



### Amitec GigaHertz Transverse Electromagnetic Cell (GTEM) GTE10

#### Features

- \* Radiated Immunity and Radiated emissions testing
- \* Broadband TEM Cell up to 10 GHz
- \* Small size, Small footprint for Indoor application
- \* High effective shielding to 80dB
- \* Specifically designed for all types of Mobile Phones/Biological Samples
- \* N Socket RF Connector
- \* Highly uniform vertical Electric field <6dB
- \* Impedance 50Ohms
- \* Broadband from DC-10GHz so no antenna changes
- \* Far Field free space condition emulation

The Amitec- GTE10 Gigahertz Transverse Electromagnetic (GTEM) Cell is a precision electromagnetic compatibility (EMC) test instrument primarily intended for use as an EMC radiated immunity and radiated emissions test facility. It is intended for installation in a corporate, laboratory, or industrial environment, where its unique characteristics allow for the performance of fast and efficient EMC radiated tests at a convenient location, without interference from the ambient electromagnetic environment.

The GTE10 is a pyramidal tapered, dual-terminated section of 50-ohm transmission line. The cell is flared to create a test volume within which the Equipment Under Test (EUT) is placed. At the input, a normal 50-ohm coaxial line is physically transformed to a rectangular cross section with an aspect ratio of 3:2 horizontal to vertical. The center conductor, known as the septum, is a flat, wide conductor which, when driven by a signal generator, produces a reasonably sized region of a nominally uniform electric field distribution beneath it. This region of nominally uniform field is the test volume for radiated immunity (susceptibility) testing. By the theory of reciprocity, radiated emissions testing is also conducted in the test volume. To increase the usable test volume, the septum is located well above the horizontal centerline of the cross section, while maintaining constant characteristic impedance

and uniform field distribution. The septum is terminated in a resistive array having a total value of 50 ohms for matching the impedance of the source. Test volume fields, either applied to an immunity test item or produced by the EUT during emissions testing, are terminated in RF absorber. The shape of the test volume is a tapered wedge. The fields generated by application of an RF voltage to the input of the GTE10 propagate with a spherical wave front from the apex of the GTE10 to the termination.

#### Amitec GTE10 Technical Specifications:

|                          |   |
|--------------------------|---|
| Outer Cell Dimension:    | L: 220cm X B: 120cm X H: 80cm   |
| Approx. Cell Weight:     | 70kgs   |
| Door Dimension:          | 30cm X 25cm   |
| Max Septum Height:       | 40cm  |
| Uniform Field area:      | W=200mm H=200mm   |
| Frequency Range:         | 9KHz-5GHz RE Test where OATS correlation demonstrated<br>DC-10GHz RI Test Low VSWR to f < 20 GHz; performance dependent on field uniformity tolerance |
| Input Impedance:         | 50 Ohms   |
| Connector:               | N type Socket   |
| VSWR Max typical:        | <1.75:1<br><1.5:1 on resistor absorber crossover characteristic frequency   |
| Field Uniformity :       | 0-6dB 75% of points   |
| Max CW Input Power :     | 10W   |
| Shielding Effectiveness: | >80dB from internal E fields<br>10KHz-1GHz  |

#### Options:

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

**E-Manual: Installation Video for ease of Learning**  
**Dim: 240X140X100cm, Warranty: 3 yrs.**

**Mfd by: Amitec Electronics Ltd.**

**Regd. Off: 504, Nilgiri, Barakhamba Road, New Delhi-110001, India**

**Works: 4/32, Site-4, Industrial Estate, Sahibabad, UP-201010, India**

**amitec@amitecltd.com, www.amitecltd.com**

**+91-120-4371276, +91-9811839949, +91-9810193153**



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