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.

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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 were 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 were 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 were 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 were 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.

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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 were 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.

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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 were 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 were 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.

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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.

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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.

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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.

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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.

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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.

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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

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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 MMEMory: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.

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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.

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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.
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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.

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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

 -> 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 (mwVNA 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 mwVNA 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.

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What will the customer see in this release?

Product   : S33xE, S36xE, MS271xE, MT821xE
Application Package: V2.83
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] NOT DONE - 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.

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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

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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] 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

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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.

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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.
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What will the customer see in this release?

Product   : S33xE, S36xE, S412E, MS271xE, MT821xE, 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.

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

 -> Software - CPRI
[SPH-1804] Added Option 413 Ethernet, which is compatible with all 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 as 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

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What will the customer see in this release?
Product   : MT821xE/MS271xE
Application Package: V2.31

Release Date   : June 14, 2016

*** BUG FIXES ***

  Cable and Antenna Analyzer [1]
  - Corrected the application version number to fix an issue where .vna files from V2.30 would not open in Line Sweep Tools.

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What will the customer see in this release?
Product   : MT821xE/MS271xE
Application Package: V2.30
Release Date   : May 23, 2016

*** NEW FEATURES ***

  General [1]
  - Allow WEB server admin login to access all instrument control capabilities. QDF-79

  Spectrum Analyzer and Sub-modes [1]
  - Added Field Strength measurements to coverage mapping option measurement in SPA mode. #3342

        LTE and TD-LTE Analyzer [1]
        - Added Support for 4x4 MIMO LTE-FDD measurements.

  High Accuracy Power Meter [1]
  - Added support for MA243xxA USB power sensors.

*** ENHANCEMENTS ***

  General [6]
  - easyTest will now replace existing measurements with the same name when performing an automatic file save operation associated with Sky Bridge
    advanced scripts. Refer to Sky Bridge product release notes for individual product/option support.

 - Increased the number of easyTest Script steps supported from 100 to 500.
 - 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.
 - Added Disclaimer notice on web server login page. QDF-81

*** BUG FIXES ***

  General [3]
 - 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 file type warning message was not shown in the Select File Type dialog.

  High Accuracy Power Meter [1]
 - Fixed an issue with zeroing external USB high accuracy sensors.

  LTE and TD-LTE Analyzer [3]
 - Fixed an issue where the recalled channel power did not match the initially saved value #22962
 - Fixed an issue whereTD-LTE OTA Carrier Aggregation Measurement didn't detect MOD signal. #23779
 - Fixed an issue with "Cell ID" defaulting to 0 upon reselecting the Sync menu.

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What will the customer see in this release?
Product   : MT821xE/MS271xE
Application Package: V2.21
Release Date   : March 31, 2016

*** NEW FEATURES ***

General [3]
 - Added new administrative features to WEB server: access log and WEB banner settings.
 - Added Option 751 for CPRI support in E series products.
 - Expanded capabilities to allow easyTest to enable more complex test scripts to be executed. easyTest scripts will also be able to save files to
   a single directory allowing for a simplified process for retrieving test results. ECAA-9.
   Refer to Sky Bridge product release notes for individual product/option support.

*** ENHANCEMENTS ***

General [1]
 - Updated the CableList.txt file to add 9 additional cables in response to customer request.

Spectrum Analyzer and Sub-modes [1]
 - Enabling "Gated Sweep" functionality when options 551 or 883 are enabled in 20MHz IF BW MS2712/13E and MT8212/13E.

*** BUG FIXES ***

General [1]
 - Fixed an issue where the IP address using DHCP was not updating even though there was an Ethernet cable connected in the E series instruments.
   This problem was seen only if booting up without the Ethernet cable connected. #23045

Spectrum Analyzer and Sub-modes [3]
 - 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 SPA mode where 'Save On Event' button was hidden after using IA mapping feature.
 - Fixed an issue where recalling a measurement caused the unit to go to the Gated Sweep menu.

GSM Analyzer [2]
 - Fixed an issue in GSM mode where SCPI commands could return invalid data at certain scenarios. #22724
 - Fixed an issue in GSM module where the external reference frequency/details shown were inaccurate when recalling a saved measurement. #22323

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What will the customer see in this release?
Product   : MT821xE/MS271xE
Application Package: V1.61
Release Date   : January 15, 2016

*** NEW FEATURES ***

  Spectrum Analyzer and Sub-modes [2]
   - Added GPS triggering to Gated Sweep measurement in SPA mode wideband MS271xE & MT821xE instruments only.
   - Enabled Gated Sweep features if option 551 or 883 are enabled in wideband MS271xE & MT821xE.

*** BUG FIXES ***

  Spectrum Analyzer and Sub-modes [3]
   -
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 where a preset was required to re-enable the auto reference level/attenuation coupling after recalling a setup or measurement
     file where attenuation setting was manual. #21981
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What will the customer see in this release?
Product   : MT821xE/MS271xE
Application Package: V1.59
Release Date   : September 30, 2015

*** ENHANCEMENTS ***

  General [5]
   - Added additional monitoring of Battery SMBus to improve the handling of battery charge termination. #23219
   - 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 several icons used in Night Vision mode for better visibility. #22831
- The warning that appears when downloading multiple files via the web browser now indicates that the process may make the instrument
  unresponsive until the download is completed. If there is an error during the process, another message will appear to suggest a smaller
  download. #22945. #22945
- WEB browser file download attempts are no longer possible with iOS devices. #22499

Spectrum Analyzer and Sub-modes [1]
- Added Pan & Zoom functionality for .azm maps inside Coverage mapping measurements for SPA mode. #3217

WCDMA Analyzer [1]
- Added SENS:FREQ:SIGS:CHAN SCPI commands for WCDMA/UMTS mode. See Programming manual for details. #22665

Cable and Antenna Analyzer [1]
- The HHST warning message that appears when saving a .dat measurement files with more that 551 points will now only show once on the first save
  attempt after any reboot. #3424.

*** BUG FIXES ***

General [10]
- Fixed an issue in easyTest execution where a script with auto advance step would run until end when a dialog window was open on the screen.
  #22554
- Fixed an issue in easyTest menu shortcuts, to test for the existence of the script file, before attempting to execute the script file. #22842
- Fixed an issue in the WEB UI of device where scale on the graph showed incorrect units under certain conditions. #22659
- Fixed an issue in the WEB UI of the device where the 'Menu' button would occasionally not be displayed, when using Internet Explorer version
  10/11. #22535
- Fixed an issue in the WEB UI where error messages associated with file save events provide more relevant information as to the cause of the
  error. #21444
- Fixed an issue in the WEB UI where some elements on the screen were not displayed properly in the browser, in SPA mode. #22659
- Fixed an issue in web server where some of the hardware specifications were wrongly displayed with some device models. #23041

- Fixed an issue in WEB UI where trace capture/save/download would cause an error when device is in ISDB-T SFN mode. #21790
- Fixed an issue that could cause the Quick Name or the Quick Name Matrix button configuration to become undefined after a setup is saved via a remote command or PC tool and recalled at a later time. #22810. #22810
- Fixed an issue where the File type selection in Save dialog was very slow when using the rotary knob. #22559

Spectrum Analyzer and Sub-modes [15]
- Corrected an issue with Pre-amp in SPA mode with MS2711E device when used with MA2700A antenna. #23026
- Fixed an issue in IA mode where limit settings were not locked when Emissions Mask was turned on. #23092
- 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 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 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 channel power used to show 0 dBm for smaller span values. #22772
- Fixed an issue in SPA mode where Emission Mask incorrectly reported "Fail" on segments that were actually a "Pass". #21687
- 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 counter marker showed the marker in the wrong location after changing frequencies. #22400
- Fixed an issue in SPA mode where the marker value shown above the graph area varied from the value shown inside the graph after the marker location was moved with the rotary knob. #22083
- 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 SCPI command returned values with incorrect number of decimal point precision. #11751
- 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 Emission Mask would fail at times, even though the measurements were well below the limit lines. #21687

WCDMA Analyzer [1]
- 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

Cable and Antenna Analyzer [4]

- Fixed an issue in Cable and Antenna Analyzer mode during InstaCal download, where a screen touch outside the active message box would close the window and device would go into a frozen state until download completed. #22428
- Fixed an issue in Cable and Antenna Analyzer mode where a screen touch outside any notification window during Calibration would cause the device to go into an unresponsive state. #22428
- 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 did not work as expected immediately after a factory reset of the instrument. #22461

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What will the customer see in this release?
Product   : MT821xE/MS271xE
Application Package: V1.58
Release Date   : 6-12-2015

*** NEW FEATURES ***

General [7]
- A small camera icon has been added to the system title bar next to the floppy disk save icon. This touch screen icon can be used to quickly save a screenshot to the last-used save location. #2719
- Added a Web Server function for Ethernet-enabled instruments to allow easy remote control from a HTML 5 WEB browser.
- Added bundled options 880, 881, 882, 883, 884, and 885 for MS2712E, MS2713E, MT8212E, MT8213E.
- Added separate message dialog box when deleting folders when file type selection is not set to "All Files" type. #21672
- Added support for option 411 for MT8212E& MT8213E.
- File sort method and sort order will now be persistent through window closes. #21827
- The configuration of the Quick Name buttons and the Quick Name Matrix is now preserved for future firmware upgrades when selecting the "Save and Restore" option during the firmware upgrade process. Upgrading your firmware to this version will clear the existing configuration, but future firmware upgrades will not. #2715, #2907

Spectrum Analyzer and Sub-modes [5]
- Added commands to check for end of sweep in SPA mode.
  1) :[SENSe:]SWEep:STATus?   Returns 1 when sweep is complete. Returns 0 when sweep is in progress.
  See Programming Manual for details.

