

# ***iPB™* SERIES SUPER HIGH POWER DENSITY 200W / 300W / 400W C-BAND RACK MOUNT GAN POWERED BUC**



The IRT Technologies Intelligent Power Block-Up Converter *iPB™* Series is Smaller, lighter and more powerful 200W / 300W / 400W C-Band Rack Mount BUC *iPB™* Series allows significant high power BUC size and weight reduction and at the same time substantially improves thermal efficiency, which leads to higher reliability and longer MTBF. That's why IRT offers 3 years warranty for this product line! The new IRT Technologies powered by GaN technology 200W / 300W / 400W C-Band BUC *iPB™* Series are very compact, light and extremely powerful. Using patent pending Z-combining method and advanced GaN technology new IRT 200W / 300W / 400W C-Band Rack Mount BUC has truly outstanding power density - up to 400W Psat in 4RU light compact package. IRT 200W / 300W / 400W C-Band Rack Mount BUC 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.

## **KEY FEATURES**

- Extremely high power density - up to 400W Psat in 19" Rackmount, 4RU only!
- Superior RF performance:
  - ✓ Phase Noise 5-8dB better than IESS308/309
  - ✓ High Linearity
  - ✓ Psat up to 56 dBm
  - ✓ Wide dynamic range of Gain Control
- RF Overdrive Protection
- Available in different frequency options
- Internal 10MHz reference option
- Full VSWR protection
- 10MHz reference auxiliary output option
- Redundant Hot Swappable Power Supply
- Input and Output RF Sample port
- Configuration via RS-232 serial console, packet protocol RS-485 - User friendly HTTP based GUI and SNMP
- User Friendly Front Panel with Menu Driven Display
- Automated Level Control (ALC) Option
- Redundant Ready - No External Redundancy Controller Required.
- Built-in Power Metering

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## iPB™ SERIES 200W/ 300W / 400W C-Band Rack Mount BUC Specification

Parameter	200W	300W	400W
<b>RF Performance</b>			
RF Frequency Range	5.85-6.425GHz (other frequency options available)		
IF Frequency Range	950-1525MHz		
LO Frequency	4.9GHz		
Conversion	Single Conversion; non-inverting		
Saturated Power	53dBm/200W typ	55dBm/300W typ	56dBm/400W typ
Linear power	50dBm min	52dBm min	53dBm min
Conversion Gain	75dB min, 77dB typ		
Gain Flatness	+/-1dB typ +/-1.5dB max over full band; +/-0.5dB max over any 40MHz		
Gain Stability over temperature	+/-1.5dB over full temperature range		
Gain Stability over input power	3dB typ 4dB max from 10dB back off to rated power		
Gain Control	20dB min 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	-68dBc/Hz @ 100Hz; -80dBc/Hz @ 1kHz; -90dBc/Hz @ 10kHz -95dBc/Hz @ 100kHz -115dBc/Hz @ 1MHz		
Linearity: 2 tone IMD Spectral Re-growth	-24dBc at P linear -30dBc for QPSK at 1.5xsymbol rate at Plinear		
Noise Power Density: Transmit Band Receive Band	-85dBm/Hz max -148dBm/Hz max		
Output Spurious: Non-signal related Signal related	-60dBc -55dBc		
<b>Power</b>			
AC Voltage Range	190-265VAC 50-60Hz auto-ranging PFC		
Power Consumption at rated power	800W	1400W	1600W
Power Consumption at 3 dB back off	600W	1100W	1200W
<b>Mechanical</b>			
Size	4RU		
Weight	65lbs		
Cooling	Forced Air		
Operating temperature	0°C to +55°C		
Relative Humidity	Up to 99% non-condensing		
<b>Interfaces</b>			
IF Input Connector	N-type female rear panel		
RF Output Connector	CPR137 grooved rear panel		
RF Sample	N-type female front panel		
AC Power In	NEMA Connector rear panel		
M&C Interface-Serial, Analog and Ethernet	DSUB Connectors, RJ45 rear panel		
Redundant Interface	HD15 Connector rear panel		
<b>Part Numbering Information</b>			
	200W	300W	350W
IRT Part Number	IPB-CB00530-RMS0	IPB-CB00550-RMS0	IPB-CB00560-RMS0

Specifications are subject to change without notice

Rev.03

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