PicoBuc®

SUPER COMPACT 40W-50W Ku-BAND GaN SSPB

The new IRT Technologies GaN PICOBUC® series are revolutionary in size, weight and power density- 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

- 40W-50W Output Power in this super-compact light weight package 6.5"x6.5"x3.7" only!
- Only 250W Power consumption at 40W-50W output
- 180W 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

- 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
- Built in auto-ranging AC power supply
- 48VDC isolated power supply option
- User friendly hosted web GUI
- Field upgradable software
- Status LED

CONNECTING THE WORLD TOGETHER

40W-50W GaN Ku-Band Block-Up-Converter 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	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 -150dBc/Hz @ 10kHz -155dBc/Hz @ 100 kHz	
Up-Converter Phase Noise	70dBc/Hz @ 100Hz; -80dBc/Hz @ 1kHz; -90dBc/Hz @ 10kHz -95dBc/Hz @ 100kHz -115dBc/Hz @ 1MHz	
Linearity: 2 tone IMD Spectral Re-growth	-24dBc at 3dB total power back off from rated power -30dBc at 6dB total power back off from rated power -30dBc for QPSK at 1.5xsymbol rate at 3dB back off from rated power	
Output Spurious: Non-signal related Signal related	-60dBc -55dBc	
Power		
AC Voltage Range	90-265VAC 50-60Hz auto-ranging	
48V DC Voltage Range (optional)	40-55VDC Isolated	
Power Consumption AC power In DC power In	250W at rated power; 180W at 3dB back off 225W at rated power; 160W at 3dB back off	280W at rated power; 220W at 3dB back off 260W at rated power; 200W at 3dB back off
Mechanical		
Size	6.5"x6.5"x3.7"	
Weight	5.5lbs	
Cooling	Forced Air	
Operating temperature	-40°C to +60°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

	90-265 VAC Auto-ranging	48VDC Isolated
40W Ku-Band GaN SSPB	TPB-KXB0470-HMS0-R01	TPB-KXB0470-HMS1-R01
50W Ku-Band GaN SSPB	TPB-KXB0480-HMS0-R01	TPB-KXB0480-HMS1-R01

Rev-002

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