

# 110W Linear Ka-Band Dual-Band Block Upconverter



## FEATURES

- *Variable Gain Control*
- *Ethernet Interface*
- *Lightweight Package*
- *Switchable dual-band BUC for 2 GHz Ka coverage*

The **XTLIN-110Ka3-B1** High Power Block Upconverters (BUC) are compact, fully integrated antenna mount units designed for low cost operation and longevity. The L-Band input interfaces to standard modems operating in the 1000 - 2000 MHz range, and the dual-band BUC provides switchable 1 GHz-wide Ka output bands.

Intended for outdoor operation, these BUCs increase the amount of RF power reaching the feed. The construction and light weight allows for direct mount to the antenna. This eliminates long waveguide runs and associated 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.

# PERFORMANCE SPECIFICATION

## Parameters

## XTLIN-110Ka3-B1

FREQUENCY RANGE, extended frequency coverage available		
Output	29.0 to 30.0 GHz / 30.0 to 31.0 GHz	
Input	1 to 2 GHz	
LO Frequency	28 GHz / 29 GHz	
Input Level, w/o damage (maximum)	10 dBm	
Reference Signal Frequency	external 10 MHz	
10 MHz Power Level	0 dBm +7/-5 dB	
Reference Input Impedance	50 Ohms	
LINEAR OUTPUT POWER		
110W		
GAIN		
Small Signal (minimum)	70 dB	
Attenuator Range (continuous)	30 dB, 0.1 dB step size	
Maximum SSG Variation Over		
Any Narrow Band	0.80 dB maximum per 60 MHz	
Full Band	± 2.5 dB	
Slope (maximum)	± 0.04 dB/MHz	
Stability, 24 hr. (maximum)	± 0.25 dB	
Stability, Temperature (maximum)	± 1.0 dB over temperature range at any frequency	
INTERMODULATION		
with two equal carriers @ linear power	-25 dBc relative to the sum of all carriers	
SPECTRAL REGROWTH, 1 SR offset @ linear power (maximum)		
-30 dBc		
HARMONIC OUTPUT (maximum)		
-60 dBc		
AM/PM CONVERSION (maximum)		
2.0 deg/dB at or below linear power		
NOISE POWER (maximum)		
Transmit Band	-70 dBW/4 kHz	
Receive Band	-150 dBW/4 kHz	
GROUP DELAY (maximum)		
Bandwidth	Any 60 MHz	
Linear	± 0.01 nS/MHz	
Parabolic	± 0.001 nS/MHz <sup>2</sup>	
Ripple	0.5 nS/Pk-Pk	
RESIDUAL AM NOISE (maximum)		
-60 dBc > 100 kHz Line related -50 dBc Sum of all spurs -47 dBc		
PHASE NOISE (maximum)		
	10 Hz	-32 dBc/Hz
	100 Hz	-62 dBc/Hz
	1 kHz	-72 dBc/Hz
	10 kHz	-82 dBc/Hz
	100 kHz	-92 dBc/Hz
	1 MHz	-102 dBc/Hz
	10 MHz	-112 dBc/Hz
	100 MHz	-112 dBc/Hz
VSWR		
Input (maximum)	1.5:1	
Output (maximum)	1.3:1	