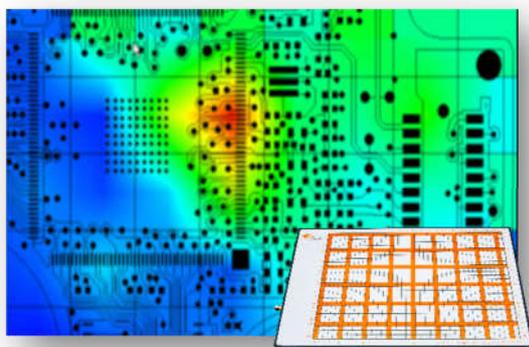


# EMScanner

V01.0120

## High speed 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 provides unique pre- and post-EMC compliance testing that images **real-time emissions**. EMScanner 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.

EMScanner 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.

EMScanner consists of a patented scanner and compact adaptor, and of a customer-supplied spectrum analyser and PC running EMScanner software. EMScanner 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 EMScanner 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 EMScanner system addresses in mere seconds.



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## Features

<b>Capability</b>	Spectral scan, spatial scan, peak-hold, continuous scanning, spectral and spatial comparison, scripting, limit lines and report generation.
<b>Spatial scan time</b>	Continuous real-time or sub-second single scan for entire scan area Dependent on spectrum analyser performance.
<b>Spectral scan time</b>	45 seconds for L 10 cm x W 10 cm (L 4" x W 4") PCB with a 100 MHz span and 100 kHz RBW. Scanning area, span and RBW are user selectable within spectrum analyser specifications
<b>Supported spectrum analysers</b>	List at <a href="https://www.yictec.co.uk/products/emscanner/">https:// www.yictec.co.uk/products/emscanner/</a> If your analyser is not listed, please contact YIC for custom driver development.
<b>Supported operating systems</b>	Windows 10 <sup>®</sup>
<b>Supported CAD overlays</b>	Standard Gerber <sup>®</sup> RS274x format and HPGL format

## Specifications

<b>Broadband frequency coverage</b>	EMS08 Base configuration 150 kHz to 8 GHz
<b>Antenna array</b>	1,218 (42 x 29) H-field probes
<b>Measurement sensitivity</b>	Dependent on spectrum analyser performance
<b>Spatial resolution</b>	Probe spacing of 7.5 mm with an 'effective' resolution of 3.75 mm
<b>Scan area</b>	L 31.6 cm x W 21.8 cm (L 12.44" x W 8.58")
<b>Frequency accuracy of peaks</b>	Peak marking accuracy of spectrum analyser
<b>Probe to probe uniformity</b>	Calibrated before shipment. Firmware correction factors adjust for frequency dependant probe responses with +/- 3 dB accuracy
<b>Measurement plane isolation</b>	> 20 dB
<b>Maximum radiated power load</b>	10 W / 40 dBm
<b>Enclosure</b>	Anodized non-conductive metal
<b>Maximum DUT voltage</b>	Glass Cover: 4kV DC; 2.6kV AC   Metal Case: 260V DC; 200V AC (measured as dielectric withstanding voltage - DWV)
<b>Operating temperature</b>	From 15° C to 40° C (continuous spectral and spatial scans at 50 MHz)
<b>In situ scanning</b>	6U Size C scanner fits into VXI and VME chassis
<b>Scanner connections</b>	Spectrum analyser: RF SMA to type N coaxial cable   Adaptor: Proprietary DB25
<b>Dimensions of the scanner</b>	L 39.2 cm x W 24.4 cm x H 1.7 cm (L 15.43" x W 9.61" x H 0.67")
<b>Weight</b>	2.80 Kg / 6.17 lb (including cables and the adaptor)

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