

## FEATURES

- 250W of Saturated Output Power for High Rate Data Capability
- Industry Leading Efficiency drawing only 1100W at Linear Output Power
- Extremely Compact 35 lb Package
- High Reliability for long life under the harshest conditions
- Small enough to integrate directly onto antenna
- Integrated AC-DC power supply
- Multiple M&C interfaces: RS-485, RS-232, and Ethernet
- Meets requirements for MIL-STD-188-164 Terminals



The 250W **MOAB** Block Upconverter is the industry's most compact & lightweight Super Wideband Ka-Band 250W solid state power amplifier. Mission Microwave's proprietary power combining technology and thorough system optimization have produced a rugged 35 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 +55°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 MOAB Block Upconverter

## Super Wideband 250W Saturated

### 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
Band 4	30.00 to 31.00 GHz

### IF Frequency

Band 1-3	950 – 1950 MHz
Band 4	1000 – 2000 MHz

### LO Frequency

Band 1	26.55 GHz
Band 2	27.30 GHz
Band 3	28.05 GHz
Band 4	29.00 GHz

### Output Power

$P_{RATED}$ (nom)	54 dBm / 250 W
$P_{LIN}$	51 dBm / 125 W

### Gain (nom)

65 dB

### Gain Variation

Over temp, fixed freq	4.0 dB p-p
Over freq fixed 1 GHz band	4.0 dB p-p
36 MHz	1.0 dB p-p

### Variable Attenuator

31 dB 0.25 dB step

### Intermodulation

2 carriers @ $P_{LIN}$ Per MIL-STD-188-164C	-25 dBc
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### Spectral Regrowth

QPSK @ 1.5x SR @ $P_{LIN}$	<-30 dBc
OQPSK @ 1x SR @ $P_{LIN}$	<-30 dBc

### 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

### Input VSWR

2.1:1 typ

### Output VSWR

1.35:1 max

### AM/PM Conversion

@  $P_{LIN}$  2.0°/ dB

### Noise Power Density

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

### Spurious Output

In-band (2 MHz guard band)	-55 dBc
Out-of-band	-55 dBc
LO Leakage	-10 dBm

### Prime Power

100 to 264 VAC  
50-60 Hz

### Power Consumption

$P_{RATED}$ (nom)	1700 W
$P_{LIN}$ (nom)	1100 W

### Operating Temperature

-40°C to +55°C

### Relative Humidity

100% condensing, IP67

### Shock

MIL-810H, 516.8-1  
20g peak, 11 msec  
1/2 sine

### Vibration

MIL-810H, 514.8C-4  
Transportation

### Maximum Input Power

+10 dBm

### M&C

32-pin connector	RS-485, RS-232
RJ45	Ethernet

### Dimensions

L x W x H (in)	17" x 10.3" x 7.5"
L x W x H (mm)	432 x 262 x 191

### Weight

lbs	35
kg	14.5