B, N9040B, and N9041B
    - N90EMFP2B Fast Power, up to 40 MHz bandwidth (replacing N90x0B-FP2) to N9010B, N9020B, N9030B, N9040B, and N9041B
    - N90EMRBEB Resolution Bandwidth Extended (replacing N90x0B-RBE) to N9030B, N9040B, and N9041B
    - N90EMESCB External Source Control (replacing N90x0B-ESC) to N9000B, N9010B, N9020B, N9030B, and N9040B

Enhancements

General X-Series

- Added Network licensing “borrow” feature
- Increased maximum number of points in the List Mode to 10,001
- Max Ref Level adjustment for Amplitude Correction – allows users with large amplitude corrections to keep the signal from going off the top of the screen.

RTSA Measurement

- Added support for U7227-series and U7228-series USB Preamplifiers on N9020A/B, N9030A/B, N9040B, and N9041B.

ACP Measurement

- Added -6 dB selection to Integration BW in the Advanced menu (multi-touch UI only)

N9054EM0E Vector Modulation Analysis Measurement Application

- Added support for Differential Decoder Anchor State 0/1 toggle for MSK Type 1 demod bits

N9054EM1E Vector Modulation Analysis Customer OFDM Application

- Added 3GPP LTE FDD Downlink 5 MHz preset to Radio Standard Presets selection
- Added WLAN IEEE 802.11a WLAN preset to Radio Standard Presets selection
- Added support for Pilot and Preamble IQ data sequence editor
- Added support for Component Carrier (CC) configuration copy function: Copy CCm to CCn

N9062EM0E SCPI Language Remote Compatibility Measurement Application

- Added support for R&S FSL and FSV for Swept SA measurement

N9063EM0E Analog Demod Measurement Application

- Added support for AM LSB (SSB-SC) and AM USB (SSB-SC) demod function

N9067EM0E Pulse Measurement Application

- Enabled modulation analysis up to 1024 chip-long modulation, valid for BPSK and QPSK
- Added support for Gate acquisition with Option B5X
- Added support for Trigger Hysteresis level of Gate acquisition
- Added support for X-COM recording file format (.xhdr) in the Recall menu: Measurement Data with Data Type = Recording
- Added support for Matlab (.mat), HFDS (.hdf), 89600 VSA (.sdf) and X-COM recording (.xhdr) file formats in the Recall menu: Measurement Data with Data Type – Reference IQ
- Added support for Score vs. Pulse number to the Scatter Trace X and Y
- Added support for Global Center Frequency On|Off toggle key (for coupling the Center Frequency setting with RTSA)
- Added support for Frame Length Knob increment multiply by x2, x3, x5, divide by /2, /3, and /5 to the Raster window
- Added support for Frame color coding max and min to the Raster window

N9068EM0E Phase Noise Measurement Application

- In Log Plot measurement, added support for trace hold type Max Hold and Min Hold selection in the Trace Control menu
- In Log Plot measurement, added support for trace filtering function with High Cutoff Freq, High Cutoff Slope, Low Cutoff Freq, and Low Cutoff Slope in the Trace menu

N9069EM0E Noise Figure Measurement Application

- Added ability to import S2P correction files from PNA directly into Noise Figure measurement and apply them
- Added support for the U1831C USB Smart Noise Source connectivity

N9077EM1D/E WLAN 802.11 ac/ax Measurement Application

- In Modulation Analysis measurement, updated EVM and Symbol Clock Error Pass/Fail limit values due to IEEE 802.11ax draft 2.2 revision

N9080EM0D/E LTE and LTE-Advanced FDD Measurement Application

- In Modulation Analysis and Conformance EVM measurements:
    - Added support for Downlink 1,024 QAM demod
    - Added support for Uplink PUCCH format 4 and 5 demod

N9080EM3D/E NB-IoT / eMTC Measurement Application

- NB-IoT:
    - In Modulation Analysis (multi-touch only) and Conformance EVM measurements:
        - Added support for Downlink NPRS (NB-IoT Positioning RS) demod
        - Added support for Downlink NPBCH decoding
        - Added support for Downlink and Uplink Freq Error per Slot traces
        - Updated Uplink Resource Unit auto detection for Single or multi-tones
- eMTC (Cat-M):
    - In Modulation Analysis (multi-touch only) and Conformance EVM measurements:
        - Added support for Downlink MPDCCH decoding, and decoded DCI-based RB auto detection
        - Added support for Uplink BL/CE PUCCH decoding
        - Updated Uplink BL/CE PUSCH decoding for multiple-repetition case

N9085EM0E 5G-NR Measurement Application

- Added Downlink and Uplink Transmit On/Off Power measurements, with manual parameter settings
- In Carrier Configuration Setup menu:
    - Added support for Non-Contiguous Carrier Aggregation (CA) setup for FR1 Downlink Cumulative ACLR (CACLR) for ACP and Cumulative mask for SEM measurements
- In Modulation Analysis measurement:
    - Supported 3GPP version v.15.1.0 (2018-03)
    - Added support for Component Carrier (CC) configuration copy function: Copy CCm to CCn
    - Added support for Downlink Cell ID auto detection
    - Added support for Downlink multiple-BWP traces
    - Added support for Downlink PDCCH demod (non-interleaved mode only)
    - Added support for Downlink PDSCH-PTRS demod
    - Added support for Downlink and Uplink Detected RB Allocation vs. Time traces

  - Added support for Uplink PUSCH Transform Precoding (DFT-s-OFDM) demod, included pi/2-BPSK
  - Added support for Uplink PUCCH demod (format 0, 1, 2, 3 and 4)
  - Added support for Uplink PUSCH-PTRRS demod

N9091EM0E Measuring Receiver Measurement Application

- Added support for U5532C USB sensor module connectivity

Issues Resolved

General X-Series

- Fixed issue in Monitor Spectrum measurement where, with Auto Align set to Normal, the screen would freeze briefly approximately once per minute (499695)
- Fixed issue in Swept SA measurement where display was not properly switching from start/stop frequency annotation to center/span annotation when remotely controlled (498502)
- Fixed issue that caused limit line editor to crash intermittently (501113)
- Fixed issue in SEM measurement that caused Signal ID to not function properly when Input is set to External Mixing (499121)
- Fixed issue that was preventing switching into Dual Conversion mode of M1971-Series external mixers after switching into SEM measurement (499964)
- Fixed issue that caused analyzer set to External Mixing with M1971E external mixer to stop sweeping if start frequency is set > 68.5 GHz (499967)
- Fixed issue on analyzers with Opt H1G that required different settings of IF Gain depending upon the vintage of hardware (500427)

Real Time Signal Analysis (RTSA) Measurement Application

- Fixed issue in Spectrum and PVT measurements that caused signals near the beginning and end of the sweep to be reported at incorrect frequencies (typically an error of one sweep point) (490230)
- Fixed issue where turning Marker Table on or off caused a trace in Max Hold to be cleared and Max Hold to be restarted (500315)
- Fixed issue that caused ability to activate the Marker Table to come and go depending upon changes to the View (500317)
- Fixed issue that caused Spectrogram measurements CSV results to sometimes report incorrect start times (500599)

N6141A/C EMI Measurement Application

- Fixed issue in Frequency Scan measurement of N6141C that caused the Step Size and Marker frequencies in the pop-up windows to not be displayed with sufficient precision (501670)
- Fixed issue in Monitor Spectrum measurement that caused multiple spurs to be displayed when changing center frequency to values below 160 kHz in a 100 kHz span (502038)
- Fixed issue in Frequency Scan measurement that caused Quasi-Peak readings to vary widely if span is changed (502085)
- Fixed issue in Disturbance Analyzer measurement that caused the measurement to randomly crash when remotely fetching peak and quasi-peak data (502090)
- Fixed issue in Frequency Scan measurement of N6141A where the limit line colors were not correct when using the Flat Color theme (500728)
- Fixed issue in Frequency Scan measurement of N6141A where Dwell Time settings were not being recalled correctly when recalling a state (500616)
- Fixed issue with N6141C EMC measurement application where limit line table amplitude values were not properly displayed; the most significant digits were being truncated (485614)
- Fixed issue in Disturbance Analyzer measurement that resulted in returning a Pass result when an overload signal was present (500217)

N9061A/C Remote Language Compatibility Application

- Fixed issue which caused Phase Noise measurement application to crash when entered if Power On Preset was set to User Preset and user preset had Sweep Time Rule set to Accuracy (499460)

N9063A/C Analog Demod Measurement Application

- Fixed issue where the internal preamp was not available (grayed-out) even though the preamp was licensed (500698)

N9067C Pulse Measurement Application

- Fixed issue which caused XSA application to crash when switching into N9067C Pulse measurement and license for N9067C-2FP or N9067C-2TP was not installed (500625)

N9068A/C Phase Noise Measurement Application

- Modified Log Plot measurement to not require a carrier signal to make the DANL measurement. If a carrier is not detected, DANL measurement will use the previously-measured carrier frequency. (498256)

N9080B/C LTE / LTE-Advanced FDD Measurement Application

- Fixed issue in SEM measurement that resulted in high power levels being reported in the interference region if the intermod function was enabled and averaging is on (501084)
- In SEM measurement, corrected offset configuration result metric table when switching non-contiguous measurement region for multi-carrier non-contiguous measurement (502850)
- Fixed issue in Modulation Analysis measurement that caused CW0 Modulation Type from not being saved correctly in state files (501914)
- Fixed issue in ACP measurement that caused XSA application to crash if a state was recalled which had NCORR (Noise Correction) set to On (501852)

N9080C-3FP/3TP NB-IoT and eMTC Measurement Application

- Fixed issue in Modulation Analysis measurement of that caused crash to occur if using manual detection with no RB allocations (502686)

N9081A/C Bluetooth Measurement Application

- Improved the preamble sync algorithm so that a BLE 4.2 signal with a payload length of 96 and pattern type of AA will be properly demodulated (497650)

N9091EM0E Measuring Receiver Application

- Added SYSTem:COMMunicate:PMETer:TCONnect:STATe command to N9091EM0E Measuring Receiver application for backward compatibility to PSA (500864)

Keysight X-Series Analyzers

- N9020B, N9030B, N9040B, N9041B (Multi-touch Signal Analyzer models)

A.20.25 Version Information

Released Date:	April 2018
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.20.25.exe

New Features

- Added support for N9085EM0E 5G-NR Measurement application on N9020B, N9030B, N9040B, and N9041B (multi-touch signal analyzers that offer analysis bandwidth options >= 100 MHz)

Enhancements

- Same as A.20.22

Issues Resolved

- Same as A.20.22

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A (Non-Touch Signal Analyzer models)
- N9000B, N9010B, N9020B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B (Multi-touch Noise Figure analyzers)

A.20.22 Version Information

Released Date:	April 2018
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.20.22.exe

NOTE: A.20.22 fixes the defect found in instrument software versions A.20.03 and A.20.04 that caused measurement accuracy issues. Any analyzer running A.20.03 or A.20.04 should be upgraded to A.20.22 or later

New Features

- Support for Windows 10 operating system on PC6 and PC7 CPUs
- Alternate Mixing Mode feature added to I/Q Analyzer (Basic) mode

- First release to support new, traditional UI X-Series measurement application models: N9061EM0D, N9062EM0D, N9063EM0D, N9064EM0D, N9068EM0D, N9069EM0D, N9071EM0D, N9072EM0D, N9073EM0D, N9075EM0D, N9076EM0D, N9079EM0D, N9080EM0D, N9081EM0D, N9082EM0D, N9083EM0D, N6141EM0D, N6152EM0D, N6153EM0D, N6155EM0D, N6156EM0D

- First release to support new, multi-touch UI X-Series measurement application models: N9054EM0E, N9054EM1E, N9061EM0E, N9062EM0E, N9063EM0E, N9067EM0E, N9068EM0E, N9069EM0E, N9071EM0E, N9073EM0E, N9077EM0E, N9077EM1E, N9080EM0E, N9080EM3E, N9081EM0E, N9082EM0E, N9084EM0E

Enhancements

General X-Series

- Added ability to read in S2P corrections files from PNA directly into X-Series I/Q Analyzer (Basic) measurement application and apply them (484465)
- Extended Estimated Sweep Time feature to work with software preselection (N9041B only)
- Change Max Mixer Level limits on Port 2 of N9041B UXA
- Enabled use of Noise Floor Extension on N9041B UXA with Port 2.
- Added Screen Sequencer which permits multiple screens to be updated sequentially in a Multi-screen view on analyzers with the Multi-Touch UI.
- Trace Zoom usability improvements

I/Q Analyzer (Basic) Mode

- Added SCPI command to query whether the LO injection of the current mixing mode state is High side or Low side

N9067EM0E Pulse measurement application

- Added Pulse Density calculation
- Added two data types to Save -> Measurement data to export Pulse Descriptor Words (PDWs) with Waveforms

N9077EM0E WLAN measurement application

- L-SIG symbol (4-bit rate & 12-bit length) support to Single Info trace
- CPE degree result in IQ polar numeric result trace
- Packet Extension duration into SIG-A window in Burst Info view

N9080EM3D/E NB-IoT /eMTC measurement application

- For NB-IoTR Downlink:
    - Modulation Analysis (multi-touch only) and Conformance EVM:
        - Power auto scaling update for NPSS channel for following 3GPP standard definition
- For NB-IoT Downlink:
    - Modulation Analysis (multi-touch only) and Conformance EVM:
        - UE In-Band Emissions update: NPRACH in-band emissions support
        - NPUSCH decoding support
        - NPUSCH single-tone auto-detection:
            - NPUSCH format 1 or 2

