

# 65 Watt Linear Ka-Band Outdoor High Power SSPA Dual-Band Block Upconverter



## FEATURES

- 27.5 - 30.0 GHz
- Delivers 65W of Linear Power
- Complete Digital M&C Interface
- Includes Dual-Band BUC
- Ethernet with SNMP

The **XTSLIN-65Ka-B2** High Power Solid State Block Upconverters (BUC) are a series of compact fully integrated, rugged antenna mount units designed for low cost operation and longevity. The dual-band input interfaces to standard modems operating in the 1000 - 2500 MHz range.

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.

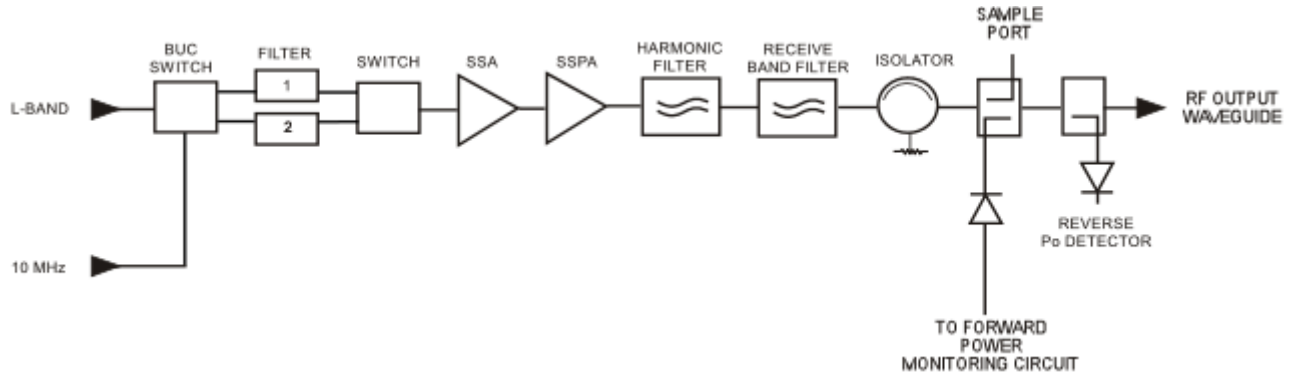
The L-Band transmit signal and 10 MHz reference frequency are brought to the unit over a single coaxial line.



