

Ku-band 20W BUC

Preliminary



Description:

This Ku band BUC takes the L-band signal from a commercially available IDU and up-converts it to a Ku-band signal. It provides the small size, light weight, high output power, and high reliability needed by most satellite communication applications. The BUC is a stable, reliable and cost effective Integration of Ku-band BUC and SSPA. It delivers a minimum output power of 20 W. The SSPA consists of field proven Sumitomo IMFETs with the output device rated at 30W.

The BUC is built and tested to ensure reliable, long term, non-interrupted operation. It is available as a private label product. We provide turn key solution with custom labels, packaging and drop ship services.

Features:

- Converts L-Band to Ku-Band
- Integrated SSPA with output power up to 20W
- Excellent phase noise
- Compact and light weight
- Field proven high power devices
- SSPA is protected against any output terminations
- Parallel Push-Pull forced air cooling
- Temperature and output power mointor
- SSPA manual shutdown
- Auto shutdown over temperature and out-of-lock conditions
- Built-in power supply with AC input of 95-240V

Note: Information is subject to change without notice.

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Specifications:

Input Frequency Range	950 to 1450MHz
Output Frequency Range	14.0 - 14.5 GHz
Conversion Gain	70 dB, nom
Gain Variation over Full band	4.0 dB p-p, max
Gain Variation over 36 MHz	1.0 dB p-p, max
Gain Variation over Temperature	± 2.5 dB p-p, max
Output Power @ P1dB	42.5 dBm, min, 43 dBm typ.
@ Saturation	43 dBm, min, 44 dBm typ.
Phase Noise @ 1 kHz	-70 dBc/Hz, max
@ 10 kHz	-80 dBc/Hz, max
@ 100 kHz	-90 dBc/Hz, max
Requirement for External Reference	
Frequency	10 MHz (sine-wave)
Input Power	-5 to +5 dBm
Phase Noise @ 100 Hz	-125 dBc/Hz, max
@ 1 KHz	-135 dBc/Hz, max
@ 10 KHz	-140 dBc/Hz, max
Spurious @ 43 dBm Output Power	-55 dBc, max
LO Leakage @ 13.05 GHz	-20 dBm, max
Input VSWR	1.5 :1, max
Output VSWR	1.5 :1, max
3IMD, 2 tones	-25 dBc, max, @ 37 dBm SCL
RX band Noise Power Density	-120 dBm/Hz max. @ 10.95 – 12.75 GHz
	-165 dBm/Hz max. with optional RX band reject filter
TX band Noise Power Density	-85 dBm/Hz typ. @ 14.0 – 14.5 GHz
Max IF Input Power without Damage	+10 dBm
Over-temperature shut-down	80 - 85°C case
AC Power Consumption	300 W, max

Interface:

IF IN Connector	N (F)
RF OUT	WR-75
AC Input Connector Pin-out: (MS3102R 16-10P)	
Pin A	Line, 90-265 VAC; 47-63 Hz; Auto-ranging
Pin B	Chassis GND
Pin C	Neutral
M&C Connector Pin-out: (MS3102R 20-29S)	
Pin A	Signal GND
Pin B	Temp. Monitor, 3.0 V at 30°C; 10mV/°C
Pin C	Power Detector, 5 V max @ P1dB
Pin D	Summary Alarm, Alarm = 5V; Normal = 0V
Pin E	Mute HPA In, 5V Internal pull-up
	Mute = Input to GND
Pin L	Lock Monitor, Alarm/Unlock = 0V
	Normal/Lock = 5V
Pin M	Signal GND

