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
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
  - 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)

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

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)
- Normal Operating Temperature (Ambient Air):
  - 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)

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

All registered trademarks are the property of their respective companies. This brochure is being provided for informational purposes only. The details contained in this document, including product and feature specifications, are subject to change without notice and shall not bind Gilat to a specific product or set of features related thereto. DVB is a registered trademark of the DVB Project.