



**μBUC Ku-Band Block Up Converter**

## Description

Paradise Datacom's μBUC is a Block Up Converter available in X and Ku -Band. The module is designed specifically for highly mobile commercial and military satellite communication applications. The μBUC is ideal for use in any Fly-away or Manpack application where miniature form factor and light weight are a requirement.

The converter locks to a 10 MHz external reference signal of -10 dBm to +5 dBm. The external reference must be diplexed on the L-Band Input Connector.

The unit requires a customer designed heatsink.

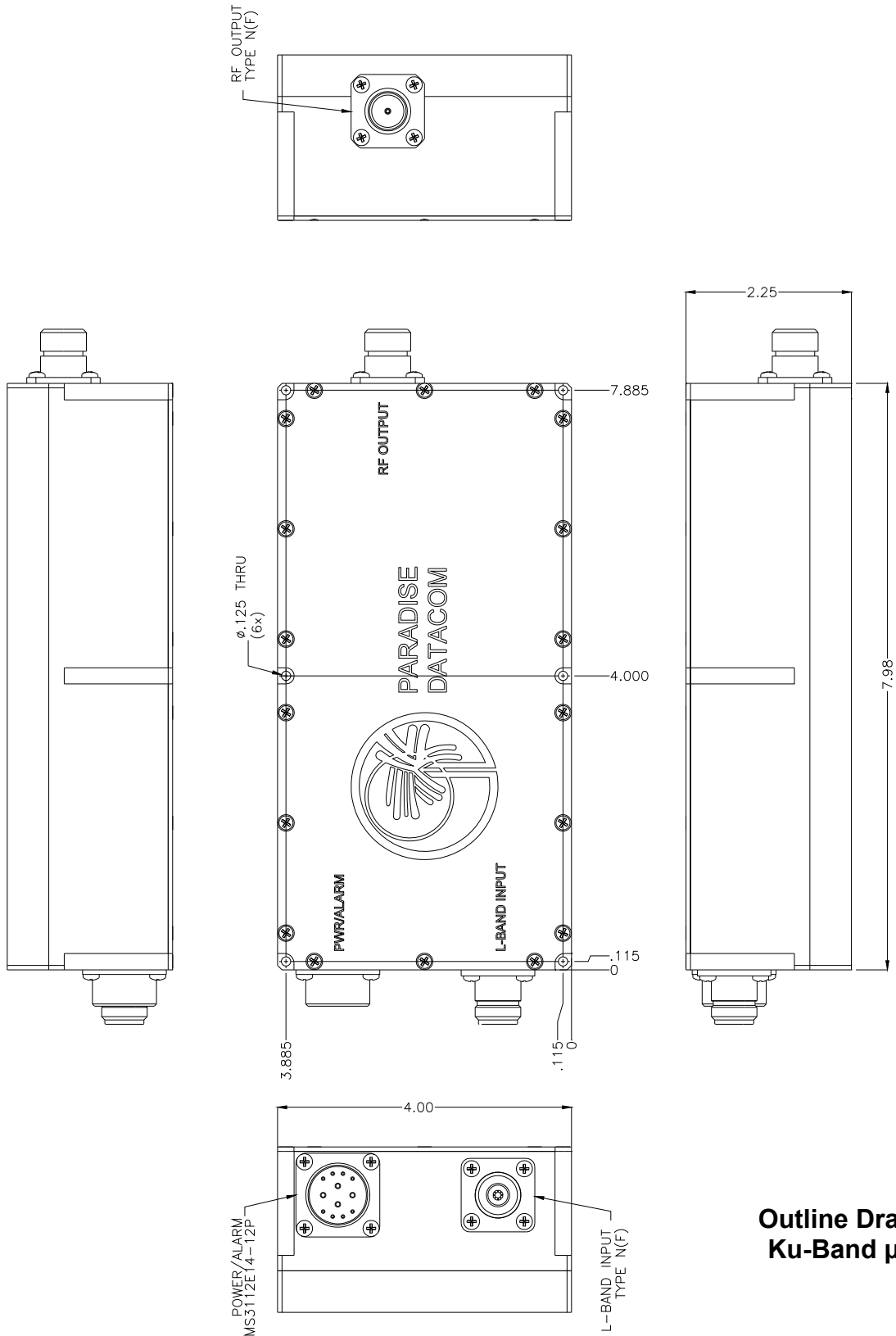
## FEATURES

- Ku-Band Output  
10, 20 and 25 W
- Multiple reference  
frequency operation
- L-Band Input
- Miniature and light  
weight
- Ideal for fly-away and  
manpack applications

