



Terrasat **IBUC 2G** 100W GaN X-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 10 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.

Output sample port included.

Advanced user interfaces:

- TCP/IP HTTP with embedded Web pages
- 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.

Terrasat **IBUC 2G** - 100W GaN

X-Band Intelligent Block Upconverter

Frequency range		RF	IF		
X-Band		7900 to 8400 MHz	950 to 1450 MHz		
Input					
VSWR / Impedance		1.5:1 max / 50 Ohm			
Input Connector		Type N female (50 Ohm)			
Input Connector options		Type F (75 Ohm), TNC (50 Ohm)			
Input power detector		-55 to -20 dBm			
Gain					
Small Signal Gain (L-band to RF) with attenuator set to 0 dB					
100W		81 dB min			
Attenuator range				30 dB variable in 0.1 dB steps	
Gain flatness					
Full band		3 dB p-p max			
36 MHz		1 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		CPR-112G			
VSWR		1.3:1 max			
Output power 100W					
P _{sat} (typ)		+50 dBm			
P _{lin} (min)		+47 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 MIL-STD 188-164B			
Harmonics @ P _{lin}		-60 dBc max.			
Output Noise Power Density					
TX		< -77 dBm/Hz			
RX		< -77 dBm/Hz without receive reject filter			

SSB Phase Noise		External reference	IBUC
10 Hz		-115 dBc/Hz	-55 dBc/Hz
100 Hz		-140 dBc/Hz	-80 dBc/Hz
1 kHz		-150 dBc/Hz	-90 dBc/Hz
10 kHz		-155 dBc/Hz	-95 dBc/Hz
100 kHz		N/A	-100 dBc/Hz
1 MHz		N/A	-110 dBc/Hz
External Reference (multiplexed on TX IFL)			
Frequency		10 MHz	
Level		-12 to +5 dBm	
Internal Reference - optional			
Local Oscillator Frequency			
		6950 MHz	
Sense		Non-Inverting	
IBUC Power Supply			
Voltage	AC	100 to 240 VAC	
Power Consumption		P _{sat}	P _{lin}
100 W		520 VA	440 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		

Specifications are subject to change without notice.

IBUC 2G 100W X-Band Data Sheet 7/4/15

