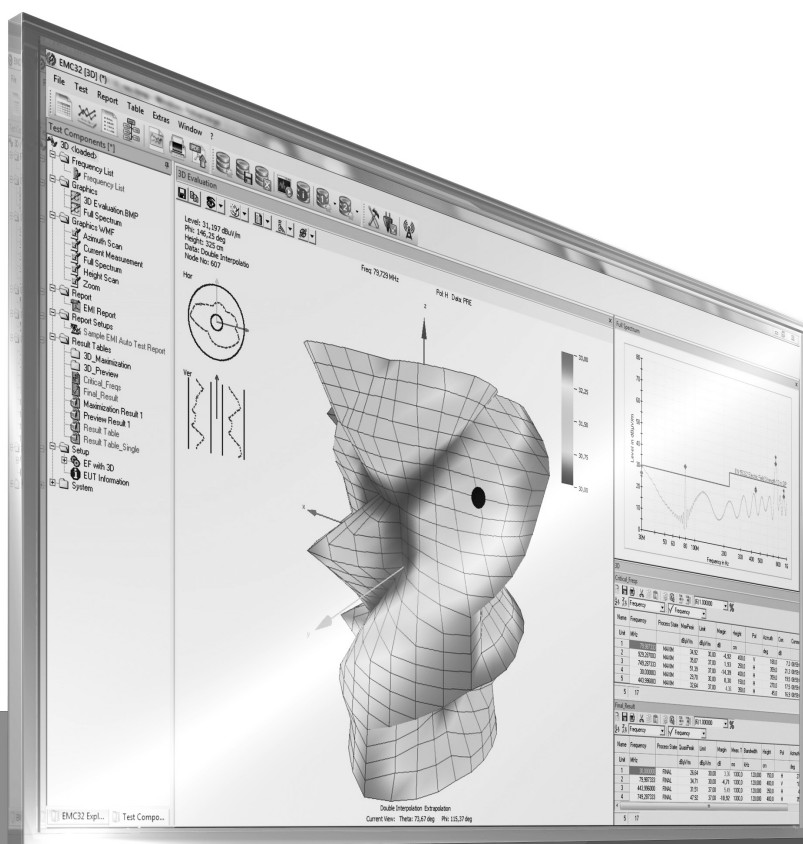


# R&S<sup>®</sup> EMC32

## EMC MEASUREMENT SOFTWARE

### Specifications



Data Sheet  
Version 13.00

**ROHDE & SCHWARZ**

Make ideas real



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## Software version

The following specifications are valid for software version 10.60.10

## User interface languages

The following user interface languages are supported in R&S®EMC32 version 10.60.10: English, German, French, Spanish, Chinese, Russian, Japanese

## System requirements <sup>1</sup>

|                                      |  |
|--------------------------------------|--|
| Operating system                     | Windows 10 (64 bit),<br>Windows 7 (32/64 bit)  |
| CPU                                  | Intel Core models or compatible models with a core speed > 2.4 GHz   |
| Free RAM                             | ≥ 4 Gbyte  |
| Free hard disk space                 | ≥ 1 Gbyte, usage of SSD recommended  |
| Graphics resolution                  | ≥ 1280 × 1024 pixel, 65536 colors (higher resolution strongly recommended)   |
| Network                              | 100 Mbit LAN interface   |
| National Instrument VISA I/O Library | Version 17.0 or later,<br>optional NI GPIB interface cards: NI only, compatible GPIB cards from other manufactures are not supported   |
| Open source acknowledgement          | The R&S®EMC32 measurement software contains open source software packages. Copies of the respective licenses are included in the R&S®EMC32 measurement software open source acknowledgement. Please refer to the download area at <a href="http://www.emc32.rohde-schwarz.com">www.emc32.rohde-schwarz.com</a> |

## Base software packages

### R&S®EMC32-EB, R&S®EMC32-MEB

### EMI measurement software for conducted and radiated emissions

|              |  |             |
|--------------|--|-------------|
| Standards    | examples   | CISPR       |
|              |  | EN          |
|              |  | ETSI        |
|              |  | FCC         |
|              |  | VCCI        |
|              |  | VDE         |
|              |  | MIL-STD-461 |
| DEF-STAN     |  |             |
| Key features | <ul style="list-style-type: none"> <li>• measurement of disturbance voltage, disturbance power and disturbance field strength</li> <li>• use in product certification and precompliance testing during development</li> <li>• in line with commercial, automotive and military standards</li> <li>• flexible adaptation to requirements of various EMC applications</li> <li>• libraries of limit lines for various international product standards and correction factors (antenna transducers, probes, LISNs, etc.)</li> <li>• integrated calibration concept</li> <li>• flexible report generator (HTML, RTF, PDF)</li> <li>• EUT-specific or application-specific test storage and data management</li> <li>• software operates as a virtual instrument</li> </ul> |             |

<sup>1</sup> If your PC does not meet these requirements, the performance of the software may be impaired.

