

2 M EUT TEST SYSTEM



The APELC RS-105 test system utilizes APELC's compact Marx Generator technology to generate a pulse in accordance with MIL-STD-461G, test procedure RS-105. Test volume dimensions can accommodate a 2m x 4m x 4m in accordance with the MIL-STD.



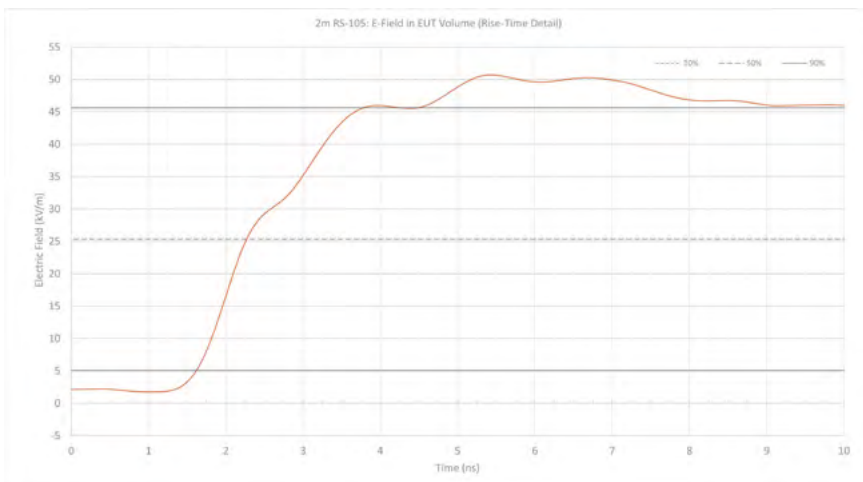
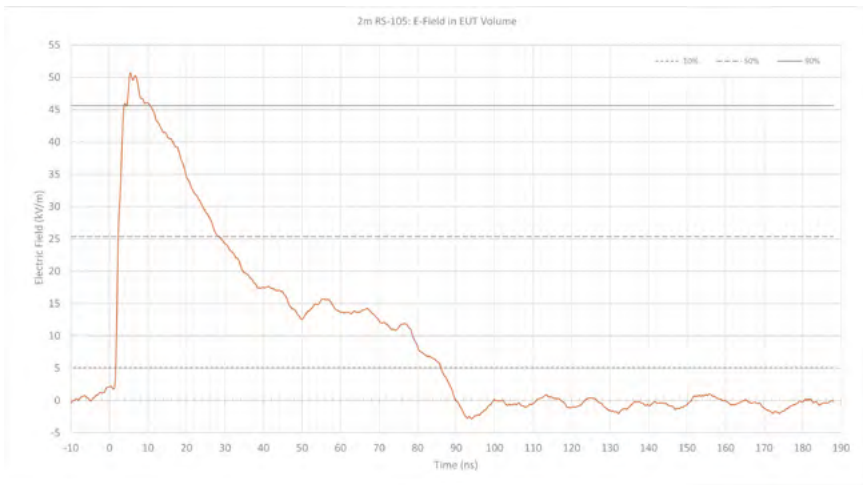
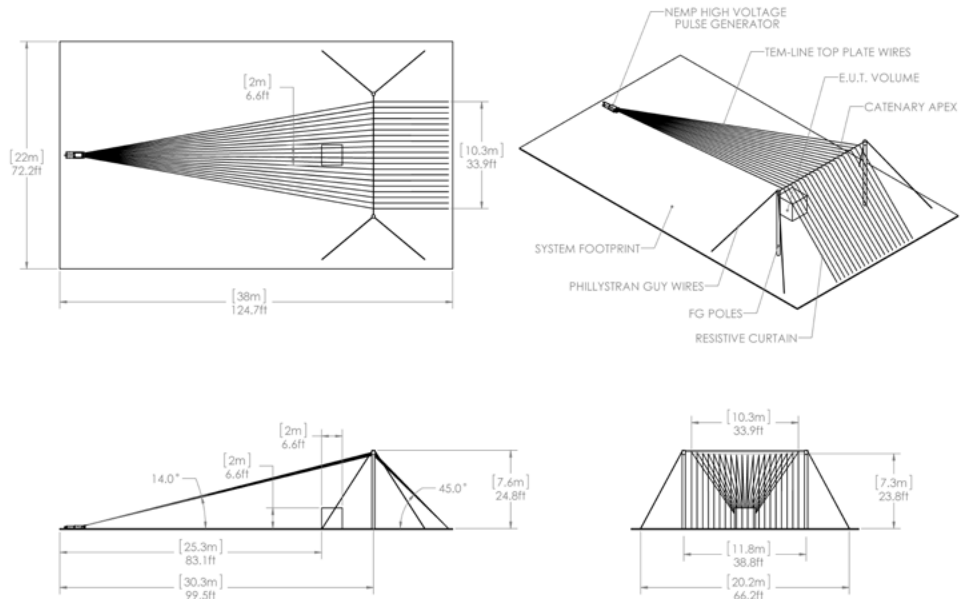
Parameter	Description	Value	Unit
V_e	Erected voltage range	100-520	kV
C_e	Erected capacitance	290	pF
V_{ch}	Operating charge voltage range	8-40	kV
Pres.	Operating pressure range	Atm-150	psi
Z	Impedance	110	W
L	Length of structure	37	m
W	Width of structure	10	m
H	Maximum height of structure	7.5	m
L	Length	4	m
W	Width	4	m
H	Height	2	m
E_{max}	Maximum electric field	60	kV/m
E_{min}	Minimum electric field	5	kV/m

The pulse propagates from the source (Marx Generator), down a tapered transmission line, and into the test-volume, allowing electronic equipment under test (EUT) to be subjected to field strengths as high as 55 kV/m and as low as 5 kV/m, in the form of a 1.8-2.8 ns rise-time, 23 (± 5) ns pulse-width transient.

Able to be controlled locally or via computer, the system includes a power and control rack, complete with positive and negative high-voltage power supplies, high-voltage trigger unit, 2-channel gas control panel, and control.

The system's control and data acquisition option allows users to enter a desired field strength. The software then calculates and sets the required charge voltage and air-pressure for the Marx and peaking circuits. The software automatically acquires the reference and EUT waveforms from the oscilloscope, scales them based upon calibration factors/attenuation, and displays them along with peak field/voltage, rise-time, and FWHM. Test reports are at the push of a button.

Constructed from durable, weather-resistant fiberglass and stainless-steel aircraft cable, the collapsible version system can be assembled in as little as one day.



Components

- RS-105 test system, including pulsed power and guided wave structure
- 2 spare stages of the Marx Generator
- Voltage reference probe
- Empty dry air tank

Characteristics

Standard: **MIL-STD-461G (RS-105)**

Maximum EUT height: **2 m**

Pulse rise-time (10–90%): **1.8–2.8 ns**

Pulse-width (FWHM): **18–28 ns**

Peak electric field strength: **5–60 kV/m**