C-Band
IBUC G

400W GaN **IBUC** for multicarrier application.

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 «

New **Cyber Hardened** version available | Multicarrier Application | 400W P_{Lin} 200W | GaN Tech Amplifier | 3 Year Warranty

Applications

The new IBUC G now supports multicarrier transmission across the full C-band spectrum. The **IBUC G** delivers the highest available output power, making it an ideal solution for high data rate multicarrier applications such as maritime, broadband, broadcast and network hubs.

Gallium Nitride amplifier technology enables smaller packaging for antenna mounting, eliminating the losses in long waveguide runs. And the greater power efficiency translates to an appreciable reduction in power consumption. Comparing favorably with earlier technology TWTAs, the GaN **IBUC G** delivers maximum linear output power with the reliability of solid state.

Options

- 1+1 Transmit Redundancy with Eco-Mode
- High Stability Internal 10 MHz Reference with Auto-Detection
- Mounting Brackets
- N-Type, F-Type or TNC Input Connectors
- Handheld Terminal
- Cyber Hardened
- WGS (Wideband Global SATCOM) compatible.

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

C-Band 400W **IBUC G**
for Multicarrier Application

Frequency Range

	RF (MHz)	IF (MHz)	
Sense		Inverting	Non-Inverting
Band 1 Std C	5850 to 6425	950 to 1525	950 to 1525
Band 2 Palapa	6425 to 6725	975 to 1275	1125 to 1425
Band 3 Insat	6725 to 7025	1150 to 1450	965 to 1265
Band 4 Ext C	5850 to 6650	950 to 1750	950 to 1750
Band 5 Full C	5850 to 6725	975 to 1850	950 to 1825

Input

VSWR/ Impedance	1.5:1 / 50 Ohm	
Input Connector	Type N Female (50 Ohm)	
Input Connector Options	Type F (75 Ohm), TNC (50 Ohn)	
Input Power Detector Range options:	Standard Version -50 to -15 dBm	WGS Version -35 to 0 dBm

Gain

Small Signal Gain (L-band to RF) with attenuator set to 0 dB options:

	Standard Version	WGS Version
400W	82 dB min	76 dB min

Attenuator Range 30 dB variable in 0.1 dB steps

Gain Flatness

Full Band	4 dB p-p max
36 MHz	1.5 dB p-p max
1 MHz	0.25 dB p-p

Gain Variation Over Temperature

	Bands 1/2/3	Bands 4/5
Open Loop	3 dB p-p max	4 dB p-p max
With AGC	1 dB p-p max	1 dB p-p max

RF Output

Interface	CPR-137G
VSWR	1.3:1 max

Output Power

	400W	
	Band 1	Bands 2/3/4/5
at P_{Sat} (typ)	56 dBm	55.5 dBm
at P_{Lin} (min)	53 dBm	52.5 dBm
19 dB min of NPR (Noise Power Ratio) at:	50 dBm	49.5 dBm

P_{Lin} is the maximum linear power as defined by MIL STD 188-164C
Two-tone measured at 5MHz and 150 MHz spacing

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	-70 dBc
Out of Band	Complies with EN 301 443 & MIL-STD 188-164C

Harmonics @ P_{Lin} -50 dBc max.

Output Noise Power Density

Tx < - 75 dBm/Hz

Rx <- 145 dBm/Hz

SSB Phase Noise

	External Reference	**IBUC G**
10 Hz	-115 dBC/Hz	-54 dBc/Hz
100 Hz	-140 dBc/Hz	-79 dBc/Hz
1 KHz	-150 dBc/Hz	-89 dBc/Hz
10 KHz	-155 dBc/Hz	-94 dBc/Hz
100 KHz	N/A	-100 dBc/Hz
1 MHz	N/A	-110 dBc/Hz

External Reference (Multiplexed on TX IFL)

Frequency & Level	10 MHz	-12 to +5 dBm

Internal Reference- Optional

Local Oscillator Frequency

Sense	Inverting	Non-Inverting
Band 1	7375 MHz	4900 MHz
Band 2	7700 MHz	5300 MHz
Band 3	8175 MHz	5760 MHz
Band 4	7600 MHz	4900 MHz
Band 5	7700 MHz	4900 MHz

IBUC Power Supply

Voltage AC 200 to 240 VAC | 50 Hz / 60 Hz

Power Consumption	Band 1	Bands 2/3/4/5
	400W	400W
at P_{Sat}	1900 VA	1850 VA
at P_{Lin}	1500 VA	1450 VA

Monitor & Control - For Standard Versions

Ethernet (HTTP, Telnet, SNMPv2c) via RJ45 Connector

RS232/485, **Handheld Terminal** via MS-Type Connector

FSK multiplexed on TX IFL

Monitor & Control - For Cyber Hardened Versions

Ethernet (HTTPS, SSHv2, SNMPv3 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.terrasatinc.com/products/

Environmental

Operating Temperature	-40°C to +55°C
Relative Humidity	100% Condensing
Altitude	10,000 ft (3,000 m) ASL

Mechanical

Weight	40 lbs *18 kg*
Size	24 x 10 x 7.4 in. *610 x 254 x 188 mm*

Specifications subject to change without notice.

Updated: November 27th, 2024

PART NUMBER CONFIGURATION | OPTIONS AVAILABLE FOR:
C-Band 400W GaN IBUC G

Cyber Hardened Option Part Number

Example/Std Offer: IBB058064-3NA400SCWW-0000

IBB XXXXXX - X X A 400 S C W W - XXXX

Power Output	
400	400W

Optional Specs & Features	
0000	Std Options and Std Specs
0218	WGS Compatibility Option

Power Supply	
A	AC Powered

Color	
W	Std Terrasat Inc Color (White)
X	Other Colors (Please, Provide Color Specs)

IF Input Connector	
N	N-Type IF Input Connector
F	F-Type IF Input Connector

Spectral Sense and 10MHz Reference	
0	Non-Inverting + External 10MHz
1	Inverting + External 10MHz
2	Non-Inverting + Internal 10MHz Std (30ppb stability)
3	Inverting + Internal 10MHz Std (30ppb stability)
4	Non-Inverting + Internal 10MHz High Stability (5ppb)
5	Inverting + Internal 10MHz High Stability (5ppb)

RF Frequency Plan	
058064	5.850-6.425 GHz (Std C-Band)
058066	5.850-6.650 GHz (Ext C-Band)
058067	5.850-6.725 GHz (Full C-Band)
064067	6.425-6.725 GHz (Palapa C-Band)
067070	6.725-7.025 GHz (Insat C-Band)

Std M&C Option Part Number

Example/Std Offer: IBR058064-3NA401WW-0919

IBR XXXXXX - X X A 401 W W - XXXX

Power Output

401	400W

Optional Specs & Features

0919	Std (C-Band) unit with Multicarrier compatibility only
1818	WGS Compatibility Option + Multicarrier

Color

W	Std Terrasat Inc Color (White)
X	Other Colors (Please Provide Color Specs)

Power Supply

A	AC Powered

IF Input Connector

N	N-Type IF Input Connector
F	F-Type IF Input Connector

Spectral Sense and 10MHz Reference

0	Non-Inverting + External 10MHz
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Note: Consult Terrasat Communications Inc for more options.

TERRASAT Communications, Inc. Engineered to Endure.

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