

# Bobcat 50X

## 50W X-band GaN SATCOM Block Upconverter

- POWERFUL:** 25W linear power (single carrier)
- EFFICIENT:** 160W DC power draw at linear power
- COMPACT:** 5.3 lbs in 116 cu inch package
- RUGGED:** -40C to +60C, MIL-STD-810 environment
- FLEXIBLE:** Interchangeable with Ka- and Ku-band Bobcats

*The smallest, most rugged X-band Block Upconverter to provide 25W 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™.*



Go to [xicomtech.com](http://xicomtech.com)  
to see our interchangeable X-, Ku- and Ka-band  
Bobcat product line for solutions across the spectrum.

# Bobcat 50X

## 50W X-band GaN SATCOM BUC

### Frequency and Input Levels

RF Output Frequency (other options available)	7.9 to 8.4 GHz
IF Input Frequency	950 to 1450 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, $P_{SAT}$	47 dBm (50W)
Maximum CW Power, $P_{MAX}$	46 dBm (40W)
Linear Power, $P_{LIN}$ (min)	44 dBm (25W)
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	20 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	-76 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	5.3 lb (2.4 kg)
Dimensions	3.9" x 5.1" x 5.8" (9.91cm x 12.95cm x 14.73cm)

For additional information visit: [www.xicomtech.com](http://www.xicomtech.com)  
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