

PicoBUC® SERIES SUPER COMPACT 16W / 100W X-BAND BUC

The IRT Technologies X-Band 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 6lbs, the new PicoBUC® is the most powerful and feature rich for its size: Up to 100W Psat. Built in 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, embedded output isolator, 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. 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 100W Psat in this super-compact and light weight package 6.5»x6.5»x4.5» only!
- Ideal for feed horn mounting
- Superior RF performance:
- Phase noise 10dB better than IESS308/309
P1dB of 44dBm min
Spurious below -60dBc
Wide dynamic range of Gain Control
Integrated L-Band to X-Band up converter
Internal 10 MHz Reference clock optional
- Low power consumption
- Built In Output Isolator provides full output VSWR Protection
- 16-100W levels available in GaAs OR GaN version
- 16-25W GaN version is available in a smaller package - 5.8»x5.2»x3.5» only
- 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
- Field upgradable software
- Status LED
- Antenna Mounting kit optional
- Redundant ready with no need of external controller

RF PERFORMANCE (1/2)

RF Frequency Range-Available in/switched	7.9-8.4GHz
IF Frequency Range	950-1525MHz
LO Frequency	6.95 GHz Single Conversion; non-inverting
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 temperature 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

RF PERFORMANCE (2/2)

Up-Converter Phase Noise	-70dBc/Hz @ 100Hz; -80dBc/Hz @ 1kHz; -90dBc/Hz @ 10kHz -95dBc/Hz @ 100kHz -115dBc/Hz @ 1MHz
Linearity: 2 tone IMD Spectral Re-growth	-26dBc at 3dB total power back off from P1dB -30dBc for QPSK at 1.5 x symbol rate at 2dB back off from P1dB
Output Spurious:	
Non-signal related	-60dBc
Signal related	-55dBc

POWER

48V DC Voltage Range	32-72VDC Isolated
AC Voltage Range (Optional)	90-265VAC 50-60Hz auto-ranging

MECHANICAL

Size	6.5»x6.5»x4.5»
Weight	6lbs
Cooling	Forced Air
Operating temperature	-40° C to +60° C
Relative Humidity	Up to 100% condensing

INTERFACES

IF Input Connector	N-type female
RF Output Connector	CPR112 Grooved
AC Power In	MS3112E12-3P
RS485-RS232-Ethernet-SNMP	MS3112E14-19S



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IRT Part Number	Output Power (W)	Psat (dBm/W)	P1dB (dBm/W)	Plinear (dBm/W)	P Cons at Prated	P Cons at Plin	GaAs/GaN
TPB-XB00420-HMA X*	16W	43/20	42/16	39/8	120W	100W	GaAs
TPB-XB00440-HMA X*	25W	45/30	44/25	41/12	140W	120W	GaAs
TPB-XB00460-HMA X*	40W	47/50	46/40	43/20	190W	150W	GaAs
TPB-XB00480-HMS X*	60W	48/60	N/A	45/30	300W	240W	GaN
TPB-XB00490-HMS X*	80W	49/80	N/A	46/40	320W	270W	GaN
TPB-XB00490-HMS X*	100W	50/100	N/A	47/50	340W	300W	GaN