|                                |                                 |   |
|--------------------------------|---------------------------------|---|
| Supported devices <sup>2</sup> | test receivers                  | R&S®ESW                                 |
|                                |                                 | R&S®ESU                                 |
|                                |                                 | R&S®ESR                                 |
|                                |                                 | R&S®ESRP                                |
|                                |                                 | R&S®ESCI                                |
|                                |                                 | R&S®ESPI                                |
|                                |                                 | R&S®ESL                                 |
|                                |                                 | R&S®ESIB                                |
|                                |                                 | R&S®ESCS                                |
|                                |                                 | R&S®ESS                                 |
|                                |                                 | R&S®ESPC                                |
|                                |                                 | R&S®ESHS/R&S®ESVS                       |
|                                |                                 | R&S®ESAI/R&S®ESBI/R&S®ESMI              |
|                                |                                 | R&S®FSWT                                |
|                                |                                 | R&S®FSET                                |
|                                |                                 | R&S®ESN/R&S®ESVN                        |
|                                | spectrum analyzers              | R&S®FSW                                 |
|                                |                                 | R&S®FSV                                 |
|                                |                                 | R&S®FSU                                 |
|                                |                                 | R&S®FSP                                 |
|                                |                                 | R&S®FSL                                 |
|                                |                                 | R&S®FS300 (only 32 bit Windows)         |
|                                |                                 | R&S®FSEA/R&S®FSEB/R&S®FSEM/<br>R&S®FSEK |
|                                | antenna masts and turntables    | generic tripod                          |
|                                |                                 | Deisel HD100                            |
|                                |                                 | Innco CO2000                            |
|                                |                                 | Innco CO3000 incl. tilt with TPMP       |
|                                |                                 | EMCO/ETS 2090                           |
|                                |                                 | ETS EMCENTER                            |
|                                |                                 | Frankonia FCTAM01/04/05                 |
|                                |                                 | Schaefer HCM/HCT                        |
|                                |                                 | SUNOL                                   |
|                                |                                 | Maturo controller NCD, MCU, FCU         |
|                                |                                 | generic mast/turntable                  |
|                                |                                 | Orbit/FR turntable                      |
|                                |                                 | R&S®DST200 positioner                   |
|                                | slide bars                      | Deisel / Maturo MCU, FCU                |
|                                |                                 | Innco                                   |
|                                |                                 | Schaefer HCA/RSA                        |
|                                | switch units                    | R&S®OSP                                 |
|                                |                                 | R&S®TS-RSP                              |
|                                |                                 | R&S®SCIU                                |
|                                |                                 | R&S®RSU                                 |
|                                |                                 | R&S®BBA100                              |
|                                |                                 | Teseo OAM01/OAM02                       |
|                                |                                 | Bonn RSU                                |
|                                |                                 | ADAM 6060                               |
|                                |                                 | generic switch unit                     |
|                                | signal generators               | R&S®AM300 (only 32 bit Windows)         |
|                                |                                 | R&S®SMG/H/Y                             |
|                                |                                 | R&S®SME                                 |
|                                |                                 | R&S®SMT/R&S®SMP                         |
|                                |                                 | R&S®SML/R&S®SMV                         |
|                                | R&S®SMR                         |   |
|                                | R&S®SMA100A/B                   |   |
|                                | R&S®SMB100A/B                   |   |
|                                | R&S®SMC100A                     |   |
|                                | R&S®SMBV100A                    |   |
|                                | R&S®SMU200A                     |   |
|                                | R&S®SMJ100A                     |   |
|                                | R&S®SMF100A                     |   |
|                                | R&S®SM300 (only 32 bit Windows) |   |

<sup>2</sup> Please check the R&S®EMC32 installation CD for the operating system and the required firmware versions of the test instruments. Support of other devices on request.

## R&S®EMC32-S, R&S®EMC32MS

### EMS measurement software for conducted and radiated susceptibility

|                                |   |                                 |
|--------------------------------|---|---------------------------------|
| Standards                      | examples  | IEC/EN 61000-4-3                |
|                                |   | IEC/EN 61000-4-6                |
|                                |   | IEC/EN 61000-4-20               |
|                                |   | CISPR 24/EN 55024               |
|                                |   | EN 60601-1-2                    |
|                                |   | EN 60601-2-x                    |
| Key features                   | <ul style="list-style-type: none"> <li>• measurement of radiated and conducted susceptibility</li> <li>• use in product certification and testing during development</li> <li>• in line with commercial, automotive and military standards</li> <li>• flexible adaptation to requirements of various EMC applications</li> <li>• fully automatic control of EMS test system components</li> <li>• integrated calibration concept</li> <li>• various capabilities for EUT monitoring and EUT stimulation</li> <li>• interface to external EUT monitoring software</li> <li>• flexible report generator (HTML, RTF, PDF)</li> <li>• EUT-specific or application-specific test storage and data management</li> <li>• software operates as a virtual instrument</li> </ul> |                                 |
| Supported devices <sup>3</sup> | signal generators   | R&S®AM300 (only 32 bit Windows) |
|                                |   | R&S®SMG/R&S®SMH/R&S®SMY         |
|                                |   | R&S®SME                         |
|                                |   | R&S®SMT/R&S®SMP                 |
|                                |   | R&S®SML/R&S®SMV                 |
|                                |   | R&S®SMR                         |
|                                |   | R&S®SMA100A/B                   |
|                                |   | R&S®SMB100A/B                   |
|                                |   | R&S®SMB100B                     |
|                                |   | R&S®SMC100A                     |
|                                |   | R&S®SMBV100A                    |
|                                |   | R&S®SMU200A                     |
|                                |   | R&S®SMJ100A                     |
|                                |   | R&S®SMF100A                     |
|                                |   | R&S®SM300 (only 32 bit Windows) |
|                                |   | R&S®HMF2525                     |
|                                |   | HM8134                          |
|                                |   | HM8135                          |
|                                | power meters  | R&S®NRP2                        |
|                                |   | R&S®NRQ6                        |
|                                |   | R&S®NRP                         |
|                                |   | R&S®NRP-Zxx                     |
|                                |   | R&S®NRPxx-S(N)                  |
|                                |   | R&S®NRVD                        |
|                                |   | R&S®NRVS                        |
|                                |   | R&S®NRX                         |
|                                |   | R&S®URV5/R&S®NRV/R&S®URY        |
|                                |   | R&S®URE3/R&S®URE2/R&S®URE       |
|                                |   | Gigatronics 8650                |
|                                |   | Agilent E4417/4412A/4413A       |
|                                | HP8508  |                                 |
|                                | test receivers  | R&S®ESW                         |
|                                |   | R&S®ESU                         |
|                                |   | R&S®ESR                         |
|                                |   | R&S®ESRP                        |

