



20W / 40W KA WIDEBAND MATCHBOX BUC

ADB20G00A // ADB40G00A



FIELD-PROVEN PERFORMANCE

Wavestream's 20W/40W Ka Wideband Block Upconverter (BUC) leads the Industry in linear power for a feedmount-ready package, ensuring the maximum available power at the feed flange.

This amplifier provides the ability to cover multiple frequency bands with a switchable upconverter in an Industry-leading small, rugged, outdoor package. The Ka Wideband BUC offers forward power monitoring, 30 dB of step attenuation, serial RS-422/485, RS-232, or optional Ethernet control interface, and DC input power.

FEATURES

- Covers Commercial and Military Bands
- Dual-band upconverter allows coverage of up to two (2) 1000 MHz bands

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 energy 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 space and weight limitations



TECHNICAL SPECIFICATIONS

RF SPECIFICATIONS

Transmit Frequency:

29.0 GHz - 30.0 GHz
30.0 GHz - 31.0 GHz

IF Frequency:

950 MHz - 1950 MHz
1000 MHz - 2000 MHz

**Frequency Reference
(10 MHz on IF):**

0 dBm ± 5 dB

Small Signal Gain:

20W: 60 dB (nominal)
40W: 62 dB (nominal)

Gain Adjustment:

30 dB in 0.25 dB steps
(nominal)

Gain Variation:

-Over frequency at fixed temp:
4 dB p-p over 1000 MHz
-Over temp at fixed frequency:
4 dB p-p over operating range

Saturated Output Power:

20W: 43.0 dBm (nominal)
40W: 46.0 dBm (nominal)

Linear Output Power:

20W: > 40.0 dBm
40W: > 43.0 dBm

**Linear Output Power, defined
by MIL-STD-188-164:**

-Intermodulation (Third order
intermodulation product
relative to combined power of
two carriers at 3 dB total power
back-off from Saturated Output
Power): -25 dBc

-Spectral Regrowth (for QPSK
at 1.5x and OQPSK at 1.0x rate
offset at 3 dB back-off from
Saturated Output Power):

-30 dBc

-AM/PM Conversion: 2 deg/dB

-Linear Output Power: (ACPR):

20W: > 41.0 dBm

40W: > 44.0 dBm

-ACPR of -20 dBc

(using QPSK symbol rate of 1.0
MSps, alpha 0.2)

Phase Noise:

- 10 Hz: -32 dBc/Hz
- 100 Hz: -62 dBc/Hz
- 1 kHz: -72 dBc/Hz
- 10 kHz: -82 dBc/Hz
- 100 kHz: -92 dBc/Hz
- 1 MHz: -102 dBc/Hz
- 10 MHz: -112 dBc/Hz

Noise Power Density**Transmit:**

-85 dBW/4 kHz (maximum)

Noise Power Density Receive:

-156 dBW/4 kHz (maximum)

Output Spurious:

-60 dBc

INTERFACES

IF Input Connector:

Type N Female

IF Input Impedance:

50 Ohms

IF Input VSWR:

1.8:1 maximum

RF Output Connector: WR-28**RF Output VSWR:**

1.3:1 maximum

DC Connector and M&C**Connector:**

19-Pin MIL Circular

M&C Protocol:

Serial RS-485 (SA-bus)

POWER

DC Power:

20W: 22V - 50V

40W: 46V - 50V

on 19-pin connector

DC Power Draw:

20W: < 180W

40W: < 300W

(at Linear Output Power)

PHYSICAL

Size: 14.3" L x 5.5" W x 4.1" H
(36.3 x 14.0 x 10.4 cm)

Weight: 14 lbs (6.4 kg)

Operating Temperature

(Ambient Air):

-40°F to +140°F

(-40°C to +60°C)

Relative Humidity:

100% Condensing

Shock & Vibration:

MIL-STD-810E, method 514-4

Altitude:

10,000 ft above sea level

(operating)

OPTIONS

M&C Protocol: Serial RS-232,
Ethernet, (TCP/IP, SNMP,
Web GUI

BASE MODEL

ADB20G00A

ADB40G00A

ABOUT WAVESTREAM

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

sales@wavestream.com