 - 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 RSSI coverage mapping mode. #21664
 - Save Measurement and JPG feature added for AM/FM/PM mode. #21670

High Accuracy Power Meter [1]
 - Adding support for the MA24208A and MA24218A High Accuracy power sensors.

LTE and TD-LTE Analyzer [3]
 - Added ability to demodulate LTE FDD without the sync signal.
 - Added commands to check for end of sweep in LTE/TD-LTE modes.
   1) :[SENSe:]LTE:STATus?   Returns 1 when sweep is complete. Returns 0 when sweep is in progress.
   See Programming Manual for details.
 - 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 [5]
 - Changed color for magenta to a darker shade when in "Black on White" Display mode, for better visibility of traces and text. #21738
 - Corrected error message displayed to a more meaningful one, when saving files with target memory nearly full. #21966
 - Free space on the storage device will be checked before JPGs can be saved. #21369
 - 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 [3]
 - Display format of amplitude units on graph is now changed. Units are displayed only on top and bottom of the grid. #22145
 - GUI updates are now consistent after Spurious Emission segment changes via SCPI. #18981
 - When recalling saved setup, invalid channels/frequencies are shown as "--" and readings are masked out corresponding to the invalid channels.
   #21603

Cable and Antenna Analyzer [1]
- Preset operation from remote is now disallowed when unit is in measurement recall mode. #20961

*** BUG FIXES ***

General [11]
- Changed the Spanish Language translation of ON/OFF to fit within the allowable space of the Marker Table. #22315 #22315
- Fixed an issue in Web interface where the Remote control screen did not show the instrument menu button when accessed through Safari browser. #22158
- 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 a '(null)' was displayed on web server unit buttons. #21038
- Fixed an issue where buttons in web server fast mode showed '0' for their toggle states. #21038
- Fixed an issue where dragging an open dialog box would leave tracers on the screen. #21961
- Fixed an issue where the login button would not work on web UI, when accessing the device remotely with Safari browser. #22155
- Fixed an issue where the web server appeared to lock out when the client PC powered down overnight without logging out of the web server and was assigned a different IP address when powering up the next day. The web server considered it as a different client and it gave the "old" client 2 minutes to keep the connection, so it appeared to lock out. #21740
- Fixed an issue with an overflowing USB SCPI command queue by increasing the buffer size from 50 to 500. #21312
- 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 from WiMAX mode.

Spectrum Analyzer and Sub-modes [21]
- Corrected back button behavior in detection menu for SPA mode, to properly return to previous menu.
- Fixed an issue where more than 255 calibration data points were not properly accepted by the device when reading an antenna.txt file. #21854
- 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 Reference Level value returned via SCPI command was erroneous when RL Offset was set to a non zero value. #11751

- Fixed an issue where the Save On Event button would show up in IA Mapping measurement mode. #21471
- Fixed an issue where trace shows erroneous data when sweep mode changes while a sweep is in progress. #21868
- Fixed an issue with selecting a frequency with Mapping mode not locked to GPS, the frequency pop-up obscures part of the GPS warning. GPS message has been moved 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 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 issue where RBW could be set to an invalid value in zero span under SPA mode. #21788
- Fixed issue where recalling spectrogram measurement file causes unit reboot. #21952
- 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
- Main Channel power no longer shows invalid values when Span is less than Main Channel BW. #20922

Cable and Antenna Analyzer [4]
- Cable list window no longer truncates cable names. #21298
- Fixed an issue preventing the current temperature from updating, while operating outside calibration temperature window. #21076
- Fixed an issue with Signal Standard start/stop frequency calculation.
- When changing start frequency via Left side status touch panel, the other parameters are now properly updated on screen. #21241

TD-SCDMA Analyzer [1]
- Fixed an issue where saved RF measurements were incorrectly recalled in TD-SCDMA. #21197

DVBTH Analyzer [1]
- Fixed an issue where the recalled measurement file did not correctly show the status of Internal/External RF frequency source. # 21377

DVBTH SFN Analyzer [1]
- Fixed an issue where the Reference Source display failed to update to "Int Std Accy" after recalling a measurement file. #21377

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What will the customer see in this release?
Product   : MT821xE/MS271xE
Application Package: V1.57
Release Date   : Feb. 9, 2015

*** NEW FEATURES ***

General [1]
 - Added a Web Server function for Ethernet-enabled instruments to allow easy remote control from any HTML?5 WEB browser.

Spectrum Analyzer and Sub-modes [3]
 - 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.
 - Added Span Setting to ACPR coverage mapping mode. #20923
 - User can now select FM scale % values with a minimum of 0.01%.

*** ENHANCEMENTS ***

General [4]
 - Files or directories with leading spaces in their names cannot be saved any more.
 - 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 to V2.06 by adding 3 antennas.
   Updated the CableList.txt file to V3.05 by adding 13 cables.
   Updated the Signal Standards File to V2.10 by replacing 43 Standards that had been previously removed. (CDMA, Fixed WiMAX, TD-LTE, and a
   number of the 700MHz bands)
 - Updated WCDMA shortcut images.

Spectrum Analyzer and Sub-modes [1]
 - Made improvements in Counter Marker accuracy.

WCDMA Analyzer [1]
 - 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.

*** BUG FIXES ***

 General [5]
  - Fixed an issue where a Save/Recall message would partially cover the parameter status area.
  - Fixed an issue where icons in Save/Recall window were not being updated to match the current color scheme of the device.
  - Fixed an issue with changing the instrument device name to close the dialog box cleanly.
  - Fixed an issue with 'Save Measurement As' to properly handle multiple '_' in the filename.
  - Fixed an issue with the Save/Recall dialog screen size. Enlarged the screen to allow entire warning messages to fit. #20113

 Spectrum Analyzer and Sub-modes [5]
  - Added a Gate delay maximum value, and set it to 100 ms.
  - Fixed an error in the header information generated in Spectral Emissions SPE files.
  - Fixed an issue where the average count was not getting reset with the sweep interval in spectrogram. #20609
  - Fixed an issue where the spectrogram trace count did not reset with Sweep Interval if the Trace mode was set to average. #20609
  - Fixed single sweep not sweeping when manually triggered with auto sweep time turned on.

 Cable and Antenna Analyzer [2]
  - 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 the "Marker" text when selecting DTF measurement.

 High Accuracy Power Meter [1]
  - Hi Accuracy Power Meter summary window now correctly clears with preset.

EVDO Analyzer [1]
 - Fixed an issue where the tau limits in the EVDO Pass/Fail measurement view were incorrectly recalled.

GSM Analyzer [1]
 - Fixed an issue where the Sweep Type button was inconsistent with the actual state in the GSM mode.

LTE and TD-LTE Analyzer [1]
 - Fixed an issue with SCPI commands for carrier aggregation.
   The wrong number of dashes("--") were being returned for the data string when an invalid signal was detected.

Mobile WiMAX Signal Analyzer [1]
 - Fixed an issue where Mobile WiMAX files were incorrectly recalled using remote commands.

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What will the customer see in this release?
Product   : MT821xE/MS271xE
Application Package: V1.56
Release Date   : December 5, 2014

*** NEW FEATURES ***

 General [1]
  - Added an error message pop up during Code Loading to notifying the user in the case the USB stick does not have enough space to store all of
    the user files from the instrument. #20524

 Spectrum Analyzer and Sub-modes [4]
  - Added a special key combination (Shft+9+5+3) which loads a frequency calibration button in the System Menus to allow Customer Field Calibration
    of the 10MHz Reference for SPA only measurements.
    See the Maintenance Manual for details on use. #20761
  - Added initial support for Isotropic antenna (option 444).
  - Added support for easyTest in Spectrum Analyzer application. Requires easyTest V1.05 or greater.
  - First Release of EMF measurements.

LTE and TD-LTE Analyzer [3]
 - Added support for LTE-A Carrier Aggregation measurements.
 - Added Time Alignment Error measurement for carrier aggregated signals.
 - First Release of EMF measurements.

WCDMA Analyzer [2]
 - Added initial support for Isotropic antenna (option 444).
 - First Release of EMF measurements.

Passive Intermodulation Analyzer [1]
 - Added a dialog that allows for configuring the start and stop frequencies of a Swept PIM measurement.

*** ENHANCEMENTS ***

General [12]
 - Added a timer that automatically dims the display of the instrument when it is operating under battery power to save power.
   "Auto-Dim" feature is enabled in System Options -> Display -> Brightness menu.
   Each Model has its own unique default time. Most are approximately 15 minutes. #2521
 - Added a warning message to the SAVE FILE dialog to indicate excessive files saved in a single directory, which may slow down file access
   performance.
 - Added ellipses for long names when using quick name matrix buttons. #19341
 - Added line-wrapping for option numbers in the System Status dialog. #19979
 - Added more improvements to System Level Russian language translations. #19993
 - Added more information to an error message that pops up when attempting to run an easyTest script in the wrong application mode. #20775
 - Added support for Anritsu antennas 2000-1726-R, 2000-1747-R, and 2000-1748-R
 - Displaying >1 hr for sweep time estimates over 1 hour instead of showing ~1.2 hours.
 - Improved error handling for WiFi TCP data transfer functions.
 - Improved Escape key handling when running easyTest scripts. #19733
 - Updated Support files.
   Updated the Antenna.txt file to V2.06 by adding 3 antennas.

Updated the CableList.txt file to V3.05 by adding 13 cables.
Updated the Signal Standards File to V2.10 by replacing 43 Standards that had been previously removed. (CDMA, Fixed WiMAX, TD-LTE, and a number of the 700MHz bands)
- Updated System Level Portuguese language support.

