

MODEL NUMBER:  
**GTEM 500**

## EMISSIONS AND IMMUNITY TESTING

### Installed options:

PLF-16S; FOPT-1; FT-N; FT-SMA

### Reference Standards:

EN 61000-4-3 - EN 61000-4-20

## SPECIFICATIONS



Frequency Range	100KHz to 20GHz
Max. Power-Input	250 W
Input Connector Type	N (Female)
Nominal Impedance	50 $\Omega$
Typical VSWR	1:1.2
Power Line Filter	2x 230V AC/DC 16A
RF Coax Feed-Thru(s)	1x SMA + 1x N (Females)
Other Feed-Thru(s)	1x Fiber optical cable
Dimensions	300(L)x168(W)x115(H)
Septum Height	500 mm
Door Size	40(W)x40(H) cm
Uniform Area Size $\pm 3$ dB	20(L)x20(W)x15(H) cm
EUT Max Size	40(L)x40(W)x30(H) cm
Weight	155 Kg

## INTRODUCTION

The GTEM cell is a TEM waveguide with the upper frequency limit extended to the GHz range. It is under consideration as an alternative measurement facility for both radiated emission and immunity measurements. It is included in the recently published standard IEC 61000-4-20 "Emission and Immunity Testing in Transverse Electromagnetic (TEM) Waveguides".

## THEORY OF OPERATION

GTEM-cells (Giga-hertz Transversal Electro-Magnetic cells) are waveguide structures intended for electromagnetic compatibility measurements, as well as biomedical applications. The electromagnetic field distribution inside the cell is in TEM mode. With TEM mode propagation, there is no component of electric and magnetic field in the direction of propagation of electromagnetic wave. Therefore the field components are strictly perpendicular. Assuming the field distribution ideal TEM below the cut-off frequency of the cell (before the introduction of higher order modes), the electromagnetic field distribution can be considered static.

## KEY FEATURES

- Engineered and completely manufactured in Italy.
- Ruggedized fully INOX steel construction
- Unique compact design.
- Optimized for EMI and EMC.
- Strong fields achieved with low input power
- Broadband up to 20Ghz
- High effective shielding
- Fully customizable feed thrus and filters
- Excellent quality at Low cost

## APPLICATIONS

- EMI and EMS devices
- Radiation and susceptibility test
- Specifically designed for telecom application
- Biomedical and dosimetical applications
- Isotropic sensors calibration
- Receiver sensitivity test

## APPLICATIONS

INOX	INOX rugged construction (Default on GTEM EMC 250 Only)
EIA 7/8	EIA 7/8" Input Connector (max. 3GHz)
EIA 7/16	EIA 7/16" Input Connector (max. 3GHz)
ESI-250	Electrical safety interlock
FOPT-1	Channel for fibre optic leads (1 fiber pair)
FOPT-3	Channel for fibre optic leads (3 fiber pairs)
FPT-DB9	Filtered 9-poles pass-thru RS-232(DB9)
FPT-DB25	Filtered 25-poles pass-thru RS-232(DB25)
FPT-DC10	Filtered 10A 1000V DC banana socket pass-thru
FT-BNC	RF feed-thru BNC-BNC Female panel mount type connector
FT-N	RF feed-thru N-N Female panel mount type connector
FT-BNC/SMA	RF feed-thru BNC-SMA Female panel mount type connector
FT-RJ45	Shielded RJ45 (RJ11) feed-thru female-female connector
FT-SMA	RF feed-thru SMA-SMA Female panel mount type connector
HCOMB-10	Honey comb 10x10 cm air intake/outtake
HPTE-250	Hi Power terminations 500W continuous power up to 3GHz
ILED	Indoor LED lighting 50W shielded lamp
IP-CAM	Shielded RJ45 IP camera system
PDTP	Technical panel pre-drilled for options with EMC gaskets and inox bolts
PLF-20S	Single Phase AC Power Line Filter 2x 20A Phase+N+Ground
PLF-40S	Single Phase AC Power Line Filter 2x 40A Phase+N+Ground
PLF-60S	Single Phase AC Power Line Filter 2x 60A Phase+N+Ground
PLF-20T	Tri Phase AC Power Line Filter 4x 20A 3Ph+N+Ground
PLF-32T	Tri Phase AC Power Line Filter 4x 32A 3Ph+N+Ground
PLF-64T	Tri Phase AC Power Line Filter 4x 64A 3Ph+N+Ground
DCF-120	Single pole Filtered AC/DC Feedthru 120A 1700VDC/250VAC
PWS	Additional Power Socket for EUT
SAE	Door for tests acc. to SAE J1752/3 – Integrated Cir
SHW-M	Shielded Window in door for GTEM EMC 250 GTEM Vertical positioning – Plastic table over absorbers – 90° turned door
VPOS	turn of door position, plastic table over pyramids Only for GTEM 250/ 500
WLIP-CAM	Shielded IP camera system



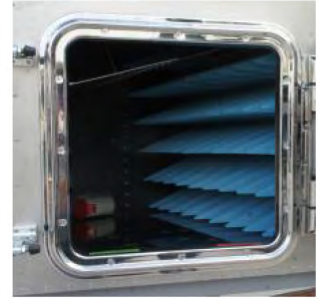
**DETAILED VIEWS**



**Locking System**



**Technical Panels**



**Inside view**



**Shielded Window**



**Line filter with I-LED lighting option incorporated**

