



EUROSATCOM
VSATECH ASSOCIÉ

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 °C to +70 °C - PicoBUC® offers superior performance in an extremely compact package that can fit in your palm! Weighing 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 upgradable 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)	13.05GHz / 12.8GHz
Conversion	Single Conversion; non-inverting
	40W 50W
Rated Power	46dBm nominal 47dBm nominal
Linear power	43dBm min 44dBm min
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 -140dBc/Hz @ 1kHz -150dBc/Hz @ 10kHz -155dBc/Hz @ 100 kHz
Phase Noise	
Up-Converter Phase Noise	-70dBc/Hz @ 100Hz; -80dBc/Hz @ 1kHz; -90dBc/Hz @ 10kHz -95dBc/Hz @ 100kHz -115dBc/Hz @ 1MHz

RF PERFORMANCE (2/2)

Linearity:	-24dBc at 3dB total power back off from rated power
2 tone IMD Spectral Re-growth	-30dBc at 6dB total power back off from rated power
Noise Power Density:	
Transmit Band	-85dBm/Hz max -140dBm/Hz max
Output Spurious:	
Non-signal related	-60dBc
Signal related	-55dBc

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 160W at 3dB back off
50W	260W at rated power; 200W at 3dB back off
Power Consumption AC Power In	
40W	250W at rated power; 180W at 3dB back off
50W	280W at rated power; 220W 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-KXB0470-RUG1
AC Auto-Ranging 40W	TPB-KXB0460-RUG0
AC Auto-Ranging 50W	TPB-KXB0470-RUG0



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