

# Bobcat 50X

## 50W X-band GaN SATCOM Block Upconverter

- **Powerful:** 25W linear power (single carrier)
- **Efficient:** 180W (Typical) DC power draw at linear power
- **Compact:** 5.1 lbs in 115 cu inch package
- **Rugged:** -40C to +60C, MIL-STD-810 environment
- **Flexible:** Interchangeable with Ka- and Ku-band Bobcats in size  
OpenBMIP over Ethernet option



Small, rugged X-band Block Upconverter provides 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. Powerful BUC to speed up your compact terminal. See our interchangeable X-, Ku- and Ka-band Bobcat product line for solutions across the spectrum at [Comtech.com](https://www.comtech.com)

# 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

### Phase Noise with Optional BUC

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

### 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

### 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

### 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

### Prime Power/Environment/Interfaces

22-56 VDC Prime Power (Typical)	180W @ $P_{LIN}$
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 and RS-232 (SNMP Option)

### 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

### Weight and Dimensions

Weight	5.1 lb (2.31 kg)
Dimensions	5.8" x 5.1" x 3.9" (14.7cm x 12.95cm x 9.9cm)

## About Us

Comtech Telecommunications Corp. is a leading provider of satellite and space communications technologies; terrestrial and wireless network solutions; Next Generation 9-1-1 (NG9-1-1) and emergency services; and cloud native capabilities to commercial and government customers around the world. Through its culture of innovation and employee empowerment, Comtech leverages its global presence and decades of technology leadership and experience to create some of the world's most innovative solutions for mission-critical communications. For more information, please visit: [comtech.com](http://comtech.com)

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