

WIRELESS SOLUTIONS AMS-8041 Antenna Measurement System

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The system is an ideal solution when space is a limitation as it is a self-contained, freestanding test chamber. Its portable chassis makes it an excellent choice for multiple research and development groups since it is designed to fit through a typical 0.9 m x 2.1 m (3 ft x 7 ft) personnel door and can be easily moved from one test group to another.

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 capable with SUB-6 upgrade available. Contact your ETS-Lindgren representative for details.

Key Features

- Efficient Over-the-Air (OTA) Active and Passive Antenna Pattern Measurement
- Ideal as a Shared Resource for Pre-compliance Testing
- Compact Anechoic Absorber-lined RF Enclosure
- Self-contained with Roll-about Casters for Mobility
- Frequency Range 400 MHz to 6 GHz
- Path Length: 80 cm
- DUT I/O Ports:
 - 2 SMA Connectors
 - 2 Type N Connectors
- Two-axis DUT Positioner
- >80 dB RF Isolation
- Two Communication Antennas
- No Special Installation of Construction Required
- Onsite Setup and Training

Features

Antennas

The AMS-8041 is equipped with a Model 3165-02 dual polarized Vivaldi antenna capable of measuring 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 antennas are used for communication with the DUT.

Two-Axis Positioner

3D antenna measurements can be made for both active and passive antennas using the AMS-8041's two-axis positioner. The positioner is constructed of low-dielectric materials and is designed for hand-held devices weighing up to 1 kg (2.2 lb). The positioner is controlled by EMQuest™ Software.

Anechoic Absorber

FlexSorb™, a flexible RF absorber that bends and returns to its original form, is used in AMS-8041 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.

EMQuest Data Acquisition and Analysis Software

The AMS-8041 System includes our versatile EMQ-100 Antenna Pattern Measurement Software. The software makes fully-automated pattern and frequency response measurements for active and passive 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 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.

Specifications

Electrical Specifications

Frequency Range: 400 MHz to 6 GHz
Cross Polarization: >25 dB
Path Length: 80 cm
Drive System Electrical (VAC): 208/240 VAC; NEMA 6-15
Drive System (Amps): 10 A
Equipment/DUT Electrical (VAC): 115/230 VAC; NEMA 5-15
Equipment/DUT (Amps): 5 A
Voltage (Hz): 50/60 Hz
Plug Type: IEC 320
Shield Performance: >80 dB
Shield Material: Aluminum

Physical Specifications

Dimensions (H x W x L): 201.4 cm x 87.4 cm x 101.1 cm (79.3 in x 34.4 in x 38.9)
Shielded Door Dimensions (L x W): 48.3 cm x 48.3 cm (19.0 in x 19.0 in)
Weight (Nominal): 261.3 kg (575.0 lb)
Max DUT Weight: 998 g (2.2 lb)

Other Specifications

- RF Shielded Enclosure
- Anechoic Tapered Wedge Absorber on Side Walls and Pyramidal Absorber on Ceiling & Floor
- Integrated 2-axis Positioning System
- One Dual-polarized Measurement Antenna
- Two Dual-polarized Communication Antennas
- Connector Panel with Two SMA, Three Type N Connectors, One BNC for Triggered Acquisition Functionality for DUT I/O
- EMCenter Modular RF Platform
- Ethernet Fiber Optic Media Converter
- Fully Integrated Rack System
- Workstation Computer with Intel® Quad-core Processor
- EMQuest EMQ-100 Antenna Measurement Software
- Design, Two Days On-site Setup, and Federal Operating Training