

# PicoBUC® SUPER COMPACT

## 16W/20W/25W KU-BAND BUC/SSPA

The IRT Technologies PicoBUC® Series are revolutionary in size and weight - PicoBUC® offers superior BUC / SSPB / SSPA performance in an extremely compact package that can fit in your palm! Weighing at only 8.5lbs, the PicoBUC® is the most powerful and feature rich for its size: Up to 30W Psat.

Built in AC power supply provides the customer with the simplest and least expensive plug-into-the wall solution. IRT PicoBUC® features 16W / 20W / 25W output power and best in class RF characteristics, embedded WG circulator, 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 25W P1dB / 30W Psat
- Ideal for Feed Horn Mounting
- Superior RF performance
- Switchable LO option - Standard and Extended Ku-Band in one unit
- Internal / Autosense 10 MHz Reference Optional
- Low power consumption
- Built In WG Circulator 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 / 24VDC isolated power supply optional
- Built in auto-ranging AC power supply optional
- Redundant ready with no need of external controller
- Field upgradable software
- Status LED
- Antenna Mounting kit optional

### RF PERFORMANCE

|                                           |                                                                     |
|-------------------------------------------|---------------------------------------------------------------------|
| RF Freq. 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                                    |
| <b>Output Power at 1dB compression pt</b> |                                                                     |
| 16W                                       | 42dBm min                                                           |
| 20W                                       | 43dBm min                                                           |
| 25W                                       | 44dBm min                                                           |
| <b>Saturated Power</b>                    |                                                                     |
| 16W                                       | 43dBm typ                                                           |
| 20W                                       | 44dBm typ                                                           |
| 25W                                       | 45dBm typ                                                           |
| 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 temp.range                                |
| Gain Control                  | 20dB min dynamic range                                       |
| External Reference Frequency  | 10MHz multiplexed with IF In                                 |
| External Reference Required   | -130dBc/Hz @ 100Hz                                           |
| Phase Noise                   | -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                                            |
| <b>Linearity:</b>             | -25dBc at 3dB total power                                    |
| 2 tone IMD Spectral Re-growth | back off from P1dB                                           |
|                               | -30dBc for QPSK at 1.5xsymbol rate at 2dB back off from P1dB |
| <b>Noise Power Density:</b>   |                                                              |
| Transmit Band                 | -85dBm/Hz max                                                |
| Receive Band                  | -140dBm/Hz max                                               |
| <b>Output Spurious:</b>       |                                                              |
| Non-signal related            | -60dBc                                                       |
| Signal related                | -55dBc                                                       |

### POWER

|                             |                                                  |
|-----------------------------|--------------------------------------------------|
| 48V DC Voltage Range        | 36-72VDC Isolated / 24-75VDC Isolated (optional) |
| AC Voltage Range (optional) | 90-265VAC 50-60Hz Auto-Ranging                   |
| <b>Power Consumption</b>    |                                                  |
| DC power in/AC power in     |                                                  |
| 16W                         | 135W/150W                                        |
| 20W                         | 160W/180W                                        |
| 25W                         | 200W/180W                                        |



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## 16W/20W/25W KU-BAND BUC/SSPA

### MECHANICAL

|                       |                       |
|-----------------------|-----------------------|
| Size                  | 6.38" x 7.53" x 4.16" |
| Weight                | 8.5lbs                |
| 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       | WR75 grooved  |
| AC Power In               | MS3112E10-8P  |
| RS485-RS232-Ethernet-SNMP | MS3112E14-19S |

### PART NUMBERING INFORMATION

#### DC Isolated

|     |                  |
|-----|------------------|
| 16W | TPB-KXB0420-HMA1 |
| 20W | TPB-KXB0430-HMA1 |
| 25W | TPB-KXB0440-HMA1 |

#### AC Auto-ranging

|     |                  |
|-----|------------------|
| 16W | TPB-KXB0420-HMA0 |
| 20W | TPB-KXB0430-HMA0 |
| 25W | TPB-KXB0440-HMA0 |