<sup>3</sup> Please check the R&S®EMC32 installation CD for the operating system and the required firmware versions of the test instruments. Support of other devices on request.

|                   |                    |   |
|-------------------|--------------------|---|
| Supported devices |                    | R&S®ESCI                                |
|                   |                    | R&S®ESPI                                |
|                   |                    | R&S®ESL                                 |
|                   |                    | R&S®ESIB                                |
|                   |                    | R&S®ESCS                                |
|                   |                    | R&S®ESS                                 |
|                   |                    | R&S®ESPC                                |
|                   |                    | R&S®ESHS/R&S®ESVS                       |
|                   |                    | R&S®ESAI/R&S®ESBI/R&S®ESMI              |
|                   |                    | R&S®ES(V)N                              |
|                   |                    | R&S®FSWT                                |
|                   |                    | R&S®FSET                                |
|                   | spectrum analyzers | R&S®FSW                                 |
|                   |                    | R&S®FSV                                 |
|                   |                    | R&S®FSU                                 |
|                   |                    | R&S®FSP                                 |
|                   |                    | R&S®FSL                                 |
|                   |                    | R&S®FS300 (only 32 bit Windows)         |
|                   |                    | R&S®FSEA/R&S®FSEB/R&S®FSEM/<br>R&S®FSEK |
|                   | amplifiers         | R&S®BBA100                              |
|                   |                    | R&S®BBA130                              |
|                   |                    | R&S®BBA150                              |
|                   |                    | R&S®BBL200                              |
|                   |                    | Bonn BLWA                               |
|                   |                    | Bonn BLMA                               |
|                   |                    | Bonn BTA                                |
|                   |                    | Bonn BSA                                |
|                   |                    | AR (SCIU controlled)                    |
|                   |                    | AR (TSRSP controlled)                   |
|                   |                    | AR TxGx                                 |
|                   |                    | generic amplifier                       |
|                   | switch units       | R&S®OSP                                 |
|                   |                    | R&S®TS-RSP                              |
|                   |                    | R&S®SCIU                                |
|                   |                    | R&S®RSU                                 |
|                   |                    | R&S®BBA100                              |
|                   |                    | Teseo OAM01/OAM02                       |
|                   |                    | Bonn RSU                                |
|                   |                    | ADAM 6060                               |
|                   |                    | generic switch unit                     |
|                   | field sensors      | AR IF7000                               |
|                   | ETS HI6100         |   |
|                   | Holiday IF4000     |   |
|                   | AR FA72xx          |   |
|                   | AR FM2000          |   |
|                   | AR FM5004          |   |
|                   | AR FM7004          |   |
|                   | AR FI7000          |   |

|                                |                              |  |
|--------------------------------|------------------------------|--|
| Supported devices <sup>4</sup> | field sensors                | AR IF4000<br>ETS HI6xxx<br>AR IF-4456<br>Narda EMR-200<br>Narda EMC-300<br>Narda NBM 520/550/580<br>PMM EP6xx<br>PMM EHP-200<br>PMM OR03<br>PMM 8053<br>Wandel & Goltermann WG20<br>Dare RadiSense/RadiCentre<br>IFI EFS-6<br>Wavecontrol SMP2<br>Generic field probe (e.g. Lumiloop LSPROBE 1.2)  |
|                                | EUT monitoring               | generic monitoring<br>CE-SYS CECAM<br>external PC monitoring<br>mk-messtechnik video inserter<br>Voelker SVG video inserter<br>National Instruments USB 6009<br>meM-ADfo<br>USB-AD16f<br>memM-PIO USB I/O<br>R&S <sup>®</sup> RTO<br>R&S <sup>®</sup> RTM<br>R&S <sup>®</sup> RTE<br>R&S <sup>®</sup> UPL<br>R&S <sup>®</sup> UPV<br>R&S <sup>®</sup> UPP200/R&S <sup>®</sup> UPP400/<br>R&S <sup>®</sup> UPP800 |
|                                | antenna masts and turntables | generic tripod<br>Deisel HD100<br>Incco CO2000/CO3000 incl. Tilt with<br>TMPM<br>Dare Radicenter<br>EMCO 2090<br>ETS 2090<br>ETS EMCenter<br>Frankonia FCTAM01/04/05<br>Schaefer HCM/HCT<br>SUNOL<br>Maturo Controller MCU, NCD, FCU<br>generic mast/turntable<br>Orbit/FR turntable<br>R&S <sup>®</sup> DST200 positioner   |
|                                | interlock devices            | R&S <sup>®</sup> TS-RSP<br>R&S <sup>®</sup> SCIU<br>Bonn Amplifier<br>meM-PIO USB-I/O<br>R&S <sup>®</sup> OSP<br>R&S <sup>®</sup> BBA100<br>R&S <sup>®</sup> BBA150  |

<sup>4</sup> Please check the R&S<sup>®</sup>EMC32 installation CD for the operating system and the required firmware versions of the test instruments. Support of other devices on request.



