

300W-500W X-Band GaN BUC / SSPA

Super High Power Density

Smaller, lighter and more powerful SSPA Series allows significant high power BUC / SSPB / SSPA while substantially improving thermal efficiency, leading to higher reliability and longer MTBF.

Powered by GaN technology, the 300W to 500W X-Band SSPA Series are very compact, light and extremely powerful. Weighing only 56lbs at 500W output power, this new X-band product family is the most powerful and feature rich for its size.

Featuring best in class RF characteristics, true RMS power measurements, extensive monitor and control capabilities enabled via Ethernet, Serial and/or Analog Interfaces. The remarkably compact size and high thermal efficiency results in overall system size and cost reduction making it the ideal candidate for mobile and fixed VSAT applications.

Options

- ALC option
- RX Reject Filter
- Antenna Mounting kit
- 1:1 and 1:2 Redundancy Kit
- Remote Control Panel

Features

- Extremely high power density
 - Up to 500W Psat in 18.5" x 13.5" x 10"
 - Light weight – 56lbs
 - Superior RF performance
 - Highest Linearity at small back – off
 - Spurious emission below -60 dBc
 - Wide range Gain Control
 - RF Overdrive Protection
 - Extensive M&C capability
 - Serial: RS 232 & RS 485
 - Ethernet: embedded Web browser (HTTP) & SNMPv3 support
- Built In Output Isolator provides full output VSWR Protection
- Input and output True RMS power detection
- Field upgradable software
- Redundancy ready with no need of external controller
- Status LED
- Analogue Interface





RF Parameters		
RF Frequency Band, GHz		7.9 - 8.4GHz
Gain, dB		75 minimum, 77 typical
Gain Flatness, dB	Over full band	+/-1 typical , +/-1.5 max
	Over any 40MHz	+/-0.5 max
Gain Stability, dB		+/-1.5 max over full temperature range
Gain Control, dB		20dB minimal dynamic range
Linearity at Pout=Plin:	2 tone IMD	-25dBc max
	Spectral Re-growth	-30dBc for QPSK at 1 x symbol rate
Input Impedance, Ohm		50
Input/Output VSWR		1.3 : 1
Noise Power Density, dBm/Hz		-70 in Transmit Band -140 in Receive Band (10.7 GHz – 12.8 GHz)
Spurious Emission dBc		-60 Non-signal related / -55 Signal related (at Plin) max
AM/PM conversion at Plinear, °/dB		1.0deg / dB maximum
Group Delay		Ripple 1 nsec p-p max over any 40 MHz band
RF Monitor Coupling		-50dB typ

Power & Mechanical		
AC Voltage Range		190-265V AC 50-60Hz PFC for 300,400 and 500W models
Size		18.5" x 13.5" x 10" (46.99cm x 34.29cm x 25.4cm)
Weight		26lbs(12kg) / 56lbs (25kg)
Cooling		Forced Air
Operating Temperature / Relative Humidity		-40°C to +55°C / Up to 100% condensing

Interfaces		
RF Input Connector		Precision N –female
RF Output Connector		CPR112 Grooved
RF Monitor		Precision N –female
AC Power In		3 pin MS style
RS485-RS232-Ethernet-SNMP		MS3112E14-19S

Part Number	Output Power	Prated (dBm/w)	Plinear (dBm/W)	P Cons at Prated	P Cons at Plin
TPA-XB00550-HMS X*	300W	55 / 300	52 / 150	1800W	1500W
TPA-XB00560-HMS X*	400W	56 / 100	53 / 200	2000W	1650W
TPA-XB00570-HMS X*	500W	57 / 500	54 / 250	2200W	1800W

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.
 Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.