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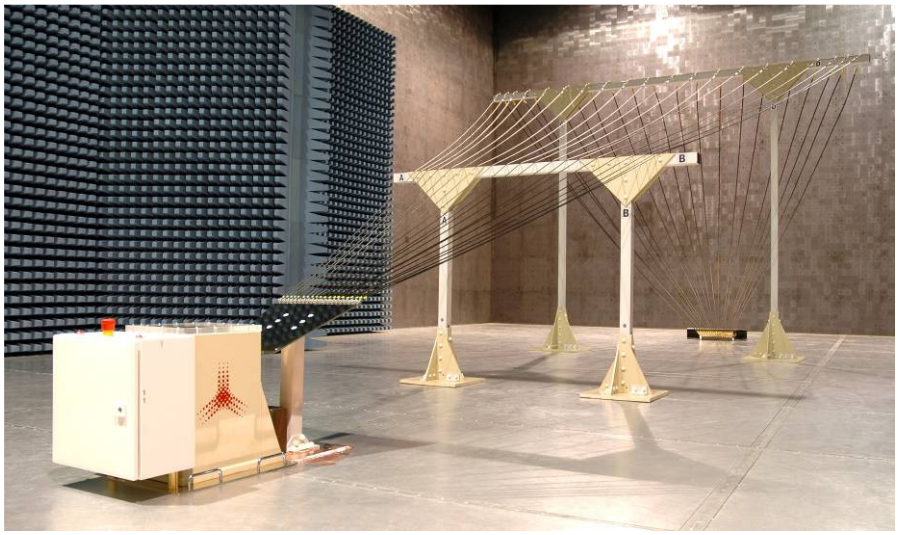
NEMP Test System

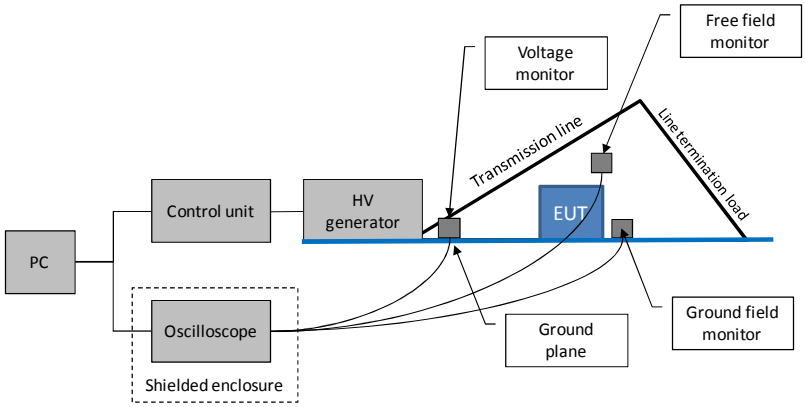


The bounded wave simulators are also named guided wave simulators. They are used to test the immunity of electronic devices to NEMP (Nuclear ElectroMagnetic Pulse). The installation consists of a HV pulse generator connected to a transmission line ended by a distributed resistance. The mode of the wave guided under the line is TEM (transverse electromagnetic). The polarisation of the electric field is vertical. Different designs of the line are possible and a GTEM can also be used as a field generating structure.

We design and manufacture NEMP test installations according to MIL-STD 461 / RS 105 and to IEC 61000-4-25 (susceptibility to radiated pulses). The pulse waveform is adapted to fulfil the versions D or E of the standard MIL-STD 461. Our product range includes a small standard test installation for devices under test of a maximum height of 50 cm up to very big structures designed to test vehicles or airplanes. The smallest test installations are very quick to set-up and dismantle (1 - 2 hours maximum).

We manage the follow-up of the construction on site, the final installation and testing and we provide the technical training. A full range of accessories can be supplied with the test system, like field sensors, optic fibre links, etc.

Example of set-up:



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SPECIFICATIONS

Reference no	TS-NEMP18	TS-NEMP27	TS-NEMP36	TS-NEMP72	TS-NEMP180
Height of the line (m)	1.8	2.7	3.6	7.2	18
Length of the line (m)	6.6	10.9	14.3	41	103
Maximum height of the EUT (m)	0.53	0.75	1	2.1	5.2
Type of installation	mobile	mobile	mobile	fix	fix
Simulator type	bounded wave (guided-wave)				
Standard	MIL-STD-461 D or E and F / paragraph RS 105 IEC 61000-4-25 / simulator type I				
Line impedance	about 110 Ω				
Termination type	distributed resistance				
Wave impedance	377 Ω (spherical wave)				
Pulse rise time	2 ns				
Pulse length	23 ns				
Peak electric field	50 kV/m or more				
Field polarisation	vertical				

Options: other dimensions and waveforms, other type of simulator: radiating test systems, hybrid simulators (HPD), accessories (see the specific datasheets and our website).

REFURBISHING

A lot of NEMP simulators were built in the 70's and 80's. Some are old or obsolete. We manage the refurbishing and the adaptation to the new requirements of used simulators. For instance, the transmission line can be adapted to pulses with shorter rise time.

We also repair or renew HV pulse generators by changing the capacitors or the spark gaps. The waveform can be modified to fulfil other standards and the amplitude of the field adapted.

A full control by a computer is also proposed.

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