

IBUC 2 **Ku-Band Intelligent Block Upconverter**

IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

High linearity.

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

Most models available with integral AC power supply or separate DC power supply.

Internal 10MHz reference option automatically switches to internal reference when external reference is not detected.

Low phase noise better than IESS308/309 requirements by a minimum of 5 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



The latest evolution of the **IBUC** has all of the advanced features and reliability of the original **IBUC** in a new, more compact package.

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

The **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 2

Ku-Band Intelligent Block Upconverter

Frequency range	RF	IF	SSB Phase Noise	External reference	IBUC
Band 1 Std Ku	14.00 to 14.50 GHz	950 to 1450 MHz	10 Hz	-115 dBc/Hz	-50 dBc/Hz
Band 2 Full Ku	13.75 to 14.50 GHz	950 to 1700 MHz	100 Hz	-140 dBc/Hz	-75 dBc/Hz
Band 3 Low Ku	12.75 to 13.25 GHz	950 to 1450 MHz	1 kHz	-150 dBc/Hz	-85 dBc/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		
			Sense	Non-Inverting	
Gain			Band 1	13050 MHz	
Small Signal Gain (L-band to RF) with attenuator set to 0 dB			Band 2	12800 MHz	
4 W	67 dB min		Band 3	11800 MHz	
8 W	70 dB min		IBUC Power Supply	DC	AC
12 W	72 dB min		Voltage	48 ± 11 VDC	100 to 240 VAC
16 W	73 dB min		Option for 4 W, 8 W:	24 ± 4 VDC	
20 W	74 dB min		DC via coax available on 4 W - 16 W		
25 W	75 dB min		Power Consumption		
30 W	76 dB min		4 W	77 W	85 VA
40 W	77 dB min		8 W	80 W	115 VA
50 W	78 dB min		12 W	125 W	158 VA
Attenuator range	30 dB variable in 0.1 dB steps		16 W	168 W	200 VA
Gain flatness	Band 1 & 3	Band 2	20 W	200 W	225 VA
Full band	3 dB p-p max	4 dB p-p max	25 W	250 W	270 VA
36 MHz	1 dB p-p max	1.5 dB p-p max	30 W	270 W	300 VA
1 MHz	0.25 dB p-p	0.25 dB p-p	40 W	380 W	420 VA
Gain variation over temperature			50 W	N/A	460 VA
Open loop	3 dB p-p max		Monitor and Control		
With AGC	1 dB p-p max		Ethernet (HTTP, Telnet, SNMP) via RJ-45 connector,		
			RS232/485, Hand-held Terminal via MS-type connector,		
RF Output			FSK multiplexed on TX IFL.		
Interface	WR75 cover with groove		Environmental		
VSWR	1.5:1 max		Operating temperature		
Rated output power	P _{1dB}	P _{linear}	4W - 25W	-40°C to +60°C	
4 W	+36 dBm min	34.5 dBm	30W - 50W	-40°C to +55°C	
8 W	+39 dBm min	37.5 dBm	Relative humidity	100% condensing	
12 W	+40.8 dBm min	39.3 dBm	Altitude	10,000 ft., (3,000 m) ASL	
16 W	+42 dBm min	40.5 dBm			
20 W	+43 dBm min	41.5 dBm	Mechanical	DC powered	AC powered
25 W	+44 dBm min	42.5 dBm	4 W - 8 W	10.5 x 6 x 3.8 in. 9.3 lbs	10.5 x 6 x 4.2 in. 10.5 lbs
30 W	+44.8 dBm min	43.3 dBm	12 W - 20 W	10.5 x 6 x 5.2 in. 10.9 lbs	10.5 x 6 x 5.6 in. 11.9 lbs
40 W	+46 dBm min	44.5 dBm	w/fan	10.5 x 6 x 5.7 in. 12.3 lbs	10.5 x 6 x 6.1 in. 13.5 lbs
50 W	+47 dBm min	45.5 dBm			
P _{linear} is the maximum linear power as defined by MIL-STD-188-164B.			40W, 50W dimensions do not include isolator		
IMD3 (2 carriers, 3 dB TOBO)	-25 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	In Band	-65 dBc			
	Out of Band	Complies with EN 301 428/430 and MIL-STD 188-164B			
Harmonics	-50 dBc max				
Output Noise Power Density					
	TX < -78 dBm/Hz				
	RX < -145 dBm/Hz				

Specifications are subject to change without notice.

IBUC 2 Ku-Band Data Sheet 8/16/17



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