

# R&S® EMC32-K21

## Application Interface

### Automation of additional measurement tasks

Development labs often have to carry out measurements in addition to the actual EMC measurements.

In most cases the T&M equipment necessary for these measurements is already integrated in the EMC test system. The R&S®EMC32-K21 software option makes it possible to automate these measurements with little effort, increasing the efficiency and reproducibility of the test run.



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# R&S®EMC32-K21

## Application Interface

### At a glance

#### Consistent operation and management of test templates

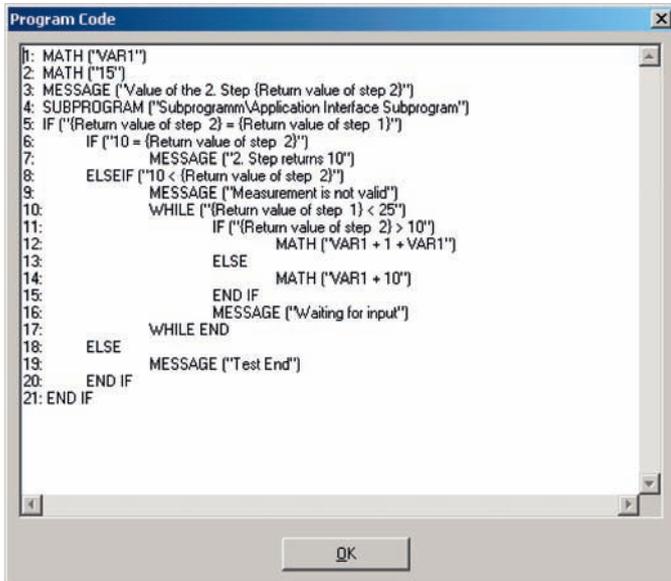
The integration of the application interface into the R&S®EMC32 environment ensures consistent operation for managing the test templates, the test run and the test results in the EUT-specific data structure.

As a result, the performance and documentation of these supplementary test sequences can also be standardized.

#### Intuitive macro language for test sequence control

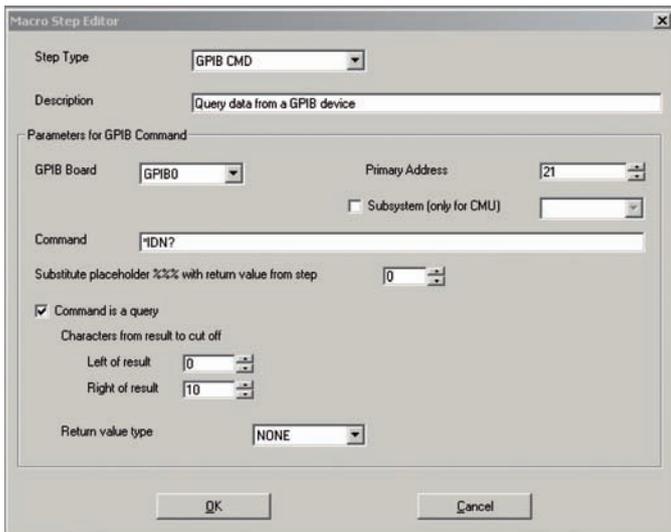
For the creation of program sequences, the software option contains everything that is needed for performing these routine measurements:

- Communications via the GPIB bus for remote-controlling measuring equipment and for the R&S®CMU200 communications analyzer with its dynamic address management
- Interactive user dialogs
- Conditions and loops for sequence control
- Mathematical operations
- Call of subprograms



```
1: MATH ("VAR1")
2: MATH ("15")
3: MESSAGE ("Value of the 2. Step (Return value of step 2)")
4: SUBPROGRAM ("Subprogramm\Application Interface Subprogram")
5: IF ("(Return value of step 2) = (Return value of step 1)")
6:   IF ("10 = (Return value of step 2)")
7:     MESSAGE ("2. Step returns 10")
8:   ELSEIF ("10 < (Return value of step 2)")
9:     MESSAGE ("Measurement is not valid")
10:    WHILE ("(Return value of step 1) < 25")
11:      IF ("(Return value of step 2) > 10")
12:        MATH ("VAR1 + 1 + VAR1")
13:      ELSE
14:        MATH ("VAR1 + 10")
15:      END IF
16:    MESSAGE ("%Waiting for input")
17:  WHILE END
18:  ELSE
19:    MESSAGE ("Test End")
20:  END IF
21: END IF
```

Easy-to-program macro language.



