

Product Brochure

15W Ka Wideband Microstream BUC

WBAK-015G01

Field-Proven Performance

Gilat's 15W Ka Wideband GaN Block Upconverter (BUC) leads the Industry in linear power for a feedmount-ready package, ensuring the maximum available power at the feed flange.

This amplifier provides the ability to cover multiple frequency bands with a switchable upconverter in an Industry-leading small, rugged, outdoor package. The Ka Wideband BUC offers 30 dB of step attenuation, discrete lines for Monitor and Control, and DC input power.

Features

- 15W Ka-band BUC providing >6W of linear power
- State of the art GaN Technology
- Ruggedized package weighing less than 2 lb (0.9 kg)
- Covers Commercial and Military Bands in 1000 MHz bands

Gilat Advantages

What sets Gilat products apart from traditional amplifier solutions is the innovative Spatial advantEdge™ technology. This unique patented technology allows generation of higher output power in lighter, more compact product packages that use less energy and are more reliable. Gilat products are biased for Class AB operation, drawing less power when backed off to help save valuable energy resources. They generate less heat, 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 space and weight limitations



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Technical Specifications

RF Specifications

Transmit Frequency:

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

Frequency Reference

(100 MHz on IF):

+2.5 to +5.5 dBm

Small Signal Gain:

62 dB

Gain Adjustment:

30 dB in 0.25 dB steps nominal

Gain Variation:

- Over frequency at fixed temp:
3.5 dB p-p over 1000 MHz
- Over temp at fixed frequency:
2 dB p-p over operating range

Saturated Output Power:

41 dBm (nominal)

Linear Output Power:

> 38.5 dBm

Linear Output Power (Band 1, 2, and 3): (DVB-S2 waveform using 8PSK, data rate 5.0MSymb/sec with roll off of 25% @1.5 times the symbol rate: -25 dBc

Linear Output Power (Band 4), defined by MIL-STD-188-164:

- **Spectral Regrowth** (For QPSK at 1.5x and OQPSK at 1.0x rate offset at 3 dB back-off from Saturated Output Power): -30 dBc

- **AM/PM Conversion:**
2 deg/dB

Phase Noise:

- 10 Hz: -33 dBc/Hz
- 100 Hz: -62 dBc/Hz
- 1 kHz: -73 dBc/Hz
- 10 kHz: -83 dBc/Hz
- 100 kHz: -95 dBc/Hz
- 1 MHz: -105 dBc/Hz
- 10 MHz: -112 dBc/Hz

Noise Power Density Transmit:

-83 dBm/Hz (maximum)

Noise Power Density Receive:

-130 dBm/Hz (maximum)

Output Spurious: -60 dBc

Interfaces

IF Input Connector:

SMA Female

IF Input Impedance: 50 Ohms

IF Input VSWR:

2:1 maximum

RF Output Connector: WVR-28

RF Output VSWR:

1.5:1 maximum

DC Connector and M&C Connector:

37 Pin Male DC Connector
D-SUB (DCMM-37P-D-K87)

M&C Protocol:

Discrete Lines

Power

DC Power:

- +4.0 to 4.5 VDC, 1.5A max
- 5.8 to -5.4 VDC, 200mA max
- +6.8 to 7.2 VDC, 4A max
- +17 to 22 VDC, 4A max

Physical

Size: 5.21"L x 4.62"W x 1.56"H (13.3 x 11.8 x 4.0 cm)

Weight: 2.0 lbs (0.9 kg)

Operating Temperature

(Ambient Air):

-40°F to +140°F

(-40°C to +60°C)

Relative Humidity:

100% Condensing

Shock & Vibration:

MIL-STD-810E, method 514-4

Altitude:

10,000 ft above sea level (operating)

Base model

WBAK-016G01

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.

Contact Us

545 West Terrace Drive
San Dimas, California 91773 USA
T. +1 909 599 9080
F. +1 909 599 9082

www.wavestream.com
sales@wavestream.com