GTEM MODEL 5407

MODEL 5407

- **For all Phases of EMC Testing:**
- **Emissions, Immunity, and Shielding Effectiveness**
- **Design Qualification**
- **Pre-Compliance**
- **Full Compliance IEC 61000-4-20 ANSI C63.4**

ETS-Lindgren's Model 5407 GTEM! Test Cells enables users to perform radiated emissions and radiated immunity tests in less time than on either an OATS or in an anechoic chamber. Tests can be performed quickly and accurately throughout the product life cycle. Beginning with design qualification testing, and moving through to pre-compliance testing, full-compliance testing and production sampling, the model 5407 is a time saving device for your test lab. The compact GTEM 5405 is especially suited to measuring small self contained or battery powered devices with all fit within the test volume. A typical radiated emissions test (10,000 point scan) can be completed in 15 minutes or less, while a typical radiated immunity test can usually be completed in half the normal time.

The GTEM! Test Cell is based on experience, not experimentation. Originally developed in the EMC Baden (Switzerland) Labs of ABB, the cell has been accepted in the EMC community for more than two decades and is field proven daily at more than 400 installations worldwide. Measurements made with a GTEM! Test Cell are accepted for final compliance demonstration by the FCC for Part 15 & 18 radiated emissions testing, and comply with IEC 61000-4-20 for immunity testing, emission and shielding effectiveness. The GTEM!'s unique tapered shape, offset septum, resistive termination network, and absorber-lined back wall are all designed to significantly reduce some of the performance limitations of TEM cells and boxy enclosures. Electromagnetic wave and RF current termination are smooth and controlled. Field uniformity is better than +/- 3 dB up to 1 GHz, and +/-4 dB above 1 GHz.

The GTEM lends itself best to the measurement of devices that are self-contained with minimal cables that fit within a test volume that is 1/3 the height of the septum and 2/3 the width. As a coaxial transmission line structure, the smaller the impact the dut has on the RF propagation within the GTEM the better the uniformity of the field and lower the uncertainty of measurements.

Technical Specifications

Electrical	
Feed Connector Type	cw 7/16 DIN to N Adapter
Field Uniformity	f ≤ 1 GHz; 0 -6 dB
Frequency	9 kHz to 5 GHz (RE)[1]; DC - 20 GHz (RI)[2]
Input Impedance	50
Maximum CW Input	250W/500W[3]
Shielding Effectiveness	10 kHz to 1 GHz From Internal E-Fields; 80 dB Minimum
VSWR Maximum	All Other Frequencies: 1.50:1; Characteristic Frequencies: 1.75:1
VSWR Typical	All Other Frequencies: 1.30:1; Characteristic Frequencies[4]: 1.75:1

[1]Measurement Range – Where Correlation to OATS is Established
3 Measurement – 3 Input GTEM-OATS Correlation Algorithm, 30 MHz to 5 GHz
9 Measurement – 9 Input GTEM-OATS Correlation Algorithm, 9 kHz to 5 GHz
[2]Low Input VSWR to f</= 20 GHz Available
[3]500W with Optimal Blower
[4]Characteristic Frequency: The frequency at which cross-over between the two terminations (the load resisor boards and RF absorber termination) occurs.

Physical Specifications	
Door Dimension Primary Height	747.0 mm (29.41 in)
Door Dimension Primary Width	686.0 mm (27.01 in)
Door Dimension Secondary Height	385.0 mm (15.16 in)
Door Dimension Secondary Width	460.0 mm (18.11 in)
Highest Accuracy Transverse Test Surface in Center of Cell Height[5]	250.0 mm (9.84 in)
Highest Accuracy Transverse Test Surface in Center of Cell Width[5]	350.0 mm (13.78 in)
Maximum Recommended Transverse Test Surface in Center of Cell Height[6]	500.0 mm (19.69 in)
Maximum Recommended Transverse Test Surface in Center of Cell Width[6]	560.0 mm (22.05 in)
Maximum Septum Height[7]	897.0 mm (35.32 in)
Septum Height at Door Center	700 mm (27.55 in)
Outer Cell w/Base Dimension Height[8]	2.1 m (6.89 ft)
Outer Cell w/Base Dimension Length	4.0 m (13.12 ft)
Outer Cell w/Base Dimension Width	2.2 m (7.22 ft)
Approximate Cell Weight	500 kg (1,102.30 lb)

[5]From quasi-static E-field with H=1/3 septum height and W=1/3 septum width
[6]From quasi-static E-field with H=2/3 septum height and W=2/3 septum width
[7]Measurement taken at rear of test volume.
[8]Contact your ETS-Lindgren Representative for Dimensions without Base.

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