PicoBUC® EXTENDED TEMPERATURE RANGE
SUPER COMPACT 40W / 50W
KU-BAND GAN POWERED SSPA / BUC

The IRT Technologies powered by GaN technology PicoBUC® series BUC / SSPA are revolutionary in size, weight and power density designed to withstand extreme temperature range from -55 oC to +70 oC - PicoBUC® offers superior performance in an extremely compact package that can fit in your palm! Weighting 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

- 50W Output Power in this super-compact
- Extended Temperature Range -55 C to +70 C
- Only 280W Power consumption at 50W output
- 200W power consumption at 3dB back off
- Superior RF performance
- Switchable LO option
- Internal BUC 10 MHz Reference clock optional
- 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
- 48VDC or 28VDC Isolated Power Supply
- Built in Auto-Ranging AC power supply optional
- Redundant ready with no external controller
- Field upgradeable software
- Status LED
- Antenna Mounting kit optional
- RF Output Monitor Port Optional

RF PERFORMANCE (1/2)
RF Freq. Range-Available in/switched
14.14.5GHz / 13.75-14.5GHz
IF Frequency Range
950-1450MHz / 950-1700MHz
LO Frequency (Switchable) Conversion
13.05GHz / 12.8GHz
Single Conversion; non-inverting

Rated Power

40W
50W
46dBm nominal / 47dBm nominal
43dBm min / 44dBm min

Linear power
72dB min, 75dB typ
+/1dB typ /+/-15dB max over full band
+/0.5dB max over any 40MHz
+/1.5dB over full temp. range

Conversion Gain

Gain Flatness

Gain Stability

Gain Control
20dB min dynamic range

External Reference Frequency
10MHz multiplexed with IF In

External Reference Required
-130dBc/Hz @ 100Hz
-140dBc/Hz @ 1kHz
-150dBc/Hz @ 10kHz
-155dBc/Hz @ 100 kHz

Phase Noise
-70dBc/Hz @ 100Hz;
-80dBc/Hz @ 1kHz;
-90dBc/Hz @ 10kHz
-95dBc/Hz @ 100kHz
-115dBc/Hz @ 1MHz

Up-Converter Phase Noise

POWER

48V DC Voltage Range
36-72VDC Isolated
AC Voltage Range
90-265VAC 50-60Hz auto-ranging PFC

Power Consumption DC Power In
40W
225W at rated power
50W
220W at 3dB back off

Power Consumption AC Power In
40W
250W at rated power;
50W
280W at 3dB back off

MECHANICAL

Size
6.5" x 6.5" x 4.3"

Weight
5.5lbs

Cooling
Forced Air

Operating Temperature
-55 C to +80 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 40W
TPB-KXB0460-RUG1

DC Isolated 50W
TPB-KXB0460-RUG1

AC Auto-Ranging 40W
TPB-KXB0460-RUG0

AC Auto-Ranging 50W
TPB-KXB0470-RUG0