

R&S®EMC32

Release Notes

Software Version 11.70.00

EMC Section

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The software makes use of several valuable open source software packages. For information, see the "Open Source Acknowledgment" provided with the product.

The following abbreviations are used throughout this document: R&S®EMC32 is abbreviated as R&SEMC32.

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1 Information on the Current Version and Version History

1.1 Version 11.70.00

New Functionality

Version	Functions
11.70	Device Drivers: <ul style="list-style-type: none"> - Add support for R&S EPL 1000. - Add support for R&S ESW Options R&S®ESW-B350/-B350R/-B1000/-B1000R. - Add support for NRPxxT and NRPxxTN RF probes. - Add support for R&S MXO 4 series (mask test not supported). - Add support for NRPxxP probes (successor of NRP-Z8x). - Add support for Frankonia Tilt Mast based on FC06.1 controller.

Modified Functionality

Version	Functions
V11.70	Device Drivers: <ul style="list-style-type: none"> - System Control: amplifiers are re-connected after shutdown / power-up through the system control.
V11.70	EMS Tests: <ul style="list-style-type: none"> - Description for amplifier saturation check according to EN 61000-4-3 to new release version adapted.

Improvements

Version	Improvements
11.70	Device Drivers: <ul style="list-style-type: none"> - AR FM7004: a communication issue is solved. - R&S TS-RSP: some submodules do not show the correct switching result string in the test panel. This issue is solved. - Maturo FPP X/Y positioner: a communication issue is solved. - R&S SMW200A: detection of Kxx options improved. - Generators AGxx: Could'nt connect, if to many VISA sessions are open. This issue is solved. - Receiver: Overflow occurred if higher number of sweep points used. This issue is solved. - R&S ESW + B1000: TD scan with mode AUTO or FAST didn't work properly. This issue is solved.
11.70	General: <ul style="list-style-type: none"> - Correction table: Improves error message if there are duplicated frequency entries - Main language selection improved (readable entries)

1.2 Version 11.60.00

New Functionality

Version	Functions
11.60	General. - Set the reminder period for device calibration. (Default 30 days)
11.60	Drivers: - Support for Spectrum Analyzers FSV(A)3000 - Support for Spectrum Analyzers FPL1000 - Support for new Power Sensors NRPxxP connected on a NRX/NRP - Add support for Power Sensors NRPxxT connected on a NRX/NRP (previously used only as a network or USB device) - Add support for new Generator SMCV100B
11.60	EMS: - HW-Setup. Add configured correction tables of Field Probes to the test report.

Modified Functionality

Version	Functions
11.60	Drivers: - MCD Audio Driver: Load/Save settings; set default input level range; set optimum output Level range - Generator Driver for SMM100A: activate the pulse output signal on the rear connector for pulse modulation - Raditec Radicentre CTR1009B fieldprobe driver: Enable frequency command even if frequency correction is switched OFF - Receiver driver settings: user defined repetition - increase max. value to 10000
11.60	EMS: - Show status of Dwelltime and Immunity Level simultaneously in the pane during the immunity testing

Improvements

Version	Improvements
11.60	Drivers: - Fieldprobe Narda EP60x. Lost of Correction data after EMC32 restart This issue is solved - CMW-LTE driver: Programming no PUSCH does not work correctly This issue is solved - Device driver UPL/UPV/MCD. The tab for Generator settings will not be shown in the settings dialog. This issue is solved - MCD Audio driver: Driver doesn't measure Maxhold value during the Imm. level test. This issue is solved - Raditec Radicentre CTR1009B fieldprobe driver: Communication problems using VISA This issue is solved
11.60	ABT Calibration.

	- Wrong measurement value shown for Gen-Level -5dBPa This issue is solved
11.60	EMI: - Validation error in single measurement with FSWT If an IF-BW >10 MHz is defined in a scan template (FSWT supports wide IF-BW's up to 500MHz)
11.60	General. - Table evaluation: if tables are Incomplete, calculation goes wrong This issue is solved

1.3 Version 11.50.00

New Functionality

Version	Functions
11.50	Drivers: - Support of MCD Audio Analyzer (usage of Audio Analyzer Middleware from Tools/MCD folder is required in combination with AudioAnalyzerMonitor.exe from MCD company). - Support of Radicentre CTR1009B (4 channels averaging). - Generic Oscilloscope driver: Support for Tektronix DPO7104 added.
11.50	General: - The marker resolution display in graphs is now configurable.
11.50	EMI Auto Test: - Frequency resolution extended to 6 decimal places (if test is started with 'new test'). - Possibility to fix the frequency unit to MHz (if test is started with 'new test'). - Report: support margin column colors in the report output document (enabled via option in Extras → Options → Report).

