



IBUC 2G

50W / 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 modern 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.

For additional information contact Terrasat Sales at +1 408-782-5911 or by Email: Sales@Terrasatinc.com.
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IBUC 2G - 50W / 80W GaN Ku-Band Intelligent Block Upconverter

Frequency range	RF	IF	SSB Phase Noise	External reference	IBUC 2G
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
Band 3 Low Ku-Band	12.75 to 13.25 GHz	950 to 1450 MHz	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		
Gain			Sense Non-Inverting		
Small Signal Gain (L-band to RF) with attenuator set to 0 dB			Band 1 13050 MHz		
50W (Bands 1 & 2)	78 dB min		Band 2 12800 MHz		
80W (All Bands)	80 dB min		Band 3 11800 MHz		
Attenuator range 30 dB variable in 0.1 dB steps			IBUC Power Supply		
Gain flatness			Voltage		
Full band	4 dB p-p max		DC 48 ± 11V AC 100 to 240 VAC		
36 MHz	1.5 dB p-p max		Power Consumption @ P _{lin} / P _{sat}		
1 MHz	0.25 dB p-p		50W (Bands 1 & 2) 280W / 320W 310 VA / 350		
Gain variation over temperature			80W (All Bands) N/A 550 VA / 580		
Open loop	3 dB p-p max		Monitor and Control		
With AGC	1 dB p-p max		Ethernet (HTTP, Telnet, SNMP) via RJ45 connector,		
RF Output			RS232/485, Hand-held Terminal via MS-type connector,		
Interface	WR75 cover with groove		FSK multiplexed on TX IFL.		
VSWR	1.3:1 max		Environmental		
Output power	50W (Bands 1 & 2)	80W (All Bands)	Operating temperature -40°C to +55°C		
P _{sat} (typ)	+47 dBm	+49 dBm	Relative humidity 100% condensing		
P _{lin} (min)	+45 dBm	+48 dBm	Altitude 10,000 ft., (3,000 m) ASL		
P _{lin} is the maximum linear power as defined by MIL STD 188-164B			Mechanical		
Level stability with ALC ±0.5 dB			Size 10.5 x 6 x 6.1 in. (not including isolator)		
Output power detector range Rated power to -20 dB			267 x 152 x 155 mm		
Power reading accuracy ±1.0 dB max.			Weight 13.5 lbs, 6.1 kg		
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 < -76 dBm/Hz					
RX < -145 dBm/Hz					

Specifications are subject to change without notice.

IBUC 2G Ku-Band Data Sheet 8/22/18



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