

Rack Mount 2000W Ku-Band BUC / SSPA

The IRT Intelligent Power Block-Up Converter Series is smaller, lighter and more powerful 2kW Ku-Band Rack Mount BUC. This series allows significant size and weight reduction and at the same time substantially improves thermal efficiency, which leads to higher reliability and longer MTBF.

Using patent pending Z-combining method and advanced GaN technology, this series has truly outstanding power density - up to 2kW Psat in 8RU light compact package.

The IRT 2kW 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.

Options

- Internal 10MHz reference (BUC)
- 10MHz reference auxiliary output option (BUC)
- Input and Output RF Sample port
- Automatic Level Control (ALC)



Features

- Extremely high power density - up to 2kW PSAT in 19" Rackmount, 8RU only!
- Superior RF performance:
 - o Phase noise 5-8dB better than IESS308/309
 - o High Linearity
 - o PSAT up to 63 dBm
 - o Wide dynamic range of Gain Control
 - Switchable LO - standard and Extended Ku-Band in one unit
 - Redundant Hot Swappable Power Supply
 - RF Overdrive Protection
 - 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
 - Redundant Ready - No external redundancy controller required
 - Built-in power metering
 - Full VSWR protection



2000W Ku-Band Indoor SSPA ■

RF Parameters		
RF Frequency Range-Available in/switched:	12.75-13.25GHz 14-14.5GHz 13.75-14.5GHz	
IF Frequency Range	950-1450MHz 950-1450MHz 950-1700MHz	
LO Frequency	11.8GHz 13.05GHz 12.8GHz	
Conversion	Single Conversion; non-inverting	
Saturated Power	63dBm/2KW typ	
Linear Power	60dBm min/1KW	
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	-25dBc at P linear
	Spectral Re-growth	-30dBc for QPSK at 1.5 x symbol rate at Plinear
Noise Power Density	Transmit Band	-85dBm/Hz max
	Receive Band	-148dBm/Hz max
Output Spurious:	Non-signal related	-60dBc
	Signal related	-55dBc
Power & Mechanical		
AC Voltage Range	190-265VAC 50-60Hz Auto-Ranging PFC	
Power Consumption	11.8KW (at rated power) 10.8KW (at 3 dB back off)	
Size	6RU SSPA + 2RU PSU	
Weight	90KG	
Cooling	Forced Air	
Operating Temperature / Relative Humidity	0°C to +50°C / 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, Ethernet	DSUB Connectors. RJ45 rear panel	
Redundant Interface	HD15 Connector rear panel	

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.