

CPI SuperLinear® TWTAs: The **Greenest** and Most Efficient HPAs

COMPARE the SuperLinear® 1.25 kW Ku-Band TWTA to the latest GaN-Based SSPA

Emergence of solid state gallium nitride (GaN) technology is one of the latest areas of innovation in the satcom amplifier industry. The use of GaN devices allows SSPAs to be used at higher RF power levels in smaller packages than previously available using GaAs devices. GaN high power BUCs can be smaller and lighter than GaAs BUCs, which makes them very useful for mobile and transportable applications. GaN SSPAs are also more efficient than GaAs SSPAs, which helps users save operating costs.

Other significant innovations are keeping TWTAs at the leading edge of technology: CPI's SuperLinear® TWTAs are proven to be the most efficient amplifiers on the market, even when compared with GaN SSPAs. Their superior power efficiency not only enables significant operational cost savings over other amplifiers, they also operate at cooler temperatures resulting in outstanding reliability and higher TWT MTBF that rivals SSPAs.

This chart compares CPI's Ku-Band SuperLinear® TWTAs against the latest GaN-based HPA, based on published data. For more information, contact your local CPI representative today or visit us at www.cpii.com/satcom.

	CPI TL12UI 1.25 kW TWTA		1.25 kW GaN-Based SSPA	
Operating Frequency (GHz)	12.75 - 14.50, 13.75 - 14.50, 13.75 - 14.80	✓	14.0 - 14.5, 13.75 - 14.50	
PLINEAR <i>where IMD = -25 dBc or better with two EQUAL carriers</i>	500 W (57 dBm) w/lin	✓	400 W (56.00 dBm)	
Gain Adjustment Range	25 dB in 0.1 dB steps	✓	20 dB in 0.1 dB steps	
Power Consumption	2100 W at PLINEAR	✓	3000 W at PLINEAR	
Power Efficiency at Plin	23.8%	✓	13.3%	
Operating Cost per Year		✓	40% More Expensive	
Cost per Linear Watt		✓	80% More Expensive	
Heat Dissipation at 400 W Output Power	1560 W	✓	2600 W	
Weight	Rack Mount: 70.5 kg Hub Mount: 37.0 kg	✓	Rack Mount: 90 kg Hub Mount: 80 kg	
Volume	Rack Mount: 117,725 cubic cm Hub Mount: 53,351 cubic cm	✓	Rack Mount: 310,192 cubic cm Hub Mount: 142,847 cubic cm	