Ku-Band AeroStream Airborne Transceiver 25W/40W

FEATURES

- Airborne Qualified Commercial and Military
- Compact Package
- Transceiver Available in 25W or 40W Transmit Output and Full Ku-band Receive
- Integrated High Performance Reference
- Available for Pressurized and Non-Pressurized Environments

Ku-Band AeroStream Airborne Transceiver

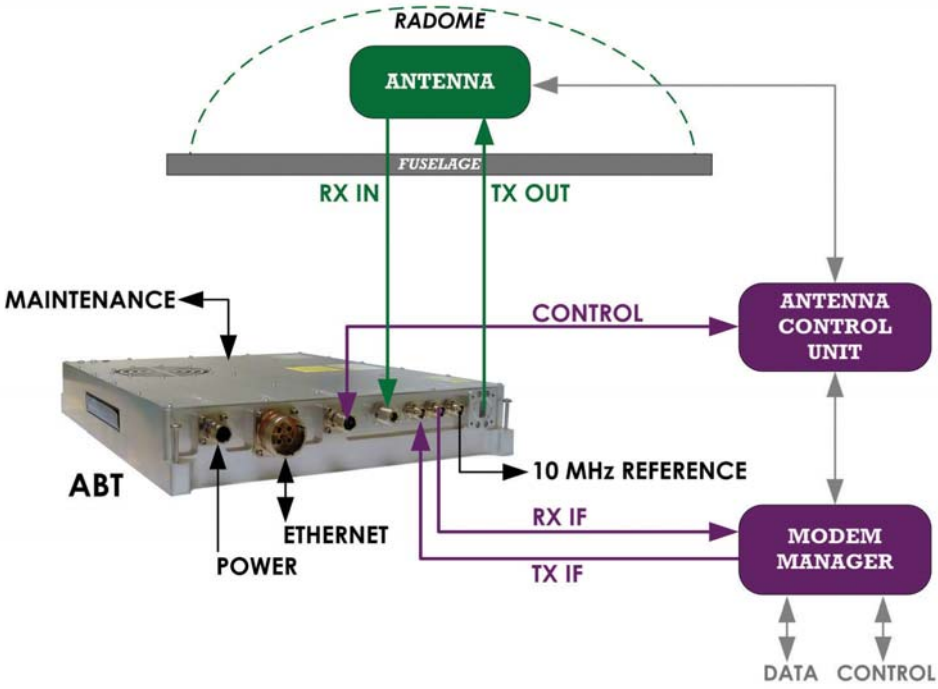
The Wavestream Advantage:

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

The Wavestream® AeroStream™ transceiver offers unmatched efficiency and performance for the challenging airborne environment. AeroStream products meet the requirements of RTCA/DO-160G, Boeing, Airbus 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.

AeroStream products are biased for Class AB operation, drawing less power when backed off to reduce thermal loading and ensure higher MTBF (Mean Time Between Failures) for greater reliability and lower lifecycle costs.

The AeroStream transceiver provides the necessary interfaces to work seamlessly with leading modems and Antenna Control Units (ACU) to provide a convenient turnkey solution.



Transmit Specifications

	25W	40W
Transmit RF Frequency - Standard - Extended	 14.0 - 14.5 GHz 13.75 - 14.5 GHz	 14.0 - 14.5 GHz 13.75 - 14.5 GHz
IF Frequency - Standard - Extended	 950 - 1450 MHz 950 - 1700 MHz	 950 - 1450 MHz 950 - 1700 MHz
IF Input VSWR	1.5:1	1.5:1
Small Signal Gain	61 dB (nominal)	61 dB (nominal)
Gain Adjustment	20 dB	20 dB
Gain Variation (over frequency at fixed temperature)	1 dB p-p over 36 MHz 3 dB p-p over full band	1 dB p-p over 36 MHz 3 dB p-p over full band
Gain Variation (over temperature at fixed frequency)	3 dB p-p over operating range	3 dB p-p over operating range
Saturated Output Power	44.5 dBm (nominal)	46.5 dBm (nominal)
P_1dB Output Power	>44 dBm	>46 dBm
Rated Output Power *	44 dBm	46 dBm
Intermodulation* (Third order intermodulation product relative to combined power of two carriers at 3dB total power back-off from Rated Output Power)	-25 dBc	-25 dBc
Spectral Regrowth* (For QPSK at 1.5X and OQPSK at 1.0X symbol rate offset offset at 2dB total power back-off from Rated Output Power)	-30 dBc	-30 dBc
RF Output VSWR	1.5:1	1.5:1
Phase Noise	1 kHz < -69 dBc/Hz 10 kHz < -69 dBc/Hz 100 kHz < -81 dBc/Hz 1 MHz < -87 dBc/Hz 10 MHz < -122 dBc/Hz	1 kHz < -69 dBc/Hz 10 kHz < -69 dBc/Hz 100 kHz < 81 dBc/Hz 1 MHz < -87 dBc/Hz 10 MHz < -122 dBc/Hz
AM/PM Conversion (up to 2 dB below Rated Output Power)	2 deg/dB	2 deg/dB
Noise Power Density - Transmit	-100 dBm/Hz	-100 dBm/Hz
Noise Power Density - Receive	-60 dBm/MHz (maximum)	-60 dBm/MHz (maximum)
Output Spurious	-60 dBc	-60 dBc

