

50 Watt X-Band Outdoor High Power SSPA Block Upconverter



FEATURES

- 32W WGS linear output power
- High efficiency with < 300W prime power draw
- Compact, rugged 10 lb. package
- Operates over -40°C to +60°C environment

The **XTS-50X-B1** High Power Solid State Block Upconverters (BUC) are a series of compact fully integrated antenna mount units designed for low cost operation and longevity. This unit generates over 32W of linear power, as defined by MIL-STD-188-164, providing the most linear output power available in a package this size. It also incorporates a proven L- to X-band BUC, which has an L-Band input that interfaces to standard modems operating in the 950 - 1450 MHz range via a single line carrying the L-Band transmit signal and 10 MHz frequency reference.

Intended for outdoor operation in challenging environments, the **XTS-50X-B1** is light weight and allows for direct mount to the antenna, minimizing waveguide RF losses. Forced air cooling is implemented in the package to allow reliable operation over extended temperature ranges. The monitor and control (M&C) interface provides a component system status via Ethernet or RS-485 and RS-232.



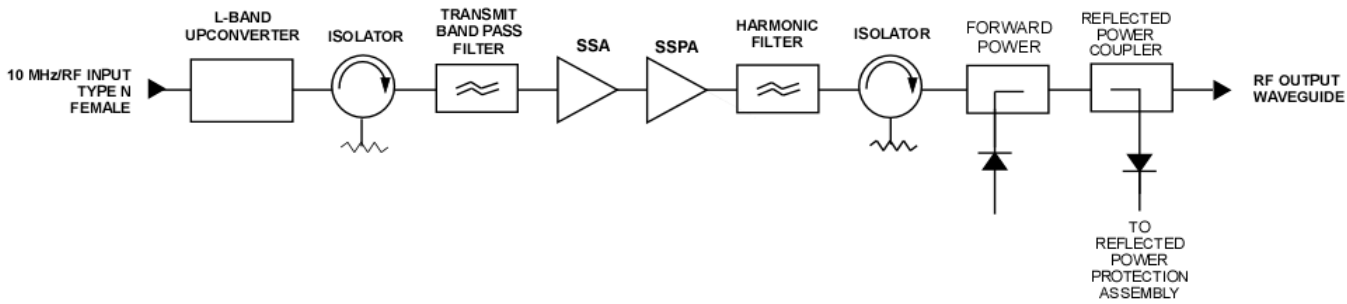
PERFORMANCE SPECIFICATION

Parameters

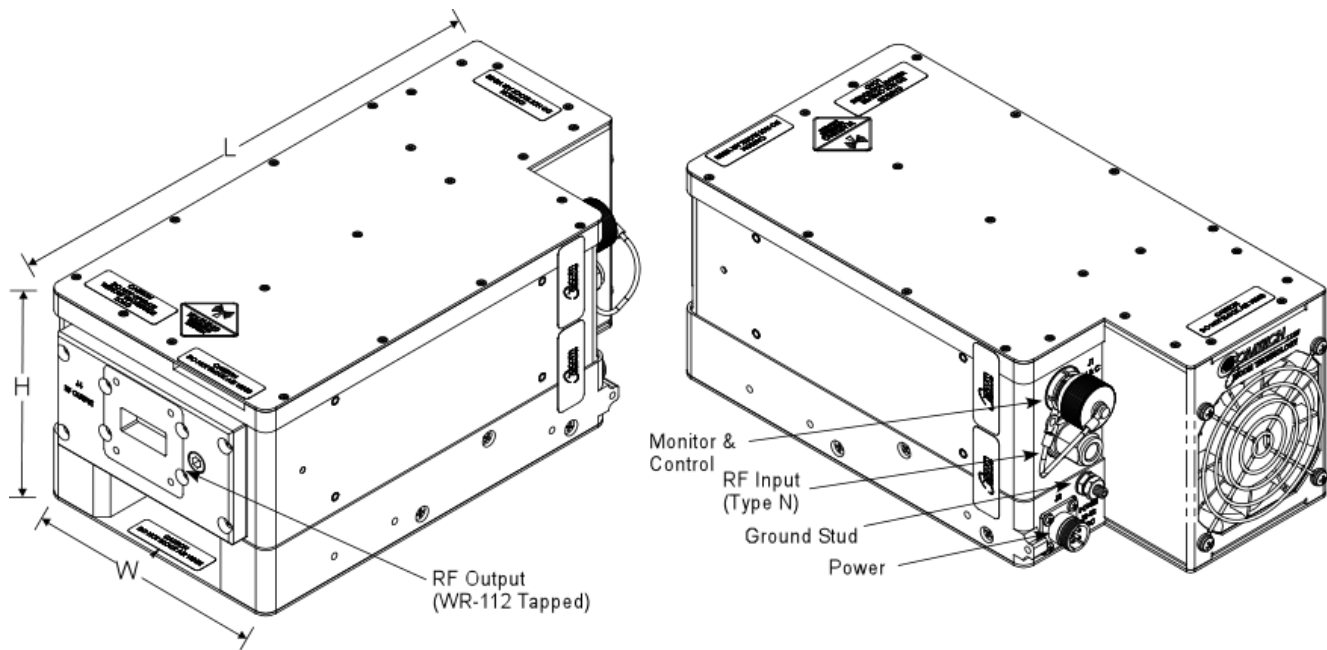
XTS-50X-B1

FREQUENCY RANGE		
Output	7.9 to 8.4 GHz	
Input	950 to 1450 MHz	
LO Frequency	6950 MHz	
Input Level, w/o damage (maximum)	10 dBm	
Reference Signal Frequency	external 10 MHz	
10 MHz Power Level	0 dBm ± 5 dB	
IF/Reference Input Impedance	50 Ohms	
OUTPUT POWER		
Rated Power @ Amplifier Flange (P ₁ dB typ)	47 dBm	
Linear Power (minimum)	45 dBm	
GAIN		
Small Signal (minimum)	55 dB	
Maximum SSG Variation Over		
Any Narrow Band	± 0.5 dB per 40 MHz	
Full Band	± 1.50 dB	
Slope (maximum)	± 0.04 dB/MHz	
Stability, 24 hr. (maximum)	± 0.25 dB	
Stability, Temperature (maximum)	± 2.0 dB over temperature range at any frequency	
INTERMODULATION (maximum) with two equal carriers @ Linear Power	-25 dBc	
SPECTRAL REGROWTH @ Linear Power	-30 dBc, 1 SR, OQPSK	
HARMONIC OUTPUT (maximum)	-60 dBc	
