

## dB-3774B Microwave Power Module



**1kW Pulsed**  
**6 – 18 GHz**



The dB-3774B pulsed microwave power module (MPM) operates in the 6 to 18 GHz frequency range and provides 1 kW peak power at 5% maximum duty cycle. A periodic permanent magnet (PPM)-focused, conduction-cooled mini traveling wave tube (TWT) is used for power amplification, and a solid state driver amplifier provides the required RF gain. The high-voltage power supply (HVPS) section uses modular architecture and low-noise power supply topology, utilizing high-efficiency, solid state power conversion circuits. A highly stable, solid state modulator pulses the TWT grid. The conduction-cooled dB-3774B MPM operates with 270 VDC prime power.

### Features

- 6 to 18 GHz, 1 kW pulsed, 5% max. duty cycle
- Very low phase noise and spurious
- Excellent amplitude and phase stability

### Applications

- High-performance EW

# dB-3774B Microwave Power Module Specifications

**Reliability by Design®**

## Electrical

Frequency Range	6 to 18 GHz
Output Power Peak	1000 W, min.
Duty Cycle	5%, max.
PRF	40 kHz, max.
Pulse Width	1 to 50 $\mu$ sec.
Gain at Rated Power	60 dB
RF Drive for Rated Power	0 dBm to +5 dBm max.
Harmonics	-1.5 dBc, max.
Spurious	-45 dBc typical
RF Rise and Fall Times	25 ns
Input VSWR	2.0:1 (50 $\Omega$ Impedance)
Output VSWR	2.5:1, max.
Load VSWR	1.5:1 for specification compliance
Input Pulse (PRF)	TTL
Control	Discreet
Delay, PRF to RF Pulse	400 ns max. (leading edges, 50% points)
Prime Power	270 VDC
Protection	Helix Over-Current, Cathode Over-Current Over-Voltage, Over-Temperature, Excessive PRF and Pulse Width or Duty Cycle

## Mechanical

Connectors:	
RF Input	SMA (F)
RF Output	TNC (F)
Pulse Input	Differential TTL
Prime Power	MS3112E14-SP
Control	DB-15
Size	7" (W) x 3" (H) x 18" (L)
Weight	18 lbs

## Environmental

Vibration	10 to 1000 Hz, 0.02g <sup>2</sup> /Hz
Operating Temperature	-40° C to +70° C (Base Plate)
Operating Altitude	Up to 50,000 ft
Humidity	Up to 95% RH, no condensation

## Options

- Custom Frequency Bands
- Different prime power
- Integrated package with various options

*Specifications subject to change without notice.*



## About dB Control

Established in 1990, dB Control Corp., a subsidiary of the Electronic Technologies Group (ETG) of HEICO Corp., supplies mission-critical, often sole-source, products worldwide to military organizations, as well as to major defense contractors and commercial manufacturers. dB Control designs and manufactures reliable high-power TWT Amplifiers (TWTAs), microwave power modules (MPMs), transmitters and power supplies with modulators for radar, electronic countermeasures (ECM) and data link applications. The company's high-power amplifiers use solid state, as well as vacuum electron devices and cover the 1 to 50 GHz frequency range. The modularity of dB Control's designs enables rapid configuration of custom products for a variety of platforms, including ground-based and high-altitude military manned and unmanned aircraft. dB Control has an outstanding record of successfully repairing, refurbishing and replacing tightly packaged high-voltage transformers, assemblies and power supplies. The company offers specialized contract manufacturing, transformer winding and testing, full vacuum encapsulation, pressure cure, conformal coating and repair depot services from its modern 40,000-square-foot facilities in Fremont, California. [www.dBControl.com](http://www.dBControl.com)

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