

Antenna Measurement Software

Features and Specifications

The screenshot displays the Antenna Measurement Studio 5.999D interface. At the top, it shows the software title and version information. The main workspace is divided into several functional areas:

- Control Panel:** Includes buttons for "MEASURE AZIMUTH CUT", "SCAN Az/EI", "MEASURE ELEVATION CUT", "PAUSE MEASUREMENT", and "STOP MEASUREMENT". A "MOTION DISABLED" warning is visible.
- Status Bar:** Shows "Measurement Complete - Proceed to Data Processing" with a remaining time of 0h:0m:0s. It also displays measurement parameters: Start Freq (1.5G), Stop Freq (1.9G), No. Points (51), Az Pos. (360), and El Pos. (0).
- Configuration Section:** Allows selection of VNA/Source, Receiver, and Cal System (Scalar Cal OFF, PM Cal OFF).
- Extents Configuration:** Shows "Az Extents" (Start: 0, Stop: 360, Resolution: 10) and "EL Extents" (Start: 90, Stop: -90, Resolution: 10).
- Measurement Progress:** Includes "AZ Progress" and "EL Progress" circular indicators.
- Data Plots:** Features a "Center Frequency Amplitude / Polar Preview" plot showing a frequency response with two deep nulls, and a large polar plot showing the radiation pattern of an "Axial Helix" antenna at 1.7G Hz.
- Positioning:** Includes a "Configured Positioner" window with a camera view and "Positioner Settings".

DAMS Antenna Measurement Studio
Antenna emission measurement and characterization

Software Features

Test Equipment Support

Works with any Agilent or Anritsu VNA, SA, SG or PM, as well as most R&S and voltmeters and more.

Platform Control

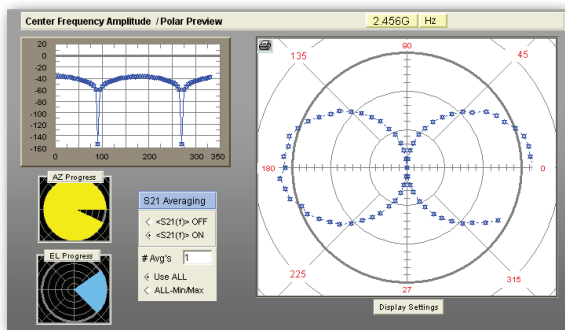
Manually or automatically control dual-axis movement, AZ over EL, with stepping or continuous sweeps, at up to 0.0625 degree resolution. Control platform type, speed, acceleration and more.

Data Storage Registers

Load, save or export data sets with measurement descriptions, number of measurements and more. Store up to four data sets or export to Excel or TXT.

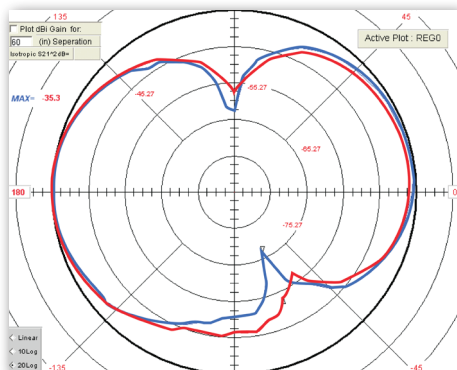
Basic Measurement Cuts

Perform AZ, EL, AZ over EL cuts and more.



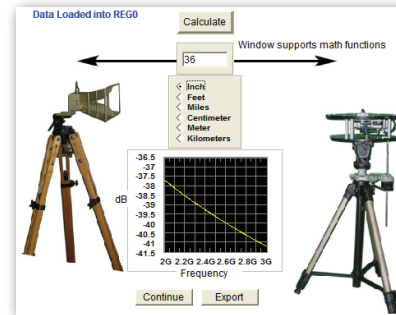
Dual Trace Plots

Exportable dual trace polar or amplitude plots feature dual marker function and selectable linear or 20Log formats for delta dB/angle marker readouts with selectable scaling.



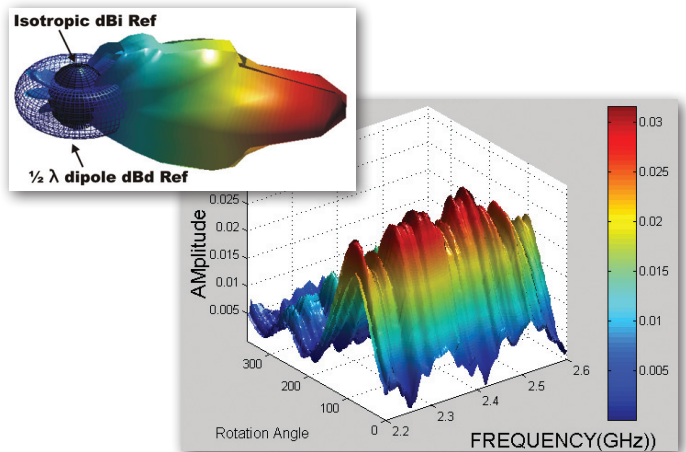
Path-Loss Calculators

Create a path-loss array for gain macros which include the fixed distance and path-loss over frequencies with loss illustrated in dB/unit. Also capable of determining delay/distance from phase data and more.



