800W-1000W C-Band 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 800W to 1000W C-Band SSPA Series are very compact, light and extremely powerful. Weighing only 132lbs at 1000W output power, this new C-band 800W to 1000W 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 10MHz Reference clock
- Autosense 10 MHz Reference clock
- Automatic Level Control (ALC)
- 1:1 and 1:2 Redundancy Kit
- Remote Control Panel

Features

- Extremely High Power Density

o Lightweight compact package up to 1000W output power

- Superior RF performance

o Superior Phase Noise: 8 dB better than IESS308/309 recommendation

o Spurious emission below -60 dBc

o Wide range Gain Control

o Highest Linearity at small back-off

- RF Overdrive Protection
- Redundancy ready with no external controller required
- Status LED
- Analogue Interface
- Available in different frequency options

o C-Band-Super-ext, Palapa, Insat

o Ku-Band – Ext and Stand Ku-Band in one unit; switchable LO

- Extensive M&C capability

o Serial: RS 232 & RS 485

o Ethernet: embedded Web browser (HTTP) & SNMPv3 support

- Available in GaAs configuration
- Input and output True RMS power detection
- Field upgradable software

RF Parameters		
RF Frequency Band, GHz		5.85 - 6.425GHz
IF Frequency Range, MHz		950 - 1525MHz
LO Frequency		4.9GHz / 12.8GHz
Conversion Gain, dB		75 minimum, 77 typical
Gain Flatness, dB	Over full band	+/-1 typical , +/-1.5 max
	Over any 40MHz	+/-0.4 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		1.4 : 1 / 1.3 : 1
Noise Power Density, dBm/Hz		-68 in Transmit Band -140 in Receive Band
Spurious Emission dBc		-60 Non-signal related / -55 Signal related (at Plin) max
AM/PM conversion at Plinear, ^{0}/dB		1.0 maximum
Group Delay		Ripple 1 nsec p-p max over any 40 MHz band

BUC Parameters	
LO Frequency, MHz	4900/12.8-13.05 switchable
Type of Conversion	Single conversion, non – inverting
External 10 MHz Frequency	Over IF L band cable with multiplexing
Phase Noise, dBc/Hz	-70 @ 100Hz; -80 @ 1kHz; -90 @ 10kHz: -95 @ 100kHz: -115 @ 1MHz

Power & Mechanical	
AC Voltage Range	190-265VAC 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	CPR137 / WR75 Grooved
RF Sample	N-type Female
AC Power In	3 pin MS style
RS485 – Ethernet – SNMPv3	MS3112E14-19S

Part Number	Prated (dBm/w)	Plinear (dBm/W)	P Cons at Prated	P Cons at Plin	Size	Weight	GaAs/GaN
TPB-CB00590- HMA X*	59 / 800	56 / 400	3100W	2200W	25.6" x 20" x 10.84"	132lbs/60kg	GaN
TPB-CB00600- HMS X*	60 / 1000	57 / 500	3300W	2400W	25.6" x 20" x 10.84"	132lbs/60kg	GaN

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.

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