R&S®EMC32
Release Notes
Software Version V10.60.20

ROHDE&SCHWARZ

Contents

1 Information on the Current Version

1.1 Version 10.60.20 (EMC Section)

Improvements
Drivers: - R&S SMB100A driver: support for attenuator fixed mode >= 20 GHz models (please contact the R&S support center if you want to disable this function). - R&S BBL200 driver: improved compatibility to newer FW. - R&S NRP18S-20: the RF probe is now supported. - R&S UPP driver: improved command compatibility. - R&S FSV drivers: also accept corresponding models FSV(A)3000 and FPL1000 ; no 100% settings coverage! - Receiver drivers: the optional download of transducers and limit lines has been improved for limit lines with gaps. - R&S SMT: increased resolution for pulse width setting. - BONN TWLA support for new models "0208-300" and "0618-300". - Manual antenna: optimized message box output for manual operation. - Maturo FCU tilt mast: the driver now supports a 'tilt' parameter setting via EMI Auto Test template editor. - Maturo FCU turntables: improved driver performance. - Sunol mast: improvements for communication stability. - Slidebar properties: The min/max ranges have been adapted. - AG33220 driver: now also supports the VISA interface.
EMC32-S: - Improve calculation of test frequencies in case of mixed frequency list and frequency list only in one test template.
EMC32-K1: Support for EMS Automotive / MIL-STD - Improvement of level sweep down. - Oscilloscope measurement results are now assumed as PEAK detector results.
EMC32-K3 EMS for Reverberation Chambers: - Improve input table format detection during loaded calibration evaluation for DO-160.
EMC32-K4 EMS Auto Test: - Improve range adaptation when frequency range in Test New dialog is reduced. - Level sweep up is now done with first modulation and level sweep down with last modulation of an active modulation list. - Improved sensor position range setting for FU evaluation (e.g. measure 20 positions and evaluate position 4 to 20).
EMC32-K10: EMI Auto Test - Improve frequency range detection when test method option 'Execute HW setup subranges separated' is active. - Improved test execution when using only 2nd subrange of a test template. - Coloring of additional graphic limit lines #3 and #4 now follows the correct limit line settings. - The data reduction steps (as far as applicable) now use the same scaling as the frequency definition of the 1st referenced limit line (logarithmic scaling without any referenced limit line).
EMC32-K11: Test Sequencer - Improved handling of a missing Ref Cal Table when a new test is created.

Improvements

EMC32-K84: Report to MS Word

- DOC report for one test improved.
- Summary report: improved performance and output layout.

2 Software Update

2.1 Updating the Software

Download and expand (unzip) the file "EMC_AMS_WMS32_10V60_20.zip" to a temporary folder on your hard drive.

Run the "Setup.exe" program in order to update your EMC32 installation to V10.60.20 .

3 Version History

3.1 Version 10.60.15 (EMC Section)

Improvements
EMI / EMS Measurement: - EMI Auto Test Measurement: improve Zoom at subrange borders. - EMI Auto Test Template editor: Adjustment mode settings now saved correctly, visibility of option 'Final Measurements Support EMC32-K28' corrected. - EUT Monitoring: avoid calculation of LOG(0) in user evaluation. - EMS Measurement: improve handling of subrange combination with frequency list and frequency list only flag.
Device Drivers: - EMCAN Driver: improvement not to send trigger for each monitoring channel. - BBA130/150 Switch Unit Driver: support for up to 12 paths. - NRX Driver: improve RADAR pulse and PM measurement on channel C/D. - Maturo FP Positioner Driver: improve speed setting. - Generic Tripod Driver: could not control RSM-090 because of handshake status and unneeded termination character. - Driver UPP and UPPFast: made sure monitoring settings are displayed correctly when the channel order is modified in the EUT Monitoring editor
EMI Receiver Device drivers: - EMI receiver ESU: with scan measurements, the RF attenuation for the bar graph will be aligned in order to reduce redundant RF attenuation switching. - EMI receivers ESR/ESRP: with single (also calibration) measurements, the bar graph results on the instrument could show strongly increased and constant levels (the instrument firmware may come into a not fully initialized state); this has been fixed. - receiver FSWT: the feature "auto preamp" (include preamp switching in auto ranging with single measurements) now also becomes active with scan measurements recently introduced additional parameter checks could collide with single measurements; this has been fixed. - receiver FSWT: in a scan template now, the IF gain can be configured as well. - spectrum analyzers FSU/FSV with external mixing: an incomplete frequency range validation could cause an error; this has been fixed.

3.2 Version 10.60.10 (EMC Section)

Changes
Device List: - The 'Permanent' connection flag has been renamed to 'Connect on Startup' in order to make this function more clear. If checked EMC32 will try to connect the device when EMC32 starts. The stored state in the column 'State' is no longer applied on application startup as it was in previous versions. Only devices where the 'Connect on Startup' flag is set will be connected on startup. This speeds up the startup of EMC32. As in previous versions devices will be connected at least when they are required running a test. For V10.60.10 this flag is set for all devices to not Connect on Startup.

Improvements

General:

- Backup / Restore: backup of individual tests has been improved, password protection is no longer supported.

Drivers:

- Innco mast: set tilt mast parameters only for TMPxx devices.
- SMB100: level setting optimized in order to reduce switching of mechanical attenuator.
- R&S BBA130/150, BBL200: when the amplifier is connected the amplifier state is now 'Power On' instead of 'Power Off' or 'Standby' instead of 'Power On' depending on the band path switch state.
- Improve compatibility to EMCAN V10.50.40 version.

EMC32-EB EMI Test:

- Changing of test frequency during interactive measurement in non-arbitrary mode disabled in V10.60.00 is now supported.
- Interpolation row is now always shown for correction tables and limit lines.
- Support RF OFF for tracking generator by adding a Track Frequency action to Stop Test event.

EMC32-S:

- EUT Monitoring Editor: append new column to show in which channel graphics the current channel is displayed.

EMC32-K4 EMS Auto Test:

- Dwell time values defined in a modulation sequence have not always been output to the report with the correct dimension string.

EMC32-K10: EMI Auto Test

- Exchange of limit lines is now supported too when no additional limit lines are used.
- Margin value is now updated when updating the level in the critical frequency table after a zoom measurement.

EMC32-K84: Report to MS Word

- Insertion of measurement results chapter between customer chapters has been improved.

3.3   Version 10.60.00 (EMC Section)

Extensions

None

Changes

ALL:

- Actions → Remote Action: VISA interface is now supported.

Drivers:

Changes

- Support for Maturo Slidebar controlled by Maturo FCU controller via LAN interface.
- Drivers for FSW and ESW: Spectrum analyzer sweeps will always run with 'Speed' optimization.
                             "Overrange" with external mixers (B21) is now possible.

Calibration:

- The RF generator will be switched off as soon as the calibration has come to an end.

Improvements

Drivers:

- Antenna: enable tower mode selection when no automatic tower device in device list.
- Maturo turntable driver now connects faster to the first turntable device.
- Generic Monitoring: improve transfer of backslash characters via VISA interface.
- Receiver drivers: improved persistence of a userport setting.

EMC32-EB EMI Test:

- Handling of optional limit lines in Test New dialog improved.
- Hardware setup supports now up to 6 digits for the frequency borders input.

EMC32-K4: EMS Auto Test

- Changed EUT Monitoring channel limit line style on a loaded existing test solved.
- Worst case analysis is now also supported in test with no modulation loop.

EMC32-K10: EMI Auto Test

- Changing of additional limit lines improved.
- Stop of adjustment measurement with "Out of memory" message solved when the adjustment template covers a large frequency range.

3.4   Version 10.50.40 (EMC Section)

Extensions

EMC32-K61 Support for compact BCI testers

- Supported devices: emtest CWS 500N2 Generator
- Running EMS tests in combination with EMC32-S base license.

Changes

ALL:

- Device List: default value for the permanent connection mode can be now set in the General Options. The connection mode can be now also changed for unconnected devices.
- Signal Path Calibration: when using a receiver as measurement device the receiver input is set to protected mode (high attenuation) at the end of the calibration measurement.

Changes
EMC32-K1 EMS Automotive / MIL - User Evaluation: modulation correction values are now applied to power values for in user evaluation formulas.
EMC32-K11 Test Sequencer - Test Information is now copied to each newly generated test of a test sequence.
R&S Launcher - Import function from EMC32 backups extended to allow configuration selection.

Improvements
Drivers: - R&S OSPxxx: new option supports to disable path synchronization check (EMC32 <-> OSP) during connect of the device. - Generic Tripod: some controls did not match when changing the device type. - AWG Generator: selected waveform for new GMW RADAR pulse when opening the settings dialog again. - R&S NRX: new trigger delay command for channel C/D. - R&S SMF100: adjusted parameter limits for Phase Modulation. - Opsens Prosense: measurement functions revised (contact R&S support center for further information). - R&S Broadcast Generators: bandwidth settings for analogue TV adapted. - R&S UPV: support usage of more than one device in parallel.
Graphics: - Function to remove a constant value trace has been improved.
EMC32-EB EMI Test: - Function to set Receiver to local in Interactive Measurement Mode is now working again for GPIB interface. - EMI Evaluation: Peak-Average Evaluation function UI now allows Average column selection.
EMC32-S EMS Test: - Frequency Control: after setting a new start frequency in the frequency control now the appropriate frequency from a frequency list is set as default value. - EMS Scan Editor: check of a reference calibration frequency range has been improved. - The transducer output power has been limited to lower power levels than expected when using a modulated signal.

3.5 Version 10.50.10 (EMC Section)

Extensions
EMC32-S EMS Base License - Field Uniformity Evaluation: Now the operator can select the range of sensor positions for evaluation, e.g. 1 - 16 or 5 - 20.
EMC32-K1 EMS Automotive / MIL

Extensions

- Support for new GMW3097 Release March 2019 RADAR pulse waveform with SMA100A/B, SMB100A/B and SMF100A pulse train options.
Note: The waveform is fix coded and does not support further parameters. A dwell time of at least 6 s is required to get the full pulse waveform length.
- Generic Field Probe: Support for 4 channel average measurement for Lumiloop Sensor System according to Automotive Standards.

Changes

EMC32-S EMS Base License
- When an EMS Test is running opening the EMS Test Template is disabled since loading the device settings in the template can interfere the measurement process.