        - Subcarrier spacer 3.75 kHz or 15 kHz
        - Mod Scheme pi/2-BPSK or pi/4-QPSK
        - Subcarrier offset in RB (n-sc)
    - NPUSCH multi-tone frequency error estimation algorithm improvement
- For eMTC Uplink:
    - Modulation Analysis (multi-touch only) and Conformance EVM:
        - BL/CE PUSCH decoding with no repetition case onlu
        - PL/CE PRACH demodulation

Issues Resolved

General X-Series

- Fixed issue where sending SCPI command to save a file does not clear any previous “Saved file” message from the screen (485198)
- Fixed issue on analyzers with Multi-touch GUI where, when recalling screen config + state, not all window settings are recalled properly (490576)
- Fixed issue where LXI web page’s Get Image feature does not work properly when “Change background to printer friendly colors” box is checked (494932)
- Fixed issue where Corrections were not working correctly with NFE set to Full or Adaptive (495035)
- Fixed issue on analyzers with Multi-touch GUI where the state file was not recalled properly if Display Theme had been set to Outline (478804)
- Fixed issue where grayout messages for Zoom Center and Zoom Span were incorrect when in Zero Span and Zoom Center was missing from the Sweep menu when in Swept Span (485433)
- Fixed issue on analyzers with Multi-touch GUI where the Display Line settability when in Linear scale was too coarse (492457)
- Fixed issue where Video Trigger was not triggering at the correct level when External Gain was enabled (496183)
- Fixed issue where the Estimated Sweep Time annotation value did not always agree with the value set (497773)
- Fixed issue on analyzers with Multi-touch GUI where the Print Page Setup screen does not allow setting of the margins and the units of the margins are not displayed (495720)
- Fixed issue in ACP measurement that caused IndexOutOfRangeExceptions and crashes when successive Noise Correction On/Off cycles were being performed using the IBW method (479983)
- Fixed issue in ACP measurement where Noise Correction was over compensating the trace when Low Noise Path was enabled (496042)
- Fixed issue that caused M1970 Series mixers to not be recognized after an M1971 Series mixer had been disconnected (489184)
- Fixed issue that caused flatness correction data to be lost when upgrading from versions <= A.18.56 to version A.20.03 through A.20.19 (498426)

I/Q Analyzer (Basic) Mode

- Fixed issue where it was not possible to set span to >12.5 MHz when the I/Q inputs were selected with I/Q Path set to I+jQ (495405)
- Fixed issue where Help system was missing information on saving IQ Spectrum Data to file (495608)

N6141A/C EMI Measurement Application

- Fixed issue in Frequency Scan measurement that caused the analyzer to crash when frequently cycling between scan, search, and measure (495764)
- Fixed issue in Frequency Scan measurement that caused Corrections to not be applied correctly for Meters (496723)

N9062A/C SCPI Language Compatibility Application

- Fixed issue in N9062A/C where the incorrect noise marker was being activated (496607)

N9068A/C Phase Noise Measurement Application

- Fixed issue in Log Plot measurement where it was not possible to save ALL traces via front panel or via SCPI commands (489388)

N9071A/C GSM/EDGE Measurement Application

- Fixed issue in Combined GSM measurement that caused analyzer to lock-up because of a memory leak (496941)
- Fixed issue in EDGE EVM measurement where the GUI becomes non-responsive after selecting the Data Bits view (497375)
- Fixed issue in Phase/Frequency Error measurement where most of the demod bits were not visible because they are shown in black which is the same color as background (498072)
- Fixed issue in Power vs Time measurement where an Execution Error message would occur if Meas Time was set to anywhere between 2 to 8 slots and Time Slot is set to more than zero (498259)
- Fixed issue in Power vs Time measurement where the burst type does not appear when the multi-slot view is selected (498353)

N9077A/C WLAN Measurement Application

- Fixed issue in Modulation Analysis measurement where the default value for the HE-LFT Size setting was being recalled rather than the value that was set when the state was saved (497814)

N9080A/B/C LTE / LTE-Advanced FDD Measurement Application

- Fixed issue in Conformance EVM measurement where Parameter List contents are not updated when another Component Carrier is selected (481681)
- Fixed issue in NB-IoT EVM measurement where the Symbol Time Adjust value in the Error Summary window is not being updated properly (497620)

N9082A/B/C LTE / LTE-Advanced TDD Measurement Application

- Fixed issue in Conformance EVM measurement where Parameter List contents are not updated when another Component Carrier is selected (481681)
- Fixed issue in Power versus Time measurement where the display precision of marker in Transmit On/Off Power only had 3 digits but 5 digits were needed (496412)
- Fixed issue in Transmit On/Off Power measurement where Noise Corrections were not correct after an External Gain value is changed (496996)

Keysight X-Series Analyzers

- N9020A (Non-Touch Signal Analyzer model)
- N9020B (Multi-touch Signal Analyzer model)

WARNING: Instrument software versions A.20.03 and A.20.04 have been found to contain a critical defect which may impact measurement accuracy. Do Not Upgrade to either of these versions.

If you recently upgraded to either A.20.03 or A.20.04, upgrade to A.20.22 or later

A.20.04 Version Information

Released Date:	February, 2018
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.20.04_Win7.exe

NOTE: A.20.04 does not support the N9000A and N9000B

New Features

- None

Enhancements

- None

Issues Resolved

- Fixed issue where Err -221, Settings Conflict error was generated when a state that had Electronic Attenuator feature enabled was recalled into an analyzer that did not have the required Option EA3 (494985)

Keysight X-Series Analyzers

- N9010A, N9030A (Non-Touch Signal Analyzer models)
- N9010B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B, (Multi-touch Noise Figure analyzers)

WARNING: Instrument software versions A.20.03 and A.20.04 have been found to contain a critical defect which may impact measurement accuracy. Do Not Upgrade to either of these versions.

If you recently upgraded to either A.20.03 or A.20.04, upgrade to A.20.22 or later.

A.20.03 Version Information

Released Date:	February, 2018
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.20.03_Win7.exe

NOTE: A.20.03 does not support the N9000A, N9000B, N9020A, and N9020B

New Features

- Added support for N9054EM1E, VMA Vector Modulation Analysis Customer OFDM Application on multi-touch analyzers
- Added support for N9091EM0E, Measuring Receiver Measurement Application
    - Only supported on N9030B as part of MMR-X (N5531X) system bundle
- Added support for Option FBP, Full Bypass Path on N9040B ordered with options H1G and 550

Enhancements

General X-Series

- Added a means to select which version of VSA software to run via the mode selection for multi-touch instruments (482562)
- In CCDF measurement, a warning message appears when the bandwidth chosen is wider than the preselector (YTF) bandwidth. (469089)
- Calibration files are now stored using MariaDB instead of SQL

N/W6141A/C EMC Measurements Application

- Added frequency controls in frequency panel of Disturbance Analyzer measurement (471908)

Issues Resolved

General X-Series

- Fixed issue where SCPI commands “DISPlay:WINDow:FORMat:ZOOM” and “DISPlay:WINDow:FORMat:TILE” did not work. (486835)
- Fixed issue where dragging-and-dropping a floating window could cause the XSA application to crash (490414)
- Fixed issue with Zoom Trace where the blue bar did not always reflect the relative size of the zoomed trace relative to the un-zoomed trace (494134)
- Fixed issue where using the “DISPlay:ENABle OFF” and “SYST:KLOCK ON” SCPI commands together did not result in the display being blanked on analyzers with multi-touch GUI (494710)
- Issue fixed that caused states saved with Electronic Attenuator enabled to cause an Err -221, Settings Conflict error message when the state is recalled on an analyzer not equipped with Opt EA3, Electronic Attenuator (494985)
- Fixed issue in Swept SA measurement where signal would disappear in a span of 50 kHz and RBW of 10 Hz if Opt FS1 and/or Opt FS2 was present (491002)

RTSA Measurement

- Fixed issue where using knob to set Acquisition time only allowed time to be increased, but not decreased (487548)
- Fixed issue that caused the Marker Table On/Off selection to not always be available (492445)

I/Q Analyzer (Basic) Mode

- Fixed issue in Complex Spectrum measurement that caused peaks at the start and stop frequency to not be detected by Peak Search algorithm (486366)

N9064A VXA Vector Signal Analysis Measurement Application

- Fixed issue where VXA was not enabled by older 89601X licenses (489187)

Channel Power Measurement

- Fixed issue that caused PASS/FAIL indicator to flash irregularly even when Limit Testing was off (484158)

N/W6141A/C EMI Receiver Measurement Application

- Fixed issue in Frequency Scan measurement where NFE was not being applied to the Meter data (489795)
- Fixed issue in Frequency Scan measurement that caused the noise floor of Meters to remain high as frequency was stepped down below 2 MHz (490135)
- Fixed issue where Power On state was not correct when set to User Preset (493608)

N/W9061A/C Remote Language Compatibility Application

- Fixed issue where sending the “KST” command to an 8568A/B caused the analyzer to perform an Instrument Preset (“IP”) (494243)

N9068A/C Phase Noise Measurement Application

- Fixed issue in Log Plot measurement where sending the SCPI command “DISPlay:LPLot:VIEW:NSEL 0 (or a negative number)” caused XSA application to crash (490153)

N9071A/C GSM/EDGE Measurement Application

- Fixed issue in Power vs Time measurement where Execution Error occurs when Averaging is turned on while in Single measurement mode (490149)

N9073C W-CDMA/HSPA+ Measurement Application

- Fixed issue that caused Fixed Delta Marker to not work properly in Modulation Analysis, Code Domain Power, and QPSK EVM measurements (457133)

N/W9080A/B/C LTE / LTE-Advanced Measurement Application

- Fixed issue in Modulation Analysis measurement where User View selection does not recall the selected trace type as expected (486837)
- Fixed issue in Modulation Analysis measurement where the trace selection tab is hidden when screen annotations are set to “Off” (486839)
- Fixed issue in Conformance EVM measurement where Immediate Action button does not always work (490148)

N/W9081A/C Bluetooth Measurement Application

- Fixed issue in Modulation Analysis measurement where the trace selection tab is hidden when screen annotations are set to “Off” (489052)

N/W9082A/B/C LTE-TDD/LTE-Advanced TDD Measurement Application

- Fixed issue in Modulation Analysis measurement where User View selection does not recall the selected trace type as expected (486837)
- Fixed issue in Modulation Analysis measurement where the trace selection tab is hidden when screen annotations are set to “Off” (486839)

N9083A Multi-Standard Radio Measurement Application

- Fixed issue in Conformance EVM measurement where 256QAM signal is not correctly demodulated when recalling E-TM3.1A preset file (fps). (489339)

Keysight X-Series Analyzers

- N9010A, N9020A, N9030A (Non-Touch Signal Analyzer models)
- N9010B, N9020B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B, (Multi-touch Noise Figure analyzers)

A.19.55 Version Information

Released Date:	October 2017
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.19.55_Win7.exe

NOTE: A.19.55 does not support the N9000A and N9000B

New Features

N9062C SCPI Language Compatibility

- Supports R&S FSP, FSU, FSE, and ESU

Enhancements

General X-Series

- In RTSA mode, Normal view, marker amplitudes no longer reported as “Infinity dBm” when signal is above the reference level (432474)
- Save/Recall functions supported when controlling SA via web interface (465624)
- In CCDF measurement, a warning message appears when the bandwidth chosen is wider than the preselector (YTF) bandwidth. (469089)

I/Q Analyzer Mode

- Added LO Dither for UXA with Opt H1G
- Increased the maximum number of I/Q points from 5,000,000 to 8,000,000. This allows a wider selection of measurement time settings for a given sample rate (480991)

N/W6141A/C EMC Measurements Application

- Allow retrieval of partial data for Disturbance Analyzer
- Added Limit Line for EN55032
- Preloaded Near Field probe N9311X Corrections
- Added maximum value from meter into signal list (multi-touch only)
- Bring Signal List into Strip Chart (multi-touch only)
- Added switch menu for max hold of meters (multi-touch only)
- Couple detectors for meters, scan and measure (multi-touch only)
- Limit lines for Radiated, Class A, Group 1 LTE to 20 kVA Quasi Peak for 3m and Radiated, Class A, Group 1 LTE to 20 kVA Quasi Peak for 30m were added. (473944)
- Twenty (20) limit line files added to the EMC Limits and EMC Ampcor\Limits folders to support CISPR32-2015 standard. (475795)

N9063A/C Analog Demod Measurement Application

- Y-Ref value maximum setting extended from +30 dBm to +50 dBm. (482983)

N9067C Pulse Measurement Application

- Added TOA Raster trace
- Multi-Emitter filtering (max 4)
- Pulse Scoring
- Correction/Time sidelobe measurement
- Segmented Capture in time unit (Gated Acquisition with Wideband Digital IF)
- Sorting metrics on Pulse table

N9077A/C WLAN Measurement Application

- Added “Quad Display” view (IQ constellation, OFDM Error Vector vs Time, FFT Spectrum, and Error Summary)
- Added Auto Detection for multiple WLAN formats
- Added support for IEEE draft v1.3 update (WLAN 11ax)
- Added GI and HE-LTF mode auto detection (WLAN 11ax)

N9080B/C-2FP LTE-Advanced FDD Measurement Application

- Added Uplink 256QAM demod and decode to Modulation Analysis and Conformance EVM measurements

N9080B/C-3FP NB-IoT/eMTC Measurement Application

- For NB-IoT Uplink:

