



# EMScannerR

## 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. **EMScannerR** 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 showing **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 analyzer 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 analyze 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

<b>Capability</b>	Spectral scan, spatial scan, peak-hold, continuous scanning, spectral and spatial comparison, scripting, limit lines, report generation and notes.								
<b>Spatial Scan Times &amp; Resolution</b>	<p>Continuous real-time for entire scan area (1,218 probes activated) when Level 1 selected: 5 sec.</p> <p>Selected area 2.25 cm x 2.25 cm, 9 probes activated.</p> <table border="1"> <tr> <td>Level 1</td> <td>7.5mm, &lt;0.5 sec.</td> </tr> <tr> <td>Level 2</td> <td>3.75mm, 4 sec</td> </tr> <tr> <td>Level 3</td> <td>1.88mm, 9 sec</td> </tr> <tr> <td>Level 4</td> <td>0.94mm, 21 sec.</td> </tr> </table>	Level 1	7.5mm, <0.5 sec.	Level 2	3.75mm, 4 sec	Level 3	1.88mm, 9 sec	Level 4	0.94mm, 21 sec.
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<b>Supported spectrum analyzers</b>	<p>Keysight: N9000A-CXA, N9000B-CXA, N9010A-EXA, N9010B-EXA, N9020B-MXA, N9020A-MXA, N9038A-MXE, N9912A-FieldFox, N9916A-FieldFox, N9918A-FieldFox, N9952A-FieldFox, E4440A-PSA, N9030A-PXA, N9040B-UXA</p> <p>Rohde &amp; Schwarz: ZVL, ZVB20, ZNB8, FSW, FSV4, FSV3, FPL</p>								
<b>Supported operating systems</b>	Windows 10/11®								
<b>Supported CAD overlays</b>	Standard Gerber® RS274x format, HPGL format and JPEG								

## Specifications

<b>Broadband frequency coverage</b>	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 analyzer performance
<b>Spatial resolution</b>	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
<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 analyzer
<b>Probe to probe uniformity</b>	Calibrated before shipment. Firmware correction factors adjust for frequency dependent 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>Fuse rating</b>	8A
<b>Dimensions of the scanner</b>	L 34.5 cm x W 43.5 cm x H 11 cm (L 13.58" x W 17.13" x H 4.33")
<b>Weight</b>	12.70 Kg / 28 lb. (including cables and the adaptor)

ACAD Solutions Sdn Bhd

[www.acad.com.my](http://www.acad.com.my)

[support.ecad@acad.com.my](mailto:support.ecad@acad.com.my)

you can see it, you can fix it!