

Release Note

EMC32

Version 6.20

1 Scope

This document gives an overview of the additional features and fixed problems that are implemented with version 6.20:

- EMC32-E+
- EMC32-S
- EMC32-K1,K2,K3,K4,K6,K7
- IMS OS Software

Subject to change

2 Installation

2.1 Vista Support

With this release EMC32 now supports the Microsoft Windows Vista 32-bit Operating System products.

Refer to the installation guide for further system requirements and information when using MS Windows Vista.

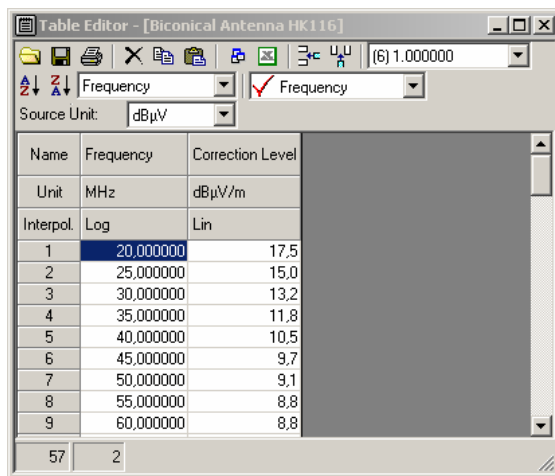
2.2 Online Help

Please note that a German online help is not available any more. Only the English online help will be maintained.

3 EMC32 Main Program

3.1 Extensions / Improvements

- **Editor Behavior when working on Read Only files:**
All editors have been revised to prevent any modification of tables or templates stored in a read only file.
When such a file is being saved, then automatically the Save As dialog will be opened.
- **File Explorer:**
The context menu for files such as results tables or correction tables now allows to 'open' a file as a curve in a new graphics diagram, e.g. for a quick visual inspection.
- **Table Editor:**
The table editor has been completely revised and now supports the following additional functions:
 - Export/Import of tables directly to Microsoft Excel file format (*.xls)
 - Improved copy and paste of table contents
 - Toolbar layout has been improved
 - Table editor position and layout is stored
 - Limitation of maximum number of rows to 16000 has been removed



Name	Frequency	Correction Level
1	20.000000	17.5
2	25.000000	15.0
3	30.000000	13.2
4	35.000000	11.8
5	40.000000	10.5
6	45.000000	9.7
7	50.000000	9.1
8	55.000000	8.8
9	60.000000	8.8

Picture: Table editor

- **Graphics:**
 - In the graphics options it is now possible to define the marker size as well as a proportional symbol size for single points.
 - Loading of a test with many graphics diagrams was very slow, because each opened diagram first led to new arrangement of all diagrams before going on with opening the next diagram.
Now the window arrangement will be postponed until all diagrams have been opened.
 - The zoom function now allows coupling of all open graphics for using the same zoom area in all graphics.

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- When performing a zoom, the marker will now remain on the selected position.
- **Report:**
 - The size of a graphics diagram can be defined to optionally use the rest of the page (size will be stretched).
This allows for more compact reports without leaving empty areas at the bottom of a page.
 - For header / footer an additional place holder '#PageCount' is now available.
This allows to have e.g. a footnote "page 2 of 7", generated from a corresponding footnote definition 'page #Page of #PageCount'.
 - When opening an "electronic report" file such as PDF, RTF or HTML, then older versions directly opened that file with the viewer being integrated into EMC32's user interface.
Now the associated application will be started instead, and always on a copy (inside the Windows TEMP folder, normally ' C:\TEMP\ ') of the file.
This avoids file access concurrencies and especially for RTF the preview should be much better than before.
 - The place holders '#Date' and '#Time' will now show the start of a test instead of the current date / time information.
This doesn't work for stored tests generated with earlier EMC32 versions.
 - The column visible/hide information defined in the test templates for each parameter will be applied in the report.
This feature helps to reduce the number of columns in the report.
- **Configuration Wizard:**

In the past when the configuration wizard was started again at a later time, then it did not care about files that had been modified in the meantime. All standard files were copied (overwritten) again, which could lead to the loss of changes.
Now the wizard can optionally leave those files untouched.
- **Test Results:**

Temporary test results are now being stored in a sub-folder inside the Windows TEMP folder, normally ' C:\TEMP\ '. Older versions had stored those files in the test folder, but that had slowed the test performance when the test folder is located on a network drive.

When EMC32 abnormally stops ("cold" PC power off, forced application ending after a hang-up, ...) during an active test, then after starting EMC32 you will be asked to let the software save those temporary test results as a 'restored test'. Please note that such a restored test may not be 'loadable', but still it should be possible to inspect the test components, possibly re-use them for another test and even create a test report if applicable.
- **Device List:**
 - A new popup menu entry allows duplicating a device entry.
 - A new popup menu entry opens a list of all hardware setups where this device is being referenced.
 - When a device is deleted from the device list, EMC32 first checks whether this device is referenced by any hardware setup and outputs a warning if applicable.
- **Self Check:**

The Self Check dialog now for each device shows an icon similar to the device list, allowing a better orientation in the list of devices.

