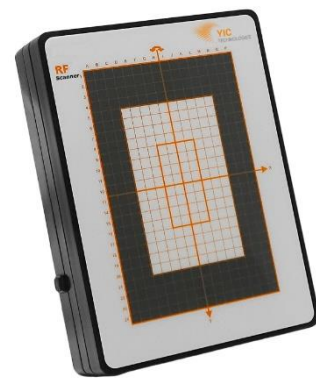# RFScanner

## Antenna Pattern Measurement and Diagnostic Tool on your Lab-bench

The Scanner is a compact bench-top scanner that characterizes antennas in your own lab environment in real-time. The RFScanner provides far-field patterns, bisections, EIRP and TRP in seconds. Novel near-field results, including amplitude, polarity and phase give insights into the root causes of antenna performance challenges and help troubleshoot far-field radiation patterns.

The RFScanner can also integrate with a network analyzer or a Spectrum Analyzer with a Tracking generator to measure gain, efficiency and S11 of an antenna across a frequency range. Users can execute real-time analysis of their embedded antenna designs and test multiple design iterations, on the lab bench, in seconds at each stage of the design process.
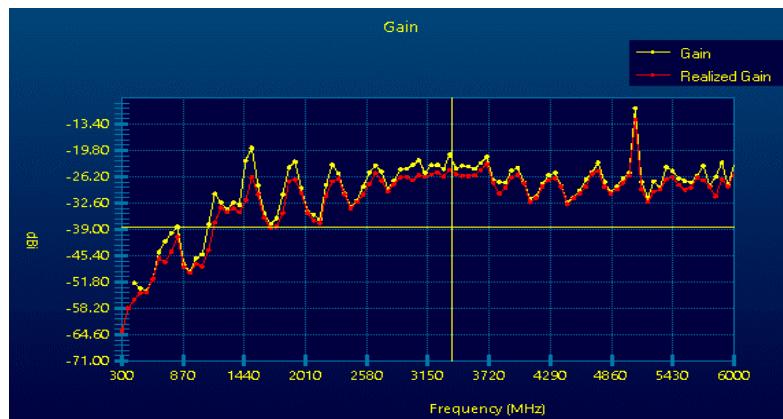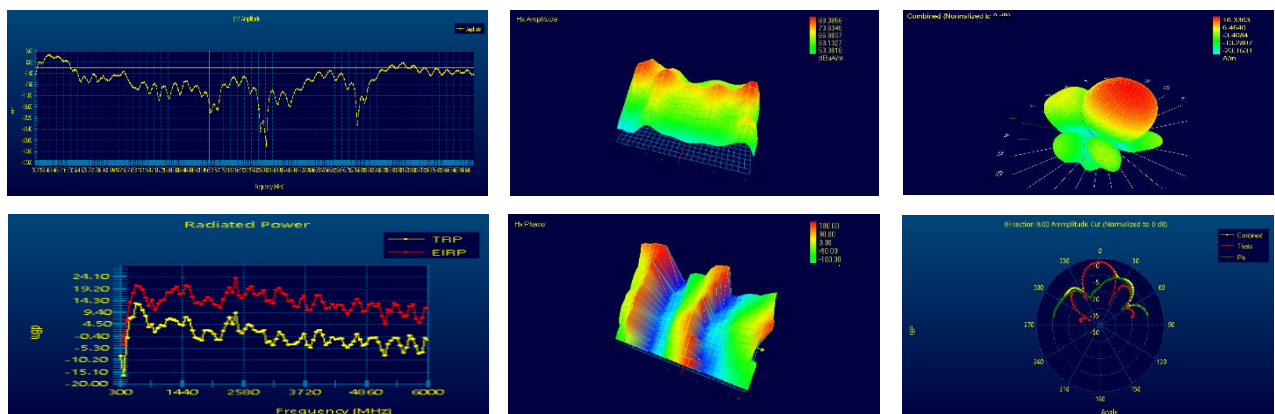
The RFScanner gives wireless engineers the freedom to do rapid prototyping and explore new designs, new materials and new forms. Wireless engineers and designers can test multiple design variations and optimize complex embedded antenna designs at their lab bench in seconds without wasting time waiting in congested anechoic chamber lines. They can optimize positioning and effects from layout, monitor changes from packaging or layout changes or verify performance of final product in real-time and then go to the chambers for final certification requirements with their mind at ease, knowing that their design will achieve a first-time pass.
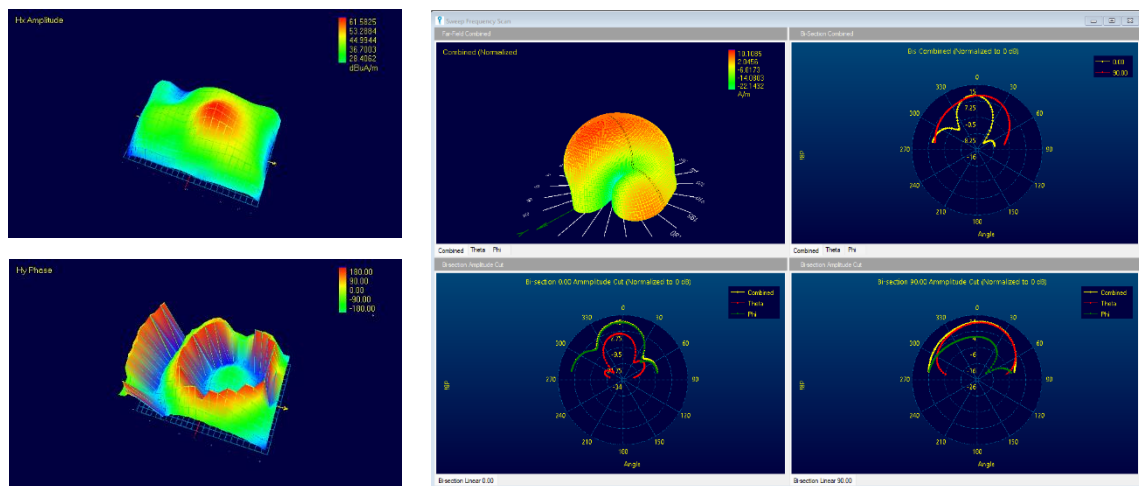