EMC32-K1 EMS Automotive / MIL
- EMCAN32 application has been optimized for linking to System Variables. Vector CANoe V11.0 SP2 is the recommended version.

EMC32-K3 Reverberation Chamber
- Output of the E-Field and CLF table name in the detailed test template report.

EMC32-K84 Summary Report
- A new option supports to synchronize the newly generated paragraphs with the paragraph style format of the main template.

Improvements

Drivers:

- R&S ESW: initialization and receiver protection now also cover the change of the RF connection state; Download of limit lines: ESW allows >50 line value pairs (200); Lines were visible in latest ESW instance only; Enables additional wide RBWs which belong to option ESW-B8
- R&S FSV, FSW, ESR, ESRP, ESW: improved detection of scan/sweep completed flag
- R&S NRX power meter: Communication via GPIB improved; Adaptation to FW 02.20; Send frequency for frequency correction during signal path calibration; Support for sensor ports E + F
- R&S NRP2: Missing GPIB interface added
- R&S SMA/B100x: Switch Pulse Generator output on enabled; Improve ALC setting for SMB100A for PM
- Positioner: Support for Maturo EAP positioner improved
- Hameg 2525/250: fix wrong interface call for AM modulation on LAN interface
- Maturo NCD Mast: Remove delay time on test start or subrange change
- ETS HI6100: Average measurement improved
- AR FM5004: Zeroing of channels improved

EMC all:
- Reliable creation of WMF graphics with reduced trace points improved
- Wait Action: support for optional switch off of the "remaining time" message box

EMC32-EB EMI Test:
- EMI Test New via "New Test" dialog had rounded the frequency range to just 3 decimal digits (should be 4) this has been fixed.
- Receivers: the setup of an EMI zoom measurement may not work properly if based on a scan template defined with a 3-dB IF bandwidth. This has been fixed.

EMC32-S EMS Test:
- Message about wrong unit conversion removed when using a receiver for EMS.

EMC32-K2: Radio Communication Tests:

Improvements

- Audio Breakthrough calibration: Changed a user message string in order to refer to the CMW port instead of to the CMU, when using this instrument.

- CMW drivers: Use External Audio scenario for hands-free set Audio Breakthrough calibration

EMC32-K4 EMS Auto Test
- Turntable is now reliably being set to the first position when the test is started

EMC32-K10 EMI Auto Test:
- Fix for NSA measurement when attempting to open a not existing table
- Creation of graphics via popup menu is now also supported for single LISN line result tables
- System Check: for direct connection mode the calculation of the RF generator level has been improved.

EMC32-K35:
- Missing sensor settings for EMC32-K35 test fixed.
- Improved device simulation with SFU driver

iKey Merge Tool:
- Solved: Moving options between dongles could cause a loss of the options on both dongles.

3.6 Version 10.50.00 (EMC Section)

Extensions

Drivers
- Support for R&S NRX Power Meter (FW 2.20 is required)
- Support for R&S RF Probes NRP-Z50T, -67T, -110T
- R&S RTO, RTE driver support now mask evaluation within the driver (using the Generic Monitoring driver is not anymore required).
- Support for Wavecontrol SMP2 field sensor.

EMC32-S EMS Base License
- Support of a 'Protect Receiver' action
- Generic Monitoring Driver support now to evaluate the measurement result string in other slave channels (refer to the online help for further information).

EMC32-K1 EMS Automotive / MIL
- R&S SMA100B, SMB100B: Pulse Train option K27 for RADAR pulse generation is now supported.

EMC32-EB EMI Base License
- The feature which allows to download the transducer correction sum as a single transducer correction into the receiver, now also includes a download of the (max. 2) active limit lines:
 Extras → Options … → File/Test → 'EMI Receiver: Download Transducer Factor Sum + Limit Lines'

EMC32-K10 EMI Auto Test:
- 'Tilt Mast' support for Innco CO3000 Controller TMPM mast
- Support for Antenna Positioning Device Maturo EAP alternative to a mast controller

EMC32-K52: EMI Measurement Sequence based on Limit Lines (Extension to EMC32-K51)
- Optionally create separate graphics for each detector and band.

Changes

EMC32-K84 Summary Report
- The commands for adding the band result tables and the band result data reduction tables (EMC32-K51/K52) have been changed. Refer to the online help for further information.

Changes

- The scaling of the generated graphics to be integrated into Microsoft Word can now be adjusted.

Improvements

Drivers:
- Support for SMB100x for usage with non R&S frequency multipliers.
- AdVISE driver will use EUT Monitoring channel name from selected ROI name.
- Generic Monitoring driver: export into a newly created configuration file is now supported.

EMC32-S EMS Test:
- Hardware Setup Report: additional information for RF probe model and amplifier directional coupler name will be added to the report text block.
- Add a gap in the graphics trace between subranges when 'frequency list only' mode is being used.

EMC32-K11 Test Sequence:
- Missing graphics traces in the sequence report graphics are now output correctly.

3.7 Version 10.40.10 (EMC Section)

Extensions

Drivers

- Support for R&S SMB100B RF generator
- Support for R&S SMBV100B Vector signal generator
- Support for R&S NRT2 power meter via VISA interface
- Support for PMM EP604 probe

EMC32-K1 EMS Automotive / MIL

- Improve support of oscilloscope multi-channel usage for LF MIL-STD measurements.
- Info: ARB waveform files for EMS Digital Modulation in combination with the SMBV100 have to be loaded on the generator first before they can selected in the driver settings.

Improvements

Drivers

- R&S BBx amplifier: remove wrong error detection where measurement stops after 10 measurements with an VSWR error message
- R&S BBA150 switch unit: removal of index issue when opening in device list
- R&S ESWxx: improvement of preselector switching
- Teseo SOPM03 power meter: driver improved
- ETS EMCenter mast / turntable controller: device initialization improved
- Generic Tripod: improve function for manual height setting during EMI Auto Test
- Network Analyzer: all network analyzer devices will be internally mapped to the device type 'OTA Network Analyzer'.

EMC32-K4 EMS Auto Test:

- Turntable control function for antenna offset improved.

EMC32-K10 EMI Auto Test:

- Accessory position reading with combined antenna height / polarization table improved.
- Fix software hang up when activating the 3rd detector in interactive measurement panel.

EMC32-K10A

Improvements

- Detection of the EUT signal bursts during final measurement improved (additional setting in TS8997 receiver driver).

EMC32-K51 EMI Automotive Measurements

- Fix wrong assignment of 2nd additional limit line.

EMCAN32:

- Fix issue that signals from Vector CANalyzer could not be added to the list of signals.

3.8 Version 10.40.00 (EMC Section)

Extensions
EMC32 General

- Device List:
   * a new checkbox "Permanent" for remote devices has been added: if active then the connection will be established on startup of EMC32
   * the initial dialog size improved for better display of LAN address
   * the 'Calibration Date' expires field is now being evaluated on test start
   * a new date field for a note of the 'Last Calibration' (just for information) has been added

Drivers
- Support for SMA100B RF generator - BBA switch unit now supports up to 10 signal paths - Support for digital modulations using an R&S SMBV100 RF Generator in order to create e.g. OFDM signals according to automotive standards.
EMC32-S: EMS Base License
- New function to export the frequency column of a result table to a frequency list.
EMC32-E: EMI Base License
- Tests based on a hardware setup which uses a 'Triple Loop Antenna' will now support to include a transducer correction. In the 'Triple Loop Antenna' device properties, for each of the three loop frames (X / Y / Z) an individual correction table can be selected.
EMC32-K1: EMS Automotive / MIL Measurements
- EMCAN32 Application is now delivered as 64-bit software and now supports Vector CANoe / CANalyzer V10 SP5. - Support for Teseo SOPM03 power meter.
EMC32-K4: EMS Auto Test
- Support for digital modulation in modulation sequence.
EMC32-K10: EMI Auto Test
- New option to show additional details on the measurement correction factor: New columns for contribution of signal path, antenna / transducer cable, antenna / transducer factor and the raw measurement value will then be added to the final result table. If in the result tables the values are shown without digits follow the hint in chapter 4 " Resetting the Automatic Number Resolution Settings for the Report" - Parking of mast and antenna in parallel is now supported, depending on the controller's capabilities. - The 'Triple Loop' antenna driver now supports individual correction factors for each axis.

3.9 Version 10.35.10 (EMC Section)

V10.35.10 does not support WMS32 Section.

Improvements
EMC32 General
- File Selection Box: improved behavior when deleting characters in the file name. - Report Options: The setting to output RTF with JPG / PNG graphics is now correctly persisted. - Potential ambiguities at range borders and in EMI limit lines with steps have been improved.
Drivers
- Power Meter: power meter settings dialog in HW Setup and EMS Template editor is now shown correctly. - Generic Tripod: show stored serial parameters for VISA correctly; new checkbox for initial height check message.

Improvements

- Bonn amplifier: improved VISA interface compatibility.
- EMCenter: improved VISA interface compatibility.
- Switch Unit: support for ADAM 6066 as switching unit.
- NI USB600x devices are now supported.
- RTx FFT power meter: set conversion impedance factor in Math function; marker readout improved.

EMC32-K3 EMS Reverberation Chamber

- Support for current tuner position in video inserter display.

EMC32-K4 EMS Auto Test

- Improved saving of modulation loop results in separate tables.
- Added: Set marker to max peak in worst case analysis graphics.

EMC32-K10: EMI Auto Test

- Improved antenna offset handling during adjustment measurement.
- Improved receiver measuring with turntable movement starting on continuous turntable movement.
- Measurement Type "EN55025 (2002) Automotive" with "UN R10" Data Reduction option active now calculates the margin against the AVG value as given by the AVG NB limit in the Final Result table.

EMC32-K22 Azimuth Charts

- Show absolute measurement unit in "General" dialog when different from dBm.

EMC32-K51 EMI Automotive

- Improved data reduction.
- Added support for data reduction in the receiver driver especially for Time Domain mode.

EMC32-K84 Summary Report:

- Report progress information during report generation has been improved.
- New option to re-create existing WMF graphics on report generation in order to make the graphics size fit in the report.

3.10 Version 10.35.02 (EMC Section)

V10.35.02 does not support WMS32 Section.

