

## Overview

**Ka band PicoBUC® family from IRT Technologies** is the breakthrough in satellite communication market due **the unprecedented Quad-Band/Quad LO in unit**, compact package, lightweight and superior performance.

**Ka-Band PicoBUC® family provides up to 40W maximum output power in ultra-compact package powered by GaN technology.** IRT PicoBUC® features best in class RF characteristics, embedded output isolator, extensive monitor and control capabilities, enabled via Ethernet, Serial and/or Analog Interfaces.

**Low power consumption and smart heat extraction technology lead to ultra-compact design and great cost reduction.** PicoBUC® remarkably compact size and high thermal efficiency results in overall system size and cost reduction making it the ideal candidate for mobile DSNG and fixed medium earth station applications.



## Key Features

- **Quad Band in one unit-switchable LO**
  - 27-28GHz; 28-29GHz; 29-30GHz and 30-31GHz **All in one unit.**
- **Ultra – compact design and light weight for up to 40W output power**
  - Lightweight design: 12lbs at 20W and 28lbs 40W
  - Compact package: 9"x5.4"x4" 20W and 11"x10.75"x4.3" at 40W
- **Superior RF performance**
  - Superior Phase Noise: 8 dB better than IESS308/309 recommendation
  - Spurious emission below -60 dBc
  - Wide range Gain Control
  - Highest Linearity at small back – off
- **Extensive M&C capability**
  - Serial: RS 232 & RS 485
  - Ethernet: embedded Web browser (HTTP) & SNMP support
- **Input and output True RMS power detection**
- **Field upgradable software**
- **Redundancy ready with no need of external controller**
- **Status LED**
- **Analogue Interface**

## Options & Accessories

- **Internal 10 MHz Reference clock**
- **Autosense 10 MHz Reference clock**
- **Built in auto – ranging AC power supply (90 – 230 V AC)**
- **ALC option**
- **Antenna Mounting kit**
- **1:1 and 1:2 Redundancy Kit**
- **Remote Control Panel**

## 20W – 40W Ka band Outdoor SSPB Technical Specification

### RF Parameters

Output Frequency <i>Quad Band</i> , GHz	27-28 / 28-29 / 29-30 / 30-31
Input L band Frequencies, MHz	950-1950
Conversion Gain, dB	60 minimum, 62 typical
Gain Flatness, dB	+/-1.5 typical +/-2.0 maximum over full band +/-0.5 maximum over any 40MHz
Gain Stability, dB	+/-1.5 maximum over full temperature range
Gain Control, dB	20dB minimal dynamic range
<b>Linearity at Pout=Plin:</b> <b>2 tone IMD</b> Spectral Re-growth	-24dBc max -26dBc for QPSK at 1 x symbol rate
Input Impedance, Ohm	50
Input/Output VSWR	1.4 : 1 / 1.3 : 1
Noise Power Density, dBm/Hz	-70 in Transmit Band, -145 in Receive Band (10.7 GHz – 12.8 GHz)
Spurious Emission dBc; Non-signal related Signal related(at Plin)	-60 / -55 max
AM/PM conversion at Plinear, °/dB	1.5 maximum
Group Delay	Ripple 1 nsec p-p max over any 40 MHz band

### BUC Parameters

LO Frequency, switchable, GHz	26.05 / 27.05 / 28.05 / 29.05
Type of Conversion	Single conversion, non – inverting
External 10 MHz Frequency	Over IF L band cable with multiplexing
Phase Noise, dBc/Hz	-63 @ 100Hz; -73 @ 1kHz; -83 @ 10kHz -93 @ 100kHz -110 @ 1MHz

### Power

AC Voltage Range	90 – 265V AC 50 – 60Hz auto – ranging
DC Voltage Range	36-75VDC isolated; other options available

### Mechanical & Environment

Size 20W/40W	9"x5.4"x4" / 11.2"x10.75"x4.3"
Weight 20W/40W	12lbs / 28lbs
Cooling	Forced Air
Operating temperature / Relative Humidity	-40°C .. +60°C / Up to 100% condensing

### Interfaces

IF Input Connector	N – type female
RF Output Connector	WR28 Grooved
AC Power In	MS3112E12 – 3P
RS485 – Ethernet – SNMP	MS3112E14 – 19S

IRT Part Number	Output Power (W)	Psat (dBm/W)	Plinear (dBm/W)	P Cons at Prated	P Cons at Plin
TPB-KAX0430-HMS X*	<b>20W</b>	43/20	40/10	180W	130W
TPB-KAX0460-HMS X*	<b>40W</b>	46/40	43/20	240W	210W

Specifications are subject to change without notice