

## Ka-Band TITAN Block Upconverter

**100W Linear**

### FEATURES

- 200W of Saturated Output Power for Fixed and Mobile High Data Rates
- Industry's Highest Efficiency drawing only 840W at Linear Output Power
- Extremely Compact 22 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 and 1: 2 Redundancy System
- Meets requirements for MIL-STD-188-164 terminals



The 200W **TITAN** Ka-Band Block Upconverter is the industry's most compact & lightweight Ka-band 100W Linear solid state power amplifier. Mission Microwave's proprietary power combining technology and thorough system optimization have produced a rugged 22 lb amplifier that mounts directly on an antenna boom, eliminating excess losses to the feed.

This revolutionary design features a compact form factor which provides improved cooling and lower cross-section 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 TITAN Block Upconverter

## 100W Linear

### Frequency (M&C selectable)

Band 1	29.00 to 30.00 GHz
Band 2	30.00 to 31.00 GHz

### L-Band Input

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

### Output Power

P <sub>RATED</sub> (typ)	53 dBm / 200 W
P <sub>LIN1C</sub>	51 dBm / 126 W
P <sub>LIN2C</sub>	50 dBm / 100 W

### Gain (nom)

65 dB

### Gain Variation

Over temp, fixed freq	4 dB p-p
Over freq fixed temp full band	4 dB p-p
36 MHz	1.0 dB p-p

### Variable Attenuator

31 dB 0.25 dB step

### Intermodulation

2 carriers @ P <sub>LIN2C</sub>	-25 dBc
Per MIL-STD-188-164	

### Spectral Regrowth

QPSK @ 1.5x SR @ P <sub>LIN1C</sub>	<-30 dBc
OQPSK @ 1x SR @ P <sub>LIN1C</sub>	<-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 <sub>LIN1C</sub>	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	-10 dBm max

### Prime Power

200 to 240 VAC  
50-60 Hz

Optional

100 to 240 VAC  
50-60 Hz

### Power Consumption

P <sub>RATED</sub> (typ)	1300 W
P <sub>LIN2C</sub>	840 W

### Operating Temperature

-40°C to +60°C

### Relative Humidity

100% condensing, IP67

### Shock

20g peak, 11 ms,  
1/2 sine

### Vibration

MIL-810F, 514.5C-2  
transportation

### Maximum Input Power

+10 dBm

### M&C

19-pin connector

RS-485, RS-232  
Optional: Ethernet

### Dimensions

L x W x H (in)	15.25" x 7.0" x 7.0"
L x W x H (mm)	388 x 178 x 178

### Weight

lbs	22
kg	10