Modified Functionality

Version	Functions
11.50	General: - Device List usability improvements. Separate path list with additional parameters is now always shown. - Table Evaluation. Enable change of output column unit in all cases.
11.50	EMC32-K10F. - Online Help: Improvements for Field Probe Lumiloop added to search index; additional Application Note added.

Improvements

Version	Improvements
11.50	Drivers: - Antenna Mast Innco CO3000, Support for reading tilt status added.

- Vector Generator: Support for radar pulse train GMW3097 added.
- Field Probe Lumiloop (EMC32-K10F). Config file improvements.
- Generic Monitoring: Support for 2nd. termination character added.
- Generator driver Agilent AG33120A. Minimum possible level setting adapted.
- Switch Unit Driver BBA 150. Error message on switching when using LAN interface. This issue is solved.
- Generator driver R&S SMVC100B. Minimum frequency limit changed to 4 kHz
- Antenna Mast Maturio FCU. Incorrect Tilt Mast parameter setting for EUT distance. This issue is solved.
- Generic Oscilloscope driver. Incorrect remote commands for Tektronix TDS7104. This issue is solved.
- Field probes. XYZ-Value (isotropic) not measured on some field probes. This issue is solved.
- Slidebar Maturio FCU. Occasional network communication issues that arise when determine busy status. This issue is solved.
- FieldProbe AR FM7004. Calculation issue when measuring AVG/MIN/MAX with more than one channel. This issue is solved.

11.50	General. <ul style="list-style-type: none"> - Table Evaluation. incorrect path of output table, that sometimes occurs. This issue is solved.
11.50	EMI Auto Test <ul style="list-style-type: none"> - Incorrect table column unit if detailed correction information is activated. This issue is solved. - A stored NSA test could not be loaded. This issue is solved. - Single measurements with repetition: Maxhold didn't work correctly. This issue is solved.
11.50	EMS Scan Template <ul style="list-style-type: none"> - Set Marker to the actual Immunity level trace, if add. target trace is shown.

1.4 Version 11.40.00

New Functionality

Version	Functions
11.40	Drivers: <ul style="list-style-type: none"> - NRX power meter driver now detects the connected RF probe automatically. - Support of RTO6x and RTB oscilloscope series. - Added support for AR FI8000 field probe series with FI7000 driver. - Inco CO3000: support of VSMA1 antenna mast.
11.40	EMC32-K1 Automotive / MIL Support <ul style="list-style-type: none"> - Support for generating pulse A according to ISO7637-1 with R&S HMF2550.

Modified Functionality

Version	Functions
11.40	Drivers: <ul style="list-style-type: none"> - SMx RF Generators now support pulse period < 1 s.

- SMA100x RF Generator: do not switch off PGEN output when PULM is not active.
- Generic Tripod driver: add support for evaluating antenna angle into H and V polarization where H = 0 ... 30 deg.
- Receiver driver for FSWT: support of CISPR detectors has been added.

11.40	<p>General:</p> <ul style="list-style-type: none"> - Backup / Restore now keeps all txt files in the test. - Actions: limitation of TCP Port number has been removed.
11.40	<p>EMS Base License:</p> <ul style="list-style-type: none"> - Amplifier Saturation Check Limits is now adapted to "EN 61000-4-3:2020". - Directional coupler information is added to the detailed HW Setup report. - Handling of EUT Failure Mode Analysis dialog has been improved.
	<p>EMC32-K3 EMS Reverberation Chamber Measurements</p> <ul style="list-style-type: none"> - For RTCA DO160E/G the alpha factor mentioned in the standard is now applied to calculate the sigma value when the number of sensor positions is <= 20.
11.40	<p>EMC32-K11 Test Sequencer:</p> <ul style="list-style-type: none"> - The maximum number of tests in a test sequence is now limited to 50 entries. Running more than these tests could lead to 'out of memory' issues.

Improvements

Version	Improvements
11.40	<p>Drivers:</p> <ul style="list-style-type: none"> - R&S BBA Switch Unit driver now also supports the VISA interface. Adaptations to FW 4.30 are done. - BONN TWAL amplifier: command set has been adapted for newer models.
11.00	<p>EB EMI Base License:</p> <ul style="list-style-type: none"> - EMI Scan / Sweep editor: vertical scrollbars are now re-enabled.
11.00	<p>EMI Auto Test:</p> <ul style="list-style-type: none"> - Displaying the applied transducer correction value at subrange borders in the Final Result table is now improved. - Improved synchronization on accessory result table columns on re-open of a test.
11.00	<p>EMC32-K84 Reporting</p> <ul style="list-style-type: none"> - Improved synchronization to Loop Results folder for reporting of graphics.

