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EMC GTEM 1000

GTEM CELL EMC GTEM 1000 IEC 61000-4-20



Large EUT testing capabilities up to 1GHz and beyond

STANDARD CONFIGURATION:

INOX; 1x PLF-16S; 1x FT-N; 1x FT-SMA; 1x FOPT-3; 1x 7/16(F); 1x IEC-16A; 1x N(F); FERRITE; WHEEL

TECHNICAL SPECIFICATIONS

Frequency Range	100 kHz to 18 GHz
Power line filter	2x 230V AC/DC 20A
RF coax Feed-thru(s)	1x SMA + 1x N (Females)
Other Feed-thru(s)	1x Fiber optical cable
Dimensions	495(L) x 280(W) x 220(H) cm
Septum Height	1150 mm
Door Size	85(W) x 72(H) cm
Uniform Area Size ±3dB	41(L) x 41(W) x 37(H) cm
EUT Max Size	82(L) x 82(W) x 74(H) cm
Weight	900 Kg

Description: Large GTEM 1000 cell for testing bigger devices and heavy equipment. Designed for emission and immunity testing according to IEC/EN 61000-4-20 and IEC/EN 61000-4-3 standards.

KEY STANDARDS & PERFORMANCE REQUIREMENTS

TEM Mode Verification: Testing must ensure the GTEM operates in the Transverse Electromagnetic (TEM) mode, which is verified using an isotropic 3-axis field probe.

Frequency Range: While standard TEM cells are limited to ~1 GHz, our advanced GTEM cells are designed for higher frequencies, successfully validated up to 6 GHz and beyond (up to 20 GHz for some models).

Uniformity & Termination: The cell requires a hybrid combination of precise resistors and RF absorbers to achieve a 50-ohm broadband match.

IEC/EN 61000-4-20 (Main Standard): Provides the authoritative requirements for electromagnetic compatibility (EMC) testing in waveguide structures, including GTEM cells. It defines validation methods for field uniformity and test procedures for immunity and emissions.

Radiated Immunity (IEC/EN 61000-4-3): GTEM cells are used to test device immunity to radiated electromagnetic fields.

Automotive Standards (SAE J1113-25): Specifically for testing vehicle components, covering electromagnetic compatibility, immunity to radiated fields (10 kHz to 1000 MHz).

Integrated Circuit (IC) Standards: IEC 61967-2/8 for measurement of electromagnetic radiation from ICs (emission). IEC 62132-8/9 for measurement of IC immunity to electromagnetic radiation.

Commercial & Product Standards: CISPR/EN Standards used for EMC testing to achieve CE marking (e.g., Residential/Industrial).

Medical Equipment (IEC 60118-13): Often used for testing electroacoustics and hearing aids.

Military/Aerospace: Applied for testing, often in accordance with MIL-STD-461/462 or RTCA DO-160C/D/E.

