

General Caution

Please use a USB Memory Stick for firmware updates.

If there is a firmware update question, please contact Anritsu service support at <https://www.anritsu.com/test-measurement/contact-us> for further information.

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T, MW82119B

Application Package : V4.50

Release Date : Release Aug. 2022

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - DMR2

[SPH-5000] Added signal generator Board ID to the S412E Application Self Test output.

-> Software - NBFM

[SPH-5000] Added signal generator Board ID to the S412E Application Self Test output.

-> Software - NXDN

[SPH-5000] Added signal generator Board ID to the S412E Application Self Test output.

-> Software - P25/P25p2

[SPH-5000] Added signal generator Board ID to the S412E Application Self Test output.

-> Software - PTC

[SPH-5000] Added signal generator Board ID to the S412E Application Self Test output.

-> Software - TETRA

[SPH-5000] Added signal generator Board ID to the S412E Application Self Test output.

-> Software - dPMR

[SPH-5000] Added signal generator Board ID to the S412E Application Self Test output.

*** IMPROVEMENTS ***

-> Software - CAA

[SPH-5066] Added new Time Delay measurement in the DTF measurement screen (-S33xE -MT821xE -MW82119B). When a marker is used it will display both the DTF information and the Time Delay information. The Time Delay information will also display on the left-hand side and is also available within the marker table.

[SPH-5080] Added 4 additional cables to the standard cable list suite. -ACC014J50 (1/4) -AC012J50 (1/2) -AT078J50 (7/8) -AT114J50 (1 ¼).

-> Software - VNA

[SPH-5080] Added 4 additional cables to the standard cable list suite. -ACC014J50 (1/4) -AC012J50 (1/2) -AT078J50 (7/8) -AT114J50 (1 ¼).

*** BUG FIXES ***

-> Software - DMR2

[SPH-5046] Fixed S412E Tx Output Level value mismatch after measurement is saved or recalled in Watts.

[SPH-5071] Resolved an issue where S412E Tx Output Level unit in Volts did not recall correctly from a measurement file.

-> Software - LTE

[SPH-4943] Fixed issue where transient messages will not clear and continue to stack up. One on top of the other while in single sweep.

[SPH-5051] Fixed issue with RSRQ LTE Measurement in MS2720T.

-> Software - NBFM

[SPH-5046] Fixed S412E Tx Output Level value mismatch after measurement is saved or recalled in Watts.

[SPH-5071] Resolved an issue where S412E Tx Output Level unit in Volts did not recall correctly from a measurement file.

-> Software - NXDN

[SPH-5046] Fixed S412E Tx Output Level value mismatch after measurement is saved or recalled in Watts.

[SPH-5071] Resolved an issue where S412E Tx Output Level unit in Volts did not recall correctly from a measurement file.

-> Software - P25/P25p2

[SPH-4938] Fixed issue where the S412E CW generator FM deviation was not working.

[SPH-5046] Fixed S412E Tx Output Level value mismatch after measurement is saved or recalled in Watts.

[SPH-5071] Resolved an issue where S412E Tx Output Level unit in Volts did not recall correctly from a measurement file.

-> Software - PDT

[SPH-5071] Resolved an issue where S412E Tx Output Level unit in Volts did not recall correctly from a measurement file.

-> Software - PIM

[SPH-4978] Resolved issue where changes to default parameters on the PIM Hunting application are not maintained when leaving mode or when unit is turned off.

-> Software - PTC

[SPH-5046] Fixed S412E Tx Output Level value mismatch after measurement is saved or recalled in Watts.

[SPH-5071] Resolved an issue where S412E Tx Output Level unit in Volts did not recall correctly from a measurement file.

-> Software - SPA and Sub-apps

[SPH-4938] Fixed issue where the S412E CW generator FM deviation was not working.

-> Software - TETRA

[SPH-5046] Fixed S412E Tx Output Level value mismatch after measurement is saved or recalled in Watts.

[SPH-5071] Resolved an issue where S412E Tx Output Level unit in Volts did not recall correctly from a measurement file.

[SPH-5082] Fixed issue in the S412E where the fm_1kHz_audio pattern does not work after a custom DL pattern is loaded or deleted.

-> Software - dPMR

[SPH-5046] Fixed S412E Tx Output Level value mismatch after measurement is saved or recalled in Watts.

[SPH-5071] Resolved an issue where S412E Tx Output Level unit in Volts did not recall correctly from a measurement file.

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T, MW82119B
Application Package : V4.30
Release Date : Quarterly Release April 2021

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - PIM

[SPH-4844] Added Support for MW82119B-0703 option.

*** IMPROVEMENTS ***

-> Software - PIM

[SPH-4510] DTP overlay previously had to be re-applied/measured every time a user switched to another PIM measurement mode (Swept PIM or PIM vs. Time). with this fix the DTP overlay will stay active between PIM measurement modes. This will save the technician time in the field since they will only need a single DTP overlay measurement per antenna.

*** BUG FIXES ***

-> Software - CAA

[SPH-5003] Fixed an issue where the default F1 and F2 frequencies for the MW82119B-0194 model were incorrect.

[SPH-5007] Resolved an issue where setting the option 28 CWSG frequency to 3 decimal places (1 kHz resolution) resulted in the actual CW frequency being rounded to 2 decimal places (10 kHz resolution).

-> Software - SPA and Sub-apps

[SPH-4946] Fixed an issue with functionality of the PIM hunting measurement mode when recalling a setup file.

[SPH-4948] Fixed an issue where the PIM Hunting sweep time was not matching in the status window.

[SPH-5007] Resolved an issue where setting the option 28 CWSG frequency to 3 decimal places (1 kHz resolution) resulted in the actual CW frequency being rounded to 2 decimal places (10 kHz resolution).

-> Software - PIM

[SPH-4674] Fixed an issue where the MW82119B-0700 PIM Master was not remembering non-default F1 and F2 settings.

[SPH-4954] Fixed an issue where user defined F1 and F2 values and calibration were lost going between High band and Low band in the MW82119B-0700 700 MHz PIM Master. The unit will now remember both the F1 and F2 values and the calibration between High band and Low band.

[SPH-4968] Resolved an issue when using the SCPI command (programming language) to recall the residual PIM value returning the wrong value.

[SPH-4975] Fixed an issue where the residual PIM calibration was not applied to F2 on the MW82119B-0700/-0701 PIM Master models at 20W with the Swept PIM measurement.

[SPH-4977] Fixed an issue in the MW82119B-0700 model that was setting the wrong IM range for Swept PIM measurements after the user makes PIM vs. Time measurements in both Low Band and High Band before making a swept PIM measurement.

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T, MW82119B

Application Package: V4.20

Release Date : Quarterly Release Jan. 2021

Information below may not apply to every model/option in Product list

*** IMPROVEMENTS ***

-> Software - PIM

[SPH-4510] DTP overlay previously had to be re-applied/measured every time a user switched to another PIM measurement mode (Swept PIM or PIM vs. Time). with this fix the DTP overlay will stay active between PIM measurement modes. This will save the technician time in the field since they will only need a single DTP overlay measurement per antenna.

*** BUG FIXES ***

-> Software - SPA and Sub-apps

[SPH-4939] Fixed an issue in PIM Hunting mode when a user changed the default settings the unit did not remember the last settings.

[SPH-4947] Fixed an issue where the PIM Hunter Menu button would show up in IA mode of operation.

[SPH-4950] Fixed a problem when switching between PIM Analyzer mode (1st generation/legacy PIM Master receiver mode) and PIM Hunting mode in our spectrum analyzers. The sweep in PIM Hunting mode stopped and the left side parameters were not reset.

[SPH-4952] Fixed an issue in PIM Hunting mode. When manually changing the span (normal spectrum analyzer function) and resetting to Zero span or using last span. PIM Hunting mode would not restart. PIM Hunting mode is a Zero Span measurement.

[SPH-4983] Fixed an issue in PIM Hunting mode under certain conditions when switching from PIM Hunting mode to another measurement mode (ie. LTE) the unit would freeze up or reboot.

[SPH-4984] Fixed an issue when in PIM Hunting mode the sweep would slow down if power cycled or switched back and forth between other modes.

-> Software - PIM

[SPH-4674] Fixed an issue where the MW82119B PIM Master was not remembering non-default F1 and F2 settings.

[SPH-4954] Fixed an issue where user defined F1 and F2 values and calibration were lost going between High band and Low band in the MW82119B-0700 700 MHz PIM Master. The unit will now remember both the F1 and F2 values and the calibration between High band and Low band.

[SPH-4958] Fixed an issue in PIM Hunting mode when the 1 KHz RBW was used the trace sweep would stop.

[SPH-4968] Resolved an issue using the SCPI command (programming language) to recall the residual PIM value returned the wrong value.

[SPH-4986] Fixed an issue in PIM Hunting mode when the 1 KHz RBW was used the trace sweep would stop.

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T

Application Package: V4.00

Release Date : Quarterly Release Sept. 2020

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - SPA and Sub-apps

[SPH-4917] Resolved an issue where it was not possible to set Zero Span time markers to negative values remotely. This change applies only to Spectrum Analyzer (SPA) modes.

*** IMPROVEMENTS ***

-> Software - SPA and Sub-apps

[SPH-4809] Added .csv file save format for the Cable/Antenna analyzer (CAA) measurements.

*** BUG FIXES ***

-> Software - CAA

[SPH-4935] In response to numerous customer requests, dual trace .dat measurement files will no longer result in 2 individual files saved. Dual trace .dat measurement files saved are fully compatible with Line Sweep Tools (LST). This change affects the Cable/Antenna analyzer (CAA) mode only.

[SPH-4936] Fixed an issue in PIM Hunting mode when the RBW was set at 1 KHz the sweep could freeze.

[SPH-4937] Fixed an issue where the attenuation level was changing based on the Reference Level setting. For the PIM Hunting application this behavior has been changed so that the value stays the same and the default is 0 dB attenuation.

[SPH-4957] Resolved an issue where certain combinations of start/stop frequency and number of data points could result in spikes appearing after calibration.

-> Software - SPA and Sub-apps

[SPH-4949] Fixed an issue where the Spectrum graph in PIM Hunting measurement covered the Center Frequency as well as Span and other annotations in (ms/s) after switching mode from SPA PIM Hunting to AM-FM-PM => PIM Analyzer => Spectrum Analyzer.

-> Software - VNA

[SPH-4830] Resolved an issue where recalling a [Trace + Memory]/2 measurement resulted in the Trace Math function being re-applied.

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T, MW82119B

Application Package: V3.90

Release Date : Release May. 2020

Information below may not apply to every model/option in Product list

*** IMPROVEMENTS ***

-> Software - CAA

[SPH-2095] The following cables have been added per customer requests: RLCX-SL 158R, RLCX-SL 114R, RLCX-SL 078R, RLCX-SL012R, RLCX-SL038R, RLCX-SL014R, RLCX-SL012S, RLCX-SL038S, RLCX-SL014S, RLCX-SL012R FPR.

[SPH-4778] CSV file format added to File Save Menu.

-> Software - VNA

[SPH-2095] The following cables have been added per customer requests: RLCX-SL 158R, RLCX-SL 114R, RLCX-SL 078R, RLCX-SL012R, RLCX-SL038R, RLCX-SL014R, RLCX-SL012S, RLCX-SL038S, RLCX-SL014S, RLCX-SL012R FPR.

*** BUG FIXES ***

-> Software - CAA

[SPH-4731] Resolved an issue where sometimes the last point marker value displayed would not match the last point data in the saved measurement.

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T, MW82119B

Application Package: V3.80

Release Date : Release Jan. 2020

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - LTE

[SPH-4852] Adding initial support for TD-LTE measurements for S412E.

-> Software - PIM

[SPH-4844] Added Support for MW82119B-0703 option.