Spectrum Analyzer and Sub-modes [12]
- Added a message saying that Spurious Emissions is getting turned off when switching to the unsupported Interference Analyzer mode. #20123
- Added the ability to continue capturing bearings with the MA2700A after switching from Interference Mapping to Interference Analyzer Spectrum measurement. #20585
- Changed minimum value for recalled center frequency to 0 Hz in Spectrum Analyzer application after power cycle. #20021
- Improved counter marker peak search operation. #19891
- Improved Counter Marker Stability. #20559
- Improved reference level offset calculation in Emission Mask. #20204
- Improved zero span narrow VBW performance in Interference Analyzer Spectrum mode. #19248
- Increased maximum value of RSSI time span to 7 days (60*60*24*7 = 604800 seconds). #10873
- Limited minimum sweep time entry to 7 us. #20406
- Preset will now default the upper envelope limit number of points to 20. #20182
- Saturation and ADC over-range error messages are cleared more quickly in zero span and IA signal strength modes. #20006
- Selecting "All Measurements Off" now will turn coverage mapping off, so last span will be restored. #19502

Cable and Antenna Analyzer [1]
- Updated Support files.
Updated the Antenna.txt file to V2.06 by adding 3 antennas.
Updated the CableList.txt file to V3.05 by adding 13 cables.
Updated the Signal Standards File to V2.10 by replacing 43 Standards that had been previously removed. (CDMA, Fixed WiMAX, TD-LTE, and a number of the 700MHz bands)

ISDB-T Analyzer [1]
- Fixed an issue where the GPS icon and location information does not display on top screen in ISDB-T Signal Analyzer mode. #20916

LTE and TD-LTE Analyzer [1]
- EVM Max hold values (peak max and rms max) reset when either the BW, Frequency, Cyclic Prefix, EVM mode, or EVM max hold changes.

Passive Intermodulation Analyzer [1]
 - Removed "Span View IM/RX" button from Swept PIM mode. Only the IM span view will be available.

*** BUG FIXES ***

General [14]
 - 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 in the E series instruments that showed an Ethernet address when not connected. #19768
 - Fixed an issue related to defaults on Quick Name features causing unit lockup. #20441
 - Fixed an issue where ":MMEMory:DIRectory?" command was returning incorrect filenames and extensions. #19358
 - Fixed an issue where "fW" was displayed when "fA" was expected. #20911
 - Fixed an issue where a message "Successfully Saved File to USB1" when the save operation actually failed due to the disk being full. #20031
 - Fixed an issue where not all files were listed in the Recall dialog. #19989
 - 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 pressing the touchscreen enter key twice when saving a JPEG obscured the graph with the Save dialog. #19775
 - Fixed an issue where the instrument would shut down after scrolling to the bottom of the System Status window using the touchscreen. #20675
 - Fixed an issue where under unique conditions, the counter marker could show incorrect frequency values. #15953
 - Fixed an issue with incorrect values being displayed for marker frequency, for values less than 1 Hz. #15953
 - Fixed an issue with limit line value not having enough resolution in Cable and Antenna Analyzer, VSWR, SPA and PIM modes. #10370
 - Saving instrument setup on power down has been sped up to prevent loss of setup information.

Spectrum Analyzer and Sub-modes [20]
 - Added 0|1 as valid parameters to the SCPI Command ":CALCulate:MARKer:TABLe:STATe" command for consistency with Programming Manual. #20089
 - Coverage mapping measurement mode is set properly to default upon performing preset. #20920
 - Fixed a problem where manually setting a sweep time with a narrow span on single sweep mode caused a very inaccurate actual sweep time to be reported. #20558
 - Fixed a problem with instruments not remembering field strength measurement setup state following power cycle.
 - 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 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. #20257
- Fixed an issue when incrementing or decrementing sweep times with arrow keys or twiddle knob. #19991
- Fixed an issue where ADC Over Range Error message doesn't appear on the screen when a marker was not located within the ADC Over Range area of the trace. #20493
- Fixed an issue where Marker units are sometimes in Hz, in zero span after changing from log amplitude units to linear amplitude units. #20626,
- Fixed an issue where not all files were listed in the Recall dialog. #19989
- Fixed an issue where the Spurious Emission menu could show up in the IA mode. #20123
- 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 under unique conditions, the counter marker could show incorrect frequency values. #15953
- Fixed an issue with "preset" when field strength is enabled. #19595
- 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 recalled Spectrogram colors corrected to match the colors during measurement.
- Fixed an issue with Recalling an AM/FM/PM measurement file with a marker on, now retains original marker position rather than snapping to center screen. #20318
- Fixed several issues related to Spurious Emissions not handling Reference Level Offset correctly. #20144

Cable and Antenna Analyzer [9]
- Fixed a problem where the instrument can start another cal when a cal is already in progress.
- Fixed an issue to restore RF Immunity to its original setting after an RF calibration is aborted. #20584
- Fixed an issue where Cable and Antenna Analyzer no longer produces extra calibration files which could consume all available storage space on the instrument in rare cases. #19627
- 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 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 VSWR limit lines could not be set to certain values. #20545
- Fixed an issue with manual save JPEG step in easyTest scripts which opened the save window with the wrong file type.
- Fixed marker table on/off to allow translation. #19590

High Accuracy Power Meter [1]
- The Save Measurement button in High Accuracy Power Meter now correctly selects a measurement file type instead of a setup file type.

CDMA Analyzer [3]
 - Fixed an issue where CDMA pilot scan recalls the wrong power values. #18304
 - Fixed an issue with Recalling a CDP display to correctly display Page and Sync values of the saved measurement. #20216
 - Fixed incorrect reporting of Channel Power in Master Software Tools operations with measurement files. #21151

GSM Analyzer [1]
 - Fixed an issue where pressing the back button in the Script Master menu in GSM/EDGE would go to the incorrect menu.

LTE and TD-LTE Analyzer [6]
 - Added antenna detection in Tx Test measurement. #20496
 - Fixed an intermittent issue with the instrument freezing when changing parameters or changing measurements within LTE.
 - Fixed an issue where the RSRP measurement in Channel Scanner was not stable. #20496
 - 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 Power vs Resource Block menu in LTE and TD-LTE modes returning to the wrong menu. #20765
 - Spectral Emission Mask status now shows "--" instead of "Fail" when measurement is not complete in LTE and TD-LTE modes. #20670

WCDMA Analyzer [2]
 - Fixed an issue where "single" wasn't properly highlighted in the sweep menu in WCDMA when switching from another app. #20987
 - Fixed an issue where the signal standard text wasn't displayed when switching from another mode into WCDMA band spectrum measurement. #20858

DVBTH Analyzer [1]
 - Fixed an issue where the GPS icon and location information don't display on top screen in DVB-TH mode. #20915

Passive Intermodulation Analyzer [1]
 - Fixed an issue with limit line value not having enough resolution in Cable and Antenna Analyzer, VSWR, SPA and PIM modes. #10370

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What will the Customer See in this release?

Application Package for CM-E Models (MT821xE, MS271xE): V1.53_CM-E 04-30-2014

General Features

- Fixed an intermittent problem where an EEPROM error message was displayed.
- Fixed a problem where ":SENSe:FREQuency:STARt" SCPI command truncates the last digit when setting frequency beyond 4,294,967,295 Hz.
- Fixed a cosmetic issue with the touchscreen menu display when changing applications.
- Fixed an issue where GPS could not be turned ON or OFF correctly while a recalled Trace was in view,
  resulting in the On/Off Status being out of sync with button state.
- Fixed an issue where GPS display disappears after preset #17802.
- Corrected a rounding issue from tenths of Hz for frequencies.
- When Remote Access Password is set, it will now display *'s in its entry field
- Remote Access password field touch screen highlight / edit support improved. #18640
- Fixed a possible timing issue when switch mode repeatedly
- Applied Night Vision mode at boot-up. IPL/SPL/ataBoot V3.50 or higher is required, Requires Customer Service Center to update.
- Fixed an issue where sending a mode switch command through SCPI with the mode selector up, would cause the unit to freeze after the mode switch.
- Fixed an issue where multiple IP address fields getting highlighted when scrolling through the fields in the Ethernet Editor. #18622
- Fixed recalling setup file from a different mode #19066
- Changed the color of the power plug prongs icon (when the instrument is plugged in with no battery present) #18597
- Added GPS location in radians to the saved file header.
- Added FW package version to saved file header.
- Updated Russian translation.
- Fixed an issue with negative volts or watts being displayed as huge negative fV/fW values. #14636
- Fix for GUI crash when recalling a different application setup file remotely while an input window is up on the front pannel
  : removed any input window before loading a new application. #12975
- Added support for newer NAND Hardware
- Added support for newer USB Host Hardware
- Improved timing of motherboard self test to prevent false reports of -5.8 Volt Failures
- Added additional error handling for USB incoming communication errors with Windows 7 systems #15322
- Added check for 100% charge, so battery charger won't attempt to restart if the battery is full
- Adjusted the SDRAM clock freq. to eliminate flicker at extreme temperatures.

