

80W X-Band Matchbox Block Upconverter

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 BUC offers 30 dB of step attenuation, serial communication for Monitor and Control, and DC input power. Every unit is thoroughly tested to guarantee performance over the full frequency band and over the full temperature range.

Features

- 80W Ka-band BUC providing >40W of linear power
- 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 for generation of higher output power in more efficient, and more compact product packages that are more reliable.

Wavestream products are optimized for Linear operation, drawing less power when backed off to help save valuable energy resources. They generate less heat, and have superior heat sinking 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



80W X Band Matchbox™ BUC

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 (nominal)

– Linear Output Power:

47 dBm (Single-Carrier per

MIL-STD-188-164B)

– Spectral Regrowth (For

QPSK

at 1.5x and OQPSK at 1.0x rate

offset at 2 dB back-off from

Saturated Output Power):

–30dBc

– Linear Output Power:

46 dBm (Multi-Carrier per

MIL-STD-188-164B)

– 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

– AM / PM Conversion (at

Linear Output Power):

2 deg/dB

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 (at Linear****Output Power):**

360W (nominal)

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: RS-232

Ethernet Option (TCP/IP,

WebGUI, SNMP)

Base Models

MBB-XDS080

About Gilat Wavestream

Gilat 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.

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