

Reduce your design time with fast magnetic near-field measurements of antenna characteristics



The efficient assessment of antenna characteristics is critical to your design process. Far-field measurement of antenna characteristics such as pattern and radiated power typically requires the use of time consuming and costly anechoic chambers. By using real-time near-field measurements to calculate the far-field antenna characteristics you can reduce the time required to make your antenna measurements. Real-

time near-field measurement of your antenna characteristics can help you to minimize your product design time, contain your project costs and accelerate your time to market.

Antenna performance is critical in wireless applications such as cellular, WiFi, RFID, *Bluetooth*®, LTE and MIMO. The use of physically small devices with multiple antennas and co-located components means

that achieving the correct levels of performance is becoming ever more complex. The RFxpert from EMSCAN can calculate far-field antenna characteristics from near-field measurements in less than a second. The unique near-field data available from RFxpert allows your antenna

- Real-time near-field measurement of antenna characteristics
- Calculates far-field antenna characteristics from near-field measurements
- RFxpert probe array for fast magnetic near-field measurements
- Patented array of 384 electronically switched probes
- Near-field measurements from 300 MHz to 6 GHz
- Used with Agilent network analyzers or base station emulators
- EMSCAN RFxpert software for analysis and visualization



Real-Time Near-Field Measurement of Antenna Characteristics

engineers to gain valuable insights into the root cause of any design problems.

RFxpert is a patented array of automatically switched probes to make fast magnetic near-field measurements of antenna characteristics. The array comprises a network of 384 electronically switched probes that can operate from 300 MHz to 6 GHz. Single frequency antenna scans can be completed in less than a second, while an antenna can be characterized across its entire operating range in less than a minute. This gives you the ability to execute real-time analysis of your antenna designs and test multiple design iterations, at your lab bench, in seconds.

The RFxpert probe array can be used with Agilent Technologies network analyzers, in order to make gain, efficiency and S_{11} measurements,

and base station emulators, to test cellular antennas. Typical Agilent instruments include the E5071C ENA network analyzer, the N9912A FieldFox RF analyzer and the E5515C 8960 wireless communications test set. The RFxpert connects to a standard personal computer via USB and comes with proprietary software for the analysis and visualization of test results.

EMSCAN's RFxpert when used with Agilent instrumentation can reduce the time to measure your antenna characteristics by at least one order of magnitude and minimize costly design cycles by a factor of 1 or 2, improving dramatically your design productivity.



System Components

Agilent Technologies

N9912A FieldFox RF analyzer
E5071C ENA network analyzer

E5515C 8960 series 10 wireless communications test set

Also supports other Agilent network analyzers

EMSCAN Corporation

RFxpert Very fast antenna pattern measurement system

To learn how this solution can address your specific needs please contact
Agilent's solutions partner,
EMSCAN Corporation.

www.agilent.com/find/emscan

Agilent Technologies

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EMSCAN Corporation is a world leading developer of fast magnetic near-field measurement tools.

www.emscan.com

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