

# WIRELESS TEST ENCLOSURES SHIELDED RF TEST ENCLOSURE



## MODEL 5247

- 700 MHz to 10 GHz Frequency Range
- >80 dB Typical RF Isolation
- RF Absorber Lined Shielded Enclosure
- Dual Polarization Horn Antenna
- Linear and Circular Polarization
- Connector Ports:
  - 1 SMA Connectors
  - 3 Type N Connectors
  - Filtered D-sub 25 Pin Connector
  - Six-line, Fiber Optic Feed-through
  - Power Filter, 0 to 250 VAC, 0 to 10 A
- Dual Latching RF Gasketed Door
- Roll-about Casters
- Integrated System Configurations Available

**ETS-Lindgren's Model 5247** is a self-contained portable enclosure for making wireless device over-the-air performance measurements. The unit can be used for design verification, pre-certification, and production line measurement applications. Rolling casters allow the unit to be readily moved between locations.

### RF Shielding

The Model 5247 is constructed with the same RF shielding and shielded door technology used in the construction of our larger, full certification wireless test chambers. The RF shielded door uses compressible finger stock in a “knife edge” configuration. Two latch points with a single point handle provide secure sealing and one-hand operation. Typical RF isolation of both the shielding and door is greater than 80 dB.

### Anechoic Absorber

The RF anechoic absorber used in the Model 5247 is performance optimized for the frequencies of interest. The absorber limits reflections and moding, contributing to more accurate, repeatable measurements. Tapered wedges line the walls, pyramidal absorber is used on the floor, and lossy foam lines the antenna.

### Dual Polarized Horn Antenna

The Model 5247 is equipped with a dual polarized horn antenna. The standard included antenna can make both linear and circular measurements over the frequency

range of 700 MHz to 10 GHz. (Optional hybrid required for circular measurements.) Typical frequency response is relatively flat from 1 GHz through 5 GHz, with less than 2 dB variation of gain. The antenna is mounted on a removable access panel at the top or “ceiling” of the enclosure. The antenna can be interchanged with another antenna of a different frequency as needed.

### Connector, Antenna and Access Panels

A populated connector panel (bulkhead feed through) is included with the Model 5247. The panel includes; one SMA connector, three Type N connectors, one filtered D-sub 25-pin connector, a six-line fiber optic feed-through, one power filter, and one ground stud. A USB fiber optic media converter with a two-port hub (requires 110/220 VAC/5A supplied) is optional.

A changeable antenna mounting panel (with a pre-mounted antenna) is included.

### Applications

The Model 5247 is designed to provide an environment for relative radiation performance of wireless devices. It can be used to measure approximate EIRP, EIS or RSSI in a given direction and polarization (DUTs must be manually positioned). These results can be used to compare the behavior of multiple identical devices, or the same device under different conditions such as external interference or desensitization due to other platform components or radios.

### Standard Configuration

- Enclosure with RF Anechoic Lining, RF Shielded Door, Connector Panel with Connectors/Filters, DUT Access Panel, Antenna Panel and Casters
- One Dual Polarized Measurement Antenna

### Options

- Additional Antennas can be Purchased to Increase/Decrease Frequency Range
- Additional Feed-through Connector & Filter Options
- USB Fiber Optic Media Converter
- Instrumentation and EMQuest™ Test Automation Software
- Training

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## Technical Specifications

### Electrical (Horn Antenna)

|                              |                   |
|------------------------------|-------------------|
| Frequency Range              | 700 MHz to 10 GHz |
| Cross-Polarization Isolation | > 20 dB           |
| Impedance (Nominal)          | 50 $\Omega$       |
| Connectors                   | SMA (2)           |

### Physical (RF Shielded Enclosure)

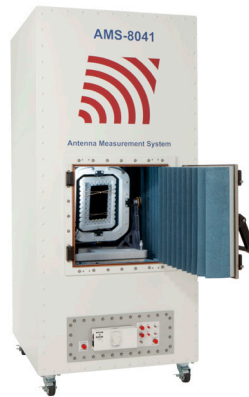
|  |  |
|--|--|
| Nominal External Length                        | 203.7 cm                                 |
|  | 80.2 in                                  |
| Nominal External Width                         | 74.9 cm                                  |
|  | 29.5 in                                  |
| Nominal External Depth                         | 86.3 cm                                  |
|  | 34.0 in                                  |
| Nominal Internal Length (Absorber to Absorber) | 112.0 cm (Between Antenna and EUT Table) |
|  | 44.1 in                                  |
| Nominal Internal Width (Absorber to Absorber)  | 33.8 cm                                  |
|  | 13.3 in                                  |
| Nominal Internal Depth (Absorber to Absorber)  | 33.8 cm                                  |
|  | 13.3 in                                  |
| Weight   | 231.3 kg                                 |
|  | 510.0 lbs                                |

### Physical (EUT Table)

|       |         |
|-------|---------|
| Width | 30.0 cm |
|       | 11.8 in |
| Depth | 38.0 cm |
|       | 15.0 in |

### Physical (RF Shielded Door)

|        |         |
|--------|---------|
| Length | 50.0 cm |
|        | 19.7 in |
| Width  | 50.0 cm |
|        | 19.7 in |



NOTE: For 3D antenna pattern measurement, please see Models AMS-8040, AMS-8041 and AMS-8050 product information.