

## **World's Lowest Profile Active and Passive Antennas from Parsec Technologies Make Perfect Companions to Mini GPS Receiver from Telit and Achieve Best-in-Class Position Accuracy, Sensitivity**

Telit's Jupiter SE880 GPS receiver and Parsec Technologies' PTA1.5M antenna use only 8% volume to outperform top 25x25x2 mm traditional patch antenna for ultra-compact GPS design

**RALEIGH, N.C. – January 14, 2014 – [Telit Wireless Solutions](#)**, a global provider of high-quality machine-to-machine (M2M) solutions, products and services and Plano, Texas based **[Parsec Technologies, Incorporated](#)**, a global supplier of advanced amplifier technology communications products, solutions, and services, today announced that a combination of the companies' technologies results in the world's lowest profile companion solution for GPS receiver and antenna. For host devices able to accommodate higher volumetric symmetry, assembly of the components can be made to fit a 6x16x8mm volume. A flat component arrangement can yield an ultra-low-profile volume of 6x16x2.4 mm. Along with class leading miniaturization, the receiver outperforms top traditional designs handling with excellence, a loss of 10dB or greater in the GPS signal reaching, for example, the typical OBD port under a vehicle's dashboard where many usage-based insurance (UBI) data-loggers are installed. The PTA1.5M active antenna delivers the ultra-sensitive Jupiter SE880 micro receiver over 15dB of additional gain in the operating frequency range. Both companies are making available complete application notes to simplify the engineering effort for system integrators.

The miniature 4.7x4.7mm LGA (Land Grid Array), SiRFstarIV™-based Jupiter SE880 receiver module employs leading heterogeneous 3D integrated technology to achieve best-in-class performance in all dimensions critical for regular or size-constrained GPS applications. Its state of the art RF front-end employs spatially calibrated waveguide-quality radio paths inside the three-dimensional space of its architecture drastically reducing parasitic impedances characteristic of traditional 2-D RF designs. Inside, a multi-filter system includes not only the traditional SAW filters typical in GPS receiver designs but also a 2.4 GHz notch-filter capable of nullifying the jamming effects of high-energy radio devices such as Wi-Fi hot-spots, Bluetooth systems, cordless phones, and others, which

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greatly affect a GPS receiver's ability to resolve timid satellite signals in the hostile radio environment where they need to operate.

The PTA1.5M, with a gain of 15dB and PTA1.5x2M with a gain of 30dB are the world's smallest GNSS active antenna modules capable of receiving signals down to -192 dBm with frequency centered at 1575.42 ( $\pm 1.023$ ) MHz. Either model delivers a radiated efficiency greater than 60% when mated to the Jupiter SE880 receiver. Parsec's PT1233D LNA also has the highest available IP3 at low voltage, helping eliminate interference. Both PTA1.5M and PTA1.5x2M can incorporate the antenna element, an optional SAW filter, the cascadable PT1233D LNA, matching and passives components, on a low cost, easy to integrate 10x16 mm single sided PCBA with "back side" copper clad ground plane. The height of the PTA1.5M and PTA1.5x2M modules vary according to application, allowing their use in even the smallest form factors including Intel's M.2 Next Generation Form Factor (NGFF) module (23x30x2.4 mm, LxWxH).

"Receivers combining the Parsec PTA/PT Family and Telit's Jupiter SE880 modules deliver good user experience in finished LBS critical products without sacrificing design flexibility, ease of implementation or cost," said Michael A. Neenan, CEO and founder of Parsec Technologies, Inc. "The combination is 'bullet-proof' in providing a rewarding design experience making RF work reliably, passing end-product regulatory compliance testing without re-test."

"Miniaturization is a major enabler of new application areas for positioning and M2M," said Taneli Tuurnala, Vice President and Head of GNSS Division of Telit Wireless Solutions. "With the Parsec antennas, the complete receiver features the industry's 'smallest landed footprint' making it suitable for use in wearable electronics, UBI devices or adapters for the mobile computing industry."

With over a decade of exclusive focus on M2M, reducing technical risk and shortening time to market for OEMs and integrators, Telit is the industry's ONE STOP. ONE SHOP. We leverage M2M's broadest portfolio in cellular, short range and positioning technologies paired with m2mAIR services covering application enablement as well as mobile network and internet/cloud sides of connectivity. Telit products and services are delivered with global support and logistics exceeding exacting requirements from customers large and small. Now innovate!

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### **About Parsec**

[Parsec Technologies Incorporated](#), designs and develops leading edge antenna modules and high performance RFIC amplifiers for GPS/GNSS and M2M (machine-to-machine) applications.

### **About Telit**

[Telit Wireless Solutions](#) (AIM: TCM listed under Telit Communications PLC), is a global enabler of machine-to-machine (M2M) communications providing cellular, short range and positioning modules; and through its business unit [m2mAIR](#), M2M managed and value added services, in application enablement and connectivity including mobile network side and cloud. Telit is M2M's top one-stop-shop offering synergistic hardware and value added services bundles along with low-entry cost PaaS for rapid application development. With over 12 years exclusively in M2M, the company constantly advances technology through seven R&D centers around the globe; marketing products and services in over 80 countries.

By supplying scalable products interchangeable across families, technologies and generations, rapid prototyping tools for application development, and m2m tailored connectivity, Telit is able to curb development costs, protect design investments and reduce technical risk. The company provides customer support and design-in assistance through 32 [sales and support offices](#), a [global distributor network](#) of experts with over 30 competence centers, and the [Telit Technical Support Forum](#).

Telit provides all products services and facilities to connect organizations to the Internet of Things (IoT) allowing them to wirelessly collect, process and respond to real-world data from connected devices, creating new efficiencies, revenue streams, societal and personal benefits. Join the conversation and learn more about [Telit](#) and its customers' innovative applications on [Facebook](#) and [Twitter](#).

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