3.2 Fixed Problems

- **Device List:**
If the device list contains a device driver reference for which no driver is installed, then EMC32 will output a message box which allows to remove this driver from the device list.
- **Signal Path Calibration Sequence:**
The stored sequence parameters have not been shown correctly in the editor.
This problem is solved now.
- **Graphics:**
Transducers were always interpolated as straight lines, independent from the frequency axis interpolation of the transducer.
This has been corrected.
- **Report:**
The report output in the RTF format has been improved to generate a better layout for graphics and tables.

4 EMI Section

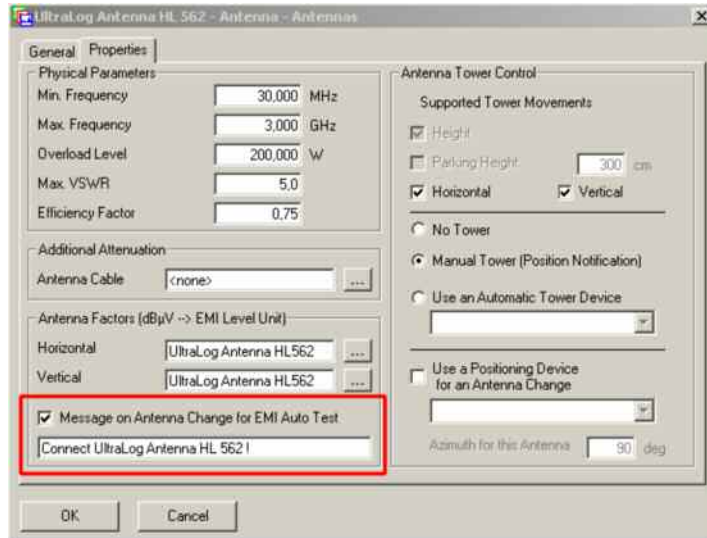
4.1 Extensions / Improvements

- **EMI Test Analysis:**
 - The dialog for pre-calculation and pre-selection of the correlation factors for the GTEM / S-LINE correlations can now be reached directly from the main menu.

- **EMI Auto Test:**
 - Graphics:
In the graphics options it is now possible to define default colors for the curves of an EMI auto test.
 - Auto tests now support 'actions' as known from scan/sweep templates (not for GTEM / S-LINE tests). Those actions can be defined for the beginning and for the end of the auto test as well as before and after each test phase (preview, data reduction, ...).
 - For the data reduction, the subrange maxima can optionally defined to keep the highest 'n' points from each calculated subrange.
 - Final measurements are not mandatory any more (except for GTEM / S-LINE tests). The results from the last test phase which performs measurements (maybe e.g. zoom or maximization), will be presented as 'final results'.
 - After data reduction the preview curves were still assigned to the graphics 'Current measurement' which could slow the performance during single measurements in the other test phases.
This has been changed now.
 - At the end of a test you will also get frequency lists derived from the data reduction results. This helps for the traceability of the results from the data reduction.
 - The "2nd zoom" measurements will not be performed in one block (as is the case with the "1st zoom" measurements) any more. Instead those measurements will be done right before the corresponding adjustment/final measurement.
As a consequence there is a short time between the zoom and the subsequent single measurements (all referring to the very same interferer) which helps with drifting interferers.
Besides, in the tests which handle tower, turntable, etc., the basic setup of the accessory positions will be done only once per frequency point.

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- Antenna Change Message for EMI Auto Test:
When running an EMI Auto Test where different antennas are being used, typically the option “Execute hardware setup ranges separately” is activated. Here it would be useful if the operator gets a message to connect the appropriate antenna. Since this task could not be fully covered by using actions, a new property has been added to the antenna properties dialog (see below).
If the text box “Message on Antenna Change for EMI Auto Test” the operator can enter a message which will be output during an EMI Auto Test when the antenna shall be changed.