-> Software - OS/Base

[SPH-4806] Added support for amplitude blanking capability in S11 and S21 Log Mag graph types only, for models with option 007 installed.

-> Software - SPA and Sub-apps

[SPH-4808] New PIM Hunting mode, used for PIM Hunting applications on rooftops with the PIM Hunting probe or Yagi antennas.

*** BUG FIXES ***

-> Software - P25/P25p2

[SPH-4884] Corrected an error on the Band plan. The frequency and channel numbers for P25 will now be correct.

-> Software - PTC

[SPH-4798] Improved Trigger Timeout message responsiveness.

-> Software - VNA

[SPH-4760] Resolved an issue in VNA Mode where saving a measurement + JPG could result in repeated file confirmation messages.

What will the customer see in this release?

Product : MS271xE, MT821xE, MS2720T, MT822xB, MT8220T

Application Package : V3.71

Release Date : Quarterly Release October 2019

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - CAA

[SPH-4784] Added (Trace + Memory)/2 feature to Trace Memory. Allows users to reduce or eliminate peak-to-peak ripple caused by standing waves when making 1-port cable loss measurements.

*** BUG FIXES ***

-> Software - DMR2

[SPH-4000] regional language Support for S412E LMR Master is available.

-> Software - NXDN

[SPH-4000] regional language Support for S412E LMR Master is available.

-> Software - dPMR

[SPH-4000] regional language Support for S412E LMR Master is available.

-> Software - NBFM

[SPH-4000] regional language Support for S412E LMR Master is available.

-> Software - TETRA

[SPH-4000] regional language Support for S412E LMR Master is available.

[SPH-4690] Fixed an issue where TETRA Base Station Receiver Sensitivity loading of customer patterns did not operate correctly. Added a softkey to display BCC, MCC, and MNC of loaded BSRS custom patterns.

-> Software - P25/P25p2

[SPH-4000] regional language Support for S412E LMR Master is available.

-> Software - PTC

[SPH-4000] regional language Support for S412E LMR Master is available.

-> Software - PDT

[SPH-4000] regional language Support for S412E LMR Master is available.

What will the customer see in this release?

Product : S412E, MT822xB, MT8220T

Application Package: V3.60

Release Date : Quarterly Release August 2019

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - DMR2

[SPH-4680] Add new MS 1031 5% BER signal pattern to DMR Analyzer.

-> Software - PTC

[SPH-4721] Rename Options 721 and 722 from PTC" to "PTC-ITCR"."

[SPH-4723] Added remote commands for PTC-ACSES

[SPH-4724] Added PTC-ACSES save/recall setups and measurements.

[SPH-4726] New PTC-ACSES graph implementation.

[SPH-4727] New PTC-ACSES icon.

-> Software

[HHMP-21] Added DMR MS 1031 5% BER pattern.

[HHMP-78] Released options 731 and 732, PTC-ACSES Analyzer and Coverage Mapping.

*** IMPROVEMENTS ***

-> Software - CPRI

[SPH-4766] Added BBU Emulation script support for Nokia/ALu radios RRH4x45-1900 and R2x50-80L1.

*** BUG FIXES ***

-> Software

[HHMP-245] Rename Options 721 and 722 from PTC" to "PTC-ITCR"."

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T

Application Package: V3.50

Release Date : Quarterly Release April 2019

Information below may not apply to every model/option in Product list

*** IMPROVEMENTS ***

-> Software - CPRI

[SPH-4627] Added Samsung and Huawei to PIM Aid radio preset selections.

*** BUG FIXES ***

-> Software - SPA and Sub-apps

[SPH-4691] Fixed an issue where field strength measurement settings might not properly apply after power cycle.

-> Software - OS/Base

[SPH-4617] Fixed an issue in S412E where setting the Input Power Warning to ON would prevent the 'available firmware update message' from displaying when appropriate during power-up.

[SPH-4713] Fixed an issue where automatic firmware updates would not execute in S412E under some circumstances.

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T, MW82119B

Application Package: V3.40

Release Date : Quarterly Release January 2019

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - CAA

[SPH-4535] Added cal coefficient support for cal kits with 4.3-10 connectors.

-> Software - PTC

[SPH-4442] Added common American Association of Railroads (AAR) frequency standards to our Signal Standards lists, and made them available in PTC mode.

-> Software - SPA and Sub-apps

[SPH-4566] Added dBuW, dBmA, and dBuA units in SPA mode.

-> Software - VNA

[SPH-4535] Added cal coefficient support for cal kits with 4.3-10 connectors.

*** IMPROVEMENTS ***

-> Software - LTE

[SPH-4590] Added Band 71, the new 600 MHz LTE Band to the signal standard list.

*** BUG FIXES ***

-> Software - LTE

[SPH-4597] Fixed an issue where recalled 4x4 MIMO LTE measurement would not properly display the green/grey antenna icons.

-> Software - ISDBT/SFN

[SPH-4687] Corrected the antenna.txt file so that it would behave correctly in ISDB-T mode.

-> Software - VNA

[SPH-4689] Fixed an issue in field mode that unnecessarily limited scale settings in Field Mode VSWR measurements.

-> Software - SPA and Sub-apps

[SPH-3745] Fixed a corner case error with averaging in Interference Analysis Field Strength measurement.

[SPH-4458] Antenna selection list now includes EMI antennas when 'All' is selected.

-> Software - PIM

[SPH-4642] Changed the time/date text layout in the PIM Calibration Due popup.

[SPH-4644] Addressed an issue that could cause an option 600 or 902 instrument to lock up when they are set to high band and perform a calibration via the SCPI command:

CAL:PIM:FULL ON

-> Software - OS/Base

[SPH-4593] Fixed an issue where unit would hang during power-up under certain conditions after recalling a VNA setup from SPA mode.

-> Software - CAA

[SPH-4593] Fixed an issue where unit would hang during power-up under certain conditions after recalling a VNA setup from SPA mode.

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T

Application Package: V3.30

Release Date : Quarterly Release October 2018

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - TETRA

[SPH-3853] External - Used Training Sequence symbols to determine BER for both allocated and unallocated signal bursts.

*** BUG FIXES ***

-> Software - ISDBT/SFN

[SPH-3731] Fixes an issue where over a 100 ISDBT files were saved into a folder which resulted in the unit slowing down in time. Files are now saved in multiple folders with date and timestamp.

-> Software - VNA

[SPH-4026] Fixes an issue where the application would hang in Transmission Measurement mode when recalling a set up file to put the unit into Cable and Antenna Analyzer Mode, and then attempting to run an OSL calibration.

[SPH-4028] Fixes an issue where the SPA Amplitude Menu would show up in Transmission Measurement Mode.

[SPH-4605] Fixed an issue in VNA mode where glitches would appear at 375MHz and 1500 MHz after a calibration.

-> Software - SPA and Sub-apps

[SPH-3745] Fixed a corner case error with averaging in Interference Analysis Field Strength measurement

[SPH-3951] Disabled the use of Start Freq and Stop Freq in Interference Analysis mode. Center Freq is the proper way to set frequency in this mode.

[SPH-4547] Fixed an issue with field strength limits under V/m units setting

-> Software - TETRA

[SPH-3570] Fixed a bug in TETRA where some units would not recall the correct Tx Output pattern as part of a recalled measurement or setup

[SPH-3943] Fixed an issue in TETRA app where recalling a measurement or setup would not correctly recall the Tx pattern.

-> Software - OBSAI

[SPH-3738] Fixed an issue where the system time would not recall properly under some saved measurement conditions

-> Software - CPRI

[SPH-3738] Fixed an issue where the system time would not recall properly under some saved measurement conditions

What will the customer see in this release?

Product : MT822xB, MT8220T

Application Package: V3.22

Release Date : Release August 2018

Information below may not apply to every model/option in Product list

*** IMPROVEMENTS ***

-> Software - LTE

[SPH-4012] Added RS Power information for all antennas present in LTE OTA Tx Test screen

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T, MW82119B

Application Package: V3.20

Release Date : Quarterly Release beginning July 2018

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - TETRA

[SPH-4471] Motorola EBTS added to Base Station Selections in Tetra Base Station Sensitivity Tests

-> Software - NB-IoT

[SPH-4569] Fixes an issue where performing a preset does not set the center frequency of the analyzer correctly. Similar behavior can be noticed during setup and measurement recall.

-> Software - PIM

[SPH-4546] Changed the default F2 frequencies for Option 700 to 764 / 761 MHz for low / high band, respectively.

-> Software - OS/Base

[SPH-4429] Improved battery charge algorithm.

*** BUG FIXES ***

-> Software - DMR2

[SPH-3621] Fixes an issue where the Back soft button is inactivated incorrectly after pressing Max/Min Active Graph soft button

[SPH-3797] Fixes an issue where ENTER button from keypad to collect new data points from Coverage Mapping doesn't work.

-> Software - NXDN

[SPH-3797] Fixes an issue where ENTER button from keypad to collect new data points from Coverage Mapping doesn't work.

-> Software - VNA

[SPH-4504] Fixes an issue where in Dual Channel mode, the Smith Chart marker table TR1 and TR2 readout text would overwrite each other.

-> Software - dPMR

[SPH-3797] Fixes an issue where ENTER button from keypad to collect new data points from Coverage Mapping doesn't work.

-> Software - OS/Base

[SPH-4426] Fixed the issue where saving files to a USB memory via the MMEMemory:STORE:JPEG command failed when the usr folder was not present in the USB memory.

-> Software - TETRA

[SPH-3797] Fixes an issue where ENTER button from keypad to collect new data points from Coverage Mapping doesn't work.

-> Software - NBFM

[SPH-3797] Fixes an issue where ENTER button from keypad to collect new data points from Coverage Mapping doesn't work.

-> Software - P25/P25p2

[SPH-3797] Fixes an issue where ENTER button from keypad to collect new data points from Coverage Mapping doesn't work.

-> Software - PTC

[SPH-3797] Fixes an issue where ENTER button from keypad to collect new data points from Coverage Mapping doesn't work.

What will the customer see in this release?

Product : MS271xE, MT821xE, MS2720T, MT822xB, MT8220T

Application Package: V3.13

Release Date : Release beginning April 2018

Information below may not apply to every model/option in Product list

*** BUG FIXES ***

-> Software - NB-IoT

[SPH-4568] - Fixed a bug where NB-IoT was adversely affected by other options.

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, MS2720T, MT822xB, MT8220T

Application Package: V3.12

Release Date : Quarterly Release beginning April 2018

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - LTE

[SPH-4436] Change MIMO auto detect threshold in LTE and TD-LTE applications, so that the unit is less likely to assume that noise is another active antenna.

-> Software - NB-IoT

[SPH-4545] Initial release of NB-IOT application(option 887)

-> Software - CPRI

[SPH-4551] Initial release for PIM over CPRI functionality(option 754) in MT8220T and MT822xB.

[SPH-4005] Added support in CPRI Base Band Unit Emulation for RRH models RRH2x60-850, RRH2x60-1900A, and RRH2x40-07L-AT

*** BUG FIXES ***

-> Software - LTE

[SPH-3833] Fixed an issue where values for PHICH and PDCCH in LTE application did not export correctly into Master Software Tools.

-> Software - SPA and Sub-apps

[SPH-3940] Fixed an issue in spectrum analyzer mode where adding multiple markers, and/or setting markers beyond the instrument's frequency range, could cause the instrument to lock up.

-> Software - OS/Base

[SPH-4360] Fixed an issue where the GPS information in the title would disappear after recalling a setup file.

-> Software - CPRI

[SPH-3737] Fixes an issue where the waterfall moves in the wrong direction after recalling a measurement file.

[SPH-3537] Fixes an issue where recalled limit lines were drawn at the default values and not at the saved values.

