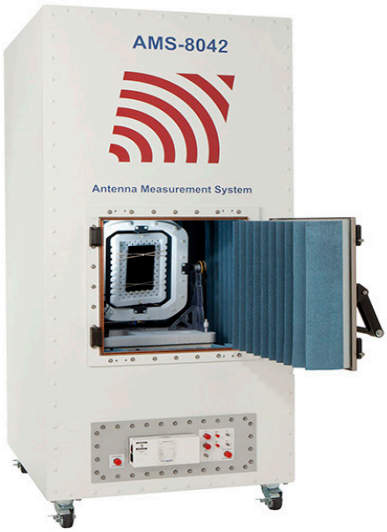
CHAMBER AMS-8042 ANTENNA MEASUREMENT SYSTEM



MODEL AMS-8042

- **Efficient 2D or 3D Antenna Patterns**
- **Single or Dual-axis DUT Positioner**
- **>80 dB RF Isolation**

ETS-Lindgren's AMS-8042 mmWave Measurement System supports short-range length OTA testing of automotive RADAR modules and other wireless and mmWave components in a production or R&D environment. It is ideal for device measurements, including pre-certification, design verification, production sample, and antenna-pattern testing. With the selection of a RADAR Target Simulator (RTS), the performance of RADAR modules can be evaluated under a number of different simulated target conditions. 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 the presence of noise or other interfering sources. This customizable system supports different target simulator or VNA options set up to perform automated measurements.

Product Features:

Antennas

The AMS-8042 is designed with the test range oriented vertically with the measurement antenna or RTS positioned at the top of the chamber. It is equipped with a top mounted interface hatch that can be interchanged to accommodate either a measurement antenna or a RADAR target simulator RTS similar to those belonging to the Keysight 870xA series.

For 2D or full spherical antenna pattern measurements, optional quad-ridged horn antennas such as the model 3164-12 antenna for both linear and circular measurements over the frequency range from 10GHz to 50GHz, or a separate double-ridged horn covering the 15GHz to 100GHz range can be mounted.

Multiple antennas can also be incorporated to set up interfering sources if needed.

Single-Axis 2D or Dual-Axis 3D antenna measurements can be made using the AMS-8042's default single axis or optional dual-axis positioner. The Dual-Axis positioner is constructed of low dielectric materials and is designed for small devices weighing up to 454 g (1 lb). The single axis positioner can support devices up to 1kg (2.2 lbs). Both positioners can be controlled by the included EMQuest Software and workstation.

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 production and 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 dB.

Anechoic Absorber

EHP Absorber is our high performance, high frequency RF absorber material used to line the internal surfaces of the chamber. In areas with increased friction and risk of damage, FlexSorb material is used. FlexSorb, a flexible RF absorber that bends and returns to its original form, is used in less critical areas to eliminate breakage from extended use. The absorber is performance optimized and limits reflections, which can cause ghosting when used with the RTS. During antenna pattern tests, it further reduces moding, for more accurate, repeatable measurements. Tapered wedges line the walls while pyramidal absorber is used on the floor, and top aperture surrounding the antenna.

Connector Panel

A connector panel (bulkhead feedthrough) is included with the AMS-8042 and positioned below the front access door. The panel includes a power line filter, two SMA connectors, 2 USB and an Ethernet port for customer use. Two ST connectors are reserved for the two-axis positioner. The panel can be further configured for different connector arrangements.

EMQuest Data Acquisition and Analysis Software

The AMS-8042 System includes our versatile EMQ-100 Antenna Pattern Measurement Software. The software makes fully-automated RADAR pulse parameter measurements and pattern and frequency response measurements for active antennas. Post-processing capabilities include calculations for directivity, gain, beam width, elevation, peak radiated power and sensitivity.

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	24 GHz to 81 GHz
Test Methodology	Direct Far-Field (DFF)
Compliance Standard and Technology	ETSI 301-303 Series
Rotation Axis	Single Azimuth Axis Optional Combined-Axis
Physical	
Path Length	1 m (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	Single Axis - 1.0 kg (2.2 lb), Dual Axis - 454 g (1 lb)

Standard Configuration

- Self-contained, Rolling Casters for Increased Mobility
- No Special Installation or Construction Required
- RTS Ready
- On-site Setup and Training

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