

The IBUC Advantage

All IBUCs are equipped with cutting-edge intelligent technology:

- Highest quality & exacting performance guaranteed through individual unit testing over temperature
- Superior linearity for maximum useable output power
- Amplifier overdrive protection
- User-selectable AGC/ALC for optimal performance & compatibility with modem adaptive coding
- New high capacity microprocessor & extended M&C functions
- Weatherized RJ45 Ethernet interface for simplified connection

ULTIMATE MANAGEMENT & CONTROL

- » Local Web Interface & NMS-Friendly SNMP «
- » 70+ User Configurable Thresholds & Alarms «
- » Upgraded Event Log with 1,000 Sensor Readings «
- » Performance Trend Analysis Tools & Statistical logs «
- » Embedded Web Pages for Universal Web Browser Access «

Applications

The **IBUC 2G** delivers proven superior performance in high data rate, & higher order modulation satellite links. With its rugged, compact design, the Ka-band **IBUC 2G** is suitable for both mobile & long-term fixed satcom terminals. GaN advantages include higher power in a smaller outdoor enclosure and low power consumption. Terrasat's unique implementation is designed for long lifetime performance in demanding environments.

The Dual-Band version includes selectable multiband controls for multicarrier transmissions, deploying high versatility for your SATCOM terminals. Multiple sensors & a new, high-capacity microprocessor provide tools to optimize remote terminal performance. The **IBUC 2G** is a popular choice for satcom uplinks for telecom, government, defense and other demanding applications.

Options

- 1+1 Transmit Redundancy with Eco-Mode
- High Stability Internal 10 MHz Reference with Auto-Detection
- Mounting Brackets
- N-Type or F-Type Input Connectors
- Handheld Terminal
- AC or DC Input Models
- WGS (Wideband Global SATCOM) compatible
- Cyber Hardened Core M&C

Ka-Band | Dual-Band IBUC 2G

5W to 50W Compact GaN IBUC for
Multiband, Multi-orbit, and Multicarrier application
Two Software Selectable Sub-Bands



New Cyber
Hardened
Core version
available

Multiband
Selectable
RF + IF

Multicarrier
Application

5W $P_{in, 25W}$
to
50W $P_{in, 25W}$

GaN
Tech
Amplifier

3
Year
Warranty

Note: Since not all the optional features can be combined, please, contact our sales team for further info at: Sales@Terrasatinc.com

Dual-Band Ka-Band 5W to 50W IBUC 2G For Multiband Multicarrier Application

Frequency Range

	Software Selectable	Software Selectable
	RF	IF
Two Software Selectable Sub-Bands	29.0 to 30.0 GHz	950 to 1950 MHz
	30.0 to 31.0 GHz	1.0 to 2.0 GHz

Note: Any RF can be software selected with any IF

Input

VSWR/ Impedance	1.5:1 / 50 Ohm	
Input Connector	Type N Female (50 Ohm)	
Input Connector Options	Type F (75 Ohm)	
Input Power Detector	Standard Version ¹	WGS Version ²
Range Options:	-55 to -20 dBm	-35 to 0 dBm

Gain

Small Signal Gain (L-band to RF) with attenuator set to 0 dB	Standard Version ¹	WGS Version ²
5W	68 dB min	57 dB min
10W	71 dB min	60 dB min
16W	73 dB min	62 dB min
20W	74 dB min	63 dB min
25W	75 dB min	64 dB min
40W	77 dB min	66 dB min
50W	78 dB min	67 dB min

¹Terrasat's Standard Version has a higher gain to reduce the need for line amplifiers in long cable runs (IFL).

²The lower gain WGS Compatible Versions allow operations to drive the IF signal up to 0 dBm.

Attenuator Range	30 dB variable in 0.1 dB steps	
Gain Flatness		
Full Band	4 dB p-p max	for any Sub-Band
54 MHz	2 dB p-p max	

Gain Variation Over Temperature

Open Loop	4 dB p-p max
With AGC	1 dB p-p max

RF Output

Interface	WR28 UG Cover with Groove
VSWR	1.3:1 max

Output Power

	P _{sat} (typ)	P _{lin} (min)
5W	+37 dBm	+34 dBm
10W	+40 dBm	+37 dBm
16W	+42 dBm	+39 dBm
20W	+43 dBm	+40 dBm
25W	+44 dBm	+41 dBm
40W	+46 dBm	+43 dBm
50W	+47 dBm	+44 dBm

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

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	-60 dBc
Out of Band	-60 dBc
	Complies with:
	- ETSI EN 301 360
	- ETSI EN 301 459
	- MIL-STD 188-164C
AM/PM Conversion	<2 Deg/dB @ P _{Linear}
Output Noise Power Density	Tx < - 74 dBm/Hz