[SPH-4006] Fixed issue where available free space was not displaying during the File Save function.

What will the customer see in this release?

Product : S33xE, S36xE

Application Package: V3.02

Release Date : Special Production Support Release April 2018

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - CAA

[SPH-4491] Resolved issues with new hardware support for production.

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T, MW82119B

Application Package: V3.00

Release Date : Quarterly Release beginning January 2018

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - CAA

[SPH-3864] Added additional save type Measurement and JPG" to the uWave VNA family."

-> Software - PIM

[SPH-3921] PIM Measurement Tx1 range adjusted to cover 731 MHz to 734.5 MHz

-> Software - VNA

[SPH-3864] Added additional save type Measurement and JPG" to the uWave VNA family."

*** BUG FIXES ***

-> Software - VNA

[SPH-3591] Fixes an issue with Cable Loss mode where limit lines would change after a calibration was completed.

[SPH-3646] Fixes an issue where the touch screen functionality would be disabled due to the Attention" dialog moving behind the main form window."

-> Software - CPRI

[SPH-2932] Fixed an issue in single sweep CPRI Spectrogram where it would not always stop the measurement after one sweep.

[SPH-3536] Fixed an issue - Limits can now only be recalled if the limits were saved in the same mode of operation (SPA, CPRI, OBSAI) as is currently running on the unit.

-> Software - OS/Base

[SPH-3572] Fixed an issue where the GPS tag does not disappear even though GPS is off. This would occur when recalling a trace with GPS data then switching to a live trace and switching modes.

[SPH-3739] Fixed an issue where the unit didn't display an error message when setting the Save Location to USB, then removing the USB, and pressing the camera icon to save a screenshot.

[SPH-3829] Fixed an issue where the option list on the boot up screen was beyond the right edge.

-> Software - OBSAI

[SPH-3536] Fixed an issue - Limits can now only be recalled if the limits were saved in the same mode of operation (SPA, CPRI, OBSAI) as is currently running on the unit.

-> Software - P25/P25p2

[SPH-3321] Fixed an issue with file format. Saving control channel files now places each group of associated data on its own line, when recalled with a text editor.

-> Software - CAA

[SPH-3646] Fixes an issue where the touch screen functionality would be disabled due to the Attention" dialog moving behind the main form window."

[SPH-3837] Fixes an issue where the Dmax value could be manually set to a value that was large then the calculated Dmax value.

What will the customer see in this release?

Product : MT822xB, MT8220T

Application Package: V2.91

Release Date : Release December 2017

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - CPRI

[SPH-3937] Added RET device scan as standard addition to BBU Emulation option 760. Added RET device control option 761

*** BUG FIXES ***

-> Software - CPRI

[SPH-2932] CPRI Spectrogram - Fixed a bug where single sweep would not always stop the measurement after one sweep.

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T

Application Package: V2.90

Release Date : Quarterly Release beginning October 2017

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - LTE

[SPH-3136] Added Option 886 for 256 QAM extension to FD-LTE and TD-LTE applications

[SPH-3777] Fixed an issue in TD-LTE that would cause constellation to occasionally make bad measurements on valid 256 QAM input signals. (MS2720T Only)
Fixed an issue where changing modes directly to LTE or TD-LTE after a factory default would not correctly display a 256-QAM constellation (MS2720T Only)

[SPH-3188] Added 3GPP Release 13 Spectral Emission Masks for frequencies > 3 GHz in LTE & TD-LTE measurements.

-> Software - PIM

[SPH-3658] SPH-3658 Adds support for the SCPI command MMEMory:DELeTe for deleting setup and measurement files.

-> Software - VNA

[SPH-2592] Increases the number of markers from 8 to 12 in VNA mode
(S412E, MS202xB, MS203xB, MS202xC, MS203xC Instruments, VNA and Field measurement views).

*** IMPROVEMENTS ***

-> Software - DMR2

[SPH-2941] Added remote command to maximize/minimize the active graph type. (See Programming manual for details)

*** BUG FIXES ***

-> Software - VNA

[SPH-2451] Fixes an issue where the Cable List Window was not remaining the top-most form and would move behind the VNA graph.
[SPH-2593] Changes the S412E, MS202xB, MS203xB, MS202xC, MS203xC Instruments Limit Line Feature such that each measurement mode can now have independent limit line settings.

-> Software - OS/Base

[SPH-3237] Fixed the issue where using the arrow keys to move around the indoor map was slow in the Spectrum Analyzer mode.
Fixed the issue where moving the cursor around the indoor map failed after recalling a AZM file.
Fixed the issue where pressing the Enter key didn't record data points in indoor map in Spectrum Analyzer mode.

-> Software - NBFM

[SPH-2811] Fixed a bug in NBFM that would cause beep with every sweep when Auto Scan is On.

-> Software - CPRI

[SPH-3029] Fixed a bug that could prevent the second waterfall graph from displaying in a Dual Display recalled spectrogram measurement.

What will the customer see in this release?

Product : MT822xB, MT8220T

Application Package: V2.81

Release Date : Quarterly Release beginning July 2017

Information below may not apply to every model/option in Product list

*** BUG FIXES ***

-> Software - LTE

[SPH-2922] In LTE-EMF mode, when the EMF antenna is disconnected, error messages have been reorganized to have better readability.

[SPH-2924] In WCDMA-EMF mode, when the EMF antenna is disconnected, error messages have been reorganized to have better readability.

-> Software - VNA

[SPH-2594] Fixed an issue with multiple markers and touching the trace, which was causing the nearest marker to become active and move to the touched location. The new behavior is such that touching the trace will result in the marker that is already active to move to the location that was touched.

[SPH-2595] Fixed an issue where when Marker on trace" was set to "All" (in field mode for example) the marker would not update correctly when the start or stop frequency was changed."

-> Software - CPRI

[SPH-2708] Preset now set Spectrogram Record to 'Off' state

[SPH-2898] Starting with MST V2.36.8 and unit firmware V2.8x, MST will support multiple traces from OBSAI and CPRI applications.

[SPH-2969] Corrected preset values for limit lines in CPRI and OBSAI applications.

[SPH-2970] Fixed a bug where CPRI/OBSAI limit lines would not correctly export to Master Software Tools. Also requires MST v2.36.8

[SPH-2971] Lower Limit line default value corrected in CPRI and OBSAI to match the RF applications

[SPH-3232] Fixed a bug where internal time base would not always lock to external or GPS reference in CPRI mode

-> Software - SPA and Sub-apps

[SPH-2841] Fixes an issue where EMI antenna selection was off by one.

[SPH-3138] Fixes rounding error of BW value in Channel Scanner file after Scriptmaster scan.

-> Software - OS/Base

[SPH-3237] Fixed the issue where using the arrow keys to move around the indoor map was slow in the Spectrum Analyzer mode. Also fixed the issue where moving the cursor around the indoor map failed after recalling a AZM file.

-> Software - OBSAI

[SPH-2975] Fixed a bug where Single Sweep mode would occasionally cause the Layer 2 Alarms display to flicker

-> Software - P25/P25p2

[SPH-3147] Mapping data collection for is now limited to 8 hours or 60,000 points of data collection to avoid memory overrun issues.

-> Software - CAA

[SPH-2424] Fixed an issue where the unit would hang if a SCPI preset was issued and the Cable list table dialog was open.

NOTE: THIS FIX ALSO APPLIES TO THE PIM MASTER.

[SPH-2548] Fixed an issue where the marker would not move when adjusting the twiddle knob to the left.

[SPH-3114] Fixed an issue where Marker-to-Peak and Marker-to-Valley were shifted 1 pixel to the left when recall a measurement file type .dat.

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T, MW82119B

Application Package: V2.71

Release Date : Quarterly Release beginning May 2017

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - OBSAI

[SPH-2517] Added OBSAI RF LTE option

-> Software - CPRI

[SPH-2963] Implemented support for Samsung radios which uses IQ mapping method 3

[SPH-3042] Added Samsung Radio Preset to Radio Preset selection

Added ability to select CPRI IQ Mapping method 3

[SPH-3050] Added informational messages that Auto Detect works only with CPRI mapping method 1

[SPH-3052] Added informational messages that Pan and Zoom functions only for Display 1.

[SPH-3053] Fixed a bug to turn off the SFP Tx diode when not in use

*** IMPROVEMENTS ***

-> Software - DMR2

[SPH-2156] Tx Output will now synchronize to Base Station downlink signal

-> Software - VNA

[SPH-2402] The limit line behavior in the Cable and Antenna mode of the BTS Master has been enhanced. With this update, the limit line settings for each measurement type will be unique for that measurement and will persist even if the measurement type is changed.

*** BUG FIXES ***

-> Software - SPA and Sub-apps

[SPH-2337] Fixes an issue where Emission Mask measurements produced erroneous pass/fail results under certain conditions.

[SPH-2504] Fixed an issue where Field Strength measurements in Coverage Mapping did not display the correct results for non-dBm units

-> Software - OS/Base

[SPH-2860] Added support for commands with a block data parameter for the raw socket SCPI interface.

-> Software - TETRA

[SPH-2397] Fixed a bug where saved .mtd files were not correctly storing EVM data.

-> Software - NBFM

[SPH-2891] Fixed a bug in NBFM where changing DCS value could corrupt the Signal Generator pattern outputs for all LMR demod applications

-> Software - CAA

[SPH-2393] Fixed an issue with the Back soft key in the Application Options menu that would not return the user back to the System Menu once they have entered into the Bias Tee menu.

-> Software - PTC

[SPH-2455] SOURce:DM:PATtern and SOURce:DM:PATtern? remote commands are now functional

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T, MW82119B

Application Package: V2.60

Release Date : Quarterly Release beginning January 2017

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - DMR2

[SPH-1811] DMR2 Application nomenclature changed to DMR" Remote command remain compatible."

-> Software - CAA

[SPH-2508] Added support for easyTest in the VNA Master (MS20xxB series) and LMR Master (S412E).

[SPH-1506] Added a SCPI command to allow saving of .dat measurement files.

-> Software - LTE

[SPH-2296] Added limited support for TD-LTE 4x4 MIMO

-> Software - VNA

[SPH-2508] Added support for easyTest in the VNA Master (MS20xxB series) and LMR Master (S412E).

[SPH-1506] Added a SCPI command to allow saving of .dat measurement files.

-> Software - CPRI

[SPH-2180] For Option 751 CPRI - Added the ability to show two spectrum or spectrogram graphs which can display up to four separate AxC groups (traces).

[SPH-2448] Added support for CPRI line rate 8 (10.1376 Gbps)

[SPH-2449] Added support for compressed LTE sampling rate on 20 MHz LTE signals

[SPH-2640] Auto Detect improved with Ericsson presets

*** IMPROVEMENTS ***

-> Software - OS/Base

[SPH-2515] Web UI tab removes model information.

*** BUG FIXES ***

-> Software - LTE

[SPH-47] Fixed a bug in LTE EMF recalled measurements where RS values might recall improperly

[SPH-2240] Fixed an issue that prevented 4x4 MIMO time alignment data from recalling properly to unit.

[SPH-2788] Shift-1 Preset is now prevented while a recalled measurement is displayed.

-> Software - SPA and Sub-apps

[SPH-1988] Fixes a bug where the zero span max RBW value was incorrectly limited in the GUI and as a result was out of sync with the actual RBW value.

-> Software - OS/Base

[SPH-1812] NOT DONE - Fixed an issue where black on white and color on white schemes were not displaying correctly in some LMR Master modes.

-> Software - HiPM

[SPH-1667] Fixed a bug where the unit would unexpectedly attempt to zero the sensor after recalling a measurement

[SPH-2381] Fixes an issue where the Quick name buttons were not saved with the setup in Hi-PM mode.

