



MAIN FEATURES

- Meets IEC/EN 61000-4-20, SAE J1752/3, IEC 62132-2 and IEC 61967-2
- Test cell with special opening to test integrated circuits on approx. 45 mm septum height
- For 100 Watts input power
- Emissions and immunity testing in a single, shielded environment
- Ideal for design qualification and pre-certification
- Fields generated are largely homogeneous and simple to calculate
- Efficient power conversion requires smaller power amplifier

GTEM 250A-SAE-R

GTEM cell for emissions and immunity testing

A GTEM (Gigahertz Transverse Electro Magnetic) cell is a test site for efficiently performing both radiated immunity and emissions testing in a single, controllable and shielded environment. Compared to other test sites, GTEM testing is faster with high accuracy and excellent reproducibility.

In principle, the GTEM cell is a coaxial line expanding pyramidally and having an impedance of 50 Ω. At its end, the line is terminated by a combination of termination resistors and RF absorbers designed and constructed to match the above mentioned impedance. The GTEM 250 has a maximum septum height of 250 mm and is suitable for emissions and immunity testing. The model SAE is additionally equipped with an opening on the outer conductor for testing integrated circuits (IC). The IC itself is mounted on a test board that is clamped to a special hole in the top of the TEM cell. The test board is not inside the cell but becomes a part of the cell wall.

Standard configuration

- Desktop version, Shipped assembled
- SAE opening, clear opening of 93.4 mm x 93.4 mm
- Door on the right side, clear opening of 20 cm x 13 cm
- Window in door
- EUT BOX for free application, easily interchangeable
- Feed through tube for fiber optics
- Fan with power supply unit for countries EU, AUS, UK, US/JP
- Measurement report for TDR, return loss and input power requirements for 10 V/m (30 - 3000 MHz)

Specifications

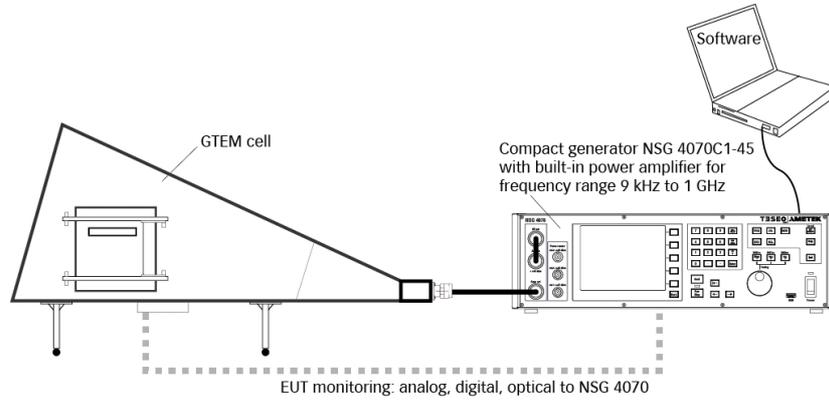
	GTEM 250A-SAE-R
Max. septum height	250 mm
Septum height at marker position	217 mm
EUT size (max. dimension, LxWxH in m)	0.20 x 0.20 x 0.15
EUT dimension for uniform-area 0 to 6 dB (LxWxH) in m	0.083 x 0.083 x 0.083
Dimensions of the opening for IC testing:	93.4 mm x 93.4 mm
Septum height for IC testing	45 mm
RF input connector	N-type
Nominal impedance	50 Ohm
Frequency range	DC up to 20 GHz
Frequency range according IEC/EN 61000-4-20	30 to 3000 MHz
Return loss / VSWR (DC to 18 GHz)	>19 dB / <1.25:1
Shielding effectiveness (30 MHz - 1 GHz / 1 - 18 GHz)	100 dB / 90 dB
Max input power (without additional external air cooling, without any EUT waste heat)	
below 1 GHz	100 W for 15 min
above 1 GHz	100 W continuous

General Specifications

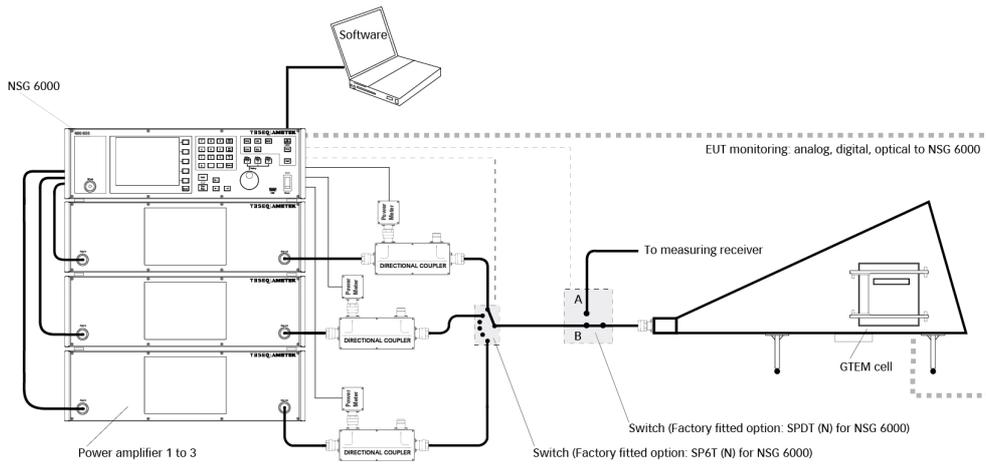
	GTEM 250A-SAE-R
Dimension (LxWxH in m)	1.23 x 0.66 x 0.54
Weight	approx. 45 kg
Height H1 of cell corpus	0.43 m
Height H2 of supports	0.11 m
Door (LxH in m)	0.20 x 0.13
Operating temperature	+5°C to +30°C
Temperature range for this specification	+20°C to +28°C

