

Analog and digital audio measurements with the R&S®CMW

The R&S®CMW-B400B audio board offers the flexibility to measure and quantify audio applications with the R&S®CMW270/280/500 radio communication testers.



R&S®CMW-B400B audio board with R&S®CMW-B405A speech codec option installed.

Your task

Today's mobile devices feature multimode connectivity. The complex chipsets containing 2G, 3G, LTE, WLAN, Bluetooth, NFC, GPS, FM stereo and more have to be tested and measured – quickly, accurately and reliably. The use of digital audio signals is also becoming more widespread. During chipset development, even simple audio signals have to be tested and measured. In mass production it is mandatory to perform testing with a single-source tester in order to reduce test times to an absolute minimum. On the bench or in a test system, accuracy and versatility are key requirements for an audible difference in your end product and for customer satisfaction – a difference that sets you apart from the competition.

T & M solution

At its core, the R&S®CMW-B400B audio board is a comprehensive and powerful audio signal generator and audio signal analyzer in one, both for analog and digital signals. The product has been designed to quickly and easily perform accurate standard audio measurements.

The architecture makes the most of the ever increasing processing and multitasking capabilities to measure many parameters simultaneously and therefore faster. The audio board is highly programmable – ideal for production test automation and specialized custom audio analysis. All measurements are dual channel and dual domain, and the signal generator can be split to allow different functions on each channel. The signal generator has two independent channels and generates signals in the analog and digital domains simultaneously.

Two-channel level and frequency measurements are continuously available in the signal analyzer from either domain. The analyzer also offers a two-channel continuous-time measurement function and up to two two-channel, FFT-derived measurements.

The audio board is a multipurpose, precision audio signal generator and analyzer that helps to automate proof-of-performance measurements and equipment maintenance. Unique features make it the ideal instrument for engineers, and service professionals. The R&S®CMW-B400B audio board can also be extended to include various types of speech codecs.

Realtime vocoder functions for circuit-switched voice calls in GSM, WCDMA and CDMA2000®1x can be used with an external audio analyzer such as the R&S®UPV to execute audio certification tests in line with GCF, PTCRB und CCF. Tests for voice over IP multimedia subsystem (IMS) in the LTE network can also be performed.

These functionalities require that the R&S®CMW-B405A speech codec option is installed on the R&S®CMW-B400B audio board.

Customer benefits

The R&S®CMW-B400B audio board contains the full functionality of analog and digital domain audio measurement. It adds versatile and high performance audio measurement and analysis to the capabilities of the R&S®CMW270/280/500 radio communication testers. The R&S®CMW-B400B audio board offers the following features:

- The combined functionality of a distortion meter (THD ratio and level, THD+N ratio and level), SNR measurements, frequency counter, AC voltmeter, DC voltmeter and FFT analyzer with a low-distortion audio source
- Weighting functions and standard filters with various settings (LP, BP and HP)
- The flexibility to measure and quantify both analog and digital audio applications
- Multitone measurements: up to 20 distinct test tones can be predefined and analyzed

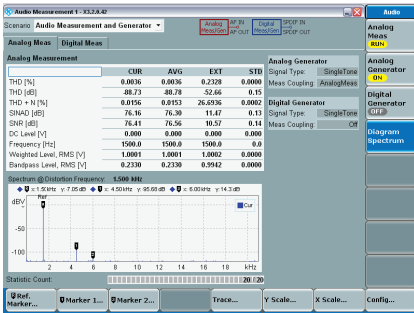
The R&S®CMW-B400B is suitable for applications such as analog and digital chipsets, module design, nonwireless and wireless, consumer electronics audio and much more. Its accuracy and versatility in the test environment will help you make an audible difference in your end product.

See also:

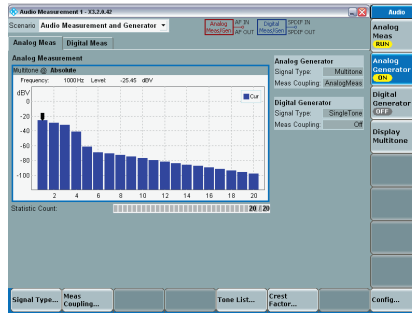
www.rohde-schwarz.com/technologies
www.rohde-schwarz.com/product/CMW

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Rohde & Schwarz is under license. CDMA2000® is a registered trademark of the Telecommunications Industry Association (TIA-USA).

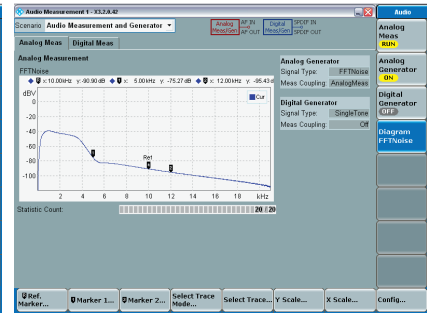
Measuring audio parameters of a mobile device



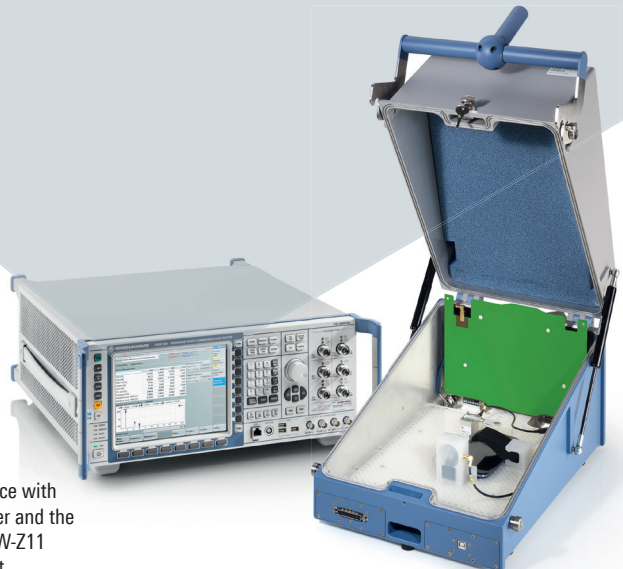
Measurement summaries



Multi-tone measurements



FFT noise measurements



Measuring audio parameters of a mobile device with the R&S®CMW500 radio communication tester and the R&S®CMW-Z10 RF shield box with R&S®CMW-Z11 antenna coupler and R&S®CMW-Z15 audio kit.

Rohde & Schwarz GmbH & Co. KG

Europe, Africa, Middle East | +49 89 4129 12345
 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
 China | +86 800 810 8228/+86 400 650 5896
 customersupport.china@rohde-schwarz.com
 www.rohde-schwarz.com

R&S® is a registered trademark of Rohde & Schwarz GmbH & Co. KG
 Trade names are trademarks of the owners | Printed in Germany (as)
 R&S®CMW-B400B | PD 3606.8589.92 | Version 01.00 | June 2013
 Data without tolerance limits is not binding | Subject to change
 © 2013 Rohde & Schwarz GmbH & Co. KG | 81671 München, Germany



3606858992