



80W X-Band Matchbox BUC

WAVESTREAM MBB-XDS080

Field-Proven Performance

Wavestream's X-band Matchbox Block Upconverter (BUC) offers unmatched efficiency and performance suitable for mobile SATCOM, flyaway and VSAT systems. The X-band Matchbox BUC incorporates Wavestream's next generation Spatial advantEdge™ technology to provide higher output power in smaller, lighter weight packages that are more reliable and use less energy. The X-band Matchbox BUC is field proven to withstand the most extreme environments. Every unit is thoroughly tested to guarantee performance over the full frequency band and over the full temperature range.

Features

- Rugged, Compact 11-lb Package
- Feed-mount for Easy Integration
- Optional Integrated Filter and Feed Assemblies

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 weight limitations

Technical Specifications

RF Specifications

- **Transmit Frequency:** 7.9 - 8.4 GHz
- **IF Frequency:** 950 - 1450 MHz
- **Frequency Reference** (10 MHz on IF): 0 dBm \pm 5 dB
- **Small Signal Gain:** 62 dB nominal
- **Gain Adjustment:** 30 dB, 0.25 dB steps
- **Gain Variation:**
 - Over frequency at fixed temp: 3 dB p-p over 500 MHz
 - Over temp at fixed frequency: 3 dB p-p over operating range
- **Saturated Output Power:** 49 dBm
- **Linear Output Power:** 46 dBm
Linear Output Power as 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 2 dB back-off from Saturated Output Power): -30dBc
 - **AM / PM Conversion** (at Linear Output Power): 2 deg/dB
- **Linear Output Power:** 47 dBm
 - **Spectral Regrowth** (For QPSK at 1.5x and OQPSK at 1.0x rate offset at 2 dB back-off from Saturated Output Power): -30dBc
- **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:** -76 dBm/Hz (maximum)
- **Noise Power Density Receive:** -76 dBm/Hz (maximum)
- **Output Spurious:** -60 dBc

Interfaces

- IF Input Connector: Type N Female
- IF Input Impedance: 50 Ohms
- IF Input VSWR: 1.7:1 maximum
- RF Output Connector: WR-112, non-grooved
- RF Output VSWR: 1.25:1 maximum
- DC and M&C Connector: 12-pin MIL Circular
- M&C: Serial RS-485 (SA-bus), Step Attenuator

Power

- DC Power: 28V or 48V
- DC Power Draw (typical) (at Linear Output Power): 360W

Physical

- Size: 11" L x 5.4" W x 4.4" H (28 x 13.7 x 11.1 cm)
- Weight: 11 lbs (5 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

- External Power Supply: AC-DC Converter, 100-240 VAC
- M&C: Ethernet Option; RS-232

Base Model

- MBB-XDS080-xxxx

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, X and C-band Solid State Power Amplifiers (SSPAs) and Block Upconverters (BUCs) provide systems integrators with field-proven, high performance solutions designed for mobile and fixed defense and broadcast satellite communication systems worldwide.

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