



# GTEM 500 GTEM CELL FOR EMISSIONS AND IMMUNITY TESTING



GTEM 500, door left side

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 500 has a maximum septum height of 500 mm and is suitable for emissions and immunity testing.

- 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
- Meets standards for immunity testing: EN 60118-13
- 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

### Standard configuration:

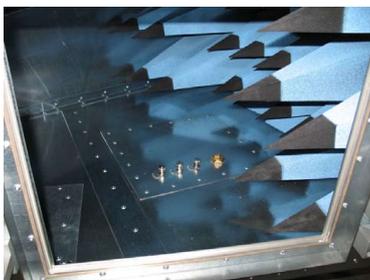
- Under-carriage with locking casters
- Door, left or right side, clear opening of 44 cm x 38 cm
- Shielded window in door, 30 cm x 10 cm
- Door contact for free application
- EUT Box-1 with 2x 16 A filter, 1 socket inside, line safety switch, earth leakage circuit breaker, switchable illumination
- Media interface (Media S) for 3x N-type connectors and optical feed through
- Emission correlation tool (Windows software for manual input)
- Measurement report for TDR and VSWR
- Measurement report for input power requirements for 10 V/m (80 - 1000 MHz)
- Shipped assembled, under-carriage needs to be mounted on the GTEM

### Options:

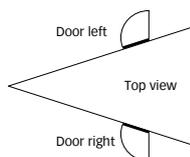
- Disassembled version (required Teseq supervisor, option ASS 500)
- POW, extended version for 400 W RF-input power
- Special filter solutions
- Endwise version
- SSA 500, stainless steel angles option for GTEM 500, recommended for countries with high humidity like Thailand, Malaysia, Philippines...
- SHD 2, additional door, clear opening of 44 cm x 38 cm
- MPH 500, handoperated XYZ manipulator
- Test house software for emission and immunity testing

### Ordering information:

The door side and the country version of the single phase AC socket needs to be selected.



GTEM 500 view to the opened door



Schuko



UK version



US/JP version



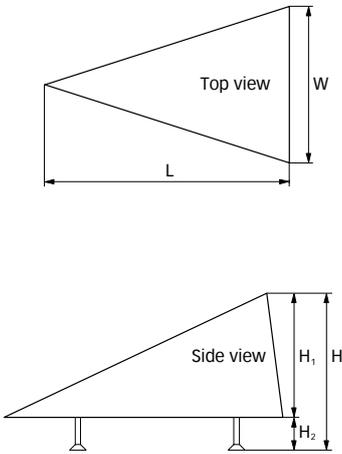
Advanced Test Solutions for EMC



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## Specifications



Max. septum height:	500 mm
Septum height at marker position:	433 mm
Dimension (LxWxH) in m:	2.95 x 1.48 x 1.61
Weight:	approx. 242 kg
Height H <sub>1</sub> of cell corpus:	1.04 m
Height H <sub>2</sub> of under-carriage:	0.57 m
Door (clear opening, LxH) in m:	0.44 x 0.38
EUT max. dimension (LxWxH) in m:	0.41 x 0.41 x 0.31
EUT dimension for uniform-area 0 to 6 dB (LxWxH) in m:	0.167 x 0.167 x 0.167
RF input connector:	N-type
Nominal impedance:	50 Ω
Frequency range:	DC up to 20 GHz
Frequency range according IEC/EN 61000-4-20:	30 to 1000 MHz
Return loss / VSWR (DC to 18 GHz):	>15 dB / <1.45:1
Shielding effectiveness (30 MHz to 3 GHz):	>60 dB (typ. >80 dB)
Max input power:	100 W (400 W with option POW)
Required input power for 10 V/m (isotropic, 5 points, 80 to 1000 MHz):	2.4 W (0.7 W CW)
Field deviation (isotropic, 5 points, 30 to 1000 MHz):	<6 dB

## Model No. and options

Part number	Description
250100	GTEM 500 Septum height 500 mm, under-carriage, door, window, EUT-BOX1 and Media S included
251700	POW Extended version for 400 W (GTEM 500) or 500 W (GTEM 750) RF-input, switchable fans, order only with the device
251750	SSA 500 Stainless steel angles option for GTEM 500, recommended for countries with high humidity like Thailand, Malaysia, Philippines...
240379	ASS 500 Supervisor build up for GTEM 500 (travel and accommodation costs are additional) only necessary for disassembled GTEM 500



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## Model No. and options (continued)

254270	MPH 500 Manipulator handoperated for GTEM 500
251920	SHD 2 Additionally shielded door, clear opening 0.44 m x 0.38 m
251100	EUT BOX-1 EUT supply for single phase, 2x 16 A filter, 1 socket inside, line safety switch, earth leakage circuit breaker, switchable illumination, available for GTEM 500 to 2000
251200	EUT BOX-3 EUT supply for three phase, 4x 32 A filter, 1 socket inside, line safety switch, earth leakage circuit breaker, switchable illumination, available for GTEM 500 to 2000
251201	EUT BOX-31 Option for GTEM 500 - 2000: Upgrade of EUT BOX-1 (included in standard delivery) to EUT BOX-3, order only with GTEM
251210	EUT BOX-4 Option for GTEM 500 - 2000: EUT Box with DC power filter 4x 10 A, banana jacks 4 mm
251000	DC1 Option for EUT BOX-1, EUT BOX-3 or EUT BOX-31: DC power filter 2x 10 A, banana jacks 4 mm
251820	SIF M 25 lines signal filter for Media, 5 A, D sub 25 pins
248290	ITE Filter Filter for 2 balanced pairs with adapters for RJ11 and RJ45 (ADR T411, ADR T442, ADR T443 and ADR T444)
248270	CAN Filter Filter for 6 lines CAN bus, D sub 9 pins
248375	RS232 Filter 9 lines signal filter, 5 A, D sub 9 pins
248382	USB Filter Filter for shielded USB
251600	Media S Connector panel with frame, 3x N-type connectors, 1x optical feed through
251650	Plate S Exchange panel for media S