AMS-5702 MAPS 5G Antenna Measurement System (3D)

Key Features

- Mobile RF-Shielded Test Environment
- Direct Far-Field (DFF)
- Multi Axis Positioning System (MAPS) type AUT positioning
  - 0.03^{O} Accuracy
  - 0.01 Resolutio
  - Power, RF, USB Slip Ring in the Positioner
- Dual Polarized Measurement Antenna
- Variable range length from 50 cm (29.5 in) to a 150cm (59.1 in)
- Laser Alignment
- Supports Passive Testing in CW Mode
- Tests Fully-Modulated Signals

ETS-Lindgren's AMS-5702 5G Antenna Measurement System is a combined-axis far field system that provides 3-dimensional radiated performance measurements of 5G mmWave wireless devices over the frequency range of 5 to 50 GHz. It is recommended for 3GPP and 5G conformance and performance testing (EIRP, TRP, EIS, TIS) and radio interoperability. AMS-5702 is a flexible system with a variable path length to adjust for a wide range of array sizes and an optimized dynamic range. This system excels at dual axis antenna performance measurements for 5G FR2 millimeter wave antennas with or without antenna feed ports.

The RF-shielded anechoic enclosure is mobile (on wheels) and ideal when space is limited. The portable chassis makes it an excellent choice for multiple research and development groups, as it can be moved from one test group to another.

The AMS-5702 system incorporates multi-axis positioner system (MAPS) together with linear slide that allows path length optimization between the antenna under test and probe antenna. Larger antenna arrays can be tested with the increased path length, and smaller arrays can be moved closer to the probe to improve the link budget. Antenna array sizes between 4.0 cm and 9.6 cm can be tested with AMS-5702 (see Max antenna array size specifications).

The AMS-5702 utilizes ETS-Lindgren's EMQuest EMQ-100 Antenna Measurement Software as its data acquisition and analysis package. EMQuest EMQ-100 Antenna Measurement Software efficiently pulls together each piece of hardware to create a powerful test solution. EMQuest EMQ-100 offers a wide range of fully parameterized test methods for measuring passive antenna performance. However, active radiated performance for all 5G technology variants from mmWave radios to Massive MIMO base stations is the true forte of EMQ-100. Whether you are designing antennas for stand-alone applications or testing an embedded antenna system and radio module against any of the industry standard Over-the-Air (OTA) radiated performance test requirements, EMQuest EMQ-100 provides the flexibility to meet your testing needs.

Specifications

Physical Specifications

Maximum Antenna Array Size To Be Tested, 24 GHz: 5.6 cm^2 - 9.6 cm^2 (2.2 in^2 - 3.8 in^2)
Maximum Antenna Array Size To Be Tested, 44 GHz: 4.0 cm^2 - 7.0 cm^2 (1.6 in^2 - 2.8 in^2)
Overall Dimensions (Nominal): 8.2 ft x 4.6 ft x 5.9 ft (2.5 m x 1.4 m x 1.8 m)
Max DUT Weight: 11.0 lb (5.0 kg)

Electrical Specifications

Voltage (VAC), AUT Positioner Drive System: 208/240; IEC 320 C14
Equipment/AUT: 115/230; IEC 320 C14
Hertz (Hz): 50/60 Hz
Current (A) Drive System: 20 A
Current (A) Equipment/DUT: 5 A

Charts

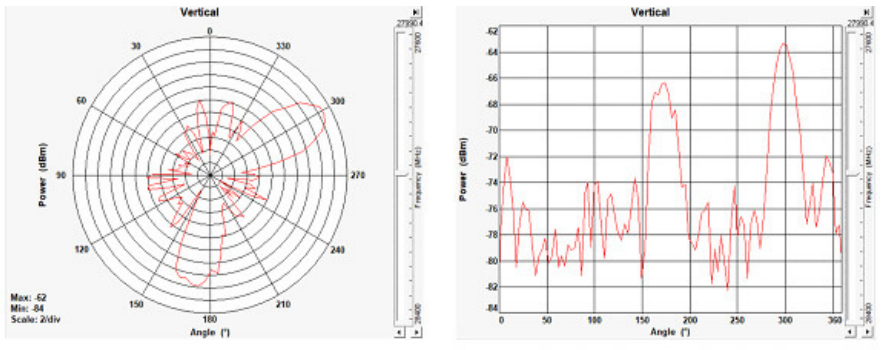

Figure 1. Typical 2-dimensional antenna performance pattern

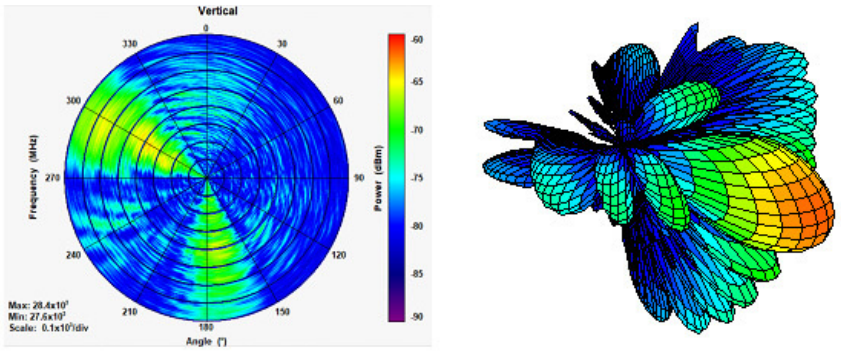

Figure 2. Typical analysis graphs for wide bandwidth signals through 3-dimensional measurements.