



Product Brochure

# 60W Ka-Band AeroStream™ Block Upconverter

WBAR-060A10

## Field-Proven Performance

Wavestream's AeroStream™ Block Upconverter (KRFU) offers unmatched efficiency and performance for the challenging airborne environment. AeroStream™ products meet the requirements of RTCA/DO-160G, and ARINC specifications for commercial aircraft as well as MIL-STD requirements for military aircraft.

AeroStream™ incorporates Wavestream's next generation Spatial Power Advantage™ technology to provide high power output with greater efficiency and reliability for airborne satellite communications system applications.

## Features

- Airborne Qualified Commercial Ka-Band
- Designed for a Pressurized Environment
- Fan and Fanless Cooling Options Available

## Wavestream Advantages

What sets Wavestream 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 power and are more reliable. Wavestream 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 weight limitations



60W Ka-Band AeroStream™  
Block Upconverter

## Technical Specifications

### RF Specifications

**Transmit Frequency:**

27.5 GHz – 30.0 GHz

**IF Frequency:**

950 – 1950 MHz

**IF Input VSWR:** 1.5:1**RF Output VSWR:** 1.5:1**Small Signal Gain:**

66 dB (nominal)

**Gain Adjustment:**

20 dB

**Gain Variation:**

–Over frequency at fixed temp:

3.4 dB p-p over full band

–Over temp at fixed frequency:

5 dB p-p over operating range

**Peak Envelope Power (PEP):**

+47.8 dBm (60W) nominal

**Linear Output Power:** +45.7 dBm

(37W)

**Linear Output Power, defined****as:**

–Output power for which spectral regrowth is –25dBc at one symbol rate offset from center frequency for OQPSK,  $\alpha = 0.2$

**Phase Noise:**

– 100 Hz: –47 dBc/Hz

– 1 kHz: –73 dBc/Hz

– 10 kHz: –81 dBc/Hz

– 100 kHz: –95 dBc/Hz

– 1 MHz: –105 dBc/Hz

– 10 MHz: –112 dBc/Hz

**Noise Power Density Transmit:**

–60 dBm/Hz

**Noise Power Density Receive:**

–140 dBm/Hz (maximum)

**Output Spurious (per ETSI**

**303.978):** –18.0 dBm

### Interfaces

**Input Power:** 4-pin MIL Circular

**M&C:** 22-pin MIL Circular, Ethernet, Discrete Keyline

**TX IF:** TNC**Reference:** 50MHz, TNC

**RF Output:** WR-28 with 2.92mm-Female, Type SMK adapter

### Power

**AC Power:** 115 AC; 360–800 Hz

**AC Power (at Linear Output**

**Power):** 400W (max)

### Physical

**Size:** 18.0" L x 9.06" W x 3.25" H (45.7 x 23.1 x 8.3 cm)

**Weight:** 22.0 lbs (10 kg)

**Operating Temperature****(Ambient Air):**

– Normal Operating: 5° F to +158° F (–15° C to +55° C)

**Relative Humidity:**

100% Condensing

**Shock & Vibration:**

D6-36440, DO-160G, MIL-STD-810

**Altitude:**

15,000 ft above sea level (operating)

### Base Model

WBAR-060A10

## 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](http://www.wavestream.com)

[sales@wavestream.com](mailto:sales@wavestream.com)

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