CPI 1.25 kW TouchPower™ TWTA

Ku-Band

For Satellite Communications Uplink Applications

Provides 1250 watts of CW power in a compact, 9 RU package, digital ready, for satellite uplink service in Ku-band. More powerful and 40% more efficient than comparable GaN SSPAs at Plin.

CPI 1250 W Ku-band TWTA, Model T9UI

Touchscreen Graphical Interface

State of the art touchscreen control/display with both amplifier and/or system level control capabilities. Includes fault logs, parameter trending and scopescreen for monitoring performance. Internal switch control eliminates need for external controllers.

Simple to Operate

User-friendly microprocessor-controlled logic with integrated computer interface, Ethernet interface, digital metering, pin diode attenuation, optional integrated linearizer for improved intermodulation performance, and BUC option for use with L-band modems.

Easy to Maintain

Modular design with built-in fault diagnostic capability providing convenient and clearly visible indicators for easy maintainability in the field. A USB port is available for uploading new firmware and system configurations, as well as downloading logs and system configurations for cloning to other units.

OPTIONS:

- Remote control panel
- Redundant and hybrid power combined systems
- Integrated switch control and drive
- Integral linearizer
- Integral block upconverter (BUC) or dual band BUC - contact CPI for specifications.
- External receive band reject filter
- Ethernet interface
- TWT LifeExtender/LifePredictor
- Uplink power control

Quality Management System - ISO 9001:2015

CE

Meets Global Requirements

Meets International Safety Standard EN-60215, Electromagnetic Compatibility 2014/30/EU to satisfy worldwide requirements. CE Marked.

Worldwide Support

Backed by over 40 years of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes more than 20 regional factory service centers.

Specification	Model T9UI 1250 W Ku-band TouchPower TWTA
Output Frequency	13.75 to 14.50 GHz
Output Power (min.) **TWT CW Power** **Flange CW Power**	 1250 W (60.97 dBm) min. 1100 W (60.41 dBm) min.
Bandwidth	750 MHz
Gain	70 dB min.
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 ±0.1 dB typ. over operating temperature range, constant drive
Small Signal Gain Slope	±0.02 dB/MHz max.
Small Signal Gain Variation	1.0 dB pk-pk max. across any 80 MHz (1.5 dB pk-pk max. with linearizer option); 3.0 dB pk-pk max. across the 750 MHz band (4.0 dB pk-pk with optional linearizer)
Input/Output VSWR	1.3:1 max./1.3:1 max.
Load VSWR	1.5:1 for full spec. compliance; any value operation without damage; 2.0:1 continuous operation
Phase Noise	12 dB below IESS-308/309 phase noise profile; -50 dBc AC fundamentals related; -47 dBc sum of spurs; Prime power AC line unbalance not to exceed 3%. Excess imbalance may cause an increase in residual RF noise (AM, FM and PM). Phase noise increase is typically 2.5 dB/% imbalance.
AM/PM Conversion	2.5°/dB max. with optional linearizer, for a single carrier at 57 dBm output power (6.0°/dB max. without linearizer)
Harmonic Output	-60 dBc max.
Noise Density	<-150 dBW/4 kHz from 10.0 to 12.7 GHz <-70 dBW/4 kHz in passband, <-65 dBW/4 kHz in passband with linearizer <-105 dBW/4 kHz from 18.0 to 26.0 GHz, <-125 dBW/4 kHz from 26.0 to 40.0 GHz
Intermodulation - with respect to the sum of 2 equal carriers 5 MHz apart	-25 dBc at 270 W output power with no linearizer; -25 dBc at 540 W output power with linearizer
Spectral Regrowth	-30 dBc at 1 symbol offset, 5.6 Msps, at 540 W output power with linearizer
Group Delay	0.01 ns/MHz linear max; 0.001 ns/MHz^2 parabolic max; 0.5 ns pk-pk ripple max.
Primary Power	Voltage: Three phase with neutral and ground, 200-240 VAC L-L ±10% OR 380 to 415 VAC L-L ±10%; Frequency: 47-63 Hz ±10% five wire; AC current harmonic content: less than 20%, primarily fifth and seventh harmonics. Harmonics must be considered when choosing UPS sources.
Power Consumption	4.9 kVA typ. at 1100 W output power
Power Factor	0.92 min; 0.95 typ.
Ambient Temperature	-10°C to +50°C operating; -54°C to +71°C non-operating
Relative Humidity	95% non-condensing
Altitude	10,000 ft. with standard adiabatic derating of 2°C/1000 ft. operating; 50,000 ft. non-operating
Shock and Vibration	Designed for normal transportation environment per Section 514.4 MIL-STD-810E. Designed to withstand 20g at 11 ms (1/2 sine pulse) in non-operating condition
Cooling	Forced air with integral blower. Maximum external pressure loss allowable: 0.25 inch water gauge.
Connections	RF Input: Type N Female; RF output: WR75G waveguide flange, grooved, threaded, UNF 2B 6-32 holes; RF output monitor: Type N Female
M&C Interface	Ethernet, Serial, SNMP, & USB
Weight and Dimensions	155 lbs (70.5 kg) max. / 19 W x 15.75 H x 24 D inches (483 W x 400 H x 610 D mm)

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