Spectrum Analyzer Application

- Added Out-of-band Spurious emissions measurement.
- Help images added for certain Generator setups.
- Fixed a problem when the Reference Level unit is set to Volts or Watts.
- Fixed a issue with Limit line on a recalled trace.
- Markers that would exceed the top of the graph area are now flipped below the trace in a downward orientation so they remain visible.
- Fixed an issue where TG Output Power twiddle/arrow key increment amounts were not correct.
- Fixed inconsistency in the precision of the limit value as displayed on the instrument and in LST.
- Updated Chinese translation.
- Updated pre-amp, input attenuation, reference level interactions.
- Adjusted reference level maximum for Field Strength.
- Increased resolution for Sweep Time annotation when in Zero Span
- Fixed a problem with power level displayed when there is a high level power input
- Fixed a problem with recalling a saved working Gated Sweep setup
- Added a safeguard to Prevent a user from starting coverage mapping data collection when GPS is not locked
- Provided RBW delay compensation in zero-span
- Added a minor change for WinLMF operation:
        - improves stability of power measurements in PM mode
        - avoids GUI crash after cable calibration
- Fixed a timing issue causing successive updates to the same parameter to be received out of order in the GUIm. #18917
- Fixed an issue where the marker value was not displayed in the upper left corner of the screen When switching
  from spectrum view in IA mode with a marker displayed to SPA mode, #18394
- Fixed an issue of unit frozen and lost data while doing spectrum monitoring #14811
- Fixed a problem with the Gate-View display when there is no external trigger. #18278
- Disabled Segment Setup in continuous sweep mode. 18898
- Fixed a Zero Span Marker when touch screen interface is used. #11797
- Fixed an issue where the twiddle does not work properly in zero span.
- Removed "Auto Ref Level" button from all SPA submodes except for SPA, PM, and IA.
- Fixed two auto reference level bugs:
- Wrong RL set when noise marker is turned on #17626

- Possible hang when units are non-dBm based #17627
- Increase antenna name buffer size so longer names are not truncated. #18714
- Set external trigger line to vertical and interrupted line #18623
- Disabled attempts to load a map in coverage mapping if the map file couldn't be located #18638
- Fixed marker units not getting updated immediately after switching units #18516
- Fixed an issue where auto ref level calculations were incorrect if a delta marker was turned on.
- Fixed an issue where Marker was not being turned on as suggested by the message on the screen when setting the demod frequency to the current marker frequency. #17425
- Fixed recalling of gated sweep setup. #18278
- Added Parameter and SCPI changes for Spurious Emissions measurement.
- Fixed an issue with Spurious Emissions Mask amplitude not set correctly for first segment added to empty table. #18877
- Fixed an issue properly scaling the volume level parameter when setting the sound device. #18239
- Fixed incorrect measurement with No FFT sweep mode, rbw 1 Hz, and vbw > 1 Hz. #14875
- Fixed an issue preventing triggering from working while in IA spectrum zero span mode. #12671
- Fixed a defect where Video trigger level with RL Offset was not displayed properly. #198098 & #11523

Interference Analyzer Application

- Added MA2700A support.
  - Adding MA2700A Calibration images.
- Fixed a problem with Signal ID when the span is much wider than the bandwidth of the generated signal.
- Fixed a problem with Reset/Restart Measurement soft key in spectrogram not resetting the max hold accumulation.
- The messaging when in Single Sweep was not consistent with the functionality of the instrument, this has been fixed.
- Fixed a problem with adjusting Recording Time with the knob in Spectrogram mode
- Increased tone rate for Signal Strength, Requires CPU FPGA V1.02 or 1.25. Requires Customer Service Center to update.
- Sweep Interval will have effect only if selected trace is in Max or Min Hold.
- Spectrogram display is now for the selected trace.
- Spectrogram Status window changed.
- Added Spectrogram stitch feature for Master Software Tools.
- Added maximum and minimum values for the Reference Level.
- Fixed a problem with recalling a spectrogram file from Spectrum does not restore all the parameters correctly and the graph inaccurate. #17962
- Fixed auto ref level not working in IA mode.
- Fixed recalling setups from the shortcut menu stops all measurements. #18880

- Fixed an issue where mapping was not allowed with the default map.
- Added a deleting all points confirm window when the button Delete All Points in Coverage Mapping menu is selected. #18221
- Improved IA AutoScale in RSSI so trace stays on screen. #17657
- Fixed issue where coverage mapping points did not map correctly on touch screens if base jpg was smaller than the map region on the screen. #17810
- Fixed colors for coverage mapping plotted points and RSSI value. #14673

Channel Scanner Application

- Fixed an issue where the instrument could hang if different rows were selected in the Channel Scanner Custom List Edit dialog.

AM-FM-PM Analyzer

- Fixed squelch amplitude bug in AM demod below 8 MHz #18621
- Fixed a problem with displaying large marker table

CW Signal Generator

- Fixed a problem where "Center Freq" text covered the meter numbers.

PIM Analyzer

No Changes

Power Meter

No Changes

Vector Network Analyzer Application

- Addressed an issue which was causing the Memory trace frequency axis to be incorrect if the number of points were changed after the display was set to Trace and Memory. #19224
- Addressed an issue where the limit line showed up as a single point when the limit was turned on with the sweep in hold.

- Addressed an issue where the Marker step size was not getting correctly reduced after reducing the number of points in a sweep, causing the twiddle knob to appear less responsive.
- Updated Cable List to V3.04
- Added a check the available disk space before starting the calibration to prevent Calibration off error messages. #17659, 17660.
- Fixed an issue where the Marker Menu appears unexpectedly when choosing a Measurement mode. #18711
- Fixed issue where the Cal will hang during an OPEN step when in single sweep and RF ON OFF is set to OFF. #18625 & 19092
- Changed the label from "Window" to "Windowing". #18289
- Fixed an issue with SetMarker not snapping to the closest data point.
- Fixed an issue where Autoscale was adjusting bottom beyond minimum value. #12362
- Fixed an issue limiting resolution of limit line adjustment in VSWR measurement modes #18875
- Modified SCPI command "trace:data?" to bottom out at -120 dB to match what is seen on the screen on the instrument.

EVDO Analyzer

No changes

CDMA Analyzer

No Changes

GSM Analyzer

No Changes

ISDB-T Analyzer

- Addressed a defect in ISDB-T where the span setting in Spectrum Mask will be incorrectly set after
  a preset or switching between Easy, Custom, and Batch mode
- Addressed a defect in ISDB-T where Batch measurement files are incorrectly saved
- Improved the timing to decrease the possibility of the JPEG getting saved before
  the GUI is finished drawings for delay profile in batch measurements. #19618
- Fixed an issue with the frequency error being slightly off for phase error measurements.

ISDB-T SFN Analyzer

- No changes

LTE Analyzer

- Added Extended CP support.
- Fixed a lockup when switching out of TX Time alignment.
- Fixed a lockup after recalling measurement.
- Fixed the backspace for marker edit.
- Fixed an issue where the reference level changes when external reference switched.
- Fixed an issue where the instrument hung after escaping from a recalled measurement.
- Added LTE and TD-LTE scanner speed-up.
- Fixed an issue while recalling an auto saved measurement file.
- Fixed a problem with clearing a measurement file after a recall.
- Fixed an issue with incorrect values when recalling measurement files.
- Fixed an issue where lock failures were falsely reported during switching reference.
- Fixed an issue where in certain instances one could not make shortcuts for touch screen softkeys.
- Fixed several issues with the SCPI commands.
- Fixed issue where MEASure:RF:SPECtrum? SCPI command did not return any values.
- Fixed a bug in OTA scanner where incorrect Dominance was displayed when multiple signals were reported.
- Added improvement to auto-ranging algorithm.
- Addressed a cosmetic issue in the OTA Scanner menu.
- Fixed a problem while Recalling a Tx Test Measurement file
- Fixed a problem where an extra sweep was triggered in Single Sweep mode after saving a Power vs RB measurement
- Fixed a problem with bad Power vs Resource measurement data in save/recall
- Fixed a problem with save/recall in channel Spectrum
- Fixed a problem where the Channel # was displayed incorrectly when switching from SPA
- Fixed a problem with mode switch when OTA > Auto Save is in progress

TD-LTE Analyzer

- Added OSTP in Power vs RB screen
- Added Frame EVM (overall and by mod type) in Power vs RB screen
- Added EVM(overall and by mod type) in mod summary screen
- Added PHICH, PDCCH control channels and EVM on all control channels
- Added Tx Time Alignment
- Added additional Scanner improvements
- Added support for Extended CP
- Added SEM unwanted emissions improvements
- Added support for BSs with no sync on Tx2
- Added manual selection of SEM mask including a number of non-standard masks

TD-SCDMA Analyzer

No Changes

WCDMA Analyzer

No Changes

Fixed WiMAX Signal Analyzer

- Fixed a difference in scale/div and value displayed in graph.
- Fixed a SCPI command that reported the wrong span.

Mobile WiMAX Signal Analyzer

- Fixed a difference in scale/div and value displayed in graph.
- Fixed a SCPI command that reported the wrong span.

High Accuracy Power Meter Application

- Fixed an overlapping test when using MA24105A sensor.

P25 Analyzer

- The StopAntennaScanner and StartAntennaScanner functions are disabled during mode switching to prevent hang-ups.
- Adding support for new P25 signals.
- Fixed an issue where the instrument would freeze if a mode switch SCPI command was sent while the mode selector window was up.
- Fixed an issue where recalling a P25/NXDN setup from a different application mode would cause the unit to freeze.

NXDN Analyzer

- The StopAntennaScanner and StartAntennaScanner functions are disabled during mode switching to prevent hang-ups.
- Fixed an issue where the instrument would freeze if a mode switch SCPI command was sent while the mode selector window was up.
- Fixed an issue where recalling a P25/NXDN setup from a different application mode would cause the unit to freeze.

Transmission Mode

- No changes

T1/E1/T3

- No changes

DVBTH Analyzer

- No changes

DVBTH SFN Analyzer

- No changes

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What will the Customer See in this release?

