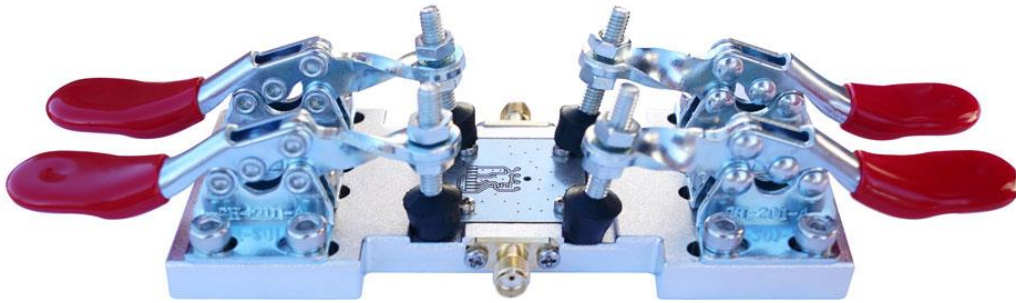


EM602-10 Mini TEM Cell

(DC-10 GHz, up to 20 kV/m rms)



1. Description

ESDEMC's EM602-10 is a 10 GHz Mini TEM Cell generates very strong electromagnetic field for testing small devices such as sensors, IC's, wireless communication modules, etc. An external test signal applied through the input port of the TEM cell generates a consistent and predictable TEM test field inside the cell. The radiation field from a device transmitting in the cell can also be detected through the port using a test receiver.

The unique compact design is optimized for very strong electromagnetic field injection test beyond the standard TEM Cell in both field strength and frequency range. The E-H field inside the test volume is proportional to the input voltage and inversely proportional to the cell height. If a radiating object is inserted inside the cell, the radiated wave toward the input port is guided by the transmission line and picked up at the input with a receiver such as a spectrum analyzer. With this method, the RFI from a radiating device can be measured quantitatively. Since this apparatus is very broadband, it has many applications in the area of EMI, EMS, receiver sensitivity test, etc. **The EM602 TEM Cell requires 40W input power to achieve > 20 kV/m RMS E-field or > 80 A/m RMS H-field. It is recommended that the test PCB have metal-plated edges for better shielding.**

2. Features

- Up to 10 GHz bandwidth (beyond normal TEM Cell bandwidth of 3 GHz)
- Can inject up to 20 km/m E-field for sensor EM Field Susceptibility

3. Applications

- Electromagnetic immunity test of IC's
- Electromagnetic radiation test of IC's
- ESD/Surge field susceptibility test of IC's
- IEC 61967-2 Integrated circuits - Measurement of electromagnetic emissions, 150 kHz to 1 GHz
- IEC 61967-8 Integrated circuits – Measurement of electromagnetic emissions, 150 kHz to 3 GHz
- IEC 62132-8 Integrated circuits - Measurement of electromagnetic immunity - Part 8
- SAE 1752-3 Measurement of Radiated Emissions from Integrated Circuits