    - Modulation Analysis (multi-touch only) and Conformance EVM
        - UE In-Band emissions updates
            - 3 separate worst results: General, General + Carrier Leakage, and General + IQ Image
            - RB EVM Trace with limit masks
        - Added NPRACH demod
    - TX On/Off Time Mask:
        - 15 kHz & 3.75 kHz single-tone Power vs Time
        - NPRACH Power vs Time
- eMTC Downlink
    - Modulation Analysis (multi-touch only) and Conformance EVM
        - BL/CE PDSCH demod and decode
        - BL/CE MPDCCH demod

N9082B/C-2FP LTE-Advanced FDD Measurement Application

- Added Uplink 256QAM demod and decode to Modulation Analysis and Conformance EVM measurements

Issues Resolved

General X-Series

- Fixed issue where Alignment Statistics were being updated for the Noise Floor Characterization even if the characterization failed. (463496)
- Fixed issue where analyzer was unable to discover other devices on GPIB when GPIB Controller was Enabled (477491)
- Fixed issue where Marker Count feature was available in RTSA mode in multi-touch analyzers; Marker Count should not be available in RTSA (481975)
- Fixed issue that was causing low memory warnings to occur as a result of how event log messages were handled (483108, 482721)
- Fixed issue that was causing degraded pulse response in zero span (484552)
- Fixed issue that was causing previous event messages to be included when remotely capturing screen images but previous messages are not applicable (485198)
- Fixed issue that was causing Execution Errors when analyzer was booting up into RTSA mode, Density view, and analyzer is accessed via Remote Desktop (487574)
- Fixed issue in multitouch UI where trace appears to be frozen when using a front panel gesture that is interrupted by a SCPI command (483107)
- Fixed issue in Corrections feature of multitouch UI that caused assertion failures when entering data into Correction 8 (Corrections 1 through 7 are OK) (486251)
- Fixed issue in Spur measurement of VMA, W-CDMA, MSR, LTE, and WLAN measurement applications that caused analyzer to crash when SCPI command “SENSe:SPURious:RANGe:LIST:FREQuency:CENTer?” was sent (486995)

- Fixed issue N9041B when using RF Input 2 that caused ACP Fast Power measurement to not work (487657)
- Fixed issue in N9041B UXA where Fast Power measurements made with RF Input 2 did not have RF flatness corrections applied (482404)
- Fixed issue in N9041B UXA where Noise Correction in Fast Power measurements was not being applied when RF Input 2 is selected (485591)

ACP Measurement

- Fixed issue in ACP measurement where Adaptive NFE corrections were intermittently not being applied (484360)

Channel Power Measurement

- Fixed issue in Channel Power measurement of multitouch UI where gate length was not being recalled from state file correctly (484150)

Occupied Bandwidth Measurement

- Fixed issue in multitouch UI where sweep time annotation of OBW measurement did not indicate FFT sweeps appropriately (481531)

Spurious Emissions Mask Measurement

- Fixed issue in SEM measurement of multitouch UI where trace data is not properly updated after changing the scale/div in single sweep (484036)
- Fixed issue in SEM measurement where the marker amplitude reading was impacted by the span scale/division setting (482303)

CCDF Measurement

- Fixed issue in CCDF measurement in SA mode when using bandwidths >255 MHz not giving correct results due to IF flatness errors (487025)

N/W6141A/C EMI Receiver Measurement Application

- Fixed issue in Monitor Spectrum measurement that caused Meters RBW annotation to not be correct when set back to Auto (439120)
- Fixed issue with multitouch UI where pressing Meas Preset would only clear trace data after Scan and Search; ‘x’ marks were not being cleared (478297)
- Fixed issue in Strip Chart measurement where issuing LISN control commands, followed by INIT:RESTart, then more LISN control commands causes remote control timeouts to occur (479024)
- Fixed issue in Disturbance Analyzer measurement where measurement would crash when measurement duration is changed (483960)
- Fixed issue in Disturbance Analyzer and Strip Chart measurements of N6141C EMI Receiver mode (multitouch UI) where trace and marker readouts are in dBm, not dBuV (484234)

- Fixed issue in Disturbance Analyzer measurement of N6141C EMI Receiver mode (multitouch UI) where pressing Start Key displays Meas Result view instead of Normal view (484567)
- Fixed issue in Frequency Scan measurement of N6141C EMI Receiver mode (multitouch UI) where Final Measurement Detectors were not greyed out when scan is running; changing the detectors at this point could cause crash (485040)
- Fixed issue in Disturbance Analyzer measurement where, if Durations settings for Hour, Minutes, and Seconds are all set to zero, the application might crash (485910)
- Fixed issue in Frequency Scan measurement where a crash could occur when turning on a marker following a Mode Preset (486010)
- Fixed issue where error event occurs when recalling a limit line file with relative unit of dB (486641)

N/W6152A Digital Cable TV Measurement Application

- Fixed issue in the Modulation Accuracy measurement that caused BER result of J.83B 256QAM signal to be greater than 1.E-8 (486577)

N9054C Vector Modulation Analysis Measurement Application

- Fixed issue to add I/Q Rotation to demod analysis measurement (480264)
- Fixed issue in Spur measurement of VMA, W-CDMA, MSR, LTE, and WLAN measurement applications that caused analyzer to crash when SCPI command “SENSe:SPURious:RANGe:LIST:FREQuency:CENTer?” was sent (486995)

N9062A SCPI Language Remote Compatibility Measurement Application

- Fixed issue to allow RBW to be set to 100 kHz and 120 kHz when BW Type is set to Pulse in SCPI Language Compatibility mode when emulating R&S ESU. (485980)
- Fixed issue that was causing CALC:MARK:X <time> to not position the marker properly in zero span when emulating the FSEA in N9062A/C SCPI Language Compatibility mode (487426)

N/W9068A/C Phase Noise Measurement Application

- Fixed issue in Log Plot measurement of N9068A/C Phase Noise measurement application where trace point drops out and amplitude reports as -infinity (483833)

N/W9069A/C Noise Figure Measurement Application

- Fixed issue causing errors in Noise Figure results when both frequency and bandwidth interpolation are enabled (487928)

N/W9077A/C WLAN Measurement Application

- Fixed issue causing crash in WLAN 802.11ah EVM measurement when receiving various CBW1 MCS messages. (485864)

- Fixed issue in Spur measurement of VMA, W-CDMA, MSR, LTE, and WLAN measurement applications that caused analyzer to crash when SCPI command "SENSe:SPURious:RANGe:LIST:FREQuency:CENTer?" was sent (486995)

N/W9080A/B/C LTE / LTE-Advanced Measurement Application

- Fixed issue in LTE/ NB IoT EVM measurement where two parameters, Reference Component Carrier and RB Offset, were not being recalled properly (486690)
- Fixed issue where Global tab was missing in LTE-A FDD and LTE-A TDD Modulation Analysis measurements, not allowing access to Global Center Freq and Extend Low Band settings (470768)
- Fixed issue that allowed 256QAM files to be recalled even if a license for N9080A/B/C-2FP was not installed (476768)
- Updated the calculation algorithm of Uplink CA "Aggregated chan BW" to be consistent with the definition in the 3GPP TS36.521 UE conformance test standard. Applies to LTE-A ACP measurement in MultiTouch analyzers. (483487)
- Fixed issue in Spur measurement of VMA, W-CDMA, MSR, LTE, and WLAN measurement applications that caused analyzer to crash when SCPI command "SENSe:SPURious:RANGe:LIST:FREQuency:CENTer?" was sent (486995)

N/W9082A/B/C LTE-TDD/LTE-Advanced TDD Measurement Application

- Fixed issue where Global tab was missing in LTE-A FDD and LTE-A TDD Modulation Analysis measurements, not allowing access to Global Center Freq and Extend Low Band settings (470768)
- Fixed issue that SEM Power Ref was not being recalled from state file in LTE-TDD (N9082B) (485146)
- Fixed issue in Spur measurement of VMA, W-CDMA, MSR, LTE, and WLAN measurement applications that caused analyzer to crash when SCPI command "SENSe:SPURious:RANGe:LIST:FREQuency:CENTer?" was sent (486995)

Keysight X-Series Analyzers

- N9010A, N9020A, N9030A (Non-Touch Signal Analyzer models)
- N9010B, N9020B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B, (Multi-touch Noise Figure analyzers)

A.19.29 Version Information

Released Date:	August, 2017
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.19.29_Win7.exe

NOTE: A.19.29 does not support the N9000A and N9000B

New Features

- None

Enhancements

- None

Issues Resolved

General X-Series

- Fixed issue when using version A.19.28 which caused several Trial licenses to not enable the desired measurement application (486246)

Keysight X-Series Analyzers

- N9010A, N9020A, N9030A (Non-Touch Signal Analyzer models)
- N9010B, N9020B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B, (Multi-touch Noise Figure analyzers)

A.19.28 Version Information

Released Date:	August, 2017
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.19.28_Win7.exe

NOTE: A.19.28 does not support the N9000A and N9000B

New Features

General X-Series

- Added support for options N9020B-544 and N9020B-550, 44 GHz and 50 GHz mm-wave frequency range.
- Added support for option RBE, Resolution Bandwidth Extended on the N9020A/B, N9030A/B, and N9040B.
- Added support for option DUA, Duplex IF RTSA on the N9030B and N9040B.

N9067C, Pulse Application

- Added enhancement for Pulse Modulation

N9068C, Phase Noise Measurement Application

- Added configurable Limit Masks

N9077A/C, WLAN 802.11a/b/g/n/ac/ah/af/ax Measurement Application

- Added Optimize EVM feature
- Added SIG-A decoding

N9080B/C, LET/LTE-Advanced FDD Measurement Application

- N9080B/C-3FP Adds Downlink In-Band mode
- N9080B/C-3FP Adds Tx Div TAE
- N9080B/C-3FP Adds UL Follow-On

N9081A/C, Bluetooth Measurement Application

- Added 5.0 updates
- Added Decoding feature
- Added Advertise Packet & Device ID
- Added Coded 1Ms/s

N9083A, Multi-Standard Radio (MSR) Measurement Application

- Added LTE-A DL 256AM Support

Enhancements

General X-Series

- Negative trigger delays of up to -10s are now available in Swept SA zero span (475870)
- It is now possible to assign different inputs to different Screens in Multiscreen mode

Issues Resolved

General X-Series

- Fixed issue where a few times per day, all data in the Marker Table disappears, requiring power cycle to restore proper operation (467226)
- Fixed issue in RTSA mode where it was possible to set acquisition time >40s if the state is saved and recalled (476245)
- Fixed issue in RTSA mode where if acquisition time was set to >= 57.4s, the acquisitions occur at a much faster rate than specified (476246)
- Fixed issue in RTSA mode where RBW selections were wider than they should be (476784)
- Fixed issue that caused CXA-m to crash when launching 89601B (474418)
- Fixed issue that caused crashes when recalling states which required changing mode or measurement. Display is no longer updated during Mode Preset or Recall (478835)
- Fixed issue that caused crashes when analyzer is directed to print to an invalid printer (479467)

- Fixed issue on A-model analyzers where pressing File and then Page Setup did not result in the page setup menu appearing (473530)
- Fixed issue in I/Q Analyzer (Basic) mode on analyzers with Opt B5X (PXA and UXA) where the 2nd IF Output frequency is reported incorrectly when the analysis bandwidth is set > 40 MHz and <= 255 MHz (475571)
- Fixed issue where the trace and limit lines were the same color when saving screen images with the Flat Color theme (472714)
- Fixed issue where titles in the Corrections menu were not displayed correctly (477585)
- Fixed issue where LO was being skewed when making a Time Gating measurement with Control set to Level and external trigger a square wave of frequency 10 Hz or less (474194)
- Fixed issue in CXA (N9000A/B) where large spur appears at stop frequency in some spans (474212)
- Fixed issue where zero span triggering is inconsistent when trigger delay is negative (462880)

Occupied Bandwidth Measurement

- Fixed issue where Max Hold did not work (481854)

Spurious Emissions Mask Measurement

- Fixed issue where spur is not found if it is at frequency between two contiguous ranges (473137)

N6141A/C EMI Receiver Measurement Application

- Fixed issue where recalling state file caused XSA application to lock-up; only System and Mode keys worked (481916)
- Fixed issue where sweeps were very slow between 4.3 and 4.8 GHz on RF and microwave analyzers; only millimeter wave analyzers should be slow in this range (478112)
- Fixed issue where Meters RBW value was not being properly recalled when saved in state file. (477548)
- Fixed issue where marker position and trace updates were not properly synchronized (476178)
- Fixed issue where noise level changed between software versions A.16.17 and A.18.24 (475858)
- Fixed issue where recalled trace files were not being recalled correctly; some data was missing (475077)
- Fixed issue where trace was being blanked when returning to View mode after having been set to Blank (474686)
- Fixed issue where Meters and Measure at Marker do not agree in Frequency Scan measurement (467582)
- Fixed issue on analyzers with Opt H1G that caused amplitude of spur 50 MHz below the center frequency to be too high in I/Q Analyzer (Basic) mode (463762)

N9061A Remote Language Compatibility Measurement Application

- Fixed issue in 856xE/EC emulation in external mixing mode where stop frequency limit caused start frequency limit to be set incorrectly (476169)

Keysight X-Series
Analyzers

Keysight X-Series Analyzers

- N9041B, UXA Signal Analyzer

A.19.17 Version Information

Released Date:	August, 2017
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.19.17_Win7.exe

New Features

- None

Enhancements

- None

Issues Resolved

- Corrected amplitude issues near 50 GHz when switching from Port 2 back to Port1
- Fixed possible amplitude error above 3.6 GHz when analyzer is using 1 GHz IF Path (Option H1G units only)

