

EMScannerR

Datasheet

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 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.

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.

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 border="1"> <tr> <td>Level 1</td><td>7.5mm, <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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Supported spectrum analyzers	https://yictechnologies.com/compatible-devices/								
Supported operating systems	Windows 11®								
Supported CAD overlays	Standard Gerber© JPEG and PNG								

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 Analyzer 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”)																																										
Probe to probe uniformity	Scanners are calibrated during manufacturing. Software correction factors adjust for frequency dependent probe responses with +/- 3dB 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 15 ⁰ C to 40 ⁰ 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)																																										
Probe Sensitivity	EMS sensitivity: -135 dBm to 35 dBm (Dependent on spectrum analyzer performance) <table><tr><th>Frequency (MHz)</th><td>0.05</td><td>1</td><td>300</td><td>696</td><td>1500</td><td>2000</td><td>2600</td><td>3000</td><td>3500</td><td>4000</td></tr><tr><th>Sensitivity</th><td>-3</td><td>-50</td><td>-100</td><td>-108</td><td>-107</td><td>-100</td><td>-95</td><td>-85</td><td>-85</td><td>-80</td></tr></table> <table><tr><th>Frequency (MHz)</th><td>4000</td><td>4500</td><td>5000</td><td>5500</td><td>6000</td><td>6500</td><td>7000</td><td>7500</td><td>8000</td></tr><tr><th>Sensitivity</th><td>-78</td><td>-68</td><td>-70</td><td>-75</td><td>-70</td><td>-65</td><td>-70</td><td>-60</td><td>-60</td></tr></table>	Frequency (MHz)	0.05	1	300	696	1500	2000	2600	3000	3500	4000	Sensitivity	-3	-50	-100	-108	-107	-100	-95	-85	-85	-80	Frequency (MHz)	4000	4500	5000	5500	6000	6500	7000	7500	8000	Sensitivity	-78	-68	-70	-75	-70	-65	-70	-60	-60
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