150W-250W C-Band BUC / SSPA

Super High Power Density

Smaller, lighter and more powerful, this series allows significant high-power BUC / SSPA size and weight reduction and at the same time substantially improves thermal efficiency, which leads to higher reliability and longer MTBF.

The 150W to 250W C-Band powered by GaN technology series are very compact, light and extremely powerful. Weighing only 12KG at 250W output power, this new C-band product family is the most powerful and feature rich for its size: up to 250W at saturated power.

This series features best in class RF characteristics, RF sample port, 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
- Automatic Level Control (ALC)
- Antenna Mounting Kit
- 1:1 and 1:2 Redundancy Kit
- Remote Control Panel

Features

- Extremely High Power Density

o Up to 250W Psat in 40 x 23 x 13 cms

- 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
- Built In Output Isolator provides full output VSWR Protection
- Redundancy ready with no external controller required
- Status LED
- Available in different frequency options

o Super-extended 5.85-6.725GHz

o Palapa 6.425-6.725GHz

o Insat 6.725-7.025GHz

- Extensive M&C capability

o Serial: RS 232 & RS 485

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

- Input and output True RMS power detection
- Field upgradable software

150-250W C-Band SSPA

RF Parameters		
Output Frequency Band, GHz		5.85-6.425GHz / 5.85-6.725GHz; other options available
Input L Band Frequencies, MHz		950-1525MHz / 950-1825MHz
Conversion Gain, dB		75 minimum, 77 typical
Gain Flatness, dB		+/-1 typical +/-1.5 maximum over full band +/-0.4 maximum over any 40MHz
Gain Stability, dB		+/-1.5 maximum over full temperature range
Gain Control, dB		20dB minimum dynamic range
Linearity at Pout=Plin:	2 tone IMD	-25dBc max
	Spectral Regrowth	-30dBc for QPSK at 1 x symbol rate
Input Impedance, Ohm		50Ohm
Input/Output VSWR		1.4:1 / 1.3:1
Noise Power Density, dBm/Hz		-70 in Transmit Band, -145 in Receive Band
Spurious Emission dBc; Non-signal related / Signal related (at Plin)		-60 / -55 max
AM/PM conversion at Plinear, ^{0}/dB		1.0 maximum
Group Delay		Ripple 1 nsec p-p max over any 40MHz band

BUC Parameters	
LO Frequency, MHz	4900MHz
Type of Conversion	Single conversion, non-inverting
External 10MHz	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	90-265V AC 50-60Hz auto-ranging; PFC
Size	40 x 23 x 13 cms
Weight	12KG (26lbs)
Cooling	Forced Air
Operating Temperature / Relative Humidity	-40°C to +55°C / Up to 100% condensing

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Interfaces	
IF Input Connector	N-type Female
RF Output Connector	CPR137 Grooved
AC Power In	3 pin MS style
RS485 – Ethernet – SNMPv3	MS3112E14-19S

Part Number	Output Power (W)	Prated (dBm / W)	Plinear (dBm / W)	P Cons at Prated	P Cons at Plin
TPB-CB00520-HMS X*	150W	52 / 150	49 / 80	850W	700W
TPB-CB00530-HMS X*	200W	53 / 200	50 / 100	900W	720W
TPB-CB00540-HMS X*	250W	54 / 250	51 / 125	1000W	750W

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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