Macro Step Editor

Step Type: GPIB CMD

Description: Query data from a GPIB device

Parameters for GPIB Command

GPIB Board: GPIB0 Primary Address: 21

Subsystem (only for CMU)

Command: \*IDN?

Substitute placeholder %%% with return value from step: 0

Command is a query

Characters from result to cut off

Left of result: 0 Right of result: 10

Return value type: NONE

Flexible driving of GPIB bus devices.

### Easy integration into the test sequence

The created test macros are available as test templates in the R&S®EMC32 file structure, allowing these tests to be performed analogously to the EMC measurements. The R&S®EMC32-K11 option (EMC test sequencer) makes it possible to perform tests also together with EMC measurements.

### Versatile use

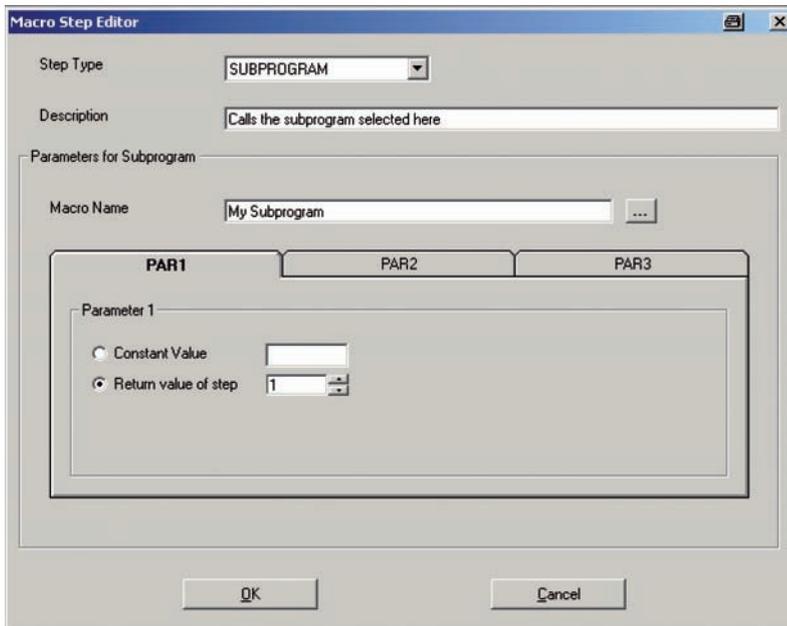
The macro language allows a wide range of use in electrical engineering. Typical applications include the following:

- Measurement of the band occupancy of Bluetooth® or other wireless communications standards
  - Setup of communications
  - Monitoring of the transmission signal with a spectrum analyzer in Max Hold mode
  - Analysis of the occupied band on the spectrum analyzer

- Total harmonic distortion (THD) measurements on FM receivers of mobile phones simultaneously with the operation of GSM or UMTS transmitters
  - Setup of communications
  - Measurement of the audio signal using an audio analyzer
- Measurement of additional EUT and environmental parameters
  - Measurement and documentation of temperature and humidity before, during and after the EMC measurement
  - Recording and documentation of the EUT setup, e.g. via barcode
- Monitoring of battery charge status during automotive EMC measurements

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Ordering information		
Designation	Type	Order No.
<b>Application Interface for general measurement tasks</b> Automation of additional measurement tasks supplementary to EMC measurements To run the R&S®EMC32-K21 software option, the R&S®EMC32-EB basic package for EMI measurements and/or the R&S®EMC32-S basic package for EMS measurements is required.	R&S®EMC32-K21	1117.7630.02



Simplified program structure due to subprograms.

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## Regional contact

Europe, Africa, Middle East

+49 1805 12 42 42\* or +49 89 4129 137 74

customersupport@rohde-schwarz.com

North America

1 888 TEST RSA (1 888 837 87 72)

customer.support@rsa.rohde-schwarz.com

Latin America

+1 410 910 79 88

customersupport.la@rohde-schwarz.com

Asia/Pacific

+65 65 13 04 88

customersupport.asia@rohde-schwarz.com

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## Rohde & Schwarz GmbH & Co. KG

Mühldorfstraße 15 | 81671 München

Phone +49 89 41 290 | Fax +49 89 41 29 121 64

[www.rohde-schwarz.com](http://www.rohde-schwarz.com)

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