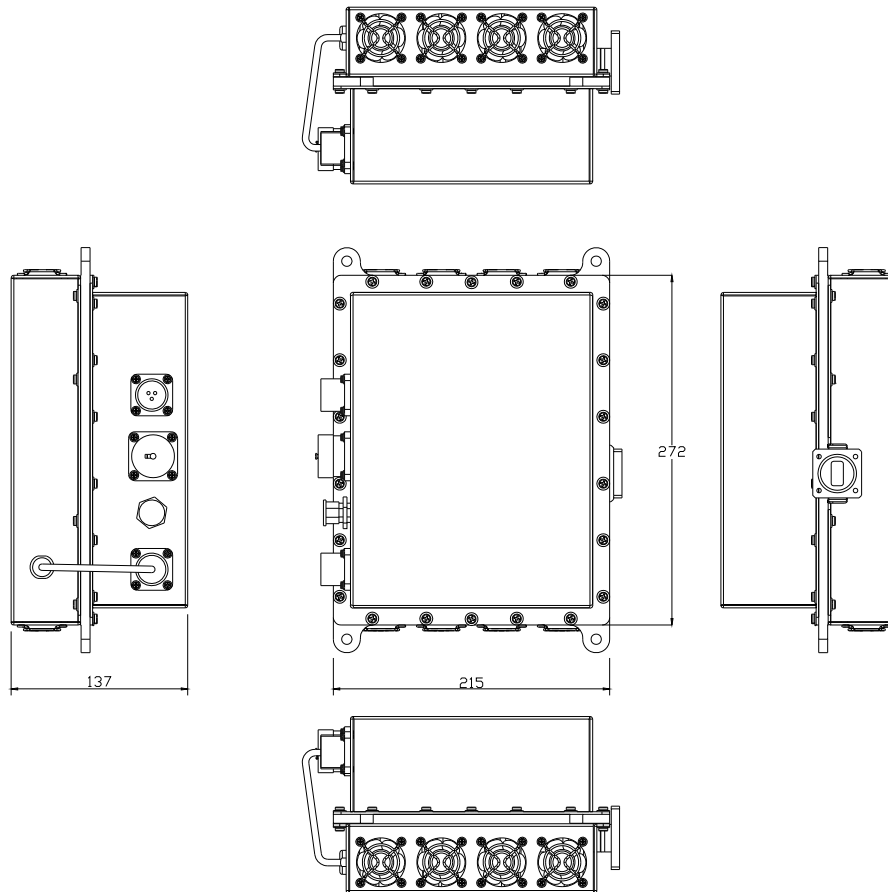
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Environmental:

Dimension	272 X 215 X 137 mm
Weight	6.0 Kg
Waveguide Mounting Screw	#6-32
Temperature	-40°C to +55°C (operating), -55°C to +85°C (storage)
Water Seal	IP-67
Humidity	100%, condensing
Altitude	10,000 AMSL, de-rated 2°C/1,000' from AMSL

Outline Dimension: (in mm)

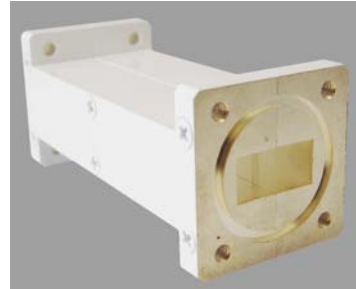


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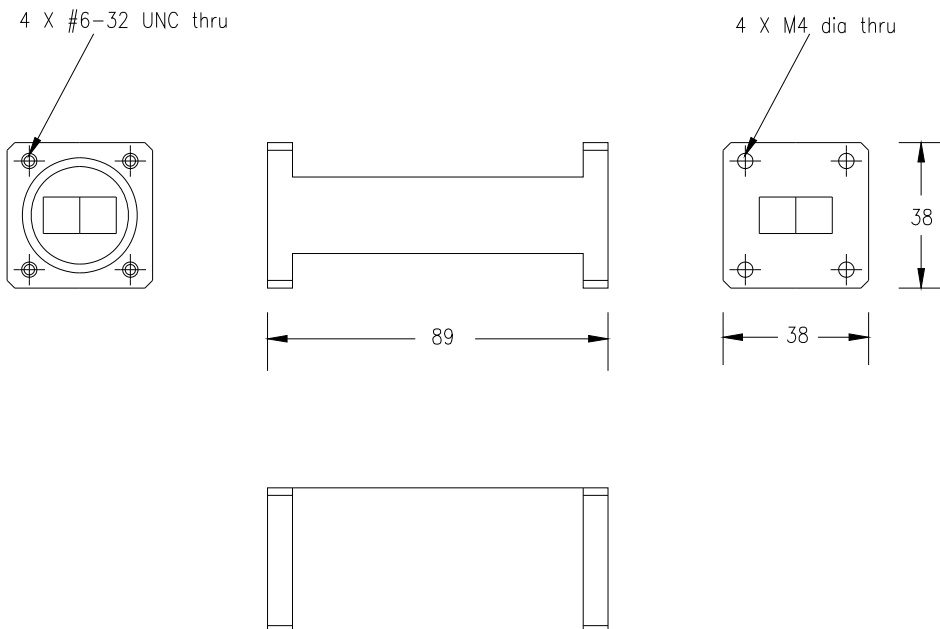
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Optional RX band Rejection Filter Specifications:

Pass band Frequency Range	13.75 -14.5 GHz
Insertion Loss within Pass band	0.2 dB, max
Return Loss within Pass band	18 dB, min
Rejection Band	10.95 – 12.75 GHz
Rejection	50 dB min.
Input Interface	WR-75, 4 X 0.16" thru holes
Output Interface	WR-75, 4 X #6-32 thru holes
Dimension	38 X 38 X 89 mm
Weight	120 g



Outline: (in mm)



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