Ka-Band TITAN Block Upconverter — Super Wideband 100W Linear

FEATURES

- Wideband capable of 27.5 – 31.0 GHz
- 100W of Linear Output Power for High Data Rate Capability
- Industry's Highest Efficiency drawing only 940W 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
- Meets requirements for MIL-STD-188-164 Terminals

The Super Wideband 100W Linear **TITAN** Block Upconverter is the industry's most compact & lightweight Wideband 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.

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.

MISSION MICROWAVE

Ka-Band TITAN Block Upconverter

Super Wideband 100W Linear

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)	53 dBm / 200 W
P_{LIN}	50 dBm / 100 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}	-25 dBc
Per MIL-STD-188-164C	
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	-75 dBm / Hz
Spurious Output	
In-band (2 MHz guard band)	-55 dBc
Out-of-band	-55 dBc
LO Leakage	-5 dBm
Prime Power	100 to 264 VAC 50-60 Hz
Power Consumption	
P_{RATED} (nom)	1500 W
P_{LIN} (nom)	940 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	
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