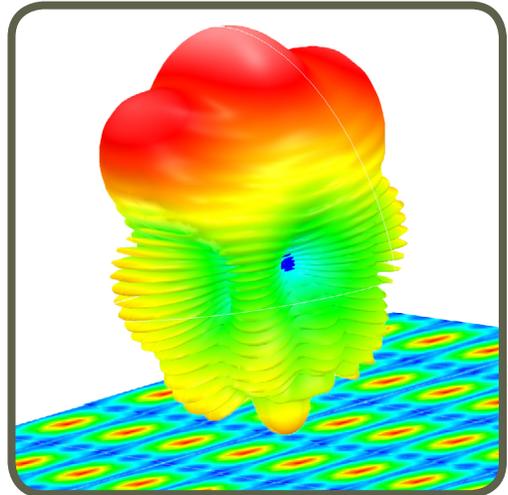


Antenna pattern measurement in seconds in the X and Ku bands

The RUX is a 20 GHz desktop scanner that characterizes antennas without the need for a chamber. The RUX provides far-field patterns, bisections, EIRP and TRP in seconds. Novel very-near-field results, including amplitude, polarity and phase give insights into the root causes of antenna performance design issues such as antenna spacing, phase of each active element etc. to help troubleshoot far-field radiation patterns and performance.

A large scan area allows designers to test antennas such as MIMO and Phase Array antennas up to 39.6 cm x 39.6 cm (15.60" x 15.60"). The RUX can also be integrated with a network analyzer to measure gain, efficiency and S11 of an antenna. Users can execute fast analysis of their antenna designs and test multiple design iterations, on the lab bench, in seconds at each stage of the design process. The RUX also gives wireless engineers the freedom to do rapid prototyping and explore new designs such as holographic beam forming, new materials and new forms. Wireless engineers and designers can test multiple design variations and optimize complex antenna designs at their desktop in seconds without wasting time waiting in congested anechoic chamber lines. They can 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 RUX calculates the right and left hand circularly polarized patterns and displays axial ratio patterns. The RUX can be integrated into virtually any automated test bed and production line by using DLL programming.



As a golden sample comparison tool with very fast results, the RUX is also ideal for sample lot testing and product verification for wireless service providers or for manufacturing support.

The RUX 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. The RUX provides antenna designers and wireless engineers with an **easy-to-use, cost-effective, and proven tabletop solution**.

With its world's fastest test capability, the RUX is a perfect tool to improve the design process for manufacturers of X and Ku band antennas.

RUX 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)
Scan time	In seconds
Supported network analyzers	List at https://www.emscan.com/products/antenna-testing/resource-centre/ If your VNA is not listed, please contact EMSCAN for custom driver
Supported operating systems	Windows 10®

RUX Scanner Specifications

Broadband frequency coverage	4 GHz to 20 GHz p/n 3000-0703 Frequency range from 4 GHz to 12 GHz p/n 3000-0704 Frequency range from 4 GHz to 20 GHz p/n 3000-0707 12 GHz to 20 GHz upgrade
Antenna array	1089 (33 x 33) dual polarized H-field probe array
Measurement sensitivity	-20 dBm source power for a reasonably efficient antenna
Measurement accuracy	TBD
Measurement repeatability	+/- 0.2 dB
Far-field resolution	1.8° for theta and 3.6° for phi
Maximum radiator size	Single scan p/n 3000-0700 L 13.2 cm x W 13.2 cm (L 5.20" x W 5.20") p/n 3000-0702 L 39.6 cm x W 39.6 cm (L 15.60" x W 15.60") With MCP Option: L 237 cm x W 237 cm (L 93.60" x W 93.60")
Resolution Bandwidth	Resolution Bandwidth = IF Bandwidth of 20 MHz or 250 MHz
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	+40 dBmi
Operating temperature	From 15 °C to 40 °C
Modulation formats	CW / GSM / Pulse with a minimum of a 10-microsecond duration
Scanner connections	PC: USB Power: 12 VDC, 9 A (Subject to change)
Dimensions	Approximately 45 cm x 45 cm x 10 cm (L 17.72" x W 17.72" x H 2.89") (Subject to change)
Weight	Approximately 15 kg / 33 lbs (including cables and adaptor) (Subject to change)