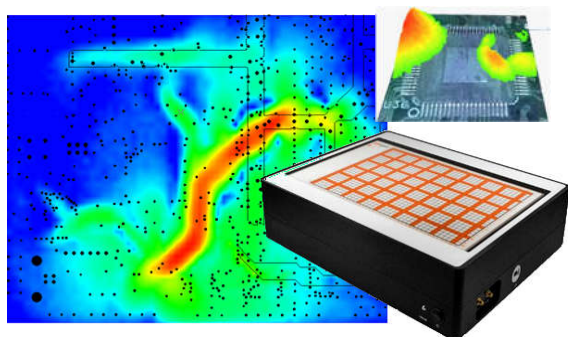# EMScannerR

V01.0120

High speed, High Resolution 8GHz Real-time EMC and EMI diagnostic tool on your lab-bench

EMC and signal integrity are major concerns in the design of ultra-high speed (>2 GHz) PCBs. EMScanner enables the design engineers to diagnose EMC/EMI problems between 150 kHz and 8 GHz.

The EMScanner family provides unique pre and post - EMC compliance testing that images **real-time emissions**. EMScannerR allows engineers to visualize the root causes of potential EMC and EMI problems.

During any new PCB development process, design engineers must find, characterize, and address unintended radiators or RF leakage to pass compliance testing. EMScanner allows board designers to pre-test and resolve EMC and EMI problems early on, thus avoiding unexpected EMC compliance test results.

EMScannerR delivers **repeatable** and **reliable** results that pinpoint in less than a second the cause of a design failure. As a result, the user can personally test the design without having to rely on another department, test engineer, or time-consuming off-site testing. After diagnosing even an intermittent problem, the engineer can implement a design change and retest. The results provide concrete verification of the effectiveness (or not) of the design change.

EMScannerR consists of a patented scanner and compact adaptor, and of a customer-supplied spectrum analyser and PC running EMScanner software. EMScannerR diagnostic capabilities allow design teams to **reduce testing time** by more than two orders of magnitude. Users have also documented fifty percent reductions in design cycle times. This allows the design team to immediately analyse and compare design iterations.

Ideal PCB projects for EMScannerR are boards designed for high speed, high power, and/or high density/complexity. Any PCB that places a premium on board real-estate also qualifies as an excellent candidate.

The compact, flat scanner provides PCB design teams with an **easy-to-use, cost-effective, and proven tabletop solution**. Emission, immunity, filtering, EMI shielding, broadband noise and Common Mode testing are some of the applications that the EMScannerR system addresses in mere seconds.

EMScannerR

Features

Capability	Spectral scan, spatial scan, peak-hold, continuous scanning, spectral and spatial comparison, scripting, limit lines, report generation and notes.
Spatial Scan Times & Resolution	Continuous real-time for entire scan area (1,218 probes activated) when Level 1 selected: 5 sec. Selected area 2.25 cm x 2.25 cm, 9 probes activated. <table><tr><td>Level 1</td><td>7.5mm, <0.5 sec.</td><td>Level 5</td><td>0.47mm, 55 sec</td></tr><tr><td>Level 2</td><td>3.75mm, 4 sec</td><td>Level 6</td><td>0.24mm, 2 min</td></tr><tr><td>Level 3</td><td>1.88mm, 9 sec</td><td>Level 7</td><td>0.12mm, 7 min</td></tr><tr><td>Level 4</td><td>0.94mm, 21 sec.</td><td>Level 8</td><td>0.06mm, 24 min</td></tr></table>
Supported spectrum analysers	List at www.yictechnologies.com/products/emscanner/ If your analyser is not listed, please contact Y.I.C. Technologies
Supported operating systems	Windows 10®
Supported CAD overlays	Picture in JPEG format Standard Gerber© RS274x format and HPGL format CAD files

Specifications

Broadband frequency coverage	Base configuration = 150 kHz to 8 GHz
Antenna array	1,218 (42 x 29) H-field probes.
Measurement sensitivity	Dependent on spectrum analyser performance
Spatial resolution	Level 1: 7.50 mm | Level 2: 3.75 mm | Level 3: 1.88 mm | Level 4: 0.94 mm Level 5: 0.47 mm | level 6: 0.24 mm | Level 7: 0.12 mm | Level 8: 0.06 mm
Scan area	L 31.6 cm x W 21.8 cm (L 12.44" x W 8.58")
Frequency accuracy of peaks	Peak marking accuracy of spectrum analyser
Probe to probe uniformity	Calibrated before shipment. Firmware correction factors adjust for frequency dependant probe responses with +/- 3 dB accuracy
Measurement plane isolation	> 20 dB
Maximum radiated power load	10 W / 40 dBm
Enclosure	Anodized non-conductive metal
Maximum DUT voltage	Glass Cover: 4kV DC; 2.6kV AC | Metal Case: 260V DC; 200V AC (measured as dielectric withstanding voltage – DWV)
Operating temperature	From 15º C to 40º C (continuous spectral and spatial scans at 50 MHz)
Fuse rating	8A
Dimensions of the scanner	L 34.5 cm x W 43.5 cm x H 11 cm (L 13.58" x W 17.13" x H 4.33")
Weight	12.70 Kg / 28 lb (including cables and the adaptor)

Y.I.C. Technologies Ltd

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