



IBUC 2G 80W GaN Ku-Band Intelligent Block Upconverter

IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

GaN amplifier technology enables compact size and high efficiency.

Integral AC power supply.

Internal 10MHz reference option automatically switches to internal reference when external reference is not detected.

Low phase noise exceeds IESS308/309 requirements by a minimum of 5 dB.

NMS-friendly interfaces enable remote management of your earth station RF.

Embedded Web pages provide management for small networks using any Web browser.

AGC or ALC circuits hold gain or output level constant.

30 dB User-adjustable gain in 0.1 dB steps preserves modem dynamic range.

Advanced user interfaces:

- TCP/IP HTTP with embedded Web pages via RJ45 user interface connector
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable
- RS232/485 serial port
- Hand-held terminal



The revolutionary **IBUC 2G** has advanced features and a Gallium Nitride (GaN) amplifier for increased efficiency.

IBUC 2G offers significant benefits:

- Low terminal cost
- Simple design and installation
- Superior RF performance
- Simplified 1+1 configuration
- Compact, light-weight package

New interfaces connect you to extensive M&C facilities for network management or local access. This powerful new M&C enables:

- **Trouble-free commissioning** with easy, point-and-click installation/configuration
- Continuous **verification** of performance with time-stamped alarm history
- Simplified **monitoring** of terminal status

The **IBUC 2G** comes with a complete set of diagnostic tools including:

- 10 MHz input detector
- Input voltage and current monitoring
- Transmit L-band input level detector
- Transmit RF output level detector
- User configurable thresholds and alarms

Unique to the **IBUC** are internal AGC and ALC functions that satisfy demanding applications with stringent specifications.

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IBUC 2G - 80W GaN Ku-Band Intelligent Block Upconverter

Frequency range	RF	IF	SSB Phase Noise	External reference	IBUC
Band 1 Std Ku-Band	14.00 to 14.50 GHz	950 to 1450 MHz	10 Hz	-115 dBc/Hz	-50 dBc/Hz
Band 2 Full Ku-Band	13.75 to 14.50 GHz	950 to 1700 MHz	100 Hz	-140 dBc/Hz	-75 dBc/Hz
			1 kHz	-150 dBc/Hz	-85dBc/Hz
			10 kHz	-155 dBc/Hz	-90 dBc/Hz
			100 kHz	n/a	-95 dBc/Hz
			1 MHz	n/a	-110 dBc/Hz
Input			External Reference (multiplexed on TX IFL)		
VSWR / Impedance	1.5:1 max / 50 Ohm		Frequency	10 MHz	
Input Connector	Type N female (50 Ohm)		Level	-12 to +5 dBm	
Input Connector options	Type F (75 Ohm), TNC (50 Ohm)		Internal Reference - optional		
Input power detector	-55 to -20 dBm		Local Oscillator Frequency		
			Sense	Non-Inverting	
			Band 1	13050 MHz	
			Band 2	12800 MHz	
			IBUC Power Supply		
			Voltage	AC	100 to 240 VAC
			Power Consumption		<u>80W</u>
				at P _{lin}	480 VA
				at P _{sat}	580 VA
			Monitor and Control		
			Ethernet (HTTP, Telnet, SNMP) via RJ45 connector,		
			RS232/485, Hand-held Terminal via MS-type connector,		
			FSK multiplexed on TX IFL.		
			Environmental		
			Operating temperature	-40°C to +55°C	
			Relative humidity	100% condensing	
			Altitude	10,000 ft., (3,000 m) ASL	
			Mechanical		
			Size	10.5 x 6 x 6.1 in. (not including isolator)	
				267 x 152 x 155 mm	
			Weight	13.5 lbs, 6.1 kg	
Gain					
Small Signal Gain (L-band to RF) with attenuator set to 0 dB					
80W	80 dB min				
Attenuator range	30 dB variable in 0.1 dB steps				
Gain flatness					
Full band	4 dB p-p max				
36 MHz	1.5 dB p-p max				
1 MHz	0.25 dB p-p				
Gain variation over temperature					
Open loop	3 dB p-p max				
With AGC	1 dB p-p max				
RF Output					
Interface	WR75 cover with groove				
VSWR	1.3:1 max				
Output power	<u>80W</u>				
P _{sat} (typ)	+49 dBm				
P _{lin} (min).	+48 dBm				
P _{lin} is the maximum linear power as defined by MIL STD 188-164B					
Level stability with ALC	±0.5 dB				
Output power detector range	Rated power to -20 dB				
Power reading accuracy	±1.0 dB max.				
Spurious @ P _{lin}					
In Band	-65 dBc				
Out of Band	Complies with EN 301 428/430 and MIL-STD 188-164B				
Harmonics @ P _{lin}	-60 dBc max.				
Output Noise Power Density					
	TX < -75 dBm/Hz				
	RX < -145 dBm/Hz				

Specifications are subject to change without notice.

IBUC 2G Ku-Band Data Sheet 2/29/16



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