Keysight X-Series Analyzers

- N9041B, UXA Signal Analyzer

A.19.16 Version Information

Released Date:	June, 2017
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.19.16_Win7.exe

New Features

- Initial instrument software release for the N9041B Signal Analyzer

Enhancements

- None

Issues Resolved

- None

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A (Non-Touch Signal Analyzer models)
- N9000B, N9010B, N9020B, N9030B, N9040B (Multi-touch Signal Analyzer models)
- N8973B, N8974B, N8975B, N8976B, (Multi-touch Noise Figure analyzers)

A.19.05 Version Information

Released Date:	March, 2017
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.19.05_Win7.exe

New Features

- None

Enhancements

- None

Issues Resolved

General X-Series

- Fixed an issue where the uncorrected amplitude was 10 dB lower than expected on the N9000A and N9000B, CXA Signal Analyzers with the internal preamplifier option installed (476000)
- Fixed an issue with option RTS, Real Time Streaming where the Test Pattern was not correct. The change was made to the RTSA, Real Time Spectrum Analyzer code where the Wideband Digital Bus output is controlled (476141)

- Fixed an issue where the input signal can become very unstable in a span of 5 MHz and an RBW ≤ 3 kHz (476839)

N6141A/C, EMI Application

- Fixed an issue where the trace smoothing process created a lag when trying to use the front panel knob (474685)
- Fixed an issue where the Meter can become unresponsive after being loaded with a full signal list (473760)

N9069A/C, Noise Figure Measurement Application

- Fixed an issue where the application will close when Peak Search is invoked (477243)

Keysight X-Series Analyzers

- N9010A, N9020A
- N9010B, N9020B Multi-touch
- N8973B, N8974B, N8975B, N8976B, Multi-touch

A.19.02 Version Information

Released Date:	March, 2017
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.19.02_Win7.exe

New Features

- Added support for N6141C, EMI Measurement Application
- Added support for N9054C, Vector Modulation Analysis Measurement Application
- Added support for N9061C, Remote Language Compatibility Measurement Application
- Added support for N9071C, GSM/EDGE Measurement Application
- Added N9080B/C-3FP, NB-IoT and eMTC
- Added N9077C-8FP, WLAN 802.11ax Single-User measurements to the N9077C, WLAN Measurement Application
- Added N/W9081A-3FP and N9081C-3FP, Bluetooth LE 5.0

Enhancements

General X-Series

- Added PVT as a User View in RTSA mode (438148)
- Modified Powergram to work like Spectrogram where changing the Ref Level and Scale/Div in the top window will change the coloration of the traces in the bottom window (474599)
- Added an annotation for the Microwave Preselector state (473673)
- Increased the maximum number of points to 100,001

- Added Frequency, Time Lines, Marker Table and Spectrogram results to the SA FETCh command
- Added the following Max Mixer Rules:
    - Normal – balance TOI, noise and compression
    - TOI – limited dynamic range
    - Compression – limited dynamic range
- Added Multi-window support in SA and RTSA modes
- Added zero span support for Trace Zoom
- Added screen tabs in the multi-touch UI
- Added the ability to “drag” lines in the multi-touch UI
- Added Powergram Measurement in RTSA mode
- Added Capture Time Implementation in RTSA mode
- Added “Rubber Banding”

N9061A/C, Remote Language Compatibility Application

- Added support for the FDSP ON command in the N9061A-2FP (473660)
- Added support for CNVLOSS command (474006)

N9067A/C, Pulse Measurement Application

- Added Record and Playback
- Added Gated acquisition
- Added Waveform Import/Export
- Added De-Interleave
- Added Analysis Range
- Added Pulse Modulation (Beta)
- Added Variable Length Segmented capture

N9077A/C, WLAN Measurement Application

- Added Multi-carrier filter to 802.11n and 802.11ac standards

Issues Resolved

General X-Series

- Fixed an issue where the “Waiting for Trigger” message can appear even in Free Run (470105)
- Fixed an issue where the Video Trigger level is not taking Reference Level Offset into account (468427)
- Fixed an issue on multi-touch instruments where the XSA application will close when setting the external gain value with character “-“ first (473213)
- Fixed an issue where the RBW Filter Shape/Type was not being saved as part of a save state (471300)
- Fixed an issue where the [MEASure|READ|FETCh:SANalyzer7 did not force a -221 conflict Settings System Error event when the Peak Table was not on (471543)
- Fixed a spelling error “Noice” for the Max Mixer Lvl Rule (472170)
- Fixed an issue with frequency drift when using option FS1, Fast Sweep over an 8-hour period with Auto Alignments On (473139)
- Fixed an issue with long deep captures that return a strange waveform on instruments with options B5X, 510 MHz Analysis BW and DP4, Enhanced Processor (469228)
- Fixed an alignment failure when using USB external mixers (469822)
- Fixed a discontinuity at 54 GHz band break when using the M1971V (474169)

N9067A/C, Pulse Measurement Application

- Fixed an issue where the Scatter trace would be incorrect when changed to Phase trace then back to Scatter trace (467101)

N9068A/C, Phase Noise Measurement Application

- Fixed an issue where the graticule was drawn incorrectly when the start offset is ~100 kHz and the stop offset is between 1 MHz and 2 MHz (468695)
- Fixed an issue in the Spur Search measurement where a fractional part of the offset frequency in the Spur Table is rounded in 1 Hz resolution (473531)

N9073A/C, WCDMA Measurement Application

- Fixed an issue with a few of the measurements where incorrect amplitude unit choices per the standard were included as the terminator and should not have been (460746)

N9080B, LTE/LTE-Advanced FDD Measurement Application

- Fixed an issue where the decoded symbol table is blank when it should show all zeroes (470653

A.18.24 Version Information

Released Date:	January, 2017
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.18.24_Win7.exe

New Features

N9077C, WLAN Measurement Application

- Added support for 802.11af

N9084C, Short Range Communications Measurement Application

- Initial release for multi-touch instruments

General X-Series

- Added support for option FS2, Enhanced Fast Sweep Speed

N9080B/C, N9082B/C, LTE Measurement Application

- Added Include/Exclude PUSCH DM-RS on multi-touch instruments

Enhancements

General X-Series

- Added dual color grading for Powergram and Spectrogram in RTSA mode
- Added the ability to display both color bars when viewing Density Spectrogram in RTSA mode

N9080B/C, N9082B/C, LTE Measurement Application

- Updated EQ Training and EVM Minimization presets to be aligned with the 3GPP TS36.141 Annex F4.1 and TS36.521-1 Annex E.3.1 & E3.2 (462035)
- Updated the calculation algorithm of Uplink CA “Aggregated chan BW” to be consistent with the definition in the 3GPP TS36.521 UE conformance test standard (466087)

Issues Resolved

General X-Series

- Fixed an issue where the knob is disabled when changing the regional options and language settings (463915)
- Fixed and issue where the GPIB control of external devices is not working (469398)
- Fixed issue when in Local Lockout (LLO) then sending the Go To Local (GTL) command will not return the analyzer to local (454979)
- Fixed an issue where the FETCh:SAN0? did not return the results until averaging is complete (461065)
- Fixed an issue where the Elec Atten was set to Disabled, yet the Elec Atten still works if any value larger than 0 dB is set (461330)
- Fixed an issue where the SCPI command for turning on display lines 2 to 4 had an invalid syntax (462418)
- Fixed an issue where a filename can be overwritten if the drive letter is capitalized, but not if in lower case (469916)
- Fixed an issue where clicking on three dots breadcrumb causes the Xsa application to close (466589)
- Fixed an issue where the LXI Web Interface was returning stale data for the trace data results (468491)
- Fixed an issue when recalling an internal mixing state while in External Mixing, it is necessary recall the state file a second time for correct settings (467413)
- Fixed an issue where the User IF Freq is getting stuck when going to another external mixer that does not support User IF Freq on instruments with option EXM, External Mixing (461050)
- Fixed an exception error when sending SYST:PRES when in External Mixer Setup dialog (468760)
- Fixed an issue where there was a mismatch between Average and Peak detectors when using Option ESC, External Source Control (463668)
- Fixed an issue when using both the U7227x external USB preamplifier and having the internal preamplifier turned On that the Xsa application intermittently closes on multi-touch instruments (467838)
- Fixed an issue where a user could change the PvT window to Density but then could not change it back when using RTSA mode (462855)
- Fixed an issue where spans less than 2 MHz become unstable in Spectrogram Mode/View when in RTSA mode (461773)
- Fixed an issue where there was a Histogram “stall” when in RTSA mode on instruments that have option DP4, Digital Processor, 4 GB capture memory (471318)

N6141A, EMI Measurement Application

- Fixed an issue where pressing Measure at Marker twice causes the analyzer to hang up and the Xsa application has to be closed and restarted (468118)
- Fixed an issue where the Theme intermittently stays as “Flat” when saving measurement results during a Frequency Scan (452834)
- Fixed an issue where the reported marker value was incorrect when using a correction group (466011)
- Fixed an issue where the Frequency Scan is measuring the peak of the signal of CISPR 9 kHz instead of MIL 10 kHz (466379)
- Fixed an issue where Discrete Scan will hang at >3.6 GHz frequency when points per RBW=2 (467312)
- Fixed an issue when NFE is turned On while in Discrete Scan using instrument software version A.18.14 produces a large amount of noise (467596)
- Fixed an issue when loading a saved state, the stop frequency of Range 3 is incorrect when Range 3 and Range 4 are active (468858)
- Fixed an issue where there was a difference in the noise floor response with and without TDS (Time Domain Scan) activated (444808)

N9061A/C, Remote Language Compatibility Mode

- Fixed a mapping issue where SAVE/RCLS 0 in RLC mode to register 10 as legacy HP8563 supports RCLS 0-9, not 1-10 (471717)

N9068A/C, Phase Noise Measurement Application

- Fixed several issues with default settings when switching between Monitor Spectrum and Log Plot measurements when in External Mixing (466644)

N9080B/C, N9082B/C, LTE Measurement Application

- Fixed an issue where the Resolution Bandwidth and Spectrum Trace should be proportional to the Time Scale Factor (463628)
- Fixed an issue where the Ref Carrier Power is not correct when Power Ref Type is Aggregated BW in LTE-A multi-carrier case (466169)
- Fixed a documentation issue where we missed documenting Cell ID Mode Help text (470492)

89601B

- Fixed an issue where an error was occurring when writing to a recording file (461964)

Spurious Emissions Mask (Multi-touch instruments)

- Fixed an issue where the delta limit values were shown in dBm, not dB (465956)
- Fixed an issue when the radio device is set to MS, the GUI setting tables were invalid (469202)

Adjacent Channel Power (Multi-touch instruments)

- Fixed an issue with odd behavior when using Adaptive NFE feature (466643)

Occupied Bandwidth

- Fixed an issue where phase noise optimization should be using Fast Tuning (466695)

A.18.17 Version Information

Released Date:	October, 2016
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.18.17_Win7.exe

New Features

- None

Enhancements

- None

Issues Resolved

- Fixed an issue where option B1X, 160 MHz Analysis BW functionality was missing on N9030A's (465583)
- Fixed an issue where the analyzer noise floor at higher frequencies was incorrect on N9030A's only (466434)
- Fixed an issue in the Adjacent Channel Power measurement in SA mode has incorrect behavior with Adaptive Noise Floor Extensions (466643)
- Fixed an issue with Noise Floor Extensions in A.18.14 when External Gain has a high negative value (467504)
- Fixed a front panel touch response issue on multi-touch instruments (465826)

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A
- N9000B, N9010B, N9020B, N9030B, N9040B, Multi-touch
- N8973B, N8974B, N8975B, N8976B, Multi-touch

A.18.14 Version Information

Released Date:	September, 2016
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.18.14_Win7.exe

New Features

- Added support for N9077C, WLAN Measurement Application, multi-touch UI
- Added support for N9084C, Short Range Communications Measurement Application, multi-touch UI

N9067C, Pulse Measurement

- Added Scatter plot view to visualize pulse parameters

N/W9068A, Phase Noise Measurement Application

- Added N/W9068A-CFP Phase Noise Minor Enhancements (orderable via N/W9068A-MEU) to support the following features:
    - Log Plot has a new table to show spurs with relative power in dBc and jitters. The result can be saved into .csv file.
    - FFT offset region expansion to >1 MHz with AM noise rejection

N/W9071A, GSM/EDGE/Evo Measurement Application

- Added N/W9071A-CFP, GSM/EDGE/Evo Minor Enhancements (orderable via N/W9071A-MEU) to support the following feature:
    - Additional result value in ORFS with total power and MC BTS Class with option 3FP

N/W9077A, WLAN 802.11a/b/g/n/ac/ah/af Measurement Application

- Added N9077A-7FP, 802.11af analysis capabilities
- Added N/W9077A-AFP, WLAN Enhancements (orderable via N/W9077A-MEU), Minor Enhancement Update to enable the following features:
    - Supporting 1024QAM modulation and MCS 10 & 11 in 802.11ac with option 4FP/4TP
    - Updated 802.11b EVM based on the definition 802.11-2012 version with 2FP/2TP
    - Marker trace EVM
    - More flexible trace units in X-scale

N/W9080B, LTE/LTE-Advanced FDD Measurement Application

- Added the following features with 2FP/2TP:
    - 3GPP Release 12
    - Downlink PDSCH 256QAM
    - Uplink virtual cell ID setting

