TERRASAT Communications, Inc.
Engineered to Endure

IBUC

The Intelligent Block UpConverter

Superior RF Performance | Ultimate Reliability | Complete Feature Set | Multiprotocol Management & Diagnostics

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 «

Ka-Band IBUC G

80W Compact GaN IBUC

80W | GaN Tech Amplifier | 3 Year Warranty

Applications

The new 80W Ka-Band IBUC G delivers the highest output power in the product line for high data rate Ka-Band applications. Excellent linearity & phase noise performance support higher order modulation satellite links. A good choice for applications such as telecom & network hubs. Multiple sensors & a new, high-capacity microprocessor provide tools to optimize terminal performance.

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
- High Stability Internal 10 MHz Reference with Auto-Detection
- Three Factory Select Bands
- Type N or F-Type Input Connectors
- Handheld Terminal

Frequency Range

	RF	IF
	29.0 to 30.0 GHz	1.0 to 2.0 GHz
	29.5 to 30.0 GHz	1.0 to 1.5 GHz
	30.0 to 31.0 GHz	1.0 to 2.0 GHz

Input

VSWR/ Impedance	1.5:1 / 50 Ohm
Input Connector	Type N Female (50 Ohm)
Input Connector Options	Type F (75 Ohm), TNC (50 Ohm)
Input Power Detector Range	-55 to -20 dBm

Gain

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

80W	80 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

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)
80W	+49 dBm	+46 dBm

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

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

AM/PM Conversion	<2 Deg/dB @ P_{Linear}

Output Noise Power Density

Tx < - 73 dBm/Hz

SSB Phase Noise

	External Reference	**IBUC G**
10 Hz	-115 dBC/Hz	-43 dBc/Hz
100 Hz	-140 dBc/Hz	-68 dBc/Hz
1 KHz	-150 dBc/Hz	-78 dBc/Hz
10 KHz	-155 dBc/Hz	-83 dBc/Hz
100 KHz	N/A	-92 dBc/Hz
1 MHz	N/A	-102 dBc/Hz

External Reference (Multiplexed on TX IFL)

Frequency & Level	10 MHz	-12 to +5 dBm

Internal Reference- Optional

Local Oscillator Frequency

Sense	Non-Inverting
Band 1	28000 MHz
Band 2	28500 MHz
Band 3	29000 MHz

IBUC Power Supply

	AC
Voltage	100 to 240 VAC
Power Consumption	@ P_{Lin} / P_{Sat}
80W	550/700 VA

Monitor & Control

Ethernet (HTTP, Telnet, SNMPv2c) via RJ45 Connector

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

FSK multiplexed on TX IFL

Environmental

Operating Temperature

80 W	-40°C to +55°C

Relative Humidity	100% Condensing
Altitude	10,000 ft (3,000 m) ASL

Mechanical

AC Powered

80W	16.2 x 10 x 7.4 x in.
	411 x 254 x 188 mm
	33 lbs
	15 kgs

Updated 11/30/2020