Application Package for CM-E Models (MT821xE, MS271xE): V1.51_CM-E 08-26-2013

General Features

- Fixed a problem turning on the LED indicator at initial power up. Requires IPL/SPL/ataBoot version 3.28 or later. Requires Customer Service Center to update.
- Added a backspace button for entering numbers.
- Adjusted the Touch Screen calibration to minimize false failures.
- Fixed a frequency display accuracy problem.
- Fixed an issue with the VNA service menu for battery monitor.
- Fixed a problem when aborting the touch screen calibration.
- Fixed a problem with editing and saving of instrument names.
- Fixed a problem in SCPI for handling large numbers.
- Added the automatic turn-on feature for 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. Requires Customer Service Center to update.
- Fixed a problem with pressing '1' when Signal Standards List is displayed.
- Fixed an issue with the help window not closing.
- Added a selection in file save menu to save measurement file with a JPG screen capture.
- Fixed a problem where a setup was saved as a .dat in some cases.
- Fixed a problem with displaying large Russian fonts.
- Addressed an issue with accessing the bottom of the "Select Save Location" pop-up window.
- Added more descriptive file save error messages.
- Restricted the ability to copy from a parent directory into a subdirectory.
- Fixed a display issue with the menu screen.
- Fixed an issue with checking for the 20 MHz IF BW option.
- Fixed an issue where the unit locked Up when pressing multiple times in Marker Table Area with Dual Display.
- Fixed a defect related to inconsistency between the accuracy of limit point amplitude values displayed and those saved to a measurement file.
- Corrected storage/directory names displayed in the file save/copy dialog boxes.

- Added a special case for the battery selftest 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.
- Fixed an issue where moving or resizing a popup window was a problem.
- Fixed an issue where GPS status could become out of sync with GPS coordinates displayed when GPS is OFF.
- Fixed an issue with setting the date to Feb 29 on a leap year.
- Corrected a rounding issue for CENTI_HZ parameter types.
- Button text changes in System Display Settings menu.
- Added an EEPROM snapshot feature for troubleshooting. A folder named "Anritsu_Snapshot" in the internal memory can be deleted for security purposes.This feature does not apply to units with option 7.

Spectrum Analyzer

- Tracking Generator normalization no longer uses Trace Math. Trace A contains the normalized trace and the scale on the left is updated appropriately. Traces B & C now available for Trace Math.
- Transmission Menu updated(New Scale adjustment buttons). SCPI also updated(see Programming Manual).
- Added the text "Trans" when Normalization is turned On.
- Help images added for certain Generator setups.
- Added MA2700A support.
- Added .azm support for IA Mapping.
?????????????????? - .azm maps are zoomable and panable.
??????????????????? - .azm maps are created via easyMap.
- Fixed an issue with Max Hold in Field Strength.
- Fixed a problem with Set Marker to Channel.
- Fixed a problem with turning on QP detection when VBW type is as Log.
- Fixed a problem when the Reference Level unit is set to Volts or Watts.
- Fixed a problem with the Counter Marker units in Field Strength.
- Fixed a Sweep Time problem when RBW is narrow.
- Fixed firmware crashing when touching the button on the upper right corner of display all traces window.
- Fixed an issue where the GPS reference frequency does not always lock.
- Changed the Preamp warning message to reflect the Reference Level Offset.

- Fixed an issue where the wrong units were displayed while measuring channel power in units other than dBm.
- Disabled the Units menu while in Spectrogram mode.
- Fixed an issue with Limit Envelope not working correctly if the units were Volts or Watts.
- Fixed shape cal instruction available in service mode.
- Fixed an issue where KML(2D,3D) and Mapping Tab Delimited file types could not be selected or saved from File Save menu.
- Fixed an issue where certain parameters were converted to selected units during an increment/decrement operation resulting in a wrong display.
- The limit line will now stay visible regardless of which traces are visible or blanked.
- Fixed an issue where file recall during Save On Event crashes the unit. The operation is not permitted and a warning message has been added.
- Fixed an issue where Trace B was not visible by default after recalling a C/I measurement.
- C/I measurement "Min Sweep Time" button is now correctly labeled "Sweep Time".
- Fixed an issue where Bias-T is not turned Off during a sub-mode switch or when Power & BW measurements or Coverage Mapping is turned On.
- Fixed an issue where the instrument could hang if different rows were selected in the Channel Scanner Custom List Edit dialog.
- Fixed coupling of RBW and VBW in signal strength or RSSI with RBW and VBW in non-zero-span spectrum analyzer.
- Markers that would exceed the top of the graph area are now flipped below the trace in a downward orientation so they remain visible.
- Fixed an issue where TG Output Power twiddle/arrow key increment amounts were not correct.
- Fixed inconsistency in the precision of the limit value as displayed on the instrument and in LST.
- Updated Russian translation.

Interference Analyzer

- Trace Math is now available in Spectrogram.
- GPS data is now recorded with each Spectrogram trace.
- Updated Spectrogram menu.
- Sweep Interval will have effect only if selected trace is in Max or Min Hold.
- Fixed a problem with adjusting Recording Time with the knob in Spectrogram mode
- Spectrogram display is now for the selected trace.
- Spectrogram Status window changed.
- Added Spectrogram stitch feature for Master Software Tools.
- Fixed a problem with Signal ID when the span is much wider than the bandwidth of the generated signal.
- Fixed a problem with Reset/Restart Measurement soft key in spectogram not resetting the max hold accumulation.
- The messaging when in Single Sweep was not consistent with the functionality of the instrument, this has been fixed.

Channel Scanner

- Added boundaries for the Reference Level.
- Adjusted the frequency range for some models.
- Fixed ddc failure and error when choosing certain signal standard in channel scanner.
- Fixed an issue with Frequency Scanner allowing set channels to exceed the instrument's sweep range.

AM-FM-PM Analyzer

- Fixed a problem with the sound output in Audio Demod.

CWSG

- Fixed an issue where CWSG setup files could not be recalled from other modes.
- Fixed a problem where "Center Freq" text covered the meter numbers.
- Fixed an issue where Sig Gen app allowed user to adjust in 0.1 dB steps on Rev 1 hardware.

PIM Analyzer

- Mode switching into PIM would sometimes result in an artifact on the screen, this has been fixed.

Power Meter

- Fixed a problem with the Last Span button.

Cable and Antenna Analyzer

? Improved user feedback after a calibration by providing the valid temperature range for the cal that was just completed.
  Also, added information to the display of the cal temp range when the calibration becomes invalid.
? Resolved an issue with unit locking up when attempting to recall a DTF measurement form a .dat file.
? Resolved an issue with Peak/Valley markers not working consistently in Transmission Mode while calibration is applied.
? Resolved an issue which was causing confusion when the filetype was chosen using the Filetype drop down box, resulting in measurement files being saved as setup files.

? Resolved an issue with the unit hanging up when dialog windows were allowed to be moved using the touch screen.
? Resolved an issue with SWR autoscale maximum amplitude being set to 260.
? Resolved an issue with a calibrated Return Loss measurement displaying incorrectly after the instrument is re-booted multiple times.

EVDO Analyzer

? Fixed a problem where the unit hangs when Increment/Decrement channel is pressed.
? Fixed a problem with marker state not updating when using SCPI command.
? Fixed a recall issue in RF summary recall screen.
? Fixed a problem where Unit hangs during regression test for markers.
? Fixed an issue with incorrectly recalled marker table values.
? Fixed a problem with incorrect Pass/Fail recalled values.

CDMA Analyzer

? Fixed a problem where the unit hangs when Increment/Decrement channel is pressed.
? Fixed a problem with marker state not updating when using SCPI command.
? Fixed a recall issue in RF summary recall screen.
? Fixed a problem where Unit hangs during regression test for markers.
? Fixed an issue with incorrectly recalled marker table values.
- Fixed a problem with incorrect Pass/Fail recalled values.

GSM Analyzer

- Fixed a problem where the unit hangs when Increment/Decrement channel was pressed.
- Fixed an issue with saving measurement.
- Fixed a Single sweep issue in Multi-channel spectrum.
- Fixed an issue where the frequency inadvertently changes to 1GHz after mode switch.
- Fixed a Power vs Time Recall issue.

ISDB-T Analyzer

- Fixed an issue where the Batch measurement was not working with external reference.
- Fixed an issue where the 8MHz bandwidth did not work correctly in Spectrum Monitor and did not increment correctly.
- Fixed an issue where changing bandwidth to 8MHz resulted in incorrect frequency steps.

ISDB-T SFN Analyzer

- No changes

LTE Analyzer

- Fixed a lockup when switching out of TX Time alignment.
- Fixed a lockup after recalling measurement.
- Fixed the backspace for marker edit.
- Fixed an issue where the reference level changes when external reference switched.
- Fixed an issue where the instrument hung after escaping from a recalled measurement.
- Added LTE and TD-LTE scanner speed-up.
- Fixed an issue while recalling an auto saved measurement file.
- Fixed a problem with clearing a measurement file after a recall.
- Fixed an issue with incorrect values when recalling measurement files.
- Fixed an issue where lock failures were falsely reported during switching reference.
- Fixed an issue where in certain instances one could not make shortcuts for touch screen softkeys.
- Fixed some issues with the SCPI commands.
- Fixed a bug in OTA scanner.
- Added Extended CP support.
- Fixed a SCPI issue for SEM measurement.
- Added improvement to auto-ranging algorithm.
- Addressed a cosmetic issue in the OTA Scanner menu.

TD-SCDMA Analyzer

- Fixed an issue with recalled value.