-> Software - TETRA

[SPH-2376] Save on Event .csv measurement files are updated to contain results for recently-added RMS Vector Error and Peak Vector Error measurements.

-> Software - VSG

[SPH-1800] BTS Master VSG now allows up to 48 waveforms to be loaded

-> Software - P25/P25p2

[SPH-2373] Fixed an issue that could cause the unit to hang when recalling setups for an application other than the current one.

[SPH-2501] Updated remote DISPLAY:TRACe<Tr>:FORMat:SIGAnalyzer command/query parameters to match the Programming Manual.

-> Software - WiMAX

[SPH-2309] Fixed a bug where the unit would intermittently hang when displaying Spectral Emission Mask

What will the customer see in this release?

Product : MS271xE, MT821xE, MS2720T, MT822xB, MT8220T

Application Package: V2.51

Release Date : Quarterly Release beginning October 2016

Information below may not apply to every model/option in Product list

*** BUG FIXES ***

[SPH-2694] - Fixed an issue with TD-LTE application becoming unresponsive in several measurement views, including the default "Summary" screen while Bandwidth selection is greater than 10 MHz.

What will the customer see in this release?

Product : S33xE, S36xE, MS271xE, MT821xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MT822xB, MT8220T, MW82119B

Application Package: V2.50

Release Date : Quarterly Release beginning October 2016

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - TETRA

[SPH-2147] Added Residual Carrier Magnitude measurement to the Summary display

[SPH-2149] TETRA remote queries :FETCh:SIGAnalyzer? :READ:SIGAnalyzer? :MEASure:SIGAnalyzer? will now contain two additional values in the response for Peak Vector Error and Residual Carrier Magnitude

[SPH-1603] Added Police Digital Trunking Options 563 and 562

-> Software - OS/Base

[SPH-119] Improved error message on LTE trace save failure when trying to save before the end of the first sweep.

-> Software - NBFM

[SPH-1919] Remote command :FETCh:SIGAnalyzer? updated so the second returned value in the string will represent the value indicated by the Summary Freq Disp front panel setting. (Carrier Frequency or Frequency Error)

-> Software - VNA

[SPH-1921] Added select SCPI commands to support VNA Field Mode.

*** BUG FIXES ***

-> Software - VNA

[SPH-2307] Resolved an issue with marker interpolation on Smith Charts or Polar Charts that caused stray lines to be drawn over the entire screen. This issue only affected VNA mode in the VNA Master products.

-> Software - SPA and Sub-apps

[SPH-282] Fixed an issue where Markers on Result traces do not jump to the right frequency when markers are toggled between traces.

[SPH-2182] In SPA field strength graph, negative antenna factors show correctly over frequency.

-> Software - OS/Base

[SPH-1642] Fixed a typo in the power limit warning message at boot.

[SPH-1653] Clearing old messages when changing modes from a recall state.

[SPH-1681] Fixed a black out of the web interface remote display in Chrome when selecting a different browser tab then selecting the remote display tab.

[SPH-1863] Fixed an issue where SPA application performed a LO Null search on the second application load after a master reset.

[SPH-1889] Fixed a problem where user defined calibration files were getting deleted on entering the PIM application a second time after a master reset.

What will the customer see in this release?

Product : MT822xB, MT8220T

Application Package: V2.41

Release Date : Quarterly Release Update September 2016

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - LTE

[SPH-1567] Adding new feature eMBMS for FDD-LTE to measure Cell ID and received eMBMS signal power.

-> Software - OS/Base

[SPH-119] Improved error message on LTE trace save failure when trying to save before the end of the first sweep.

-> Software - CPRI

[SPH-1636] CPRI board ID will now appear in the CPRI Application Self Test Information box

[SPH-1725] Adding new feature to CPRI, BBU Emulation for Alcatel Lucent. Option 760.

*** IMPROVEMENTS ***

*** BUG FIXES ***

-> Software - SPA and Sub-apps

[SPH-282] Fixed an issue where Markers on Result traces do not jump to the right frequency when markers are toggled between traces.

-> Software - OS/Base

[SPH-1863] Fixed an issue where SPA application performed a LO Null search on the second application load after a master reset.

[SPH-1889] Fixed a problem where user defined calibration files were getting deleted on entering the PIM application a second time after a master reset.

What will the customer see in this release?

Product : S33xE, S36xE, S412E, MS202xB, MS203xB, MS202xC, MS203xC, MS2720T, MS822xB, MT8220T, MW82119B

Application Package: V2.40

Release Date : Quarterly Release beginning July 2016

Information below may not apply to every model/option in Product list

*** NEW FEATURES ***

-> Software - VNA

[SPH-1744] Added support for interpolated markers in VNA mode. When marker values are set via the numeric keypad or via SCPI, interpolation will be used if the desired marker x-axis value is not an actual measurement point. Markers will continue to snap to the nearest point if the twiddle knob or the arrow keys are used to set their location.

-> Software - dPMR

[SPH-1656] Added remote command support for dPMR.

-> Software - SPA and Sub-apps

[SPH-1914] New trace result types Max Hold and Total Max Hold added to EMF Measurements.

-> Software - OS/Base

[SPH-116] Added Quick Name Matrix support to Transmission Mode.

[SPH-1858] Added EasyTest repeat script capability to those models that support EasyTest scripts.

-> Software - TETRA

[SPH-1565] Added remote command support for RMS, Peak Vector Error and Residual Carrier Feed Through.

-> Software - CPRI

[SPH-1804] Added option 413 Ethernet replacing option 411 on select E-series models, option 413 is compatible with all other options.

-> Software - P25/P25p2

[SPH-36] P25P2 - Added four new Control Channel summary displays - Active Control Channel Summary, Adjacent Site Summary, Band Plan Summary, Backup Control Channel Summary.

*** IMPROVEMENTS ***

-> Software - OS/Base

[SPH-1510] Fixed an issue where web server popups were showing up off screen on pages that can be scrolled.

*** BUG FIXES ***

-> Software - DMR2

[SPH-660] Fixed an issue with pan and zoom with indoor maps where data points would not zoom in sync with the map.

-> Software - NXDN

[SPH-660] Fixed an issue with pan and zoom with indoor maps where data points would not zoom in sync with the map.

-> Software - VNA

[SPH-502] Resolved an issue that prevented the instrument settings from getting preset after a measurement file was recalled.

-> Software - HiPM

[SPH-1606] Fixed a bug in High Accuracy Power Meter mode where max power for the MA24106A sensor could not be set up to +23 dBm.

-> Software - OS/Base

[SPH-104] Fixed an issue where Option 31 (GPS) was listed as an add-on option in MT8220T. It is standard in this model.

[SPH-107] Fixed an issue where instruments would respond to multiple IP addresses.

[SPH-1859] Fixed the issue where the instrument would hang at the last step when executing an easyTest script with the maximum number of steps(500) allowed.

-> Software - SPA and Sub-apps

- [SPH-283] VBW set to correct bandwidth in Zero Span after presetting the instrument.
- [SPH-284] Enabled ability to turn on Markers after sending Preset command over SCPI.
- [SPH-289] Initial attenuation level values are restored after going in and out of Coverage Mapping.
- [SPH-298] Fixed an issue where sweep time was not estimated correctly after preset
- [SPH-302] Preset SCPI command now resets Auto RBW from Off to On when C/I is turned On.
- [SPH-303] RBW/VBW ratio returns to default value after AM/FM/PM mode switching.
- [SPH-304] Navigation hard keys when map is not loaded works in Coverage Mapping.
- [SPH-305] Fixed an issue where a mode switch, after Esc-On, from SPA into IA and then back into SPA, will cause the Save On Event button to vanish.
- [SPH-307] Fixed an issue where IFBW state indicator in the status window displays incorrectly.
- [SPH-325] Fixed an issue where recalling a measurement file with field strength units would not recall correctly.

-> Software - TETRA

- [SPH-660] Fixed an issue with pan and zoom with indoor maps where data points would not zoom in sync with the map.
- [SPH-1443] Fixed an issue where 'Received Pwr' of the summary display did not show power with in acceptable range.
- [SPH-1513] TETRA - Fixed a bug where recalled measurements would not correctly populate values in the Summary Table

-> Software - NBFM

- [SPH-660] Fixed an issue with pan and zoom with indoor maps where data points would not zoom in sync with the map.

-> Software - P25/P25p2

- [SPH-660] Fixed an issue with pan and zoom with indoor maps where data points would not zoom in sync with the map.
- [SPH-1665] Modified SCPI command to include new Summary display graphs in P25 P2 Analyzer measurement
- [SPH-1690] Fixed Motorola Base Station Test in P25 Phase 2 app. Removed additional sampling that was added when when implementing FDMA Control Channel measurement. Additional sampling was causing improper delay estimation for re-sync of signal pattern.

-> Software - PTC

- [SPH-660] Fixed an issue with pan and zoom with indoor maps where data points would not zoom in sync with the map.
- [SPH-1555] EVM and other summary measurements were adversely affected by PTC burst selection method when frequency offset between transmitter and receiver was more than about 150Hz. The burst selection method was optimized to increase the frequency offset capability to at least +/- 340Hz. This should allow customers to measure the standard of +/- 330Hz Wayside requirement.

Changed 'IQ Imbal' to 'IQ Offset' to better reflect all combined DC offsets (LO leakage, IQ DC Offset, etc...). Measurement now responds to changes in IQ DC Offset injection

What will the customer see in this release?

Product : MT822xB

Application Package: V2.30

Release Date : May 15, 2016

*** ENHANCEMENTS ***

General [3]

- Substantial updates to Japanese language translation files for SPA and System applications.
- Substantial updates to Chinese language translation files for all applications.
- Updated Signal Standards files to include LTE Bands 29,30,31,32, and 66A to keep up with recent standards releases.

High Accuracy Power Meter [1]

- Added support for MA243xxA USB power sensors.

CPRI [2]

- Added functionality to Quick Save IQ Data in CPRI
 - CPRI will always revert back to its last-used setup regardless of the "Share CF & Pwr Offset" setting
 - Corrected recalled spectrogram colors to match that of measurement
- Fixed an issue where "Excessive Signal Level" messages were displayed in CPRI measurements.

*** BUG FIXES ***

General [5]

- Fixed an issue where the instrument would display an incorrect IP address when using a Zyxel mobile router powered by the instrument's USB port. #23728
- Fixed an issue where the status window reported an invalid IP address of 169.254.x.x if the window was opened shortly after the Ethernet cable

- was plugged in. #23045
- Fixed an issue where the first time recalling a setup resulted in wrong marker info. #23367
- Fixed an issue where the file type warning message was not shown in the Select File Type dialog.
- Fixed an issue with trace smoothing in BTS instruments. #22457

High Accuracy Power Meter [1]

- Fixed an issue with zeroing external USB high accuracy sensors.

LTE and TD-LTE Analyzer [4]

- Added Support for 4x4 MIMO LTE-FDD measurements.
- Fixed an issue where TD-LTE OTA Carrier Aggregation Measurement did not detect MOD signal. #23779
- Fixed an issue where the recalled channel power did not match the initially saved value #22962
- Fixed an issue with "Cell ID" defaulting to 0 upon reselecting the Sync menu.

What will the customer see in this release?

Product : MT822xB

Application Package: V2.20

Release Date : February 12, 2016

*** ENHANCEMENTS ***

General [1]

- Updated the CableList.txt file to add 9 additional cables in response to customer request.

Spectrum Analyzer and Sub-modes [1]

- Updated BTS Master spur dodge table at 4.806 GHz.

CPRI [3]

- Added a SCPI command support to reading CPRI board ID and Core FPGA version.
- Aggregation field in Auto Detect now displays "ON or OFF" instead of "0 or 1". #23201
- Improved "Reserve Bits" and "Aggregation" field values to prevent wrapping.

