



EXTENDED TEMPERATURE RANGE SUPER COMPACT 40W / 50W KU-BAND GAN POWERED SSPA / BUC

The IRT Technologies powered by GaN technology PicoBUC® series BUC / SSPA are revolutionary in size, weight and power density designed to withstand extreme temperature range from **-55 °C** to **+70 °C** - PicoBUC® offers superior performance in an extremely compact package that can fit in your palm! Weighing at only 5.5lbs, our feature-rich GaN PicoBUC® is exceptionally powerful for its size: up to 50W Psat. Built in AC power supply provides the customer with the simplest and least expensive plug-into-the wall solution. IRT GaN PicoBUC® features best in class RF characteristics, embedded WG circulator, extensive monitor and control capabilities enabled via Ethernet, Serial and/or Analog Interfaces. PicoBUC®'s remarkably small size and low power consumption results in better heat extraction that leads to overall system size and cost reduction making it the ideal candidate for portable, mobile and VSAT on the move applications. Its small size and weight allows direct feed horn mounting, which makes it a most economical solution for fixed VSAT applications

KEY FEATURES

- 50W Output Power in this super-compact light weight package 6.5"x6.5"x4.3" only!
- Extended Temperature Range **-55°C** to **+70°C**
- Only 280W Power consumption at 50W output
- 200W power consumption at 3dB back off
- Superior RF performance:
 - ✓ Phase noise 6dB better than IESS308/309
 - ✓ High Linearity
 - ✓ Spurious below -60dBc
 - ✓ Wide dynamic range of Gain Control
- Switchable LO option - Standard and Extended Ku-Band in one unit
- RF overdrive protection
- Internal BUC 10 MHz Reference clock optional
- Output power measurement - True RMS detector optional
- Built In WG Circulator provides full output VSWR Protection
- Configuration via RS-232 serial console, packet protocol RS-485 - User friendly HTTP based GUI and SNMP optional
- 48VDC or 28VDC Isolated Power Supply
- Built in Auto-Ranging AC power supply optional
- Redundant ready with no external controller
- Field upgradable software
- Status LED
- Antenna Mounting kit optional
- RF Output Monitor Port Optional

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PicoBUC[®] Ext. Temp. 40W / 50W L- to Ku-Band Block-Up-Converter GaN Specification

Parameter	40W	50W
RF Performance		
RF Frequency Range-Available in/switched:	14-14.5GHz	13.75-14.5GHz
IF Frequency Range	950-1450MHz	950-1700MHz
LO Frequency (Switchable)	13.05GHz	12.8GHz
Conversion	Single Conversion; non-inverting	
Rated Power	46dBm nominal	47dBm nominal
Linear Power	43dBm min	44dBm min
Conversion Gain	72dB min, 75dB typ	
Gain Flatness	+/-1dB typ +/-1.5dB max over full band; +/-0.5dB max over any 40MHz	
Gain Stability	+/-1.5dB over full temperature range	
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
Up-Converter Phase Noise	-150dBc/Hz @ 10kHz	-155dBc/Hz @ 100 kHz
Linearity: 2 tone IMD	70dBc/Hz @ 100Hz; -80dBc/Hz @ 1kHz; -90dBc/Hz @ 10kHz	
Spectral Re-growth	-95dBc/Hz @ 100kHz -115dBc/Hz @ 1MHz	
Noise Power Density: Transmit Band	-24dBc at 3dB total power back off from rated power	
Receive Band	-30dBc at 6dB total power back off from rated power	
Output Spurious: Non-signal related	-30dBc for QPSK at 1.5xsymbol rate at 3dB back off from rated power	
Signal related	-85dBm/Hz max	
	-140dBm/Hz max	
	-60dBc	
	-55dBc	
Power		
48V DC Voltage Range	36-72VDC Isolated	
AC Voltage Range (optional)	90-265VAC 50-60Hz Auto-Ranging	
Power Consumption DC power In	225W at rated power; 160W at 3dB back off	260W at rated power; 200W at 3dB back off
AC power In	250W at rated power; 180W at 3dB back off	280W at rated power; 220W at 3dB back off
Mechanical		
Size	6.5" x 6.5" x 4.3"	
Weight	5.5lbs	
Cooling	Forced Air	
Operating temperature	-55°C to +70°C	
Relative Humidity	Up to 100% condensing	
Interfaces		
IF Input Connector	N-type female	
RF Output Connector	WR75 grooved	
AC Power In	MS3112E10-8P	
RS485-RS232-Ethernet-SNMP	MS3112E14-19S	
Part Numbering Information		
Power Supply Option	40W	50W
DC Isolated	TPB-KXB0460-RUG1	TPB-KXB0470-RUG1
AC Auto-Ranging	TPB-KXB0460-RUG0	TPB-KXB0470-RUG0

* Contact us for detailed ordering information at sales@irttechnologies.com

Rev.02

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