

New Products

Dual band 2-18 GHz 300 W TWT amplifier in single package

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Model dB-4409 from dB Control Corp., is a pod-mounted, dual-band Traveling Wave Tube Amplifier (TWTA) in a single, self-contained package. The TWTA provides 300 W of continuous wave power and operates in the 2 to 18 GHz frequency range with fast switching between two standard bands (2 to 8 GHz and 7.5 to 18 GHz). Custom frequency bands are also available.

ECM systems, EW threat simulators and multi-band communication systems use complex radar waveforms with multiple modulation schemes, pulse patterns and pulse bursts. The high power amplifiers used for amplifying these signals need a high level of RF power with a wide bandwidth, extremely low phase noise, excellent amplitude, phase stability, pulse burst in the megahertz range and an RF pulse width of one microsecond to several milliseconds.

“The TWTA is one of the most critical elements affecting the performance of ECM and EW systems. Our dB-4409 TWTA is designed to address both current and future EW threats. Combining the bandwidth of 2 to 18 GHz into one high-power product gives tremendous benefits to the ECM system designer,” said dB Control Vice President of Technology and Business Development Meppalli Shandas. “At just nine inches diameter and 90 pounds, the dB-4409 is ideal for installation onboard pods in military airborne platforms where small size and low weight are extremely important.”

The dB-4409 TWTA operates at altitudes of up to 55,000 feet and at temperatures between -40° to 70°C. It is ruggedized to withstand humidity, vibration and shock. Periodic permanent magnet (PPM)-focused, conduction-cooled TWTs are used for power amplification. The high-voltage power supply section uses modular architecture and low-noise power supply topology utilizing high-efficiency solid state power conversion circuits.

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