

# 100 Watt Linear X-Band Outdoor High Power SSPA Block Upconverter



## FEATURES

- *100W linear output power*
- *High efficiency GaN design*
- *Compact, rugged 32 lb. package for mobile applications*
- *Operates over -40°C to +60°C environment*

The **XTSLIN-100X-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 100W of linear power providing the most linear output power available in a package this size. By using the latest in high efficiency GaN technology this linear power can be achieved with a prime power consumption of only 725 VA 100W output.

Intended for outdoor operation in challenging environments, the **XTSLIN-100X-B1** weighs only 32 lbs. 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.



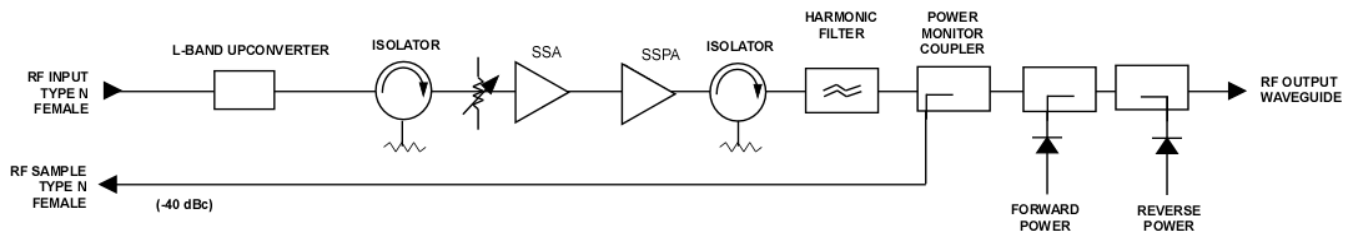
# PERFORMANCE SPECIFICATION

## Parameters

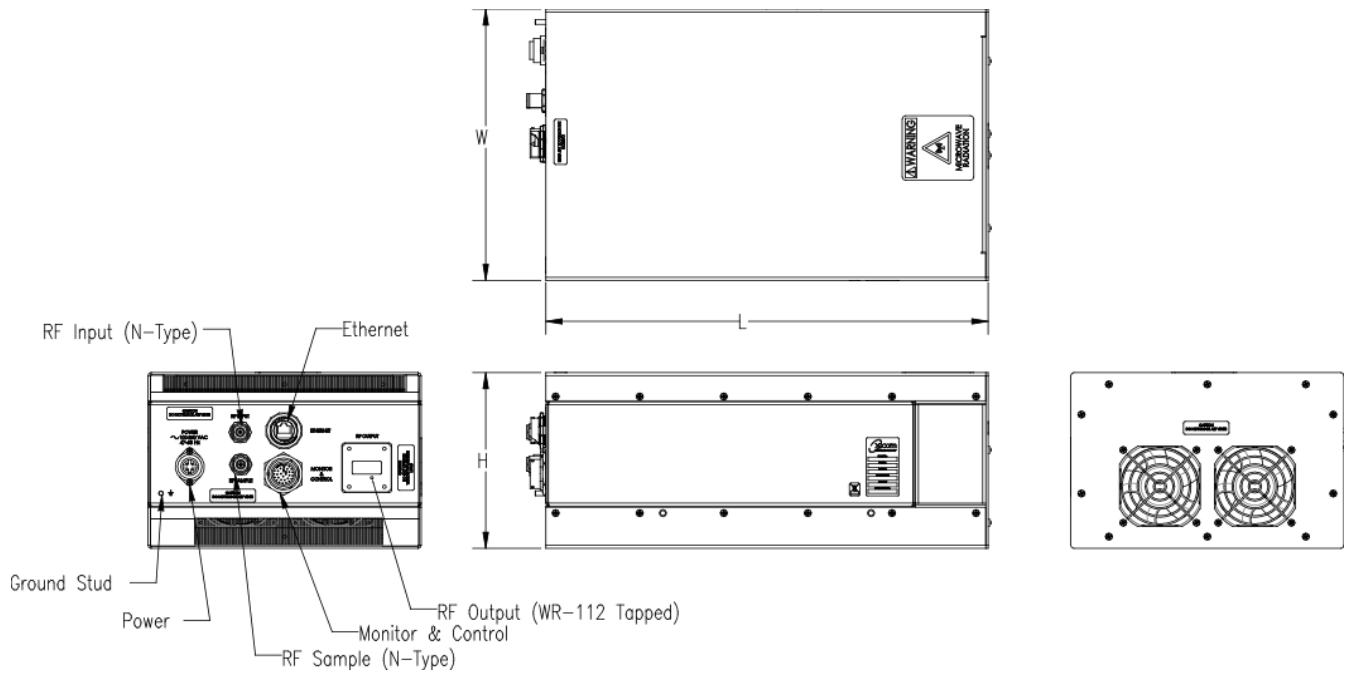
## XTSLIN-100X-B1

<b>FREQUENCY RANGE</b>		
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 $\pm$ 5 dB	
IF/Reference Input Impedance	50 Ohms	
<b>OUTPUT POWER</b>		
Linear Power (minimum)	50 dBm	
<b>GAIN</b>		
Factory configurable small-signal gain	65 dB to 75 dB	
Field-user adjustable attenuation range	25 dB min, 0.1 dB steps	
Maximum SSG Variation Over		
Any Narrow Band	1.0 dB Pk-Pk	
Full Band	3.0 dB Pk-Pk	
Slope (maximum)	0.5 dB/MHz	
Stability, 24 hr. (maximum)	$\pm$ 0.25 dB	
Stability, Temperature (maximum)	$\pm$ 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	
<b>NOISE POWER (maximum)</b>		
Transmit Band	-75 dBW/4 kHz	
Receive Band	-75 dBW/4 kHz	
<b>IN-BAND DISCRETE SPURIOUS</b>		
AC Power Line	Sum of fundamental and harmonic < -30 dBc	
Single Sideband	Sum of all other spurs < -36 dBc	
OUTPUT SPURIOUS @ P <sub>LIN</sub>	-60 dBc	
<b>PHASE NOISE (maximum)</b>		
	10 Hz	-33 dBc/Hz
	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
	10 MHz	-113 dBc/Hz
	100 MHz	-113 dBc/Hz
10 MHz REFERENCE PHASE NOISE (maximum)	10 kHz	-160 dBc/Hz
<b>VSWR</b>		
Input (maximum)	1.65:1	
Output (maximum)	1.3:1	

# BLOCK DIAGRAM



# OUTLINE DRAWING



DIMENSIONS		
	Inches	Centimeters
H	6.8	17.3
W	10.5	26.7
L	17.0	43.2
WEIGHT = 32 lbs (14.5 kg)		

## PRIME POWER

90 to 264 VAC  
47 to 63 Hz, Single Phase  
725 VA Typical @ P<sub>LIN</sub>  
975 VA Maximum

## 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	RF Inhibit
	RF Attenuation	Fault Reset
	Summary Fault	
REMOTE STATUS	Transmit ON	Temperature
	RF Output Power	Fault Identification
	Reflected Power	
Form C Dry Contact Closure	Summary Fault	
COMPUTER	Hardware Interface:	2 Ports: RS-232 & RS-422/485 Ethernet
	Xicom Command Set	ASCII Commands
SERIAL PORT		
RF MONITOR PORT	-40 dB Coupling Value (Nominal)	

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