- Fixed an issue with reading slot power from measurement files.
- Fixed an issue where the unit would freeze in OTA Tau Scan mode.
- Fixed some issues in recalling PvT measurement.
- Fixed a menu navigation issue in Slot Selection menu.

WCDMA Analyzer

- Fixed unit conversion issues from dBm to Watts.
- In the summary table, text 'PICH' has been changed to 'PICH Power'.
- Fixed an issue in Pass/Fail mode related to ScriptMaster.
- Fixed a problem with preset after markers are turned off.
- Fixed an error in Multipath Power reading with offset setting.
- Fixed an issue with SCPI command to turn marker on/off.
- Fixed an issue with switching between single and continuous sweep after changing measurement.
- Fixed an issue with recalling band spectrum.
- Fixed an issue where preset from band spectrum did not restore default center frequency.
- Improved the auto-ranging algorithm.

Fixed WiMAX Analyzer

- Fixed a difference in scale/div and value displayed in graph.
- Fixed a SCPI command that reported the wrong span.

Mobile WiMAX Analyzer

- Fixed a difference in scale/div and value displayed in graph.
- Fixed a SCPI command that reported the wrong span.

High Accuracy Power Meter

- No changes

Transmission Mode

- No changes

T1/E1/T3

- No changes

DVBTH Analyzer

- No changes

DVBTH SFN Analyzer

- No changes

P25 Analyzer

- No changes

NXDN Analyzer

- No changes

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What will the Customer See in this release?
Application Package for CM-E Models (MT821xE, MS271xE): V1.48_SM-E 03-8-2013

Internal Release: support for change in anti-backlash setting in LO2.

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What will the Customer See in this release?

Application Package for CM-E Models (MT821xE, MS271xE): V1.46_CM-E 09-27-2012

General Features

- Changed File deletion user interface to prevent user from accidentally deleting all files.
- Added more granularity to the brightness adjustment
- Added 'Display Blank', which turns off the whole display
- Added 'invert Black and White'

Spectrum Analyzer

- Fixed a problem where the trace resembles shark fins/saw tooth waveforms in Tracking Generator
  when RBW was set to 1 Hz
- Fixed a transient spike issue in Tracking Generator when the Generator Output is connected to an   external/different SPA
- Fixed a problem when moving markers using touch screen in zero span

AM-FM-PM Analyzer

- fixed File Save menu to include KML (2D/3D) and Tab delimited
- fixed a problem with coverage mapping when switching applications
- fixed a problem displaying ADC over range & Saturation messages

Interference Analyzer

- No changes

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

CWSG

- Fixed a problem in recalling a setup file

High Accuracy Power Meter

- No changes

Cable and Antenna Analyzer

- Fixed a problem of unit hanging after a self test was triggered while sweep was on hold and
 'RFPWR WHEN IN HOLD' is set to OFF.
- Fixed a problem with Flex Cal when it is triggered in Single Sweep mode.

CDMA Analyzer

- No changes

EVDO Analyzer

- No changes

GSM Analyzer

- No changes

TD-SCDMA Analyzer

- Added 64QAM Support
- Added Power vs. Time mask

WCDMA Analyzer

- No changes

LTE Analyzer

- Added Scanner Improvements for
      o   Better differentiation of 2 signals with the same sector ID
      o   Improved cell ID stability

Fixed WiMAX Analyzer

- No changes

Mobile WiMAX Analyzer

- No changes

Transmission Mode

- No changes

T1/E1/T3

- No changes

ISDB-T Analyzer

- No changes

ISDB-T SFN Analyzer

- No changes

DVBTH Analyzer

- No changes

DVBTH SFN Analyzer

- No changes

P25 Analyzer

- No changes

NXDN Analyzer

- No changes

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What will the Customer See in this release?

Application Package for CM-E Models (MT821xE, MS271xE): V1.45_CM-E 07-13-2012

General Features

- Fixed a Menu Shortcut issue when it's used to recall files.
- Japanese language translation updated

Spectrum Analyzer

- No changes

AM-FM-PM Analyzer

- No changes

Interference Analyzer

- No changes

Channel Scanner

- No changes

PIM Analyzer

- No changes

Power Meter

- No changes

High Accuracy Power Meter

- No changes

Cable and Antenna Analyzer

- Fixed save/recall issues with Menu Shortcut and remote commands
- Leaving the unit's pre-existing cal in place when recalling a setup not containing a cal,
  when the setup is compatible with the unit's cal setup.
- Japanese language translation updated

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

Transmission Mode

- No changes

T1/E1/T3

- No changes

ISDB-T Analyzer

- No changes

ISDB-T SFN Analyzer

- Added support for 8 MHz bandwidth.

DVBTH Analyzer

- No changes

DVBTH SFN Analyzer

Services & Support
1-800-267-4878

- No changes

P25 Analyzer

- No changes

NXDN Analyzer

- No changes

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What will the Customer See in this release?

Application Package for CM-E Models (MT821xE, MS271xE): V1.43_CM-E 06-14-2012

General Features

- Added PIM application to MS2711E
- Updated Japanese translation

Spectrum Analyzer

- No changes

AM-FM-PM Analyzer

- No changes

Interference Analyzer

- No changes

Channel Scanner

- No changes

PIM Analyzer

- No changes

Power Meter

- No changes

High Accuracy Power Meter

- No changes

Cable and Antenna Analyzer

- Enabled Easy Test
- Fixed some save/recall issues
- Updated Japanese translation
- Fixed a frequency accuracy problem
- Known defect: Please be advised that recalling a VNA setup file with cal via Menu Shortcut will cause the unit to crash.
A power recycle is required for the unit to recover. Please recall via the file menu (Shift-7).

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

Transmission Mode

- No changes

T1/E1/T3

- No changes

ISDB-T Analyzer

- No changes

ISDB-T SFN Analyzer

- No changes

DVBTH Analyzer

- No changes

DVBTHSFN SFN Analyzer

- No changes

P25 Analyzer

- No changes

NXDN Analyzer

- No changes

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What will the Customer See in this release?

Application Package for CM-E Models (MT821xE, MS271xE): V1.42_CM-E 04-18-2012

General Features

- In Language Selector, 'Custom 1' is now 'Russian', 'Custom 2' is now 'Custom'

Spectrum Analyzer

- Measurement menu consolidated to a single menu to provide easy access to the new Tracking Generator menu
- 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
- Fixed a bug that would cause Bias Tee output voltage to increase after performing a preset. Bias Tee will now be turned off after performing a Preset
- New Tracking Generator Option added for MS271xE

AM-FM-PM Analyzer

- Fixed an audio output problem when turning on Audio demod

Interference Analyzer

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

Channel Scanner

- Fixed a bug that would cause Bias Tee output voltage to increase after performing a preset. Bias Tee 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

- Added 75ohms for Smith Chart
- Added popup message after calibration
- Recalling cals only when serial numbers match
- Added functionality to have limits work with bounded markers
- Cable Loss Average is now saved in the setup file
- Fixed a boot up problem when power is set to LOW
- Fixed problems related to Quick Name Matrix
- Fixed a problem related to DAT file creation

CDMA Analyzer

- No changes

EVDO Analyzer

- No changes

GSM Analyzer

- No changes

TD-SCDMA Analyzer

- No changes

WCDMA Analyzer

- No changes

LTE Analyzer

- Added Tx Time Alignment measurement
- Added support for EVM measurements on each control channel
- Added support for PHICH and PDCCH control channel measurements
- Added overall EVM and EVM per modulation type in the Power vs RB view - this allows EVM measurements over the full frame
- Added OSTP measurement to the Power vs RB view
- Added ability to manually select masks for Spectral Emission mask test
- Added support for in-instrument Mapping
- Added additional SCPI commands
- Fixed several remote command related bugs

Fixed WiMAX Analyzer

- No changes

Mobile WiMAX Analyzer

- No changes

Transmission Mode

- Added remote SCPI commands

T1/E1/T3

- No changes

ISDB-T Analyzer

- No changes

ISDB-T SFN Analyzer

- No changes

DVBTH Analyzer

- No changes

DVBTHSFN SFN Analyzer

- No changes

P25 Analyzer

- No changes

NXDN Analyzer

- No changes

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What will the Customer See in this release?

Application Package for CM-E Models (MT821xE, MS271xE): V1.40_CM-E 12-28-2011

General Features

- No changes

Spectrum Analyzer

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

AM-FM-PM Analyzer

- No changes

Interference Analyzer

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

Channel Scanner

- Fixed a bug that would cause Bias Tee output voltage to increase after performing a preset. Bias Tee 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

Transmission Mode

- No changes

T1/E1/T3

- No changes

ISDB-T Analyzer

- Added support for Option 79

ISDB-T SFN Analyzer

- No changes

DVBTH Analyzer

- Added support for Option 57

DVBTHSFN SFN Analyzer

- No changes

P25 Analyzer

- No changes

NXDN Analyzer

- No changes

Application Package for CM-E Models (MT821xE, MS271xE): V1.36_CM-E 11-2-2011

General Features

- Added a new feature which automatically pops up a firmware update window when a USB stick
  containing the firmware is attached to the instrument.
- Added the message "Up to 20 MHz BW available" in the status window if the instrument
  contains a 20 MHz IF filter.

Spectrum Analyzer

- Fixed the problem of which marker jumps onto trace A when user presses button to search
  next peak to the left/right.
- Stopped displaying antenna factor in field strength measurement if the spectrum measurement
  is outside of the valid antenna's frequencies.
- Disallow recalling of a setup if the instrument is in measurement recall mode.

AM-FM-PM Analyzer

- No changes

Interference Analyzer

- Fixed the problem of which the spectrum sweep doesn't reset after it has been recorded into
  the spectrogram trace under some circumstances.

