SOFTWARE EMQuest™ EMQ-100

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Key Features

- Expandable Test Package
- Testing Capabilities
  - Wireless Performance Testing
  - OTA Evaluation
  - TRP/TIS Testing
- Site Validation and Calibration
- Parameter Entry and Data Acquisition

Features

OTA Evaluation

Using appropriate wireless communication testers and power measurement devices from the list of optional test equipment drivers, OTA performance can be evaluated for a broad range of wireless technologies, including:

- GSM, GPRS EGPRS (EDGE)
- WCDMA, HSDPA HSUPA, HSPA+
- LTE
- CDMA, 1xEV-DO
- TDMA
- TD-SCDMA
- AMPS
- Wi-Fi
- WiMAX
- Bluetooth

TRP/TIS Testing

For Total Radiated Power (TRP) Testing, the device is configured to transmit full power while the effective isotropic radiated power (EIRP) is measured at each point on the surface of a sphere around the device, generating a radiated power pattern.

total power metrics, including:

- TRP
- TIS/TRS

For total Isotropic/Radiated Sensitivity (TIS/TRS) Testing, the digital error rate is evaluated as a function of downlink signal level at each point around the device to determine effective isotropic sensitivity (EIS) and produce a sensitivity pattern.
The resulting EIRP/EIS patterns are then integrated to determine TRP/TIS as well as partial surface metrics such as:

- NHPRP/NHPIS/ NHTRP/NHTIS
- Upper/Lower Hemisphere Partial Power/Sensitivity
- and More!

A number of optimizations and industry firsts are provided to accelerate testing, including theta-dependent phi optimization, where the angular resolution is reduced near the “poles” of the pattern to reduce the required test time and maintain a more even surface resolution, and received signal strength (RSS) based sensitivity measurements that use RSSI reports from the mobile device to capture receive pattern information and greatly improve TIS test times. When used in conjunction with appropriate test systems, special test modes including high speed triggered acquisition and spiral data acquisition allow for extremely fast compliant and pre-compliant testing of TRP and transmit antenna patterns. Specialized tests for measuring intermediate channel sensitivity, interference, or degradation are included to determine the potential self-interference on all wireless channels where total surface testing would be impractical and time consuming. In addition, wireless desensitization testing is provided to evaluate the impact of one interfering embedded radio on the performance of another. Using appropriate optional test equipment, this test meets the requirements of the CTIA/Wi-Fi Alliance Converged Devices Test Plan.

Specifications

Physical Specifications

- Recommended System Requirements
- Intel® Core i5 or greater
- Microsoft Windows® Windows 7 or later
- 4 GB RAM or Greater
- 250 GB Free Hard Drive or Greater
- DVD/CD-ROM Drive (can use download if needed)
- National Instruments GPIB Card or USB
- 20-in or Greater Monitor
- Speakers, Keyboard, Mouse

Other Specifications

- EMQuest EMQ-100 Antenna Pattern Measurement Software
  - Fully automated 2D (polar/linear) and 3D (spherical/cylindrical/planar) pattern measurement capabilities as well as frequency response measurements for passive antennas and active wireless devices. This full-featured package includes all of the functionality of the core package listed above, including a customizable report generator, advanced graphing and data acquisition capabilities, and various tools for an enhanced user experience.
- EMQuest EMQ-100 Lite Antenna Pattern Measurement Software
  - Fully automated 2D (polar) and semi-automated 3D (spherical) pattern measurement capabilities for passive antennas only. This entry-level package includes only a small subset of the tests and features offered in the full EMQ-100 package. It does not support automation of multi-axis positioning systems or active antenna measurements. No optional expansions are available for EMQ-100 Lite. Addition of unsupported features requires an upgrade to the full EMQ-100 package.