# Instrument Software Revision History

Keysight M9410A, M9411A VXT PXIe Vector Transceiver

 M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.36.54** (Release Date Oct, 2023)

**Issues Resolved:**

- Data capturing issue when working with VSA (XSA-38484)

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 M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.36.53** (Release Date Aug, 2023)

**Enhancement:**

- Reduce the installer size.
- Support NF Measurement via KMF on VXT models.
- SCPI command to track waveform revision.
- Flexible port support on MIMO.
- Port Behavior Optimization for VXT models.
- Add N/Y9084EM0E support on VXT models M9410A/11A.
- Release Spurious Emission measurement.
- 5GNR
  - Enhance Real Time Phase Compensation for Basic NR Waveform Cases.
- NR-V2X
  - N9085EM4E NR-V2X Support on VXT models.

**Issues Resolved:**



Note: The label (XSA-xxxxx) at the end of each item refers to that item's tracking number in Keysight's internal software issue tracking system.

KEYSIGHT TECHNOLOGIES

- LegacyModeDisableLocking=1 and IVI interface to PXI trigger out has no output. (XSA-36532)
- Gate window displayed when selecting ACP Meas, despite Gate View being off. (XSA-34609)
- Noise floor levels varies between 1001 and 20000 in the number of points. (XSA34491)
- Abnormal behavior when recalling a specified state and measuring ACLR. (XSA33656)
- STAT:OPER:COND? query after source RF on is expected to be 0. (XSA-30899)

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## M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.33.56** (Release Date Jan, 2023)

**Enhancement:**

- 5GNR Phase Compensation
- Support Spur Avoidance in WLAN Power vs Time measurement
- Support “E” Apps
- Support SCPI recorder
- VMA Enhancements
  - Digital Demod: Add "Selected Segment" in Advanced Setup
  - Custom OFDM: Add DVB-TH and ISDB-T preset
  - Improve Optimize EVM algorithm for DVB-S2X which is not OFDM signal
- PA Test Enhancements
  - Update Trace results per DPD iteration
  - Support "MATLAB script" in DPD models
  - Support new version M3202A driver for Envelop Tracking on VXT models M9410A/11A
- 5GNR Enhancements
  - Update Demod Info recall to handle VXG's new state file
  - Enhance to show "composite EVM" and "composite channel power" of multiple CCs

  - Large Freq Error lock range support (for R17 NTN: Non-Terrestrial Networks)
  - Enhance Recording + State for sequential mode
  - Optimize EVM iteration mode
  - PvT Multi-burst enhancement in EVM
  - Multi-Meas enhancement: support Sequential Acquisition to cover wider ACLR/SEM span than HW BW
  - EVM MIMO Info Table to support Symbol Clock Error result per each path
  - DL FR1 NR-TM2b & 3.1b (1024 QAM) RB setting recall files
  - Add DL FR1 NR-TM2b & 3.1b (1024 QAM) to RB Alloc Preset
  - Mod Analysis enhancement: TS38.521 UL EVM calc. to exclude Transient time
  - Support NRTM-PN23 mode for PDSCH reference IQ generation
  - Enable noise correction for Tx On/Off power measurements with SAMM – Deep Capture Support
- WLAN 11be Enhancements
  - Support EVM calculation using ideal reference signal
  - ccEVM (Cross-Correlated EVM) support w. multi-port for better EVM floor
  - Update measure result with meaningful measurement result name
  - Re-design U-SIG and EHT SIG info for 320MHz signals
  - DL MU (OFDMA) MIMO
  - Support 11be EHT 320M Gamma phase rotation
  - Support configuration for "Number of Spatial Streams"
- Bluetooth Enhancement
  - Update measure result with meaningful measurement result name

## Issues Resolved:

- Center frequency is set incorrectly in 5GNR ACP. (XSA-24923)
- X-Apps freezes and crashes in VMA mode. (XSA-25475)
- RF start frequency is clipped when Freq Mode is List in Noise Figure. (XSA-26901)
- Source Power is incorrect after switching Modulation On/Off. (XSA-27377)



