

Real-time results

Antenna pattern measurement in seconds

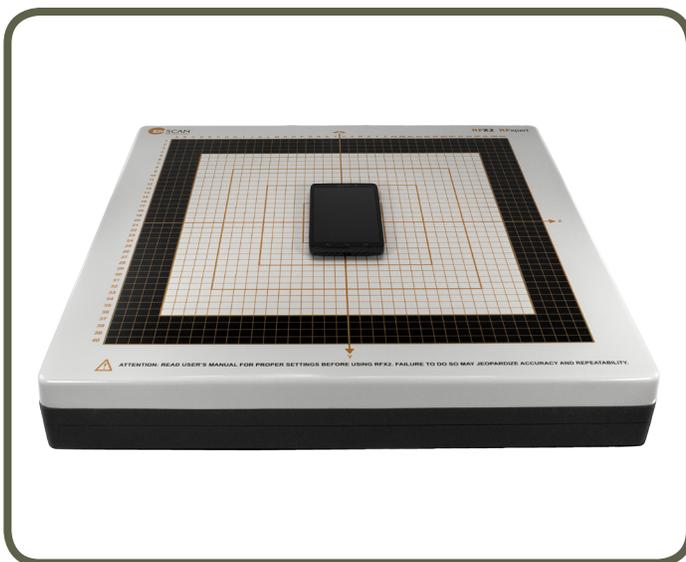
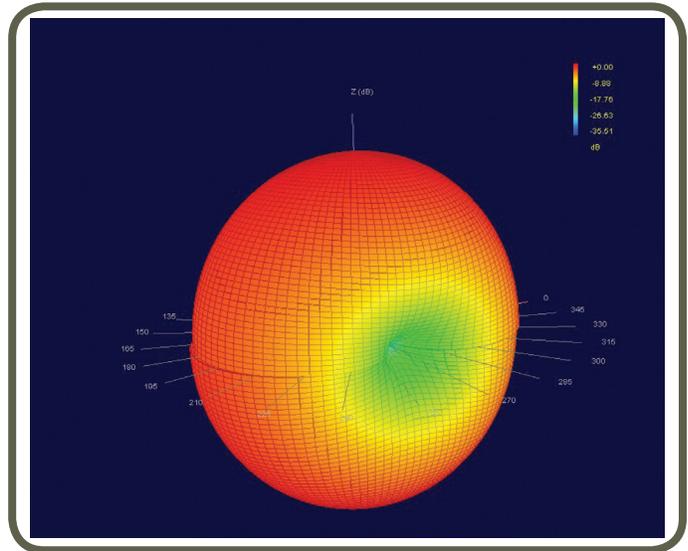
The RFX2 is a desktop scanner that characterizes antennas without the need for a chamber. RFX2 provides far-field patterns, bisections, EIRP and TRP in seconds. Novel near-field results, including amplitude, polarity and phase give insights into the root causes of antenna performance challenges and help troubleshoot far-field radiation patterns.

Large scan area allows designers to test antennas up to 32 cm * 32 cm (12.60" * 12.60") e.g. notebooks, laptops. RFX2 can also integrate with a network analyzer to measure gain, efficiency and S_{11} of an antenna, and with a base station emulator to test cell phones. 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. RFX2 also 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 desktop 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 seconds 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 RFX2 calculates the right and left hand circularly polarized patterns and displays axial ratio patterns. RFX2 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 RFX2 is also ideal for sample lot testing and product verification for wireless service providers or for manufacturing support.

RFX2 allows design teams to **reduce testing time** by at least one order of magnitude. Users have also documented fifty percent reductions in design cycle times. RFX2 provides antenna designers and wireless engineers with an **easy-to-use, cost-effective, and proven tabletop solution**.

With its real-time capability, RFX2 is a perfect tool to improve the design process for manufacturers of cellular, GPS, WiFi, RFID, Bluetooth, LTE, MIMO, custom and medical devices.