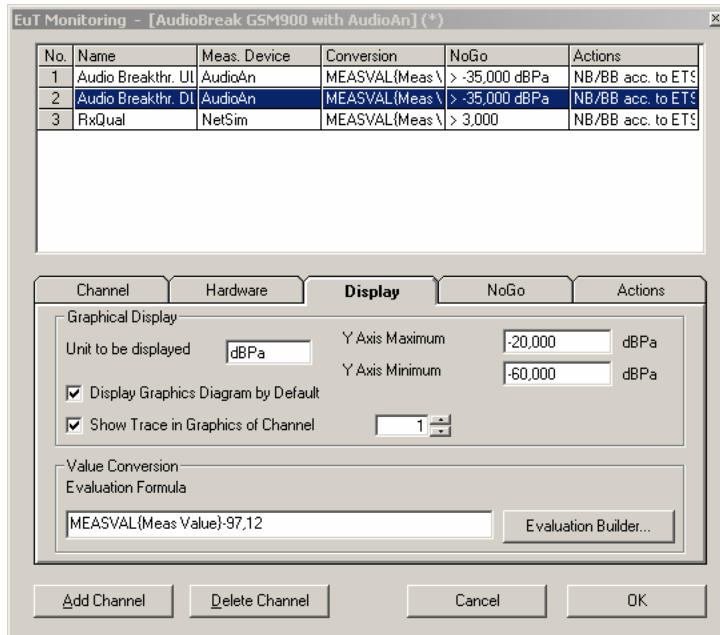
5 EMS Section

This chapter lists the extension integrated for EMC32-S and the appropriate measurement extensions as well as for IMS-OS.

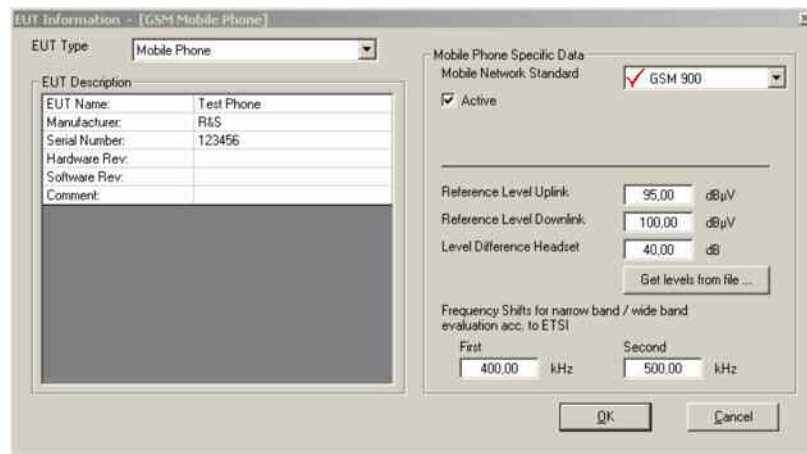
5.1 Extensions

- **System Subfolder for Limit Lines and Log Files:**
Similar to the EMI Auto Test, all EMS tests now also contain a subfolder SYSTEM which stores the limit lines that are being used by the system monitoring of this test.
- **Traceability of Applied Correction Tables:**
For improving the traceability of the measurement results, each EMC32 test now provides a log file in a text format which contains a reference to the calibration tables (file name and calibration date) that are being used for this measurement (stored in the new subfolder SYSTEM of the test). The backup of the actual calibration data tables is the task of the EMC32 operator.
- **EMS Scan Editor:**
 - In the Report tab of the EMS Scan Editor the user can now pre-define which immunity signal and accessory parameter (modulation, polarization, etc.) columns shall be visible in the report.
 - In the System Monitoring table the user can now pre-define which system monitoring channel columns shall be visible in the report.
- **EMS Single Measurement:**
The EMS Single Measurement using the Single Measurement option “Store one Result per Frequency during Single Measurement Mode” has been improved as follows:
During the measurement the current measurement value is shown as a single point where the measurement marker is attached.
When saving this point by pressing the space bar or clicking on the Save toolbar button, the measurement value is copied into the single measurement result table and shown as an individual trace in the graphics.
This allows for generating an immunity shape of the EuT's threshold level.
- **EUT Monitoring:**
In version 6.20 the EUT Monitoring module provides the following new functions:
 - **Combine Channels in one Graphics:**
A new function in V6.20 allows to show the trace of a EUT monitoring channel in the graphics of another channel (both channels must use the same display unit).
 - **Measurement Evaluation:**
The post processing compatibilities of the measurement values for an EUT monitoring channel have been improved. Using an Evaluation Builder (known from the EMS Scan / System Monitoring) it is now possible to add constants or attenuation table values or to convert the measurement value into another value using a formula. For further information please refer to the online help.
 - For each EUT monitoring channel a flag can be set whether the result of this channel shall be visible in the test report (table column).

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- **EMC32-K2:**
The option EMC32-K2 for mobile radio communication tests has been extended on the EMS section with the following functions:
 - **EUT Information:**
The EUT Information parameter file now allows to store the audio breakthrough measurement parameters for several Mobile Network Standards (used below for an EMS Auto Test Loop over several mobile phone channels).

