20 Watt Linear X-Band High Efficiency Block Upconverter

FEATURES

- *20W linear output power*
- *High efficiency - only 120W prime power draw*
- *Compact, rugged 5.3 lb. package*
- *Ethernet with SNMP*
- *Operates over -40°C to +60°C environment*

The **XTSLIN-20X-B1** High Power Solid State Block Upconverter (BUC) is a compact fully integrated feed mount unit designed for very low power consumption, and light weight to support tactical transportable and manpack terminals. This unit generates over 20W of linear power providing the most linear output power available in such a small a package. 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 operation in challenging environments, the **XTSLIN-20X-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.

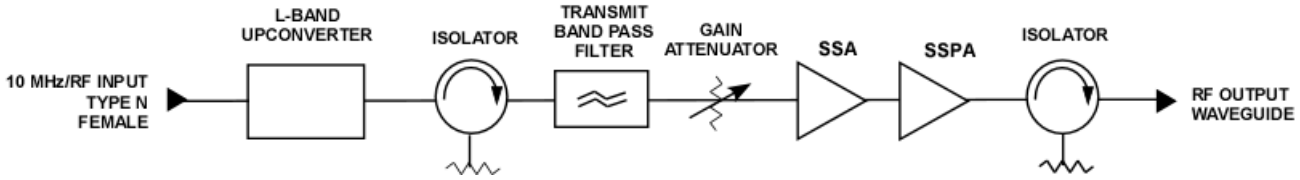
COMTECH XICOM TECHNOLOGY

3550 Bassett Street • Santa Clara • CA 95054 • Tel: (408) 213-3000 • Fax: (408) 213-3001
www.xicomtech.com • email sales@xicomtech.com

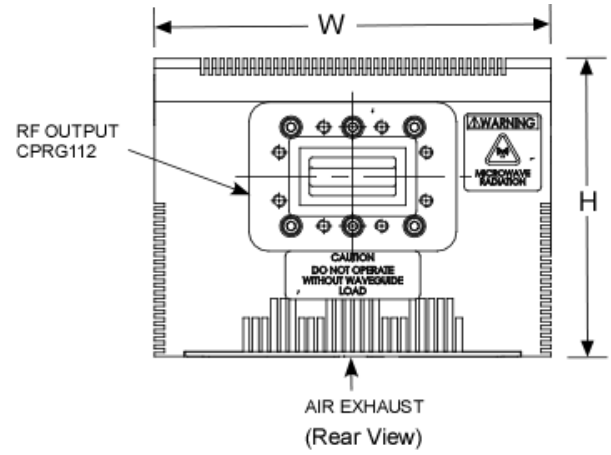
PERFORMANCE SPECIFICATION

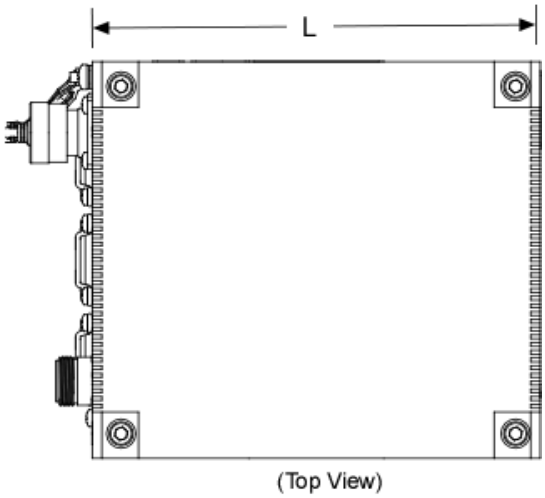
Parameters	XTSLIN-20X-B1	
FREQUENCY RANGE		
Output	7.9 to 8.4 GHz	
Input	950 to 1450 MHz	
LO Frequency	6950 MHz	
Input Level, w/o damage (maximum)	10 dBm	
Reference Signal Frequency	external 10 MHz	
10 MHz Power Level	0 dBm ± 5 dB	
IF/Reference Input Impedance	50 Ohms	
OUTPUT POWER		
P_{SAT} (Peak, typical)	40 W (46.0 dBm)	
P_{LINEAR} (Minimum)	20 W (43.0 dBm)	
GAIN		
Small Signal (minimum)	55 ± 5 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) WRT sum of two equal carriers	-25 dBc @ P_{LINEAR}	
SPECTRAL REGROWTH @ Linear Power	-30 dBc, 1 SR, OQPSK	
AM/PM CONVERSION (maximum)	2.0 deg/dB at Linear Power	
NOISE POWER (maximum)		
Transmit Band	-76 dBW/4 kHz	
Receive Band	-76 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	-60 dBc > 100 kHz from carrier AC fundamental - 50 dBc Sum of all spurs -47 dBc	
OUTPUT SPURIOUS @ P_{LIN}	-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)	10 Hz 100 Hz 1 kHz / 10 kHz	-125 dBc/Hz -155 dBc/Hz -165 dBc/Hz
VSWR		
Input (maximum)	1.5:1	
Output (maximum)	1.5:1	

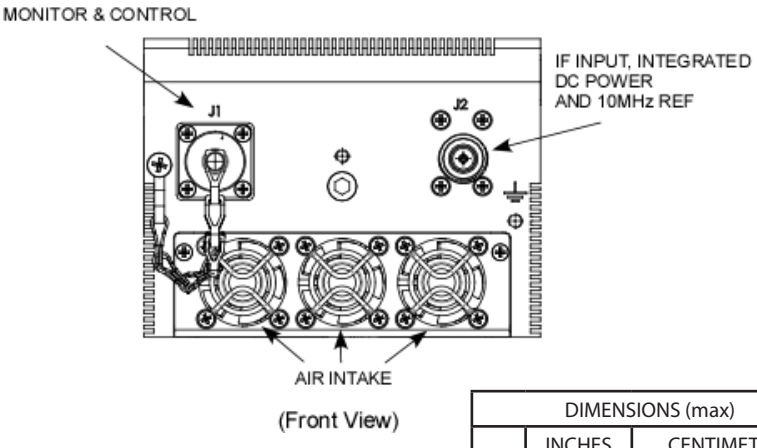
BLOCK DIAGRAM

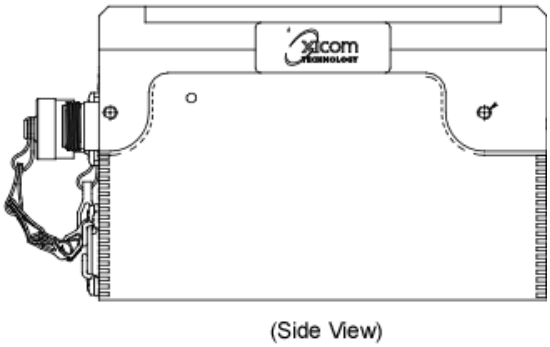


DIMENSIONS









DIMENSIONS (max)		
	INCHES	CENTIMETERS
L	5.81	14.76
H	3.86	9.80
W	5.14	13.10
WEIGHT (Typical) 5.3 lb. 2.40 kg.		

PRIME POWER

24 V ± 2 VDC
120W @ P_{LIN}

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	Battery Save
REMOTE STATUS	Transmit ON/OFF	Summary Fault
	Temperature (°C)	RF Inhibit (ON/OFF)
		Fault Identification Lock Detect Over Temperature
XICOM COMMAND SET	ASCII Commands	
Ethernet	SNMP	

OPTION

- DC Power over Separate Connector
- Battery Save Mode
- 48 V ± 4 VDC Input Power

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

Document XTSLIN-20X-B1 Rev 5, 08/28/2019