Channel Scanner

- 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

TD-SCDMA Analyzer

- No changes

WCDMA Analyzer

- No changes

LTE Analyzer

- Added OSTP, Frame EVM in Power vs. RB
- Added EVM for each modulation type in mod summary window
- Added indicator for EVM Auto status
- Added indicator for which antenna was detected
- Added EVM max hold
- Added RSRP, RSRQ, SINR to scanner
- Added TxTest measurement

Fixed WiMAX Analyzer

- No changes

Mobile WiMAX Analyzer

- No changes

Transmission Mode

- No changes

T1/E1/T3

- No changes

ISDB-T Analyzer

- No changes

ISDB-T SFN Analyzer

- No changes

DVBTH Analyzer

- Fixed field strength view hanging the instrument

DVBTHSFN SFN Analyzer

- No changes

P25 Analyzer

- No changes

NXDN Analyzer

- No changes

Application Package for CM-E Models (MT821xE, MS271xE): V1.30_CM-E 8-25-2011

General Features

- Fixed a problem where a saved JPEG file could be empty.

Spectrum Analyzer

- No changes

AM-FM-PM Analyzer

- No changes

Interference Analyzer

- No changes

Channel Scanner

- No changes

PIM Analyzer

- No changes

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

Transmission Mode

- No changes

T1/E1/T3

- No changes

ISDB-T Analyzer

- No changes

ISDB-T SFN Analyzer

- No changes

DVBTH Analyzer

- No changes

DVBTHSFN SFN Analyzer

- No changes

P25 Analyzer

- No changes

NXDN Analyzer

- No changes

Application Package for CM-E Models (MT821xE, MS271xE): V1.30_CM-E 8-25-2011

General Features

- Fixed a problem where a saved JPEG file could be empty.

Spectrum Analyzer

- No changes

AM-FM-PM Analyzer

- No changes

Interference Analyzer

- No changes

Channel Scanner

- No changes

PIM Analyzer

- No changes

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

Transmission Mode

- No changes

T1/E1/T3

- No changes

ISDB-T Analyzer

- No changes

ISDB-T SFN Analyzer

- No changes

DVBTH Analyzer

- No changes

DVBTHSFN SFN Analyzer

- No changes

P25 Analyzer

- No changes

NXDN Analyzer

- No changes

Application Package for CM-E Models (MT821xE, MS271xE): V1.29_CM-E 6-21-2011

General Features

Spectrum Analyzer

- Added squelch function for the AM/FM demod
- Fixed a problem where the markers did not follow the active trace when trace is on hold or in single sweep.
- Fixed a problem with 'Save then Stop' in Save On Event
- Fixed marker peak search in zero span
- Fixed a sweep problem when switching from CWSG mode.

AM-FM-PM Analyzer

- Added squelch function
- Limited center freq to above 5KHz
- Made audio demod mode and AMFMPM coverage mode mutually exclusive

Interference Analyzer

- No changes

Channel Scanner

- No changes

PIM Analyzer

- No changes

Power Meter

- Fix adjusted the color in black & White color scheme so that the readout is more visible

High Accuracy Power Meter

- No changes

Cable and Antenna Analyzer

- Improved RF immunity
- Added support for the new .dat format, version UDF 1.00, which is supported by Line Sweep Tools V1.20.
- New Limit 'Warning' message. Made limit message bolder and bigger when the limit message change state

- Modified the Status window made to appear similar to SPA.
- Fixed a problem with recalling setups with cal.
- Fixed a recall problem with markers.
- Fixed a recall problem with start/stop frequency when a signal standard is used.
- Fixed a recall problem when distance values exceed 1500 in feet.
- Fixed a problem with the favorite cable list.

CDMA Analyzer

- No changes

EVDO Analyzer

- No changes

GSM Analyzer

- No changes

TD-SCDMA Analyzer

- No changes

WCDMA Analyzer

- Added support for synchronization without CPICH (to use with TestModel 4 that can contain no CPICH)

LTE Analyzer

- No changes

Fixed WiMAX Analyzer

- No changes

Mobile WiMAX Analyzer

- Added SEM measurement
- Added Gating support for RF measurements with support for internal gate reference.

Transmission Mode

- No changes

T1/E1/T3

- No changes

ISDB-T Analyzer

- No changes

ISDB-T SFN Analyzer

- No changes

DVBTH Analyzer

- No changes

DVBTHSFN SFN Analyzer

- No changes

P25 Analyzer

- No changes

NXDN Analyzer

- No changes

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What will the Customer See in this release?

Application Package for CM-E Models (MT821xE, MS271xE): V1.27_CM-E 5-9-2011

General Features

- Temperature reading in status window now displays both in Celsius and Fahrenheit
- Fixed a bug that would sometimes include the save dialog when saving as a jpeg
- Touching parameters on the left annotation area will now activate the parameter for editing
(with some exceptions)

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

AM-FM-PM Analyzer

- Added Coverage Mapping feature

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

Mobile WiMAX Analyzer

- Fixed a bug where "Preamble scanner Error" message would not get cleared
  even when error conditions got cleared

Transmission Mode

- No changes

T1/E1/T3

- No changes

ISDB-T Analyzer

- No changes

ISDB-T SFN Analyzer

- No changes

DVBTH Analyzer

- No changes

DVBTHSFN SFN Analyzer

- No changes

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What will the Customer See in this release?

Application Package for CM-E Models (MT821xE, MS271xE): V1.25_CM-E 3-23-2011

General Features

- Fixed a mode switch hang-up in units with option 411 installed
- Fixed a false EEPROM Failure in units with Option 411 installed

Spectrum Analyzer

- No changes

AM-FM-PM Analyzer

- No changes

Interference Analyzer

- No changes

Channel Scanner

- No changes

PIM Analyzer

- No changes

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

Transmission Mode

- No changes

T1/E1/T3

- No changes

ISDB-T Analyzer

- No changes

ISDB-T SFN Analyzer

- No changes

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General Caution

If an unintentional failure occurs during the firmware update process,
recovery is possible using the Emergency Repair feature through a USB Host connection (i.e., a USB stick).

What will the Customer See in this release?

Application Package for CM-E Models (MT821xE, MS271xE): V1.23_CM-E 2-23-2011

General Features

- Fixed a lockup problem with multiple saves

- Added the display of Fahrenheit for temperature in the System Status window

Spectrum Analyzer

- In Coverage Mapping, user can now retrieve GPS altitude information via SCPI commands, and saved tab delimited and/or KML files
- Added quick key access, and screen touch access to SPA measurement settings in Coverage Mapping
- Added color legends for setting threshold levels in Coverage Mapping
- Fixed units in RSSI Coverage Mapping
- Added the display of frequency range in the antenna table
- Added the display of a frequency offset
- Added the display of Fahrenheit for temperature in the SelfTest window
- Fixed display issues when switching from SPA to AM/FM/PM
- Fixed problems in zero span where IF bandwidth appears different than what is set to

AM-FM-PM Analyzer

- Fixed an issue with power offset
- Added SCPI commands

Interference Analyzer

- Fixed a bug where the 'Save' window would also be saved when saving to jpeg from Spectrogram measurements.
- In Interference Mapping, user can now retrieve GPS altitude information via SCPI commands, and saved tab delimited and KML files

Channel Scanner

- Fixed several bugs related to Script Master
- Fixed a frequency range discrepancy to the model frequency range.

PIM Analyzer

- No changes

Power Meter

- No changes

High Accuracy Power Meter

- No changes

Cable and Antenna Analyzer

- Addressed some issues with recalling setups with calibration. Combined cal file with the setup file
- Turns off cal and displays an error msg when temperature is out of the cal valid range
- Linked the limit Pass/Fail to the bounded Markers (M5 and M6)
- Added the display of Fahrenheit for temperature in the SelfTest window
- Fixed various issues related to limits
- Fixed a problem with DTF Aid screen
- Fixed the Distance display when changing units in Dual Display
- Fixed a Marker table display issue after a recall
- Fixed a Marker frequency display error
- Fixed some marker issues with Save and Recall
- Added the display of the temperature range where the calibration is valid
- Fixed defects related to Marker SCPI commands
- Fixed a improperly formatted block header returned from the :trace:data?
- Added favorites for Cable list
- Fixed an issue with Ethernet (option 411) when recalling a SPA setup file

CDMA Analyzer

- No changes

EVDO Analyzer

- No changes

GSM Analyzer

- Fixed Reference Source display issues
- Fixed bugs in some SCPI commands

TD-SCDMA Analyzer

- Fixed bugs in some SCPI commands

WCDMA Analyzer

- Fixed bugs in some SCPI commands

LTE Analyzer

- Fixed a bug with PBCH Power measurements where results were 6 dB higher when directly connected to a Transmitter.

Fixed WiMAX Analyzer

- Fixed Reference Source display issues
- Fixed bugs in some SCPI commands

Mobile WiMAX Analyzer

- Fixed Reference Source display issues
- Fixed bugs in some SCPI commands

Transmission Mode

- Fixed a problem with displaying Power Levels after a recall

T1/E1/T3

- No changes

ISDB-T Analyzer

- Added new features:
 - One-Segment support
 - 8 MHz bandwidth support
- Fixed antenna list bug that allowed only a maximum of 20 antennas to be displayed in the antenna list.
- Reverted Spectrum Mask VBW setting to 300 Hz per customer request.
- Bug fix so that changes made to the Modulation Analysis Vertical Range setting now take effect
  immediately and no longer require switching to another measurement view and then back again.
- Fixed a bug that could cause the unit to hang if a mode switch is performed after the Save Files hard key is pressed.
- Fixed the :MMEMory:STORe:FILE SCPI command so that it saves .csv and .jpg files instead of the new .isdb measurement
  file format to preserve the SCPI command's long-standing behavior.
- Fixed an ADC over range problem that affected phase noise and spurious measurements.