Improvements
EMC32-S: EMS Base License - Missing "V/m" unit in system monitoring section of the EMS template editor fixed.
Drivers - Test panel for commands of Generic Monitoring driver improved. - Compatibility to Sunol CV110 mast/turntable improved. - Initial connect of Maturo NCD improved. - TESEQ GTEM positioner driver improved. -
EMC32-K22 Azimuth Charts - Set of the initial frequency after a reference measurement improved.
EMC32-K23 3D Evaluation - Creating 3D chart of measurement with more than one subrange improved.
EMC32-K84 Summary Report: - Compatibility to non-English language MS Office Word versions improved.

3.11 Version 10.35.01 (EMC Section)

V10.35.01 does not support WMS32 Section.

New Extension
EMC32-K52: EMI Measurement Sequence based on Limit Lines (Extension to EMC32-K51) - Support of a limit line based EMI measurement sequence to adapt to new requirements in automotive components EMC qualification testing according to the OEM standards (evaluation against several limit lines per frequency band). Each subrange band of an EMC32-K51 template is measured once but evaluated to all frequency bands of a limit line which intersect with the subrange. - Improved display and management of reference traces in graphics for development measurements, which helps to increase the measurement performance. This allows easy comparison to the measurement results of the previous measurement or other tests over all frequency bands.

New Functionality
New EMC32 Drivers: - Support for R&S RTH scope. - Support for FSA antenna polarization unit (Generic Tripod Driver). - Support for PMM SB-10 field measurement unit in combination with EP6xx probes.

Modified Functionality
Reporting: - Table Properties: the column width can now be imported also for existing tables from another test table.
EMC32-EB: EMI Base License

Modified Functionality

- All new radiated emission measurements using result units dBµV/m or dBµA/m will now show the unit dB/m for the summary measurement correction column in the result tables.
- Gaps between subranges are not connected anymore by a vertical line.

EMC32-K10: EMI Auto Test

- Additional check: all Final Measurement templates need to cover the complete frequency range of the EMI Auto Test template, even if the template is only used for the higher frequency range.

EMC32-K51: EMI Automotive

- Limitation that all active detectors needs to be stick together is removed. Now for example set active detector 1st and 4th only is supported.
- Transducer and Antenna correction tables are now copied into new tests for supporting receiver transducer download.

Drivers:

- Generic Tripod: the device selection section in the properties dialog is revised.
- Test Receiver R&S©FSWT: "manual" preselector selections (band-pass filters or high/low pass filter combinations) are now supported. Selection for the output type (Video, IF, I&Q, etc.) is now supported.

Improvements

EMC32-S: EMS Base License

- Improved compatibility for opening of older tests generated with version 9.x .

- Improved turntable persistence mode for the antenna offset.
- Min/max check of Linearity Correction tables in interpolation algorithm improved.
- Frequency check of EMS Scan template subranges improved.

Drivers:

- R&S RF Generators: detection of device options improved.
- EMI Receiver: transducer download improved.
- Frankonia FC06: remote control improved
- ETS EMCenter: remote control improved

EMC32-K27: DRM
- Correct table names for horizontal and vertical preview results are now used.

3.12 Version 10.30.00 (EMC Section)

New Functionality

Reporting

- Windows 10 Creators Update V1703 contains a defect confirmed by Microsoft which has the impact of empty charts in our RTF reports.
In order to provide a workaround, the report options now provide a selection box to define the output format of charts. Besides the default (vector) format WMF, now also JPG and PNG are supported. Select one of the new formats to work around the MS Windows 10 defect. This also helps on HTML reports where newer browsers do not support WMF graphics any more.

Modified Functionality

EMC32-S EMS Base License

- EMS Scan Template Editor: since the Peak Conservation method supports all modulations (AM, FM, PM) the label "AM Peak Conservation" has been renamed to "Peak Conservation". The entries of this selection box have been renamed accordingly, e.g. "CW Peak = AM Peak" to "CW Peak = Modulation-Peak" Refer to

Modified Functionality

the online help for further information. There you find also a new chapter "EMS Modulation and Detectors".

EMC32-K4 EMS Auto Test:

- The report templates for the loop report and the final report have to be different.

EMC32-K84 Summary Report:

The functionality of EMC32-K84 has been completely revised. The following new features are supported. For further information please refer to the corresponding chapter in the online help.

- Support of Test Categories (like BCI, Stripline, TEM Cell) for sorting of tests in the summary report. The existing fixed Test Categories like EMS radiated or EMI conducted are maintained.

- Support of headings and indention in the report to support a better structure and sorting in the summary report.

- Adapted Field Test commands. For example the 'Verdict Summary' allows now to output all tests sorted on the Test Category.

Improvements

EMC32-S EMS Base License

- Improved support for transducer correction tables with magnetic field strength units to run tests according to ISO 11452-8.
- Improve setting of Level column interpolation for auto generated sensor limit line in the test.
- Use Spectrum Analyzer / Receiver as FWD/REV Power Meter: compatibility to read device settings for HW setups generated with older release versions improved.
- Improve noise level calculation for the FWD/REV power meter after a Hardware Setup subrange change.
- Updated documentation for EMS system calibration especially for mounting the directional coupler directly at the antenna input (as required for Ford RI115 standard).
- When pausing and then stopping an overview test, sometimes the current frequency is set one frequency step back. This has been improved.

EMC32 Drivers:

- Improved compatibility for using the LAN device driver interface under Windows 10.

- Support for R&S BBA130 amplifier. The active band can now be selected in the amplifier properties together with amplifier performance parameters. In this case using an additional switch unit driver for band switching is obsolete.
- R&S BBA150 amplifier supports now VISA interface and optional band switching (as R&S BBA130).
- Interlock driver supports now R&S BBx amplifier via VISA interface.

- Switch Unit driver for BONN amplifiers supports now the new command set.
- Support for BONN TWAL with new command set.

- Support for SMA100B with SMA100A driver where the SMA100A emulation mode on the SMA100B is activated. A specific driver for the SMA100B will follow with the next release
- Output level limitation for SMB100A option B103 improved.
- Support of UDP interface for Generic Switch Matrix. Use LAN address format: <IP ADR>,<Send Port>, <Receive Port>.
- Generic Field Probe driver: Lumiloop configuration files have been updated.

- The feature 'Transducer Download' now also properly works with older receiver models like ESIB / FSE / FSET.
- With the ESW drivers, some missing parameter settings with measurements <10 Hz are now available.
- With the ESL drivers, interrupting and continuing of a scan could lead to a data mismatch, caused by an incomplete device initialization. This has been fixed.

EMC32-K3 EMS for Reverberation Chamber

- Adding a separate trace to the chart for each tuner position is fixed disabled for this method.

EMC32-EB EMI Base License:

- Single measurement mode: Improved support for setting accessories according to the information as stored in a corresponding column of a referenced result table (feature 'Accessory Auto Set').

Improvements

EMC32-K10 EMI Auto Test:

- Improved support for antennas with fixed height in combination with antennas with adjustable height. Use the "Execute Hardware Setup ranges separately" option to run the EMI Auto Test measurement sequence for each antenna separately.

3.13   Version 10.28.00 (EMC Section)

Modified Functionality

EMC32 ALL:

- EMC32 restores now the file access permissions of a test template modified in the template when closing the test template editor with Cancel.
- Function to save Auto Test Templates to the System folder is not supported anymore.

EMC32 Drivers:

- Generic Field Probe driver: new command sections for 'Laser on/off' and 'Test Start / Stop' are now supported. Example configuration files for Lumiloop field probes are available.
- RadiSense probes can now be addressed via the VISA interface.
- Generic Amplifier Driver supports VISA interface with EMC32-K7 option
- R&S ESW: the "3-dB-driver" (spectrum analyzer mode only) now supports external mixers (ESW-B21)

EMC32-S EMS Base License

- Antenna Driver: Optional Device for Tower Positioning: a new mode 'EMS - TT Offset Mode Persist.' is added. Here the turntable positions is not moved backed to the EUT reference position (without the current antenna offset) when the test is stopped. The current turntable position is persisted as long as the current antenna is not changed.
- EUT Monitoring: support for QPK detector when using EMI receiver as monitoring device.

Improvements

EMC32 Drivers:

- Driver for BONN amplifiers supports now the new command set where status is reported with '='
- R&S SMB100A: support for option SMB-B131
- R&S SMJ100: improved detection for installed options
- AG 33500 + 33600 support as RF source for LF EMS tests
- Innco CO3000: improved support for MMx devices
- EMCO 1050: improved driver for better compatibility
- Frankonia FC06: improved polarization setting
- Generic Tripod: support height set message box for EMI Auto Test, improve use of polarization turn time
- R&S NRPxxSN: improved support for thermo-coupled probes
- R&S NRP-Zxx(USB): support for NRP18T
- R&S RTx FFT: automatic span and RBW setting, automatic HD mode activation improved, cursor configuration is restored on test start
- R&S ESW: the probe power connectors are always active now
- R&S ESW: minimum frequency now is 1 Hz (data sheet: 2 Hz); full support of small IF bandwidths <10 Hz
- R&S ESxI: scan editor: detector QP can now be used without activated 'CISPR Bandwidth' button
- Generic Power Meter: improve set to physical mode function

EMC32-EB EMI Base License:
- R&S OSP is now supported as LISN control device
- Copy Trace: trace color selection and handling of more than one detector in table improved
- Zoom width for meas. with TD scans: historically min. 20 IF BWs was required - limitation is removed.
- Scans with filter bandwidths <10 Hz: support of corresponding small step sizes; due to special internal frequency handling for subrange and graphics trace gaps, result frequencies may be shifted by up to 0.1 Hz

EMC32-K10 EMI Auto Test:

- Adjustment: initial setting of accessories position on start of a height adjustment loop improved
- Final Measurement: cutting off of first digit after decimal point for height and azimuth improved

Improvements
- Data Reduction: add support for EMC standard UN R10 in subrange maxima evaluation (fixed frequency subranges) - Improve handling of arbitrary limit lines when modifying an existing test - Round accessories positions (mast / turntable) to two digits

3.14 Version 10.20.01 (EMC Section)

New Functionality
EMC32-S EMS Base License - The currently measured sensor level is now available for measurement evaluation in the EUT Monitoring template.
EMC32-EB EMI Base License: - The transducer sum correction as used for scans or sweeps can optionally be downloaded into the receiver device whenever the test reaches some idle state. Still any measurements controlled by EMC32 will always be performed without active transducer correction in the receiver device. - Add support for unit uT for transducer table and limit line to be used for emission measurements.
EMC32-K1 EMS Extension for Automotive / MIL - Frequency selective power meter device driver for R&S RTO1000/2000, RTE1000 using FFT measurement mode: Up to two channels are now supported.
EMC32-K3 Susceptibility Measurements in Reverberation Chamber - Support for RTCA DO160G, Dec 2010: Mode Stirred Method is implemented (Load Check and EUT Measurement). Refer to the Online Help for further information.
EMC32-K33 Emission Measurements in Reverberation Chamber - Support for RTCA DO160G, Dec 2010: Mode Stirred Method is implemented (Chamber Insertion Loss and EUT Measurement). Refer to the Online Help for further information.
New option EMC32-K37: With EMC32 V10.20, option EMC32-K37 has been released. This option extends the EMS Auto Test (EMC32-K4) with the capability of performing sequences of multimedia tests on broadcast receivers according to CISPR35 (EMC32-K35). Three loop parameters have been added to the EMS Auto Test editor for configuring such a sequence: Multimedia Test Type (Audio or Display), Multimedia Broadcast Channel (as supported by the selected broadcast generator instrument) and Multimedia Test Port (as defined in the selected EUT Information file).