N/W9082B, LTE/LTE-Advanced TDD Measurement Application

- Added the following features with 2FP/2TP:
    - 3GPP Release 12
    - Downlink PDSCH 256QAM
    - Uplink virtual cell ID setting

N9080C, LTE/LTE-Advanced FDD Measurement Application, multi-touch UI

- Added the following features with 2FP/2TP:
    - 3GPP Release 12
    - Downlink PDSCH 256QAM
    - Uplink virtual cell ID setting

N9082C, LTE/LTE-Advanced TDD Measurement Application, multi-touch UI

- Added the following features with 2FP/2TP:
    - 3GPP Release 12
    - Downlink PDSCH 256QAM
    - Uplink virtual cell ID setting

Enhancements

- None

Issues Resolved

General X-Series

- Fixed an issue where Auto Tune left the analyzer in single sweep, although the annotation indicates continuous sweep (462549)
- Fixed an issue where the trace color was incorrect when both upper and lower limit lines were active (463194)
- Fixed an isolated customer case where the XSA application would close when connected to LAN network (463589)
- Fixed an issue where the Marker Freq/Time is supposed to be the default active function under Marker. On the "A" models this is working, but in the "B" models (multi-touch) under some conditions, it is not (463062)
- Fixed an issue where the XSA application closes when scrolling the lower window with Zone Span On (463494)
- Fixed an issue where the GPIB address cannot change via the front panel on "B" models (multi-touch) with A.18.05 instrument software (464714)
- Fixed an issue where the Numeric Entry Panel does not disappear when knob is turned or the up/down keys are pressed (464720)
- Fixed an issue where Auto Tune was changing the Scale/Div (465155)
- Fixed an issue where the Max Mixer Level is not being recalled properly from State files (465559)
- Fixed an issue where instruments with option 503 would have an alignment failure on instruments with A.17.55 to A.18.05 (464894)

N6141A, EMI Application

- Fixed an issue where the Meter units were not showing properly for linear units (454513)
- Fixed an issue where Trace was not overloaded but the Meters clearly overloaded (456868)
- Fixed an issue where the application locks up when an overload is detected (457843)
- Fixed an issue where loading the customer limit line into Limit registers above Limit 1 did not work (461467)
- Fixed an issue when loading in a state file from Register 3 with one limit line includes additional lines (461479)
- Fixed an issue the user gets "data out of range, invalid list data" error when recalling trace written with state file (461486)
- Fixed an issue where noise floor extensions were not applied for Quasi Peak Detector in the Time Domain Scan measurement (465449)

N9061A, Remote Language Compatibility Application

- Fixed an issue where A block for TRA cannot work and Bit3 (decimal value 8) behaves different from that in 8563E (462233)

N9067C, Pulse Measurement Application

- Fixed an issue of missing SCPI commands INIT:PAUSe/RESume (464420)

N9080A, LTE FDD Measurement Application

- Fixed an issue where LTE Modulation Analysis results do not update the title when the result is changed in Edit Mode (463870)

N9082A, LTE TDD Measurement Application

- Fixed an issue where LTE Modulation Analysis results do not update the title when the result is changed in Edit Mode (463870)

N9080B/C, LTE/LTE-Advanced FDD Measurement Application

- Fixed an issue where LTE Modulation Analysis results do not update the title when the result is changed in Edit Mode (463870)
- Fixed an issue where In-band Emission is missing on the multi-touch UI and Cross-Carrier In -band Emission is not working (461803)
- Fixed an issue where Save➔Export Data➔Meas Result saves only CCO (462161)
- Fixed an issue where the markers are not accurate on transmit On/Off traces (463397)
-

N9082B/C, LTE/LTE-Advanced TDD Measurement Application

- Fixed an issue where LTE Modulation Analysis results do not update the title when the result is changed in Edit Mode (463870)
- Fixed an issue where Save➔Export Data➔Meas Result saves only CCO (462161)
- Fixed an issue where the markers are not accurate on transmit On/Off traces (463397)

IQ Analyzer (Basic)

- Fixed an issue with “FETCh:FCAP?” blocks in IQ analyzer on the N9040B with option H1G (463541)

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A
- N9000B, N9010B, N9020B, N9030B, N9040B, Multi-touch
- N8973B, N8974B, N8975B, N8976B, Multi-touch

A.18.05 Version Information

Released Date:	August, 2016
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.18.05_Win7.exe

New Features

- Added support for the N9081C, Bluetooth® Measurement Application, multi-touch UI

Enhancements

General X-Series

- Added the ability to query a limit line trace (179064)
- Added the ability to go into Zero Span when in Trace Zoom (453066)

N6141A, EMI Measurement Application

- Added the Signal List to the Save/Recall process (454127)
- Added Zero Span partial updates when there is both negative and positive trigger delay (446716)

N9063C, Analog Demodulation Measurement Application

- Added two keys to enable Demod Waveform start time and points setting (459050)
- Added two keys to enable saving and using current Demod Waveform as reference for future measurement (459050)
- Added one key to enable Manual HPF filter setting (459050)

N9064A, VXA Vector Signal Analysis Measurement Application

- Updated the input ranging information for the VSA algorithm (453317)

N9068A, Phase Noise Measurement Application

- Added Spur Table where the readout is dBc instead of dBc/Hz) in the Log Plot measurement (445464)

N9069A, Noise Figure Measurement Application

- Added SCPI to turn on DUT setup display (456266)

N9069A/C, Noise Figure Measurement Application

- Added Top Value and Bottom Value on Y Scale panel (457971)
- Changed Marker behavior to be consistent with NFA-A models (457977)
- Updated Marker readout to be 3 significant digits (457980)

N9080B, LTE/LTE-Advanced FDD Measurement Application

- Added the ability to recall E-TM preset files in Tx On/Off Power measurement (388892)
- Added support for nine windows in EVM user view (440240)

N9082B, LTE/LTE-Advanced TDD Measurement Application

- Added the ability to recall E-TM preset files in Tx On/Off Power measurement (388892)
- Added support for nine windows in EVM user view (440240)

Occupied Bandwidth

- Added “Trace” selection in the Save menu (441032)

Spurious Emissions

- Added annotation for start/stop frequencies when the range is in FFT mode (443632)

Issues Resolved

General X-Series

- Enabled partial updates for post trigger zero span settings (446716)
- Fixed CALC:PREDG? Query that was causing a change in power reading (452915)
- Fixed an issue when plugging in an external USB preamplifier where the correction data is not always applied on the first attempt (455449)

- Fixed an issue with option ESC, External Source Control where if the analyzer is preset in tracking mode, you cannot go back and do a measurement using external source control without exiting the application and setting up the source again (457617)
- Fixed an issue with option ESC, External Source Control where the PSG, Signal Generator presets every time a measurement setting was changed (457623)
- Fixed an intermittent issue where the Wide Band Digital IF board used in analyzers with Opt B85, B1A, and B1X did not always update the FPGA code (458481)
- Fixed an issue with option B5X where the phase was not being consistent between acquisitions (458622)
- Fixed an issue in Zero Span where partial updates stopped working (458698)
- Fixed an issue where momentary amplitude and frequency changes were seen at center frequencies above 3.6 GHz with spans between 100 to 500 MHz (460060)
- Fixed an intermittent issue on EXA and MXA where the amplitude could drop >15 dB at LO band edges (460174)
- Fixed an issue where the external reference and associated parameters were not being saved in the Input/Output during a power cycle (222440)
- Fixed an issue to allow Corrections importing of PNA formatted files (453398)
- Fixed an issue where a user was unable to get an image from the analyzer's web server page (456903)
- Fixed an issue in IQ Analyzer (Basic) mode using Complex Spectrum measurement where traces that should be returned as Volts RMS are actually returning as Volts^2 (Volts-squared) (456703)
- Fixed an issue where the vertical scale markings are not correct when in Linear and the Ref Level Offset <>0 dB (457526)
- Fixed an issue when using Band Power Markers where the Band Left and Band Right softkey values are incorrect (457984)
- Fixed an issue with option ESC where the source connection is lost after AC power is removed from the analyzer for about 10 minutes (458151)
- Fixed an issue in IQ Analyzer mode where pre-loading IQ Analyzer produces errors (459994)
- Fixed an issue on multi-touch models where Signal ID mode key is shown on the measurements that do not support image shift (457814)
- Fixed an issue in IQ Analyzer Monitor Spectrum measurement where some noise lines appear when Trace=RMS AVG (459903)

N6141A, EMI Measurement Application

- Fixed an issue where toggling the AUX IO multiple times causes the application to close (455721)
- Fixed an issue where the Limit Line was not displaying when the scan range is turned off (456016)
- Fixed an issue where Scrolling Midspan Frequency does not work (456199)
- Fixed an issue where the Limit Lines not being displayed correctly at lower frequencies (456219)

- Fixed and issue where a user was unable to set Step Size to 1 Hz when in Discrete Scan (456591)
- Fixed an issue where the Antenna Units in signal list are not being imported and exported correctly (458052)
- Fixed an issue where the final measurement values are empty in the Signal List (460237)
- Fixed an issue where the final measurement does not show the phase on the Measure at Marker window (460238)
- Fixed an issue where there was strange noise floor behavior when in Time Domain Impulse Scan with Noise Floor Extension turned on (436323, 429280)
- Fixed an issue where Autorange is not keeping track of the maximum amplitude that it is seeing correctly (451628)
- Fixed an issue where the TDS measurement would intermittently shut down (454029)
- Fixed several issues where the Frequency Scan measurement can intermittently shut down (455757, 455767, 458749)
- Fixed an issue where signals appear on the screen with no input signal connected when using Time Domain Scan (456274)

N6160A, Electronic Toll Collection Measurement Application

- Fixed issues relating to SCPI commands (456426)

N9051B, Pulse Measurement Software

- Fixed an issue of wrong selection on Marker Trace dialog after Mode Preset (457792)
- Fixed an issue where the Unit of X Scale Graph Annotation does not change after changing windows (457811)
- Fixed an issue where the values on column dialogue do not return to preset value by Mode/Meas Preset (459650)
- Fixed an issue where the results had insufficient numeric resolution for the Phase Pulse to Pulse Difference (459687)

N9068A/C, Phase Noise Measurement Application

- Fixed an issue in Log Plot where Ref Lock Cross Over Freq key was being displayed on models that it should not be (457659)
- Fixed an issue where the phase noise marker read out at the incorrect frequency as compared to the trace position (458434)

N9069A/C, Noise Figure Measurement Application

- Fixed an issue where the swept mode NF calibration gave incorrect results when using system downconverter (461801)

N9071A, GSM/EDGE/Evo Measurement Application

- Fixed an issue where we gave incorrect results of the limit test in the Adaptive exception mode (452326)

- Fixed an issue in the Output RF Spectrum measurement where the reference power was not updated in continuous mode when Swept Method and Switching Meas Type are selected (456438)
- Fixed an issue in the Output RF Spectrum measurement where instrument software versions A.17.55 and A.17.56 did not display ADC Overload at any time (460913)

N9073A W-CDMA/HSPA+ Measurement Application

- Fixed an issue in the Code Domain Power measurement where the polar trace symbols were not visible in the Outline theme (450071)

N9076A, 1xEV-DO Measurement Application

- Fixed an issue with Input Overload when Auto Range is On (455257)

N9080B, LTE/LTE-Advanced FDD Measurement Application

- “Range” in the LTE EVM measurement was replaced with “Attenuation” (452561)

N9082B, LTE/LTE-Advanced TDD Measurement Application

- “Range” in the LTE EVM measurement was replaced with “Attenuation” (452561)

Real Time Spectrum Analyzer Mode

- Fixed an issue where the Video BW annotation appears when you press Edit Limit for Limit Lines and it should not (457524)
- Fixed an issue on multi-touch models in the Power vs. Time view where the detector selection in trace menu does not do anything and is not synchronized with the detector selection from settings panel (454898)

Spurious Emissions

- Fixed an issue where the Next Peak feature was not working correctly (450884)
- Improved the UI response on multi-touch models when in Full mode (455689)
- Improved the Peak Search operation on multi-touch models (456049)
- Fixed an issue where the frequency offset annotation was missing under the graph (457257)
- Fixed an issue where the Start/Stop frequency annotation on All Range graph does not consider Freq Offset (457258)

Channel Power

- Fixed an issue of showing Y-axis scale in dBm when the Y-axis unit should not be in dBm (455596)
- Fixed an issue where the Radio Standard Preset was not applied to the Trace Detector settings when the same preset type is pressed again (456289)

Occupied BW

- Fixed the issue of showing Y-axis scale in dBm when the Y-axis unit should not be in dBm (455596)

Adjacent Channel Power

- Fixed the issue of showing Y-axis scale in dBm when the Y-axis unit should not be in dBm (455596)

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A
- N9000B, N9010B, N9020B, N9030B, N9040B, Multi-touch
- N8973B, N8974B, N8975B, N8976B, Multi-touch

A.17.56 Version Information

Released Date:	June, 2016
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.17.56_Win7.exe

New Features

- None

Enhancements

- None

Issues Resolved

- Fixed an issue where the Wide-Band Digital I.F. FPGA code would not update properly during the instrument software install (458481)

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A
- N9000B, N9010B, N9020B, N9030B, N9040B, Multi-touch
- N8973B, N8974B, N8975B, N8976B, Multi-touch

A.17.55 Version Information

Released Date:	April, 2016
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.17.55_Win7.exe

