

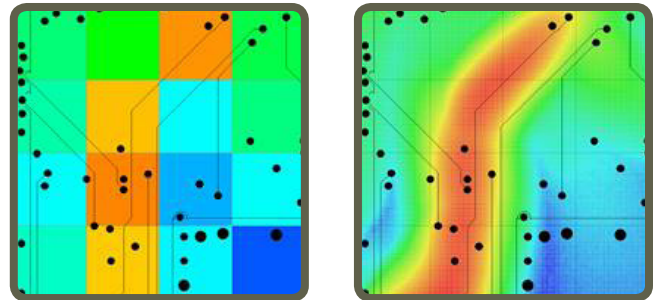
## High resolution EMC and EMI testing has never been this fast! (minimum resolution $\approx$ 60 microns)

World's fastest EMC/EMI diagnostic system has been reinvented to assist high density board designers to visualize the root causes of potential EMC and EMI problems during pre- and post-EMC compliance testing.

ERX+ enables the PCB and design engineers to diagnose EMC/EMI problems between 150 kHz and 8 GHz. ERX+ provides 8 levels of resolution (60 microns - 7.5 mm). Level 1 resolution (7.5 mm) allows the engineers to visualize the hot spots, current loops or intermittent problems in **real-time**. After locating the unintended radiators, engineers can zoom into the problem by selecting the resolution level based on the density of the board design.

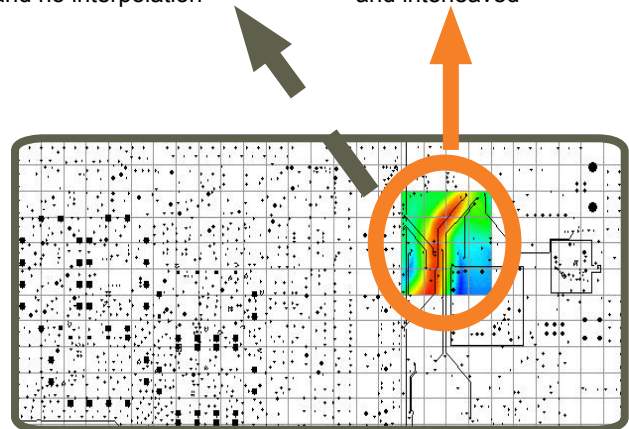
There is no need for an external spectrum analyzer to run ERX+. Built-in spectrum analyzer turns ERX+ into a plug-and-play test system.

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



Standard 7.5 mm resolution and no interpolation

High 0.12 mm resolution and interleaved



ERX+ quickly delivers **repeatable** and **reliable** results that pinpoint 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.

## ERX+ Features

|                                    |   |
|------------------------------------|---|
| <b>Capability</b>                  | Spectral scan, spatial scan, peak-hold, continuous scanning, spectral and spatial comparison, scripting, limit lines, report generator, notes   |
| <b>Spatial scan time</b>           | Continuous real-time for entire scan area (1,218 probes activated) when Level 1 selected: 5 sec.<br>Selected area 2.25 cm x 2.25 cm, 9 probes activated<br><b>Level 1:</b> <0.5 sec.   <b>Level 2:</b> 4 sec.   <b>Level 3:</b> 9 sec.   <b>Level 4:</b> 21 sec.   <b>Level 5:</b> 55 sec.<br><b>Level 6:</b> 2 min. 35 sec.   <b>Level 7:</b> 7 min. 23 sec.   <b>Level 8:</b> 24 min. 00 sec. |
| <b>Spectral scan time</b>          | 11 seconds for L 10 cm x W 10 cm (L 4" x W 4", 178 probes activated) from 10 MHz to 110 MHz and 122 kHz RBW.<br>Scanning area, span and RBW are user selectable within spectrum analyzer specifications   |
| <b>Supported operating systems</b> | Windows 10®   |
| <b>Supported overlays</b>          | Picture in JPEG format<br>Standard Gerber® RS274x and HPGL CAD files  |

