



Product Brochure

50W Ku-Band AeroStream™ Transceiver

UET50A09A

Field-Proven Performance

Wavestream's AeroStream™ Transceiver 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

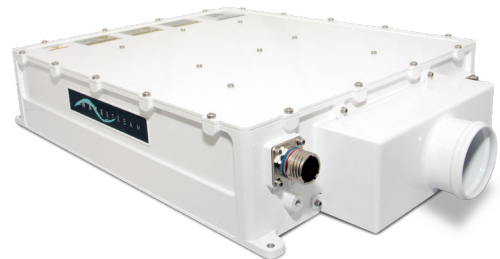
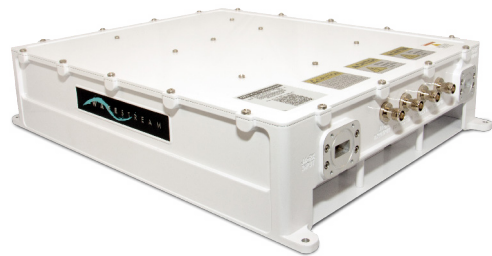
- Airborne Qualified Commercial and Military
- State of the Art GaN Technology
- Integrated High Performance Reference
- Available for Pressurized and Non-Pressurized Environments

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



50W Ku-Band AeroStream™ Transceiver

Technical Specifications

RF Specifications

Transmit Frequency:

13.75 GHz – 14.5 GHz

IF Frequency:

950 – 1700 MHz

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

68 dB (nominal)

Gain Adjustment: 20 dB**Gain Variation:**

– Over frequency at fixed temp: 3 dB p–p over full band

– Over temp at fixed frequency: 2.75 dB p–p over operating range

Saturated Output Power:

47 dBm (nominal)

Linear Output Power: 44 dBm**Linear Output Power, defined as:**

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

RF Output VSWR: 1.5:1**Phase Noise:**

– 100 Hz: –53 dBc/Hz

– 1 kHz: –75 dBc/Hz

– 10 kHz: –80 dBc/Hz

– 100 kHz: –95 dBc/Hz

– 1 MHz: –105 dBc/Hz

– 10 MHz: –112 dBc/Hz

Noise Power Density Transmit:

–75 dBm/Hz

Noise Power Density Receive:

–60 dBm/MHz (maximum)

Output Spurious: Per ETSI EN

301.459 v1.4.1 (assuming off-axis antenna gain of 5dBi at >7 degrees, and nominated bandwidth wide enough to encompass all spectral elements of the transmission which have a level greater than the specified spurious radiation limits)

Physical

Size:

18.2" L x 12.8" W x 3.6" H

(46.2 x 32.5 x 9.1 cm)

Weight: 15.5 lbs (7.0 kg)**Operating Temperature (Ambient Air):**

Normal Operating: 5° F to +131° F (–15° C to +55° C)

Short-time Survival:

–40° F to +158° F (–40° C to +70° C)

Relative Humidity:

100% Condensing

Shock & Vibration:

D6–36440, DO–160G, ABD 513,

MIL–STD–810

Altitude:

15,000 ft above sea level

(operating)

External Reference Input

Frequency: 50 MHz

Receive Specifications

Receive Frequency:

10.7 GHz – 11.7 GHz

11.7 GHz – 12.75 GHz

IF Frequency:

950 – 1950 MHz

1100 – 2150 MHz

Small Signal Gain:

50 dB (nominal at min attenuation)

Gain Adjustment: 20 dB**Gain Variation:**

– Over frequency at fixed temp:

3.5 dB p–p over 500 MHz

– Over temp at fixed frequency: 5 dB p–p over operating range

Intermodulation Products (Output Third Order Intercept):

+24 dBm (minimum)

Noise Figure: 6 dB (maximum)**Image Rejection:**

30 dB (minimum)

Group Delay (linear):

2 ns p–p over 500 MHz

Output Spurious:

–62 dBm (maximum)

Phase Noise:

– 100 Hz: –53 dBc/Hz

– 1 kHz: –75 dBc/Hz

– 10 kHz: –80 dBc/Hz

– 100 kHz: –95 dBc/Hz

Interfaces

Input Power: 4–pin MIL Circular**M&C:**

22–pin MIL Circular, Ethernet

TX IF: TNC**RX IF:** TNC**Reference:**

50MHz, Multiplexed on TX IF

TX Output: WR–62 Waveguide**RX Input:** WR–75 Waveguide

Power

AC Power: 115 AC; 320–800 Hz**AC Power (at Linear Output Power):** 500W (nominal)

Options

Pressurized Environment

Base Model

UET50A09A

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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