

***iPB™* SERIES SUPER HIGH POWER DENSITY 250W / 300W / 350W KU-BAND RACK MOUNT GAN POWERED BUC**



The IRT Technologies Intelligent Power Block-Up Converter *iPB™* Series is Smaller, lighter and more powerful 250W / 300W / 350W Ku-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 250W / 300W / 350W Ku-Band BUC *iPB™* Series are very compact, light and extremely powerful. Using patent pending Z-combining method and advanced GaN technology new IRT 250W / 300W / 350W Ku-Band Rack Mount BUC has truly outstanding power density - up to 350W Psat in 5RU light compact package. IRT 250W / 300W / 350W Ku-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 350W Psat in 19" Rackmount, 5RU only!
- Superior RF performance:
 - ✓ Phase Noise 5-8dB better than IESS308/309
 - ✓ High Linearity
 - ✓ Psat up to 55.5 dBm
 - ✓ Wide dynamic range of Gain Control
- RF Overdrive Protection
- Switchable LO - standard and Extended Ku-Band in one unit
- 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 250W/ 300W / 350W Ku-Band Rack Mount BUC Specification

Parameter	250W	300W	350W	
RF Performance				
RF Frequency Range-Available in/switched:		14-14.5GHz	13.75-14.5GHz	
IF Frequency Range		950-1450MHz	950-1700MHz	
LO Frequency		13.05GHz	12.8GHz	
Conversion		Single Conversion; non-inverting		
Saturated Power	54dBm/250W typ	55dBm/300W typ	55.5dBm/350W typ	
Linear power	51dBm min	52dBm min	52.5dBm 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; -95dBc/Hz @ 100kHz	-80dBc/Hz @ 1kHz; -115dBc/Hz @ 1MHz	-90dBc/Hz @ 10kHz
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		
Power				
AC Voltage Range		190-265VAC 50-60Hz auto-ranging PFC		
Power Consumption at rated power	1500W	1750W	2000W	
Power Consumption at 3 dB back off	1200W	1400W	1700W	
Mechanical				
Size		5RU		
Weight		65lbs		
Cooling		Forced Air		
Operating temperature		0°C to +55°C		
Relative Humidity		Up to 99% non-condensing		
Interfaces				
IF Input Connector		N-type female rear panel		
RF Output Connector		WR75 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		

Part Numbering Information

	250W	300W	350W
IRT Part Number	IPB-KXB0540-RMS0	IPB-KXB0550-RMS0	IPB-KXB0555-RMS0

Specifications are subject to change without notice

Rev.03

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