Full 3D and Spherical Plotting

Generate exportable three-dimensional spherical views of your data at any frequency, with multiple overlay and display features. Perform continuous rotation or swept measurements with up to 1600 frequency points and variable speed capabilities for vertical or horizontal scans. (Pro version only)

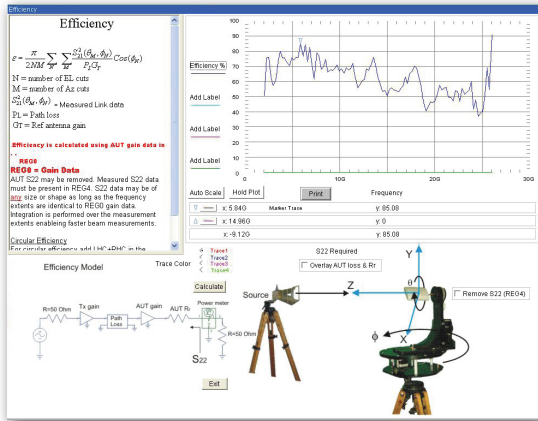


Measurement Monitor Plots

Log magnitude, polar azimuth or real-time gain. Includes monitor options such as frequency for tuning. Also produces configurable polar and magnitude (dB) graphs.

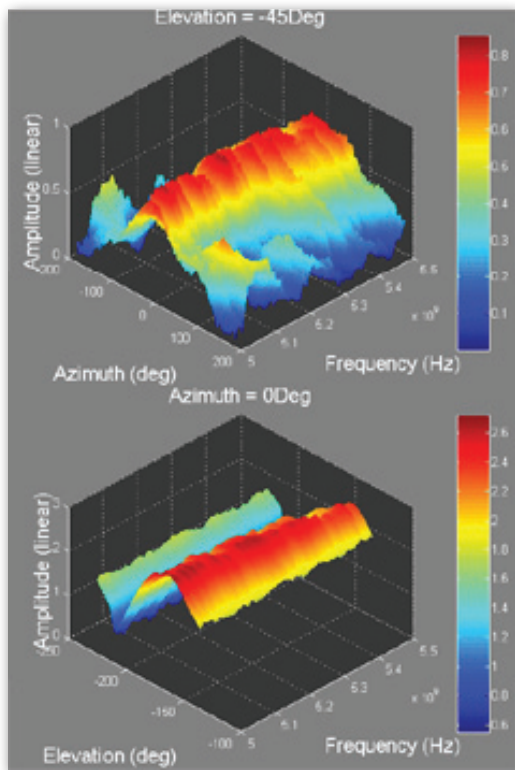
Antenna Efficiency

Measures the losses that occur throughout the antenna and/or the transmission at given frequencies, or can be averaged over its operation across various frequency bands. Can also be calculated with or without AUT-loss.



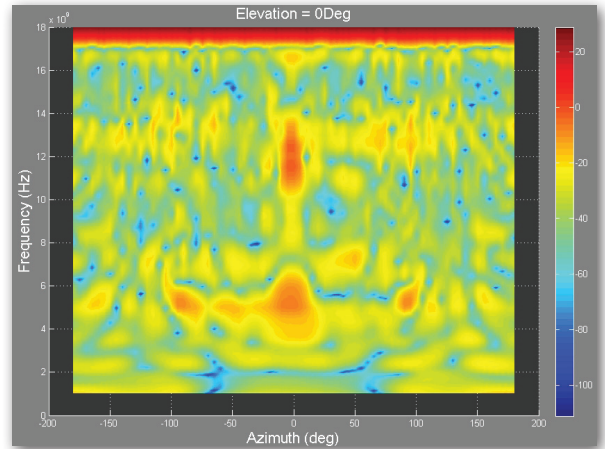
2D and 3D AZ-EL-F Plotting

Utilizes the 3D Cartesian coordinate system to produce two-dimensional color maps or three-dimensional plot graphs from measured data. (*Pro version only*)



Radar Cross-Section Profiling

Determine the overall reflectivity characteristics of the AUT, a principle concern when designing for low reflection and/or stealth.



Polar Plotting Capabilities

Compile data from azimuth, elevation or full elevation cuts into polar plots. Features include polar amplitude plots, GNU plots, RCS plots, conversion to Smith charts, and more.



Beam Width vs. Frequency

Evaluate all or part of measurements to examine compliance of AUT against ideal isotropic, dipole or user-defined antennas. Data exportable to Excel.

Software Specifications

Platform Movement

Control Interface:	USB/serial via DAMS controller
Available Adjustments:	Platform type Speed Acceleration rate Communication settings

Data Collection

Methods:	Network analyzer Spectrum analyzer Power meter Voltmeter
Measurement Monitors:	Log Magnitude Polar Azimuth Real-time Gain

Data Calculation Modules

Gain Calculation:	Linear Gain Circular Gain Gain Transfer Gain Substitution 3-Point Gain
Efficiency Calculation:	Antenna Efficiency Antenna Efficiency w/ AUT Losses
Path-Loss Calculation:	General Path-Loss Calculation Gradient Path Distance Calculator S21group Delay / Distance Constant Gain or Loss
Reference Antenna Import:	Tab delimited ASCII (TXT) file

Data Visualization

Polar Plots:

- Azimuth
- Elevation
- Full Elevation Cuts
- Beamwidth
- GNUplot Polar
- Smith Chart Overlay
- Contour Export Support
- Dynamic Polar Plot

2D (XY) Plots:

- Amplitude Over Frequency(s)
- Az/EI over Amplitude
- Group Delay
- Beamwidth vs. Frequency
- GNUplot Amplitude

3D Plots:

- Azimuth
- Elevation
- Azimuth/Elevation
- Spherical
- Azimuth vs. Frequency vs. Amplitude
- Azimuth vs. Elevation vs. Amplitude

Data Manipulation Features

- Standard Register Calculator
- Array Calculator
- Link Commander
- Measurement Corrections

Import/Export Data

Supported Data Formats: Excel, TXT (ASCII), DAMS formats