*** BUG FIXES ***

CPRI [1]

- Fixed an issue where booting up with port 2 active with option 751 did not recognize the CPRI signal unless the user toggled between port 1 and port 2.

What will the customer see in this release?

Product : MT822xB

Application Package: V1.82

Release Date : January 8, 2016

*** NEW FEATURES ***

General [1]

- Enabled IQBitwidth field when Radio preset selection is custom #23122

CPRI [1]

- Added support for option 751 along with two new CPRI measurements for option 751. SFP Reading and Layer 2 Alarms.

*** ENHANCEMENTS ***

Spectrum Analyzer and Sub-modes [1]

- Added Pan & Zoom functionality for .azm maps inside Coverage mapping measurements for SPA mode. #3217

CPRI [5]

- Added a SCPI command support to reading CPRI board ID and Core FPGA version.
- Disabled ENTER key handling when auto detect window is active to prevent the window from closing. #23116
- Show "Recording Time" button only when "Record" is ON. #23169
- The sweep is cleared from the screen when no CPRI signal is detected

- Updated auto detect message to say 'highlighted buttons' rather than 'green buttons' to accommodate non-color display modes. #23166

*** BUG FIXES ***

Spectrum Analyzer and Sub-modes [16]

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Fixed an issue in SPA mode where 'Save On Event' button was hidden after using IA mapping feature.

- Fixed an issue in coverage mapping where the direction hard keys would not function when a GPS map was not loaded.
- Fixed an issue in IA RSSI mode where color of the trace changed erroneously from yellow to red while recalling a measurement. #23007
- Fixed an issue in power meter where the saved setup values did not account for the offset settings. #23199
- Fixed an issue in SPA mode that prevented changing reference level using the rotary knob or arrow keys on the device. #22630
- Fixed an issue in SPA mode where a Preset operation soon after a recall could cause problems with GPS measurements. #23186
- Fixed an issue in SPA mode where changing the sweep time in Zero Span using the rotary knob or arrow keys would cause the value to fluctuate before settling to the set value. #22803
- Fixed an issue in SPA mode where enabling Gated Sweep after turning ON channel power measurement would turn off the measurement, when exiting the gated sweep settings menu. #22929
- Fixed an issue in SPA mode where setting detection to Quasi Peak did not allow the correct range of permitted RBW values for this detection standard. #22918
- Fixed an issue in SPA mode where the GPS maps Pan/Zoom functionality would not work. #3217
- Fixed an issue in SPA mode where the number of points for the limit envelope was not updated properly when the limit envelope shape was changed. #22821
- Fixed an issue in SPA mode where the reference level after recalling values from file was wrong. #22224
- Fixed an issue in SPA where the Spurious emissions data was not cleared when doing a preset. #23183
- Fixed an issue in Spectrogram mode where invalid data was shown on screen when the view setting for the trace was set to 'blank'. #22819
- Fixed an issue where recalling a measurement caused the unit to go to the Gated Sweep menu.
- Fixed an issue where the Chinese translation of Trace B & C operation referenced Trace A & B. #23066

CPRI [3]

- Fixed an issue when Escape was pressed before CPRI auto detection was completed could result in a reboot. #23149
- Fixed an issue where CPRI - Spectrogram Time cursor could show negative numbers, while trying to move the cursor back to 0. #23165
- Fixed an issue where the configuration fields were not disabled while auto detect was in progress. #23118

What will the customer see in this release?

Product : MT822xB

Application Package: V1.80

Release Date : August 28, 2015

*** NEW FEATURES ***

General [4]

- Added an error message pop up during Code Loading to notify the user in the case the USB stick does not have enough space to store all of the user files from the instrument. #20524
- Added separate message dialog box when deleting folders when file type selection is not set to "All Files" type. #21672
- Adding CPRI analyzer mode (Option 750) to MT8220T and MT822xB.
- File sort method and sort order will now be persistent through window closes. #21827

Spectrum Analyzer and Sub-modes [8]

- A new message is displayed with instructions to change span, when IQ capture in zero span is attempted. #21138
- Added a new SCPI command, "CALCulate:MARKer#:MAXimum:NEXT" to move the marker to the highest peak anywhere in the trace which is lower than the current marker.
If the given marker is not on, the command turns it on and sets it to the second highest peak in the trace.
The command uses the existing peak threshold values to determine what is and is not a peak. See Programming Manual for details.
- Added commands to check for end of sweep in SPA mode.
:[SENSe:]SWEep:STATus? Returns 1 when sweep is complete. Returns 0 when sweep is in progress.
See Programming Manual for details.
- Added Span Setting to ACPR coverage mapping mode. #20923
- Added warning message when turning on markers 2-6 with marker 1 reference ON.
With Marker 1 reference turned ON, turning on other markers with Delta markers OFF now turns On the Delta Marker with warning message. #21472
- 'Auto Ref Level' button added to Amplitude Menu (in Spectrum Analyzer and Interference Analyzer modes) for quick access. #3045
- Enabled editing center frequency when in measurement setup menu of the coverage mapping mode. #21664
- User can now select FM scale % values with a minimum of 0.01%. #21502

Cable and Antenna Analyzer [1]

- Added warning message when selecting 2 port phase measurement, if 1 port CAL is ON.

High Accuracy Power Meter [1]

- Added support for the MA24208A and MA24218A High Accuracy power sensors.

LTE and TD-LTE Analyzer [2]

- Added ability to demodulate LTE FDD/TDD without the sync signal.
- Added functionality to use OTA mapping & scanner functions on signals with up to 2ms delay between cell ID's in LTE and TD-LTE modes.

*** ENHANCEMENTS ***

General [11]

- Added more information to an error message that pops up when attempting to run an easyTest script in the wrong application mode. #20775
- Added the ability to lock an instrument from Telnet and FTP connections.
 - After setting the remote password and rebooting the unit, the unit will no longer allow Telnet and FTP connections.
 - To remove the lock, either do a factory reset or remove the remote password by setting it to blank. #22432
- Changed certain icons used in Night Vision mode for better visibility. #22831
- Enhanced visibility of traces and text in "Black on White" display mode. #21738
- Free space on the storage device will be checked before JPGs can be saved. #21369
- Made error message more meaningful when saving files with target memory nearly full. #21966
- The PASS/FAIL indicator text is now easier to read in the PIM application when using the Black and White color profile. #2305
- The same file type used when SAVING a measurement is initially selected when opening the RECALL measurement dialog.
- Updated Support files.
 - Updated the Antenna.txt file in V2.06 by adding 3 antennas.
 - Updated the CableList.txt file in V3.05 by adding 13 cables.
 - Updated the Signal Standards File in V2.10 by replacing 43 Standards that had been previously removed. (CDMA, Fixed WiMAX, TD-LTE, and a number of the 700MHz bands)
- Updated the Support File, Antenna.txt in V2.07 to include Anritsu Antenna 2000-1715-R
- Updated the Support File, CableList.txt in V3.06, by adding support for an additional manufacturer of RG58C-U Cable with a propagation velocity of 0.656.

Spectrum Analyzer and Sub-modes [6]

- Added a Gate delay maximum value, and set it to 100 ms. #21441
- Counter Marker accuracy improvements for center frequency of 5 MHz and 10 MHz.
- Display format of amplitude units on graph is now changed. Units are displayed only on top and bottom of the grid. #22145
- Improved Counter Marker Stability. #20559
- Limited minimum sweep time entry to 7 us. #20406
- When recalling saved setup files, invalid channels/frequencies are shown as "--" and readings are masked out corresponding to the invalid channels. #21603

Cable and Antenna Analyzer [4]

- Fixed the Back button on the Bias Tee menu section.
- Limit Lines are now turned OFF when Clear Limit button is pressed #20690.
- Preset operation from remote is now disallowed when unit is in measurement recall mode. #20961
- Support for new K and N cal kits in MT822xB Cable and Antenna Analyzer mode. #2974

WCDMA Analyzer [2]

- Added error reporting for ADC over range in Band Spectrum measurements within the WCDMA mode.
The error will inform the user to adjust the Reference Level.
- Added SENS:FREQ:SIGS:CHAN SCPI commands for WCDMA/UMTS mode. See Programming manual for details. #22665

*** BUG FIXES ***

General [14]

- Changed the Spanish Language translation of ON/OFF to fit within the allowable space of the Marker Table. #22315
- Fixed an issue when attempting to set Feb. 29 (a leap year date) before setting the year to a leap year. #21366
- Fixed an issue where "fW" was displayed when "fA" was expected. #20911
- Fixed an issue where a Save/Recall message would partially cover the parameter status area. #20786
- Fixed an issue where icons in Save/Recall window were not being updated to match the current color scheme of the device. #20996
- Fixed an issue where the File type selection in Save dialog was very slow when using the twiddle knob. #22559
- Fixed an issue with an overflowing USB SCPI command queue by increasing the buffer size from 50 to 500. #21312
- Fixed an issue with changing the instrument device name to close the dialog box cleanly. #21135

- Fixed an issue with file and directory naming. Files or directories with leading spaces in their names are prevented from being saved. #21560
- Fixed an issue with limit line value not having enough resolution in Cable and Antenna Analyzer, VSWR, SPA and PIM modes. #10370
- Fixed an issue with 'Save Measurement As' to properly handle multiple '_' in the filename. #20540
- Fixed an issue with the Save/Recall dialog screen size. Enlarged the screen to allow entire warning messages to fit. #20113
- Fixed an issue with the Support File, Signal Standards in V2.11, Correcting the Starting Channel number for TD_LTE Band 41 (2496-2690 MHz) to 39650. #21874
- Updated Portuguese translation tables to eliminate 3 erroneous Russian translations in WIMAX mode.

Spectrum Analyzer and Sub-modes [37]

- Fixed an error in the header where the Detection information was omitted in Spectral Emissions files. #21207
- Fixed an issue in SPA mode where channel power used to show 0 dBm for smaller span values. #22772
- Fixed an issue in SPA mode where Emission Mask used to report "Fail" on segments that are actually a "Pass". #21687
- Fixed an issue in SPA mode where the marker value shown above graph area varied from the value shown inside the graph. #22083
- Fixed an issue in SPA mode, where counter marker showed marker in wrong location when switching frequency. #22400
- Fixed an issue in zero span, where Marker units are sometimes in Hz, after changing from log amplitude units to linear amplitude units. #20626
- Fixed an issue where ADC Over Range Error message did not appear on the screen when a marker was not located within the ADC Over Range area of the trace. #20493
- Fixed an issue where Center Frequency displayed did not compensate for the Offset Frequency setting in IQ Capture menus. #21688
- Fixed an issue where Emission Mask would fail at times, even though the measurements were well below the limit lines. #21687
- Fixed an issue where Main Channel power showed invalid values when Span was less than Main Channel BW. #20922
- Fixed an issue where more than 255 antenna factor points were not properly accepted by the device when reading an antenna.txt file. #21854
- Fixed an issue where not all coverage mapping measurement mode settings were set properly to default values while performing preset. #20920
- Fixed an issue where RBW could be set to an invalid value in zero span under SPA mode. #21788
- Fixed an issue where recalled Spectrogram colors did not match the colors during measurement. #20584
- Fixed an issue where recalling spectrogram measurement file causes unit reboot. #21952
- Fixed an issue where sweep time was not updated properly when auto sweep time was enabled in SPA mode. #22210
- Fixed an issue where the attenuation level was set incorrectly upon recalling a measurement in IA mode. #21981
- Fixed an issue where the BW could be set to 0 in Channel Scanner Custom Scan list.
This is now limited to 1 Hz. #21960
- Fixed an issue where the Save On Event button would show up in IA Mapping measurement mode. #21471
- Fixed an issue where the SCPI command returns values with incorrect number of decimal point precision in SPA mode. #11751
- Fixed an issue where the spectrogram trace count did not reset with Sweep Interval if the Trace mode was set to average. #20609

