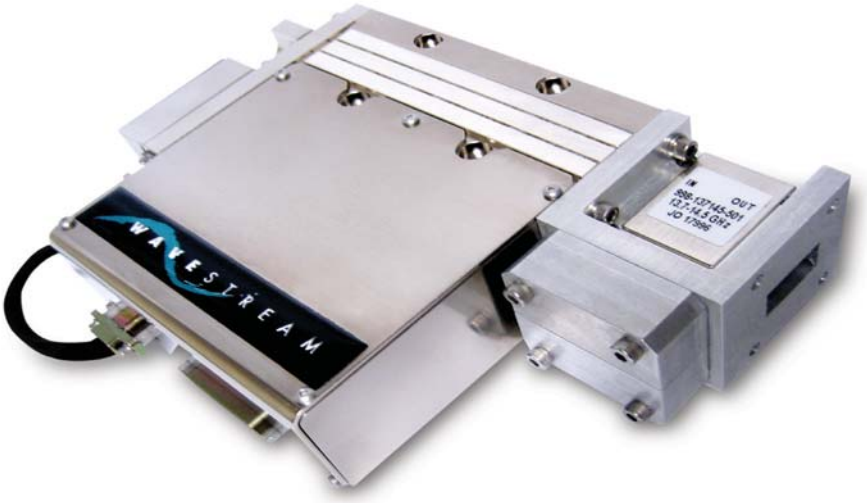
Ku-Band Deck Power Amplifier 16W/25W/40W

FEATURES

- Rugged, Lightweight Package
- Industry-Leading Efficiency with 275W Draw for 40W Output
- Reliable, Field Proven Design
- Versatile Configuration for Maximum Flexibility



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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.

Wavestream's® Ku-band Deck Power Amplifier (DPA) is the lightest, most efficient and compact product for embedding into Comms-On-The-Move (COTM) and micro-flyaway SATCOM terminals. The Ku-band DPA incorporates Wavestream's next generation Spatial advantEdge™ technology to provide high output power with significant reductions in heat sink and airflow requirements to meet the size, weight and performance requirements for integration into any mobile SATCOM environment. The Ku-band DPA is available with three output power levels, two frequency bands, and optional Ku CDL band.

RF Specifications	16W	25W	40W
Transmit Frequency - Standard - Extended Band Option	 14.0 - 14.5 GHz 13.75 - 14.5 GHz	 14.0 - 14.5 GHz 13.75 - 14.5 GHz	 14.0 - 14.5 GHz 13.75 - 14.5 GHz
IF Frequency - Standard - Extended Band Option	 950 - 1450 MHz 950 - 1700 MHz	 950 - 1450 MHz 950 - 1700 MHz	 950 - 1450 MHz 950 - 1700 MHz
Frequency Reference (10 MHz on IF for BUC option)	0 dBm ± 5 dB	0 dBm ± 5 dB	0 dBm ± 5 dB
Small Signal Gain (SSPA)	45 dB nominal	45 dB nominal	45 dB nominal
Gain Variation (Over frequency at fixed temperature)	0.5 dB over 36 MHz 3 dB over 500 MHz	0.5 dB over 36 MHz 3 dB over 500 MHz	0.5 dB over 36 MHz 3 dB over 500 MHz
Gain Variation (Over temperature at fixed frequency)	3 dB p-p over operating range	3 dB p-p over operating range	3 dB p-p over operating range
Saturated Output Power	+42.5 dBm (nominal)	+44.5 dBm (nominal)	+46.5 dBm (nominal)
P_1dB Output Power *	>+42 dBm	>+44 dBm	>+46 dBm
Rated Output Power *	+42 dBm	+44 dBm	+46 dBm
Intermodulation * (Third order intermodulation product relative to combined power of two carriers at 3 dB total power back-off from Rated Output Power)	-25 dBc	-25 dBc	-25 dBc
Spectral Regrowth (For QPSK at 1.5x and for OQPSK at 1.0x symbol rate offset at 2 dB back-off from Rated Output Power)	-30 dBc	-30 dBc	-30 dBc
Phase Noise (with BUC option)	Meets IESS-308	Meets IESS-308	Meets IESS-308
AM/PM Conversion (Up to 2 dB below Rated Output Power)	2 deg/dB	2 deg/dB	2 deg/dB
Noise Power Density - Transmit[1]	-70 dBW/4 kHz (maximum)	-70 dBW/4 kHz (maximum)	-70 dBW/4 kHz (maximum)
Noise Power Density - Receive[1]	-150 dBW/4 kHz (maximum)	-150 dBW/4 kHz (maximum)	-150 dBW/4 kHz (maximum)
Output Spurious	-55 dBc	-55 dBc	-55 dBc

Power

DC Power	24V, 28V, 48V	24V, 28V, 48V	24V, 28V, 48V
DC Power Draw (typical) (At Rated Output Power)	130W	205W	275W
DC Power Draw (typical) (At 3 dB Back-off from Rated Output Power)	115W	185W	240W

*Guaranteed over temperature and frequency

[1] Requires Optional Filtering

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Interfaces	16W	25W	40W
IF Input Connector (BUC option)	SMA	SMA	SMA
IF Input Impedance (BUC option)	50 ohms	50 ohms	50 ohms
IF Input VSWR (BUC option)	2:1 maximum	2:1 maximum	2:1 maximum
RF Input Connector (SSPA)	WR-75 Waveguide or SMA	WR-75 Waveguide or SMA	WR-75 Waveguide or SMA
RF Output Connector	WR-75 Waveguide or SMA	WR-75 Waveguide or SMA	WR-75 Waveguide or SMA
RF Output VSWR	1.25:1 maximum	1.25:1 maximum	1.25:1 maximum
Control Signal	TX Enable	TX Enable	TX Enable

Physical

Size (Depends on configuration)	6.4"L x 5.0"W x 1.5"H	6.4"L x 5.0"W x 1.5"H	6.4"L x 5.0"W x 1.5"H
Weight (With all options)	<3.5 lbs	<3.5 lbs	<3.5 lbs
Operating Temperature (Requires active baseplate cooling)	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C
Relative Humidity	95% non-condensing		
Shock & Vibration	Designed to withstand 20G at 11 ms ½ sine waves non-operating conditions, and MIL-STD-810E, method 514-5 C1-C3 transportation vibration		
Altitude	28,000 ft above sea level (operating)		

Options

Ku CDL Frequency Band
L-Band to Ku-Band Upconverter - 7.1"L x 3.3"W x 1.1"H, 1 lb

Base Model Number

DPA-KUS016/025/040

DPA-KUE016/025/040

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