

## Features:

- For All Phases of EMC Testing:
  - Design Qualification
  - Pre-Compliance
  - Full Compliance
  - Production QC
- For Full Compliance Demonstration of:
  - IEC 61000-4-20,
  - EN 61000-4-3,
  - IEC 61976-2 draft,
  - MIL-STD 462, ANSI C63.4,
  - EN 55022 and VDE 0871
  - SAE J1752/3
- Reduces Test Time
  - $\approx$  8:1 for RE (vs. OATS)
  - $\approx$  2:1 for RI (vs. chamber)



*ETS-Lindgren's EMC Model 5402 GTEM Test Cell*

## ETS-Lindgren's Model 5402 GTEM!<sup>™</sup>

cell lets you perform radiated emissions and radiated immunity tests in less time than at either an OATS or in a chamber. 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.

Tests can be performed quickly and accurately throughout the product life cycle; design qualification, pre-compliance testing, full compliance testing and production.

The GTEM!'s unique tapered shape, offset septum, resistive termination network and absorber-lined backwall remove performance limitations of

TEM cells and boxy enclosures. Electromagnetic wave and RF current termination are smooth and controlled. Field uniformity is  $\pm$  3 dB up to 1 GHz, and  $\pm$  4 dB above 1 GHz.

The GTEM! 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! are accepted for final compliance demonstration by the FCC for Part 15 & 18 radiated emissions testing, and comply with IEC 61000-4-20.

## Applications

- RE, RI Testing
  - Design Qualification
  - Pre-Compliance
  - Full-Compliance
  - Post Production QC

## Typical EUTs

- ICS
- Components
- Modules
- Small Systems

## Industries Served

- Computer
- Telecom
- Medical
- Automotive
- Aerospace
- Military

Manufactured under license from Asea Bovari, Baden, Switzerland, US Patent 4,837,581

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## Electrical Specifications

MODEL	FREQUENCY RANGE	VSWR TYPICAL	MAXIMUM CW INPUT POWER	INPUT IMPEDANCE	FEED CONNECTOR TYPE	SHIELDING EFFECTIVENESS (FROM INTERNAL E-FIELDS)
5402	RE TESTS <sup>1</sup> 9 kHz – 5 GHz RI TESTS <sup>2</sup> DC – 20 GHz	CHARACTERISTIC FREQ <sup>3</sup> ≤ 1.75:1 ALL OTHER FREQ ≤ 1.3:1	50 W	50 Ω	CW 7/16 DIN PLUG TO TYPE N ADAPTER	80 dB MINIMUM 10 kHz – 1 GHz

## Physical Specifications

MODEL	OUTER CELL W/BASE DIMENSION	APPROX CELL WEIGHT	PRIMARY DOOR DIMENSION	ACCESS PANEL DIMENSION	MAXIMUM SEPTUM HEIGHT <sup>4</sup>	HIGHEST ACCURACY TEST PLANE <sup>5</sup>	MAX TEST PLANE
5402	(L) 1.4 m (4.7 ft) (W) 0.75 m (2.5 ft) (H) 0.5 m (1.7 ft)	40 kg (88 lb)	(W) 160 mm (6.3 in) (H) 230 mm (3.9 in)	100 mm (3.9 in) 100 mm (3.9 in)	250 mm (9.8 in)	10.0 cm x 8.3 cm (3.9 in x 3.3 in)	16.7 cm x 12.5 cm (6.5 in x 4.9 in)

<sup>1</sup> Frequency range where OATS correlation demonstrated: 3-position algorithm 30 MHz - 5 GHz, 9-position algorithm 9kHz - 5 GHz

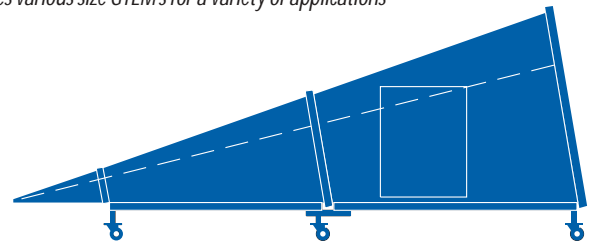
<sup>2</sup> Low VSWR to f ⊕ 20 GHz; subject to field uniformity tolerance

<sup>3</sup> Characteristic frequency: resistor board/RF absorber crossover frequency

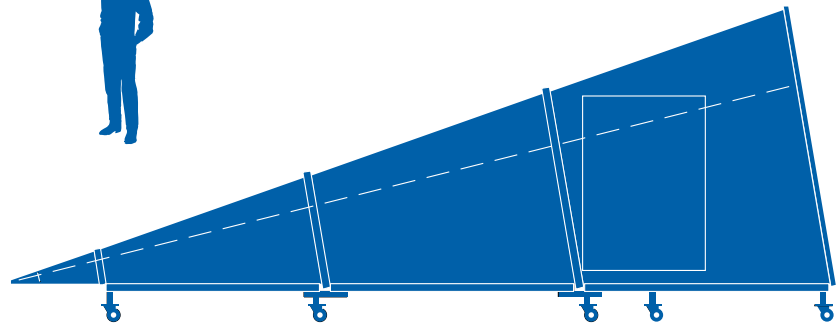
<sup>4</sup> At resistor board junction

<sup>5</sup> ≤ 8 dB Uniformity

ETS-Lindgren manufactures various size GTEM's for a variety of applications



Model 5411



Model 5417

## Options

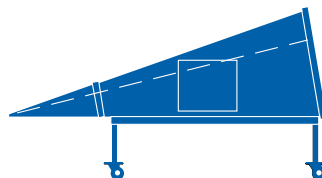
- Custom Electrical Filters
- Custom Feedthrough Panels
- EUT XYZ Axis Positioning Device
- EUT Illumination
- Forced Ventilation
- High Power Configuration



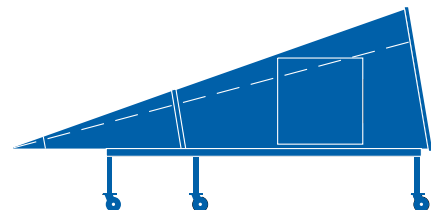
Model 5401



Model 5402



Model 5405



Model 5407

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