## Options

### R&S®EMC32-K1, R&S®EMC32MK1

#### EMS measurements in line with automotive and military standards

|                                |  |  |
|--------------------------------|--|--|
| Required R&S®EMC licenses      |  | R&S®EMC32-S  |
| Standard                       | examples   | ISO 11451<br>ISO 11452<br>MIL-STD-461E/F, CS114<br>MIL-STD-461E/F, RS103<br>RTCA DO 160 G<br>SAE J1113<br>SAE J551<br>2004/104 EC<br>ECE 10 revision 3<br>car manufacturer standards                           |
| Key features                   | <ul style="list-style-type: none"> <li>enhanced EMS level functions</li> <li>monitoring of automotive bus systems (CAN, LIN, MOST, FlexRay™)</li> <li>automatic determination of immunity thresholds</li> <li>direct power injection measurements</li> <li>TEM cell attenuation measurement</li> </ul> |  |
| Supported devices <sup>5</sup> | arbitrary generators   | R&S®AM300 (only 32 bit Windows)<br>R&S®SMA100A pulse train option<br>R&S®SMB100A pulse train option<br>R&S®SMF100A pulse train option<br>R&S®HMF2525, R&S®HMF2550<br>Agilent 33220A/33250A<br>Tektronix AFG320 |
|                                | EUT monitoring via R&S EMCAN32   | Vector CANoe (V11)<br>Vector CANalyzer (V11)   |

### R&S®EMC32-K2, R&S®EMC32MK2

#### RSE and ABT measurements on wireless devices

|                                |   |   |
|--------------------------------|---|---|
| Required R&S®EMC32 licenses    |   | R&S®EMC32-S and/or R&S®EMC32-EB   |
| Standard                       | examples  | ETSI EN 301489-x<br>ETSI EN 300607  |
| Key features                   | <ul style="list-style-type: none"> <li>radiated spurious emission (RSE) measurements</li> <li>audio breakthrough (ABT) measurements</li> <li>support of filter banks</li> <li>support of all major wireless technologies</li> </ul> |   |
| Supported devices <sup>5</sup> |   | R&S®CMW500<br>R&S®OSP-Fxxx<br>R&S®CMU200 <sup>6</sup><br>R&S®CBT32 <sup>6</sup><br>R&S®PTW70 <sup>6</sup> |

<sup>5</sup> Please check the R&S®EMC32 installation CD for the operating system and the required firmware versions of the test instruments. Support of other devices on request.

<sup>6</sup> Discontinued product.

## R&S®EMC32-K3, R&S®EMC32MK3 EMS measurements in reverberation chambers (mode-tuned method)

|                                |   |   |
|--------------------------------|---|---|
| Required R&S®EMC32 licenses    |   | R&S®EMC32-S, R&S®EMC32-K4   |
| Standard                       | examples  | IEC/EN 61000-4-21<br>Ford ES-XW7T-1A278-AC<br>GMW3097<br>RTCA DO160<br>MIL-STD-461E/F |
| Key features                   | <ul style="list-style-type: none"> <li>• calibration of reverberation chamber (loaded and unloaded)</li> <li>• EUT check</li> <li>• EUT test</li> </ul> |   |
| Supported devices <sup>7</sup> |   | tuner devices and turntable drivers<br>(see R&S®EMC32-EB/R&S®EMC32-S)                 |

## R&S®EMC32-K4, R&S®EMC32MK4 EMS auto test

|                                |  |   |
|--------------------------------|--|---|
| Required R&S®EMC32 licenses    |  | R&S®EMC32-S   |
| Key features                   | <ul style="list-style-type: none"> <li>• sequential EUT tests with several parameters (loops)</li> <li>• several modulation modes</li> <li>• several turntable positions</li> <li>• several antenna polarizations</li> </ul> |   |
| Supported devices <sup>7</sup> | field probe positioning devices  | TDK PP02<br>TDK SI200<br>Innco FSM2315<br>Innco FSM916<br>Beckmann Probotic<br>Mature FPP |

## R&S®EMC32-K6, R&S®EMC32MK6 EMS measurements (CS103, CS104, CS105)

|                             |                                   |                                     |
|-----------------------------|-----------------------------------|-------------------------------------|
| Required R&S®EMC32 licenses |                                   | R&S®EMC32-S, R&S®EMC32-K1           |
| Standards                   |                                   | MIL-STD-461E/F, CS103, CS104, CS105 |
| Key features                | receiver sensitivity measurements |                                     |

## R&S®EMC32-K7, R&S®EMC32MK7 generic device drivers

|                                |                                    |                                 |
|--------------------------------|------------------------------------|---------------------------------|
| Required R&S®EMC32 licenses    |                                    | R&S®EMC32-S and/or R&S®EMC32-EB |
| Key features                   | support of third-party instruments |                                 |
| Supported devices <sup>7</sup> | signal generators                  | generic generator               |
|                                | power meters                       | generic power meter             |
|                                | oscilloscopes (for EUT monitoring) | generic oscilloscope            |
|                                | spectrum analyzers                 | generic analyzer                |
|                                | test receivers                     | generic receiver                |