- Fixed an issue where there were differences between the recalled measurement and JPEG files color and location of vertical reference lines. #20341
- Fixed an issue where trace shows erroneous data when sweep mode changes while a sweep is in progress. #21868
- Fixed an issue with GUI updates inconsistent after Spurious Emission segment changes via SCPI. #18981
- Fixed an issue with limit line value not having enough resolution in Cable and Antenna Analyzer, VSWR, SPA and PIM modes. #10370
- Fixed an issue with selecting a frequency within Mapping mode, the frequency pop-up obscures part of the GPS not locked warning. GPS message has been moved to the bottom of the map area to prevent the overlap. #22240, #3045
- Fixed an issue with some error messages that erroneously referred to "Time Span" instead of "Recording Time" #21062
- Fixed an issue with Sweep Once when invoked via SCPI command. #18978
- Fixed an issue with the "Distortion/Total Vrms" value returned by the SCPI data query did not match the value displayed in the table. #21597
- Fixed an issue with the BACK button in the detection menu for SPA mode, to properly return to previous menu.
- Fixed an issue with the header units for Attenuation in Spurious Emission file. #21568
- Fixed an issue with the Input Attenuation setting after loading a saved setup file. #21482
- Fixed an issue with the Limit Envelope Offset when using linear units of measure. #21558
- Fixed issue where measurement value "Distortion/Total Vrms" was not updated properly in GUI when in single sweep mode. #21597
- Fixed single sweep not sweeping when manually triggered with auto sweep time turned on. #20981
- Fixed the Auto Save for Spurious Emissions when RBW & VBW are <1 MHz RBW & VBW, showing as 0 Hz. #21208
- Fixed the issue in Channel Scanner mode where power readings and graph were updated in frequency scanner mode, for invalid frequencies. #21603

Cable and Antenna Analyzer [11]

- Cable list window no longer truncates cable names. #21298
- Fixed a problem where the instrument can start another calibration when a calibration operation is already in progress.
- Fixed an issue in Cable and Antenna Analyzer mode where presetting the unit after a recall operation could leave the device in an inconsistent state. #22552
- Fixed an issue in Cable and Antenna Analyzer mode where turning the limits ON via SCPI would not work as expected soon after a factory reset of the instrument. #22461
- Fixed an issue preventing the current temperature from updating, while operating outside calibration temperature window. #21076
- Fixed an issue to restore RF Immunity to its original setting after an RF calibration is aborted. #20584
- Fixed an issue where the GPS state could not be changed after recalling a Cable and Antenna Analyzer measurement. #20963
- Fixed an issue where the user could not choose to discard/keep settings from recalled trace, when the recalled trace settings matched the currently running settings.
- Fixed an issue with a warning message when selecting a 2 port measurement with an active 1 port CAL.

- Fixed an issue with Signal Standard start/stop frequency calculation.
- Fixed an issue with the "Marker" text when selecting DTF measurement.

High Accuracy Power Meter [2]

- Fixed an issue preventing Hi Accuracy Power Meter summary window from clearing with preset command. #21352
- Fixed an issue with the Save Measurement button in High Accuracy Power Meter. Now it correctly selects a measurement file type instead of a setup file type. #21088

EVDO Analyzer [1]

- Fixed an issue where the tau limits in the EVDO Pass/Fail measurement view were incorrectly recalled. #21090

CDMA Analyzer [1]

- Fixed incorrect reporting of Channel Power in Master Software Tools operations with measurement files. #21151

GSM Analyzer [1]

- Fixed an issue where the Sweep Type button was inconsistent with the actual state in the GSM mode.

TD-SCDMA Analyzer [1]

- Fixed an issue where saved RF measurements were incorrectly recalled in TD-SCDMA. #21197

WCDMA Analyzer [3]

- Fixed an issue in WCDMA module where presetting right after a measurement recall from file would cause inability of device to make any measurements. #22574
- Fixed an issue where "single" wasn't properly highlighted in the sweep menu in WCDMA when switching from another mode. #20987
- Fixed an issue where the signal standard text wasn't displayed when switching from another mode into WCDMA band spectrum measurement. #20858

Mobile WiMAX Signal Analyzer [1]

- Fixed an issue where Mobile WiMAX files were incorrectly recalled using remote commands. #21065

What will you see in this release?

Product : MT8221B and MT8222B

Application Package: V1.78

Release Date : 9/30/2014

*** NEW FEATURES ***

General [7]

- Added "Delete All Points" confirmation for Coverage Mapping functions in all modes. #18221
- Added EEPROM snapshot feature adds a folder named "Anritsu_Snapshot" in internal memory.
 - Added EEPROM Snapshot files may be deleted for security purposes.
 - Added EEPROM Snapshot feature does not apply to units with security option 7.
- Added GPS location in radians to saved measurement file headers.
- Added MA2700A compass calibration images.
- Added support for saving images(jpg) and measurement files simultaneously.
- Added the automatic turn on feature when power is applied to a unit without battery.
 - The button has been added under the system menu.
 - Requires IPL/SPL/ataBoot version 3.25 or later. Contact Anritsu Customer Service to update IPL/SPL/ataBoot.
- Added the firmware package version number to saved measurement files .

Spectrum Analyzer and Sub Applications [2]

- Added SCPI command ":DISPlay[:WINDow]:TRACe:Y[:SCALE]:RLEVel:AUTO IMMEDIATE". See Programming Manual for details.
- Added SCPI command ":SENSe:FREQUency:REFerence:SOURce?". See Programming Manual for details.

Cable and Antenna Analyzer [4]

- Added displaying of time marker in DTF mode. #1108
- Added the current temperature reading to the "Disp Valid Cal Temp Range" buttons Input window. #15768
- Added valid temperature range values and current temperature reading to the Display Cal Window Message that shows when a calibration has been turned off due to temperature drifting out of the valid range. #15768
- Added valid temperature range values to the Calibration Completed input window (shows up once the cal is completed). #15768

LTE Analyzer [2]

- Added support for LTE-A Carrier Aggregation measurements.
- Added Time Alignment Error measurement for carrier aggregated signals.

TD-LTE Analyzer [2]

- Added support for LTE-A Carrier Aggregation measurements.
- Added Time Alignment Error measurement for carrier aggregated signals.

*** MISCELLANEOUS ***

General [1]

- Updated signal standard file to V2.08.

Cable and Antenna Analyzer [1]

- Updated cable list to V3.04.

*** ENHANCEMENTS ***

General [19]

- Added a special case for the battery self-test so that it doesn't indicate failure when the battery is not installed, but it indicates that there was no response from the battery so that the user can decide if there is a failure or not. #9981
- Added a warning message to the SAVE FILE dialog to indicate excessive files saved in a single directory that may slow down file access performance.
- Added label to show the free space on the currently selected save location.
- Added line-wrapping for option numbers in Status dialog. #19979
- Added more descriptive file save error messages. #16298
- Added restrictions for special characters and spaces when naming filenames and folders. #9868
- Added support for Anritsu antennas 2000-1726-R, 2000-1747-R, and 2000-1748-R
- Added the ability to continue capturing bearings with the MA2700A after switching to IA Spectrum measurement.
- Changed low battery warning sound interval. #15829
- Displaying >1 hr for sweep time estimates over 1 hour instead of showing ~1.2 hours.
- Enhanced the visual appearance of transitions out of menu screen. #11437
- Improved error handling when overwriting existing files and folders. #14794

- Improved GPS frequency accuracy during temperature changes. #19096
- Improved handling of Recall KML Points & Map when the map is not available. #18638
- Improved mode switch time into VNA and Cable and Antenna Analyzer applications.
- Improved output power accuracy for CDP test.
- Improved Russian language translation. #19993
- Marker display now shows smaller values properly without error in placement of decimal point.
- Restricted the ability to copy from a parent directory into a sub-directory. #14794

Spectrum Analyzer and Sub Applications [40]

- Added 0|1 as valid parameters to the SCPI Command ":CALCulate:MARKer:TABLE:STATe" command for consistency with Programming Manual. #20089
- Added a message saying that Spurious Emissions is getting turned off when switching to the unsupported IA mode.
- Added feature to flip marker box below trace if it would exceed the top of the graph area. #7969
- Added scrolling through the table selection when in Signal ID "Single Scan and Review" mode. #12456
- Added support for longer antenna names. #18714
- Added support for sweep time measurement in sample detection mode.
- Added sweep range validity checking to CS channels. #1860
- Added the ability to continue capturing bearings with the MA2700A after switching to IA Spectrum measurement.
- Allowing setting of center frequency to max value while in zero span. #16018
- Applying Antenna Correction factors when using traces B and C. #15463
- Bias-T is turned off when Power & BW measurements or Coverage Mapping is turned On and a message is displayed on the screen. #6588
- Changed C/I measurement file to always write out trace B parameters. This makes C/I measurements consistent with other measurements that contain a trace B.
- Changed delta markers to follow corresponding reference marker when they are off-screen. #9453
- Changed message for available space from number of files to actual bytes remaining. #16298
- Changed minimum value for recalled center frequency to 0Hz in Spectrum Analyzer application after power cycle. #20021
- Channel Scanner Custom Scan frequency list can now use the full frequency range of the instrument. #16450
- Disabled access to the limit menu and all limit-line related SCPI commands when Emission Mask is enabled. #16848
- Improved auto reference level adjustment for field strength mode as units are changed. #18642
- Improved auto reference level adjustment with delta markers while changing units.
- Improved counter marker peak search operation. #19891
- Improved DTF accuracy for narrow frequency spans for BTS Masters. #18710
- Improved IF Output distortion in zero span. #17472

- Improved sweep time prediction in quasi-peak detection mode.
- Improved the RSSI in Interference Analyzer mode auto-scale to better position the trace on screen. #17657
- Improved volume control for IQ Waveform capture. #18239
- Improved zero span narrow VBW performance in Spectrum IA mode. #19248
- Increased maximum value of RSSI time span to 7 days ($60*60*24*7 = 604800$ seconds) to be consistent with the Measurement Guide.
- Increased resolution for marker time in zero span mode. #10642
- Limit line restored when exiting Emission Mask measurement. #12069
- Limited Emission Mask to 12 segments(13 limit points). #12553
- Preset will now default the upper envelope limit number of points to 20.
- Removing Auto Ref Level button from all SPA submodes except for SPA, PM, and IA.
- Revised the EEPROM error message. #18651
- Saturation and ADC over-range error messages are cleared more quickly in zero span and IA signal strength modes.
- Selecting "All Measurements Off" now will turn coverage mapping off, so last span will be restored. #19502
- Selecting "Set Demod Freq to Current Marker Freq" button turns on marker and demodulation frequency will be the last-edited marker frequency in AM/FM demodulation mode. #17425
- Updated Channel Scanner Measurements button text from 'Units Display' to 'Power Display'. #11033
- Updated Chinese translation. #18427
- Updated the C/I measurements button text of "Min Sweep Time" to "Sweep Time". #9805
- When Save On Event is active, disallow setup/measurement/limit line file recall. #16295

Cable and Antenna Analyzer [6]

- Changed max Scale values for VSWR and RL measurements.
- Changed the button label from "Window" to "Windowing" .#18289
- Recalling a measurement from the Trace menu requires the setup to match current setup for the trace to be recalled.
- Save last edited marker per domain, and trigger last edited marker change when sweep domain changes. #15315
- Update 1 port Phase Maximum and Minimum values to match the datasheet. #12362
- Update the display format for cable loss Avg to display resolution up to 2 digits after the decimal. #1629

LTE Analyzer [3]

- EVM Max hold values (peak max and rms max) reset when either the BW, Frequency, Cyclic Prefix, EVM mode, or EVM max hold changes. Also, it will reset when the unit resynchronizes on the signal.
- Remove the inaccurate warning message from demod and over the air measurements.

