

PicoBUC®

SUPER COMPACT 8W / 10W / 20W KA-BAND BUC



The IRT Technologies 8W / 10W / 20W Ka-Band Block Up Converter PicoBUC® series are revolutionary in size and weight - PicoBUC® offers superior performance in an extremely compact package that can fit in your palm! Weighing at only 5.5lbs, the PicoBUC® is the most powerful and feature rich for its size: Up to 20W rated power. Built in optional 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, 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 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

- Up to 20W power in this super-compact and light weight package 8"x6.5"x4.5" only!
- Ideal for Feed Horn Mounting
- Superior RF performance:
 - ✓ Phase noise 3dB better than IESS308/309
 - ✓ Rated Power up 43dBm
 - ✓ Spurious below -60dBc
 - ✓ Wide dynamic range of Gain Control
- Integrated L-Band to Ka-Band Up Converter
- Switchable LO option – Commercial and Military Ka-Band in One Unit
- Internal 10 MHz Reference Clock Optional
- Low Power Consumption
- DC via IF Optional
- 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
- Redundant Ready with No Need of External Redundancy Controller
- Field Upgradable Software
- Status LED
- Antenna Mounting Kit Optional

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8W / 10W / 20W L- to Ka-Band Block-Up-Converter Specification

| Parameter | 8W | 10W | 20W |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------|
| RF Performance | | | |
| RF Frequency Range-Available in/switched: | 29 -30GHz | | 30-31GHz |
| IF Frequency Range | 1000-2000MHz | | |
| LO Frequency | 28GHz | | 29GHz |
| Conversion | Single Conversion; non-inverting | | |
| Saturated Power | 39.5dBm typ | 40.5dBm typ | 43.5dBm typ |
| Rated Power | 39.0dBm min | 40.0dBm min | 43.0dBm min |
| Linear Power | 36.0dBm min | 37.0dBm min | 40.0dBm min |
| Conversion Gain | 65dB min, 68dB 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 | -63dBc/Hz @ 100Hz; -73dBc/Hz @ 1kHz; -83dBc/Hz @ 10kHz -93dBc/Hz @ 100kHz -110dBc/Hz @ 1MHz | | |
| Linearity: 2 tone IMD Spectral Re-growth | -22dBc at Plinear -26dBc 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 | | | |
| 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 | 90W typ | 100W typ | 200W typ |
| Mechanical | | | |
| Size | 5.75"x4.5"x3.25" | | 8"x6.5"x4.5" |
| Weight | 4lbs | | 5.5lbs |
| Cooling | Passive, convectional | | 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 | WR28 grooved | | |
| AC Power In | MS3112E10-8P | | |
| RS485-RS232-Ethernet-SNMP | MS3112E14-19S | | |
| Part Numbering Information | | | |
| Power Supply Option | 8W | 10W | 20W |
| DC Isolated | TPB-KAB0390-HMA1 | TPB-KAB0400-HMA1 | TPB-KAB0430-HMA1 |
| AC Auto-ranging | N/A | TPB-KAB0400-HMA0 | TPB-KAB0430-HMA0 |

*Specifications are subject to change without prior notice

Rev.02

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