TerHop RSI-11 Series Antenna Plots

An Agilent 8714ES Network Analyzer was used in S21 mode, with the product test antenna (test) connected to port 1, and a broadband log-periodic antenna (source), spaced 1m away, connected to port 2. A reference dipole, well matched at 2,450 MHz, was initially mounted in place of the test antenna to calibrate the path setup prior to measurement. The antenna was evaluated in three planes of rotation. Figure 1 illustrates the orientation of each plane. Note semi-rigid coax attached to BT antenna and passed through decoupling bead for these measurements.

Figure 1 Antenna Polar Plot Orientations

Figure 2 Log-periodic (source) and test antenna. System path loss was calibrated with a reference dipole prior to DUT measurement.

Figure 3. Test Setup for Azimuth Measurement

Figure 4 Elevation Across Plane of Board Test Setup

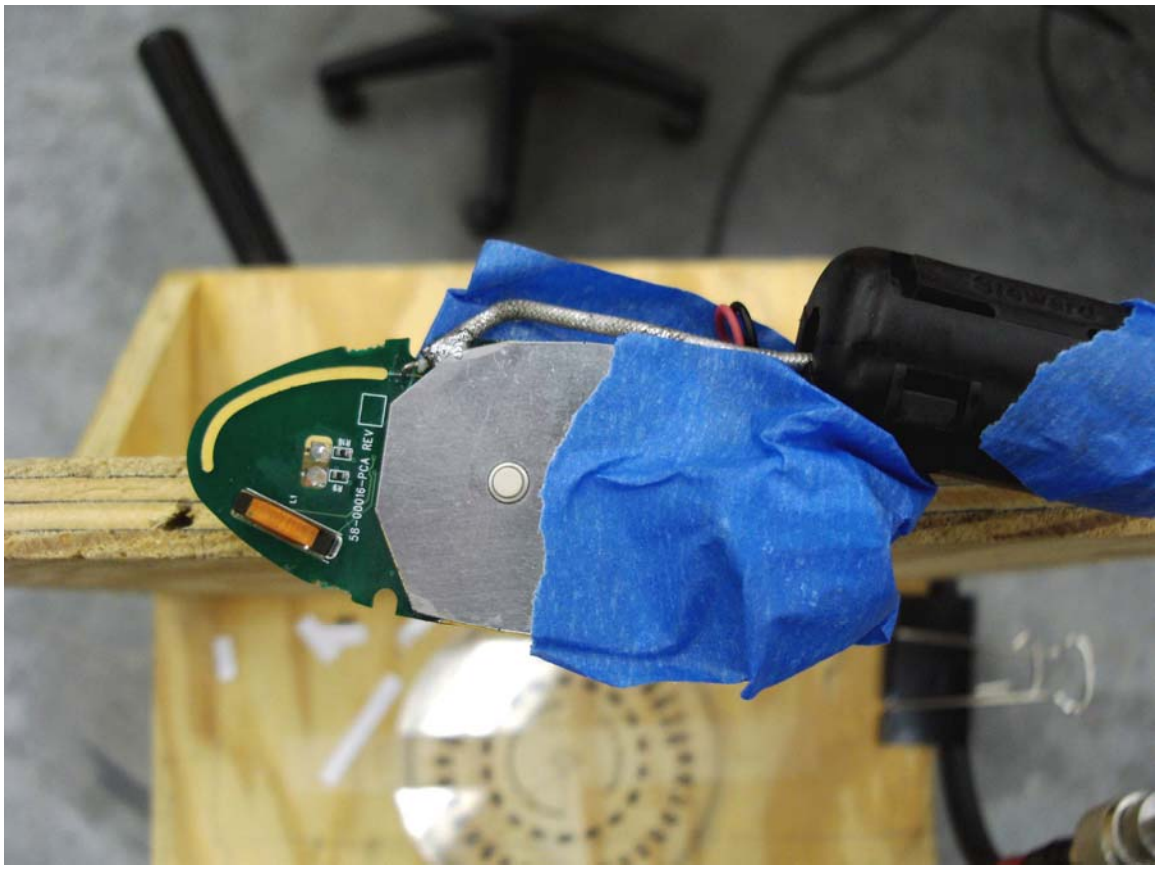


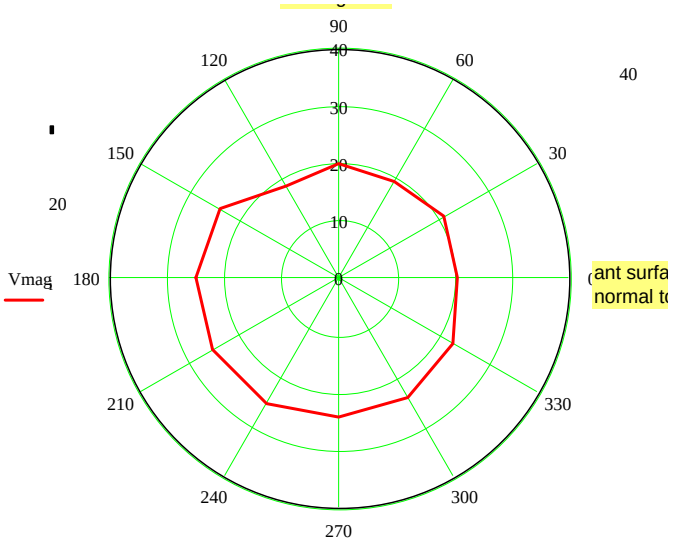
Figure 5 In Plane Elevation Measurement Test Setup

TerHop RSI-11 Series Antenna Plots

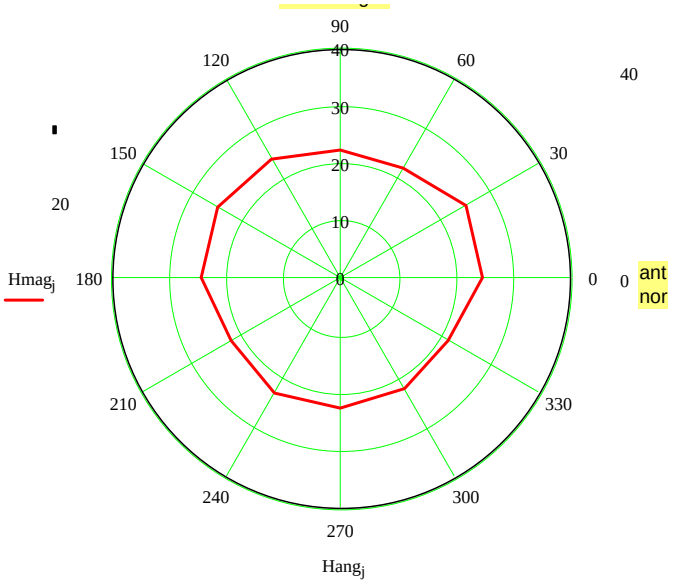
Polar radiation pattern plots were generated via Mathcad for each axis of rotation. The rotation direction is defined relative to the antenna drawing next to it. Data points were collected at 30° intervals of rotation. The 30 dB line represents the level of gain produced by a reference dipole – this is the 0 dBd reference line.

RSI-11 Blue Tooth Antenna, 2.4 GHz Patterns

Azimuth

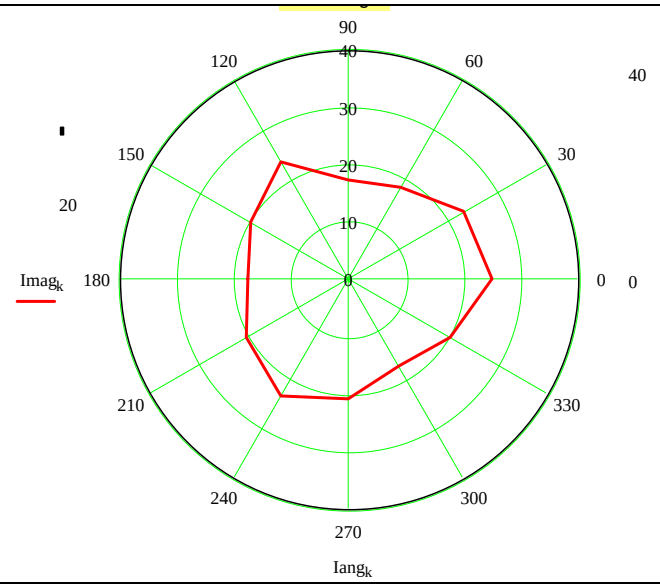
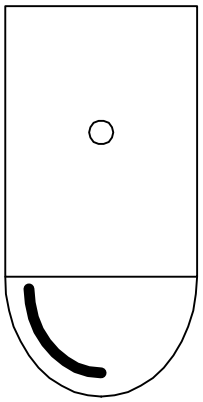