New Features

- Added a query to get the left and right frequencies from N dB points instead of just being able to get the width of the band (443564)
  - Width command = :CALCulate:BWIDth | BANDwidth:RESult?
  - Left Frequency = :CALCulate:BWIDth | BANDwidth:RLEFt?
  - Right Frequency = :CALCulate:BWIDth | BANDwidth:RRIGht?
- Added support for Korean localization (453480)
- Added support for option DP4, Digital Processor with 4GB of Capture Bandwidth for newer B1X, B2X, and B5X digitizers (439801)
- Added the installation of Keysight IO Libraries v17.2 to the instrument software update (452506)
- Added support for SYSTem:PERSona SCPI commands (350956)
- Added support for Zero Span in Trace Zoom (454543)

Enhancements

General X-Series

- Updated the maximum number of Sweep Points from 40,001 to 100,001 in Swept SA and RTSA modes
- Enhanced Display Line capability by adding (4) “Freq Line” in Swept Spans and (4) “Time Line” in Zero Span when in Swept SA and RTSA modes
- Increased the range of Trigger Delay to plus and minus 60 seconds in Swept SA; the delay can only go negative in Zero Span.
- Added support for N9040B Option H51, Calibrated amplitude flatness to 51 GHz
- Extended the over-sweep range for all analyzers with Option 550 to 52 GHz

N6141A, EMI Measurement Application

- Updated Limit Lines where the default amplitude units were changed from dBm to the current Y-Axis unit. The affected SCPI commands are CALC:LIM:UPP, CALC:LLIN:UPP, CALC:FSC:LLIN:UPP (444500)

N9064A, VXA Vector Signal Analyzer Measurement Application

- Added EVM Normalization Reference selection (451116)

N9069A/C, Noise Figure Measurement Application

- Updated the RBW auto rule to improve low frequency noise figure measurements being performed below 10 MHz (442389)

N9080B/N9082B, LTE/LTE-Advanced FDD & TDD Measurement Application

- Improved spectral efficiency with higher order demodulation to 256QAM

W9080B/W9082B, LTE/LTE-Advanced FDD & TDD Measurement Application

- Improved spectral efficiency with higher order demodulation to 256QAM
- Added the ability to control the Trigger Hold off Type (389349)

IQ Analyzer Mode

- Added the ability to control the Trigger Hold off Type when in IQ Analyzer (389349)

Real-Time Spectrum Analyzer Mode

- Added Waterfall (Spectrogram) to User View in Swept SA and RTSA modes (435816)

Issues Resolved

N9060B, Spectrum Analyzer Mode

- Fixed an issue in the multi-touch UI when switching from VSA remote control back to xSA application, the touch display and hardkeys are disabled even though the analyzer is in Local (414630)
- Fixed an issue where the ECalPathSystemGainAlgorithm alignment can intermittently fail when using a low level input signal (441019)
- Fixed an issue where the Stop Frequency readout is in error depending upon sweep time (441749)
- Fixed an issue where the 10 MHz reference signal can be interrupted during an alignment, which can cause a PSG, Signal Generator to go unlocked (443835)
- Fixed an issue with the Gate Delay setting resolution to disallow settings less than 100ns (446717)
- Fixed an issue where the sweeps are very slow when using External Mixing relative to internal sweeps (448826)
- Fixed an issue so the MMEM:STOR:SCR command will clear any on-screen message before performing the screen dump (449845)
- Fixed an issue where a glitch can appear at the start frequency when switching from Clear Write to Max Hold (453244)
- Fixed an issue where performing recordings is not dependent on having a DP2 license (455030)
- Fixed an issue where pulses are progressively distorted when recorded with an N9040B, UXA Signal Analyzer with option B5X (455624, 455835)
- Fixed an issue where the error history was not cleared with *CLS (364950)
- Improved Web Control right-click support and browser scrolling anomalies (373891)
- Fixed an issue where the GPIB failed to reconnect following a SYSTem:PUP command (438952)
- Fixed an issue where User Views in multi-touch UI were not selectable in Multi-Screen (443570)
- Fixed an issue where the application might close when LAN is disconnected (449019)
- Fixed an issue where USB Write Protect setting does not survive a power cycle (453636)
- Fixed an issue where the application would close when SYST:COMM:LAN queries encounter networking failure (454342)
- Refined start frequency displayed on screen when stop frequency is greater than 200 kHz (428610)
- Added support for Trace Zoom in User View (434549)
- Improved swipe/scrolling of textual result windows on multi-touch models (435066)
- Fixed an issue where the internal gain caused an ADC over range when using option EXM, External Mixing (450408)
- Fixed an issue where the displayed trace was not updated until the end of sweep when using negative trigger delay in Zero Span (446716)

N6155A, ISDB-T/Tmm Measurement Application

- Internal preamplifier selection is grayed out in ISDB Mod. Accy. measurement (and others) unless frequency is changed to >3.6 GHz and then back to the measurement frequency (443896)

N9051B, Pulse Measurement Software

- Change of SCPI node from CALC:DISPlay:PULSe:HISTogram:RANGe to :CALCulate:PULSe:HISTogram:RANGe (453079)

N9061A, Remote Language Compatibility Application

- Fixed an issue where the 856x has the wrong status byte behavior for IP (Instrument Preset) (452695)
- Fixed an issue where the DET command was not able to be used unless the analyzer had option EMC, Basic EMC functionality or the N6141A, EMI Measurement Application (454113)
- Fixed an issue with the TITLE command where it did not work the same as it does in the 856xE/EC analyzers (454334)

N9068A/C, Phase Noise Measurement Application

- Fixed an issue where Auto Tune did not operate with a high power input (454394)

N9069A/C, Noise Figure Measurement Application

- Updated RBW auto rule for Low Frequency measurements (442389)

N9071A, GSM/EDGE/Evo Measurement Application

- Fixed an issue in the ORFS measurement where the Ref Power value is incorrect in multi-carrier mode (452748)
- Fixed an issue in Monitor Spectrum where External Gain value (MS/BTS) are not applied to the trace (449403)

N9072A, cdma2000 Measurement Application

- Fixed an issue in Monitor Spectrum where External Gain value (MS/BTS) are not applied to the trace (449403)

N9073A, W-CDMA/HSPA+ Measurement Application

- Fixed an issue where Marker Mode in the Setting Popup Panel is not correct (446480)
- Fixed an issue in Monitor Spectrum where External Gain value (MS/BTS) are not applied to the trace (449403)

N9075A, Mobile WiMAX Measurement Application

- Fixed an issue where 28 MHz profile measurement causes errors (449104)
- Fixed an issue in Monitor Spectrum where External Gain value (MS/BTS) are not applied to the trace (449403)

N9076A, 1xEV-DO Measurement Application

- Fixed an issue in Monitor Spectrum where External Gain value (MS/BTS) are not applied to the trace (449403)

N9077A, WLAN 802.11a/b/g/j/p/n/ac/ah Measurement Application

- Fixed an issue where the N9077A-TRL license did not work in instrument software version A.16.05 or A.16.17, but worked fine in A.14.62 (450441)

N9079A, TD-SCDMA/HSPA Measurement Application

- Fixed an issue in Monitor Spectrum where External Gain value (MS/BTS) are not applied to the trace (449403)

N9080B, LTE/LTE-Advanced FDD Measurement Application

- Fixed an issue where the FETCH:EVM? query did not return the EVM values corresponding to the Include/Exclude channel settings (442888)
- Fixed an issue with incorrect scaling in TM3.1-BW20MHz.evms (445784)
- Fixed an issue where recalling older Signal Studio files that contain “Agilent” in the file causes the checking file format to be invalid, so the recall process will not load (450021)
- Fixed an issue in CHP/ACP measurements where behavior of maximum Integ BW was not compatible with the legacy LTE applications (451305)
- Fixed an issue in Monitor Spectrum where External Gain value (MS/BTS) are not applied to the trace (449403)

N9082B, LTE/LTE-Advanced TDD Measurement Application

- Fixed an issue where the FETCH:EVM? query did not return the EVM values corresponding to the Include/Exclude channel settings (442888)
- Fixed an issue where Frames are detected incorrectly with Multi-Frame analysis (447318)
- Fixed an issue in Monitor Spectrum where External Gain value (MS/BTS) are not applied to the trace (449403)

N9080C/N9082C, LTE/LTE-Advanced FDD & TDD Measurement Application (Multi-touch)

- Fixed an issue where the Channel Power Span state is not saved & recalled (456156)
- Fixed an issue where Copy CCO to XX in EVM Meas Setup was missing (430929)
- Fixed an issue where EVM – RB Mapping did not appear on User Channel Summary (437571)

N9083A, Multi-Standard Radio (MSR) Measurement Application

- Fixed an issue in Monitor Spectrum where External Gain value (MS/BTS) are not applied to the trace (449403)

Channel Power

- Fixed an issue where the frequency offset value was not recognized by Channel Power (443870)

Harmonics

- Fixed an issue where Sense did not engage the microwave preselector when in the Harmonics measurement (451441)

Occupied Bandwidth

- Fixed an issue where the frequency offset value was not recognized by Occupied BW measurements (443870)

IQ Analyzer

- Fixed an issue where time averaging was enabled for BW (Span) >255 MHz when in IQ Analyzer (448992)
- Fixed an issue where the bottom graph annotation were not shown on the screen when in IQ Analyzer on multi-touch models (444447)

Real-Time Spectrum Analyzer Mode

- Fixed an issue where RTSA Density View shows incorrect spectrum when Level Trigger is selected (439382)
- Fixed an issue in RTSA where the PvT window did not display the trace after a state was recalled (430840)
- Fixed an issue in RTSA where stored limit lines would not load (452945)
- Fixed an issue in RTSA where PvT data is missing in Tri View (442596)
- Fixed an issue in RTSA in density display where white trace fell to bottom of screen when data acquisition was paused (452999)
- Fixed an issue in RTSA where RBW was inappropriately editable (454183)
- Fixed an issue in RTSA with Save/Recall where a state saved in View, Normal is recalled in View, Density, but only for the first recall (444718)
- Fixed an issue where stream marks would not turn off when using Streaming (449376)
- Fixed an issue where Log X Axis was not supported in the Spectrogram measurement (452781)

Keysight X-Series Analyzers

- N9020B, N9030B, N9040B Signal Analyzers – Multi-touch

A.17.08 Version Information

Released Date:	February, 2016
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.17.08_Win7.exe

New Features

- None

Enhancements

- None

Issues Resolved

- Fixed an issue where instruments with option DP4 may encounter a boot-up alignment hang
- Fixed an issue where the trial license for some applications was not recognized (450441)

Keysight X-Series Analyzers

- N9000A, N9010A, N9020A, N9030A, Signal Analyzers
- N9000B, N9010B, N9020B, N9030B, Signal Analyzers - Multi-touch
- N8973B, N8974B, N8975B, N8976B, NFA X-Series Noise Figure Analyzers - Multi-touch

A.17.05 Version Information

Released Date:	January, 2016
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.17.05_Win7.exe

New Features

- Added support for the 346CK40 noise source in the built-in uncertainty calculator
- Added support for the following signal analyzer model numbers:
  - N9000B, CXA Signal Analyzer
  - N9010B, EXA Signal Analyzer
  - N9020B, MXA Signal Analyzer
  - N9030B, PXA Signal Analyzer
- Added support for the following noise figure analyzer model numbers:
  - N8973B, 10 MHz to 3.6 GHz Noise Figure Analyzer
  - N8974B, 10 MHz to 7 GHz Noise Figure Analyzer
  - N8975B, 10 MHz to 26.5 GHz Noise Figure Analyzer
  - N8976B, 10 MHz to 40 GHz Noise Figure Analyzer
- Added support for the following measurement applications:
  - N9063C, Analog Demodulation Measurement Application, Multi-touch
  - N9067C, Pulse Measurement Application, Multi-touch
  - N9068C, Phase Noise Measurement Application, Multi-touch
  - N9069C, Noise Figure Measurement Application, multi touch
  - N9073C, W-CDMA/HSPA/HSPA+ Measurement Application, Multi-touch
  - N9080C, LTE/LTE-Advanced FDD Measurement Application, Multi-touch
  - N9082C, LTE-Advanced TDD Measurement Application, Multi-touch

Enhancements

General X-Series Signal Analyzers

- Added the selection of Light to Auto Alignment

N9060B, Spectrum Analyzer Mode

- Added Save/Recall state capability to the web server (221773)
- Updated USB 3 driver for instruments that have option PC6 or greater (440232)
- Updated OBW frequency display to show 1 Hz resolution (432451)
- Added FETCh command to read Peak Table (378496)
- Added Frequency X Axis scale type to be Linear or Logarithmic

Issues Resolved

N9000A, CXA Signal Analyzer

- Fixed an issue where AC coupling compensation was not applied under certain instrument conditions (415073)

N9060B, Spectrum Analyzer Mode

- Fixed an issue where the trace did not update when using external trigger with a sweep time greater than 10 seconds (338589)
- Fixed Auto Tune's adjustment of Y-Scale on the N9030A with option B1X, 160 MHz Analysis BW (125433)
- Fixed an issue with option EXM, External Mixing where the MIX:BAND USB command crashed when the external USB mixer was not connected (368489)
- Fixed web browser SCPI instrument control (400268)
- Fixed an instrument crash issue when the instrument was connected to a network switch, the network switch was not connected to LAN, and the instrument was powered up (425485)
- Fixed an issue where the Backlight intensity value did not survive a power cycle (437855)
- Fixed an issue where enabling Noise Floor Extension with a slow sweep time would cause the instrument to stop for several minutes (437884)
- Fixed inconsistent error message of INST:SEL <Mode> (438954)
- Fixed an issue where Quick Save generated an error, "File name not found" (440948)
- Fixed an issue where the Limit Line editor trace did not turn red when a signal was above the limit (382455)
- Fixed an issue in Zone Span where the marker annotation appeared in both windows (400389)
- Fixed an issue when using the M9171E, External Mixer in the Aux Equipment setting where the span would locked to 0 Hz and could not be adjusted by the user (428258)