Modified Functionality
EMC32 ALL: - The software update manager utility has been removed since this service is discontinued by our service provider. Please register yourself for the EMC32 newsletter sending your email address to customersupport@rohde-schwarz.com for receiver further news on EMC32 updates and new releases (see also chapter 5). - The export of a table to an xls or txt file now asks for a confirmation whether to overwrite the file if it already exists.
EMC32 Drivers: - Generic Tripod: It now supports the output of a message box for the antenna height if used in an EMI Auto Test. - Innco CO3000 controller driver: communication speed improved for mast and turntable by using new firmware command to read the device status with a single query.

Modified Functionality
EMC32-S EMS Base License
- For running EMS tests with power control only on generator level, at least the amplifier settling time is applied. - Default pulse width in EMS interactive modulation control panel is now 100 µs.

Improvements
EMC32 Drivers: - AWG Generator for SMB/F100A: adaptation of the pulse train control to the latest generator firmware. - Detection of option SMB-B140L for the SMB100A generator.
EMC32-EB EMI Base License: - Improved support of continuous scan/sweep measurement when using more than two detectors. - In interactive measurement mode for subrange change the synchronization of receiver settings to the test template data has been improved.
EMC32-S EMS Base License - Usage of amplifier gain table for power limitation improved. When defined in the amplifier properties the input level is used for amplifier input power limitation (constant input power is disabled). Additional the maximum of the constant maximum output power or the amplifier output power for the current frequency is used as output power limitation.
EMC32-K1 EMS Extension for Automotive / MIL - Power limitation on Reference Calibration table: under the following setting in the EMS Test Template: leveling on sensor, FWD power control = Generator Level, EMC Standard = Automotive/MIL and when the immunity test level unit is W, the power limitation function uses instead of the transducer power column the immunity level column of the reference calibration table. This is typically applicable for MIL-STD CS101 test where no FWD power measurement is used both during the reference calibration and EUT Test.
EMC32-K10 EMI Auto Test: - The setting of the antenna polarization for adjustment measurements has been improved in case no previous zoom measurement has been performed. - Additional check concerning existing accessory positions for manually added critical frequencies, before running the Final measurement sequence.
EMC32-K11 Test Sequencer - Improved support for EMS Scan templates using leveling on sensor for running in a test sequence.
EMC32-K51 EMI Automotive: - The PDF report now also uses the frequency band name of the first subrange for the report file. - Improved Band Evaluation algorithm when using result tables with two detectors. Under some conditions the evaluation dialog could not be opened.

3.15 Version 10.10.02 (EMC Section)

Improvements
EMC32 Drivers: - BONN: support for VISA interface, adapt the power on/off command for BSA models to be compatible with older FW version - SMB100: allow more output power (typical up to 24 dBm) for frequency range above 1 GHz - SMF100: improve support of internal LF generator when using square waveform as modulation source - SMF100-K27 Pulse Train driver: improve compatibility to current firmware version V3.20.390 - R&S RTO: improve support for GPIB interface - Sunol Controller model 99: improve support

Improvements
- Generic Turntable: improve support for LAN interface
EMC32-General: - Set Device action in the template editors did not load the saved device settings correctly for CMU, CMW instruments since version 10.00.
EMC32-EB: EMI Base License: - Improve compatibility to load version 8 tests
EMC32-K1 EMS Auto Test: - Improve to preserve current test level in susceptibility mode when going to next frequency while leveling engine reports limitation

3.16 Version 10.10.01 (EMC Section)

Modified Functionality
EMC32-EB: EMI Base License: - Copied result tables in a test are not removed anymore when the test is refreshed due to a test template change.
EMC32-K1+K4 EMS Auto Test: - EMS Auto Test Loop entries may be now enabled / disabled via double click on the icon. - The susceptibility parameter settings in the Test New dialog are now preserved also for the EMS Auto Test Templates. - After the EUT Recovery Time during a level sweep immediately the start level of the next frequency is applied. In previous version the level before RF OFF was set again.
EMC32-K10 EMI Auto Test: - "Limit and Margin" evaluation function is now available via the Test -> EMI Analysis dialog for adding limit and margin to preview result tables. - Antenna tower speed for antenna height / polarization tables is now set to template setting.
EMC32-K21: API Macro - Tables generated by an API macro as action in an EMI/EMS test will now be added automatically to the test report when a table component with "API Test" as table source is set.

Improvements
EMC32 Drivers: - BBA150, BBL200: communication timeout time is set now by the driver automatically to "1D". - BONN: driver communication to newer models and firmware improved. - Generic Amplifier: support for AR amplifier binary coded amplifier state (refer to online help for further information). - Generic Field Probe: communication to LumiLoop field probe improved. - AR FM7004: measurement of AVG, MAX, MIN for more than one probe improved. - R&S RF Generators: the minimum output power was sometimes limited to -20 dBm. - Analog ports of NI USB 6000 are now supported. - OPSENS driver supports now measurement of temperature and set of the gauge factor. - EMCO 1050 turntable: compatibility of V10 driver improved. - CMW-LTE driver: allow selecting Operating band and RF channel when used in the Actions Engine. - Innco CO3000 controller: support for MM device added. - EP6xx field probe: add field in properties to set the auto switch off time (applied on EMC32 restart).
EMC32-K3 EMS Reverberation Chamber   * Keep only one entry per frequency over all tuner positions per frequency.
EMC32-K4 EMS Auto Tests: - EUT Failure Mode Graphics: loading graphics with all traces of an existing test improved. - EMS Report shows for an Auto Test now all EMS Scan template subranges in the report.

Improvements

- Susceptibility Method in combination with EMS Auto Test:
  * EUT Failure Table merge algorithm for different modulation loop values improved.
  * After going back from AM modulation -> CW the current carrier test level is persist (not lowered).
  * Susceptibility loop does not sporadically run into an endless loop when an EUT failure is detected in level mode "CW only".

EMC32-K24 EMI Auto Test Interactive - Improvement for storage of max hold results in the final result table when only Max Hold was enabled in the used test template.
EMC32-K51 EMI Automotive Measurements: - Creating of data reduction result tables for 2nd detector improved.

3.17 Version 10.02 (EMC Section)

New Functionality

Function
New option EMC32-K35: With EMC32 V10.02, option EMC32-K35 has been released. This option implements EMS measurements on multimedia receivers according to the new standard CISPR35. Specific features implemented by EMC32-K35 are: ● Device drivers for control of broadcast generators like R&S®BTC, R&S®SFE / R&S®SFE100, R&S®SFU, R&S®VTC, R&S®VTE, R&S®VTS and R&S®DVSG ● Automatic adaptation of the immunity shape taking into account tuner frequency range, tuned channel and spot tests ● Automated sound reference measurements for audio signal receivers. EMC32-K35 can also be used for EMI measurements with EMC32-EB. The relevant standard is CISPR32. The main application is the automated setup of the broadcast generators. Other minor extensions apply to the report and to adapting the maximum test frequency depending on the highest internal operating frequency of the EUT.

3.18 Version 10.01 (EMC Section)

New Functionality

Function
EMI and EMS Tests: A copy of the used Hardware Setup is now copied into the Test on creation and available via the SYSTEM sub folder of the test. Note: this file copy is only for documentation purpose and not further used by the software.

Modified Functionality

Function
EMC32-EB EMI Measurements: - The measurement control buttons (start, stop …) are now disabled when entering the measurement mode as long as the device connection check for the accessories is not completed (see status line message).

Improvements

Function

Function
General: Cartesian and polar test graphics created with EMC32 V10.00 were not displayed correctly when an existing test was loaded (markers and legend).
EMC32-EB EMI Measurements: FSU/FSV/FSW driver: - Programming of the external mixer auto ID threshold could not be defined for single measurements. FSW driver - Device programming may not work properly on an FSW without option B21.
EMC32-K10 EMI Auto Test - Frequencies added by drag & drop to the critical frequencies list where not measured in the final measurement step. - Resume accessories loop positions to the stored values when re-entering the test mode.

3.19 Version 10.00 (EMC Section)

New Functionality

Function
General: - Support for Spanish as User Interface Language.
EMC32-EB EMI Measurements - Support for up to 4 detectors and limit lines (depending on the receiver capabilities) with interactive scans, sweeps and single measurements. - Driver for the EMI test receiver R&S®ESW: The driver now supports to activate the built-in notch filters (2.4 / 5.8 GHz) as well as the optional splitting of the pre-selector at 2 MHz .
EMC32-S EMS Tests - EUT Monitoring: a new action point to be executed on the end of the measurement loop over all EUT Monitoring channels is now available. - R&S® Scope RTO, RTE and RTM are now supported with a fixed configuration file with the EMS base license. - An additional option "Add to Test Frequencies" allows to add all frequencies from the current active target immunity level shape which are not covered by the frequency stepping as additional test frequencies.
EMC32-K10 EMI Auto Test - Note: EMC32-K10 Auto Test does currently not support more than 2 detectors in the measurement sequence. Detectors 3 and 4 defined in the scan/sweep templates will be ignored.
EMC32-K51 EMI Automotive - Support for simultaneous measurement of up to 4 detectors and limit lines (depending on the receiver capabilities). - Optional add polarization and test name information to the graphics and result table name. - A new data evaluation method "RE Merge" supports the reporting requirements of GM3097 standard release 2015 defined in section "3.3.1 RE, Absorber Lined Shielded Enclosure (ALSE)". Here a summary test report for the highest emission values over measured antenna polarization, EUT operation modes and EUT orientations over the entire frequency range is required. Further information will be released in a separate application note.
New Device Drivers - Support for R&S NRP6A/AN, R&S NRP18A/AN RF probes via LAN (use "NRPxxSN (LAN)" driver) or via R&S NRP2 power meter. - Support for R&S NRP18TN, R&S NRP40TN RF probes via LAN (use "NRPxxSN (LAN)" driver) - Support for Maturo NCD Field Probe Positioner - Generic Field Probe driver using VISA communication with example for LumiLoop field probe.

