X-Band Matchbox Solid State Block Upconverter 80W

FEATURES

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

X-Band Solid State Block Upconverter

The Wavestream Advantage:

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

AC/DC Converter
(optional)

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.

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 MTBF (Mean Time Between Failures) for greater reliability and lower lifecycle maintenance costs.

The X-band Matchbox BUC's modular design provides the flexibility needed to integrate different frequency bands into a system design. The X-band Matchbox BUC has a compatible form, fit and function footprint as Wavestream's 12W Ka-band and 40W Ku-band Matchbox BUCs, providing a convenient way to integrate a different band without changing the terminal or altering the hardware.

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RF Specifications

Transmit Frequency	7.9 - 8.4 GHz
IF Frequency	950 - 1450 MHz
Frequency Reference (10 MHz on IF)	0 dBm ± 5 dB
Small Signal Gain	62 dB nominal
Gain Adjustment	30 dB in 0.25 dB Steps
Gain Variation (over frequency at fixed temperature)	3 dB p-p over 500 MHz
Gain Variation (over temperature at fixed frequency)	3 dB p-p over operating range
Saturated Output Power	+49 dB
Intermodulation* (Third order intermodulation product relative to combined power of two carriers at 3 dB backoff from Saturated Output Power	-25 dBc
Spectral Regrowth (For QPSK at 1.5X and OQPSK at 1.0x symbol rate offset at 2 dB backoff from Saturated Output Power)	-30 dBc
Phase Noise	-32 dBc at 10 Hz offset -62 dBc at 100 Hz offset -72 dBc at 1 kHz offset -82 dBc at 10 kHz offset -92 dBc at 100 kHz offset -102 dBc at 1 MHz offset -112 dBc at >10 MHz offset
AM/PM Conversion (at Linear Output Power)	2 deg/dB
Noise Power Density - Transmit	-76 dBm/Hz
Output Spurious	-60 dBc

Power

DC Power	28V, 48V
Prime Power (typical) (at Linear Power)	380 W

*Guaranteed over temperature and frequency

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Interfaces

IF Input Connector	Type N Female
IF Input Impedance	50 ohms
IF Input VSWR	1.7:1
RF Output Connector	WR-112, non-grooved
RF Output VSWR	1.5:1
DC and Monitor & Control Connector	12-Pin Military Circular
Monitor & Control	Serial RS-485 (SA-bus), Forward Power Monitor, Step Attenuator, Ethernet with SNMP Support

Physical

Size	11" L x 5.4" W x 4.4" H
Weight	11 lbs
Operating Temperature (Ambient Air)	-40° C to +60° C
Relative Humidity	100% Condensing
Shock & Vibration	Designed to withstand 20G at 11 ms ½ sine wave non-operating conditions, and MIL-STD-810E, method 514-4
Altitude	10,000 ft above sea level (operating)

Options

Integrated Filter and Feed Assemblies
External Power Supply, AC-DC Converter, 100-240 VAC
Monitor & Control – Ethernet, RS-232

Base Model Number

MBB-XDS080