- Fixed an issue where List Sweep returned incorrect amplitude values when the frequency was >3.6 GHz (431252)
- Fixed an issue in the ACP measurement where changing the limit line did not recalculate the Pass/Fail status (394026)
- Fixed an issue where inappropriate Zero Span Delay Compensation selection was removed from Trigger menus in IQ measurements (394920)
- Fixed power unit annotation of “x dB OBW Boundaries” (432781)
- Fixed an issue where Settings Alert message was cleared in situations where multiple settings were limited (213753)
- Fixed an issue where setting the External Reference frequency via SCPI caused a momentary reference oscillator unlock message (397285)
- Fixed an issue where the Frequency Counter failed to count accurately within 500 Hz of 3.6 GHz (434135)
- Fixed an issue with option BBA, Baseband IQ Inputs where the 113xA Active Probes were not recognized when using instrument software versions A.16.05 or A.16.09 (440994)

IQ Analyzer Basic Mode

- Fixed issue in IQ Analyzer in the Complex Spectrum measurement where a Fixed Marker jumps to a different point when switching between Normal and Delta Marker (353082)

Real-Time Spectrum Analyzer Mode

- Fixed Spectrogram time fidelity of Z Marker when in Density View (438450)
- Fixed an issue where Trigger Settings Diagram incorrectly lists “Level” trigger as “Video” trigger (440726)

N9061A, Remote Language Compatibility

- Fixed an issue where return values contain too many exponent digits for HP 1000 computer (429536)

N9064A, VXA Measurement Application

- Fixed an issue where Sync Search of D8PSK did not work in instrument software A.16.09 (429342)
- Fixed an issue with the amplitude correction for log frequency scale (427904)

N9068A, Phase Noise Measurement Application

- Fixed an over range issue that would occur with 0 dB input attenuation with an input signal of 0 dBm. (386965)
- Fixed an issue where the Marker was not synchronized with the trace (428455)
- Fixed an issue in the Spot Frequency measurement with mechanical relay switching when using external mixing with M1970E or V USB mixer (432881)
- Fixed an issue of missing Help text for Minimum Carrier Level (434278)

- Fixed an issue where the analyzer could hang while switching from External 1 Trigger to Free Run in the absence of an external trigger signal (441499)

N9069A, Noise Figure Measurement Application

- Fixed an LO frequency annotation update issue (444932)

N9073A, W-CDMA/HSPA/HSPA+ Measurement Application

- Updated the documentation for Next Peak Right/Left operation (394292)

N9077A, WLAN 802.11a/b/g/n/ac/ah Measurement Application

- Fixed an issue with a demodulation failure when changing the input from IQ to RF, then back to IQ (430460)

N9082B, LTE/LTE-Advanced TDD Measurement Application

- Fixed an issue where the 1st relative offset power was not correct in FETCh query (445514)
- Fixed an issue in the Spectrum Emission Mask measurement where the display of Carrier Info when in single sweep was incorrect (403905)

89600, VSA Software

Fixed an issue with IFMag with Hold off where the Trigger Interpolator Time that is reported is greater than VSA can correct, which results in a DSP error on the N9040B, UXA Signal Analyzer (416652)

Keysight X-Series Analyzers

N9040B, UXA Signal Analyzer

A.17.04 Version Information

Released Date:	December, 2015
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.17.04_Win7.exe

New Features

- Added support for option ESC, External Source Control on the N9040B, UXA Signal Analyzer
- Added support for the following measurement applications:
  - N9063C, Analog Demodulation Measurement Application, Multi-touch
  - N9067C, Pulse Measurement Application, Multi-touch
  - N9068C, Phase Noise Measurement Application, Multi-touch
  - N9073C, W-CDMA/HSPA/HSPA+ Measurement Application, Multi-touch
  - N9080C, LTE/LTE-Advanced FDD Measurement Application, Multi-touch
  - N9082C, LTE-Advanced TDD Measurement Application, Multi-touch

Enhancements

General X-Series Signal Analyzers

- Added the selection of Light to Auto Alignment

N9060C, Spectrum Analyzer Mode

- Added Save/Recall state capability to the web server (221773)
- Updated USB 3 driver for instruments that have option PC6 or greater (440232)
- Updated OBW frequency display to show 1 Hz resolution (432451)
- Added FETCh command to read Peak Table (378496)
- Added Frequency X Axis scale type to be Linear or Logarithmic
- Added the ability to select and control ACP Enhanced Dynamic Range feature (390755)
- Added Power Ref to Meas Setup Summary Table in OBW measurement (408435)
- Added Channel Detector and Offset Detector annotation to the Graph window (413188)
- Added User View and Edit Layout

- Added ability to Save Screens configuration
- Updated Quick Save to provide a prompt for filename

Issues Resolved

N9060C, Spectrum Analyzer Mode

- Fixed a 1 kHz sideband (437477)
- Made the Peak Threshold adjustable via a gesture (350148)
- Fixed the informational message associated to Touch On/Off hard key (443233)
- Fixed issue with VSA 89600 switching using the Mode/Meas hard key (445800)
- Fixed an issue where a crash could occur recalling a setup file (448124)
- Fixed an issue where the Relative limit lines moved when you drag the trace (382437)
- Changed the Preamp annotation in the Meas Bar to list the frequency value when on (395576)
- Fixed an issue in the ACP measurement where RBW and VBW annotations were displayed when Meas Method was RBW (399858)
- Fixed an issue when zooming out using the pinch gesture changes the Ref Value significantly when Scale/Div is clipped (407608)
- Fixed an issue where setting Limit Lines to Time could generate an exception (419883)
- Fixed an issue where the trace did not update when using external trigger with a sweep time greater than 10 seconds (338589)
- Fixed Auto Tune's adjustment of Y-Scale on the N9030A with option B1X, 160 MHz Analysis BW (125433)
- Fixed an issue with option EXM, External Mixing where the MIX:BAND USB command crashed when the external USB mixer was not connected (368489)
- Fixed web browser SCPI instrument control (400268)
- Fixed an instrument crash issue when the instrument was connected to a network switch, the network switch was not connected to LAN, and the instrument was powered up (425485)
- Fixed an issue where the Backlight intensity value did not survive a power cycle (437855)
- Fixed an issue where enabling Noise Floor Extension with a slow sweep time would cause the instrument to stop for several minutes (437884)
- Fixed inconsistent error message of INST:SEL <Mode> (438954)
- Fixed an issue where Quick Save generated an error, "File name not found" (440948)
- Fixed an issue where the Limit Line editor trace did not turn red when a signal was above the limit (382455)
- Fixed an issue in Zone Span where the marker annotation appeared in both windows (400389)
- Fixed an issue when using the M9171E, External Mixer in the Aux Equipment setting where the span would locked to 0 Hz and could not be adjusted by the user (428258)
- Fixed an issue where List Sweep returned incorrect amplitude values when the frequency was >3.6 GHz (431252)

- Fixed an issue in the ACP measurement where changing the limit line did not recalculate the Pass/Fail status (394026)
- Fixed an issue where inappropriate Zero Span Delay Compensation selection was removed from Trigger menus in IQ measurements (394920)
- Fixed power unit annotation of “x dB OBW Boundaries” (432781)
- Fixed an issue where Settings Alert message was cleared in situations where multiple settings were limited (213753)
- Fixed an issue where setting the External Reference frequency via SCPI caused a momentary reference oscillator unlock message (397285)
- Fixed an issue where the Frequency Counter failed to count accurately within 500 Hz of 3.6 GHz (434135)
- Fixed an issue with option BBA, Baseband IQ Inputs where the 113xA Active Probes were not recognized when using instrument software versions A.16.05 or A.16.09 (440994)

IQ Analyzer Basic Mode

- Fixed issue in IQ Analyzer in the Complex Spectrum measurement where a Fixed Marker jumps to a different point when switching between Normal and Delta Marker (353082)

Real-Time Spectrum Analyzer Mode

- Fixed Spectrogram time fidelity of Z Marker when in Density View (438450)
- Fixed an issue where Trigger Settings Diagram incorrectly lists “Level” trigger as “Video” trigger (440726)

N9069C, Noise Figure Measurement Application, Multi-touch

- Fixed an issue where coupled markers produced incorrect readout for trace 2, gain (400007)

89600, VSA Software

- Fixed an issue with IFMag with Hold off where the Trigger Interpolator Time that is reported is greater than VSA can correct, which results in a DSP error on the N9040B, UXA Signal Analyzer (416652)

Keysight X-Series Analyzers

N9000A, N9010A, N9020A, N9030A, N9040B

A.16.17 Version Information

Released Date:	November, 2015
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.16.17_Win7.exe

New Features

General X-Series Analyzers (N9000A, N9010A, N9020A, N9030A, N9040B)

- Added Expand Band Limit function to better support E-UTRA Operating Band 42 (3.4 – 3.6 GHz) under [Mode Setup], {Global Settings}, {Extend Band Limit} for the following measurements:
    - ACP
    - CHP
    - OBW
    - Spurious Emissions
    - Spurious Emission Mask

N9020A-RT1 and N9030A-RT1, Real Time Spectrum Analysis, Basic Detection

- Supports real-time analysis gap free upper limit to match the analysis bandwidth option installed in the instrument. Previously the limit was 85 MHz.

N9040B-RT1, Real Time Spectrum Analysis, Basic Detection

- Supports real-time analysis gap free upper limit of 170 MHz. Previously the limit was 85 MHz

N9064A, VXA Vector Signal Analysis Measurement Application

- Supports E-Band external mixers

N/W9071A, GSM/EDGE/Evo Measurement Application

- Supports multi-carrier ORFS test limit exception

N/W9073A, W-CDMA/HSPA+ Measurement Application

- Added Expand Band Limit function to better support E-UTRA Operating Band 42 (3.4 – 3.6 GHz) under [Mode Setup], {Global Settings}, {Extend Band Limit}

N/W9075A, Mobile WiMAX™ Measurement Application

- Added Expand Band Limit function to better support E-UTRA Operating Band 42 (3.4 – 3.6 GHz) under [Mode Setup], {Global Settings}, {Extend Band Limit}

N/W9079A, TD-SCDMA Measurement Application

- Supports HSUPA E-DCH Fixed Reference Channel (FRC1, FRC2 and FRC3), requires –CFP option

N/W9080B, LTE/LTE-Advanced FDD Measurement Application

- Added Expand Band Limit function to better support E-UTRA Operating Band 42 (3.4 – 3.6 GHz) under [Mode Setup], {Global Settings}, {Extend Band Limit}

N/W9082B, LTE/LTE-Advanced TDD Measurement Application

- Added Expand Band Limit function to better support E-UTRA Operating Band 42 (3.4 – 3.6 GHz) under [Mode Setup], {Global Settings}, {Extend Band Limit}

Enhancements

- None

Issues Resolved

General X-Series Signal Analyzers (N9000A, N9010A, N9020A, N9030A, N9040B)

- Fixed issue where Save Screen Theme as Flat Monochrome caused trace to be blank (407381)
- Fixed issue where State saved with marker at start frequency <~20 MHz was not recalled properly (414967)
- Fixed an issue in IQ Analyzer with phase instability when Amplitude corrections were in use (402961)
- Fixed an issue where switching Ext Ref Lock BW from 60 Hz to 15 Hz caused incorrect reference locking (401206)

N9000A, N9010A, and N9020A X-Series Signal Analyzers

- Fixed issue where System, Alignments, Timebase DAC did not work correctly for instruments without option PFR, Precision Frequency Reference (395042)

N9040B, UXA Signal Analyzer

- Fixed a discontinuity issue in SCPI FCAP at the center of the spectrum when the bandwidth is set to 510 MHz (420411)

N/W6141A, EMI Receiver Measurement Application

- Fixed an issue where Meters measurements were invalid every 7 seconds (427924)

N/W9061A, Remote Language Compatibility Application

- Fixed an issue when using the MKCF command emulating the 856x portable analyzer does not activate the marker if the marker is not already on (430317)

N/W9068A, Phase Noise Measurement Application

- Fixed an issue where AM Rejection would place a step in the widest segment when adjacent signal is present (394731)

N/W9071A, GSM/EDGE/Evo Measurement Application

- Fixed an issue where AutoTrig was not allowing EPVT measurement to occur if averaging was on (390740)
- Burst Not Found message on certain GMSK signals (400062)

N/W9077A, WLAN Measurement Application

- Fixed an issue where optimize EVM caused ADC overload with high input power (372435)
- Fixed an issue where Auto Scale was set to off by *RST command (391776)

N/W9081A, Bluetooth Measurement Application

- Fixed an issue with ACP Tx power calculations for high input power levels (390774)
- Fixed an issue where the Center Frequency was changed after switching back from other modes (394444)

89601A, Vector Signal Analysis

- Fixed issue where VSA licenses were not recognized by firmware A.16.xx (435013)

ACP

- Fixed an issue when using Noise Correction when using an external USB preamplifier (421239)

Harmonics

- Fixed an issue where high input power levels caused the internal algorithm to not find the same frequency upon Restart (396032)
- Fixed issue where Sense feature on fundamental frequency could not detect signals <~45 MHz (400705)

Spectrum Emission Mask

- Fixed an issue with upper offset results when using option EXM, External Mixing (399793)
- Fixed an issue where offset spectrum trace becomes blank when the offset frequency setting is wide; ~1 GHz (421177)