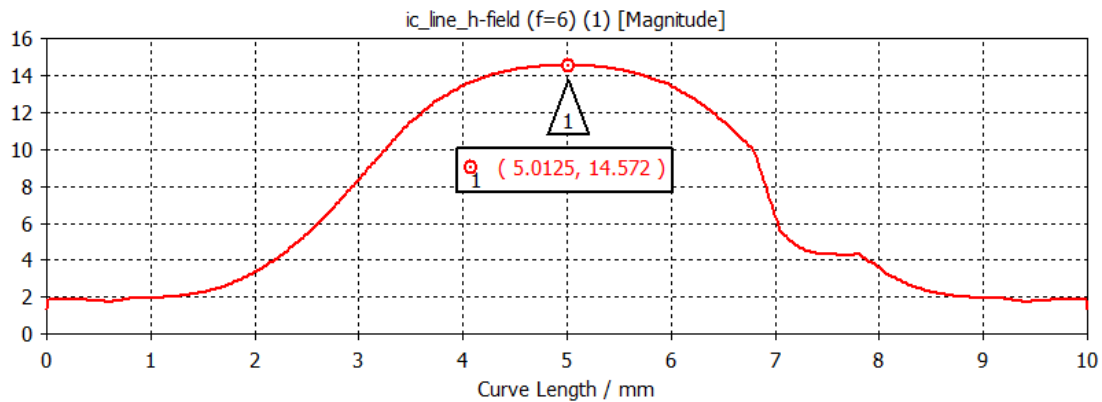
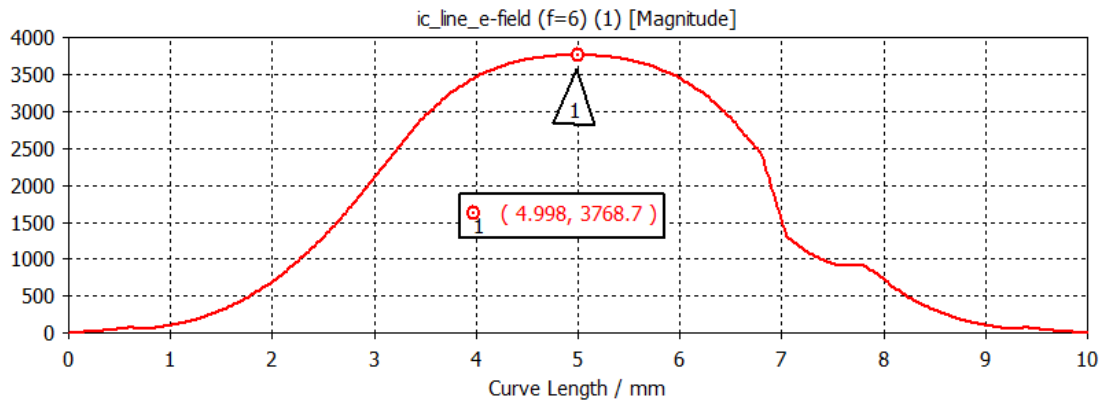
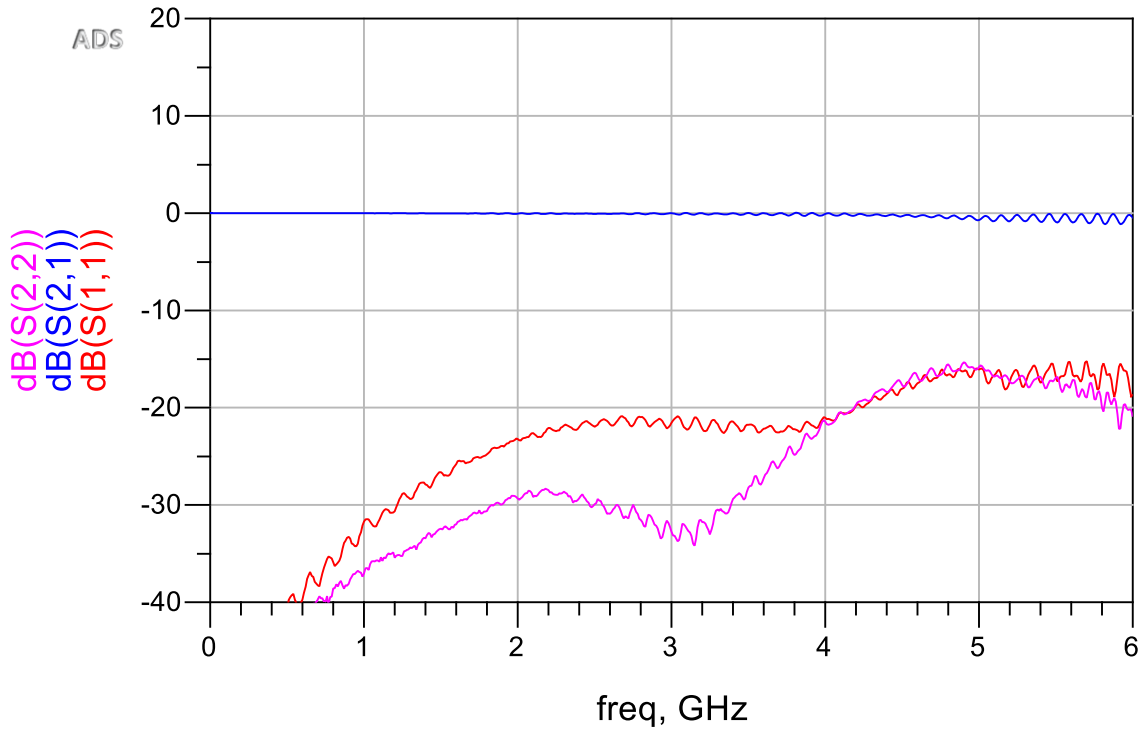
4. Specifications

Specification	Parameters
Frequency range	DC to 10 GHz (First spike by undesired higher order mode > 10 GHz)
TEM Cell Impedance	50Ω ± 5% nominal
VSWR	DC – 3 GHz < 1.2 3 – 10 GHz < 1.5
Insertion Loss (S21)	DC – 10 GHz < 1 dB
Return Loss (S11 & S22)	DC – 3 GHz > 20 dB 3 – 10 GHz > 14 dB
Effective Septum to Wall Height	1.6 mm
E-Field Strength at Center of Cell	>= 20 kV/m @ 40W
H-Field Strength at Center of Cell	>= or 80A/m @ 40W
RF Connectors	SMA-Type
Maximum Input Power	70 Watts
Maximum Input Voltage	1 kV
Test PCB Dimensions	26 x 26 mm
Recommended DUT Dimensions	10 (W) x 10 (W) x 0.5 (H) mm
Weight	Approx. 0.2 kg

5. Ordering Information

Line	Part # or Option #	Description	Status
1	EM602	EM602 Mini TEM Cell, DC-10 GHz	Active

EM602 Mini TEM Cell S-Parameter Simulations



EM602 Mini TEM Cell Dimensions