RFX2 Features

Capability	2D and 3D near-field patterns (amplitude, phase and polarization) Far-field patterns and bi-sections (cartesian and polar) EIRP and TRP Graph S_{11} Calculate gain and efficiency Automatic comparisons with user defined Golden Sample (sample lot testing and production line testing) Separately purchased options Circular Polarization: Right (RHCP) and left hand circularly polarized patterns (LHCP) and Axial Ratio (AR) (Part #: 3000-0303) Base Station Emulator programmable control (Part #: 3000-0300) Phantom Head+Hand Test Kit as per CTIA Test Plan for Mobile Station Over the Air Performance (Part #: 3000-0306) Basic MCP Jig to test large antennas up to L 2.32 m x W 2.32 m (L 91.34" x W 91.34") (Part #: 3000-0820)
Scan time	in seconds
Supported base station emulators	List at https://www.emscan.com/products/antenna-testing/rfx2/ If your BSE is not listed, please contact EMSCAN for custom driver
Supported network analyzers	List at https://www.emscan.com/products/antenna-testing/rfx2/ If your VNA is not listed, please contact EMSCAN for custom driver
Supported operating systems	Windows 10®

RFX2 Scanner Specifications

Broadband frequency coverage	300 MHz to 6 GHz Base configuration 300 MHz to 6 GHz (3-year warranty Part #: 3000-0607, 5-year warranty Part #: 3000-0606) Option 300 MHz to 2.75 GHz (3-year warranty Part #: 3000-0605, 5-year warranty Part #: 3000-0604) Upgrade option 2.75 GHz to 6 GHz (Part #: 3000-0121; 3000-0605 pre-requisite)																											
Antenna array	1,600 (40 x 40) H-field probes																											
Measurement sensitivity	0 dBm source power for a reasonably efficient antenna																											
Measurement accuracy	<table border="1"> <thead> <tr> <th colspan="3">Band 1: 300 MHz - 1GHz</th> <th colspan="3">Band 2: 1 GHz - 3 GHz</th> <th colspan="3">Band 3: 3 GHz - 6 GHz</th> </tr> <tr> <th>σ</th> <th>2σ</th> <th>N</th> <th>σ</th> <th>2σ</th> <th>N</th> <th>σ</th> <th>2σ</th> <th>N</th> </tr> </thead> <tbody> <tr> <td>1.54</td> <td>3.08</td> <td>195</td> <td>0.81</td> <td>1.62</td> <td>517</td> <td>0.94</td> <td>1.88</td> <td>247</td> </tr> </tbody> </table>	Band 1: 300 MHz - 1GHz			Band 2: 1 GHz - 3 GHz			Band 3: 3 GHz - 6 GHz			σ	2σ	N	σ	2σ	N	σ	2σ	N	1.54	3.08	195	0.81	1.62	517	0.94	1.88	247
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Measurement repeatability	+/- 0.2 dB																											
Far-field resolution	1.8° for theta and 3.6° for phi																											
Maximum radiator size	RFX2 L 32 cm x W 32 cm (L 12.60" x W 12.60") RFX2 with MCP Option: L 2.32 m x W 2.32 m (L 91.34" x W 91.34")																											
Resolution Bandwidth	Resolution Bandwidth = IF Bandwidth of 60MHz																											
Probe to probe uniformity	Calibrated before shipment Firmware correction factors adjust for frequency dependant probe responses with < +/- 0.5 dB accuracy																											
Probe to probe isolation	> 20 dB																											
Maximum radiated power	+33 dBm																											
Operating temperature	From 15 °C to 40 °C (continuous fixed frequency scan at 2440 MHz)																											
Modulation formats	GSM / CDMA / WCDMA / WiFi / WiMAX / LTE Bluetooth / RFID / GPS / Custom antenna																											
Scanner connections	PC: USB Power: 12 VDC, 3.4 A																											
Dimensions	L 49.2 cm x W 49.2 cm x H 7.1 cm (L 19.37" x W 19.37" x H 2.80")																											
Weight	9.5 kg / 20.94 lb (including cables and adaptor)																											



#1, 1715-27 Avenue NE
 Calgary, AB T2E 7E1
 Canada

Tel: +1-403-291 0313
 Fax: +1-403-250 8786

www.emscan.com