- Removed erroneous "bch signal" field while in the constellation measurement view.

WCDMA Analyzer [1]

- Added SCPI commands [SENSe:]DEMod:INput:ATTENuation and [SENSe:]DEMod:NOIse:CALibration. See the Programming Manual for details.

Vector Signal Generator [1]

- Added some delay and made changes to the messages displayed during the load standard patterns to prevent intermittent pattern load failures.

Operating System [2]

- Improved error handling for WiFi TCP data transfer functions.
- Saving RunTime setup on power down has been sped up to prevent loss of setup information on shut down.

*** BUG FIXES ***

General [21]

- Fixed a limit line resolution issue for VSWR measurements. #18875
- Fixed a problem where ":SENSe:FREQuency:STARt" SCPI command truncates the last digit when setting frequency beyond 4,294,967,295 Hz. #15669
- Fixed a problem with displaying large Russian fonts. #16851
- Fixed a problem with multiple marker table presses causing the instrument to freeze. #16099
- Fixed a problem with pressing '1' when Signal Standards List is displayed. #17293
- Fixed a rounding issue from tenths of Hz for frequencies. #16170
- Fixed a SCPI update for ":SENSe:GPS" when instrument is recalling a trace. #12000
- Fixed an issue in Spectrum Analyzer mode that did not show a warning dialog when saving a measurement file with existing filename. #20011
- Fixed an issue related to save file overwrite behavior not prompting the user to confirm a file overwrite operation. #15975
- Fixed an issue that did not list all files in the Recall dialog. #19989
- Fixed an issue that displayed "Successfully Saved File to USB1" when the save operation failed due to the disk being full.
- Fixed an issue where ":MMEMory:DIRectory?" command was returning incorrect filenames and extensions. #19358
- Fixed an issue where Menu screen help window would not close. #17387
- Fixed an issue where negative volts or watts was being displayed as huge negative femto-Volt or femto-Watt values. #14636
- Fixed an issue where pressing the back button in the Script Master menu in GSM/EDGE would go to the incorrect menu
- Fixed an issue where the user could not use the left/right arrow keys to navigate the buttons in the "Confirm File Delete" dialog when the

- instrument language was set to French. #19073
- Fixed an issue where under unique conditions, the counter marker could show incorrect frequency values.
- Fixed an issue with incorrect values being displayed for marker frequency, for values less than 1 Hz (positive and negative values).
- Fixed an issue with setting the date to Feb 29 on a leap year. #13709
- Fixed limit line resolution issue when saving measurement files allowing external PC Tools to recreate the limit line. #10370
- Fixed the French translation for "Save Measurement As". #19074

Spectrum Analyzer and Sub Applications [51]

- Fixed a display issue with external trigger representation. #18623
- Fixed a problem with instruments not remembering field strength measurement setup state following power cycle.
- Fixed a save on event issue with "Save Then Stop" interacting with "Crossing Limit" and "Sweep Complete". #16842
- Fixed a SCPI command ":CALCulate:LIMit:POINt:Y?". #17464
- Fixed an intermittent issue with Presetting the instrument in Zero Span Mode. #20439
- Fixed an issue in IA mode where the limit line would not get reset properly following a preset. #19998
- Fixed an issue in IA Signal ID measurement mode, where the SS/Cont buttons were not kept in sync with the overall SS/Cont status. #7805
- Fixed an issue in Spectrum Analyzer mode that did not show a warning dialog when saving a measurement file with existing filename. #20011
- Fixed an issue involving SCPI command to change Trigger Mode to Free Run.
- Fixed an issue preventing triggering from working while in IA Spectrum zero span mode. #12671
- Fixed an issue that did not list all files in the Recall dialog. #19989
- Fixed an issue to restore the Reference level correctly when Field Strength is turned On/Off with linear units.
- Fixed an issue when incrementing or decrementing sweep times with arrow keys or twiddle knob.
- Fixed an issue where "GPS Hi Accy Freq Ref" did not display following a preset. #15355
- Fixed an issue where a counter marker's location on the screen would not match its actual frequency. #15671
- Fixed an issue where GPS High Accuracy was not always reported correctly. #19181
- Fixed an issue where pressing the color power scale in Spectrogram view would disable the twiddle knob. #15172
- Fixed an issue where some parameters were not recalled for gated sweep setups. #18278
- Fixed an issue where Spurious Emissions Mask amplitude was not set correctly for the first segment added to empty table. #18877
- Fixed an issue where the Power Meter did not take into account the impedance loss of impedance matching adapter for 75 ohm systems. #13981
- Fixed an issue where the reference level offset was not applied to SCPI command ":DISPlay:WINDow:TRACe:Y:RLEVel?". #11751
- Fixed an issue where the Spurious Emission menu could show up in the IA mode.
- Fixed an issue where the twiddle knob does not work properly in Zero span. #17626
- Fixed an issue where the use of the twiddle knob within the Channel Scanner Custom List Edit mode could hang the unit if scrolling beyond the

- available channel slots. #8250
- Fixed an issue where trace A was not shown even when it was enabled. #15147
- Fixed an issue where Transmission Measurement application was not saving the correct application number in the measurement file. #19052
- Fixed an issue where under unique conditions, the counter marker could show incorrect frequency values.
- Fixed an issue where user could attempt to recall a measurement while in a Save on Event setting. #16295
- Fixed an issue where Video trigger level with RL Offset was not displayed properly. #11523
- Fixed an issue with "preset" when field strength is enabled. #19595
- Fixed an issue with "Sweep Once" in IA Spectrogram mode. #10982
- Fixed an issue with an IA mode measurement switch which could cause 'Settings changed, sweep data invalid' to display unnecessarily.
- Fixed an issue with Audio demodulation of a narrow band FM tone. #15208
- Fixed an issue with changing RBW and VBW values in signal strength and RSSI affecting non-zero RBW and VBW in spectrum measurements. #13645
- Fixed an issue with Field Strength measurement: antenna factor display is no longer affected by changes in the reference level offset. #10628
- Fixed an issue with recalling setups without counter markers enabled did not reset existing counter markers. #12159
- Fixed an issue with the "blinking" of the first point in spa sweep.
- Fixed an unstable measurement in zero span for RBW 300kHz measurement setups. #16942
- Fixed auto ref level not working in IA mode.
- Fixed channel power units displayed in the table in Adjacent Channel Power Ratio and Carrier/Interference. #2149
- Fixed colors for coverage mapping plotted points and RSSI value. #14673
- Fixed duplicate signal appearing under narrow VBW in fast sweep mode. #16860
- Fixed incorrect measurement with No FFT sweep mode, RBW = 1 Hz, and VBW > 1 Hz. #14875
- Fixed marker snapping to center when recalling zero-span measurements. #12178
- Fixed marker units not getting updated immediately after switching units. #18516
- Fixed occasional freeze when measurement units are non-dBm based.
- Fixed problem where instrument lost setup after multiple power cycles when measurement units are in dBuV. #16596
- Fixed recalling a limit line in IA Spectrogram mode. #17841
- Fixed setting wrong Reference Level when noise marker is turned on.
- Fixed squelch amplitude bug in AM demodulation mode below 8 MHz. #18621
- Fixed the Channel Power Measurement table not getting drawn after recalling measurement file or using some related SCPI commands. #19518, #18917

Cable and Antenna Analyzer [21]

- Fixed a problem when recalling traces that do not match current resolution or DTF Start/Stop distances. #19498

- Fixed a problem with 1-port and 2-port phase full scale. #20660
- Fixed a problem with instrument not holding calibration when available memory was low. #19597
- Fixed a problem with marker on recall DTF trace giving a wrong value.
- Fixed an issue causing a hang up when attempting to move beyond the top of the Signal Standard list. #15474
- Fixed an issue causing Autoscale to adjust bottom beyond minimum value. #12362
- Fixed an issue when attempting to recall a .dat file when Start and Stop Frequencies are equal. #16401
- Fixed an issue where Cable and Antenna Analyzer no longer produces superfluous calibration files which could consume all available storage space on the instrument in rare cases.
- Fixed an issue where markers in the 2-port phase measurement didn't report correctly. #20685
- Fixed an issue where the limit line value was reset when the limit on/off is toggled. #20667
- Fixed an issue where the limit value was truncated to the nearest lower integer value. #20667
- Fixed an issue where the Marker Menu could unexpectedly show up when changing Measurement modes. #18711
- Fixed an issue where the number of data points did not set back to original value after a calibration. #18722
- Fixed an issue where VSWR limit lines could not be set to certain values. #20545
- Fixed an issue with 'Black on White' and 'Color on White' color schemes not working for VNA and Cable and Antenna Analyzer graphs. #19045
- Fixed an issue with manual save jpeg step in easyTest scripts which opened the save window with a measurement file type instead of the jpeg file type.
- Fixed an issue with SCPI command to switch modes with a marker ON causing an instrument lockup condition. #18492
- Fixed an issue with the SCPI command "trace:data?" to bottom out at -120 dB to match what is seen on the screen of the instrument.
- Fixed bug that caused app to hang up when user manually selected header in signal standard list and clicked 'Select/Deselect Favorite'. Header should show whenever user scrolls to top of list.
- Fixed limit line resolution issue when saving measurement files allowing external PC Tools to recreate the limit line. #10370
- Fixed marker table on/off to allow translation. #19590

EVDO Analyzer [1]

- Fixed an issue with Recalled marker table values for Spurious Emission measurement not correct. #13128

CDMA Analyzer [3]

- Fixed an issue where CDMA pilot scan recalls the wrong power values. #18304
- Fixed an issue with Recalled marker table values for Spurious Emission measurement not correct. #13128
- Fixed an issue with Recalling a CDP display to correctly display Page and Sync values of the saved measurement. #20216

GSM Analyzer [3]

- Fixed an issue where pressing the back button in the Script Master menu in GSM/EDGE would go to the incorrect menu
- Fixed an issue with Frequency changing to 1GHz after mode switch. #14432
- Fixed an issue with GSM - Power Vs Time (slot) recall measurement. #14451

LTE Analyzer [11]

- Fixed an intermittent issue with the instrument freezing when changing parameters or changing measurements within LTE.
- Fixed an issue in Tx Test measurement, where a displayed Delta Value was shown, even when a single Tx Antenna was in use.
- Fixed an issue that could prevent the OTA Scanner from correctly reporting Dominance when there are 3 signals being received. #13349
- Fixed an issue to insure RS sync type only allows normal cyclic prefix measurements.
- Fixed an issue where the RSRP measurement in Channel Scanner was not stable. #20496
- Fixed an issue where the SCPI command ":MEAS:RF:SEM?" was returning incorrect results. #13910
- Fixed an issue with an EVM mode dependence on EVM max hold functionality. EVM Max hold toggling does not affect EVM mode while switching measurements. #20808
- Fixed an issue with an EVM mode parameter not getting Preset when PBCH only setup in effect.
- Fixed an issue with recalling a file in LTE Pass/Fail mode, causing the unit to lock up with hour glass. #20473,16058
- Fixed an issue with the Back button in PvsRB menu in LTE and TD-LTE modes returning to the wrong menu. #20765
- SEM status now shows "--" instead of "Fail" when measurement is not complete in LTE and TD-LTE modes

TD-SCDMA Analyzer [3]

- Fixed an issue where Measurements/RF Measurement/Power vs. Time/Slot Selection, did not return to the correct menu. #2580
- Fixed an issue with OTA Tau Scan mode freezing. #16282
- Fixed an issue with recalled CDP measurement not displaying the correct coloring for the graph. #8338

WCDMA Analyzer [5]

- Fixed an issue that could cause the unit to lockup when switching from WCDMA (remote commands) with marker or marker once turned on and off.
- Fixed an issue where a preset from band spectrum did not restore default center frequency. #13683
- Fixed an issue where turning on the Marker Table while in single sweep mode could blank out the trace until another sweep was triggered. #18164
- Fixed an issue with recalling a band spectrum trace. #6312
- Fixed an issue with switching between single and continuous sweep after changing measurement views. #16413

- No change

Channel Scanner

- No change

PIM Analyzer

- No change

Power Meter

- No change

High Accuracy Power Meter

- No change

Cable and Antenna Analyzer

-
- Improved DTF Accuracy while using narrow Frequency Spans
 - Fixed a problem with the FlexCal not working correctly above 4 GHz on the MT8221B-0006 6GHz option only.
 - Fixed an issue where the instrument would lock up while sweeping at specific very unique frequency combinations for a long period of time.