OPTIONS & ACCESSORIES

7/16(F)	7/16" - Female Input Connector (max. 8GHz)
AIRVENT120	Air venting shielded window 120x120 mm
AIRVENT55	Air venting shielded window 50x50 mm
AIRVENT88	Air venting shielded window 80x80 mm
DCF-120	Single pole Filtered AC/DC Feedthru 120A 1700VDC/250VAC
DUT-BOX-1000	3 Axis Positioning System: Transparent polycarbonate glass box suitable to define effective test volume and positioning the DUT on the 3-testing axis. (Available up to the EMC GTEM 1500)
ESI-1000	Electrical safety interlock
FERRITE	Ferrite tiles installed on the bottom of the GTEM cell, combined with hybrid pyramidal absorbers to achieve excellent highfrequency performance
FOPT-3	Channel for fibre optic leads (3 fiber pairs)
FPT-DB25	Filtered 25-poles pass-thru RS-232 (DB25)
FPT-DB9	Filtered 9-poles pass-thru RS-232 (DB9)
FPT-DC10	N.2 filtered 10A 600V DC banana socket pass-thru
FPT-DC120	N.2 filtered pass-thru 120A 500V DC - M8 stud connection
FPT-DC200	N.2 filtered pass-thru 200A 500V DC - M10 stud connection
FPT-DC300	N.2 filtered pass-thru 300A 500V DC - M10 stud connection
FT-AIR	Gas/air waveguide Feedthru
FT-ANYCABLE	Anycable Flexible inox steel pipe feedthru 20cm long 1inch diameter - modular system.
FT-BNC	RF feed-thru BNC-BNC Female panel mount type connector
FT-BNC/SMA	RF feed-thru BNC-SMA Female panel mount type connector
FT-N	RF feed-thru N type connector
FT-RJ45	Shielded RJ45 (RJ11) feed-thru female-female connector
FT-RJ45F	RJ45 (RJ11) 1Gbps filtered Feedthru connector female-female
FT-SMA	RF feed-thru SMA type connector
FT-USB2	USB 2.0 shielded Feedthru
FT-USB3	USB 3.0 shielded Feedthru
FT-USB3F	USB 3.0 Type A Female Filtered Feedthru
FT-USBC	USB Type C shielded Feedthru
HCOMB-10	Honeycomb 10x10cm venting / audio feedthru air intake/outtake
HCOMB-20	Honeycomb 20x20cm venting / audio feedthru air intake/outtake
HN	High Voltage N Connector (Usable for burst pulses only) - Max freq: 3GHz
HPTER-250	Hi Power terminations 500W continuous power up to 3GHz
IEC-16A	IEC 16A 250V AC (Single Phase)
ILED	Indoor LED lighting shielded lamp
INOX	Fully INOX steel rugged military grade construction
N(F)	N Female Input Connector (max. 20GHz)
PDTP	Technical panel pre-drilled for options with EMC gaskets and inox bolts
PLF-16S	Single Phase AC Power Line Filter 2x 16A Phase+N+Ground
PLF-16T	Tri Phase AC Power Line Filter 4x 16A 3P+N+PE
PLF-20S	Single Phase AC Power Line Filter 2x 20A P+N+PE
PLF-20T	Tri Phase AC Power Line Filter 4x 20A 3P+N+PE
PLF-32S	Single Phase AC Power Line Filter 2x 32A P+N+PE
PLF-32T	Tri Phase AC Power Line Filter 4x 32A 3P+N+PE
PLF-40S	Single Phase AC Power Line Filter 2x 40A P+N+PE
PLF-60S	Single Phase AC Power Line Filter 2x 60A P+N+PE
PLF-64T	Tri Phase AC Power Line Filter 4x 64A 3P+N+PE
PWS-16S	Additional Power Socket for EUT - 2x16A P+N+PE
PWS-16T	Additional Power Socket for EUT - 4x16A 3P+N+PE
PWS-32S	Additional Power Socket for EUT - 2x32A P+N+PE
PWS-32T	Additional Power Socket for EUT - 4x32A 3P+N+PE
PWS-64T	Additional Power Socket for EUT - 4x64A 3P+N+PE
SAE	Door for tests acc. to SAE J1752/3 - Integrated Circuit
SHW-1000	Shielded Window in door
SHWB-1000	Removable metal shielded window blinder
US-WIRING	Wired for U.S. 110VAC
USB-CAM	Lithium Battery Powered Shielded USB to Fiber Optic Camera System (Full HD, Autofocus)
VPOS	GTEM Vertical positioning - Plastic table over absorbers - 90° turned door turn of door position, plastic table over pyramids, included the vertical wheeled undercarriage
WE1EMCGTEM-1000	Warranty extension to 3 years in total
WHEEL	Wheeled undercarriage with brakes

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PHOTO GALLERY / DETAILS



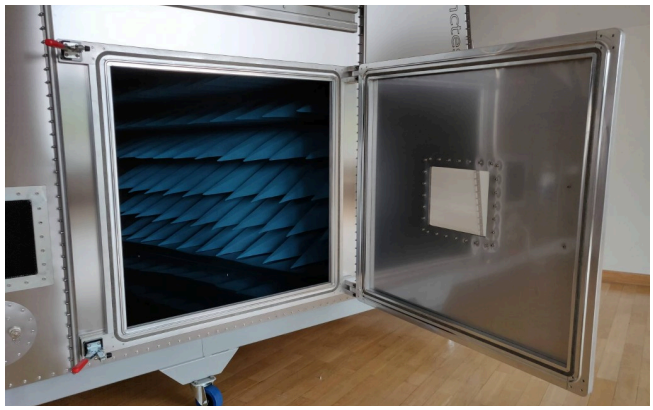
EMC GTEM 1000 - Installed and ready to be used