Receive Specifications

Receive RF Frequencies - Band A - Band B	 10.7-11.7 GHz 11.7-12.75 GHz	 10.7-11.7 GHz 11.7-12.75 GHz
IF Frequencies - Band A - Band B	 950-1950 MHz 1100-2150 MHz	 950-1950 MHz 1100-2150 MHz
Small Signal Gain	20 dB (nominal)	20 dB (nominal)
Gain Variation (over frequency at fixed temperature)	1 dB p-p over 36 MHz 2 dB p-p over full band	1 dB p-p over 36 MHz 2 dB p-p over full band
Gain Variation (over temperature at fixed frequency)	2 dB over operating range	2 dB over operating range
Intermodulation Products* (Third Order Intercept)	-13.5 dBm (minimum)	-13.5 dBm (minimum)
Noise Figure	8 dB (maximum)	8 dB (maximum)
Phase Noise	10 Hz < -30 dBc/Hz 100 Hz < -50 dBc/Hz 1 kHz < -55 dBc/Hz 10 kHz < -70 dBc/Hz 100 kHz < -95 dBc/Hz 1 MHz < -120 dBc/Hz 10 MHz < -120 dBc/Hz	10 Hz < -30 dBc/Hz 100 Hz < -50 dBc/Hz 1 kHz < -55 dBc/Hz 10 kHz < -70 dBc/Hz 100 kHz < -95 dBc/Hz 1 MHz < -120 dBc/Hz 10 MHz < -120 dBc/Hz
Image Rejection	40 dB (minimum)	40 dB (nominal)
Group Delay (linear)	±1 ns over 36 MHz	± 1 ns over 36 MHz
Output Spurious	-88 dBm (maximum)	-88 dBm (maximum)

*Guaranteed over temperature and frequency

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10 MHz Reference	25W	40W
Accuracy	0.03 PPM at 25°C	0.03 PPM at 25°C
Stability	0.03 PPM first year, 0.12 PPM over 20 years	0.03 PPM first year, 0.12 PPM over 20 years
Output Level	+ 7 dBm (nominal)	+ 7 dBm (nominal)

Power

AC Power	115 VAC, 360-800 Hz	115 VAC, 360-800 Hz
AC Power Draw (typical) (at Rated Output Power)	<275W	<350W
AC Power Draw (at 3dB Back-off from Rated Output Power)	<255W	<315W

Interfaces

Input Power	3-pin Military Circular	3-pin Military Circular
Ethernet	4-pin Military Circular	4-pin Military Circular
ACU Discrete	6-pin Military Circular	6-pin Military Circular
TX IF	TNC	TNC
RX IF	TNC	TNC
Reference	TNC	TNC
RF Output	WR62 Waveguide, Type N Optional	WR62 Waveguide, Type N Optional
RX Input	Type N	Type N
Maintenance	RJ-45 Military Circular	RJ-45 Military Circular
Debug	9-Pin D-Sub	9-Pin D-Sub

Physical

Size	16.7"L x 13.6W x 2.5"H	16.7"L x 13.6W x 2.5"H
Weight	21 lbs	21 lbs
Operating Temperature (Ambient Air)	-55°C to 70°C	-55°C to 70°C
Relative Humidity	DO-160G 6.3.2 A	
Shock & Vibration	D6-36440, DO-160G, ABD 513, MIL-STD-810	
Altitude	35,000 ft above sea level (operating)	

Options

Non-pressurized Environment

Base Model Number

ABT-KUS025/40

ABT-KUE025/40

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