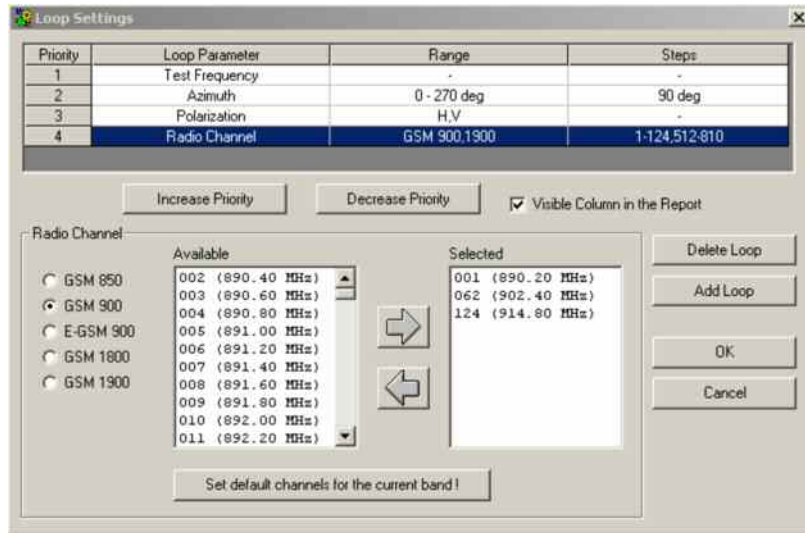


Note:

When updating to V6.20, please check all your EUT Information files for the EUT type mobile phones and adapt to them to the new multiple radio band structure.

- **EMS Auto Test (requires additional EMC32-K4):**
With V6.20 it is now possible to define a loop over several channels for a mobile phone network in combination with EMC32-K4 :

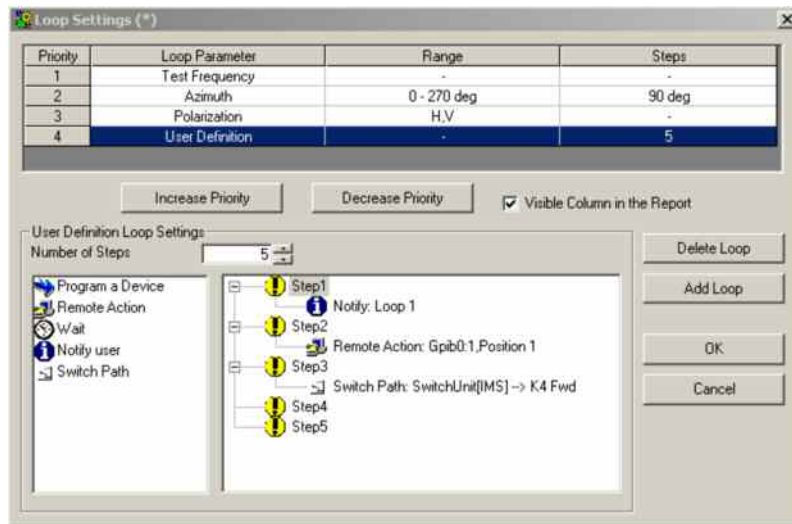
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- **EMC32-K4:**

The EMS Auto Test has been extended with new functions to improve the flexibility of the measurement flow.

- Loop over several channels for mobile phone network (for further information see previous chapter)
- Loop for User defined Actions:
A new loop type User Definition allows to add a flexible loop where for each loop pass actions like “Send a remote command”, “Output a user message” or “Switch path” can be used. This technique can be used to e.g. run an automatic measurement on different EUT states.



- Evaluation of Loop Result Tables:
V6.20 now provides a function to show the result of a previously measured test loop in the measurement graphics.
Therefore a new popup menu entry in the EMS Auto Test Control (where a new loop position can be set) is available.
- NoGo Master Table:
The column Ampl. Power (=Amplifier Forward Power) in the EUT Failures table generated during an EMS Auto Test measurement has been changed to Trd. Power (= Transducer / Antenna Input Power).

6 Device Drivers

6.1 Extensions

- **R&S OSP Switching Unit:**
The new R&S OSP Switching Unit is now supported by a switching unit driver.
- **Generic Switching Unit:**
The Generic Switching Unit driver now enables to control switch units via the VISA interface, allowing to control for example devices on the LAN network.
- **R&S NRP-Z81 with R&S NRP for Radar Pulse Susceptibility Measurements:**
For running Radar pulse measurement according to the Ford or GMW standards, the R&S NRP-Z81 power sensor connected to the R&S NRP base unit in combination with an Arbitrary Waveform Generator AM300 is now supported.
- **Generic Monitoring Driver:**
The Generic Monitoring Driver now enables to access measurement devices via the VISA command interface.
- **Spectrum Analyzers:**
The new spectrum analyzer model R&S FSU 67 is now supported, too.

6.2 Fixed Problems

- **R&S FSET:**
The device hardware detection was not complete if the hardware option FSET-B3 is installed in the instrument.