## R&S®EMC32-K8, R&S®EMC32MK8 interface to lab management systems

|                                |   |                                 |
|--------------------------------|---|---------------------------------|
| Required R&S®EMC32 licenses    |   | R&S®EMC32-S and/or R&S®EMC32-EB |
| Key features                   | <ul style="list-style-type: none"> <li>• interface to dacore LabMan RS lab management software</li> <li>• interface to other products on request</li> </ul> |                                 |
| Supported devices <sup>7</sup> |   | dacore LabMan RS                |

<sup>7</sup> Please check the R&S®EMC32 installation CD for the operating system and the required firmware versions of the test instruments. Support of other devices on request.

## R&S®EMC32-K10, R&S®EMC32MK10 EMI autotest

|                                |   |                  |
|--------------------------------|---|------------------|
| Required R&S®EMC32 licenses    |   | R&S®EMC32-EB     |
| Key features                   | <ul style="list-style-type: none"> <li>• test sequence for fully automatic, reproducible EMI measurements</li> <li>• preview measurement, data reduction and determination of critical frequencies</li> <li>• system check</li> <li>• stop/continue autotest flow</li> <li>• automatic report generation</li> </ul> |                  |
| Supported devices <sup>8</sup> | spectrum analyzers  | generic analyzer |
|                                | test receivers  | generic receiver |

## R&S®EMC32-K10A EMI autotest extension for spurious measurements

|                             |  |                            |
|-----------------------------|--|----------------------------|
| Required R&S®EMC32 licenses |  | R&S®EMC32-EB and EMC32-K10 |
| Key features                | <ul style="list-style-type: none"> <li>• extension to perform the spurious measurements in line with EN 300328, EN 301893 and EN 302502</li> </ul> |                            |

## R&S®EMC32-K11, R&S®EMC32MK11 test sequencer

|                             |   |                                 |
|-----------------------------|---|---------------------------------|
| Required R&S®EMC32 licenses |   | R&S®EMC32-S and/or R&S®EMC32-EB |
| Key features                | <ul style="list-style-type: none"> <li>• sequential test runs for both EMI and EMS measurements</li> <li>• test plan for different categories</li> <li>• individual and comprehensive reports in line with customer requirements</li> </ul> |                                 |

## R&S®EMC32-K21, R&S®EMC32MK21 application interface

|                             |   |                                 |
|-----------------------------|---|---------------------------------|
| Required R&S®EMC32 licenses |   | R&S®EMC32-S and/or R&S®EMC32-EB |
| Key features                | <ul style="list-style-type: none"> <li>• automation of additional measurements using EMC test system</li> <li>• intuitive macro language for test sequence control with <ul style="list-style-type: none"> <li>– mathematical operations</li> <li>– call of subprograms; access to remote interface (GPIB, LAN)</li> </ul> </li> <li>• use as standalone test, action or EUT monitoring device</li> </ul> |                                 |

## R&S®EMC32-K22, R&S®EMC32MK22 azimuth chart

|                             |  |              |
|-----------------------------|--|--------------|
| Required R&S®EMC32 licenses |  | R&S®EMC32-EB |
| Key features                | <ul style="list-style-type: none"> <li>• measurement of radiation pattern (2D)</li> <li>• display as polar diagram (azimuth chart)</li> <li>• passive antenna measurement</li> </ul> |              |

## R&S®EMC32-K23, R&S®EMC32MK23 3D result evaluation

|                             |  |                             |
|-----------------------------|--|-----------------------------|
| Required R&S®EMC32 licenses |  | R&S®EMC32-EB, R&S®EMC32-K10 |
| Key features                | <ul style="list-style-type: none"> <li>• evaluation of preview and/or maximization results of radiated OATS measurements</li> <li>• 3D chart (cylindrical coordinate characterization) for a specific frequency</li> <li>• easy chart generation using drag &amp; drop</li> <li>• interactive rotation of chart</li> <li>• smooth scaling, zooming and interpolation</li> <li>• display of horizontal and vertical cuts</li> </ul> |                             |

<sup>8</sup> Please check the R&S®EMC32 installation CD for the operating system and the required firmware versions of the test instruments. Support of other devices on request.

## R&S®EMC32-K24, R&S®EMC32MK24 interactive EMI auto test

|                             |  |                             |
|-----------------------------|--|-----------------------------|
| Required R&S®EMC32 licenses |  | R&S®EMC32-EB, R&S®EMC32-K10 |
| Key features                | <ul style="list-style-type: none"> <li>• interactive verification of critical frequencies and final measurement results</li> <li>• repetition of auto test measurement steps for selected frequencies</li> </ul> |                             |

## R&S®EMC32-K251, R&S®EMC32MK251 RSE and ABT measurements on TD-SCDMA devices

|                                |                                 |  |
|--------------------------------|---------------------------------|--|
| Required R&S®EMC32 licenses    |                                 | R&S®EMC32-S and/or R&S®EMC32-EB, R&S®EMC32-K2, R&S®EMC32-K10 |
| Standard                       | examples                        | ETSI EN 301489<br>ETSI EN 300607                             |
| Key features                   | measurement on TD-SCDMA devices |  |
| Supported devices <sup>9</sup> |                                 | R&S®CMW500   |