## ERX+ Scanner Specifications

| <b>Broadband frequency coverage</b> | 150 kHz to 8 GHz<br>Base configuration (3-year warranty) 150 kHz to 8 GHz (Part #: 3000-2805)<br>Alternate configuration (5-year warranty) 150 kHz to 8 GHz (Part #: 3000-2806)  |                 |      |      |      |      |      |      |      |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |
|-------------------------------------|--|-----------------|------|------|------|------|------|------|------|------|------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------------------------|-----|-----|-----|-----|-----|-----|------|------|------|-----------------|------|------|------|------|------|------|-----------------------|-----|-----|-----|-----|-----|-----|-------------------------------------|------|------|------|------|------|-----|
| <b>Antenna array</b>                | 1,218 (42 x 29) H-field probes   |                 |      |      |      |      |      |      |      |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |
| <b>Measurement sensitivity</b>      | For models using ThinkRF R5500 with firmware 2.0.4.0<br><table border="1"> <thead> <tr> <th>Frequency (MHz)</th> <th>0.15</th> <th>0.5</th> <th>1</th> <th>10</th> <th>50</th> <th>300</th> <th>1000</th> <th>1500</th> <th>2000</th> </tr> </thead> <tbody> <tr> <td>Internal Preamp (dBm)</td> <td>-10</td> <td>-25</td> <td>-35</td> <td>-55</td> <td>-65</td> <td>-80</td> <td>-95</td> <td>-95</td> <td>-85</td> </tr> <tr> <td>with 50x Averaging and preamp (dBm)</td> <td>-20</td> <td>-40</td> <td>-45</td> <td>-65</td> <td>-80</td> <td>-95</td> <td>-110</td> <td>-105</td> <td>-100</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th>Frequency (MHz)</th> <th>3000</th> <th>4000</th> <th>5000</th> <th>6000</th> <th>7000</th> <th>8000</th> </tr> </thead> <tbody> <tr> <td>Internal Preamp (dBm)</td> <td>-90</td> <td>-90</td> <td>-90</td> <td>-90</td> <td>-85</td> <td>-70</td> </tr> <tr> <td>with 50x Averaging and preamp (dBm)</td> <td>-100</td> <td>-100</td> <td>-100</td> <td>-100</td> <td>-100</td> <td>-80</td> </tr> </tbody> </table><br>Internal pre-amp set to High Gain; gain is frequency dependent. RBW set to 238 Hz | Frequency (MHz) | 0.15 | 0.5  | 1    | 10   | 50   | 300  | 1000 | 1500 | 2000 | Internal Preamp (dBm) | -10 | -25 | -35 | -55 | -65 | -80 | -95 | -95 | -85 | with 50x Averaging and preamp (dBm) | -20 | -40 | -45 | -65 | -80 | -95 | -110 | -105 | -100 | Frequency (MHz) | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | Internal Preamp (dBm) | -90 | -90 | -90 | -90 | -85 | -70 | with 50x Averaging and preamp (dBm) | -100 | -100 | -100 | -100 | -100 | -80 |
| Frequency (MHz)                     | 0.15   | 0.5             | 1    | 10   | 50   | 300  | 1000 | 1500 | 2000 |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |
| Internal Preamp (dBm)               | -10  | -25             | -35  | -55  | -65  | -80  | -95  | -95  | -85  |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |
| with 50x Averaging and preamp (dBm) | -20  | -40             | -45  | -65  | -80  | -95  | -110 | -105 | -100 |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |
| Frequency (MHz)                     | 3000   | 4000            | 5000 | 6000 | 7000 | 8000 |      |      |      |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |
| Internal Preamp (dBm)               | -90  | -90             | -90  | -90  | -85  | -70  |      |      |      |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |
| with 50x Averaging and preamp (dBm) | -100   | -100            | -100 | -100 | -100 | -80  |      |      |      |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |
| <b>Spatial resolution</b>           | <b>Level 1:</b> 7.50 mm   <b>Level 2:</b> 3.75 mm   <b>Level 3:</b> 1.88 mm   <b>Level 4:</b> 0.94 mm<br><b>Level 5:</b> 0.47 mm   <b>Level 6:</b> 0.24 mm   <b>Level 7:</b> 0.12 mm   <b>Level 8:</b> 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 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>Scanner connections</b>          | PC: Ethernet   |                 |      |      |      |      |      |      |      |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |
| <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<br>(measured as dielectric withstanding voltage - DWV)  |                 |      |      |      |      |      |      |      |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |
| <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)   |                 |      |      |      |      |      |      |      |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |
| <b>Power supply</b>                 | 120 - 240V AC, 47 - 63 Hz, 8.3A  |                 |      |      |      |      |      |      |      |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |
| <b>Fuse rating</b>                  | 8A   |                 |      |      |      |      |      |      |      |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |
| <b>Temperature</b>                  | From 15° C to 40° C  |                 |      |      |      |      |      |      |      |      |      |                       |     |     |     |     |     |     |     |     |     |                                     |     |     |     |     |     |     |      |      |      |                 |      |      |      |      |      |      |                       |     |     |     |     |     |     |                                     |      |      |      |      |      |     |