1.5 Version 11.30.00

New Functionality

Version	Functions
11.30	<p>Drivers:</p> <ul style="list-style-type: none"> - R&S SMM100A: support of new R&S vector signal generator - R&S BBA300: support of new R&S amplifier series

11.30	EMC32-K3 Reverberation Chamber: - Support for modulation loop for DUT test
11.30	EUT Information Editor with EMC32-K2: - Support of WIFI band selection for VoWLAN audio break through calibration.

Modified Functionality

Version	Functions
11.30	Drivers: - AR FA7xxx field analyzer driver (single probe) now supports VISA interface - AR FM7004 field probe driver now shows individual axis correction table in correction overview table - Generic RF generator: driver now uses for RF level resolution the value defined in the Level section of the configuration file - Generic field probe driver supports now 2 and 3 probe configurations for Lumiloop field probe
11.30	EB EMI Base License: - Support for up to 6 digits defining the measurement frequency range - Signal path for TX antenna is not immediately created after changing TX antenna or receiver to avoid superfluous entry in device list - Generic EUT Monitoring driver is now available on pure EMI application installations.
11.30	EMS Base License: - Standard "EN 61000-4-3:2020" for Edition 4 is now available as selection for field uniformity evaluation
11.30	Launcher Tool: - The "__Admin__opt" file containing the graphics settings is now synchronized with the backup - The root folder containing the configuration folder can now be changed

Improvements

Version	Improvements
11.30	Drivers: - R&S SMB100B: PULM modulation option was not detected. This issue is solved. - Sweeps in spectrum analyzer mode with sweep type 'FFT': with longer sweep times a time-out condition could occur. This issue is solved.
11.30	Report: - "Additional graphics" component in the report template did not always add these graphics. This issue is solved.
11.30	EMC32-EB EMI Base License:

- EMI receiver input was not enabled on repeating a scan in combination with the 'Protect Receiver' Action and automatic report generation. This issue is solved.

11.30	EMS Base License: - Measurement speed increased by optimized marker update
11.30	EMC32-K1 Automotive / MIL EMS: - EMCAN64: support for LIN Bus signal optimized - EMCAN driver: compatibility to EMCAN64 application optimized
11.30	EMC32-K10 EMI Auto Test: - Depending on the number of used HW ranges and the frequency value from the "Final_Result" table post processing calculation of the detailed correction information values may have been not calculated. This issue is solved.

1.6 Version 11.20.00

New Functionality

Version	Functions
11.20	Drivers: - R&S SMCV100A: support new R&S vector signal generator SMCV100A. - R&S CMW500: support for WIFI-6E based on WLAN 802.11ax and BT5.0 with BER/PER/NAK measurement for EMS testing. Pre-requisites: CMW500 with two TRX boards, firmware BASE V3.8.11, WLAN Signaling V3.8.20 or later; Frequency extender CMW-Z800A - NI USB 6218: is now supported as EUT monitoring DAQ card.
11.20	EMC32-K3 Reverberation Chamber: - Support PSA B21 7110 reverberation EUT test chamber method - continuous tuner for DUT test (use EN 61000-4-21 / ISO 11452-11 algorithm for chamber calibration mode tuned). - Support for EN 61000-4-21 additional continuous tuner for DUT test.

Modified Functionality

Version	Functions
11.20	Drivers: - AG33120A: level settings in properties dialog are not editable.

Improvements

Version	Improvements
11.20	Drivers: - R&S SMB100A support for attenuator fixed mode (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 BBA150 switch unit driver: support for more than 9 output paths.
- R&S BBA130/150 Switch Unit Driver: support for up to 12 paths.
- R&S NRX Driver: improve RADAR pulse and PM measurement on channel C/D.
- R&S UPP driver: improved command compatibility.
- R&S UPP and UPPFast: made sure monitoring settings are displayed correctly when the channel order is modified in the EUT Monitoring editor
- BONN TWLA support for new models "0208-300" and "0618-300".
- Manual antenna: optimized message box output for manual operation.
- R&S SMT: increased resolution for pulse width setting.
- Maturo FCU tilt mast: driver supports now tilt parameter setting via EMI Auto Test template editor.
- Maturo FCU turntables: improved driver performance.
- Maturo FCU: communication with controller improved.
- Sunol mast: improvements for communication stability.
- R&S NRP18S-20 RF probe is now supported.
- Slidebar properties: min/max ranges adapted.
- AG33220 driver supports now VISA interface.
- Incco CO3000 antenna stand: improved sending of new polarization command.
- Generic field probe driver: support for parsing result value with number of chars per axis (EMCenter)
- R&S FSV drivers: also accept corresponding models FSV(A)3000 and FPL1000
- Receiver drivers: the optional download of transducers and limit lines has been improved for limit lines with gaps, and for transducers defined in dBm
- R&S EMCAN Driver: improvement not to send trigger for each monitoring channel.
- Maturo FP Positioner Driver: improved speed setting.
- Generic Tripod Driver: could not control RSM-090 because of handshake status and unneeded termination character.
- 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.
- R&S 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.
- R&S receiver FSWT: in a scan template now, the IF gain can be configured as well.
- R&S spectrum analyzers FSU/FSV with external mixing: an incomplete frequency range validation could cause an error; this has been fixed.