## R&S®EMC32-K26, R&S®EMC32MK26 RSE and ABT measurements on LTE devices

|                                |                            |  |
|--------------------------------|----------------------------|--|
| Required R&S®EMC32 licenses    |                            | R&S®EMC32-S and/or R&S®EMC32-EB, R&S®EMC32-K2, R&S®EMC32-K10 |
| Standard                       | examples                   | ETSI EN 301489<br>ETSI EN 300607                             |
| Key features                   | measurement on LTE devices |  |
| Supported devices <sup>9</sup> |                            | R&S®CMW500<br>R&S®OSP with R&S®OSP-B155                      |

## R&S®EMC32-K27, R&S®EMC32MK27 dual receiver measurement

|                                |  |                              |
|--------------------------------|--|------------------------------|
| Required R&S®EMC32 licenses    |  | R&S®EMC32-EB, R&S®EMC32-K10  |
| Standards                      |  | all commercial EMI standards |
| Key features                   | <ul style="list-style-type: none"> <li>• support of two receivers simultaneously e.g. one horizontal, the other vertical</li> <li>• reduced measurement time</li> <li>• versatile measurement modes</li> <li>• automatic antenna angle offset</li> <li>• separate receivers for antennas</li> <li>• sweep data from two receivers saved separately and merged before data reduction</li> </ul> |                              |
| Supported devices <sup>9</sup> | Two receivers of the same product line required. Examples:<br>R&S®ESW8 and R&S®ESW44<br>or<br>R&S®FSV4 and R&S®FSV40   | refer to R&S®EMC32-EB        |

<sup>9</sup> Please check the R&S®EMC32 installation CD for the operating system and the required firmware versions of the test instruments. Support of other devices on request.

## R&S®EMC32-K33, R&S®EMC32MK33 EMI measurements in reverberation chambers (mode-tuned method)

|                                 |   |   |
|---------------------------------|---|---|
| Required R&S®EMC32 licenses     |   | R&S®EMC32-EB and R&S®EMC32-K10  |
| Standard                        | examples  | EN 61000-4-21 annex E   |
| Key features                    | <ul style="list-style-type: none"> <li>• preview measurement for different tuner steps in defined frequency subranges</li> <li>• calculation and display of the DUT's radiated power and estimated free-space field strength</li> <li>• optional data reduction to mark critical frequencies compared to limit line</li> <li>• use of chamber calibration data and DUT check data from R&amp;S®EMC32-K3 susceptibility section</li> </ul> |   |
| Supported devices <sup>10</sup> |   | tuner devices and turntable drivers<br>(see R&S®EMC32-EB/R&S®EMC32-S) |

## R&S®EMC32-K35, R&S®EMC32MK35 EMS measurements on multimedia receivers

|                                 |  |   |
|---------------------------------|--|---|
| Required R&S®EMC32 licenses     |  | R&S®EMC32-S and R&S®EMC32-K35 <sup>11</sup>                                       |
| Standard                        |  | CISPR 35  |
| Key features                    | <ul style="list-style-type: none"> <li>• control of broadcast generators</li> <li>• automatic adaptation of immunity shape taking into account tuner frequency range, tuned channel and spot tests</li> <li>• sound reference measurement</li> </ul> |   |
| Supported devices <sup>10</sup> |  | R&S®BTC<br>R&S®SFE/R&S®SFE100, R&S®SFU,<br>R&S®VTC, R&S®VTE, R&S®VTS,<br>R&S®DVSG |

## R&S®EMC32-K37, R&S®EMC32MK37 EMS autotest: extension for sequences of multimedia tests

|                             |   |   |
|-----------------------------|---|---|
| Required R&S®EMC32 licenses |   | R&S®EMC32-S, R&S®EMC32-K4,<br>R&S®EMC32-K35 |
| Key features                | <ul style="list-style-type: none"> <li>• extension to perform sequences of multimedia tests on broadcast receivers in line with CISPR 35 (R&amp;S®EMC32-K35)</li> <li>• sequential EUT tests with several parameters (loops) <ul style="list-style-type: none"> <li>- multimedia test type (audio or display),</li> <li>- multimedia broadcast channel (as supported by the selected broadcast generator instrument)</li> <li>- multimedia test port (as defined in the selected EUT Information file)</li> </ul> </li> </ul> |   |

## R&S®EMC32-K48, R&S®EMC32MK48 shielding effectiveness test

|                           |   |   |
|---------------------------|---|---|
| Required R&S®EMC licenses |   | R&S®EMC32-S, R&S®EMC32-K4   |
| Standard                  | examples  | IEEE 299<br>MIL-STD-285<br>MIL-STD-188-125-1<br>BS EN 50147-1<br>ASTM D4935-10<br>IEC 62153-4-6<br>other standards similar to the above |
| Key features              | <ul style="list-style-type: none"> <li>• automatic settings for optimized dynamic range</li> <li>• automatic settings for signal generation</li> <li>• control switching of signal generators and antennas</li> <li>• display of real time shielding effectiveness test results</li> <li>• automatic report generation</li> </ul> |   |

<sup>10</sup> Please check the R&S®EMC32 installation CD for the operating system and the required firmware versions of the test instruments. Support of other devices on request.

<sup>11</sup> Some EMI measurements in line with CISPR 32 using R&S®EMC32-EB are also supported.