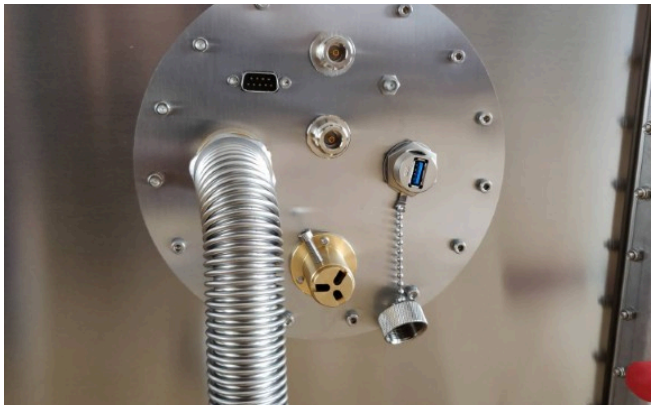
High quality standard details



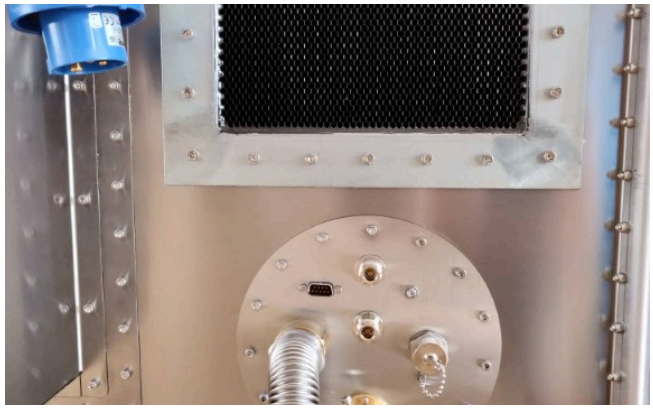
Opened door details



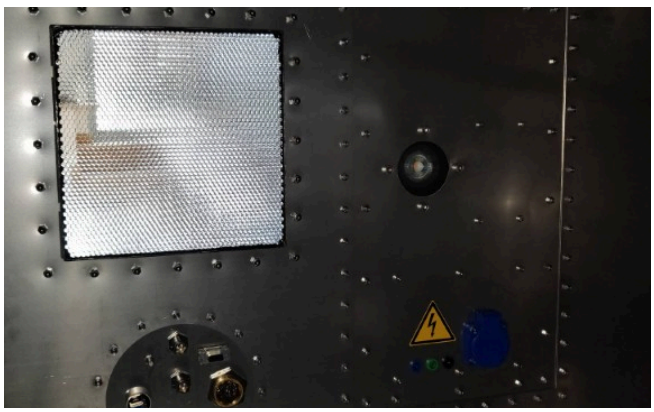
Opened window showing anechoic absorbers



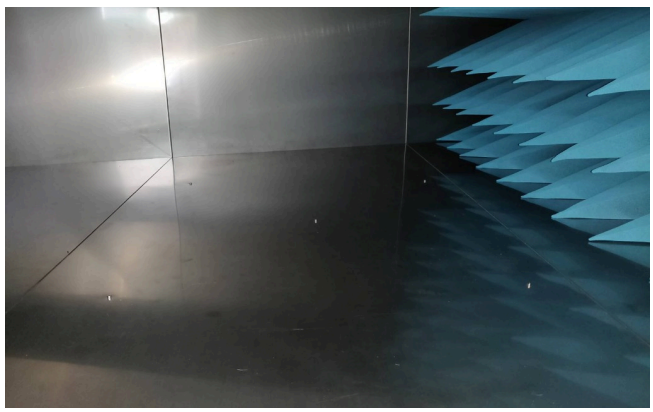
Example of a customized technical panel



Customized technical panel with honeycomb option



Technical panel LED light power supply honeycomb



EUT space inside near anechoic absorbers

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