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- Screen freeze after running measurements in VMA. (XSA-29265)
- Standard Preset sets Span incorrectly after Meas Preset or CONF:CHP in 5GNR(XSA-31067)
- Trigger1 acquired incorrectly intermittently (XSA-31411)

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 M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.32.57** (Release Date Sep, 2022)

**Enhancement:**

- WLAN 11be: UL MU MIMO
- Power Suite Enhancements
  - Y-scale "Display Range" setting request
  - ACP to support 8 or more offsets
- VMA Enhancements
  - Support "Clock Error" in result
  - Custom OFDM measurement supports band stitching
- PA Test Enhancements
  - Improvement for ACP dynamic range
  - Support MATLAB file (*.mat and Variable) as a reference waveform
  - Support PA model extraction
- LTE-Adv FDD Enhancements
  - Mod Analysis *.evms file saving function
- 5G NR Enhancements
  - EM to support MIN(MAX(ABS, REL), ABS2) limit requirement for FR2 DL
  - Meas Preset follow-on: CA test case support
  - Marker Trace support for IBE limit lines
  - Support slot as analysis boundary in EVM
  - SCPI command for MIMO TAE
  - R17 DL FR1 1024QAM decoding function
  - Additional MIMO calibration process



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  - PvT to support multiple bursts over 10 ms (1 frame)
  - UL MIMO/TxDiv EVM definition update
  - Mod Analysis: Apply Preset to IBE Limit Threshold from P_RB – Support *.orb (ORAN studio IQ data) file recalling for playback
  - Support SW Band Stitching capability
- WLAN 11be enhancements
  - OpenGL support for IQ Polar diagram
  - Auto detection for Trigger-based signals
  - Support Unused Tone Error view
  - DL MU (OFDMA) MIMO
- WLAN 11ax enhancement
  - Support Burst Info view with per symbol power
- WLAN 11n/ac enhancement
  - Support data decoding and CRC
- WLAN enhancement
  - Civet: Iterative EVM Optimization
  - Support non-HT in manual detection mode
- Bluetooth Enhancement
  - EDR: Support new QBHSL

## Issues Resolved:

- Channel Power measurement is slow when Gate is On. (XSA-14422)
- VXT module is invisible after firmware upgrade. (XSA-21188)
- Error reported when pressing “Restore Defaults All Mode” in 5GNR. (XSA-21276)
- Video BW annotation disappears in Zero Span. (XSA-21696)
- DDR4 initialization failure. (XSA-21869)
- Incorrect source amplitude unit. (XSA-23079)
- 5GNR/LTE Channel Power Span can not be recalled correctly. (XSA-23249)
- *.mat file saved in IQ Analyzer mode is unreadable for MATLAB. (XSA-23473)
- “SYST:CAL:ROW4:DUPL” doesn’t work. (XSA-23586)
- “SYST:CAL:FREQ:OFFS” doesn’t work. (XSA-23701)
- X-Apps hang while running WLAN measurements. (XSA-24121)



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- *.s2p correction file is not available in Noise Figure. (XSA-24302)
- SSB common SCS display error. (XSA-25022)
- IF Flatness failure when BW = 600 MHz/1.2 GHz. (XSA-28150, XSA-28688)
- Infinite FPGA upgrade even after power cycle. (XSA-27900)
- X-Apps will crash if you keep refreshing waveform list on GUI and loading waveform via SCPI. (XSA-27992)

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 M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.31.51** (Release Date Jan, 2022)

**Enhancement:**

- Support N9055EM0E Power Amplifier Measurement Multi-Touch UI Application
- Add M9300A control from X-Apps with notification of External reference lock
- Add warning message before FPGA upgrade
- Add IVI-C Interfaces support

**Issues Resolved:**

- "Execution Error" message when turning on ACP or SEM measurement under "Power Meas" of 5G NR Modulation Analysis Measurement. (XSA-23717)
- "Frequency Reference Unlocked" message after recalling a state file on MIMO station. (XSA-23681)
- Wrong P-SS Power Boosting setting by recalling the SCP file whose SSB Power Boosting is enabled. (XSA-23148)
- The Correction table index column only has 3 significant figures, needs to be widened. (XSA-22837)
- FR1 shows some strange rectangular or triangular spikes with spur avoidance enabled. (XSA-21990)
- CW power measurements differ with spur avoidance on vs. off and different range settings. (XSA-21938)
- Large trigger latency of Tx in MIMO mode vs. non-MIMO mode. (XSA-21885)