## R&S®EMC32-K51, R&S®EMC32MK51 EMI band evaluation

|                             |   |   |
|-----------------------------|---|---|
| Required R&S®EMC32 licenses |   | R&S®EMC32-EB                                  |
| Standard                    | examples  | Ford ES-XW7T-1A278-AC<br>GMW 3091<br>GMW 3097 |
| Key features                | on-board EMI measurement sequence in broadband and communications frequency bands for automotive and aerospace applications |   |

## R&S®EMC32-K52, R&S®EMC32MK52 Limit line based measurement sequence

|                             |   |  |
|-----------------------------|---|--|
| Required R&S®EMC32 licenses |   | R&S®EMC32-EB, R&S®EMC32-K51                |
| Standard                    |   | various automotive manufacturers' standard |
| Key features                | <ul style="list-style-type: none"> <li>• evaluation of measurement result against several, overlapping limit lines</li> <li>• reference lines for comparison of measurement results to previous measurements or reference measurements</li> </ul> |  |

## R&S®EMC32-K56, R&S®EMC32MK56 EMI measurements on transmitters (in transmit mode)

|                             |   |  |
|-----------------------------|---|--|
| Required R&S®EMC32 licenses |   | R&S®EMC32-EB, R&S®EMC32-K10                        |
| Standard                    | examples  | MIL-STD-461E/F/G, CE106<br>MIL-STD-461E/F/G, RE103 |
| Key features                | <ul style="list-style-type: none"> <li>• preview measurement with determination of fundamental frequency either automatically or via operator input</li> <li>• calculation and display of required limit line with increased margin level depending on harmonics number</li> <li>• optional data reduction to mark critical frequencies compared to limit line</li> </ul> |  |

## R&S®EMC32-K61 device driver for compact conducted susceptibility tester

|                             |  |  |
|-----------------------------|--|--|
| Required R&S®EMC32 licenses |  | R&S®EMC32-S, R&S®EMC32-K1 for automotive testing |
| Key features                | <ul style="list-style-type: none"> <li>• support for controlling internal RF generator, power meter, amplifier and switching unit</li> <li>• support for measurements in line with EN 61000-4-6 (R&amp;S®EMC32-S)</li> <li>• support for measurement in line with ISO 11452-4 (BCI) (requires R&amp;S®EMC32-K1)</li> </ul> |  |
| Supported devices           | • emtest CWS500N2 (firmware 3.22a03) via USB or GPIB   |  |

## R&S®EMC32-K84, R&S®EMC32MK84 report interface to word processing apps

|                             |   |                                 |
|-----------------------------|---|---------------------------------|
| Required R&S®EMC32 licenses |   | R&S®EMC32-S and/or R&S®EMC32-EB |
| Key features                | <ul style="list-style-type: none"> <li>• summary test report over a test session for a single EUT <ul style="list-style-type: none"> <li>- report based on Word .dotx files referencing R&amp;S®EMC32 report components via field text commands</li> <li>- main report section with test summary table</li> <li>- sub reports based on application specific sub report templates .dotx</li> <li>- easy selection of tests to be included in the summary report</li> </ul> </li> <li>• single test report extension to output report as a Word .docx file</li> </ul> |                                 |

## R&S®EMC32-K974 remote control interface for R&S®EMC32, R&S®AMS32 and R&S®WMS32

|                             |   |                                 |
|-----------------------------|---|---------------------------------|
| Required R&S®EMC32 licenses |   | R&S®EMC32-EB and/or R&S®EMC32-S |
| Key features                | <ul style="list-style-type: none"> <li>• load test</li> <li>• start test</li> <li>• stop test</li> <li>• pause test</li> <li>• save test</li> </ul> |                                 |

## Software upgrade options

### R&S®EMC32-U9E

#### option for upgrade of emission base software to version 9.xx and 10.0

|              |   |
|--------------|---|
| Key features | <ul style="list-style-type: none"> <li>• upgrade from R&amp;S®EMC32-EB/R&amp;S®EMC32-E/R&amp;S®EMC32-E+ version 8.xx or lower to version 9.xx and 10.0</li> <li>• R&amp;S®EMC32-U9E is shipped as a key code</li> </ul> |
|--------------|---|

### R&S®EMC32-U9S

#### option for upgrade of susceptibility base software to version 9.xx and 10.0

|              |   |
|--------------|---|
| Key features | <ul style="list-style-type: none"> <li>• upgrade from R&amp;S®EMC32-S version 8.xx or lower to version 9.xx and 10.0</li> <li>• R&amp;S®EMC32-U9S is shipped as a key code</li> </ul> |
|--------------|---|

### R&S®EMC32-UP9

#### option for upgrade of emission and susceptibility base software to version 9.xx and 10.0

|              |   |
|--------------|---|
| Key features | <ul style="list-style-type: none"> <li>• upgrade from R&amp;S®EMC32-A/R&amp;S®EMC32-A+/R&amp;S®EMC32-C/R&amp;S®EMC32-W+ version 8.xx or lower to version 9.xx and 10.0</li> </ul> |
|--------------|---|

