T-748 HIGH DATA RATE TRANSMITTER

The High Data-Rate Transmitter (T-748) is a software-defined radio that provides several design enhancements including: advanced high-speed digital signal processing, integrated forward error correction and AES-256 encryption and digital modulation and filtering techniques. With firmware reconfigurable to support CCSDS, DVB-S2, or proprietary formats, the T-748 can be made to interoperate with any ground station. The design is inherently flexible to support X- or Ka-Band frequencies (factory configurable).

Designed from the ground up via a traditional EEE Level 2 parts and material program, the T-748 adapts the latest technologies within our proven parts and design methods resulting in 100 percent on-orbit reliability. When paired with our high-efficiency Gallium Nitride (GaN) solid-state power amplifier (SSPA), the combined platform provides a robust, high-rate connection to Earth from any platform or orbit.

The T-748's robust signal processing provides the highest levels of signal integrity, integrating digital filtering that greatly simplifies external analog filtering requirements. The figures below showcase a 400 MHz wide 16-APSK modulation – generated with very low

EXPERT SUPPORT

The T-748 is designed, built, assembled and tested all within one facility and is serviced and supported by engineering professionals with decades of spaceflight design experience. Every T-748 delivered is accompanied by domain expertise in parts, materials, radiation analysis, mechanical engineering, power supply design, digital signal processing, radio frequency design and manufacturing engineering. For most applications, existing data items can be provided for review, reducing the analysis and testing required.