Jackson

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Jackson Labs Technologies, Inc. delivers the LTE-Lite[™] a low-cost Small-Cell Frequency and Timing Reference

"LTE-Lite[™]" supports synchronization of 4G LTE and Small Cell applications in an SMT form-factor, includes a 60+ channel GPS receiver, and a very stable TCXO crystal.



Las Vegas, NV, September 4th, 2014 – Jackson Labs Technologies, Inc, a designer and manufacturer of cutting-edge GPS, timing and frequency equipment, today announced the availability of its breakthrough LTE-Lite Frequency and Timing SMT module which integrates a GPS receiver, filtered power supplies, and a software-disciplined crystal oscillator into a 0.7 x 1.18 inch footprint GPSDO SMT module. The LTE-Lite uses true analog crystal disciplining for superior phase noise and jitter performance.

The LTE-Lite time and frequency reference provides GNSS time and frequency synchronization for cost-sensitive network equipment, in particular LTE 4G applications and Small Cell products from Micro Cells to Femto Cells. The LTE-Lite provides better than one part per billion frequency accuracy and better than 10 nanoseconds timing accuracy on average in a small SMT form factor that suits itself to high volume mass production products at cost points amendable to low-cost Small-Cell manufacturers.

The LTE-Lite module includes a latest generation 60+ channels GPS receiver with Auto Survey Position-and-Hold mode, WAAS, EGNOS, MSAS, and QZSS support that is used to discipline a highly stable and purpose-designed integrated VCTCXO or an optional external oscillator. The unit is available with standard telecom frequency choices such as 10MHz, 19.2MHz, 20MHz, 26MHz, 30.72MHz, 40MHz and others, and can auto-detect the frequency of the optional externally attached oscillator. The LTE-Lite module also includes a synthesized frequency output that can generate one of seven TTL selectable frequencies that are phase-locked to the crystal oscillator and can range from 5MHz to 80MHz.



The LTE-Lite provides better than 1E-012 (one part per trillion) frequency accuracy averaged over 24 hours with GPS lock, and provides better than 25ppb typical frequency accuracy over 24 hours in holdover (flywheel) mode using the standard internal crystal oscillator. For extended holdover performance or increased phase noise performance the LTE-Lite module can gluelessly discipline an external oscillator, up to and including Cesium Vapor Cell (CSAC) atomic clocks.

The LTE-Lite module provides a number of standard GPS NMEA serial output sentences for easy software integration and access to the Position, Time, and Velocity (PVT) data as well as oscillator lock status information. The LTE-Lite module operates in either mobile GPS mode or in over-determined Position-and-Hold mode with Auto-Site-Survey that allows operation with only one single Satellite and improves the timing performance significantly in stationary applications. No software is required to integrate and operate the unit and all features and status information are available via TTL strap- and indicator-lines making integration into customer equipment as easy as providing 3.3V power and a GPS antenna feed to the module and monitoring the LOCK-OK TTL output and LED.

The LTE-Lite internal oscillator has a phase noise performance of -92dBc/Hz at 10Hz offset and a noise floor of less than -155dBc/Hz allowing the unit to directly control RF transceivers as well as baseband processors without any additional phase noise or spur filtering being required. An easy to use evaluation kit is available that operates from a USB port, includes a GPS antenna, and provides easy access to the modules' features using switches, buttons, and MMCX coax connectors.

LTE-Lite samples ship from stock. With the most aggressive pricing in the industry the LTE-Lite sets a new standard in the Small Cell market.

Visit us at the 2014 CTIA show in Las Vegas, NV, September 9th at booth #5327.

WWW.JACKSON-LABS.COM

About Jackson Labs Technologies, Inc.:

Located in Las Vegas, NV, Jackson Labs Technologies, Inc. is a privately held company that is setting new standards in timing and frequency generation for the telecom, defense, engineering, test & measurement, broadcast, and research markets. Jackson Labs Technologies, Inc.: The Next Generation of Timing & Frequency. To learn more, visit <u>www.jackson-labs.com</u>.