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- Insufficient error message when floating license is not available. (XSA-21853) • [5GNR] TM3.1 64 QAM EVM difference with PTRS enabled (XSA-21472)
- Source shows "Waiting for trigger" message wrongly after some tests are run. (XSA-21464）
- Signal power displayed in Gate View window is different from the measured signal power. (XSA-21344)
- "Hardware missing; Option not installed" is shown wrongly when entering 5GNR Modulation Analysis after "Restore Defaults All Mode". (XSA-21276)
- Correction selection is changed to Correction 16 automatically after adding any correction data to Correction 1 or 2. (XSA-21237)
- M9410A MIMO TAE with 2x2 MIMO 4x100 MHz signal is not stable. (XSA20803)
- XApps crashes after IVI operation (caused by a conflict in acquisition mode) (XSA-20586)
- M941x IVI driver allows performing FFT acquisition under IQ acquisition mode. (XSA-20372)
- [5GNR] Sync not found for multiple PUSCH with different power boosting. (XSA20310)
- M9410A MIMO external trigger delay does not apply to all channels. (XSA20163)
- [5G NR PvT] Wrong Info BW Auto value with Single Carrier setup. (XSA-19638)
- [5G NR Trace Preset] Trace Function “From/To Trace” are not preset. (XSA19619)
- Wrong Reference Frequency is used in SEM when Offset Freq Define is CTOC. (XSA-19307)
- M9410A multi-channel Timeout waiting for arming on secondary module with VSA Record. (XSA-18535)
- M941x doesn’t report alert when Negative Trigger is not supported. (XSA-18466)
- [5GNR] Modulation Analysis: "Couple Markers" doesn't work for Demod Error Vector Time and 3D traces. (XSA-18462)
- Video trigger can't work when sample rate > 375 MHz and source arb sample rate is less than 20 kHz. (XSA-18184)
- [CHP][OBW]Result Metrics is not updated after running trace copy, exchange or clear all functions. (XSA-18183)
- ACP with Power Ref = "Max (Min) Pwr Carrier in SubBlock" doesn't report Upper ACP Rel result (dBc). (XSA-18176)



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- [CHP/OBW/ACP/5GNR PVT] Stop restarting measurement when Trace Update State is set to Off from On. (XSA-18157)
- Jitter control button is not grayed out when IFBW is bigger than 300MHz. (XSA17747)
- ACP Reference Carrier is not drawn in the appropriate color. (XSA-17363)
- Measurements cannot acquire data when the measurement frequency range exceeds the HW limits. (XSA-16873)
- Failed to launch X-Apps via IVI under a new .NET AppDomain. (XSA-15954)
- WLAN CHP crashes sometimes with Invalid Operation Exception "Cannot add content to a non-leaf node." (XSA-15921)
- Measured amplitude and spectrum are wrong in Swept SA when frequency setting is less than 380MHz (LFE path). (XSA-15734, XSA-15736)
- 1dB difference in basic Tx power measurements/IQ measurements between Gaussian and flattop filters. (XSA-13993)
- Gaussian trace disappears if you switch from CCDF to CHP or ACP then back. (XSA-12133)
- [WLAN] Unnecessary buttons are displayed on Measure bar menu. (XSA-11919)
- X-Apps freezes when trying to edit correction immediately after it is loaded. (XSA-11164)
- [Bluetooth] Delta marker does not work for some traces. (XSA-11045)
- M9410A/11A has 240ns trigger delay inaccuracy when using periodic trigger with external sync source. (XSA-7519)

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## M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.30.55** (Release Date Dec, 2021)

**Enhancement:**

- N9077EM2E WLAN 11be Measurement application
  - Support WLAN 11be



Note: The label (XSA-xxxxx) at the end of each item refers to that item's tracking number in Keysight's internal software issue tracking system.

