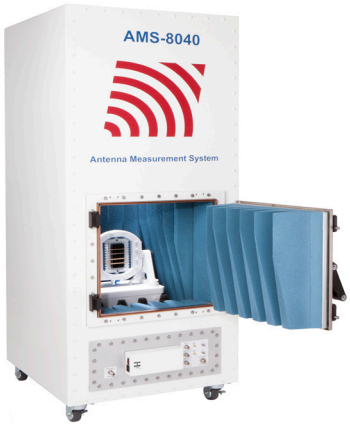
CHAMBER AMS-8040 ANTENNA MEASUREMENT SYSTEM



MODEL AMS-8040

- **Suitable for 3GPP TS 38.151 FR2 MIMO OTA Testing**
- **Suitable for Evaluation of Receive Diversity**
- **Supports SA and NSA devices**
- **Complete RF Environment Simulation**
- **Supports Single Cluster, Multiple Cluster, Uniform and customer-defined Models**
- **Supports Variable Angles of Arrival, Doppler, and Delay Spread**

ETS Lindgren's AMS-8040 Antenna Measurement System is a self-contained enclosure for making over-the-air testing of wireless devices in free-space. The AMS-8040 Antenna Measurement System supports over-the-air testing of mobile handsets in free-space. It is ideal for wireless device measurements including pre-certification, design verification, production sample, desense, and regression testing.

It can also be used to measure approximate EIRP, EIS, or RSSI in a given direction and polarization. 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.

5G FR1 Over-The-Air (OTA) test solutions are now available! ETS-Lindgren offers a turnkey package which will enable support for 5GNR SISO non-standalone [NSA] and/or standalone [SA] testing in the FR1 band.

Product Features:

Antennas

The AMS-8040 is equipped with a dual-polarized Vivaldi antenna (Model 3165-02) for both linear and circular measurements over the frequency range of 400 MHz to 6 GHz. The antenna is mounted on a removable access panel at the top of the enclosure. The antenna can be interchanged with another antenna of a different frequency if needed. Two dual-polarized antennas are used for communication with the DUT. Two-Axis Positioner 3D antenna measurements can be made using the AMS-8040's two-axis positioner. The positioner is constructed of low-dielectric materials and is designed for handheld devices weighing up to 454 g (1 lb). The positioner is controlled by EMQuest Software.

RF Shielding

The RF-shielded anechoic enclosure is compact and freestanding; ideal when space is limited. The portable chassis makes it an excellent choice for multiple research and development groups since it can be moved from one test group to another through doors as small as 0.9 m x 2.1 m (3 ft x 7 ft). 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 dBs.

Anechoic Absorber

FlexSorb, a flexible RF absorber that bends and returns to its original form, is used in AMS-8040 to eliminate breakage from extended lab use. The absorber is performance optimized and limits reflections and moding for more accurate, repeatable measurements. Tapered wedges line the walls, pyramidal absorber is used on the floor, and lossy foam lines the antenna.

Connector Panele

A connector panel (bulkhead feedthrough) is included with the AMS-8040. The panel includes a power line filter, two SMA connectors, and three type N connectors for customer use. Two ST connectors are reserved for the two-axis positioner, and two additional type N connectors are reserved for the two DUT communication antennas.

Connector Panele

The AMS-8040 System includes our versatile EMQ-100 Antenna Pattern Measurement Software. The software makes fully-automated pattern and frequency response measurements for active antennas. Post-processing capabilities include calculations for directivity, gain, radiation efficiency, total radiated power, and total isotropic sensitivity.

EMQ-100 also calculates industry specific quantities such as Near- Horizon Partial Isotropic Sensitivity (NHPIS) required by the CTIA Test Plan for Mobile Station Over-the-Air Performance. Advanced graphing capabilities allow data to be shown in a variety of 2D and 3D formats, exported to Microsoft Excel, PDF files, or saved in RTF format.

Technical Specifications

Electrical	
Frequency Range	400 MHz to 6 GHz
Test Methodology	Direct Far-Field (DFF)
Compliance Standard and Technology	Pre-Compliance
Rotation Axis	Combined-Axis
Physical	
Path Length	100 cm (3.28 ft)
Overall Dimensions	194.3 cm x 74.9 cm x 86.4 cm (76.5 in x 29.5 in x 34.0 in)
Maximum Load Capacity	454 g (1 lb)

Standard Configuration

- Design and Fabricate RF-shielded Enclosure
- Installation of the Enclosure, Absorber, and System Components
- Manually Operated RF-shielded Personnel Door
- Connector Panels with Data, Communication Antenna, DUT and Aux connectors

01/25 PDF/OW © 2025 ETS-Lindgren v1.0