

Rohde & Schwarz introduces a modular probe system for precision measurements up to 9 GHz

The R&S RT-ZM probe system used in combination with a Rohde & Schwarz oscilloscope is an excellent solution for easily and precisely measuring fast signals. It offers a maximum bandwidth up to 9 GHz, a DC offset range of ± 16 V and the MultiMode function that allows users to switch between test modes without recontacting.

Munich, March 15, 2017 — Measuring fast data signals, e.g. on SuperSpeed USB or PCIe-2.0 interfaces, requires an oscilloscope that can acquire and analyze data rates up to 5 Gbit/s and suitable probes. The new R&S RT-ZM modular broadband probe system from Rohde & Schwarz ensures that optimum contact is made with the DUT. It provides a high dynamic range and, depending on the tip and test mode, an extremely low input capacitance of 32 femtofarad to 521 femtofarad up into the GHz range. As a result, the test signal is exposed to minimal load and distortion from the probe tip. The R&S RT-ZM system consists of the R&S RT-ZM15/30/60/90 amplifier modules with 1.5 GHz to 9 GHz bandwidth plus various swappable R&S RT-ZMA tips and tip modules.

Multimode: up to four test modes without recontacting

The biggest innovation in the modular broadband probes is the Multimode function. Users can switch between the various test modes: differential, common mode, single-ended P and single-ended N. A single contact on the DUT is therefore sufficient for comprehensive analyses. There is no longer any need to make a new contact with the DUT. Test time and the risk of improper contacting are reduced, providing consistent test results.

The R&S RT-ZM amplifier module with unique DC characteristics

The core of the system is the amplifier module. The user connects the module to a Rohde & Schwarz oscilloscope via the R&S probe interface. It is suitable for bandwidths in the range of 1.5 GHz to 9 GHz. The attenuation factor can be set to 2:1 or 10:1 with a dynamic range of ± 0.5 V or ± 2.5 V. The mixed signal ASICs developed by Rohde & Schwarz offer outstanding RF characteristics and a unique DC characteristic with an exceedingly low temperature drift. The module also offers a large DC offset range of -16 V to $+16$ V, making it possible to analyze small signal details with maximum resolution, even at high voltages.

Another convenient feature of the amplifier module is the R&S ProbeButton. Users can configure the function assigned to this button directly on the oscilloscope. They can, for example, configure it to switch between test modes, to start and stop measurements or to document measurements.

Precision voltage measurements independent of the oscilloscope

The amplifier module's integrated R&S ProbeMeter delivers precision voltage measurements independently of the oscilloscope. The DC components of a test signal can be determined in parallel to the oscilloscope measurement. The R&S ProbeMeter has an accuracy of 0.05 percent with a dynamic range of ± 7 V.

Wide variety of R&S RT-ZMA tip modules for specific applications

To make contact with the DUT, the R&S RT-ZM modular probe system can be equipped with suitable tip modules: modules with solder-in tips or pin connectors, spring-loaded tips and an SMA module. The R&S RT-ZMA11, with a temperature range of -55 °C to $+125$ °C, is ideal for measurements in a climatic chamber.

The R&S RT-ZM is designed for use with R&S RTE and R&S RTO oscilloscopes. It is now available from Rohde & Schwarz. The system will be officially presented in Europe for the first time at the embedded world 2017 trade fair in Nuremberg from March 14 to 16, 2017. For more information about Rohde & Schwarz oscilloscopes and probes, visit www.rohde-schwarz.com/ad/press/powerelectronics.

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Rohde & Schwarz

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