

## Ku-Band IBUC Intelligent Block Upconverter

### IBUC Advantages

DC power can be supplied via IFL coax or separate DC connector for 4W through 16W models.

Integrated BUC/SSPA packaging for higher performance and reliability.

Guaranteed rated output power across the entire operating temperature range and frequency band.

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

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

AGC or ALC circuits hold gain or output level constant.

16dB User-adjustable gain in 0.1 dB steps preserves modem dynamic range.

Advanced customer interfaces:

- TCP/IP HTTP with embedded web pages.
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable.
- RS232/485 serial port.
- Handheld terminal

1+1 switching logic built into IBUC eliminates expensive external controller.



The revolutionary **IBUC** has advanced features to take your network to new heights.

**IBUC** offers significant benefits:

- Low terminal cost
- Simple design and installation
- Superior RF performance
- Simplified 1+1 configuration

New interfaces connect you to the **IBUC's** 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 alarm history.
- Simplified **troubleshooting** of terminal faults.

The **IBUC** 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
- Alarm history

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

For additional information contact Terrasat Sales at +1 408-782-5911 or by Email:  
Sales@Terrasatinc.com  
235 Vineyard Court, Morgan Hill, CA 95037 www.terrasatinc.com

# Ku-Band IBUC Block Upconverter Specifications

## L-Band Input

Frequency range		
Band 1	950 to 1450 MHz	
Band 2	950 to 1700 MHz	
VSWR / Impedance	1.5:1 max / 50 ohms	
Connector	Type N female	
Input power detector range	-55 to -20 dBm	
<b>Gain</b>		
Small Signal Gain (L-band to RF) with attenuator set to 0 dB		
4W	67 dB min	
8W	70 dB min	
12W	72 dB min	
16W	73 dB min	
20W	74 dB min	
25W	75 dB min	
30W	76 dB min	
40W	77 dB min	
50W	78 dB min	
Attenuator range	16 dB variable in 0.1dB steps	
Gain flatness	<u>4W to 25W</u>	<u>30W to 50W</u>
Full band	3 dB p-p max	4dB p-p max
36 MHz	1dB p-p max	1dB 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
<b>RF Output</b>		
Frequency range		
Band 1	14.00 to 14.50 GHz	
Band 2	13.75 to 14.50 GHz	
Interface	WR75 UG cover with groove	
VSWR	1.5:1 max	
Rated output power (P1dB across temperature range and freq. band)		
4W	+36 dBm min	
8W	+39 dBm min	
12W	+40.8 dBm min	
16W	+42 dBm min	+41.5dB fullband
20W	+43 dBm min	
25W	+44 dBm min	
30W	+44.8 dBm min	
40W	+46 dBm min	
50W	+47 dBm min	
IMD3 (2 carriers, 30 kHz apart, 9dB BO/carrier)	-30 dBc max	
Level stability with ALC	± 0.5 dB	
Output power detector range	Rated power to -20 dB	
Power reading accuracy	± 1.0 dB max.	
Spurious	Complies with EN 301 428	

## SSB Phase Noise

Offset	External reference IBUC	
10Hz	-120 dBc/Hz	-35 dBc/Hz
100Hz	-130 dBc/Hz	-65 dBc/Hz
1 kHz	-143 dBc/Hz	-75 dBc/Hz
10 kHz	-152 dBc/Hz	-85 dBc/Hz
100kHz	-155 dBc/Hz	-95 dBc/Hz
1MHz	-155 dBc/Hz	-110 dBc/Hz

## External Reference (multiplexed on TX IFL)

Frequency	10 MHz
Level	-12 to +5 dBm

## Local Oscillator

LO Frequency	
Band 1	13050 MHz
Band 2	12800 MHz
Sense	Non-inverting

## IBUC DC Supply

Multiplexed on TX IFL	4W, 8W, 12W, 16W
Connector	ACS02E14S-6P(553) or equivalent
Voltage / Current	

	+24 ± 4 VDC	+48 ± 11 VDC	
4W	3.2A @ 24VDC	1.6A @ 48VDC	76.8W
8W	5.0A @ 24VDC	2.5A @ 48VDC	120W
12W	na	3.0A @ 48VDC	144W
16W	na	3.5A @ 48VDC	168W
20W	na	6.0A @ 48VDC	288W
25W	na	6.5A @ 48VDC	312W
30W	na	9.5A @ 48VDC	456W
40W	na	11.0A @ 48VDC	528W
50W	na	12.0A @48VDC	576W

## Monitor and Control

**FSK** (multiplexed on TX IFL)

**RS232/485**

## Handheld Terminal

<b>TCP / IP</b>	Telnet, HTTP
<b>UDP</b>	SNMP

## Environmental

	<u>4W to 25W</u>	<u>30W to 50W</u>
Operating temperature	-40°C to +60°C	-40°C to +55°C
Relative humidity	100% condensing	
Altitude	10,000 ft (3,000m) ASL	

## Mechanical

	Size	Weight
4W/8W	12.2"(L)x7.2"(W)x4.2"(H) 310mm x 183mm x 107mm	13 lbs 5.8 kg
12-50W	12.2"(L)x7.2"(W)x7"(H) 310mm x 183mm x 178mm	17 lbs. 8 kg

Specifications are subject to change without notice



235 Vineyard Court  
Morgan Hill, CA 95037  
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Fax: +1 408.782.5912  
www.terrasatinc.com

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