### R&S®EMC32-K90

#### 1 year EMI software upgrade service (software maintenance)

|               |   |
|---------------|---|
| Prerequisites | <ul style="list-style-type: none"> <li>• R&amp;S®EMC32-EB, R&amp;S®EMC32MEB (or legacy EMI base license) with upgrade to version 9 and 10 (R&amp;S®EMC32-U9E)</li> </ul>  |
| Key features  | <ul style="list-style-type: none"> <li>• allows users to run version 11 and future software versions with their R&amp;S®EMC32-EB (and legacy EMI licenses), when version 11 and the future software version is released during the validity period of the R&amp;S®EMC32-K90</li> <li>• software options (Kxx) are automatically covered with R&amp;S®EMC32-K90</li> <li>• R&amp;S®EMC32-K90 is shipped as a key code</li> </ul> |

### R&S®EMC32-K91

#### 1 year EMS software upgrade service (software maintenance)

|               |  |
|---------------|--|
| Prerequisites | <ul style="list-style-type: none"> <li>• R&amp;S®EMC32-S, R&amp;S®EMC32-MS with upgrade to version 9 and 10 (R&amp;S®EMC32-U9S)</li> </ul>   |
| Key features  | <ul style="list-style-type: none"> <li>• allows users to run version 11 and future software versions with their R&amp;S®EMC32-S, when version 11 and the future software version is released during the validity period of the R&amp;S®EMC32-K91</li> <li>• software options (Kxx) are automatically covered with R&amp;S®EMC32-K91</li> <li>• R&amp;S®EMC32-K91 is shipped as a key code</li> </ul> |

## Ordering information

| Designation   | Type           | Order No.    |
|---|----------------|--------------|
| <b>Base software</b>  |                |              |
| EMI measurement software, for conducted and radiated emissions  | R&S®EMC32-EB   | 1300.7010.02 |
| EMS measurement software, for conducted and radiated susceptibility   | R&S®EMC32-S    | 1119.4638.02 |
| <b>Options</b>  |                |              |
| EMS measurements in line with automotive and military standards   | R&S®EMC32-K1   | 1147.5493.02 |
| RSE and ABT measurements on wireless devices  | R&S®EMC32-K2   | 1147.5506.02 |
| EMS measurements in reverberation chambers (mode-tuned method)  | R&S®EMC32-K3   | 1147.5512.02 |
| EMS auto test   | R&S®EMC32-K4   | 1147.5529.02 |
| EMS measurements (CS103, CS104, CS105)  | R&S®EMC32-K6   | 1147.5541.02 |
| Generic device drivers  | R&S®EMC32-K7   | 1144.5134.02 |
| Interface to lab management systems   | R&S®EMC32-K8   | 1117.7652.02 |
| EMI auto test   | R&S®EMC32-K10  | 1117.6840.02 |
| EMI auto test extension for spurious measurements   | R&S®EMC32-K10A | 1527.1050.02 |
| Test sequencer  | R&S®EMC32-K11  | 1117.6862.02 |
| Application interface   | R&S®EMC32-K21  | 1117.7630.02 |
| Azimuth chart   | R&S®EMC32-K22  | 1117.7646.02 |
| 3D Result evaluation  | R&S®EMC32-K23  | 1504.9190.02 |
| Interactive EMI auto test   | R&S®EMC32-K24  | 1518.3202.02 |
| RSE and ABT measurements on TD-SCDMA devices  | R&S®EMC32-K251 | 1520.5250.02 |
| RSE and ABT measurements on LTE devices   | R&S®EMC32-K26  | 1518.1739.02 |
| Dual receiver measurement   | R&S®EMC32-K27  | 5601.0324.02 |
| EMI measurements in reverberation chambers (mode-tuned method)  | R&S®EMC32-K33  | 1515.2663.02 |
| EMS measurements on multimedia receivers  | R&S®EMC32-K35  | 1519.6270.02 |
| EMS auto test, extension for sequences of multimedia tests  | R&S®EMC32-K37  | 1519.6292.02 |
| Shielding effectiveness test  | R&S®EMC32-K48  | 5601.0301.02 |
| EMI band evaluation   | R&S®EMC32-K51  | 1504.9026.02 |
| Limit line based measurement sequence   | R&S®EMC32-K52  | 1531.5186.02 |
| EMI measurements on transmitters (in transmit mode)   | R&S®EMC32-K56  | 1504.9226.02 |
| Device driver for compact conducted susceptibility tester   | R&S®EMC32-K61  | 1529.7879.02 |
| Report interface to word processing apps  | R&S®EMC32-K84  | 1522.9076.02 |
| Remote control interface for R&S®EMC32, R&S®AMS32 and R&S®WMS32   | R&S®EMC32-K974 | 1520.9879.02 |
| Upgrade of R&S®EMC32-EB, R&S®EMC32-E or R&S®EMC32-E+ to version 9.xx and 10.0                                 | R&S®EMC32-U9E  | 1518.2870.02 |
| Upgrade of R&S®EMC32-S to version 9.xx and 10.0   | R&S®EMC32-U9S  | 1518.2829.02 |
| Upgrade from R&S®EMC32-A/R&S®EMC32-A+/R&S®EMC32-C/R&S®EMC32-W+ version 8.xx or lower to version 9.xx and 10.0 | R&S®EMC32-UP9  | 1504.9010.14 |
| 1 year EMI software upgrade service (software maintenance)  | R&S®EMC32-K90  | 1529.7891.02 |
| 1 year EMS software upgrade service (software maintenance)  | R&S®EMC32-K91  | 1529.7904.02 |

A multi-user license concept is available for customers who need more than one license per location.

Download of R&S®EMC32 EMC measurement software: [www.rohde-schwarz.com/software/emc32](http://www.rohde-schwarz.com/software/emc32)









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