**Issues Resolved:**

- Correction File corrupts Rx data (XSA-6759)
- Video Trigger is inaccurate when sample rate > 375 MHz in MIMO (XSA-17380)
- Video Trigger is inaccurate when sample rate > 375 MHz with Negative Slope (XSA-17381)
- VSA multi-channel measurement initialization error (XSA-18366)
- High X-app CPU usage slowing down 5GNR MIMO measurement with VSA (XSA-18927)
- X-App crashes during 4x100 MHz 4x4 MIMO IQ demodulation (XSA-18940)
- Video trigger with Above Level holdoff does not trigger with multi-channel (XSA18678)
- Source trigger + run with sync on doesn't work (XSA-20764)
- X-App SCPI no response when loading a wrong waveform (XSA-20148)
- Receiver trigger jitter improvement (XSA-14122)
- ARB waveform loading failure on some abnormal waveform files (XSA-17705)
- ACP measurement is slow when noise correction is on (XSA-18168)
- Adjust Range for Min Clipping does not behave properly with other signals preset (XSA-19548)
- Video trigger doesn't work with some waveforms when span is more than 300 MHz (XSA-18106)
- The power accuracy of spur avoidance is not good when it needs invert spectrum (XSA-20943)
- The new page file size out of memory message is incorrect in a couple of ways (XSA-23110)

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 M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.29.68** (Release Date Mar, 2022)

**Issues Resolved:**

- Application crashes while changing Source RF center frequency using scrolling mouse. (XSA-24643)



Note: The label (XSA-xxxxx) at the end of each item refers to that item's tracking number in Keysight's internal software issue tracking system.

- Application crashes randomly when running automation test through OpenTap . (XSA-24617)
- Application hangs while turning source list sequencer on with correction table when receiver is waiting for trigger. (XSA-22855)
- Application crashes with the EVM/CHP Test. (XSA-24498)
- VSA older than VSA2021U1 cannot connect to M941xA . (XSA-20748)
- Application cannot start up on a fresh controller without LAN connection (XSA25459)

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 M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.29.66** (Release Date Nov, 2021)

**Enhancement:**

- M9410A/M9411A support Y9065EM0E license
- Improve the GUI display update mechanism
- Improve the amplitude correction function
- Fix the related timing related crash (such as XSA-22321)
- N9085EM0E 5G-NR Measurement application
  - Make PAvT measurement support Spur Avoidance (XSA-21265)

**Issues Resolved:**

- Fix the unexpected setting conflict message when Port is set to None and center frequency = 28 GHz in S9100A/S9101A system (XSA-21441)
- Improve the external correction accuracy when spur avoidance is on under some conditions (XSA-21274)
- Clear the unexpected alignment required message that is displayed due to



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sweep not being updated (XSA-22323)

- Fix a software crash when configuring a MIMO setup in 89600 VSA software with M9411A as primary and M9410A as secondary module (XSA-22822)
- Incorrect trigger source for Gate after preset caused system to hang (XSA21166)
- Fix a Gate trigger issue in the Swept SA measurement in the Spectrum Analyzer application (XSA-21812)
- Corrected the center frequency of auto range in IQ Waveform, Monitor Spectrum, PAvT and CCDF measurements when frequency offset is not zero. (XSA-21266)
- Improve grammar of information message for Adjust Range function when “Continue Averaging” function is on. (XSA-21554)
- Clear all the status register bits at the beginning of 5G NR EVM measurement setup (XSA-21283)
- Fix the invalid/stale trace data in Fast Spectral Measurements after a preceding IQ Time acquisitions when in single sweep mode. (XSA-21339)
- Improve the Frame trigger in 5G NR EVM when measuring Test Model 2 signal. (XSA-21578)
- Make Video Trigger level max/min coupled with external gain in EVM, Monitor Spectrum and IQ Waveform measurements (XSA-21804)
- Fix a crash in the GSM/EDGE application (XSA-22192)
- Make S9100A/S9101A work when reference module is not installed in the timing slot of the PXI chassis (XSA-21939)
- Fix power measurement variations seen when using Corrections vs. Complex Corrections vs. External Gain (XSA-22390)

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 M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.29.61** (Release Date Oct, 2021)

**Enhancement:**

N9085EM0E 5G-NR Measurement application

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Note: The label (XSA-xxxxx) at the end of each item refers to that item’s tracking number in Keysight’s internal software issue tracking system.

