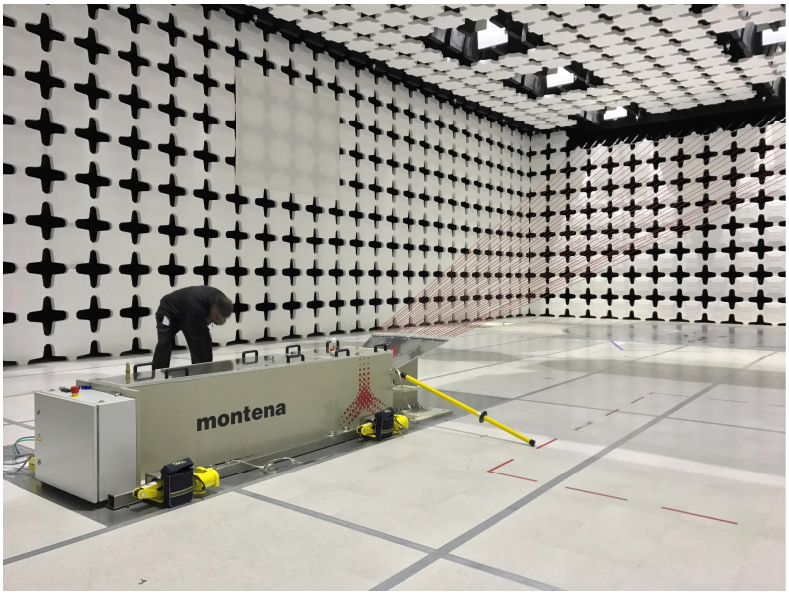
Customized indoor NEMP test systems

Montena designs bespoke NEMP simulators for integration into existing or new semi-anechoic EMC chambers. The radiating line is terminated against the chamber wall, between the existing absorbers. This type of construction allows to maximize the test volume in 5-meter and 10-meter compliant EMC chambers, as well as in larger chambers.

The NEMP test system is designed to assess the immunity of electronic equipment and subsystems to an electromagnetic pulse in accordance with the MIL-STD 461 RS105 and MIL-STD 464 test procedures (NEMP: nuclear electromagnetic pulse).



Montena's Marx generator produces a high voltage pulse, that propagates along the radiating line mounted over a conductive ground plane. The electromagnetic field pulse that is generated under the line is vertically polarised and can exceed 50 kV/m in the specified test volume. The system and the related pulse measurement equipment are controlled by software through fibre optic links. The system is designed for easy assembly and disassembly.

SPECIFICATIONS

Type	**NEMP-WM**
Standards	MIL-STD 461 E/F/G RS105, MIL-STD 464
Dimensions of the test volume	tailored to the dimensions of the chamber
Peak electric field strength	≥ 50 kV/m at full charging voltage
Electric field polarisation	vertical
Pulse rise time (10 – 90%)	2.3 ns ± 0.5 ns
Pulse duration (50 – 50%)	23 ns ± 5 ns
Line structure	bounded wave line / TEM mode
Generator configuration	Marx with adjustable peaking circuit
Power rating	90 – 264 Vac / 47 - 63 Hz / one phase / < 500 VA
Generator dimensions	266 x 62 x 74 cm (L x H x W)
Generator weight	250 kg
System dimensions	tailored to the dimensions of the chamber

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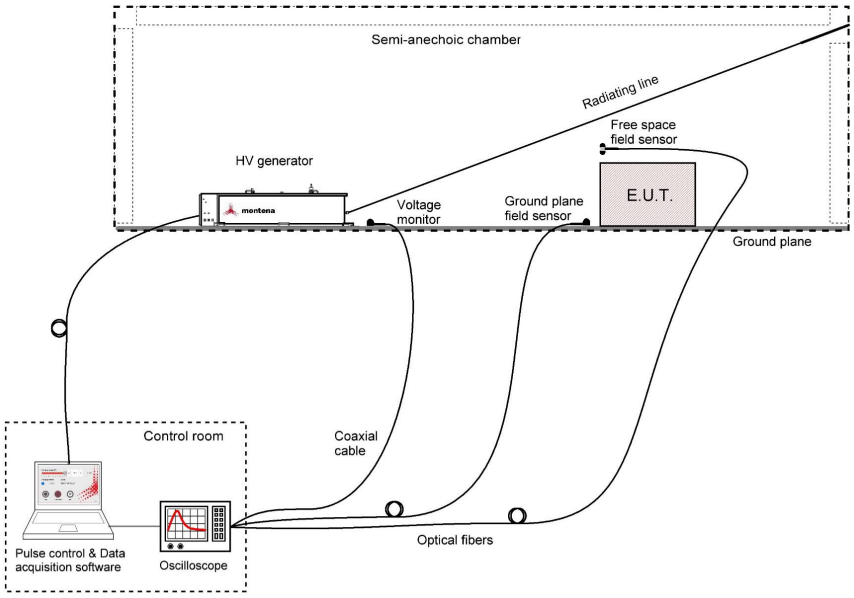
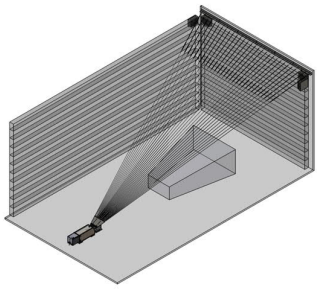
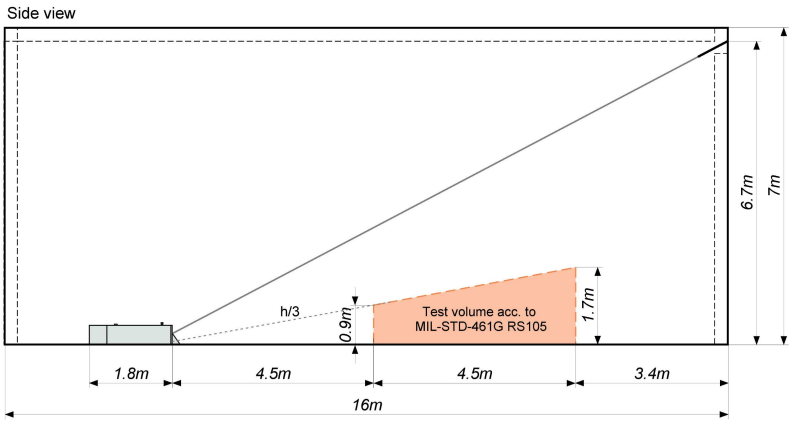
Typical test setup



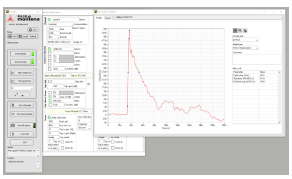
Example of integration into an EMC chamber





Ordering information

TYPE	DESCRIPTION
NEMP-WM	Customized indoor NEMP test system in accordance with the MIL-STD 461 versions E, F and G / RS105, for a test amplitude of up to 50 kV/m.



Related products / accessories

TYPE	DESCRIPTION
SGE3-5G	D-dot ground plane sensor to measure fast electric field pulses
SGM2G	B-dot ground plane sensor to measure fast magnetic field pulses
SFE3-5G	D-dot free-space sensor to measure fast electric field pulses
SFM2G	B-dot free-space sensor to measure fast magnetic field pulses
BL3-5G	Balun for free-space sensors
MOL2000T2	Shielded analog fiber-optic transmission, to connect the field sensors to the measurement equipment
PULSELab	Pulse measurement and processing software application, lifetime license for installation on one PC.