



## IBUC 2e

### C-Band Intelligent Block Upconverter Low Energy Consumption Model

#### IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

Low energy consumption for use with Modems equipped with limited capacity BUC power supplies. DC power supplied via IFL coax.

High linearity.

Low phase noise better than IESS308/309 requirements by a minimum of 10 dB.

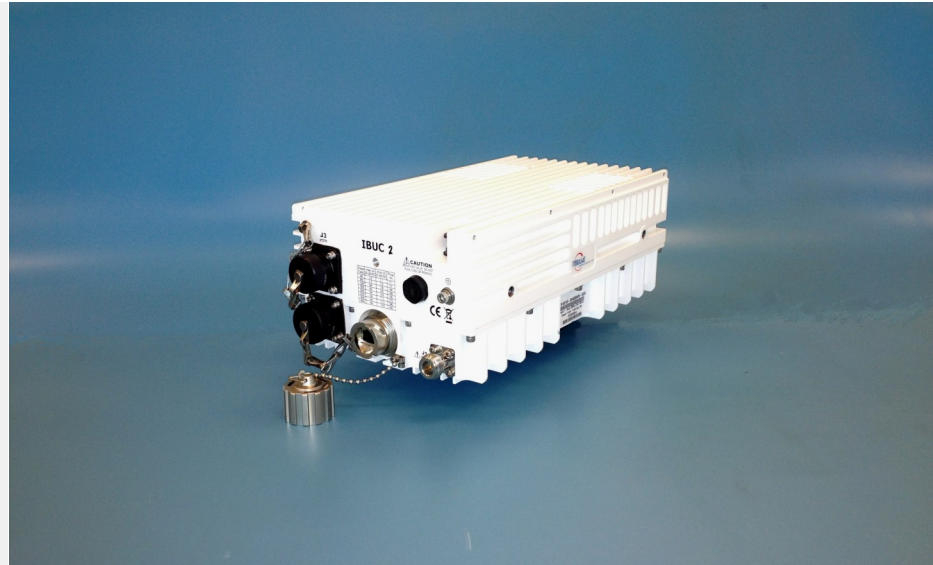
Embedded Web pages provide management for small networks using any Web browser.

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 RJ-45 connector
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable
- RS232/485 serial port
- Hand-held terminal



**IBUC 2** offers significant benefits:

- High performance in a compact, cost effective package
- Simple design and installation
- Simplified 1+1 configuration

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

**IBUC 2** 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.

# IBUC 2e

## C-Band Intelligent Block Upconverter

### Low Energy Consumption Model

Frequency range	RF (MHz)	IF (MHz)	
Sense		Inverting	Non-Inverting
Band 1 Std C	5850 to 6425	950 to 1525	950 to 1525
Band 2 Palapa	6425 to 6725	975 to 1275	1125 to 1425
Band 3 INSAT	6725 to 7025	1150 to 1450	n/a
Band 4 Ext C	5850 to 6650	950 to 1750	950 to 1750
Band 5 Full C	5850 to 6725	975 to 1850	950 to 1825

#### 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 range	-55 to -20 dBm

#### Gain

Small Signal Gain (L-band to RF) with attenuator set to 0 dB

5 W	68 dB min
10 W	71 dB min
15 W	73 dB min
20 W	74 dB min

Attenuator range 30 dB variable in 0.1 dB steps

Gain flatness	<u>Bands 1, 2, 3</u>	<u>Bands 4, 5</u>
Full band	3 dB p-p max	4 dB p-p max
36 MHz	1 dB p-p max	1.5 dB p-p max
1 MHz	0.25 dB p-p	0.25 dB p-p

Gain variation over temperature

Open loop	3 dB p-p max	4 dB p-p max
With AGC	1 dB p-p max	1 dB p-p max

#### RF Output

Interface	CPR-137G or N(f)	
VSWR	1.5:1 max	
Rated output power	$P_{1dB}$	Plinear
5 W	+37 dBm min	+35.5 dBm
10 W	+40 dBm min	+38.5 dBm
15 W	+41.8 dBm min	+40.3 dBm
20 W	+43 dBm min	+41.5 dBm

$P_{lin}$  is the maximum linear power as defined by MIL STD 188-164B

IMD3 (2 carriers, 3 dB TOBO)	-27 dBc max
Level stability with ALC	$\pm 0.5$ dB
Output power detector range	Rated power to -20 dB
Power reading accuracy	$\pm 1.0$ dB max
Spurious	In Band -60 dBc
	Out of Band Complies with EN 301 443 and MIL-STD 188-164B
Harmonics	-50 dBc max
Output Noise Power Density	
	TX < -84 dBm/Hz
	RX < -145 dBm/Hz

SSB Phase Noise	External reference	IBUC
10 Hz	-115 dBc/Hz	-54 dBc/Hz
100 Hz	-140 dBc/Hz	-79 dBc/Hz
1 kHz	-150 dBc/Hz	-89 dBc/Hz
10 kHz	-155 dBc/Hz	-94 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

Sense	Inverting	Non-inverting
Band 1	7375 MHz	4900 MHz
Band 2	7700 MHz	5300 MHz
Band 3	8175 MHz	n/a
Band 4	7600 MHz	4900 MHz
Band 5	7700 MHz	4900 MHz

#### IBUC Power Supply

Voltage	5W, 10W	18 to 75 VDC
	15W, 20W	48V $\pm$ 11V
		DC via coax only

Power Consumption

5 W	50 W
10 W	65 W
15 W	100 W
20 W	120 W

#### Monitor and Control

**Ethernet (HTTP, Telnet, SNMP)** via RJ-45 connector,  
**RS232/485, Hand-held Terminal**, MS-type connector,  
**FSK** multiplexed on TX IFL.

#### Environmental

Operating temperature	-40°C to +60°C
Relative humidity	100% condensing
Altitude	10,000 ft., (3,000 m) ASL

#### Mechanical

5W,10W	10.5 x 6 x 3.8 in.
	9.3 lbs
15W, 20W	10.5 x 6 x 5.2 in.
	10.8 lbs

Specifications are subject to change without notice.

IBUC 2e C-Band Data Sheet 11/14/17



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