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Tampa Microwave Delivers Advanced SHF Satellite Emulation System with Link Effects

(TAMPA Florida: May 13, 2010). Tampa Microwave announced today that they have delivered two new products to a major DOD Prime Contractor in the form of a Satellite Emulation System (SES) for SHF communication link simulation. Integral to the SES, a weatherized, modular Radio Frequency (RF) head supports communication via individual L, C, X, Ku and Ka modules. A separate Channel Effects Processor (CEP) emulates SHF satellite link effects, including propagation time delay, frequency variation and time-varying attenuation.

Building on Tampa Microwave's widely utilized legacy line of C, X, Ku and Ka band simulators, the SES creates end-to-end communication links without the need of scarce and expensive satellite space assets. The SES also adds real-world effects such as multi-hop, base band and TDMA network delay, signal strength and fading, and frequency variations including Doppler offset and rate-of-change. The system operator can modify all satellite link parameters including signal strength, delay, frequency, beacons and Doppler shift through a laptop-based user interface. Users connect to the RF Head and CEP via wired or wireless Ethernet from the system's user control panel application or through a web interface. Ideally suited for test range applications, the SES transmits and receives terminal signals at ranges up to 12 km from the RF head. User adjustable signal gain and wide beam width antennae facilitate SES operations with a variety of fixed and mobile satellite terminal types over a large volume test range.

A complete SES configuration consists of a three subsystems: a weatherized, tower-mounted RF Head that houses the antennas, up/down converters, and amplifiers; a CEP consisting of a 19 inch, 1 Rack Unit (RU) Digital Signal Processor capable of simultaneously operating on two 70MHz signals; and a second 1RU assembly that provides L-Band to 70 MHz up/down conversion and signal switching. The RF assembly can be populated with L, C, X, Ku and Ka band modules that are individually packaged. Customers may specify any combination of these 5 frequency bands at the time an order is placed or purchase additional frequency bands at any time and add/replace them in the field to meet evolving simulation scenario requirements.

About Tampa Microwave

Tampa Microwave, a Veteran owned small business, provides manpack, man-portable, and Fly-Away satellite ground terminal solutions to Department of Defense and commercial customers. Since 1983, they have furnished microwave components, specialized test equipment, satellite simulators and now full terminals in X, Ku and Ka bands to government customers and prime contractors worldwide. Visit them at www.tampamicrowave.com. For sales inquiries concerning simulators or other Tampa Microwave products, contact Obie Johnson at (813) 690-6327 and o.johnson@tampamicrowave.com.