Modified Functionality

Function
EMC32-K10 EMI Auto Test - The result table decimal resolutions defined in the global report settings (options dialog) are now applied.
EMC32-K24 EMI Auto Test Interactive: - Setting a frequency outside the valid frequency range is handled correctly and will not show a related message box any more.
EMC32-K51 EMI Automotive - The "GMW3097 Band Evaluation" analysis function has been renamed to "Band Evaluation".
Device Drivers: - Driver for the EMI test receiver R&S®ESW: When running a test over several sub-ranges, then the settings will programmed to separate (max. 5) instances in the instrument: Within a test the settings will therefore not be overwritten. - Maturo mast driver: the selection of the device to be used is now defined via the controller internal device address and not the device type. - BBA150 driver: please update your amplifier firmware to V2.10 or greater and set the "SCPI Timeout" value to "1 Day". Refer to the firmware release note for further information.

Improvements

Function
General - Issues with reading and writing actions on subrange enter and leave in V9.26 are now solved. - Copy of Set Device Action works now properly. - Import from Excel using the language specific comma separator for some Windows Languages improved.
EMC32-S EMS Tests - Amplifier protection improved when using limit lines for both input and output protection.
EMC32-K4 EMS Auto Test - In case an EMS Auto Test is created via Test Direct (Popup menu of the test template item) and the dwell time of each subrange of the used EMS Scan test template are identical the dwell time in the created test was set to -1. This was changed. - Improved data handling when running a modulation loop with highest priority in combination with a susceptibility test.
EMC32-K6 EMS MIL-STD CS103/4/5 Measurements - EUT generator path correction was applied additional on restart of a test. - Slave generator level was set to a higher initial start level than required by the test specification when switching RFON in the interactive test mode.
EMC32-K10 EMI Auto Test: - When activating transducer output power and Pmid power measurement in system monitoring the assigned power meter was not queried but only simulated during the measurement. - Selection of the spectrum analyzer sweep points for zoom measurements improved.
Device Drivers - EM Center mast and turntable driver are now adapted to the latest firmware version 2.0.24. - Handling for Inn-Co controllers when for the mast both polarization and height needs to be changed. - Support for NI DAQ Devices and TS8997 OSP-B157 power meter with NI-DAQmx 15.5 version.

3.20 Version 10.00 (TS8997 Wireless Section)

New Functionality

Function
General:
- WMS32 introduced. The new application supports HW setups and test templates for wireless test cases (TS8997). WMS32 starts with FCC §15.247 and §15.407 templates. ETSI standards will be supported later.

Modified Functionality

Function

Improvements

Function
ETSI Adaptivity test cases
- Issues with generator level settings for SMP and other old generators are solved

3.21 Version 9.26.01 (EMC Section)

Improvements

Function
Report Template - Corrects issue with saving modified report templates (report component entries were lost)
EMC32-K10 EMI Auto Test - Improves the handling for Inn-Co controllers when for the mast both polarization and height needs to be changed.

3.22 Version 9.26 (EMC Section)

New Functionality

Function

New Device Drivers
- Drivers for the new EMI Compliance Test Receivers R&S®ESW 8 / 26 / 44.
  The two notch filters (for the Wi-Fi bands) and the optional splitting of one of the pre-selector filters will be
  supported with a later version.
- R&S®NRPxxS(N) power sensors model xx = 8,18,33,40,50 are now support via USB using the
"NRPxxS(N) (USB)" driver. Additional the SN models may controlled via LAN using the "NRPxxSN (LAN)"
driver. The installation of the up-to-date NRP-Toolkit and VXI driver delivered with V9.26 is required.
- Power Meter Driver "NRP-Zxx" adds support for NRP-Z41. The installation of the up-to-date NRP-Toolkit
and VXI driver delivered with V9.26 is required.
- Power Meter Driver AG4417 add support for AG 4412A / 13A RF probes.

Modified Functionality

Function
EMC32-S EMS Tests - The Test New dialog has been modified, allowing to set the power or sensor limitation when applicable in the Test Definition tab of the dialog. Additionally, the dwell time may be adapted in the Test Level tab when all subranges are using the same setting.
EMC32-K4 EMS Auto Test - The automatic selection of all tables as generated by the EMS Auto Test Loop is now supported for reports in the report component 'Table'.
EMC32-K10 EMI Auto Test - The EMI Auto Test now supports the usage of an antenna with only one polarization (e.g. Rod antenna) in combination with standard antennas supporting both polarizations in a test template. For this purpose the EMI Auto Test mode "Execute Hardware Setup subranges separately" needs to be activated. - Direct creation of charts from kept preview result tables is now supported (e.g. LISN lines).
EMC32-K11 Test Sequencer: - A check for EMI tests done with older versions is improved in order not to mark new EMI tests created by the test sequencer as old tests.

Function
EMC32-K51 EMI Automotive
- In the test template editor the subrange tab is now enabled for new subranges, allowing to modify the measurement start and stop frequency before defining the receiver settings.
- The test template does not automatically select and create a signal path.
- All band result graphics are now automatically removed and re-set when modifying or clearing an existing test.
- A function to run the action 'Every Frequency' before each single measurement ('EMI Automotive Single') is now supported.
- Via the System node popup menu additional limit lines may be added to a test.
- Limit lines in graphics which are based on limit tables from the current test will be shown correctly when the test is moved to a different TESTS root folder structure.
- The trace name for EMI Scan / Sweep data do not contain the detector type twice.
- The default Y axis for new graphics is now 'Level'.
Graphics
- The trace properties dialog now provides the selection of the trace default styles as base for the current trace style.
- The proposed default names for adding a new table column as trace are improved.
EMI SYSTEM CHECK included in EMC32-K10
- System check functions are now available for EMC32-K10 (moved from EMC32-K56)
- The calculation of the generator level after further verification has been improved
Device Drivers:
- Field Probes: Linearity Correction and multi-axis field probes
Note: Multi-axis field probes which support simultaneous measurement of X, Y, Z axis (like PMM6xx or ETS6xxx) will apply the linearity correction to each individual axis measurement result when an individual frequency correction for each axis is defined. In case only a frequency correction table for XYZ (isotropic) is defined and a XYZ (isotropic) measurement is done, the linearity correction table needs to contain the linearity correction data for the combined isotropic linearity correction, not for a single axis!
- PMM EHP200 probe: the measurement speed has been strongly improved by a factor of 8.
- R&® BBA amplifier: a typical input protection limit line is delivered in the standard data folder (Common\EMS Radiated).

Improvements

Function
Device Drivers
- Antenna Tower (Mast): addressing issue of second antenna tower device for Maturo and Innco controllers solved.
- ETS EMControl: device communication of mast and turntable driver has been improved.
- Multi Field Probe: device state is now related to the connected single field probes.
EMC32-S EMS Tests
- When deleting EUT monitoring channels in the template editor sometime the device settings of the following monitoring channels have been lost.
EMC32-K1 Automotive / MIL EMS
- In the test new dialog the parameters for the power limitation on a reference calibration table are now

Function
shown and can be modified.
- In the EMS Scan template editor / level sweep parameters, the level down sweep supports now to either setting the RF generator to -80 dBm or completely switch to RF OFF during frequency change (required by GWM3097 standard depending on release version).
EMC32-K4 EMS Auto Test - When stopping and restarting a scan with a modulation sequence, the modulation is reset to the first index when restarting the test.
EMC32-K10 EMI Auto Test: - An index conflict when running CISPR25:2002 measurement and MaxPk and AVG peak frequencies are identical is corrected. - In case the user has disabled all adjustment loops but not the adjustment measurement itself, is now handled properly. - Data Reduction: the peak at the very first frequency was not detected when consecutive frequency points had lower levels. - The detector check for using the same detector configuration in preview and maximization measurement has been improved.
EMC32-K51 EMI Automotive - Traces in the 'Current Measurement' graphics do no disappear after the first subrange has been measured. - The copying of the 'Current Measurement' graphics trace to the existing subrange graphics trace was not done properly. - The test template was set to write protected after Save As. This has been fixed. - Traces in the 'Current Measurement' graphics do no disappear after the first subrange has been measured. - Copy of the 'Current Measurement' graphics trace to the existing subrange graphics trace was not done properly. - Limit lines with an offset are now added correctly to a new test. - Data Reduction for detector 2 now correctly applied. - When using vertical antenna polarization the transducer factor is now applied correct. - Note: if no antenna polarization is used always the horizontal correction data are applied when transducer correction tables are used for measurement value correction.

3.23 Version 9.26 (TS8997 Wireless Section)

Modified Functionality

Function
EMC32-K97 TS8997 Tx Sequence measurement according to EN 300 328: The 'Tx Seq Time' has not been changed to the correct value in the GUI settings if the modulation was switched from another other selection back to FHSS.
EMC32-K971 TS8997 occupied channel bandwidth measurement according to EN 300 328 V1.9.1: The checkbox "DUT in Hopping Mode" in the GUI settings had no effect. Measurement for "DUT in Hopping Mode" was always done.
EMC32-K971 TS8997 Tx spurious measurement according to EN 301 893: The Final measurement has been done in the band if the pre measurement on band edge was over the limit.

