

Ka-Band JAVELIN Block Upconverter

50W Linear

FEATURES

- 100W of Saturated Output Power for High Data Rate Capability
- Industry's Highest Efficiency drawing only 425W at Linear Output Power
- Extremely Compact 10.5 lb Package
- High Reliability for long life under the harshest conditions
- Small enough to integrate directly onto boom arm
- Integrated AC-DC power supply
- Multiple M&C interfaces: RS-485, RS-232, optional Ethernet
- Optional 1:1 Redundancy System
- Meets requirements for MIL-STD-188-164 terminals



The 100W **JAVELIN** Block Upconverter is the industry's most compact & lightweight Ka-Band 50W Linear solid state power amplifier. Mission Microwave's proprietary power combining technology and thorough system optimization have produced a rugged 10.5 lb amplifier that mounts directly on an antenna boom, eliminating excess losses to the feed.

The revolutionary design features a compact form factor which provides improved cooling over more conventional package designs. Improved cooling equates to higher reliability, even in the most demanding of applications and extreme environments (-40°C to +60°C). The BUC's stellar performance offers the highest useable output power for the lowest power consumption of any amplifier in its class.

Ka-Band JAVELIN Block Upconverter

50W Linear

Frequency (selectable)

Band 1	29.0 to 30.0 GHz
Band 2	30.0 to 31.0 GHz

L-Band Input

Band 1	950 to 1950 MHz
Band 2	1000 to 2000 MHz

Reference

10 MHz / 50 MHz	-5 to +5 dBm
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Output Power

P _{Rated} (typ)	50 dBm / 100 W
P _{Lin1C}	48 dBm / 63 W
P _{Lin2C}	47 dBm / 50 W

Gain (nom)

60 dB

Gain Variation

Over temp, fixed freq	4.0 dB p-p
Over freq fixed temp full band	4.0 dB p-p
36 MHz	1.0 dB p-p

Variable Attenuator

31 dB 0.25 dB step

Intermodulation

2 carriers @ P _{Lin2C}	-25 dBc
Per MIL-STD-188-164	

Spectral Regrowth

QPSK @ 1.5x SR @ P _{Lin1C}	<-30 dBc
OQPSK @ 1x SR @ P _{Lin1C}	<-30 dBc

Input VSWR

2:1 typ

Output VSWR

1.35:1 max

Phase Noise

@ 10 Hz	-32 dBc/Hz
@ 100 Hz	-62 dBc/Hz
@ 1 KHz	-72 dBc/Hz
@ 10 KHz	-82 dBc/Hz
@ 100KHz	-92 dBc/Hz
@ 1 MHz	-102 dBc/Hz

AM/PM Conversion

@ P _{Lin1C}	2.0° / dB
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Noise Power Density

Receive Band	-150 dBm / Hz
Transmit Band	-76 dBm / Hz

Spurious Output

In-band	-60 dBc
Out-of-band	-60 dBc
LO leakage	-100 dBm

Prime Power

90 to 264 VAC
50-60 Hz

Power Consumption

P _{Rated} (typ)	650 W
P _{Lin2C}	425 W

Operating Temperature

-40°C to +60°C

Relative Humidity

100% condensing, IP67

Shock

20 g peak, 11 msec,
1/2 sine

Vibration

MIL-810F,
514.5C-2 transport

Maximum Input Power

+10 dBm

M&C

19-pin connector	RS-485, RS-232 Optional: Ethernet SNMPv3
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Dimensions

L x W x H (in)	13.2" x 5.5" x 5.5"
L x W x H (mm)	335 x 140 x 140

Weight

lbs	10.5
kg	4.8