# Ku-Band 10/20/25 Watt Micro Block Up Converter

## Specifications

PARAMETER	NOTES	LIMITS	UNITS
Input Frequency	Option 950-1700	950 - 1450	MHz
Output Frequency	Option 13.75-14.50	14.0 - 14.5	GHz
LO Frequency	At 14.0-14.5 GHz	13.05	GHz
	At 13.75-14.50 GHz	12.80	GHz
Gain		50	dB
Gain Flatness	full band	± 2.0	dB
Gain Slope	per 40 MHz	± 0.25	dB
Gain variation vs. Temperature	-30 to +60 °C baseplate	0 ± 2.0	dB
Output Power		$P_{sat} / P_{1dB}$	
	10W	40.5 / 40.0	dBm
	20W	43.0 / 42.0	dBm
	25W	44.0 / 43.0	dBm
Intermodulation Distortion	3dB back off relative to $P_{1dB}$	-25	dBc
Spurious	In-Band Signal Related	-60	dBc
	Close to Carrier Spurious (≤ 20 MHz)	-60	dBc
	Local Oscillator	-50	dBm
	Non-Signal Related	-60	dBm
Harmonics	2 <sup>nd</sup> harmonic measured at $P_{1dB}$	-40	dBc
Output Spectrum	Low side Local Oscillator	Non Inverted	
Input Return Loss		12	dB
Output Return Loss		12	dB
Noise Figure		15	dB
Group Delay (per 40 MHz segment)	Linear	0.01	ns/MHz
	Parabolic	0.003	ns/MHz <sup>2</sup>
	Ripple	1.0	ns p-p
Reference Input Frequency	Diplexed on L-Band Input Connector	10	MHz
Reference Input Power	Diplexed on L-Band Input Connector	-10 to +5	dBm
Input Voltage	+48 VDC nominal	+36 to +60	VDC
	+24 VDC nominal	+24 ±10%	VDC
Input Power	10W @ 48 VDC	130	W
	10W @ 24 VDC	150	W
	20W @ 48 VDC	200	W
	20W @ 24 VDC	220	W
	25W @ 48 VDC	230	W
	25W @ 24 VDC	250	W
Monitor & Control Functions	Tx Inhibit (GND for Unmute) Temperature Fault Summary Fault		
Alarm Output	Open Collector Output (requires external pull-up)	Open = Fault	
Weight Dimensions	L x W x H	4.5 (2.0) 7.98 x 4.0 x 2.25 (203.2 x 101.6 x 57.1)	lb. (kg) in (mm)
Heatsink (must meet thermal resistance specification)	10W μBUC	0.230	°C/W
	20W μBUC	0.150	°C/W
	25W μBUC	0.125	°C/W

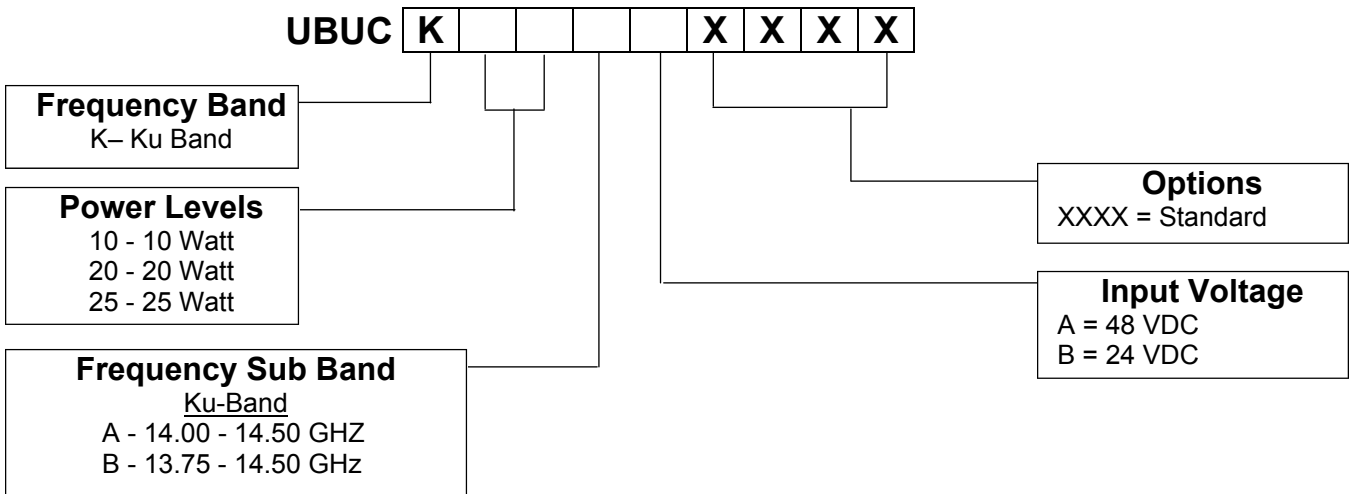


**Outline Drawing,  
Ku-Band μBUC**

**Local Oscillator Phase Noise**

Offset	Guaranteed Max.	Ku-Band (Typical)	Units
10 Hz	-30	-60	dBc/Hz
100 Hz	-60	-75	dBc/Hz
1 KHz	-70	-75	dBc/Hz
10 KHz	-80	-100	dBc/Hz
100 KHz	-90	-110	dBc/Hz
1 MHz	-90	-122	dBc/Hz

**Part Number Configuration**



Specifications are subject to change without notice.