- Support “Restart Meas on Adjust Atten” to toggle the force restart switch for the “Adjust Atten for Min Clipping” function

**Issues Resolved:**

- Error message with "Settings conflict;CRFSPlayAlgorithm..." when switching RF Output Port to RRH1RFHD1 or RF Output. (XSA-20738)
- Occasionally, signal generator will not turn ON when there is a Frequency Offset setting entered. (XSA-20602)
- "Adjust Range for Min Clipping" appears to cause averaging to reset and start over, which breaks the Continue Averaging function. (XSA-20145)
- Keysight Event Reporter reports KeyNotFoundException (TriggerSource). (XSA20004)
- After doing auto range, the range value is wrong under Bluetooth mode. (XSA20860)
- High CPU usage due to continuous DAC underflow events when source waveform is playing under External Trigger In and External Trigger is set to backplane PXI_TRIG0. (XSA-20911)
- “Sync to Trigger Source” doesn't work as expected in 5G NR mode. (XSA-20459)
- “Alignment Required” keeps popping up even after alignment has been performed. (XSA-20094)

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 M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.29.60** (Release Date Oct, 2021)

**Enhancement:**

- Support Fast Power option (FP1) by enabling SCPI commands to make fast spectrum measurements. (XSA-17293)

**Issues Resolved:**



Note: The label (XSA-xxxxx) at the end of each item refers to that item’s tracking number in Keysight’s internal software issue tracking system.

- With Floating License for 5GNR, LTE TDD and LTE FDD, X-Apps cannot enter any other mode except IQ Analyzer after running for several minutes. (XSA18933)
- X-Apps crash during 4CCx100 MHz 4x4 MIMO IQ demodulation. (XSA-18940)
- "Adjust Range for Min Clipping" does not work correctly in IQ Analyzer Complex Spectrum. (XSA-18860)
- There are lots of "SetPartialAlignment" error messages in SA Event viewer. (XSA-19969)
- X-Apps SCPI does not respond when loading a specific waveform with wrong IQ data format. (XSA-20148)
- When loading/deleting many waveforms continuously, there is an ARB Waveform error - "Setting conflict;CRFSPlayAlgorithm.Setup ... ....wfm doesn't exist". (XSA17705)
- Unexpected error message "Align current frequency range" after running some sequence test. (XSA-20400)
- The input overload Indicator is missing for Fast Power option (FP1). (XSA-20428)
- 5G NR multicarrier ACP measurement is really slow compared to single carrier measurement. (XSA-18168)
- Software GUI is not responsive in 5G NR PAvT measurement after changing number of segments to 100 and Meas Interval to 100 ns. (XSA-20121)
- The speed of Fast Capture seems to be around 2 to 3 times slower on XA29. (XSA-20607)
- “Adjust Range for Min Clipping” does not behave properly with other signals present. (XSA-19548)
- A substantial portion of the file name is not visible in "Recall Waveform" menu. (XSA-14787)
- Null reference exception happens when the Noise Correction flag is set. (XSA20454)
- Removed incorrect "I/Q Acquisition failed" errors from being written to the Event log during a power measurement. (XSA-20063)

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- High X-Apps CPU usage slows down 5GNR MIMO measurement with 86000 VSA. (XSA-18927)

  X-Apps crash when loading a waveform with 1.96608 GHz sample rate. (XSA-18920)



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Calibrating in VSA crashes VXT2 X-apps when MIMO is running. (XSA-18737)

- High X-apps CPU usage when receiver stops measuring and Source stops output. (XSA-19774)
- Some modules needed 30 minutes to start up due to correction file date information in flash memory not matching the information in file system. (XSA20314)
- No source output signal below -67 dBm. (XSA-20483)