CDMA Analyzer

- No change

EVDO Analyzer

- No change

GSM Analyzer

- No change

TD-SCDMA Analyzer

- No change

WCDMA Analyzer

- No change

LTE Analyzer

- No change

TD-LTE Analyzer

- No change

Fixed WiMAX Analyzer

- No change

Mobile WiMAX Analyzer

- No change

T1/E1/T3

High Accuracy Power Meter

- No change

Cable and Antenna Analyzer

- No change

CDMA Analyzer

- No change

EVDO Analyzer

- No change

GSM Analyzer

- No change

TD-SCDMA Analyzer

- No change

WCDMA Analyzer

- No change

LTE Analyzer

- No change

- No change

Channel Scanner

- No change

PIM Analyzer

- No change

Power Meter

- No change

High Accuracy Power Meter

- No change

Cable and Antenna Analyzer

- Fix an issue with Distance to Fault giving inaccurate measurements

CDMA Analyzer

- No change

EVDO Analyzer

- No change

GSM Analyzer

- No change

TD-SCDMA Analyzer

- No change

WCDMA Analyzer

- No change

LTE Analyzer

- No change

TD-LTE Analyzer

- No change

Fixed WiMAX Analyzer

- No change

Mobile WiMAX Analyzer

- No change

T1/E1/T3

- No change

VSG

High Accuracy Power Meter

- No changes

Cable and Antenna Analyzer

- No change

CDMA Analyzer

- No change

EVDO Analyzer

- No change

GSM Analyzer

- No changes

TD-SCDMA Analyzer

- No change

WCDMA Analyzer

- No change

LTE Analyzer

- No change

-
- Fixed a bug where RSSI was not reflecting Ref Level Offset correctly in coverage mapping mode.
 - Fixed a bug where a Counter marker's location on the screen would not match its actual frequency.
 - Sweep Time is now displayed with an initial 'estimate' for the first sweep and updated to measured values in subsequent sweeps.
 - Added support for new units - dBW, A and dBA and Watt/cm2 in Field Strength mode.
 - Added new measurement units for Field Strength
 - Added new Antenna EMI display option
 - Fixed a bug with Option 89 (IF Output) where the button to turn on the output wouldn't work correctly
 - Fixed a bug where level accuracy was affected by ~2 dB with the 3 MHz RBW filter in certain spans
 - Fixed several units and marker related bugs

Interference Analyzer

-
- Added MA2700A support
 - Added .azm support for IA Mapping
 - .azm maps are zoomable and panable
 - .azm maps are created via easyMap

Channel Scanner

-
- Fixed a DDC error when selected signal standards have span less than ~40 MHz.

PIM Analyzer

-
- fixed a calculation bug in max distance and DTP for 850 models

Power Meter

-
- No changes

High Accuracy Power Meter

- No changes

Cable and Antenna Analyzer

- No change

CDMA Analyzer

- Fixed a problem related to the All Markers Off functionality.

EVDO Analyzer

- Fixed a problem related to the All Markers Off functionality.

GSM Analyzer

- No changes

TD-SCDMA Analyzer

- Added 64QAM Support
- Added Power vs. Time mask
- Fixed a problem when power up in OTA Tau Scan measurement.

WCDMA Analyzer

- Fixed a "Lock Failure 40" in Summary measurement around a specific frequency.
- Fixed a problem related to the All Markers Off functionality.
- Fixed a remote mode switching issue.

LTE Analyzer

Spectrum Analyzer

- Fixed a bug that would cause BiasTee output voltage to increase after performing a preset. BiasTee will now be turned off after performing a Preset

Interference Analyzer

- Fixed a bug that would cause BiasTee output voltage to increase after performing a preset. BiasTee will now be turned off after performing a Preset

Channel Scanner

- Fixed a bug that would cause BiasTee output voltage to increase after performing a preset. BiasTee will now be turned off after performing a Preset

PIM Analyzer

- Reset MW8209A 900MHz upper frequency limit from 970MHz to 960MHz.
- Added additional Cal/Measure capability for MW8208A DTP measurement
- Implemented PIM SCPI command for changing between DTP and PIM.
- Bug fix to keep display from updating PIM measurement during DTP Cal.

Power Meter

- No changes

High Accuracy Power Meter

- No Changes

Cable and Antenna Analyzer

- No changes

CDMA Analyzer

- No changes

EVDO Analyzer

- No Changes

GSM Analyzer

- No changes

TD-SCDMA Analyzer

- No changes

WCDMA Analyzer

- No changes

LTE Analyzer

- No changes

Fixed WiMAX Analyzer

- No changes

Mobile WiMAX Analyzer

- No changes

- Fixed the problem of which the signal standard list window was dismissed prematurely when user has selected an invalid signal standard such as "NONE."

PIM Analyzer

- Added support the new PIM Master model MW8209A
- Cable list is now shared with the cable and antenna analyzer measurement mode.
- Changed the way calibration is performed in distance-to-PIM mode.

Power Meter

- No changes

High Accuracy Power Meter

- Added support for the new power sensor model MA24240A, and MA24105A.

Cable and Antenna Analyzer

- No changes

CDMA Analyzer

- No changes

EVDO Analyzer

- Fixed the problem which the pass/fail mode would report incorrect spurious emission test result.

GSM Analyzer

- No changes

- Fixed a bug that would sometimes include the save dialog when saving as a jpeg

Spectrum Analyzer

- Fixed a bug where Save-on-event would continue to save after switching to other modes
- Fixed a bug in the saved measurement file that caused Reference Level Offset to be incorrectly read and applied in Master Software Tools
- Fixed a bug where Quasi-peak detection wouldn't use the correct CISPR RBW filters

Interference Analyzer

- Improved timing accuracy of sweep interval in RSSI

Channel Scanner

- No changes

PIM Analyzer

- PIM Analyzer mode is now standard on all models that include Spectrum Analyzer (no longer tied to the option 419)
- Added support for Distance-to-PIM measurement for PIM Master with option 420.

Power Meter

- No changes

High Accuracy Power Meter

- No changes

Cable and Antenna Analyzer

- No changes

CDMA Analyzer

- Pilot Scanner no longer displays gray bars for noise

EVDO Analyzer

- Pilot Scanner no longer displays gray bars for noise
- New SCPI commands to read RF summary measurements

GSM Analyzer

- No changes

TD-SCDMA Analyzer

- New SCPI commands to read RF and Demod summary measurements
- FETCh:DEMod:CDP? SCPI command now returns the correct PCDE value

WCDMA Analyzer

- New SCPI commands to read RF and Demod summary measurements

LTE Analyzer

- No changes

Fixed WiMAX Analyzer

- No changes

- Amplitude menu
 - Reference Level Offset is now more consistent with 'Power Offset' used in other modes.
It now accepts 'Gain' or 'Loss' as terminators and the value is shared with other modes by default.
- BW menu
 - RBW and VBW values are now maintained separately for zero-span measurements.
 - The default value of Span/RBW is now 100.
 - A new button to change VBW average type to Log.
- Marker menu
 - A 'Large' setting is now available for the Marker table to view marker readout in a large font.
- Trace menu
 - A new Trace Info button is now available in the Trace menu to show a concise listing of all parameters for the selected trace.
 - 'Reset Sweep' button has been renamed to 'Reset Trace' and moved to the Trace menu.
- Sweep menu
 - 'Manual Trigger' is now called 'Sweep Once'.
 - A new 'Sweep n Averages' button has been added to allow a full set of averages to sweep when the sweep is set to Single.
 - A new Sweep Mode button (only certain models) allows users to control the sweep algorithm.
 - A new 'Auto Sweep Time' button has been added.
 - Trigger sub-menu has been revamped with the ability to add hysteresis to the video trigger level.
 - Gated Sweep Setup (Option 90) is now more responsive and has separate controls for the gate view (zero span).

- Improvements and bug fixes to the Field Strength measurement.

Interference Analyzer

- New Interference Mapping capability added.
- Fixed a bug where the 'Save' window would also be saved when saving to jpeg from Spectrogram measurements.

Channel Scanner

- Fixed several bugs related to Script Master.

PIM Analyzer

- Initial Release

Power Meter

- Fixed a bug related to how the scale changes when Power Offset is non-zero.

High Accuracy Power Meter

- No changes

Cable and Antenna Analyzer

- Fixed a bug where one of the Uplink/Downlink buttons was getting selected when the application was Preset (which sets Signal Standard to None).
- Fixed a bug that resulted in incorrect measurements for spans between 2 kHz and 5 KHz.
- Fixed Dmax calculation when recalling a setup.

CDMA Analyzer

- Improved the Pilot Scanner's E_c/I_o sensitivity to about -35 dB when 'Meas Speed' is set to slow. As a result of this improvement, the y-axis for this view has been increased to 45 dB.

EVDO Analyzer

- No changes

GSM Analyzer

- No changes

TD-SCDMA Analyzer

- No changes

WCDMA Analyzer

- No changes

LTE Analyzer

-
- Added a new Table view that shows Total Powers for Control Channel Power measurements.
 - Made significant improvements to reduce false positives in the OTA Scanner measurement.
 - Fixed a bug in PCFICH power calculation for certain physical cell ID values.

Fixed WiMAX Analyzer

- No changes

Mobile WiMAX Analyzer

-
- Added 'Timing Error' result to Modulation Summary view
 - Fixed a bug where Manual DL-MAP settings would cause an error message while performing modulation analysis

T1/E1/T3

- No changes

- "/usr" is no longer the default directory when saving to external drives
- Added a feature to allow Shared center frequency across modes
 - By default, this feature is ON
 - Can be toggled at System->System Options->Center Freq Share
- Improved ability to delete multiple user files

T1/T3/E1 Analyzer

- Loopback fix for Lucent DCSs
- Compatibility with the Master Software Tools

Cable & Antenna Analyzer

Enable viewing of PLL errors on screen for Customer indication of potential HW issues.

LTE Analyzer

- Added support for new Option 0543 (BWs= 15, 20 MHz)
- Added support for additions BWs (1.4, 3, 5 MHz)
- Added a new Spectral Emission Mask measurement under Option 0541 (RF Measurements)
- Added support for a "PBCH Only" EVM measurement for measurements made over the air (default selection for OTA-Scanner view)
- Added support for Watts units
- Added marker support for Channel Spectrum view
- Changed scale of bars in Control Channel Power view and OTA-Scanner view to better match live signals
- Changed scale and color of dominance bar to improve readability
- Added ability to sync to Reference Signals (RS) on 2nd Tx port (10 MHz BW only)

WCDMA

- HSDPA view has improved code marker behavior

GSM Application

High Accuracy Power Meter Application

Interference Analyzer Application

Spectrum Analyzer Application

T1/E1 Application

Cable and Antenna Analyzer Application

WCDMA Application

Fixed WiMAX Application

Mobile WiMAX Application

TD-SCDMA Application

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