

## 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 new Ka-Band **IBUC G** delivers high output power for high data rate Ka-Band applications. Excellent linearity & phase noise performance support higher order modulation satellite links. Ideal for applications such as telecom & network hubs. Multiple sensors & a new, high-capacity microprocessor provide tools to optimize terminal performance.

The Tri-Band version includes selectable multiband controls for multicarrier transmissions, deploying high versatility for your SATCOM terminals. Gallium Nitride amplifier technology enables smaller packaging for antenna mounting, eliminating losses in long waveguide runs. The greater power efficiency translates to an appreciable reduction in power consumption. The GaN **IBUC G** outperforms older TWTA's by providing the maximum linear output power, combining the best of solid-state reliability and advanced technology.

### 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
- WGS (Wideband Global SATCOM) compatible
- Cyber Hardened Core M&C

## Ka-Band | Tri-Band IBUC G

80W & 100W GaN **IBUC** for  
Multiband, Multi-Orbit, and Multicarrier application  
Three Software Selectable Sub-Bands



New Cyber  
Hardened  
Core version  
available

Multiband  
Selectable  
RF + IF

Multicarrier  
Application

100W  
 $P_{lin}$  50W  
80W  
 $P_{lin}$  40W

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](mailto:Sales@Terrasatinc.com)

# Tri-Band Ka-Band 80W & 100W IBUC G For Multiband, Multicarrier Application

|  | Software Selectable | Software Selectable |
|--|---------------------|---------------------|
| <b>Frequency Range</b>                     | RF                  | IF                  |
| <b>Three Software Selectable Sub-Bands</b> | 27.5 to 28.5 GHz    | 950 to 1950 MHz     |
|  | 28.25 to 29.25 GHz  |                     |
|  | 29.0 to 30.0 GHz    | 1.0 to 2.0 GHz      |
|  |                     |                     |

Note: Any RF can be software selected with any IF

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

| <b>Gain</b>   |                               |                          |
|---|-------------------------------|--------------------------|
| <b>Small Signal Gain</b> (L-band to RF) with attenuator set to 0 dB |                               |                          |
|   | Standard Version <sup>1</sup> | WGS Version <sup>2</sup> |
| 80W   | 79 dB min                     | 69 dB min                |
| 100W  | 79 dB min                     | 70 dB min                |

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

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

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

|  |              |                  |
|--|--------------|------------------|
| <b>Gain Variation Over Temperature</b> |              |                  |
| Open Loop                              | 4 dB p-p max | for any Sub-Band |
| With AGC                               | 1 dB p-p max |                  |

| <b>RF Output</b> |                           |  |
|------------------|---------------------------|--|
| <b>Interface</b> | WR28 UG Cover with Groove |  |
| <b>VSWR</b>      | 1.3:1 max                 |  |

| <b>Output Power</b> |                 |                 |
|---------------------|-----------------|-----------------|
|                     | $P_{sat}$ (typ) | $P_{Lin}$ (min) |
| 80W                 | +49 dBm         | +46 dBm         |
| 100W                | +50 dBm         | +47 dBm         |

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

|                                       |  |  |
|---------------------------------------|--|--|
| <b>Level stability with ALC</b>       | ± 0.5 dB   |  |
| <b>Output power detector range</b>    | Rated power to -20 dB                                |  |
| <b>Power reading accuracy</b>         | ± 1.0 dB max.  |  |
| <b>Spurious @<math>P_{Lin}</math></b> |  |  |
| In Band                               | -60 dBc  |  |
| Out of Band                           | -60 dBc  |  |
|                                       | Complies with ETSI EN 301 428/430 & MIL-STD 188-164C |  |

|                                   |                  |  |
|-----------------------------------|------------------|--|
| <b>Output Noise Power Density</b> | Tx < - 73 dBm/Hz |  |
|-----------------------------------|------------------|--|

| <b>SSB Phase Noise</b> | <b>External Reference</b> | <b>IBUC G</b> |
|------------------------|---------------------------|---------------|
| 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 | 26.50 GHz     |
| Sub-Band 2 | 27.25 GHz     |
| Sub-Band 3 | 28.00 GHz     |

**IBUC Power Supply**

|                          | <b>AC</b>                   |
|--------------------------|-----------------------------|
| <b>Voltage</b>           | 100 to 240 VAC<br>50Hz/60Hz |
| <b>Power Consumption</b> | @ $P_{Lin}$ / $P_{Sat}$     |
| 80W                      | 600/850 VA                  |
| 100W                     | 700/950 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**

80W & 100 W      -40°C to +55°C

**Relative Humidity**      100% Condensing

**Altitude**      10,000 ft (3,000 m) ASL

**Mechanical**

|            | <b>AC Powered</b>                          |
|------------|--|
| 80W & 100W | 12.2 x 7.2 x 6.8 in.<br>310 x 183 x 173 mm |
|            | 19.5 lbs<br>8.8 kgs                        |

Specifications subject to change without notice.

Updated: March 13th, 2024

**Request A Quote**