Function
EMC32-K972 TS8997 Adaptivity measurement according to EN 300 328: - Burst search levels changed for better recognition.
EMC32-K973 TS8997 Adaptivity measurement according to EN 301 893: - Burst search levels changed for better recognition. - DFS file transfer for vector generators fixed

3.24 Version 9.25 (EMC Section)

New Functionality

Function
General: - Support for Japanese GUI
EMC32-S (EMS Base License): - Interactive Measurement: switching modulation on/off is additionally supported via the Level view of the EMS Scan Parameters side panel. Additional shortcuts for interactive measurement control are now supported - refer to section 'shortcuts' in the online help. - New Option in EMS Leveling Options - Single Measurement: support for changing of the test frequency while measurement is stopped.
EMC32-K4 EMS Auto Test: - Dual modulation using an SMT/E/P/R generator in a modulation sequence is now supported.
EMC32-K7 (Generic Drivers): - Support for Generic Receiver driver: example for R&S®ESU40 is delivered with the setup. - Generic Power Meter Configuration for DARE RPR2006, PMM 6630, R&S®FSH8 in power meter and spectrum analyzer mode. - Generic Generator Configuration for PMM 3030 generator.
EMC32-K23 (EMI 3D Evaluation): - Support usage of positioning device in EMI Hardware Setup (no EMC32-K2 required).
EMC32-K56 (EMI Tests according to MIL-STD): - System Check for Emission measurements according to MIL-461 STD has now been migrated to V9.x. The major changes are: system check parameter are set in the EMI Auto Test template, system check is executed as a separate check, additional information on transducer / signal path correction are added to the result table. For further information refer to the update section in the online help (go for index entry "System Check").
Device Drivers: - Support of the ETS EMCenter base unit to control antenna tower (mast) and turntable. Select driver "EMControl" in the device list. - Support for PMM 8053 and PMM OR03 field probe base units. - Support for Hameg HMF2525 as RF Generator. - Support for Pulse Modulation with 50% fixed duty cycle for R&S®SMJ100 - The driver for the R&S®FSW now also supports the latest model R&S® FSW-85.

Function

Modified Functionality

Function
EMC32-EB EMI Base License: - Support for showing GTEM position during measurement. - Single Measurement: improve mast / turntable position polling rate for a higher continuous sweep rate.
EMC32-K10: - Do not show obsolete GTEM positioning messages on start of measurement. - Zoom measurement improvement on subrange border measurement: the current subrange is kept active (no jump to next subrange). - Limit and Margin values are now stored internally with 4 digits precision in the Critical Frequencies and Final Result Tables. The display precision in the table editor keeps 2 digits.
Device Drivers: - R&S®UPPx driver improved for higher measurement speed when using more than one channel. - R&S®NAP-Zx probes are now supported down to 200 kHz. - The driver for the R&S®FSW now also enables to use an R&S®FSUP instead (no additional functionality). - The driver for the R&S®FSW now supports up to 100 000 sweep points.

Improvements

Function
EMC32-S (EMS Base License):   - Closing the EMS Scan Template editor with the X button (not using OK or Cancel) could result in a software lock-up. This is now solved.
EMC32-EB EMI Base License: - The EMI evaluation function "GTEM Correlation" now enables to run the calculations for a test site with an antenna distance of less than 1 m.
EMC32-K3 (EMS Reverberation Chamber):   - Support of Level on Transducer Relation Method for DUT Check for DO-160 Standard.
EMC32-K4 (EMS Auto Test):   - Interactive Measurement in combination with EMS Auto Test: in the EMS Auto Test Control panel the settings of the currently selected node for parameter antenna polarization, modulation index and turntable position are set at the start of the interactive measurement. In previous versions only the setting of the first node was applied.   - AG33220: when using this AWG generator as modulation source in a modulation sequence, the setting of the generator is now done correctly for all entries of the modulation list.
EMC32-K6 (MIL-STD 461 CS103/4/5):   - Correction for a wrong Error message showing up on test start.
EMC32-K48 (Shielding Effectiveness):   - Improve worst-case evaluation when using more than one Auto Test subrange.
EMC32-K51 (EMI Automotive):   - It is now possible to disable the setting of the antenna polarization for a radiated test (default setting). This improves the compatibility to previous versions. Additionally, when at least in one subrange the antenna polarization is active, a polarization column is added to the result table.
Device Drivers: - Interlock: improved functionality for usage of R&S®OSP as interlock device.   - Optimized performance for ESR in spectrum analyzer mode with >32000 sweep points: The marker as shown on the front panel screen by default will now be switched off.   - Measurements with R&S®ESR: Additional warning (template editor and test) when combining two CISPR detectors with a long measurement time (so far the instrument limits the time to max. 7 s).

3.25　Version 9.22 (TS8997 Wireless Section)

New Functionality (requires EMC32-U976 update)

Function
EMC32-K97 TS8997 power and timing measurements: - New power measurement evaluation algorithm according to EN 301 893 V1.8.1 (only available with EMC32-U976 update).
EMC32-K971 TS8997 spectral measurements: - The following test cases require differing analyzer settings for EN 301 893 V 1.3.1 compared to V1.7.1. 　　Power spectral density 　　Occupied channel bandwidth With EMC32-U976 update the user will be able to choose the standard release version of EN 301 893.
EMC32-K972 TS8997 Adaptivity measurement according to EN 301 893: - With the update EMC32-U976 the monitoring period is set to >1 minute according to EN 301 893 V1.8.1. Due to measurement uncertainty the test is split into one measurement at the beginning of the monitoring period and one measurement at the end (extension "e" for the graphic) of the monitoring period in case of short signaling.
EMC32-K975 TS8997 spurious and out of band measurement: - With EN 301 893 V.1.8.1 the analyzer settings for spurious measurements were changed. The update EMC32-U976 enables the standard version setting in the user dialog in order to fulfill the new requirements.
EMC32 Generator Driver for devices SMBV100A, SMW200A, SMU200A, SMJ100A - Possibility to transfer/upload all radar test pulse waveforms to the harddisk of the generator. Waveforms provided as compressed file (ZIP) included the Setup of EMC32

Modified Functionality

Function
EMC32-K973 TS8997 Adaptivity measurement according to EN 301 893: - The measurement trace for each test step is now displayed in separate graphics. - The measurement sweep time is now set to a maximum in order to keep the measurement uncertainty limits and provide a wider data base for evaluation of the result. Example: The sweep time for test step 2 is 150ms (max value to keep the 5% MU with 100µs idle time and 30001 sweep points. Short signaling should be evaluated for DC within 50ms, so a 50ms window is moved through the measurement trace in order to find the maximum DC - In the measurement traces the limit for evaluation is now displayed.

Improvements

Function
EMC32-K973 TS8997 -DFS measurement according to EN 301 893 - general DFS: new Radar pulse signal waveform collection added acc. to EN 301 893 V1.8.1; improved waveform selection for all DFS subtests (CAC, ISM, RDT, CCTT)

3.26　Version 9.21 (EMC Section)

New Functionality

Function

Function
General: - 'Test Save As' shortcut can now be added to the EMC32 toolbar.
EMC32-K7 Generic Device Drivers: - Added support for DARE RF probes via VISA interface on virtual COM port.
EMC32-K10 EMI Auto Test: - Optimization: When no Zoom 2 measurement is done, the accessory device of the first adjustment loop is set directly to the adjustment start position.
Device Drivers: - Support for SMZxx frequency multipliers 60 - 170 GHz in combination with SMB100A and SMF100A RF generators (newest firmware release is required).

Modified Functionality

Function
EMC32-S EMS Base License: - Support to open an existing test even if the referenced Reference Calibration file is not available. - RadiCentre driver is now supporting LAN interface. - UPP driver now supports input coupling selection. - Limit Line tables: EMC32 will automatically add a frequency offset of 0.1 Hz on each frequency after a "GAP" which is equal to the last frequency before the "GAP".
EMC32-EB EMI Base License: - Single result table will be cleared when the test template has been modified and thus resets the test.
EMC32-K23: 3D Evaluation: - Usage of antenna height / polarization table is only supported in combination with 3D evaluation if only one polarization (H or V) is used in the polarization column.

Improvements

Function
EMC32-S EMS Base License:
- When opening an existing template, parameter settings of the global section like measurement unit or Leveling with Modulation On may not be shown correctly.
- Leveling on first subrange frequency was not completed when VSWR measurement "failed" due to low power levels.
- The calculation of the Transducer Forward Power for power control mode Generator Level in combination Power Calculated was not done correctly.
- "New Test" dialog: Fix for missing display of amplifier calibration levels.
- R&S®BBL200 could not directly be set to "operate" via the amplifier test dialog.
- HI60xx probe driver battery state check was disabled due to a problem in the driver DLL from ETS.
- Turntable Control with a "Manual" turntable could cause EMC32's UI to become blocked. This has been fixed.
- UPP add support for DC coupling.
EMS Auto Test K4 / K48:
- Worst Case Analysis is now supported over multiple subranges.
EMC32-K10 EMI Auto Test:
- When no Zoom 2 measurement is done, the accessory device of the first adjustment loop is now set directly to the adjustment start position.
Device Drivers:
- Deisel Turntable: fixed issue with turntable device limit settings.
- R&S®FS300: fixed issue on adding device instance in device list.

Notes:

Function
EMC32-K1: EMCAN32 Interface:
- 'Vector' CANoe / CANalyzer 8.5 is currently not delivered with the interface DLLs required for the communication with EMCAN32. Please contact 'Vector' support using the reference number VGH000001058099 for requesting the required patch.
- 'Vector' CANoe / CANalyzer 64-bit software is currently not supported, please use 32-bit version.

3.27 Version 9.21 (TS8997 Wireless Section)

New Functionality (requires EMC32-U970 update)

Function
General: - Validate DUT frequency prior to testing. In the test settings tab of the user interface an option for validating the DUT frequency was implemented (only available with EMC32-U970 update). The function will check the DUT frequency and give the user the opportunity to reconfigure the DUT in case of deviation before running the tests.
EMC32-K97 TS8997 power and timing measurements: - New power measurement evaluation algorithm according to EN 300 328 V1.9.1 (only available with EMC32-U970 update).
EMC32-K971 TS8997 spectral measurements: - The following test cases require differing analyzer settings for EN 300 328 V 1.9.1 compared to V1.8.1. Hopping sequence Power spectral density Hopping frequency separation Occupied channel bandwidth With EMC32-U970 update the user will be able to choose the standard release version of EN 300 328.
EMC32-K972 TS8997 Adaptivity measurement according to EN 300 328: - With the update EMC32-U970 the monitoring period is set to >1 minute according to EN 300 328 V1.9.1. Due to measurement uncertainty the test is split into one measurement at the beginning of the monitoring period and one measurement at the end (extension "e" for the graphic) of the monitoring period.
EMC32-K975 TS8997 spurious and out of band measurement according to EN 300 328: - With EN 300 328 V.1.9.1 the test method and analyzer settings for spurious measurements were changed. The update EMC32-U970 enables the standard version setting in the user dialog in order to fulfill the new requirements.

