IMPROVING MOBILE DEVICE PERFORMANCE WITH PCTEL SCANNING RECEIVERS

Challenge

Mobile devices such as smartphones and tablets operate under a variety of real-world conditions that may result in dropped calls, reduced data throughput, and poor coverage. Designing and testing mobile devices specifically for these environments can improve the user experience. Fortunately, engineers can test devices by replicating real-world conditions in the lab using measurements collected in the field.

SeeGull MX Scanning Receiver

- *Up to 400 Measurements/sec when Measuring Three Technologies Concurrently*
- *LTE Dynamic Range: -20 to 40 dB*
- *LTE Absolute RSRP Accuracy : ±1 dB*

However, RF environments created in the lab are only as true-to-life as the field measurements they are based on.In order to accurately recreate challenging RF environments, engineers need field test equipment that can accurately measure all signals present in the RF environment. Test mobiles measure RF signals, but they are designed primarily to mimic the user experience. In addition to possible limitations on measurement accuracy, test mobiles decode only the RF signal currently in use as well as a pre-defined set of neighboring signals. Test mobile data may therefore lead to unrealistic RF environments in the lab.

Solution

PCTEL SeeGull® and Clarify® scanning receivers can help engineers improve device performance by improving lab simulations that emulate real-world RF conditions. In contrast to test mobiles, PCTEL scanners are engineering tools that can characterize even the most challenging RF environments. They are calibrated and tested to achieve measurement accuracy under a variety of conditions, especially where interference levels are high. Their fast signal acquisition, high dynamic range, and ability to decode a high number of channels results in the collection of precise and complete data.

PCTEL scanning receivers provide more than basic RF data on a single technology. For more efficient data collection, they provide simultaneous measurements of multiple technologies and bands. They also provide advanced multipath data, including true MIMO measurements that can help device manufacturers improve their devices' MIMO performance. With PCTEL scanning receivers, device manufacturers get the real RF environment information they need to improve device performance in the real world.

APPLICATION NOTE