

Bobcat 32Ka

32W Ka-band GaN SATCOM Block Upconverter

- POWERFUL:** 16W linear power (single carrier)
- EFFICIENT:** 160W DC power draw at linear power
- COMPACT:** 4.5 lbs in 110 cu inch package
- RUGGED:** -40C to +60C, MIL-STD-810 environment
- FLEXIBLE:** Interchangeable with X- and Ku-band Bobcats,
Dual-band 29-30/30-31GHz option

The smallest, most rugged Ka-band Block Upconverter to provide 16W of linear power for satcom uplinks.

High efficiency GaN solid-state design enables big power from a box while still handling the toughest environments.

If you need a sleek, powerful BUC to speed up your compact terminal - you need a Bobcat™.



Bobcat 32Ka

32W Ka-band GaN SATCOM BUC

Frequency and Input Levels

RF Output Frequency (other options available)	30.0 to 31.0 GHz
IF Input Frequency	1000 to 2000 MHz
Input Level, No Damage	+10 dBm max
LO Reference Frequency	External 10 MHz
LO Reference Level	0 dBm \pm 5 dB
IF/REF Input Impedance	50 ohms

Output RF Power and Linearity

Eq. Saturated Power, P_{SAT}	45 dBm (32W)
Maximum CW Power, P_{MAX}	44 dBm (25W)
Linear Power, P_{LIN} (min)	42 dBm (16W)
Spectral Regrowth @ P_{LIN} (QPSK, OQPSK, 5.0 SR, $\alpha=0.2$)	30 dBc max @ >1 SR offset
Intermodulation Products @ P_{LIN} wrt sum of 2 equal carriers	-25 dBc max
AM to PM Conversion @ P_{LIN}	2.0°/dB max

GAIN

Small Signal (typical)	55 dB \pm 5 dB
Gain Attenuation Range	25 dB in 0.1 dB steps
Gain Variation (over 40 MHz)	1.0 dB p-p max
Gain Variation (over full band)	3.0 dB p-p max
Gain Slope (max)	0.04 dB/MHz
Gain Stability, over 24 hours	0.5 dB p-p max
Gain Variation over Temp	4.0 dB p-p max

Noise and Spurious

Noise Power Transmit Band	-76 dBW/4 kHz
Noise Power Receive Band	-150 dBW/4 kHz
AC Line Spurious sum of all spurs	-30 dBc
single sideband sum	-36 dBc
Harmonics	-60 dBc
Output Spurious @ P_{LIN} (excludes 1 MHz band)	-60 dBc

Phase Noise

Phase Noise (max)	
100 Hz	-63 dBc/Hz
1 kHz	-73 dBc/Hz
10 kHz	-83 dBc/Hz
100 kHz	-93 dBc/Hz
1 MHz	-103 dBc/Hz
Reference Phase Noise (max)	
10 Hz	-125 dBc/Hz
100 Hz	-155 dBc/Hz
1 kHz	-165 dBc/Hz

Phase Linearity and VSWR

Transmit Phase Linearity up to P_{LIN}	
over any 2 MHz	\pm 0.2 radian
over any 36 MHz	\pm 0.4 radian
over any 72 MHz	\pm 0.5 radian
over any 90 MHz	\pm 0.6 radian
over any 120 MHz	\pm 0.7 radian
Input VSWR	1.5:1
Output VSWR	1.3:1

Prime Power/Environment/Interfaces

22-56 VDC Prime Power	160W @ P_{LIN}
Operating Temp Range	-40° to +60°C
Non-Operating Temp Range	-50° to +70°C
Altitude (max)	12,000 ft. MSL
Humidity	100% condensing
Shock/Vibration	Normal transportation
M&C Interface	Ethernet or Serial Rs-232 (SNMP with v3 Option)

Weight and Dimensions

Weight	4.5 lb (2.0 kg)
Dimensions	3.5" x 4.4" x 7.6" (8.89cm x 11.18cm x 19.30cm)