11.20	<p>EMC32-S:</p> <ul style="list-style-type: none"> - Improved calculation of test frequencies in case of mixed frequency list and frequency list only in one test template. - 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.
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1.7 Version 11.10.00

New Functionality

Version	Functions
11.10	New Extension EMC32-K10F:

This extension supports the measurement of the EIRP of wireless devices using WLAN, BT or other wireless communication standards with a field sensor. The supported field sensor has to fulfill the requirements of EN 300 328 and EN301 893.

The measurement procedure to determine the maximum power radiation is based on the existing EMI Auto Test measurement flow. The main difference is that instead of an EMI receiver, a field sensor with appropriate measurement sampling rate and measurement performance will be used.

11.10	Drivers: - SMBV100A: now supports generating RADAR pulse packets via a predefined pulse train table - SMA100B driver now supports option B167 (frequency extension to 67 GHz)
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Modified Functionality

Version	Functions
11.10	Drivers: - R&S Scope driver: changed default coupling from 50 Ohms to 1 MOhms - RTS SMT06 driver: support for pulses in the ns range added - R&S SMB100A driver: ALC mode set to normal for PULM - HMF525 AWG driver now supports LAN interface - Agilent 33220A driver now supports LAN interface - Maturo FCU controller: optimized query of result data - Sunol mast: improved compatibility to SC104V controller
11.10	EMC32-EB EMI Test: - R&S ESW: TD Scan mode (Auto / Dynamic / Fast) selection is now enabled. - The sign of the difference between marker and reference trace in the graphics (changed in V10.35.02) can now be configured. - R&S FSV/ESR/FSW/ESW drivers: provided a selection to run sweeps without Auto mode (which uses FFT mode if possible) - R&S receiver drivers running in spectrum analyzer mode only: the number of sweep points in zero-span- (single) measurements can now be configured
11.10	EMC32-K1 EMS Automotive / MIL: - The AVL turntable driver is now also installed with this option. - Using an oscilloscope as sensor: the measured value is now weighted with PEAK detector (was RMS)
11.10	EMC32-K10 EMI Auto Test: - The final zoom plot can now be performed using the same start and stop frequency range as the prescan plot. - Zoom graphics can now be stored also as JPG or PNG format. The format is configurable in Options >> Report.

Improvements

Version	Improvements
11.10	Drivers:

- R&S ESPI/ESCI: prevent from using scans with CAV or CRMS detectors
- R&S BBL200: improve compatibility of driver for this amplifier model
- Usage of manual mast in EMI tests improved (new position was not always queried)

11.10	EMC32-K1 EMS Automotive / MIL: - Field Uniformity Measurement: sensor position range (if not default 1 to 16) was not always correctly applied for automatic evaluation.
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1.8 Version 11.00.10

New Improvements

Version	Improvements
11.00.10	General: - Detection of new options EMC32-K90 / -K91 on separated hardlocks improved.
11.10.10	Calibration Application: - Support of EMI Receiver as measurement device improved.

1.9 Version 11.00.00

New Functionality

Version	Functions
11.00	IMPORTANT INFORMATION: Release of service options EMC32-K90/K91. The Service and Maintenance option options EMC32-K90 for EMC32-EB, EMC32-K91 for EMC32-S and AMS32-K90 for AMS32 are mandatory for running EMC32/AMS32 from V11.00 on, and entitles the user to receive upgrades during one year after the purchase. Thus do not install V11.00.00 when these options are not available. Please contact your R&S Sales Engineer for further information.
11.00	Driver: - FM7004 supports now optional the use of the internal frequency correction. - FSWT: The time domain mode as introduced with the latest firmware version 1.71 is now supported. - Field Probes: support for T as measurement unit.