TOI

Fixed SCPI query for FETCh:TOI:IP3? to return the lowest of the intermodulation products, which matches the documentation (391333)

Keysight X-Series Analyzers

N9000A, N9010A, N9020A, N9030A, N9040B

A.16.09 Version Information

Released Date:	August, 2015
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.16.09_Win7.exe

New Features

- None

Enhancements

- None

Issues Resolved

- Fixed an FPGA programming issue during the instrument software update process on instruments that have any of the following options; B85, B1A, B1X, B2X, or B5X

Keysight X-Series Analyzers

N9010A & N9020A

A.16.08 Version Information

Released Date:	August, 2015
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.16.08_Win7.exe

New Features

- None

Enhancements

- Identical to A.16.05, yet fully supports the N9010A, EXA Signal Analyzer and the N9020A, MXA Signal Analyzer

Issues Resolved

- None

Keysight X-Series Analyzers

N9000A, N9030A, N9040B

A.16.05 Version Information

Released Date:	June 2015
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., instrument software version):	None
Requirements category (other):	None
File Name:	XSA_Installer_A.16.05_Win7.exe

New Features

- Added support for 64 bit option PC6 and PC7 Processor assembly
- Added support for M1971E, E-Band external mixer
- Added option FP2, Fast Power softkey to the user interface for easy access on the N9010A, N9020A, and N9030A, Signal Analyzers. Previously, access was only via SCPI control

N9063C, Analog Demodulation Measurement Application

- Added support on the N9040B, UXA Signal Analyzer

N9069C, Noise Figure Measurement Application

- Added support on the N9040B, UXA Signal Analyzer

W9080B, LTE/LTE-Advanced FDD Measurement Application

- Added support on the N9000A, CXA Signal Analyzer

W9082B, LTE/LTE-Advanced TDD Measurement Application

- Added support on the N9000A, CXA Signal Analyzer

Enhancements

General X-Series Analyzer

- Increased Max Mixer Level allowable maximum value from -10 dBm to 0 dBm
- Added “Adjust Atten for Min Clip” to support “Elec Atten Only” on the N9040B, UXA Signal Analyzer

- Added a View menu in the Display subsystem
- Improved trace availability when in External Mixing with SigID Signal Suppress turned on

Adjacent Channel Power

- Added Power Reference options of Reference Carrier and Total Multicarriers
- Increased Offset Freq maximum settable value to be equal to instrument maximum stop frequency
- Increased Integration Bandwidth maximum settable value to be equal to instrument maximum stop frequency
- Added a new Fast Power measurement method

Occupied Bandwidth

- Added table to report power level and frequencies at each occupied bandwidth and x dB bandwidth boundary

Spurious Emissions Mask

- Increased Offset Freq maximum settable value to be equal to instrument maximum stop frequency
- Added Sweep Type Rules options for Speed or Dynamic Range

N6141A, EMI Receiver Measurement Application

- Added ability to use the Quasi-Peak detector and Average detector simultaneously for meters

Frequency Scan Measurement

- Increased the maximum number of scan points to 4,000,001
- Added ability to Pause a scan immediately at any point
- Added column for composite amplitude corrections in signal list table
- Added ability to use the Quasi-Peak detector and Average detector simultaneously for traces
- Added the ability to use company logos in report generator

Strip Chart Measurement

- Added maximum peak frequency readout to meters

Monitor Spectrum Measurement

- Added maximum peak frequency readout to meters

N/W6153A, DVB-T/H/T2/T2-Lite Measurement Application

- Added support for T2-Lite and adds two additional code rates for mobile performance improvement – Requires N/W6153A-AFP

N9068A – Phase Noise Measurement Application

- Added Minimum Carrier Level setting – Requires N9068A-BFP

Log Plot Measurement

- Added support for Gate functionality - Requires N9068A-BFP
- Added support for 4801 trace points per sweep (601 default) - Requires N9068A-BFP
- Added the ability to Export the Marker Table data – Requires N9068A-BFP

N/W9071A, GSM/EDGE/Evo Measurement Application

- Added support for multi-carrier test line exception (non-contiguous), requires N/W9071A-BFP

N/W9077A, WLAN 802.11 a/b/g/n/ac Measurement Application

- Added N/W9077A-6FP that adds power and modulation analysis support for WLAN 11ah
- Added preset for 11p and 11j into radio format
- Added support for 1024QAM modulation analysis in WLAN 11ac
- Added support for BBIQ (option BBA) in the N9020A, MXA Signal Analyzer and the N9030A, PXA Signal Analyzer

N/W9081A, Bluetooth Measurement Application

- Added support to Bluetooth 4.2 for LE data packet length extension, requires N/W9081A-BFP

N9080B, LTE/LTE-Advanced FDD Measurement Application

- Modulation analysis and conformance EVM updates
  - Simultaneous acquisition of up to 5 component carriers
  - Auto detection of DL CA carrier cross scheduling
  - UE in band emissions for carrier aggregation
- Spectrum Emission Mask (SEM) updates for Non-contiguous carrier aggregation
  - ACLR for Non-Contiguous CA
  - Inner and outer offset measurements in one measurement sequence
  - Inner-offset CACLR On/Off Auto setup based on Carrier Configuration
- Occupied bandwidth updates
- Mode setup updates
- Added Span softkeys in Channel Power measurement

N9082B, LTE/LTE-Advanced TDD Measurement Application

- Modulation analysis and conformance EVM updates
  - Simultaneous acquisition of up to 5 component carriers
  - Auto detection of DL CA carrier cross scheduling

  - UE in band emissions for carrier aggregation
- Spectrum Emission Mask (SEM) updates for Non-contiguous carrier aggregation
  - ACLR for Non-Contiguous CA
  - Inner and outer offset measurements in one measurement sequence
  - Inner-offset CACLR On/Off Auto setup based on Carrier Configuration
- Occupied bandwidth updates
- Mode setup updates
- Added Span softkeys in Channel Power measurement

N/W9083A, Multi-Standard Radio Measurement Application

- Added TDD-LTE and TD-SCDMA support

Issues Resolved

General X-Series Analyzer

- Fixed issue causing a USB preamp to not be recognized the first time it is plugged in (#380411)
- Fixed issue causing the Web Password to return to the default value when the instrument power is cycled (#336518)
- Fixed issue causing the source power to drop when any changes to the measurement setup are made when using option ESC, External Source Control (#388071)
- Adjusted expected sweep time values to reflect the source specification when option UNZ (Fast Frequency Switching) is not installed in the source being used with option ESC, External Source Control (#366198)
- Fixed miscellaneous issues with Gate Holdoff settings (#368785, 368779, 368777, 368776)
- Fixed miscellaneous issues with Marker Table updates (#326513, 316772)
- Fixed issue causing a state saved with Normalize turned On to not recall with Normalize On (#354018)
- Fixed issue with Marker Z position when using Spectrogram in RTSA mode (#186139)
- Fixed issue with Marker Table updates (#316772)
- Fixed issue with intermodulation amplitude when the center frequency was below 100 MHz (#339347)
- Fixed issue where the Reference Level could not be set correctly if the input attenuator was adjusted with the up/down arrows or via the knob when in RTSA mode (#356706)
- Fixed a speed issue when in an RTSA span of 509.5 MHz while in stepped acquisition (#360696)
- Fixed issue where the “Save As” command suggests the wrong path when the data type is switched on the N9040B, UXA Signal Analyzer (#364953)
- Fixed issue to enable the Peak Table and Marker Table On/Off functionality when in RTSA mode (#368044)
- Fixed issue where the external trigger jitter changes as you press the “Restart” button when in SA mode on the N9030A Signal Analyzer and N9020A and N9010A Signal Analyzer with option B40, MPB, and/or DP2 (#368416)

- Fixed issue with the Marker Table marker value resolution when recalling a state (#373911)
- Fixed issue where the Status Operation Pause bit (bit 8) was not properly set when the measurement is paused (#377047)
- Fixed issue in RTSA mode when INST:NSEL? is queried (#379037)
- Fixed issue when trying to sort a point in the Limit Line Editor and AmpCorr Editor on the N9040B, UXA Signal Analyzer (#380198)
- Fixed issue with the trigger state when exiting the FMT Mask Editor while in RTSA mode on the N9040B Signal Analyzer (#380426)
- Fixed issue where the FMT Editor table in RTSA mode shows relative units as dBm instead of dB (#381236)
- Fixed issue where the RF Preselector bypass switch is getting exercised whenever the frequency is changed above 3.6 GHz when in I/Q Analyzer mode and Monitor Spectrum measurement (#382078)
- Fixed issue when recalling to a Limit register, the Limit was not selected in Meas Setup. Also, a selected Limit in Meas Setup should also be the selected Limit in Save to avoid saving the wrong limit (#382451)
- Fixed issue where there were spikes on the display when in FFT sweep, 1 Hz RBW, 200 MHz Span, and 10,001 points (#385244)
- Fixed issue where the Noise Marker function in I/Q Analyzer reports an incorrect value on the N9040B, UXA Signal Analyzer with option B5X, 510 MHz Analysis BW (#385758)
- Fixed issue where 6x Code Compatibility had problems if EOI was not set for ERR? query (#385772)
- Fixed issue where the Marker Function goes off the screen when in External Mixing while in I/Q Analyzer mode, Complex Spectrum measurement (#386082)

Adjacent Channel Power

- Fixed issue where the Carrier Span/Integration BW and Offset Freq maximum settable values were extended to the maximum span of the instrument (#364955)
- Fixed issue related to ACP Offset and Span by adding an X Auto Scaling key to adjust the Span automatically (#370359)

Spurious Emissions Mask

- Fixed issue where the Carrier Span/Integration BW and Offset Freq maximum settable values were extended to the maximum span of the instrument (#364955)
- Fixed issue with the sweep rules to allow for a faster measurement (#369119)
- Fixed issue where the FFT spectrum could have a mirror image at the end (#374994)

N/W6141A, EMI Receiver Measurement Application

- Fixed issue causing the Save and Recall functions not to include amplitude corrections 7 and 8 (#381956)
- Fixed issue with report generation on the N9000A, CXA Signal Analyzer (#380577)

Frequency Scan Measurement

- Fixed issue causing the Meas Uncal message to be displayed for no valid reason when EMC Standard is set to MIL and multiple ranges are turned on (#381426)
- Fixed an issues causing a scan to hang when using Discrete Scan Type with Autorange set to On at the point where the attenuation value changes (#380738)
- Fixed issue causing trace data to be repeated onscreen under certain conditions when using very long scan times (#377748)
- Fixed issue causing the Autorange and Auto Preamp settings not to be included in saved scan table files (#376723)
- Fixed issue causing a possible instrument application crash when doing a (Re)measure sequence with Autorange turned On with All signals selected and many signals in the list (~20) (#375984)
- Fixed issue causing the dwell time being used not to be the value set if the Dwell Time is changed after changing the start or stop frequency under the FREQ Channel menu (#369024)
- Fixed issue where the CALC:DELT1:X? returns the incorrect value (#373759)

Strip Chart Measurement

- Fixed issue causing measurement to not always restart under certain conditions (#378937)

Disturbance Analyzer Measurement

- Fixed issue causing trace data to be saved in reverse order (#363345)
- Fixed issue where click measurements did not work below 10 MHz on the N90000A, CXA Signal Analyzer (#383193)

N9063A, Analog Demod Measurement Application

- Fixed issue causing Y-axis scale to not be rescaled properly after the scale has been changed via remote command (#373283)
- Fixed issue causing the peak deviation and carrier frequency error to be incorrect when Signaling Notch filter is on under certain conditions (#363034)

N9064A, VXA Vector Signal Analysis Measurement Application

- Fixed issue where the Marker to peak does not work when the display is disabled (#384907)

N9068A, Phase Noise Measurement Application

Log Plot Measurement

- Fixed issue causing the Peak / Spur Search feature to not work (#365105)
- Fixed issue causing the instrument application software to crash when the Next Spur function is selected (#365105)
- Fixed issue causing Auto Tune to intermittently miss signals ~200 MHz and less (#385777)
- Fixed issue where the Marker Table save function was missing (#316791)

- Fixed issue to be able to modify the minimum carrier level below -50 dBm (#340806)
- Fixed issue where the Minimum Carrier level will take Corrections into account while in External Mixing (#371528)

N9069A, Noise Figure Measurement Application

- Fixed issue causing not all markers to turn off when All Markers Off is selected (#387888)
- Fixed issue causing external source connectivity settings not to be included in saved instrument state files (#386975)
- Fixed issue causing the marker table colors to not properly follow the instrument color theme (#380943)
- Fixed issue causing the blue scroll bar not to be displayed in Table View display (#375497)
- Added missing remote command to turn on Marker Table (#373097)
    - :CALCulate:<meas>:MARKer:TABLe[:STATe] OFF|ON|0|1

N9071A, GSM/EDGE/Evo Measurement Application

- Fixed issue with EPVT-Limit mask is not displaying when the signal type is unique (#374565)

N9077A, WLAN 802.11a/b/g/n/ac Measurement Application

- Fixed issue that caused a memory error when the Search Length was 40 ms when performing a Modulation Analysis measurement (#365337)
- Fixed issue where the absolute limit was not drawn correctly on the display when in the WLAN SEM measurement (#367733)

N9080B, LTE/LTE-Advanced FDD Measurement Application

- Fixed issue with CSI-RS not being detected properly on antenna port 2 (#386457)

89601B, VSA Measurement Application

- Fixed issue causing the Maximize window button to be grayed out and non-functional (#352558)