SSB Phase Noise

	External Reference	IBUC 2G
10 Hz	-125 dBc/Hz	-43 dBc/Hz
100 Hz	-150 dBc/Hz	-63 dBc/Hz
1 KHz	-160 dBc/Hz	-73 dBc/Hz
10 KHz	-165 dBc/Hz	-83 dBc/Hz
100 KHz	-165 dBc/Hz	-93 dBc/Hz
1 MHz	N/A	-103 dBc/Hz

External Reference (Multiplexed on TX IFL)

Frequency: 10 MHz Level: -12 to +5 dBm

Internal Reference is an optional feature that includes auto-detection of External Reference

Local Oscillator Frequency

Sense	Non-Inverting
Sub-Band 1	28.0 GHz
Sub-Band 2	29.0 GHz

IBUC Power Supply

	DC	AC
Voltage	48 ± 11 VDC	100 to 240 VAC
		50Hz/60Hz

Power Consumption

	@ P _{Lin} / P _{Sat}	@ P _{Lin} / P _{Sat}
5W	65/80 W	70/90 VA
10W	80/110 W	90/120 VA
16W	130/175 W	140/180 VA
20W	135/180 W	150/200 VA
25W	150/200 W	170/220 VA
40W	270/360 W	300/400 VA
50W	330/440 W	360/480 VA

Monitor & Control - For Standard Units

Ethernet (HTTP, Telnet, SNMPv2c) via RJ45 Connector
RS232/485, Handheld Terminal via MS-Type Connector

Monitor & Control - For Cyber Hardened Core Versions (Optional)

Ethernet (HTTPS, SSHv2, Selectable SNMP V1, V2, V3 with USM and VACM) via RJ45 Connector
RS232 via MS-Type Connector

XSS (Cross Site Scripting)

Two NTP Servers Providing Redundancy

FIPS 140-2 compatible

The Cyber Hardened versions have embedded new high-end Cyber Security features, from hardware to software, including a new controller board and the new firmware.

For further details, refer to the Cyber Hardened IBUCs' datasheet at [www.https://terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intel-ligent-bucs/](https://terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intel-ligent-bucs/)

Environmental

Operating Temperature

5W to 10W	-40°C to + 60°C
16W to 50W	-40°C to + 55°C

Relative Humidity

100% Condensing

Altitude

10,000 ft (3,000 m) ASL

Mechanical

	DC Powered	AC Powered
5W to 10W	10.5 x 6 x 4.2 in. 267 x 152 x 107 mm	10.5 x 6 x 4.6 in. 267 x 152 x 117 mm
	9.5 lbs 4.3 kgs	10.5 lbs 4.8 kgs
16W to 50W	10.5 x 6 x 6.1 in. 267 x 152 x 155 mm	10.5 x 6 x 6.5 in. 267 x 152 x 165 mm
	11.5 lbs 5.2 kgs	12.8 lbs 5.8 kgs

Specifications subject to change without notice.

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Questions? Contact Us

+1 (408) 782 5911

Sales@Terrasatinc.com or Questions@terrasatinc.com

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PART NUMBER CONFIGURATION | OPTIONS AVAILABLE FOR:

Ka-Band 5W to 50W GaN IBUCs - Multiband, Tri-Band, Dual Band / Software Selectable Conversion

Cyber Hardened Option Part Number

Example/Std Offer: IBI290310-2NA050DKWW-0000

Std M&C Option Part Number

Example/Std Offer: IBE290310-2NA050DKWW-0000

IB	X	XXXXXX	-	X	X	X	XXX	D	K	W	W	-	XXXX
							005 5W						0000 Std Options and Std Specs
							010 10W						0218 WGS Compatibility Option
							020 20W						
							025 25W						W Std Terrasat Inc Color (White)
							040 40W						X Other Colors (Please, Provide Color Specs)
							050 50W						
							A AC Powered						
							5 DC Powered, No Power Thru Coax, 48 ± 11 VDC						
							N N-Type IF Input Connector						
							F F-Type IF Input Connector						
							0 Non-Inverting + External 10MHz						
							2 Non-Inverting + Internal 10MHz						
							275300 Tri-Band: Software Selectable RF+IF						
							→ RF: 27.5 to 30.0 GHz {(27.5-28.5GHz)+(28.25-29.25GHz)+(29.0-30.0GHz)} IF: 1.0-2.0 GHz or 950-1950 MHz						
							290310 Dual-Band: Software Selectable RF+IF						
							→ RF: 29.0 to 31.0 GHz {(29.0-30.0GHz)+(30.0-31.0GHz)} IF: 1.0-2.0 GHz or 950-1950 MHz						
							I Cyber Hardened Core M&C						
							E Standard Terrasat Inc M&C						

Note: Consult Terrasat Communications Inc for more options.

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