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## UB61050 X-Band 100 Watt Block Up Converter (BUC)

### General Information

Intended for either indoor or outdoor environments, Locus Microwave, Inc. designed the UB61050 X-Band BUC for use in professional outdoor systems.

The UB61050's exceptional design and performance has been undertaken with emphasis on facilitating issue-free WGS terminal certification while providing a cost-competitive solution with a field-proven reliability history.

Specifications included are for a standard product. Please contact the factory for your custom or specific performance needs.



### Options

- AC Powered
- CPR112G Flange
- 70 dB Gain

### Reference Documents

- LMI Drawing 11495
- Operation Manual, 11496 MAN Rev -

This item is subject to International Traffic in Arms Regulations (ITAR) and is classified as 22 CFR, Part 121, Category XI (a) (5) per United States Munitions List (USML). Compliance with the Department of State ITAR is required for export of this item.

# UB61050 X-Band 100 Watt BUC

CODAN SATCOM



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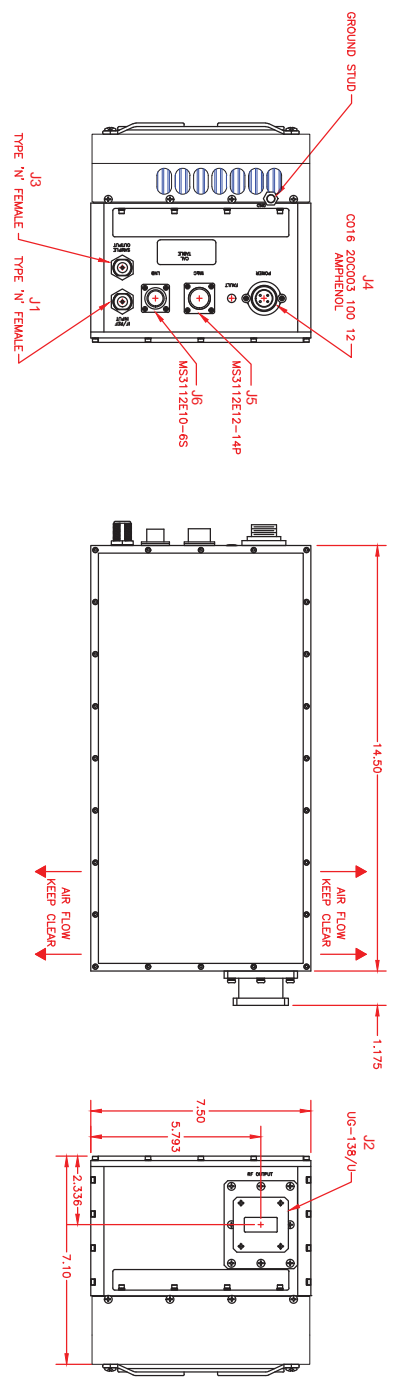
	Range	Units	Notes
<b>Electrical Specifications</b>			
Input Frequency	950-1450	MHz	
Output Frequency	7.90-8.40	GHz	6.95 GHz LO
External Reference	10 MHz @ 0 dBm +/-5 dB		
Phase Noise (SSB)			
@ 1 kHz offset	-72 max., -76 typ.	dBc/Hz	
@ 10 kHz offset	-83 max., -95 typ.	dBc/Hz	
@ 100 kHz offset	-93 max., -110 typ.	dBc/Hz	
Gain	60 min., 64 typ.	dB	70 dB min. option
Gain Flatness	+/-1.25 max.	dB	per full band
Gain Slope	+/-0.4 max.	dB	per 40 MHz
Stability over temperature	+/- 2.0	dB	
Gain Adjust	31.5	dB	0.5 dB step size
$P_{1dB}$	+49.5 min., 50.0 typ.	dBm	
$P_{sat}$	50.5 min.	dBm	
$P_{Linear}^1$	$P_{1dB}$ min. - 2.0 dB min.	dBm	See Note 1.
Third Order Intermodulation Distortion	-25 max.	dB	@ 3 dB backoff relative to rated $P_{1dB}$
AM/PM Conversion	2.0 max.	°/dB	measured @ rated $P_{Linear}$
Output Noise Power (7.9-8.4 GHz)	-98 typ.	dBm/Hz	
Output Noise Power (7.25-7.75 GHz)	-128 typ.	dBm/Hz	
Input VSWR	1.50 typ., 2.00 max.	:1	
Output VSWR	1.25 typ., 1.30 max.	:1	Isolator Included
Overdrive	+0 max.	dBm	non-damaging
Spurious, Signal Related (@ rated $P_{1dB}$ )	-60 max.	dBc	within rated output band
Spurious, Signal Independent (@ rated $P_{1dB}$ )	-60 max.	dBc	outside of band
M&C Function	Mute, Temp. Mon., Fault, Gain Adj.		Serial I/O RS232, RS485
Power Requirement			
DC Operation	+40 to +56 @ 460W nom.	VDC	small signal
AC Operation Option	90-264 @ 47-63 Hz	VAC	small signal
<b>Mechanical Specifications</b>			
Size (see attached outline)	14.50 x 7.50 x 7.10	inches	L X W X H
Weight	21 (9.5) nom.	lbs. (kg)	AC option, 22 (10) nom.
Finish	paint	white	
Connectors			
IF/Ext. Reference Input	N	Female	J1
RF Sample Output	N	Female	J3
RF Output	UG-138/U	Flange	J2 (CPR112G option)
Mains Power	C016 20C003-100-12		J4
M&C	MS3112E12-14P		J5
Aux. LNA/LNB Power & Status	MS3112E-10-6S		J6
<b>Environmental</b>			
Operating Temperature	-40 to +60	°C	
Humidity	100	%	with condensation

Note: 1. Measurement per WGS X- and Ka-Band Terminal Performance Certification Test Procedures, Version 1.01, 09 April 2008, Paragraph 5.6.2.1.