Modified Functionality

Function
EMC32-K972 TS8997 Adaptivity measurement according to EN 300 328: - The measurement trace for each test step is now displayed in separate graphics. - The measurement sweep time is now set to a maximum in order to keep the measurement uncertainty limits and provide a wider data base for evaluation of the result. Example: The sweep time for test step 2 is 150ms (max value to keep the 5% MU with 100µs idle time and 30001 sweep points. Short signaling should be evaluated for DC within 50ms, so a 50ms window is moved through the measurement trace in order to find the maximum DC - In the measurement traces the limit for evaluation is now displayed.
EMC32-K973 TS8997 Adaptivity and DFS measurement according to EN 301 893: - The measurement trace for each test step is now displayed in separate graphics. - The measurement sweep time is now set to a maximum in order to keep the measurement uncertainty limits and provide a wider data base for evaluation of the result. Example: The sweep time for test step 2 is 150ms (max value to keep the 5% MU with 100µs idle time and 30001 sweep points. Short signaling should be evaluated for DC within 50ms, so a 50ms window is moved through the measurement trace in order to find the maximum DC - In the measurement traces the limit for evaluation is now displayed. -DFS CAC test reports now the limit for signal evaluation. -DFS ISM The measurement trace for each test step is now displayed in separate graphics and added in the test report. Limit lines are added to the graphics.

Function
-DFS ISM First measurement sweep now waits an additional 1 min (CAC time) if a manual startup time is given by the user.   -DFS CAC/ISM/RDT/CCTT signal path is now switched on before the request to configure DUT appears. (necessary, if master is connected to RF GEN connector)

Improvements

Function
General: - Fix for video triggered sweeps: when not triggered, the timeout was longer than the set value
EMC32-K971 TS8997 spectral measurements according to EN 300 328:   - Occupied Channel Bandwidth: Issue with creating the report if only the highest frequency was being measured.   - Hopping Frequency Separation: If the center frequency for the measurement was set to a transmitting channel, the measurement could lead to an incorrect result.   - Hopping Frequency Separation: If no separation could be measured, the overall result was set to PASS in the report.
EMC32-K975 TS8997 spurious and out of band measurement according to EN 300 328:   - In Version 9.20 the Limit line was also shown as the trace for the final measurements.
EMC32-K975 TS8997 spurious and out of band measurement according to EN 301 893:   - Receiver Spurious: If the number of the final measurements was reduced (not according to standard) in some cases, not the frequencies which exceeded the limit the most, were measured.
EMC32-K975 TS8997 -DFS ISM: - First measurement sweep now waits an additional 1 min (CAC time) if a manual startup time is given by the user.

3.28 Version 9.20 (EMC Section)

New Functionality

Function
EMC32 Core Functions:

- Device List Editor:
    * A new icon "Magnifier" on the right upper toolbar of the Device List editor provides a function to find all unreferenced devices in the device list. In the search result dialog these devices can be selected and removed.
 - Graphics Options:
    * In addition to the predefined trace styles, user defined styles can now be added. Adding a new trace to the graph now allows to select a trace style in the selection dialog. Delete your __ADMIN__.opt file in the configuration folder in order to reset your trace styles.
 - Graphics Popup Menu:
    * A new function allows to move a trace to the back. Move to front was already available.
 - Report Editor:
    * In the report preview dialog of a test, WMF graphics can now be added via drag & drop.
 - Action Tab in Template editors: copy and paste of actions is now supported.

EMC32-S EMS Base License: - Support for new RF Generators: HAMEG HMF2525, HM8134, HM8135
EMC32-K1 EMS Automotive / MIL: - Parameter 'EUT Recovery Time' added to the Level Sweep → Sweep Down settings to be applied after the level sweep down according to the ISO base standard.   - Support for new AWG Generators: HAMEG HMF2525
EMC32-K4 EMS Auto Test   - Create a measurement result trace for each loop result in the graphics. For example if you run the loops for 4 turn table positions and both polarizations, then 8 traces will be shown. EMC32 will automatically assign appropriate trace colors to the added traces (user trace 1 to 8 will be used).   - When using the modulation loop with a priority before the frequency loop, the measurement results of all modulations will now be stored in separate result tables for each modulation.
EMC32-K10 EMI Auto Test: - The function "Change Limit Lines" in the Test menu allows to exchange the limit lines for detector 1 and 2 as a post processing step. The margin and limit values in the critical frequency list and the final frequency list will be recalculated.   - For Electrical Field Strength / Radiated Power tests using mast and turntable, the preview and maximization measurement allow to define and use fixed antenna height / polarization positions alternatively to the loop steps. This follows the proposal of CISPR 22.   - For Power Measurements using a slide bar, the preview and maximization measurement allows to define and use fixed slide bar positions alternatively to the loop steps. This follows the proposal of CISPR 22.   - A new option in the Preview Measurement LISN line settings dialog: The preview measurement results of all lines may be kept.
EMC32-K10A EMI Auto Test Extension for R&TTE Measurement acc. to ETSI 300 328   - The option R&S®EMC32-K10A extends the final measurement step of R&S®EMC32-K10 EMI Auto Test to run automated EMI Measurements according to EN 300 328 V1.8.1 and EN301 893 V1.7.1 using the R&S®TS8997 Test System.

Function
EMC32-K84 Summary Report Generator (new extension):
- The option R&S®EMC32-K84 extends the internal report generator in order to support the generation of a summary test report over all selected test cases done for a DUT. In addition the report is directly written to Microsoft®OfficeWord and thus can easily be combined with customer specific report templates.

Modified Functionality

Function
EMC32 Core Functions:
- Device List Editor: "Find References" function now also searches for references of the current device in the Signal Path devices and Calibration Setups.
EMC32-EB EMI Base License:
- Improved automated selection of the single measurement template when starting single measurement mode.
- The default setting for the LISN control has been changed to GND instead of FLOAT.
EMC32-S EMS Base License:
- Support of separate RC files in EMS Scan template subranges for the EMS base license.
- Adding of a EUT Information to an existing test does not clear the test.
- Test Modify dialog does not support copying of tables anymore.
- The EMS Leveling log file is now stored in the System folder of the current EMS Test.
- The label for the measured immunity level in the Scan Parameters control panel has been changed from "Current" to "Measured".
EMC32-K1 EMS Automotive / MIL:

- EMCAN32 CANoe / CANalyzer interface:
    * the signal and system variable selection in EMCAN32 has been changed in order to use the workspace environment of CANoe/CANalyzer. This allows to access more user defined parameters in CANoe/CANalyzer. Existing EMCAN32 and thus EMC32 EUT Monitoring configurations may need to be adapted. For further information refer to the EMCAN32 documentation.
    * EMCAN32 supports a Min/Max-Hold and Average function. In the previous version the Max/Min-Hold was done for the complete measurement. Now these values will be reset for each EMS frequency cycle by setting the first EMCAN32 channel in the EUT monitoring template to 'Trigger Before Dwell Time'.

- Susceptibility Measurements: The EUT Monitoring GO and NOGO values are now stored according to the EMS Leveling options settings as already done for the immunity level.
EMC32-K2 EMI/EMS Measurements on Wireless EUTs:
- New driver variant for R&S®ESR: designed for radiated spurious emissions measurements (all measurements in spectrum analyzer mode; 3-dB bandwidth filters only).
EMC32-K6 MIL-STD 461 CS103/4/5:
- Using exclusion frequency f lower and f higher instead of f0 and bandwidth.
EMC32-K10 EMI Auto Test:
- For the 'Final Measurement' step the usage of scan templates referencing a different HW Setup (other than the HW Setup in the General Settings) is now supported. Both HW Setups may differ in the selected receiver device and receiver path, but antenna / transducer and frequency subranges need to be identical.

Function
- The option to store the zoom and adjustment graphics as a WMF file now adds the used detector to the file name.

EMC32-K24 EMI Interactive Auto Test:
- The performance of the interactive Maximum Emission search function has been improved.

Device Drivers:
- Generic Mast and Turntable drivers now support VISA interface.
- The AR FM7004 device driver now supports the correction of an individual measurement axis also on multi-channel measurements like average.
- Generic Tripod driver: * Support of OSP-B103 for antenna polarization setting.

Improvements

Function
EMC32 Core Functions:
- Reporting: X/Y scaling of graphics zoom function improved.
- Improved µ handling and MS Sans Serif default fonts for Russian language.
- Table Editor: copy / paste of frequency columns now correctly uses the frequency unit.
- The setting of the temporary test folder in Extras → Options → File Location was sporadically reset to the Windows Temp folder even if set to another folder.
- Moving a trace forward or backward now also moves the internal trace styles correctly.

EMC32-EB EMI Base License:
- During EMI Single Measurement the receiver settings are now disabled.
- Unintended report generation at the stop of an interactive measurement has been corrected.
- No message any more when an EMI Auto Test is performed without a 'Final Measurement'.
- No message any more when activating/deactivating the measurement mode several times in a scan test.
- Update of the Single Measurement result table whenever a new detector is being selected.
- Improved update of the receiver frequency during single measurement, when the subrange is changed.
- EMI Scan: * Interactive Single Measurement: dropping frequencies of different scan template subranges to the current frequency field could sporadically lead to a message "receiver frequency range error".

EMC32-S EMS Base License:
- Improved compatibility to receiver settings in older HW setups.
- Solved issue which had reduced the speed of susceptibility measurements.
- Field Uniformity Evaluation: The result reference calibration file name is being used when running the evaluation via the evaluation dialog.
- Changing of the EUT Monitoring template does not remove the Report Setup.

EMC32-K1 EMS Automotive / MIL:
- Improved compatibility to receiver settings in older HW setups
- The storage of the EUT No-go value depends on EMS leveling options (save last GO or NOGO value) for susceptibility mode.
- Improved leveling tolerance issue which reduced the susceptibility measurement cycle speed.

