

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 Quad-Band version includes selectable multiband controls for multicarrier transmissions, deploying high versatility for your SATCOM terminals, and universal range in the Ka-band spectrum. 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

- 2+1 Transmit Redundancy
- 1+1 Transmit Redundancy with Eco-mode
- High Stability Internal 10 MHz Reference with Auto-Detection
- Mounting Brackets
- AC or DC Input Models
- Type N or F-Type Input Connectors
- Cyber Hardened Core M&C
- Handheld Terminal
- WGS (Wideband Global SATCOM) compatible
- Load Switch Kit

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

Ka-Band | Quad-Band IBUC 2G

20W to 40W Compact GaN **IBUC** for
Multiband, Multi-orbit, and Multicarrier application
Four Software Selectable Sub-Bands

Universal Ka-Band
Range



New Cyber
Hardened
Core version
available

Multiband
Selectable
RF + IF

Multicarrier
Application

20W P_{Lm} 10W
to
40W P_{Lm} 20W

GaN
Tech
Amplifier

3
Year
Warranty

Quad-Band 20W to 40W IBUC 2G For Multiband Multicarrier Application

Frequency Range		Software Selectable	Software Selectable
		RF	IF
Four Software Selectable Sub-Bands	Sub-band 1	27.5 to 28.5 GHz	950 to 1950 MHz
	Sub-band 2	28.25 to 29.25 GHz	
	Sub-band 3	29.0 to 30.0 GHz	1.0 to 2.0 GHz
	Sub-band 4	30.0 to 31.0 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
20W		74 dB min	63 dB min
25W		75 dB min	64 dB min
40W		77 dB min	66 dB min
¹ Terrasat's Standard Version has a higher gain to reduce the need for line amplifiers in long cable runs (IFL).			
² The 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	for any Sub-Band
Gain Variation Over Temperature			
	Open Loop	4 dB p-p max	for any Sub-Band
	With AGC	1 dB p-p max	for any Sub-Band
RF Output			
	Interface	WR28 UG Cover with Groove	
	VSWR	1.3:1 max	
Output Power			
		P _{sat} (typ)	P _{Lin} (min)
20W		+43 dBm	+40 dBm
25W		+44 dBm	+41 dBm
40W		+46 dBm	+43 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		< 2Deg/ dB @ P _{Linear}	
Output Noise Power Density		Tx < - 74 dBm/Hz	

SSB Phase Noise	External Reference	IBUC 2G
	Minimum Specifications	
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	Non-Inverting
	IF: 1.0 to 2.0 GHz	IF: 950 to 1950 MHz
Sub-Band 1	26.50 GHz	26.55 GHz
Sub-Band 2	27.25 GHz	27.30 GHz
Sub-Band 3	28.00 GHz	28.05 GHz
Sub-Band 4	29.00 GHz	29.05 GHz
IBUC Power Supply		
	DC	AC
Voltage	37 to 60 VDC (floating)	100 to 240 VAC (50Hz/60Hz)
Power Consumption	@ P _{Lin} / P _{Sat}	@ P _{Lin} / P _{Sat}
20W	150/200 W	170/220 VA
25W	270/360 W	300/400 VA
40W	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		
Network Protocols IPv4 and IPv6 Compatible		
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.terrasatinc.com/products/ or at the Cyber Hardened webpage on https://www.terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intelligent-bucs/		
Environmental		
Operating Temperature	-40°C to + 55°C	
Relative Humidity	100% Condensing	
Altitude	10,000 ft (3,000 m) ASL	
Mechanical		
	DC Powered	AC Powered
20W to 40W	10.5 x 6 x 6.1 in. 267 x 152 x 155 mm 11.5 lbs 5.2 kgs	10.5 x 6 x 6.5 in. 267 x 152 x 165 mm 12.8 lbs 5.8 kgs

Specifications subject to change without notice.

Updated: March 23rd, 2026



PART NUMBER CONFIGURATION | OPTIONS AVAILABLE FOR:

Ka-Band 20W to 40W GaN IBUCs - Quad-Band / Software Selectable Conversion

Cyber Hardened Option Part Number

Example/Std Offer: IBI275310-4NA040DKWW-0000

Std M&C Option Part Number

Example/Std Offer: IBE275310-4NA040DKWW-0000

IB	X	XXXXXX	-	X	X	X	XXX	D	K	W	W	-	XXXX
								Power Output					Optional Specs & Features
							020	20W					0000 Std Options and Std Specs
							025	25W					0218 WGS Compatibility Option
							040	40W					
													Color
											W		Std Terrasat Inc Color (White)
											X		Other Colors (Please, Provide Color Specs)
								Power Supply					
							A	AC Powered					
							5	DC Powered, No Power Thru Coax, 48 ± 11 VDC					
								IF Input Connector					
							N	N-Type					
							F	F-Type					
								Spectral Sense and 10MHz Reference					
							0	Non-Inverting + External 10MHz					
							2	Non-Inverting + Internal 10MHz Std (30ppb stability)					
							4	Non-Inverting + Internal 10MHz High Stability (5ppb)					
								RF Frequency Plan					
							275310	Quad-Band: Software Selectable RF+IF					
								→ RF: 27.5 to 31.0 GHz {(27.5-28.5GHz)+(28.25-29.25GHz)+(29.0-30.0GHz)+(30.0-31.0GHz)} IF: 1.0-2.0 GHz or 950-1950 MHz					
								M&C - Processor, Embedded Software, and Cyber Security Tier					
							I	Cyber Hardened Core M&C					
							E	Standard Terrasat Inc M&C					

Note: Consult Terrasat Communications Inc for more options.