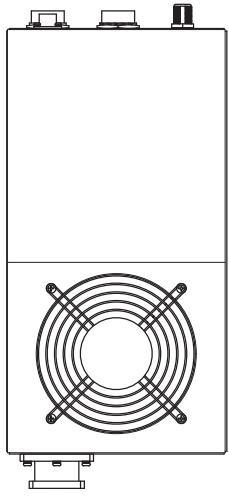
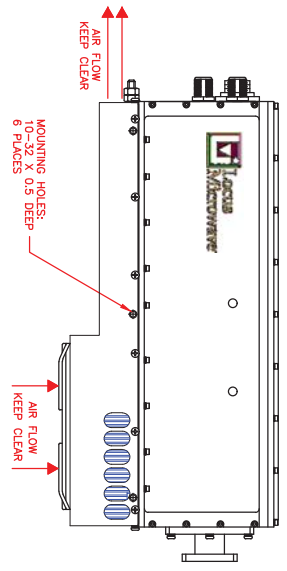
Specifications are subject to change at the discretion of Locus Microwave, Inc.

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REVISION HISTORY				DATE
ZONE	REV	CHANGE NO	DESCRIPTION	APPR BY
...	...	...	INITIAL RELEASE	11/03/99



# Outline Drawing



PNL	FUNCTION	DESCRIPTION
1	+48 VDC	DC MAINS IN
2	+48 VDC	UNUSED
UNMARKED	+48 VDC RIN	DC MAINS RIN

PNL	FUNCTION	DESCRIPTION
1	+48 VDC	LINE
2	+48 VDC	LINE
3	+48 VDC	LINE
UNMARKED	+48 VDC RIN	CHASSIS GND

PNL	FUNCTION	DESCRIPTION
A	BUC STATUS	COMMON
B	TX-RF232/RS232B (+)	SERIAL TRANSMIT
C	RX-RF4848B (+)	SERIAL RECEIVE
D	BUC STATUS	NORMALLY CLOSED
E	BUC STATUS	NORMALLY OPEN
F	TX-RF4848B (-)	SERIAL TRANSMIT
G	TX-RF232/RS232B (-)	SERIAL TRANSMIT
H	TX-RF4848B (-)	SERIAL RECEIVE
I	TX-RF232/RS232B (-)	SERIAL RECEIVE
J	BUC STATUS	ACTIVE HIGH OPEN COLLECTOR
K	BUC STATUS	SERIAL RECEIVE
L	RC-48232/RS484A (-)	COMMON
M	LMV/LNB STATUS	OPEN N to P = WHITE
N	WHITE FUNCTION	CLOSED N to B = WHITE
P	LMV/LNB STATUS	NORMALLY CLOSED

<b>OCULUS MICROWAVE INC.</b> 1495 347H3 SCALE 1:2 (REQ)		PAGE 1 OF 1
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**TAR STATEMENT:**

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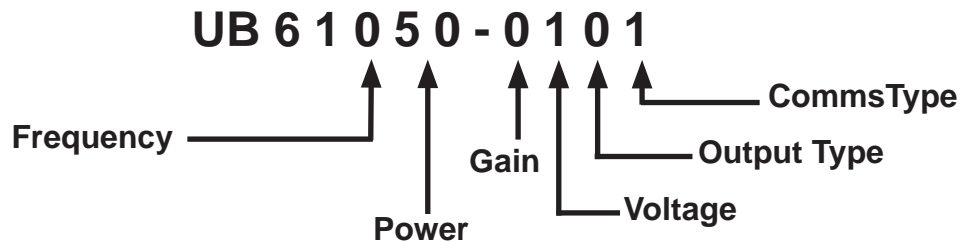
## Model Number Configuration

**1 2 3 4 5 6**

**UB 6 1 0 5 0 - x x x x**

<b>1</b>	<b>Frequency</b> 0 = 7.90-8.40 GHz	<b>2</b>	<b>Output Power</b> 50 dBm = 100W	<b>3</b>	<b>Gain</b> 0 = 60 dB 1 = 70 dB	<b>4</b>	<b>Voltage</b> 1 = 48 VDC 2 = AC		
<b>5</b>	<b>Output Type</b> 0 = UG-138/U 1 = CPR112G	<b>6</b>	<b>Comms Type</b> 0 = RS-232 1 = RS-422/485	<b>A</b>	<b>Accessories</b> 0 = Mating Connectors 1 = Pigtail set	<b>B</b>	<b>Finish</b> 0 = White 1 = Dark Green 2 = Desert Tan 3 = Beige 4 = Sand 5 = Forest Green 6 = Metalast	<b>Federal Standard</b> 37925 34094 33446 37722 33303 34083	

Example: 7.90-8.40 GHz, 60 dB Gain, DC Power, UG-138/U



Please confirm configurations against product specifications, and with factory, prior to order.