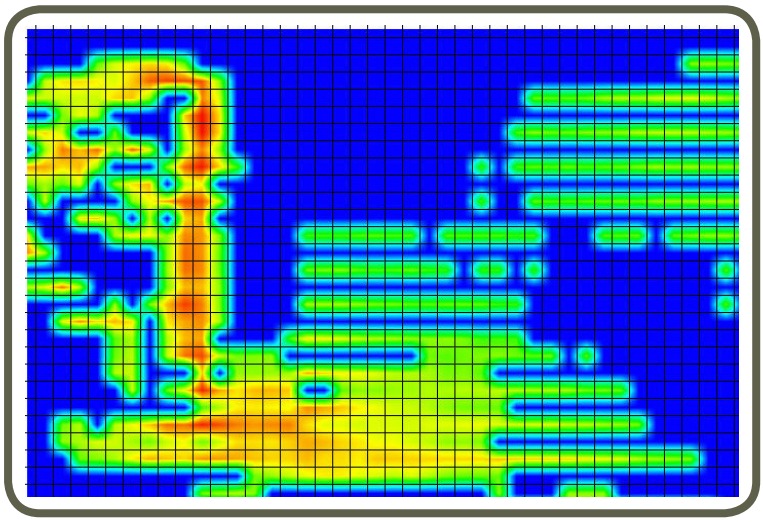
EMX™ EMxpert™

Real-time EMC and EMI diagnostic tool: Reduce test duration more than 100 times and design cycles by 50 percent



The EMX provides unique pre- and post-EMC compliance testing that images **real-time emissions**. EMX 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. EMX allows board designers to pre-test and resolve EMC and EMI problems early on, thus avoiding unexpected EMC compliance test results.

EMX 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.

EMX consists of a patented scanner and compact adaptor, and of a customer-supplied spectrum analyzer and PC running EMX software. EMX 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.

EMX is the perfect entry level EMC test solutions for 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 EMX system addresses in mere seconds.

EMSCAN real-time results

EMX Features

Capability	Spectral scan, spatial scan, peak-hold, continuous scanning, spectral and spatial comparison, scripting, limit lines, report generation, notes
Spatial scan time	Continuous real-time or sub-second single scan for entire scan area Dependent on spectrum analyzer performance
Spectral scan time	45 seconds for L 10cm x W 10cm (L 4" x W 4") PCB with a 100 MHz span and 100KHz RBW. Scanning area, span and RBW are user selectable within spectrum analyzer specifications
Supported spectrum analyzers	List at www.emscan.com/emxpert/EMx_supportedSA.cfm If your analyzer is not listed, please contact EMSCAN for custom driver
Supported operating systems	Windows 8®, Windows 7®, Windows Vista® and Windows XP®
Supported CAD overlays	Standard Gerber© RS274x format and HPGL format

EMX Scanner Specifications

Broadband frequency coverage	Base configuration 50 kHz to 4 GHz (Part #: 3000-0806)
Antenna array	2,436 loops forming 1,218 (42 x 29) H-field probes
Measurement sensitivity	-135 dBm to 35 dBm Dependant on spectrum analyzer performance

Frequency	0.05	1	300	696	1500	2000	2600	3000	3500	4000
Sensitivity	-3	-50	-100	-108	-107	-100	-95	-85	-85	-80
Sensitivity with LNA*	-20	-60	-135	-120	-135	-115	-115	-105	-100	-90

(* 40 dB LNA)

Spatial resolution	Probe spacing of 7.5 mm with an 'effective' resolution of 3.75 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 analyzer
Probe to probe uniformity	Calibrated before shipment. Firmware correction factors adjust for frequency dependant probe responses with +/- 3dB accuracy
Measurement plane isolation	> 20 dB
Maximum radiated power load	10 W / 40 dBm
In situ scanning	6U Size C scanner fits into VXI and VME chassis
Scanner connections	Spectrum analyzer: RF SMA to type N coaxial cable Adaptor: Proprietary DB25
Dimensions of the scanner	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")
Weight	2.6 Kg / 5.73 lb (incl. cables and the adaptor)

EMX Adaptor Specifications

Adaptor connections	Spectrum analyzer: BNC PC: USB B Scanner: Proprietary DB25
Power requirements	Powered over USB link
Dimensions	L 14.96cm x W 7.77cm x H 3.02cm (L 5.89" x W 3.06" x H 1.19")

EMSCAN real-time results
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