With the Circular Polarization (CP) option, the RFS calculates the right and left hand circularly polarized patterns and displays axial ratio patterns. RFS can be integrated into virtually any automated test bed and production line by using DLL programming.

As a golden sample comparison tool with real time results, the RFS is also ideal for sample lot testing and product verification for wireless service providers or for manufacturing support. The RFS allows design teams to **reduce testing time** by at least one order of magnitude, provides an **easy-to-use, cost effective, and proven tabletop solution**.

# Real-time results

| Capability | 2D and 3D near-field patterns (amplitude, phase and polarization)<br>Far-field patterns and bi-sections (cartesian and polar)<br>EIRP and TRP<br>Graph S11<br>Calculate gain and efficiency<br>Circular Polarization: Right (RHCP) and left hand circularly polarized patterns (LHCP) and Axial<br>Ratio (AR) |
|---|---|
| **Scan time** | Seconds |
| **Supported network analyzers** | Most of the common Keysight & R&S VNAs.<br>Please contact Y.I.C. Technologies for more information |
| **Supported operating systems** | Windows 10® |
| **warranty** | One year, optional 3-years warranty and 5-years warranty |

## Specifications

| Broadband frequency coverage | 300 MHz to 6 GHz |
|---|---|
| **Measurement sensitivity** | 0 dBm source power for a reasonably efficient antenna |
| **Measurement accuracy** | Typically +/- 1.5 dB* (700 MHz - 6 GHz) |
| **Measurement repeatability** | +/- 0.2 dB |
| **Far-field resolution** | 1.8° for theta and 3.6° for phi |
| **Maximum radiator size** | L 16 cm x W 10 cm (L 6.30" x W 3.94") |
| **Resolution Bandwidth** | Resolution Bandwidth = IF Bandwidth of 60MHz |
| **Probe to probe uniformity** | Calibrated before shipment<br>Firmware correction factors adjust for frequency dependent probe responses with < +/- 0.5 dB accuracy |
| **Probe to probe isolation** | > 20 dB |
| **Maximum radiated power** | +33 dBm |
| **Operating temperature** | From 15 ºC to 40 ºC (continuous fixed frequency scan at 2440 MHz) |
| **Modulation formats** | GSM / CDMA / WCDMA / Wi-Fi / WiMAX / LTE<br>Bluetooth<br>RFID<br>GPS<br>Custom antenna |
| **Scanner connections** | PC: USB<br>Power: 6 VDC, 3.0 A |
| **Dimensions** | L 32.1 cm x W 24 cm x H 7 cm (L 12.64" x W 9.45" x H 2.76") |
| **Weight** | 3.8 kg / 8.38 lb. (including cables and adaptor) |

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