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 TECHNOLOGIES

# 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)
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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)
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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)
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# 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)

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)