TERRASAT Communications, Inc.

IBUC2 G
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.

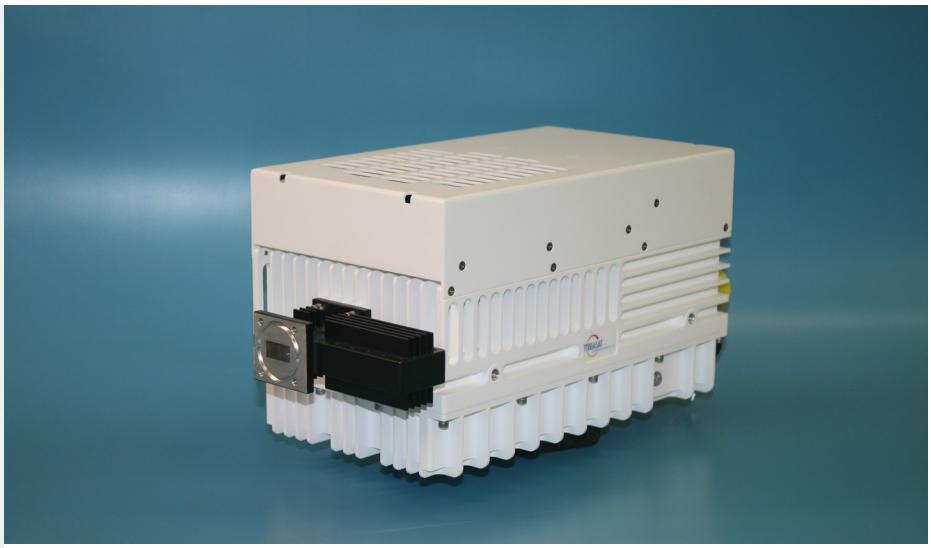
Embedded Web pages provide management for small networks using any Web browser.

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.

IBUC2G - 80W GaN
Ku-Band Intelligent Block Upconverter

Frequency range	RF	IF
Band 1 Std Ku-Band	14.00 to 14.50 GHz	950 to 1450 MHz
Band 2 Full Ku-Band	13.75 to 14.50 GHz	950 to 1700 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

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	80W
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

SSB Phase Noise	External reference	IBUC
10 Hz	-115 dBc/Hz	-50 dBc/Hz
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

External Reference (multiplexed on TX IFL)

Frequency	10 MHz
Level	-12 to +5 dBm

Internal Reference - optional

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	80W
at P_{lin}	550 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