

Powerstream 160W Ka-Wideband Block Upconverter

WBAK-160G02

Field-Proven Performance

Wavestream's PowerStream 160W Ka Wideband Block Upconverter leads the industry in linear power for a feedmount-ready package, ensuring the maximum available power at the feed flange for multiple carrier inputs.

This Wideband BUC has the ability to instantaneously cover multiple frequency bands, and a tunable upconverter in an industry-leading small, rugged, outdoor package. The Ka Wideband Block Upconverter offers forward power monitoring, 25 dB of hitless step attenuation, Ethernet control interface, and AC input power.

Features

- State of the art GaN Technology
- Ka-band BUC providing > 65W multicarrier linear power
- Ruggedized package weighing less than 42 lbs (19 kg)
- Covers All Commercial and Military Ka Bands (27.5-31.0 GHz)

Wavestream Advantages

What sets Wavestream products apart from traditional amplifier solutions is the innovative Spatial advantEdge™ technology. This unique patented technology allows for generation of higher output power in more efficient, and more compact product packages that are more reliable.

Wavestream products are optimized for Linear operation, drawing less power when backed off to help save valuable energy resources. They generate less heat, and have superior heat sinking ensuring a higher Mean Time Between Failures (MTBF) for greater reliability and lower lifecycle maintenance costs.

Benefits

- Higher output power with less energy usage
- Proven reliability and efficiency
- Reduced lifecycle maintenance costs
- Compact footprint to meet critical space and weight limitations



Powerstream 160W Ka-Ultra Wideband Block Upconverter

Technical Specifications

RF Specifications

Transmit Frequency:

27.5 GHz – 31.0 GHz
Band 1: 27.5 GHz – 28.5 GHz
Band 2: 28.25 GHz – 29.25 GHz
Band 3: 29.0 GHz – 30.0 GHz
Band 4: 30.0 GHz – 31.0 GHz

IF Frequency:

Band 1: 950 MHz – 1950 MHz
Band 2: 950 MHz – 1950 MHz
Band 3: 1000 MHz – 2000 MHz
Band 4: 1000 MHz – 2000 MHz

LO Frequency:

Band 1: 26.55 GHz
Band 2: 27.3 GHz
Band 3: 28.0 GHz
Band 4: 29.0 GHz

Reference Frequency:

10 MHz muxed on IF

Small Signal Gain:

60 dB (Nominal)

Gain Adjustment:

25 dB in 0.1 dB linear steps (nominal)

Gain Variation:

– Over full band at fixed temp: <4.5 dB
– Over temp and fixed frequency: 4 dB p-p over operating range

Peak Envelope Power:

52 dBm (160W) (nominal)

Linear Output Power:

48.2 dBm (65W) @ 19 dB NPR (minimum)
– Linear Output Power defined by NPR Measurement Room Temperature

Linear Output Power, defined by MIL-STD-188-164:

– Multi-carrier (Intermodulation): 48.7 dBm (75W)
– Single-carrier (Spectral Regrowth): 48.7 dBm (75W)

AM/PM Conversion:

1.75 deg/dB @ Linear Output Power

Phase Noise:

– 10 Hz: –35 dBc/Hz
– 100 Hz: –65 dBc/Hz
– 1 kHz: –75 dBc/Hz
– 10 kHz: –85 dBc/Hz
– 100 kHz: –97 dBc/Hz
– 1 MHz: –115 dBc/Hz
– 10 MHz: –120 dBc/Hz

Noise Power Density

In Tx Band:

–80 dBm/Hz (at Linear Output Power)

All Output Spurious and

Products: < 60 dBc

Interfaces

Input Connector:

Type N Female

IF Input Impedance: 50 Ohms

IF Input VSWR: 1.3:1

RF Output Connector:

WR-34 (WR-28 Option)

RF Output VSWR:

1.3:1 maximum

AC Connector and M&C

Connector:

MIL Circular

M&C Protocols:

Ethernet – SNMP, UDP, WebGUI (Software field upgradeable w/ Ethernet)

Discrete Lines (Contact

Closures):

– Summary Fault
– Mute Status
– External Mute

Power

AC Power: 90 to 265 VAC

AC Power Draw:

– TBD W (typical) (at Linear Output Power)
– Power Factor: > 96%

Physical

Envelope Size:

16.4" L x 10.4" W x 8.2" H (42 L x 27 W x 21 H cm)

Weight: <42 lbs (19 kg)

Operating Temperature

(Ambient Air):

–40°C to + 60°C (–40°F to + 140°F)

Relative Humidity:

Up to 100%

Shock & Vibration:

IEC 60068-2

Altitude:

10,000 ft above sea level (operating)

Base Model

WBAK-160G02

About Gilat Wavestream

Gilat Wavestream sets the standard in the design and manufacture of next generation high power solid state amplifiers. Wavestream's Family of Ka, Ku and X-band Solid State Power Amplifiers (SSPAs), Block Upconverters (BUCs) and transceivers provide systems integrators with field-proven, high performance solutions designed for ground mobile and fixed, gateway and airborne satellite communication systems worldwide.

These items are subject to the Export Administration Regulations (EAR), 15 C.F.R. Parts 730-774, and may not be exported or transferred to any non-U.S. person, except as authorized by the U. S. Department of Commerce.

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