Modified functionality

Version	Functions
11.00	EMC32-K10 EMI Auto Test: - Protect Receiver Action: in the previous versions Protect Receiver actions defined in Scan / Sweep templates that were used in an EMI Auto Test environment were not executed. A new checkbox in the Protect Receiver action allows now to force the execution also in the EMI Auto Test environment.

Improvements

Version	Improvements
11.00	General: - Launcher: handling of long path names (> 256 characters) is now supported.
11.00	EMC32-K2: Measurement on Wireless Devices - The CMW500 NB-IOT driver is now installed with this option.

1.10 Known issues

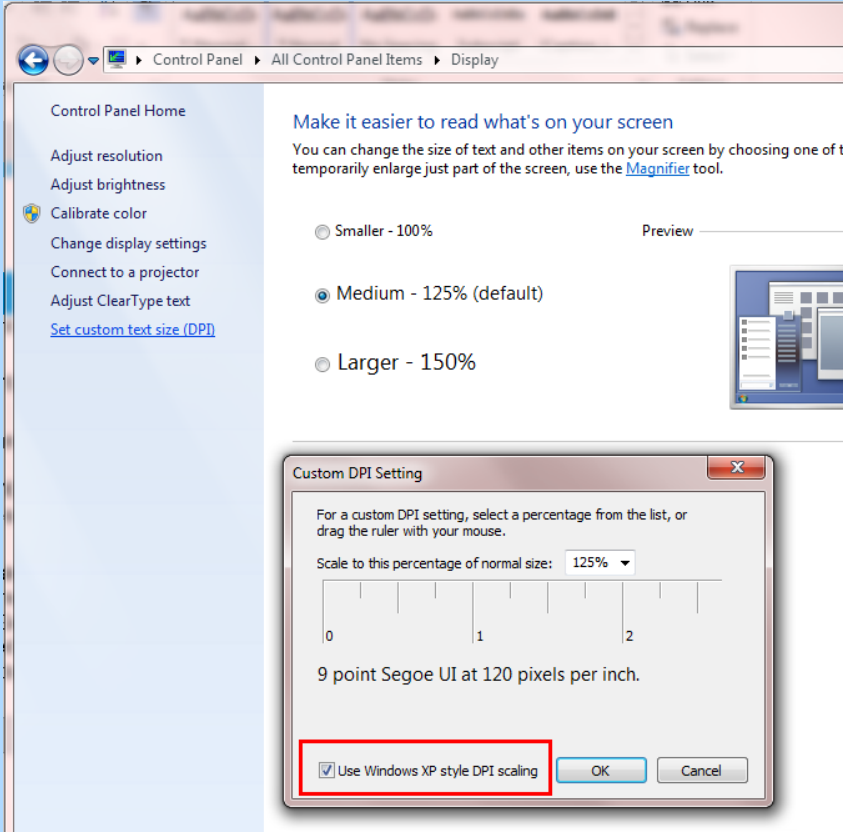
Version	Known Issues
All Versions	<p>EMC32-K11 Test Sequencer</p> <p>- 'Out of memory' when running more than 60 tests in a sequence without re-starting EMC32.</p> <p>The maximum number of tests in a test sequence is now limited to 50 entries since version 11.40.</p>

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

Since Windows 10



The image shows a screenshot of the Windows 10 Control Panel 'Display' settings. The 'Make it easier to read what's on your screen' section is visible, with radio buttons for 'Smaller - 100%', 'Medium - 125% (default)', and 'Larger - 150%'. Below this, the 'Custom DPI Setting' dialog box is open, showing a scale from 0 to 2 and a dropdown menu set to '125%'. The checkbox 'Use Windows XP style DPI scaling' is checked and highlighted with a red box.

2 Modifications to the Documentation

The current documentation (online help) is up-to-date.

3 Software Update

Download and expand (unzip) the file “EMC_AMS_WMS32_11V70.zip” to a temporary folder on your hard drive.

Run the “Setup.exe” program in order to update your EMC32 installation to V11.70.00.

IMPORTANT

The Service and Maintenance option options EMC32-K90 for EMC32-EB, EMC32-K91 for EMC32-S and AMS32-K90 for AMS32 are mandatory for running EMC32/AMS32 from V11.00 on, and entitles the user to receive upgrades during one year after the purchase. Thus, do not install V11.xx when these options are not available. Please contact your R&S Sales Engineer for further information.

4 Customer Support

Technical support – where and when you need it

For quick, expert help with any Rohde & Schwarz product, contact our customer support center. A team of highly qualified engineers provides support and works with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz products.

Contact information

Contact our customer support center at www.rohde-schwarz.com/support or follow this QR code:



Figure 4-1: QR code to the Rohde & Schwarz support page