Super Compact 16W-65W Ku-Band GaN BUC / SSPA

The IRT 20W-65W BUC / SSPB / SSPA powered by GaN technology super compact series are revolutionary in size, weight and power density. This series offers superior performance in an extremely compact package that can fit in your palm! Weighing at only 2KG, our feature-rich GaN unit is exceptionally powerful for its size: up to 65W Psat.

IRT GaN super compact features best in class RF characteristics, embedded WG circulator, extensive monitor and control capabilities enabled via Ethernet, Serial and/or Analog Interfaces. This series 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.

Options

- Internal / Autosense 10Mhz reference
- True RMS detector
- Antenna Mounting kit

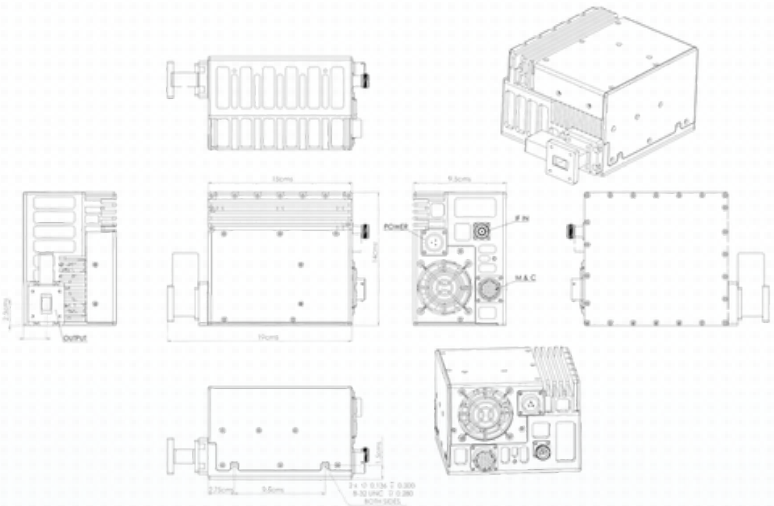
Features

- Up to 65W PSAT Output Power in this super-compact light weight package 14x15x9.5cms
- Only 290W power consumption at 60W output
- 200W power consumption at 3dB back off
- Switchable LO - Standard and Extended Ku-Band in one unit
- RF overdrive protection
- Status LED
- Superior RF performance:

o Phase noise 6dB better than IESS308/309
o High Linearity
o Spurious below-60dBc
o Wide dynamic range of Gain Control

- Output power measurement
- Built in WG Circulator provides full output VSWR Protection
- Configuration via RS-232 serial console, packet protocol
- RS-485 and User friendly Ethernet HTTP based GUI and SNMP support
- Redundancy Ready - No external redundancy controller required
- Field Replaceable Fans
- Field upgradable software

Outline



16W – 65W Ku band Outdoor SSPA/SSPB Technical Specification		
Output Frequency Band		14-14.5GHz / 13.75-14.5GHz / 12.75–13.25GHz
IF Frequency Rage		950-1450MHz / 950-1700MHz
LO Frequency		13.05GHz / 12.8GHz / 11.8GHz
Conversion		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 Phase Noise		-130dBc/Hz @100Hz -140dBc/Hz @ 1kHz -150dBc/Hz @ 10kHz -155dBc/Hz @ 100kHz
Up-Converter Phase Noise		-70dBc/Hz@ 100Hz -80dBc/Hz @ 1kHz -90dBc/Hz @ 10kHz -95dBc/Hz @ 100kHz -115dBc/Hz @ 1MHz
Linearity:	2 tone IMD	-25dBc at 3dB total power back off from rated power -30dBc at 6dB total power back off from rated power
	Spectral Re-growth	-30dBc for QPSK at 1.5 x symbol rate at 2dB back off from rated power
Noise Power Density:	Transmit Band	-85dBm/Hz max
	Receive Band	-140dBm/Hz max
Output Spurious:	Non-signal related	-60dBc
	Signal related	-55dBc

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-KXB0420-HMA X*	16W	43 / 20	42 / 16	39 / 8	135W	110W	GaAs
TPB-KXB0430-HMA X*	20W	44 / 25	43 / 20	40 / 10	180W	160W	GaAs
TPB-KXB0440-HMA X*	25W	45 / 30	44 / 25	41 / 12	220W	190W	GaAs
TPB-KXB0460-HMS X*	40W	46 / 40	N/A	43 / 20	225W	160W	GaN
TPB-KXB0470-HMS X*	50W	47 / 50	N/A	44 / 25	250W	200W	GaN
TPB-KXB0480-HMS X*	65W	48.1 / 65	N/A	45.1 / 32.5	260W	200W	GaN

Power & Mechanical				
48VDC / 28VDC Voltage Range	36-72VDC Isolated / 24-36VDC Isolated (optional)			
AC Voltage Range (optional)	90-265VAC 50-60Hz Auto-Ranging			
Power Consumption DC power in (@ Psat / @ Plin)	160W typ. / 100W typ.	225W typ. / 160W typ.	280W typ. / 220W typ.	290W typ. / 230W typ.
Size	14 x 15 x 9.5cms (14 x 19 x 9.5cms with External Output Circulator)			
Weight	2KG			
Cooling	Forced Air			
Operating Temperature / Relative Humidity	-40°C to +55°C / Up to 100% condensing			

Options	
Transmit Key Line	Transmit Key Line (iDirect X7 compatible)
Low Ku-Band RF Output	12.75-13.25GHz (20W-50W Output Power Only)
EIRP Power Indication	Using an Antenna Gain and IFL Calculation

Interfaces	
IF Input Connector	N-type Female
RF Output Connector	WR75 grooved
AC Power In	MS3112E12-3P
RS485 – Ethernet – SNMPv3	MS3112E14-19S

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.
Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.

ETL Systems Ltd, Coldwell Radio Station,
Madley, Hereford, England HR2 9NE
info@etlsystems.com
+44 (0)1981 259020