



**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 can automatically detect and phase lock to external reference frequencies of 5, 10 and 50 MHz over a wide range of power levels.

## 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
Gain	At 13.75-14.50 GHz	12.80	GHz
Gain Flatness	full band	50	dB
Gain Slope	per 40 MHz	± 2.0	dB
Gain variation vs. Temperature	-30 to +60 °C baseplate	± 0.25	dB
Output Power		0 ± 2.0	dB
	10W	$P_{sat} / P_{1dB}$	dBm
	20W	40.5 / 40.0	dBm
	25W	43.0 / 42.0	dBm
		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	-70	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		15	dB
Output Return Loss		15	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	5, 10, 20, 25, 50 MHz	MHz
Reference Input Power	Diplexed on L-Band Input Connector	-10 to +5	dBm
Input Voltage		24 or 48	VDC
Input Power	10W	128	W
	20W	195	W
	25W	225	W
Monitor & Control Functions	Mute		
	Temperature Monitor		
	Fault		
Alarm Output	Open Collector Output	High = Fault	
Weight		6.0 (2.7)	lb. (kg)
Dimensions	L x W x H	8.00x 4.0 x 2.25 (203.2 x 101.6 x 57.1)	in (mm)

<sup>1</sup> Internal reference option units will automatically detect and switch to an applied external reference.

Specifications are subject to change without notice.



**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**