AM/PM CONVERSION (maximum)	2.0 deg/dB at Linear Power	
NOISE POWER (maximum)		
Transmit Band	-75 dBW/4 kHz	
Receive Band	-75 dBW/4 kHz	
GROUP DELAY (maximum)		
Bandwidth	Any 40 MHz	
Linear	± 0.01 nS/MHz	
Parabolic	± 0.005 nS/MHz ²	
Ripple	0.5 nS/Pk-Pk	
RESIDUAL AM NOISE (maximum) In band discrete spurious	-50 dBc 30 Hz to 10 kHz -20 (1.5+log(F)) dBc 10 kHz to 500kHz -85 dBc > 500 kHz	
OUTPUT SPURIOUS @ RATED POWER (P1dB)	-60 dBc	
PHASE NOISE (maximum)	100 Hz 1 kHz 10 kHz 100 kHz 1 MHz	-63 dBc/Hz -73 dBc/Hz -83 dBc/Hz -93 dBc/Hz -103 dBc/Hz
10 MHz REFERENCE PHASE NOISE (maximum)	1 kHz 10 kHz 100 kHz	-150 dBc/Hz -160 dBc/Hz -160 dBc/Hz
VSWR		
Input (maximum)	1.8:1	
Output (maximum)	1.3:1	

BLOCK DIAGRAM



OUTLINE DRAWING



DIMENSIONS (max)		
	INCHES	CENTIMETERS
L	11.16	28.35
H	4.43	11.25
W	5.40	13.76
WEIGHT (Typical)		
	10 lb.	4.6 kg.

PRIME POWER

20 to 52 VDC
330 VA Typical

ENVIRONMENT

NONOPERATING TEMPERATURE RANGE	-50°C to +70°C
OPERATING TEMPERATURE RANGE	-40°C to +60°C (2°C/1000 Feet Derating)
HUMIDITY	Up to 100% Condensing
ALTITUDE	12,000 Feet MSL Max.
SHOCK AND VIBRATION	Normal Transportation
COOLING	Forced Air

INTERFACE

Type	Function	
REMOTE CONTROL	Transmit ON/OFF	Fault Reset
	RF Inhibit	
REMOTE STATUS	Transmit ON/OFF	Summary Fault
	Temperature (°C)	RF Inhibit (ON/OFF)
	Forward Power (Optional)	Fault Identification
		Lock Detect Over Temperature
XICOM COMMAND SET	ASCII Commands	

OPTIONS

- External AC Power Supply, 90 to 264 VAC, 47 to 63 Hz



External Power Supply

Headquarters

Comtech Xicom Technology, Inc.
3550 Bassett Street
Santa Clara, CA 95054
USA

Phone: +1-408-213-3000

Fax: +1-408-213-3001

email: sales@xicomtech.com

Web: www.xicomtech.com

Europe Sales Office

Comtech Xicom Technology Europe, LTD
4 Portland Business Center
Manor House Lane
Datchet
Berkshire SL3 9EG
United Kingdom

Phone: +011 44 (0) 1753 549 999

Fax: +011 44 (0) 1753 549 997

email: sales@xicomeurope.com

Web: www.xicomtech.com

Asia Sales Office

Comtech Xicom Technology
150 Cecil Street
#08-02
Singapore 069543

Phone: +011 65 6325 1953

Fax: +011 65 6325 1950

email: asiasales@xicomtech.com

Web: www.xicomtech.com