Options

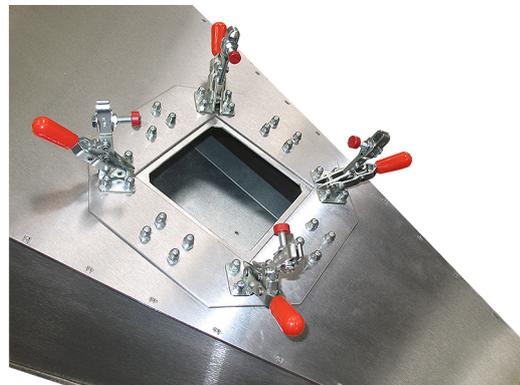
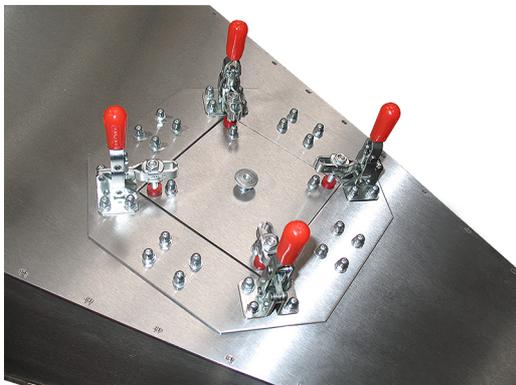
- Special filter solutions
- Endwise version
- Manipulator solution
- Test house software



Example of immunity test setup 9 kHz to 1 GHz with one power amplifier



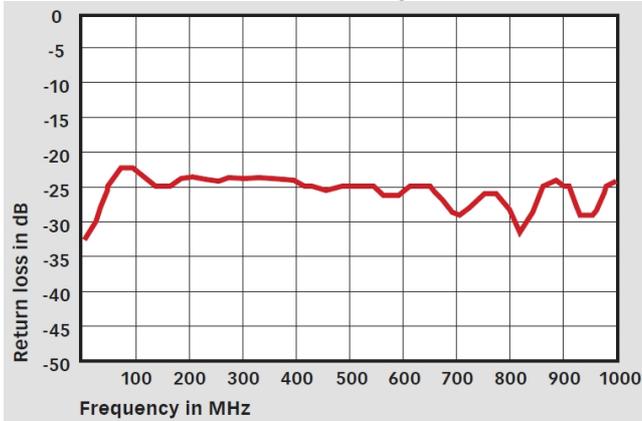
Example of test setup 9 kHz to 6 GHz with three power amplifiers and measuring receiver



View to opening for IC testing, on the left with cover plate

GTEM cell for emissions and immunity testing

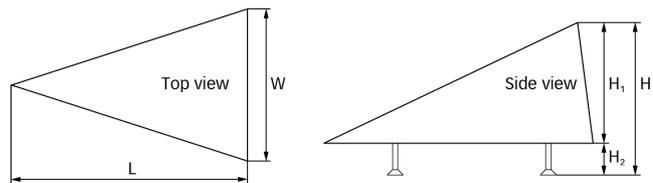
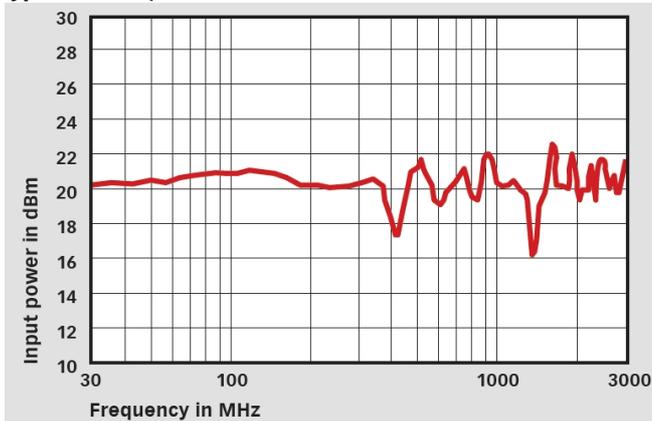
Return loss (typical values) in the range 1 MHz to 1 GHz



Return loss (typical values) in the range 1 to 18 GHz



Required input power for field strength of 10 V/m (Y axis, typical values)



Model No. and options

Description	Item No	Text
GTEM 250A-SAE-R	258898	GTEM with septum height 250 mm, low VSWR, door side right, max. RF input power 100 W, with special opening to test IC on approx. 45 mm septum height, meets SAE 1752/3, IEC 62132-2 and IEC 61967-2, shielded window in door, optical feed through, desktop model
SIA 250	225583	Option for GTEM 250: EUT Box to 10x 15 A filter with banana jacks, 4x 5 A filter with Sub-D 9 pins
SIB 250	225584	Option for GTEM 250: EUT Box to 2x 15 A filter with banana jacks, 37x 5 A filter with Sub-D 37 pins
SIC 250	255200	Option for GTEM 250: EUT Box to mains port 6 A, 6x filter with banana jacks and 9x filter with Sub-D 9 pins
SID 250	255215	Option for GTEM 250: EUT Box to mains port 6 A, 2x filter with banana jacks, 1x PE and 15x filter with Sub-D 15 pins
EUT-BOX251	251151	Option for GTEM 250: Filter box with 4x 16 A power filter, 250 V AC, banana
EUT-BOX252	225507	empty EUT BOX of GTEM 250