



PicoBUC®

SUPER COMPACT 80W / 100W C-BAND GAN BUC / SSPA



The IRT Technologies powered by GaN technology 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 6lbs, the C-band GaN PicoBUC® is the most powerful and feature rich for its size: Up to 100W Psat. Built in AC power supply provides the customer with the simplest and least expensive plug-into-the wall solution. IRT PicoBUC® features best in class RF characteristics, embedded output isolator, extensive monitor and control capabilities enabled via Ethernet, Serial and/or Analog Interfaces. PicoBUC® 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 mobile applications. Its small size and weight allows direct feed horn mounting, which makes it a most economical solution for fixed VSAT applications

KEY FEATURES

- Up to 100W Psat in this super-compact and light weight package 6.5"x6.5"x4" only!
- Ideal for feed horn mounting
- Superior RF Performance:
 - ✓ Phase noise 10dB better than IESS308/309
 - ✓ Psat of 49dBm Spurious below -60dBc
 - ✓ Wide dynamic range of Gain Control
 - ✓ High Linearity
- RF Overdrive Protection
- Available also in Super-Extended, Palapa and Insat C-Band Frequency Options.
- Internal / Autosense 10 MHz Reference Optional
- Low Power Consumption
- Built In Output Isolator provides full output VSWR Protection
- Output Power Measurement - True RMS Detector
- Configuration via RS-232 Serial Console, Packet Protocol RS-485 - User Friendly HTTP Based GUI and SNMP Optional
- 48VDC Isolated Power Supply
- Built in Auto-Ranging AC Power Supply Optional
- Field Upgradable Software
- Status LED
- Antenna Mounting Kit Optional
- Redundant ready with no need of external



80W / 100W L- to C-Band Block-Up-Converter GaN Specification

Parameter	80W	100W
RF Performance		
RF Frequency Range-Available in/switched	5.85-6.425GHz (other frequency options available)	
IF Frequency Range	950-1525MHz	
LO Frequency	4.9 GHz	
Conversion	Single Conversion; non-inverting	
Rated Power	49dBm	50dBm
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	-70dBc/Hz @ 100Hz; -95dBc/Hz @ 100kHz	-80dBc/Hz @ 1kHz; -115dBc/Hz @ 1MHz
Linearity: 2 tone IMD Spectral Re-growth	-25dBc 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 2dB back off from rated power	
Output Spurious: Non-signal related	-60dBc	
Signal related	-55dBc	
Power		
48V DC Voltage Range	36-72VDC Isolated	
AC Voltage Range (Optional)	90-265VAC 50-60Hz Auto-Ranging	
Power Consumption	DC Power In AC Power In	400W at rated power; 350W at 3dB b.o. 420W at rated power; 380W at 3dB b.o.
Mechanical		
Size	6.5"x6.5"x4"	6.5"x6.5"x4" (10.5 long with WG circulator)
Weight	6.0lbs	7.5lbs with WG circulator
Cooling	Forced Air	
Operating temperature	-40°C to +55°C	
Relative Humidity	Up to 100% condensing	
Interfaces		
IF Input Connector	N-type female	
RF Output Connector	CPR137 grooved	
AC Power In	MS3112E10-8P	
RS485-RS232-Ethernet-SNMP	MS3112E14-19S	
Part Numbering Information		
Power Supply Option	80W	100W
DC Isolated	TPB-CBD0490-HMS1	TPB-CBD0500-HMS1
AC Auto-ranging	TPB-CBD0490-HMS0	TPB-CBD0500-HMS0

Rev. 05