

The new TDEMI G series

In 2006, the inventors of real-time FFT analysis for EMC applications presented a novel technology at the EMC Conference in Singapore, which has revolutionized the field of EMC measurement ever since. Measuring times for complex tasks were reduced from hours to only a few seconds.

The TDEMI 1G was the first instrument to reduce a 30 MHz - 1 GHz Quasi-Peak measurement from 9 hours to 64 seconds. Advantages for customers and users were demonstrated in the test laboratory at the inauguration of the new EMC center of the VDE test institute in Offenbach in 2008.

After the TDEMI 1G had garnered great success, its basic block diagrams and FFT measurement methodology from the user manual were approved and integrated as part of the CISPR 16-3, CISPR 16-2-1, CISPR 16-2-2 and CISPR 16-2-3 standards, the time has come to release a new redesigned TDEMI G series, based on the very latest ADC and FPGA technologies.

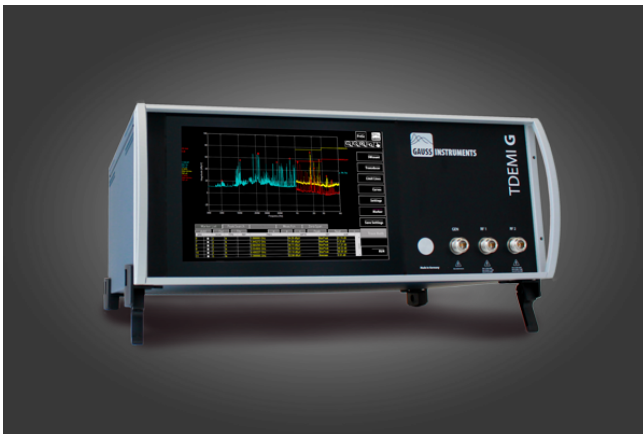


Fig 1.: New TDEMI G receiver series

The new TDEMI G is a full-compliance receiver capable of performing measurements in the frequency ranges 30 MHz, 1 GHz, 3 GHz, 6 GHz, 9 GHz, 18 GHz, 26 GHz, 40 GHz and 44 GHz. The core models of the instrument feature both traditional and FFT-based measurement modes by default. HF performance and measurement dynamics were greatly improved upon since the original TDEMI G series through replacement of old components with high-resolution ADCs and FPGAs. This allows devices of the new TDEMI G series to reach linear dynamic ranges of approx. 90 dB in the real-time band.

The use of powerful FPGAs enables high scan speeds for all TDEMI G-Series instruments in the basic configurations, allowing for short measurement durations of 1.5 seconds for conducted EMC measurements and about 8 seconds for quasi-peak measurements from 30 MHz - 1 GHz.

A spectrum analyzer equipped with traditional and FFT-based measurement modes is also available. The requirements for radio measurements supporting bandwidths up to 60 MHz, e.g. for the qualification of broadband radio signals, are also fulfilled with the core model of the instrument.

The new TDEMI G comes with a high-resolution capacitive touchscreen and connectors on the front, which is ideally suited for both laboratory and outdoor use. The high-resolution display with projected capacitive multi-touch ensures convenient and intuitive operation.

Previously supported features such as vast real-time bandwidth, state of the art HF performance along with the novel Hyper Overlapping technology are able to be extended into the THz range with external mixers by the new TDEMI G series.

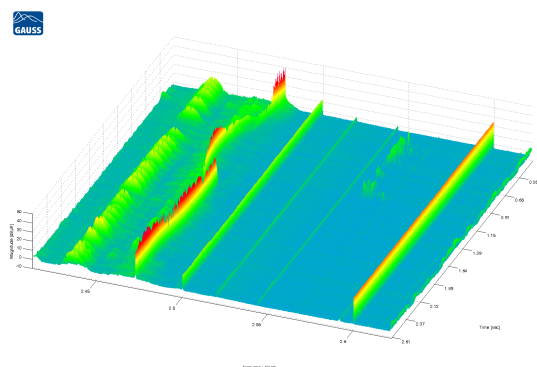


Fig 2.: Measurement of several communication signals and signal of a microwave oven with 100-fold HyperOverlapping