CPI 250 Watt Peak TWTA

V-Band

CPI V-Band TWTA for Satellite Uplink Communications

Provides 100 watts of minimum power in a rugged and compact weatherproof package, digital ready, for wideband single- and multi-carrier satellite service over a 4.2 GHz bandwidth (5.2 GHz bandwidth optional) within the V-band frequency band. Ideal for fixed earth station applications.

Cost Effective and Efficient

Mounting at the antenna improves performance by reducing IFL losses and saves cost in system design. Provides 80 W of linear power at the amplifier flange.

Rugged and Easy to Maintain

Built-in fault diagnostic capability via remote monitor and control. Easy access enclosure for improved serviceability. CAN-Bus architecture improves reliability and improves noise immunity. User-friendly microprocessor-controlled logic with integrated Ethernet computer interface.

Meets Global Requirements

Meets International Safety Standard EN-60215, Electromagnetic Compatibility 2014/30/EU and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements. CE certified. SNMP enabled.

Worldwide Support

Backed by over four decades of satellite communications experience, and CPI's worldwide 24-hour customer support network which includes more than 20 regional factory service centers.

CPI 250 W V-band liquid cooled TWTA, provides up to 80 watts of linear power at the flange

FEATURES:

- Ethernet interface with integral web server for easy monitoring and control
- SNMP interface (v1, v2, or v3)
- EMC Directive 2014/30/EU
- Harmonic Standard EN-61000-3-2

OPTIONS:

- 5.2 GHz operation - from 47.2 to 52.4 GHz (contact CPI for specifications)
- Remote control panel
- Integral linearizer
- Integral 1:1 switch control and drive
- Air cooling (please refer to CPI doc. MKT-422 for dimensions and specifications)
- Redundant systems
- Harmonic filter
- Serial interface (RS232/422)
- Uplink Power Control

Quality Management System - ISO 9001:2015

CE

Specification		CPI TL02VO-L1 - 250 W Peak Power V-Band TWTA	
ELECTRICAL SPECIFICATIONS			
Output Frequency		47.2 to 51.4 GHz	47.2 to 52.4 GHz
Peak TWT Flange Power		250 W (53.97 dBm)	
Peak Amplifier Flange Power		200 W (53.00 dBm)	
Rated CW Amplifier Flange Power		100 W (50.00 dBm)	
Intermodulation - with respect to the sum of two carriers		-28 dBc max. at total output power of 80 W with optional linearizer	
Intermodulation-withrespecttoeach of 2 equal carriers 20 MHz apart		-25 dBc max. at total output power of 80 W with optional linearizer	
NPR (with linearizer option)		19 dB at 80 W output power (75 W with optional harmonic filter)	
Spectral Regrowth		-30 dBc max. at rated CW power with linearizer	
Gain		60 dB min; 64 dB typ. at 3 dB backoff from rated CW power	
RF Level Adjust Range		0 to 30 dB (via PIN diode attenuator) typ. 0.1 dB steps	
Gain Stability		±0.25 dB/24-hour max. at constant drive and temperature, after 30-minute warmup	
Small Signal Gain Variation		4 dB pk-pk max. across the 4.2 GHz band	5 dB pk-pk max across the 5.2 GHz band
		2.5 dB max. over any 1 GHz band; 1 dB pk-pk max. over any 250 MHz	3.0 dB max. over any 1 GHz band; 1.5 dB pk-pk max. over any 250 MHz
Input/Output VSWR		1.3:1 max.	
Load VSWR		2.0:1 max. operational; any value for operation without damage	
Phase Noise		-12 dB below IESS-308 continuous mask; -50 dBc AC fundamental; -50 dBc sum of all spurs	
AM/PM Conversion		2.0°/dB max. for a single carrier up to 4 dB OBO from rated CW power (at rated CW power with optional linearizer)	
Harmonic Output		-60 dBc with harmonic filter option	
Noise Density		<-150 dBW/4 kHz below 31.4 GHz; <-150 dBW/4 kHz from 37.5 to 42.5 GHz; <-70 dBW/4 kHz max. in passband; -65 dBW/4 kHz with optional linearizer	
Primary Power		Voltage: Single phase, 100-240 VAC ±10%; Frequency: 47-63 Hz	
Power Consumption		900 VA max	
Power Factor		0.95 min; 0.99 typ.	
MECHANICAL SPECIFICATIONS			
Cooling		Liquid cooled: minimum 1 gallon (3.79 liters) per minute of water (up to 50% glycol), +60°C max. at inlet	
Connections	**RF input:**	WR22 cover flange waveguide (WR-19 optional)	WR19 cover flange waveguide
	RF output:	WR22 grooved flange waveguide (WR-19 optional)	WR19 grooved flange waveguide
	RF output monitor	1.85mm coaxial, Female	
M&C Interface		Ethernet (serial interface optional - RS232/422)	
Dimensions, W x H x D		10.25 x 10.02 x 22.25 inches (261 x 255 x 566 mm)	
Weight		67 lbs (30.4 kg) nominal	
ENVIRONMENTAL SPECIFICATIONS			
Ambient Temperature		-40°C to +55°C operating in direct sunlight (to +60°C out of direct sunlight); -54°C to +71°C non-operating	
Relative Humidity		100% condensing	
Altitude		10,000 ft. with standard adiabatic derating of 2°C/1000 ft. operating; 50,000 ft. non-operating	
Shock and Vibration		20 G, 11ms 1/2 sine; 2.1 g, 5 to 500 Hz (non-operational)	
Heat Dissipation		750 W max. - 125 W max. radiated into hub	
Acoustic noise		Minimal acoustic noise, as this amplifier has no fans	

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