



MAIN FEATURES

- Emissions and immunity testing in a single, shielded environment
- Meets basic standard: IEC/EN 61000-4-20
- Meets standards for emissions testing: CISPR 14-1, IEC 61000-6-3 and IEC 61000-6-4 for EUTs without connected cables
- Ideal for design qualification and pre-certification
- Fields generated are largely homogeneous and simple to calculate
- Efficient power conversion requires smaller power amplifier
- Excellent VSWR over the entire frequency range - no need for measurement of reflected power

GTEM 250A-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.

Standard configuration

- Desktop version, Shipped assembled
- 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

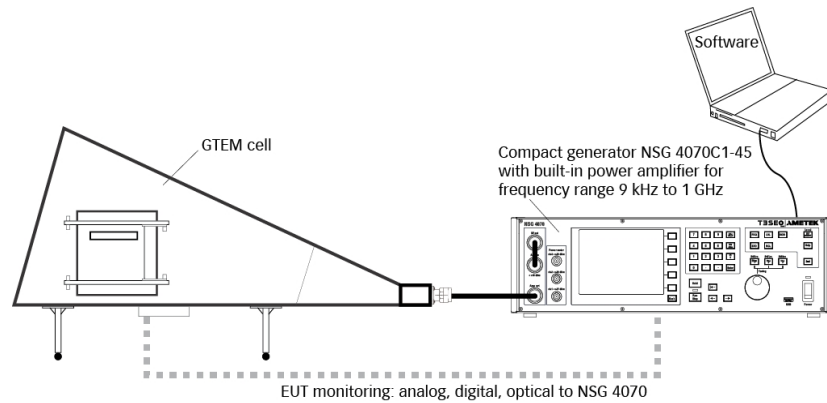
| | GTEM 250A-R |
|---|-----------------------|
| Max. septum height | 250 mm |
| Septum height at marker position | 217 mm |
| EUT size (max. dimension, LxWxH in m) | 0.20 x 0.20 x 0.15 |
| EUT dimension for uniform-area 0 to 6 dB (LxWxH) in m | 0.083 x 0.083 x 0.083 |
| RF input connector | N-type |
| 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

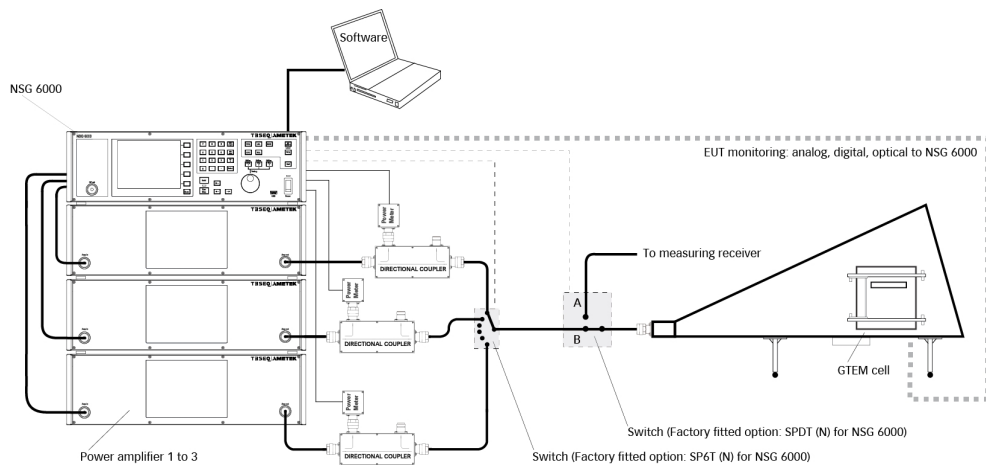
| | GTEM 250A-R |
|--|--------------------|
| Dimension (LxWxH in m) | 1.23 x 0.66 x 0.54 |
| Weight | approx. 45 kg |
| Height H1 of cell corpus | 0.43 m |
| Height H2 of supports | 0.11 m |
| Door (LxH in m) | 0.20 x 0.13 |
| Operating temperature | +5°C to +30°C |
| Temperature range for this specification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

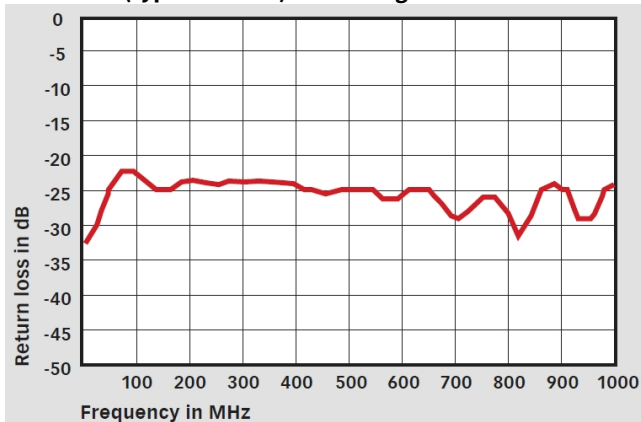


Example of test setup 9 kHz to 6 GHz with three power amplifiers and measuring receiver

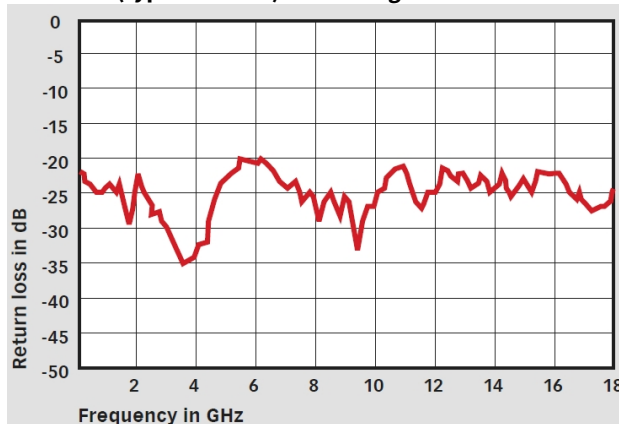


View to the back side of the GTEM 250A-R

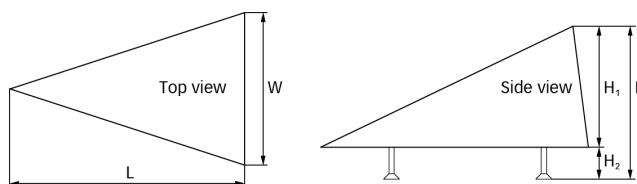
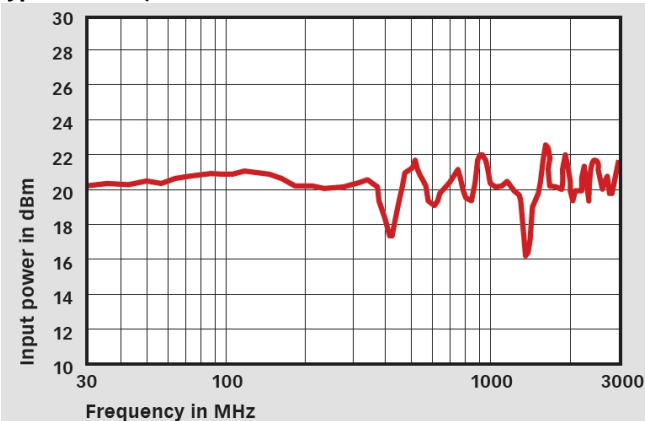
Return loss (typical values) in the range 1 MHz to 1 GHz



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-R | 258897 | GTEM with septum height 250 mm, low VSWR, door side right, max. RF input power 100 W, 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 |