

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 301 428/430 & MIL-STD 188-164C | |
| AM/PM Conversion | <2 Deg/dB @ P_{Linear} |
| Output Noise Power Density | Tx < -74 dBm/Hz |

SSB Phase Noise

| | | |
|---------|-------------|-------------|
| 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

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

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