EMC32-K2 EMI/EMS Measurements on Wireless EUTs
- ABT Measurement:

Function

* fixes the issue that the ABT parameters are shown several times on test start.
- Different Communication Tester drivers:
    * Corrected settings display in case of new templates.
- CMW-WLAN driver:
    * Configure RX Frame Trigger Burst Mode for TX Multi Evaluation.
- CMW-LTE driver:
    * Avoid unnecessary programming of parameters for CA setups.

EMC32-K3 RVC EMS: - Improved amplifier standby function via NOGO dialog.

EMC32-K10 EMI Auto Test
- Automatic check: The Final Measurement template > 1GHz needs to be different to the one for < 1GHz.
- Writing time and date to the comment column of the critical frequency and final result table may be disabled with a new option in the General Settings of the EMI Auto Test template editor.
- LISN Method: set the LISN phase correctly on invoking the second Auto Test subrange preview measurement when using "Execute Hardware Setup Subranges separately" method for the LISN conducted test.
- Triple Loop Method: Use selected preview measurement polarization other than X axis correctly (e.g. only Z axis).
- Preview Measurements with LISN:
    * initialize the LISN line selection correctly when running a test with "Execute HW setup subranges separately" after the first subrange is completed.
- Adjustment Measurement:
    * solved issue: EMC32 attempted to set the antenna mast to a height of 0 cm when the adjustment starts
    * detector name added to the WMF graphics name when saving the adjustment graphics.
- Parking of the slide bar as a post measurement action is now possible.

EMC32-K22 Azimuth Chart: - Added support for several CDMA band classes
EMC32-K23 EMI 3D Evaluation: - 3D chart for Radiated Power in spherical coordinates: corrected assignment of azimuth and elevation axis in 3D chart - Support to drag & drop frequencies from results tables with only one frequency point. - 3D charts are not visible in the test contents preview explorer (Test Components) anymore because for opening of a 3D chart, the loaded test environment needs be available.
EMC32-K24 EMI Auto Test Interactive - Interactive Single Measurement: * Solved issue: Dropping frequencies of different scan template subranges to the 'Current Frequency' field could sporadically lead to a message "receiver frequency range error".
EMC32-K51 EMI Automotive: - Interactive Measurements: The detector set in the EMI single measurement control will now always be applied properly. - Antenna polarization for radiated tests is now possible.

Device Drivers:
- ESU EMI receiver
    * corrected receiver programming when using the LNA (low noise preamplifier for high frequencies) in different subranges
 	
  Maturo NCD mast:

Function

     * The busy flag will now properly be detected.

- Maturo field probe positioner:
     * The axis selection now works correctly.

- Innco CO3000 controller:
     * Added selection for antenna stand devices.
     * Improved control for a 2nd antenna mast.
     * Added automatic detection for different turn unit devices.

- Innco Turntable via DLL:
     * Improvement for reading of the busy flag.

- RadiCentre:
     * Improved zeroing message.
     * Improved message when the COM interface cannot be found.

- Narda NBM5xx EMRxx field probes:
     * Improved interface issue when using two probes of the same type.
     * NBM5xx: Improve support for H field measurements.

- ADAM device for generic tripod and switching unit:
     * Added support for the local port which is required when using >1 ADAM6060 units in parallel.
      The typical syntax: "192.178.168.20:1025:1027" <IP address>:<Remote Port>:<Local Port> use of
      remote port 1025 is required for newer ADAM devices.

- Generic Power Meter driver:
     * Solved issue when using VISA interface.

- Generic EUT Monitoring driver:
     * Now supports a termination character for VISA and LAN.
      Set the value to 0 if no termination character shall be sent.

- Communication tester drivers (CMU, CMW):
     * Map monitoring quantities correctly, especially "AF Volt" needed for Audio Breakthrough
      measurements.

- All CMW drivers:
     * Solved issue: The driver did not physically address the instrument when displaying the Settings dialog.

- CMW-UMTS driver:
     * Now the software correctly programs bands 19, 20 and 21.

- CMW-LTE driver:
     * The display of the band selection for "Actions" section is now corrected in templates generated with
      versions before 9.15.00..
     * Supported CA setups for EMC testing.
     * Channel handovers did reset the ASEM setting; this has been fixed.

- CMW-WLAN driver:
     * Supported usage of two instances of the driver in the Device List.
     * Always switch Packet Generator off and on when 'TX Multi Eval' reports a "measurement problem".
     * The Packet Generator will not be switched on until the link has been established.
     * Now the supported data rates will always be programmed as configured.
     * Avoid unnecessary transitory programming of external attenuations with default values.

4 Known Issues

| Function |
|---|
| EMC32 process sporadically does not terminate when exiting the software. |
| Most times Windows shows an error message in this case. The process is still running in the Windows Task Manager and a new EMC32 instance cannot be started. |
| Workaround: Terminate EMC32 in the Windows Task Manager before restarting EMC32. |
| Using EMC32 with higher Windows font scaling: |
| - When using a font size scaling bigger than 100%, then Windows setting parameter "Use Windows XP style DPI scaling" (marked below in red) needs to be activated in order to guarantee a correct functioning of the dialogs. |
| Workaround: see Windows settings below |
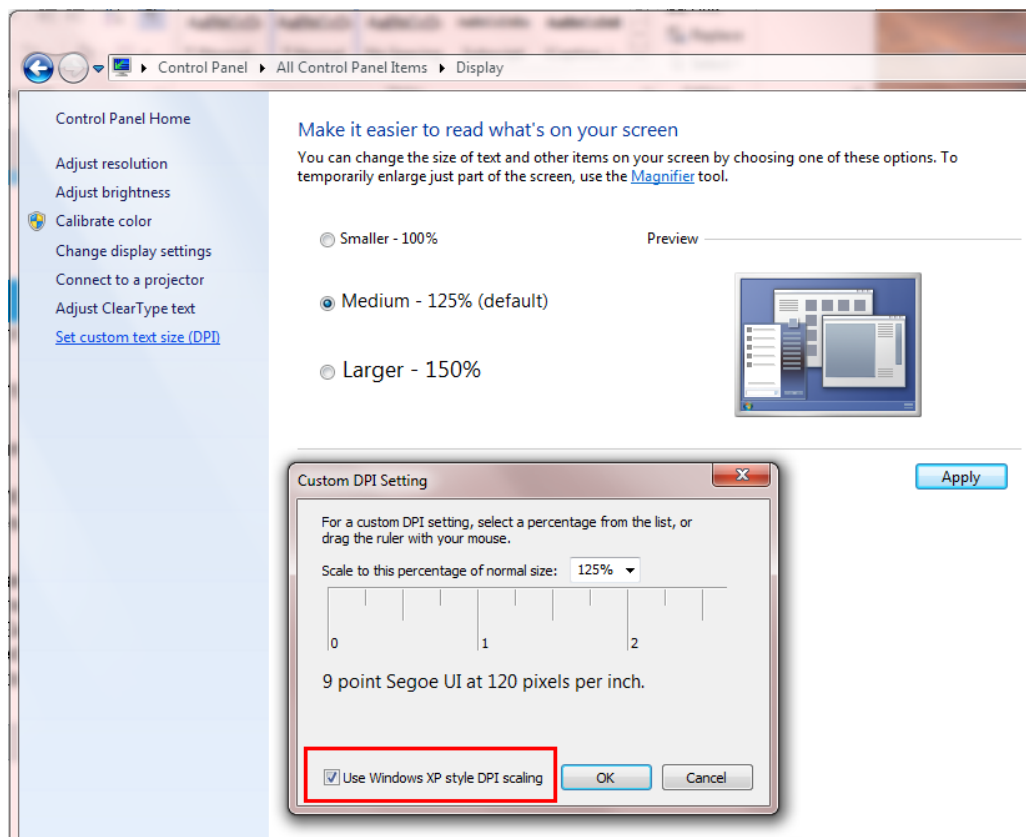
5 Hints

Resetting the Automatic Number Resolution Settings for the Report

Typically for each result table column type the number resolution (digits) can be adapted via the Extras → Options → Report dialog.
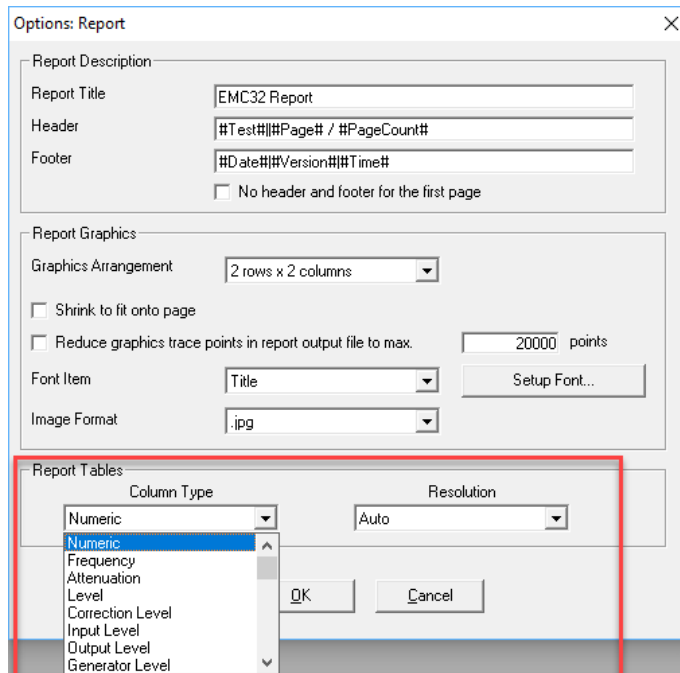
In order to reset the resolution assignment for all column types to the default values open the file "__ADMIN__.ini" from the ..\EMC32\Configuration folder with a text editor.

Search for the section [Report] and there for the line starting with "Resolutions=". Remove this line and save the file before restarting EMC32.

6 Customer Support

Technical support – where and when you need it

For quick, expert help with any Rohde & Schwarz equipment, contact one of our Customer Support Centers. A team of highly qualified engineers provides telephone support and will work with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz equipment.

Up-to-date information and upgrades

To keep your instrument up-to-date and to be informed about new application notes related to your instrument, please send an e-mail to the Customer Support Center stating your instrument and your wish. We will take care that you will get the right information.

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