

## GTEM! TEST CELLS 5407 GTEM! Test Cell

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ETS-Lindgren's Model 5407 GTEM! Test Cell enables users to perform radiated emissions and radiated immunity tests in less time than at either an OATS or in a 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. 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 10 years, 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 61000-4-3 Annex D for immunity testing. The GTEM!'s unique tapered shape, offset septum, resistive termination network and absorber-lined back wall remove performance limitations of TEM cells and boxy enclosures. Electromagnetic wave and RF current termination are smooth and controlled. Field uniformity is +/- 3 dB up to 1 GHz, and +/-4 dB above 1 GHz.

### Key Features

- For all Phases of EMC Testing
  - Design Qualification
  - Pre-Compliance
  - Full Compliance IEC 61000-4-3 ANSI C63.4

### Specifications

## Electrical Specifications

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**Feed Connector Type:** cw 7/16 DIN to N Adapter

**Field Uniformity:**  $f \leq 1$  GHz, 0 -6dB

**Frequency:** 9 kHz to 5 GHz (RE)<sup>1</sup>; DC - 20 GHz (RI)<sup>2</sup>

**Input Impedance** 50  $\Omega$

**Maximum CW Input**<sup>3</sup> 200/500W

**Shielding Effectiveness** 10 kHz to 1 GHz From Internal E-Fields 80 dB min

**VSWR Maximum:** All Other Frequencies  $\leq 1.50:1$ ; Characteristic Frequencies  $\leq 1.75:1$

**VSWR Typical** All Other Frequencies 1.30:1; Characteristic Freq<sup>4</sup> 1.75:1

<sup>1</sup> 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

<sup>2</sup>Low Input VSWR to  $f \leq 20$  GHz Available

<sup>3</sup>500W with Optional Blower

<sup>4</sup>Characteristic frequency: The frequency at which cross-over between the two terminations (the resistor load boards and the RF absorber) occurs.

## Physical Specifications

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**Door Dimension Primary (H):** 747 mm (29.41 in)

**Door Dimension Primary (W):** 686 mm (27.01 in)

**Door Dimension Secondary (H):** 385 mm (15.16 in)

**Door Dimension Secondary (W):** 460 mm (18.11 in)

**Highest Accuracy Transverse Test Surface in Center of Cell (H)**<sup>5</sup>: 250 mm (9.84 in)

**Highest Accuracy Transverse Test Surface in Center of Cell (W)**<sup>5</sup>: 350.0 mm (13.78 in)

**Maximum Recommended Transverse Test Surface in Center of Cell (H)**<sup>6</sup>: 500.0 mm (19.69 in)

**Maximum Recommended Transverse Test Surface in Center of Cell (W)**<sup>6</sup>: 560 mm (22.05 in)

**Maximum Septum Height**<sup>7</sup>: 760 mm (29.92 in)

**Outer Cell w/Base Dimension(H)**<sup>8</sup>: 2.1 m (6.89 ft)

**Outer Cell w/Base Dimension(L):** 4.0 m (13.12 ft)

**Outer Cell w/Base Dimension(W):** 2.2 m (7.22 ft)

**Approximate Cell Weight:** 500.0 kg (1,102.30 lb)

<sup>5</sup>From quasi-static E-Field with  $H=1/3$  Septum Height and  $W=1/3$  Septum Width

<sup>6</sup>From quasi-static E-Field with  $H=2/3$  Septum Height and  $W=2/3$  Septum Width

<sup>7</sup>Measurement Taken at Rear of Test Volume

<sup>8</sup>Contact you ETS-Lindgren Representative for Dimensions without Base

## Other Specifications

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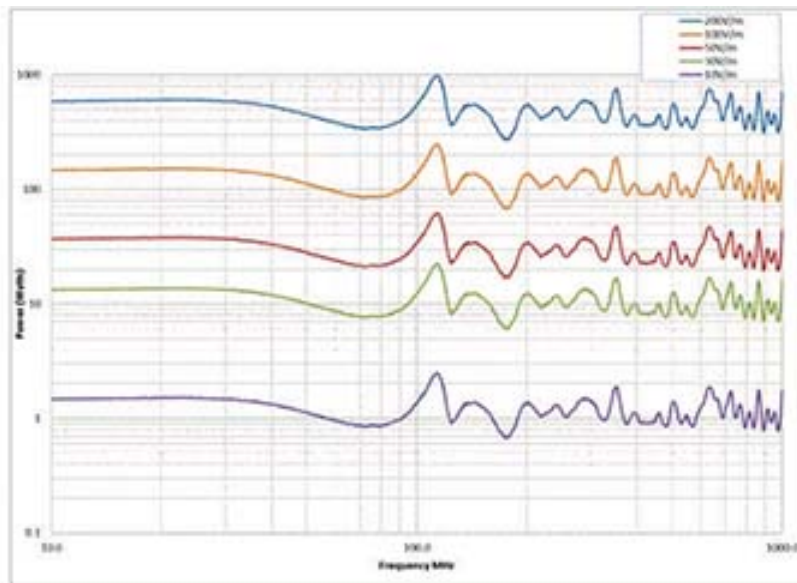
- Two AC Receptacles
- Absorber Material
- Three N-type Connectors
- One Fiber Optic Penetration
- Individually Characterized with Results of TDR and VSWR Tests
- Manual Emissions Correlation Software Available Upon Request
- Ships Disassembled (Customer will need to provide manpower and specific tools for installation. Working supervisor for installation is provided; outside North America, call factory.)
- 7/16" DIN to Type "N" Adapter
- Primary Door 68.6 cm x 74.7 cm (27 in x 29.1 in) Clear Opening
- Mobile Base with Locking Casters
- One 20 AMP, 2 Line Filter
- Manual

# Product Charts

**5407 GTEM Field  
Uniformity Test Grid  
633 mm x 250 mm at  
100 mm from floor bottom  
Ser No: 00095666**



**5407 - Power Versus  
Frequency at Different  
Field Strengths at Center  
of Test Volume**



**5407 - 80% MOD - Power  
Versus Frequency at  
Different Field Strengths  
at Center of Test Volume**