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 M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.29.55** (Release Date July, 2021)

**Enhancement:**

- Sequencer Analyzer on M9411A with SQC option
- Partial Alignment: User can select frequency range for alignment to reduce alignment time.
- ACP Enhancements
  - Allow results to be displayed as Watts
- VMA Digital Demod Enhancements
  - Support IQ Symbol Group Delay vs Time trace
  - Support Wi-SUN MR-OQPSK presets)
- LTE-Adv FDD Enhancements
  - Support PDSCH decoding when RB Auto-Detect Mode = Power Based
- NB-IoT Enhancements
  - NB-IoT follow-on: Support NPDCCH decoding
- C-V2X Transmit On/Off Enhancements
  - Add UL On Power Ref & Tol limit settings
- LTE-Adv TDD Enhancements
  - Support PDSCH decoding when RB Auto-Detect Mode = Power Based
- 5G NR Overall Enhancements
  - Update limits based on TS38.141 v.16.5.0 (2020-09)
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  - Add FR1 BS Type 1-O for ACP/SEM/PvT presets
  - Adjust Limit Mask for Freq Range for ACP/SEM/Transmit On/Off Power presets,
  - Multi-Meas in Mod Analysis: support ACP/OBW/SEM
  - Update "RB Alloc Preset" to add new NR-TM
  - Support precise aggregated channel bandwidth configuration based on TS38.141 & TS38.521 definitions
  - Meas Preset follow-on: UE Power Class/FR2 UL Channel Type
  - Preset Span/IFBW to Spectrum Monitor/IQ Waveform/CCDF)
- 5G NR Transmit On/Off Power Enhancements
  - Add SCPI command to return Pass/Fail for each measured metric
  - Add UL On Power Ref & Tolerance limit settings
  - Support Trace/Display graphical annotations

**Issues Resolved:**

- Add time alignment error (TAE) for MIMO with 4CC CA in MISO mode
- Add Embedded Help for "Auto Leveling"
- Add recommended paging file size setting and how to configure it into Getting Start Guide and Configuration Guide
- VXT2 Video trigger (Holdoff: Below, Slope: Negative) has inaccurate delay when sample rates > 375 MSa/s
- VXT2 Video trigger delay is not accurate at sample rates > 375 MSa/s
- The limit of IKtM941xSourceModulation::RmsPower is wrong
- Improper message pop up when deleting a recalled waveform
- 3GPP Conformance Test setting is not enabled when recalling a 5G NR X-App state file
- Cannot load waveforms with number of IQ pairs that are not multiples of 64 bytes
- Unexpected pop-up warning when loading some 5GNR EVM state files
- Marker search "Next Peak" behavior doesn't work as expected when Marker Function = Band Power
- The measurement "GMSK Phase & Freq Error" in GSM mode does not work correctly



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Saving a .screen state on one station and recalling on another station will overwrite correction registers

Observed incorrect RF burst trace line in LTE TDD waveform measurement using RF Burst trigger

- Continuous averaging feature improvement is required to support different range values and different input ports for two layers measurement with sub-block integrated power in OBUE
- 89601 cannot connect to physics when CIU has high priority NIC with VXT2
- Apps crashed in the WLAN sequencer test

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 M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.26.63** (Release Date June, 2021)

**Issues Resolved:**

- Off Power test result with average is a few dB better than without average
- Error when opening the XSA application
- Noise correction with auto range does not work properly
- ACLR is different with different range value
- Recall Correction button is not included on Transmit On/Off Power user interface
- Underscore of waveform name is missed in current waveform display
- Failed to install upgrade licenses
- Recall Menu and Directory selection do not work properly
- "Apply Preset (to All CCs)" changes Periodic trigger sync source to RFB
- XSA crashes when deleting/loading arb waveforms

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 M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.26.57** (Release Date Dec, 2020)

