

IRT Super High Power Density 500W-1000W Tropo-Band GaN BUC / SSPA

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 500W to 1000W Troposcatter SSPA Series are very compact, light and extremely powerful. Weighing only 75 lbs at 500W and 125lbs at 1000W output power, this new Troposcatter 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

- Internal 10 MHz Reference clock
- Autosense 10 MHz Reference clock
- Automated Level Control (ALC) Option
- Quick disconnect WR187 output optional

Features

- Extremely high power density
- Lightweight design: 74/100 lbs. (34/46 kg)
- Compact package: 21"x13"x9.5 and 1k in 20.5"x18"x10.8"
 - Superior RF performance
- Superior Phase Noise:8-10 dB better than IESS308/309 recommendation
- Up to 60 dBm Psat
- Wide dynamic range of Gain Control
- High linearity at small back off
- Low noise power density
 - RF Overdrive Protection



- Input and Output True RMS Power Detection
- Full output VSWR Protection
- Field upgradable SW
- Reflected power detection
- Status LED
- Analogue Interface
- Available as SSPA



RF Parameters		
Output Frequency Band, GHz	4.4 - 5.0GHz	
IF Frequency Range, MHz	950 - 1550MHz	
LO Frequency	5.95 GHz	
Type of Conversion	Single Conversion; inverting	
Conversion Gain, dB	75dB min, 78dB typ	
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	
External Reference Frequency	10MHz multiplexed with IF In	
External Reference Required Phase Noise	-130dBc/Hz @ 100Hz; -140dBc/Hz @ 1kHz -150dBc/Hz @ 10kHz; -155dBc/Hz @ 100 kHz	
Up-Converter Phase Noise, dBm/Hz	-68dBc/Hz @ 100Hz; -80dBc/Hz @ 1kHz; -90dBc/Hz @ 10kHz -95dBc/Hz @ 100kHz; -115dBc/Hz @ 1MHz	
Linearity at Pout=Plin:	2 tone IMD	-25dBc max at Plinear
	Spectral Re-growth	26dBc for QPSK at 1.5 x symbol rate at Pout=(Plinear+1dB)
Noise Power Density, dBm/Hz	-70dBm/Hz max	
Spurious Emission dBc	-65 Non-signal related / -60 Signal related (at Plin) max	

Power & Mechanical	
AC Voltage Range	180-265VAC 50-60Hz; PFC
Cooling	Forced Air
Operating Temperature / Relative Humidity	-40°C to +55°C / Up to 100% condensing

Interfaces	
IF Input Connector	N-type female
RF Output Connector	CPR187 grooved; Quick disconnect WR187 optional
RF Sample	N-type female
AC Power In	3 pin MS style
M&C Interface-Serial – Ethernet	MS3112E14-19S

Part Number	Prated (dBm/w)	Plinear (dBm/W)	P Cons at Prated	P Cons at Plin	Size	Weight
TPB-CBT0570-HMS0	57 / 500	54 / 250	1800W	1100W	21" x 13" x 9.5"	75lbs/34kg
TPB-CBT0600-HMS0	60 / 1000	57 / 500	3300W	2000W	20.5" x 18" x 10.8"	100lbs/46kg

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.