

F. Functional Capabilities

I. Mechanical

- (1) A turnkey antenna near-field & far-field measurement system
- (2) A fully computer-controlled automated 7-axis system as follows:
 - (a) X-axis: horizontal linear motion for planar scan
 - (b) Y-axis: vertical linear motion for planar or cylindrical scan
 - (c) Z-axis: horizontal linear motion for separation between the probe and the AUT
 - (d) R-axis: horizontal linear motion for phase center placement
 - (e) U-axis: rotational motion (roll angle) for polarization angle at the probe
 - (f) V-axis: rotational motion (roll angle) for polarization angle at the AUT
 - (g) W-axis: rotational motion (theta angle) for spherical or cylindrical scan
- (3) An R-axis that includes a built-in phase center determination algorithm

II. Software

- (1) Near-field to far-field transformations include planar, spherical and cylindrical data, for both frequency-domain and time-domain measurements.
- (2) Holography also includes planar, spherical and cylindrical data, for both frequency-domain and time-domain measurements.
- (3) Antenna pattern display includes XY plot, polar plot, contour plot, and 3D plot.