Elevation
Across Plane



TerHop RSI-11 Series Antenna Plots

RSI-11 Blue Tooth Antenna, 2.4 GHz Pattern

Elevation In Plane		

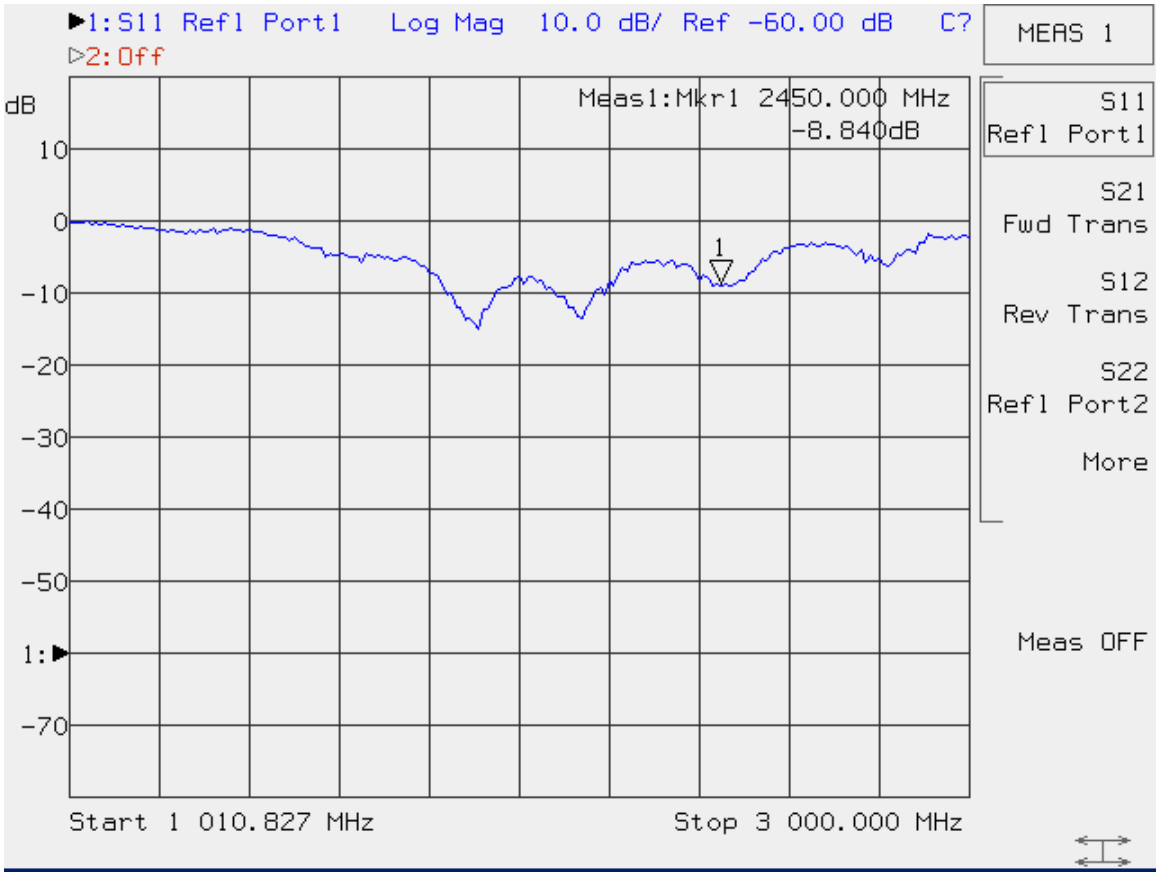


Figure 5. Return loss network analyzer S11 plot – Azimuth Setup

Antenna Gain

Highest gain in any orientation measured is -4.7 dBd.