ISDB-T SFN Analyzer

- Fixed antenna list bug that allowed only a maximum of 20 antennas to be displayed in the antenna list.

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General Caution

If an unintentional failure occurs during the firmware update process,
recovery is possible using the Emergency Repair feature through a USB Host connection (i.e., a USB stick).

What will the Customer See in this release?

Application Package for CM-E Models (MT821xE, MS271xE): V1.21_CM-E 11-11-2010

General Features

- The parameter being edited is now displayed in a larger white color font for better readability in
  poor lighting
- Some improvements to the speed of switching modes (varies with modes).
- Power Offset is now a shared parameter across modes.

Spectrum Analyzer

- Overhaul of the User Interface (see New Measurement Guide 10580-00244 for more details)
  - More setup information is now displayed on the left edge of the screen.
  - 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.

Coverage Mapping

- Changed the VBW default value for Coverage Mapping to 10 Hz.
- RSSI for Coverage Mapping is calculated using more averaging.
- Changed the minimum sweep time to 250ms.

Interference Analyzer

- 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

- No changes

High Accuracy Power Meter

- No changes

Cable and Antenna Analyzer

- Fixed a bug in DTF Aid.
- Fixed an error in how frequencies are saved in .VNA files.
- Fixed a bug that would cause garbage values in the delta marker if the ref. marker is out of scope.

CDMA Analyzer

- Improved the Pilot Scanner's Ec/Io 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 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

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- Added a new peak/valley between markers feature for marker 5 and marker 6.
  Marker 5 can now find the peak or valley between marker 1 and marker 2.
  Marker 6 can find the peak or valley between marker 3 and marker 4.

T1/E1/T3

- No changes

ISDB-T Analyzer

- Save Files hardkey operation now saves files to the location specified in the current Save Location setting,
  making it possible to save these files to an external USB stick or Compact Flash card.
- :MMEMory:STORe:FILE now saves files equivalent to the Save Files hardkey operation to maintain backwards compatibility.
- Addressed issue where antennas added to the Antenna List after row 20 would not get loaded correctly.

ISDB-T SFN Analyzer

- Addressed issue where antennas added to the Antenna List after row 20 would not get loaded correctly.

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Application Package for CM-E Models (MT821xE, MS271xE): V1.11_CM-E 7-23-2010

General Features

- New color schemes are now available in MS271xE for SPA, IA, CS, TM and HIPM.
- Added the "none" selection in signal standard.
- Improvements in save/recall functions.
- Added new translations for Chinese, Japanese, German, Korean and French.
- Fixed an issue with ?save as JPEG? in several modes where an additional measurement was performed before performing the save operation.

Spectrum Analyzer:

- Added support for Option 431 - Coverage Mapping
- Added a ?Sweep Mode? button in the Sweep Menu that allows a new ?Fast? sweep mode which can be up to 10 times faster. This new feature requires a new Shape Cal.
- Fixed a problem with limits when units are changed.
- Save on Event now saves to the location specified in the save menu
- Fixed problem with recalling setups from a different application.
- Fixed Emission mask lockup if more than 21 mask segments.
- Restrict Zero Span RBW to 1 MHz when entering using numeric keypad

Cable & Antenna Analyzer:

- Added quick name matrix in the Save menu.
- Added user selectable choice to turn off RF power when it is in Hold
- Added limit Pass/Fail message
- Modified cable loss computation for DTF below 1 GHz so that cable loss values below 500 MHz are better approximated

- Cable list updated to 3.03.
- Increased FlexCal resolution. When an old FlexCal is recalled, a message will be displayed to recommend re-calibration.
- Fixed limit display/recall problems.
- Fixed a marker table on/off status problem.
- Fixed a problem with Clear Limit
- Clear the limit in DTF and Cable Loss when Preset.
- Fixed some minor issues associated with mode change to VVM mode
- Added warning messages for improper settings in DTF.
- Added code to show the file name when it is recalled.
- Fixed some issues with dual display.
- check for dist domain to return proper 'X' values for mkr and limit in remote cmd.
- Fixed the REAL format for the Trace? SCPI command

Transmission Measurement:
- Fixed a limit scaling issue

Channel Scanner:
- Fixed issue where unit would crash if the user pressed enter on an open and empty ScriptMaster setup file selector list.

Power Meter
- Fixed a minor auto scale problem.

Interference Analyzer:
- Added mapping feature.
- Added a ?Sweep Mode? button in the Sweep Menu that allows a new ?Fast? sweep mode which can be up to 10 times faster. This new feature requires a new Shape Cal.

AM-FM-PM Analyzer:
- Added averaging for the summary page.

P25 mode:

- Initial release. Requires option 520, 522.

NXDN mode:

- Initial release. Requires option 530, 532.

CDMA mode:

- Fixed a CDP power discrepancy on certain views
- Fixed an underflow error when input is <-95dBm.

ISDBT mode:

- bug fixes related to spectrum masks in the Brazil channel map
- Vertical range in Modulation Analysis Delay Profile view now update their respective graphs immediately (no need to switch out of the view and back in).
- Fixed issue where unit would crash if the Save Files hard key was pressed and then a mode switch was performed.

LTE mode:

- Fixed issue where unit would crash if the Save Files hard key was pressed and then a mode switch was performed.
- 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)
- Changed LTE Signal Standards definitions to fix a problem where selecting certain standards would result in completely wrong frequencies (for example 0 Hz)

TDSCDMA mode:

-     Fixed a bug when recalling On/Off Ratio in Power vs. Time view

WCDMA mode:

-     HSDPA view has improved code marker behavior
-     Speed enhancements

        3x improvement to multipath

        2x improvement to scanner

-     Fixed several issues with recalling measurements
-     Improved handling of manual scrambling codes entered in the Scrambling Code scanner

WIMAX-E mode:

-     Changed OTA Preamble Scanner y-axis range from [0 dBm, -40 dBm] to [0 dBm, -100 dBm].
  Also changed the number of y-axis divisions from 8 to 10 so that the scale shows in
  10 dBm increments/division.

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Application Package for CM-E Models (MT821xE, MS271xE): V1.06_CM-E 2-26-2010

General Features

-     Added code to check model numbers before code loading with a USB stick

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Application Package for CM-E Models (MT821xE, MS271xE): V1.05_CM-E 12-12-2009

General Features

-     Fixed a missing '9' key case in the touch screen keyboard.

- Added error message when copying file was not successful.
- Added a new button in System Options to allow sharing of center frequency across modes

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Spectrum Analyzer:
- Fixed a problem with average count display with recalled traces.
- Fixed a problem with switching to Quasi-peak with Auto-RBW.
- Fixed an issue with opening Antenna list in Field Strength measurement.
- Fixed a problem with recalling gated sweep parameters during recall setup.
- Fixed a problem of Trace count not resetting when changing Reference Level.
- Fix for Delta marker unit in zero span.
- Fix for displaying proper Amplitude menu in Field Strength measurement.

Cable & Antenna Analyzer:
- Improved the sweep speed reading.
- Stabilized the cable loss average number when changing the number of points.
- Allowing Markers to be associated to the current trace after a recall.
- Added Marker resolution for data points more than 551.
- Fixed a problem with the display in the Amplitude key when going from top to bottom in the dual display mode.
- Fixed a problem with limits in different measurements.
- Fixed a problem with markers in different measurements.
- Allowing files to be saved in .DAT format that is viewable with HHST V6.61.
- Added VVM option, for specials only at this time.

Interference Analyzer:
- Fix for the IA mode Signal ID measurement relics.
- Fix for IA Recall spectrogram being recalled inverted.

Channel Scanner:
- Update the channel numbers in the graph area when one changes the channel step size or the channel number.

- In channel scanner mode, fix for span and freq step value display on the left side of the screen to be \
correlated to the values edited by the users.
- Improved power reading accuracy.

High Accuracy Power Meter:
- No Change.

AM/FM/PM mode:
- Initial release.

CDMA mode:
- Initial release for MS271xE.
- Fixed a crashing problem in CDP view when marker table is on under certain circumstances.

WCDMA mode:
- Initial release for MS271xE.
- 3x speed improvement in OTA - multipath measurement.
- 2x speed improvement in OTA - scrambling code scanner.
- Added support for HSPA+ (64 QAM only).
- Added support for DTX (discontinuous transmission) including AMR (Adaptive Multi-Rate) support.
- Improved CDP (Code Domain Power) over the air measurement performance.
- Several bug fixes.

GSM mode:
- Initial release for MS271xE.

WIMAX_D mode:
- Initial release for MS271xE.

WIMAX_E mode:
- Initial release for MS271xE.
- Fixed a bug in the display of BS ID when DL-MAP is compressed mode.

- BS ID formatting is also different for compressed mode since not all the fields of the BS ID are available when the DL-MAP is decoded.
- Added absolute power values for preamble power in preamble scanner measurement.

TDSCDMA mode:
- Initial release for MS271xE.

EVDO mode:
- Initial release for MS271xE.

T1/E1 mode:
- Initial release for MS271xE.

LTE mode:
- Initial release

ISDBT mode:
- Initial release

ISDBT-SFN
- Initial release

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Application Package for CM-E Models (MT821xE, MS271xE): V1.00_CM-E 08-10-2009

General Features

V1.00 is the initial release for Customers

Services & Support
1-800-267-4878