New TDEMI G Series with updated hardware platform and enhanced performance

In 2022, the TDEMI G series from GAUSS INSTRUMENTS was migrated to a new hardware platform, introducing the new generation of the TDEMI G series. In 2026, this new TDEMI G series received a further performance upgrade, offering significant improvements and advantages.

The spurious-free dynamic range now exceeds 90 dB, and with an additional attenuator, a total dynamic range of more than 170 dB is achieved. The new TDEMI G once again sets new benchmarks in measurement accuracy and real-time bandwidth. In addition to EMC measurements, the system can also be used for UWB wireless measurements and can replace other instruments in a wireless test setup, such as broadband power meters. Another innovation is a new design that provides full measurement accuracy immediately after a cold start - without any alignment or internal calibration. This means the instrument is instantly ready for operation whenever a measurement is required, without the need for warm-up time or the initiation of an internal calibration procedure.

Another important RF parameter for both wireless and EMC measurements is the ability to measure signal harmonics. The TDEMI 44G has been further optimized in this respect and now achieves harmonic suppression of more than 96 dBc at 2.2 GHz, with an attenuator setting of 0 dB. In this case as well, maximum sensitivity up to 40 GHz is ensured without the use of external preamplifiers or filters. A typical deviation of no more than ±1 dB is maintained up to 40 GHz, allowing the replacement of additional instruments in wireless measurement setups. For EMC measurements, the measurement uncertainty is significantly reduced through the use of the new TDEMI G series. The new TDEMI G is a full-compliance measurement receiver that already meets the upcoming CISPR 16-1-1 requirements. It is available for frequency ranges of 30 MHz, 1 GHz, 3 GHz, 6 GHz, 9 GHz, 18 GHz, 26 GHz, 30 GHz, 40 GHz, and 44 GHz, and it features both a conventional measurement mode and an FFT-based measurement mode as standard.

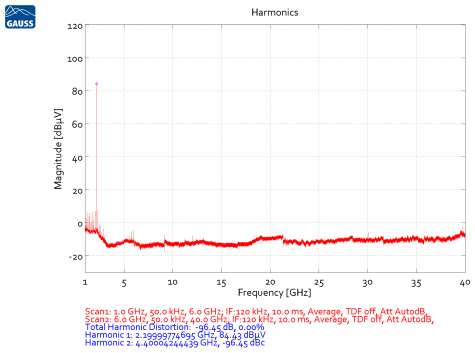


Fig. 1: **Harmonic Measurement of a 2.2 GHz signal**

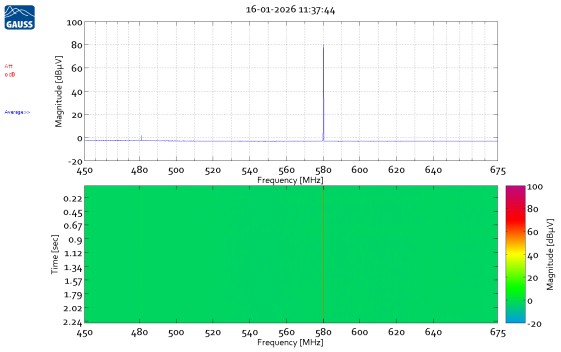


Fig. 2: **Spurious-free dynamic range in real-time band (with Preselector OFF)**

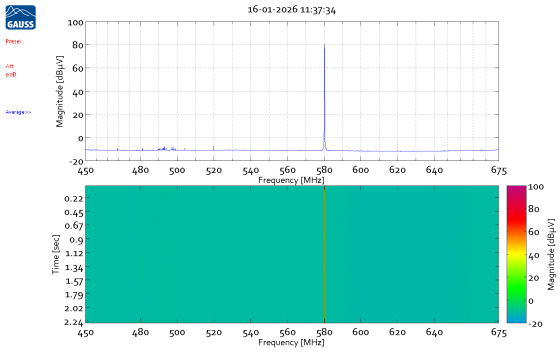


Fig. 3: **Distortion-free dynamic range in real-time band (with Preselector ON)**

The TDEMI G series is available with a real-time bandwidth of up to 225 MHz for EMC measurements and an IQ analysis bandwidth of up to 510 MHz for wireless measurements. In combination with the EMI64k automation software from GAUSS INSTRUMENTS, both EMC testing and wireless measurements can be performed easily and with a high degree of automation, resulting in significantly accelerated test processes. The TDEMI measurement systems can also be integrated with other automation software solutions available on the market. Depending on the software solution used, both the conventional pre- and final-measurement approach and fully real-time measurement can be performed.

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