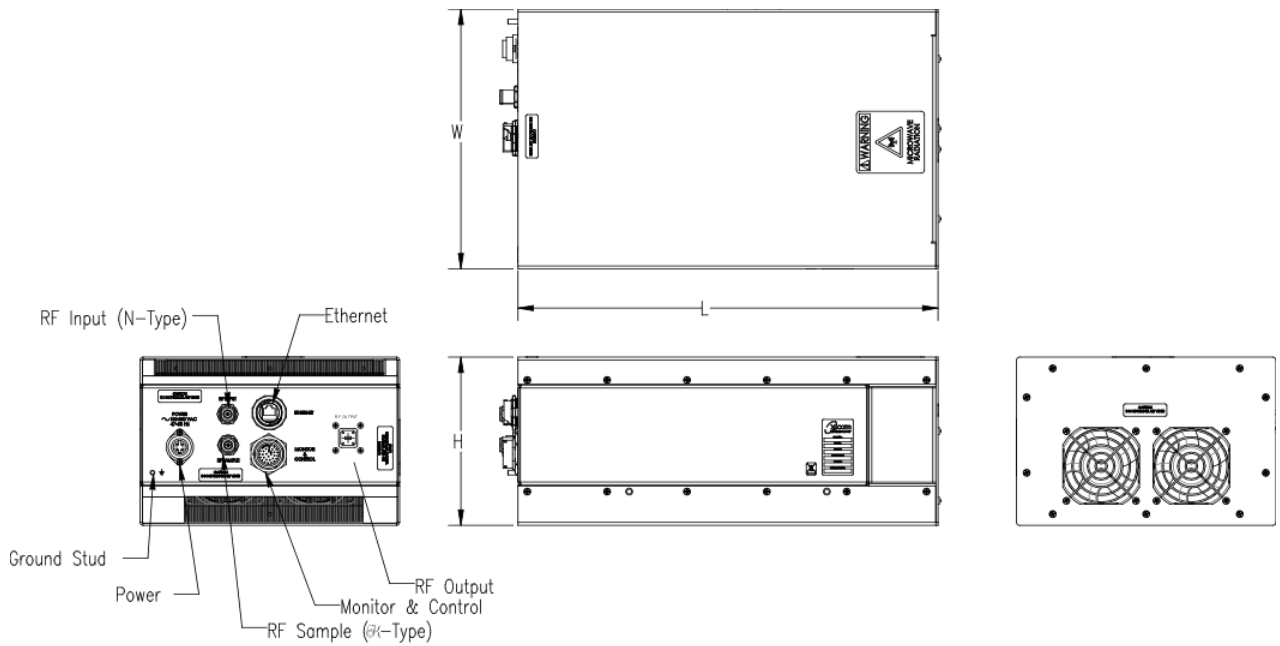
# PERFORMANCE SPECIFICATION

Parameters	XTSLIN-65Ka-B2	
FREQUENCY RANGE	Band 1	Band 2
Output	27.5 to 29.0 GHz	28.5 to 30.0 GHz
Input	1000 to 2500 MHz	
LO Frequency	26.5 GHz	27.5 GHz
Input Level, w/o damage (maximum)	10 dBm	
Reference Signal Frequency	external 10 MHz	
10 MHz Power Level	0 dBm $\pm$ 5 dB	
Reference Input Impedance	50 Ohms	
<b>OUTPUT POWER</b>		
$P_{SAT}$ (Peak, typical)	160W (52.0 dBm)	
$P_{LINEAR}$ (19 dB NPR)	65W (48.1 dBm)	
$P_{LINEAR}$ (30 dBc, 1SR, QPSK)	80W (49.0 dBm)	
<b>GAIN</b>		
Small Signal (typical)	65 dB	
Maximum SSG Variation Over		
Any Narrow Band	$\pm$ .3 dB per 36 MHz	
Full-Sub Band	$\pm$ 1.5 dB	
Stability, 24 hr. (maximum)	$\pm$ .5 dB	
Stability, Temperature (maximum)	$\pm$ 1.0 dB over temperature range at any frequency	
Gain Adjustment	25 dB, 0.1 dB steps	
HARMONIC OUTPUT (maximum)	-60 dBc	
AM/PM Conversion (maximum)	$\leq$ 2.0 deg/dB @ linear power	
<b>NOISE POWER (maximum)</b>		
Transmit Band	-75 dBW/4 KHz	
Receive Band	-150 dBW/4 KHz	
SPURIOUS (In band)	-65 dBc	
PHASE NOISE (maximum)	100 Hz	-65 dBc/Hz
	1 kHz	-82 dBc/Hz
	10 kHz	-84 dBc/Hz
	100 kHz	-95 dBc/Hz
	1 MHz	-110 dBc/Hz
10 MHz Reference Phase Noise (maximum)	-140 dBc/Hz @ 1 kHz	
<b>VSWR</b>		
Input (maximum)	1.5:1	
Output (maximum)	1.3:1	

# BLOCK DIAGRAM



# OUTLINE DRAWING



DIMENSIONS (max)		
	INCHES	CENTIMETERS
L	19	48.26
H	6.8	17.27
W	14	35.56
WEIGHT (Typical): 40 lb., 18.1 kg. Output Waveguide: WR-28		

## PRIME POWER

Line Frequency 47 to 63 Hz  
Linear Power (Voltage) Typical with 220 VAC  
725 Watts AC at  $P_{\text{LINEAR}}$



## 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 Maximum
SHOCK AND VIBRATION	Normal Transporting
COOLING	Forced Air

## INTERFACE

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

## OPTIONS

- Input Diplexer (combining IF and 10 MHz reference)
- Detected RF Transmit Power
- Single-Band or Tri-Band operation
- Alternate Input Frequencies
- WR-34 Waveguide

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