

# 100W-1000W C-Band Rack Mount GaN/GaAs BUC/SSPA

## Super High Power Density

The Intelligent Power Block-Up Converter iPB™ Series is smaller, lighter and more powerful allowing significant high-power BUC / SSPA size and weight reduction while substantially improving thermal efficiency, which leads to higher reliability and longer MTBF. That's why IRT offers 3 years warranty for this product line!

The new 100W-1000W BUC/SSPA iPB™ Series are very compact, light and extremely powerful. Using patent pending Z-combining method and advanced GaN technology, the new 100W - 1000W Rack Mount BUC / SSPA has truly outstanding power density - up to 1000W Psat C-Band in 5RU light compact package.

The Rack Mount BUC / SSPA 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. Redundant truly hot swappable power supply gives even higher overall reliability.

## Options

- Internal 10 MHz Reference clock
- Autosense 10 MHz Reference clock
- Automated Level Control (ALC) Option
- SSPA option available



## Features

- Extremely high power density - up to 1000W PSAT C-Band in 19" Rackmount, 5RU
- Superior RF performance
  - Superior Phase Noise: 5-8 dB better than IESS308/309 recommendation
  - Highest Linearity at small back off
  - Wide dynamic range of Gain Control
    - RF Overdrive Protection
    - Built In Output Isolator – full output VSWR Protection
    - RF Sample port
- Redundancy ready with no need of external controller
- True RMS forward and reflected power monitors
- User friendly front panel display and control buttons
- SNMPv3
- Field upgradable SW
- Analogue Interface



RF Parameters		
RF Frequency Band, GHz		5.85 - 6.425 GHz (other options available)
IF Frequency Range, MHz		950 - 1525 MHz (other options available)
LO Frequency		4.9GHz/12.8GHz
Conversion Gain, dB		75dB min, 77dB typ
Gain Flatness, dB	Over full band	+/-1 typical , +/-1.5 max
	Over any 40MHz	+/-0.5 max
Gain Stability, dB		+/-1.0dB over full temperature range
Gain Control, dB		20dB minimal dynamic range
Linearity at Pout=Plin:	2 tone IMD	-24dBc at P linear
	Spectral Re-growth	-30dBc for QPSK at 1.5xsymbol rate at Plinear
Noise Power Density, dBm/Hz		-68dBc/Hz @ 100Hz; -80dBc/Hz @ 1kHz; -90dBc/Hz @ 10kHz -95dBc/Hz @ 100kHz; -115dBc/Hz @ 1MHz
Spurious Emission dBc		-60dBc / -65dBc

Power & Mechanical	
AC Voltage Range	90-265VAC 50-60 Hz Auto-Ranging; PFC
Cooling	Forced Air
Operating Temperature / Relative Humidity	0°C .. +50°C / Up to 99% non-condensing

Interfaces	
IF Input Connector	N – type female
RF Output Connector	CPR137 Grooved
AC Power In	NEMA Connector rear panel
M&C Interface-Serial – Ethernet	DSUB Connectors, RJ45 rear panel

Part Number	Prated (dBm/w)	Plinear (dBm/W)	P Cons at Prated	P Cons at Plin	RU
IPB*-CB00500-RMSX*	50 / 100	47 / 50	400W	320W	2RU
IPB-CB00530-RMSX*	53 / 200	50 / 100	900W	700W	3RU
IPB-CB00540-RMSX*	54 / 250	51 / 125	1000W	750W	3RU
IPB-CB00560-RMSX*	56 / 400	53 / 200	2000W	1800W	4RU
IPB-CB00590-RMSX*	59 / 800	56 / 400	4000W	3500W	5RU
IPB-CB00600-RMSX*	60 / 1000	57 / 500	4200W	3600W	5RU

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.