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**Enhancement:**

- Initial release to support standard option EP6, Enhanced Performance

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  Initial release to support option LFE, Low Frequency Extension. Compatible with M9411A only
- Support embedded analog modulation (AM, FM, PM) in Source control (N9063EM0E)
- Support Noise Figure measurement application (N9069EM0E), M9411A only
- Support C-V2X measurement application (N9080EM4E)
- Support NB-IoT measurement application (N9080EM3E)
- Support Bluetooth measurement application (N9081EM0E)
- Support GSM/EDGE/Evo measurement application (N9071EM0E)
- EVM with Multi-Burst in WLAN measurement application (N9077EM0E and N9077EM1E)
- Add Spur Avoidance for Transmit on/off in LTE and 5GNR measurement mode
- Add Spur Avoidance in Bluetooth Mode, both FFT and Swept
- Add new event and warning message for PLL unlock
- Support Source marker edit
- Improve trigger latency

**Issues Resolved:**

- Failed to refresh by ACLR measurement restart
- RF Input Correction data is not applied properly
- Wrong data saved during saving Screen Config + State file
- Correction and UI unresponsive issue
- Source RFHD Output port and Correction data is not applied properly
- Transmit On/Off power, SCPI command “DISP:PVTime:VIEW ALL”, “DISP:PVTime:VIEW BOTH” do not work
- X-App crash when moving Marker in Transmit On/Off measurement
- Input Overload message in OBUE
- Noise level discrepancy during ACLR measurement
- Can't set up CCs with positive frequency offsets for multi-carrier TAE
- Click "edit selected sequence " of multi-touch UI causes software crash
- Failed to playback N7631EMBC waveform with Y9085EM0E-1FP license by IVI Driver
- Trigger delay does not work for ARB signal triggering
  Source bits for Operation Condition Register do not work



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 M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.25.63** (Release Date Apr, 2020)

**Enhancement:**

- Support Spectrum Analysis Measurement with Touch UI (N9060EM3E, requires SAA option)
- Support X-Apps based WLAN MIMO (4x4) (N9077EM0E and N9077EM1E)
- Support VSA based 5GNR MIMO (exclude Phase Coherent) (4x4)
- Support WLAN SISO and MIMO with CIU (2x2)
- Support 40 MHz Analysis Bandwidth (B40 option)
- VMA Measurement Enhancements (N9054EM0E)
  Eye Diagram Metrics in Digital Demodulation
  General Tx BER for Digital Demodulation
- WLAN Enhancements (N9077EM0E and N9077EM1E)
  A-MPDU data decoding w. per-subframe CRC check
  Support Mean PSD for WLAN Channel Power
  Correct CRC result for inactive user (from “failure" to NAN")
- Add alignment required alert

**Issues Resolved:**

- X-Apps crash when sending *RST in NR PAvT measurement
- IQ Spectrum loses LO feedthrough after changing optimization mode from Noise Figure Mode to Speed / Performance / IM3 Mode



Note: The label (XSA-xxxxx) at the end of each item refers to that item’s tracking number in Keysight’s internal software issue tracking system.

## M9410A, M9411A (VXT PXIe Vector Transceiver)

**Version M.24.61** (Release Date Oct, 2019)

**Enhancement:**

- Initial release to support M9411A

**Issues Resolved:**

- Crash and exception in IQ basic spectrum mode
- Unable to recall .bin waveform file in source ARB
- Red LED failures are not always visible in X-Apps

## M9410A (VXT PXIe Vector Transceiver)

**Version M.24.24** (Release Date Sep, 2019)

**Issues Resolved:**

- X-App crashes if M02 is the only installed option

## M9410A (VXT PXIe Vector Transceiver)

**Version M.22.34** (Release Date June, 2019)

**Issues Resolved:**

- X-App crashes during ACP measurement
  Playing a .wfm file after .bin file will corrupt the ability to play .bin file waveforms
- Exceptions caused by FEC Self-test when starting VSA application for VXT • File "DeviceIO.config" is not properly configured



Note: The label (XSA-xxxxx) at the end of each item refers to that item's tracking number in Keysight's internal software issue tracking system.

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 M9410A (VXT PXIe Vector Transceiver)

**Version M.22.26** (Release Date Mar, 2019)

Initial release



Note: The label (XSA-xxxxx) at the end of each item refers to that item's tracking number in Keysight's internal software issue tracking system.