

FEATURES

- Wideband capable of 27.5 – 30.0 GHz
- 50W of Saturated Output Power for High Data Rate Capability
- Industry's Highest Efficiency drawing only 240W at Linear Output Power
- Extremely Compact 10 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 DC Power
- Meets requirements for MIL-STD-188-164 terminals



The 50W **JAVELIN** Block Upconverter is the industry's most compact & lightweight Wideband Ka-Band 25W Linear solid state power amplifier. Mission Microwave's proprietary power combining technology and thorough system optimization have produced a rugged 10 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

Wideband 50W

Frequency (selectable)

Band 1	27.50 to 28.50 GHz
Band 2	28.25 to 29.25 GHz
Band 3	29.00 to 30.00 GHz

LO Frequency

Band 1	26.55 GHz
Band 2	27.30 GHz
Band 3	28.05 GHz

Reference

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

P _{Rated} (typ)	47 dBm / 50 W
P _{Lin1C}	44.5 dBm / 28 W
P _{Lin2C}	44 dBm / 25 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	-75 dBm / Hz

Spurious Output

In-band	-55 dBc
Out-of-band	-55 dBc
LO Leakage	-5 dBm

Prime Power

	90 to 264 VAC
	50-60 Hz
Optional	28 VDC or 48 VDC

Power Consumption

P _{Rated} (typ)	365 W
P _{Lin2C}	240 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

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
kg	4.5