

FEATURES:

- Hyper-Light Package Design Only 4 lbs (1.8 kg)
- Extreme Stability, Reliability and Performance
- Built-in HPA Overdrive Circuit Protection
- Built-in Optimized Linearization
- Built-in Ultra Receive Band Reject Filter
- Built-in Anti Vibration Technology
- Extreme GaN Linearity and Efficiency
- Triple protection sealed waveguide output
- Field Replaceable IP69K Rated Fans
- Fully Assembled, and Rigorously Tested in the USA
- 3-Year Warranty



DESIGN OVERVIEW:

The 'LIGHTWEIGHT' Series 7.9 - 8.4 GHz 1W X-band BUCs are the next generation of the world's most compact and efficient feed-horn & boom-arm mountable BUCs in the industry, weighing only 4 lbs (1.8 kg) and working at high temp up to 70°C.

PERFORMANCE SPECIFICATIONS

Operating RF Frequency	7.9 - 8.4 GHz
Operating IF frequency	950 - 1450 MHz
Local Oscillator	6.95 GHz
Rated Output Power PSAT	1W 30.0 dBm
Linear Power SR @-26 dBc PLIN	0.5W 27.0 dBm
IMD3 (two tones) 3 dB Back Off	-25 dBc max. 2 signal 5 MHz apart at P-LINEAR
Spectral Regrowth at P-LINEAR (QPSK at 1.5x and OQPSK at 1.0x symbol rate offset with 2 dB back-off from rated power)	-30 dBc
10 MHz External Ref. (Internal High Stability Optional)	10 MHz Ref. Level: 0 dBm +/- 5 dBm Internal Ref. Stability +/- 0.1 ppm

COMPLIANCE INFORMATION

MIL-STD-188/164C	DO-160G	ROHS, REACH, WEEE
MIL-STD-461E		

SPURIOUS & PHASE NOISE

In-Band/Out-band Spurious	-60 dBc max.	
Group Delay	Ripple 1 nsec point to point max.	
AM/PM Conversion	1.0°/dB max. at 3 dB output backoff	
Noise Power Density (TX)	-85 dBm/Hz	
Noise Power Density (RX)	-155 dBm/Hz	
Phase Noise (Up Converter) (Ext. Ref.)	-55 dBc/Hz @ 10 Hz	-115 dBc/Hz
	-65 dBc/Hz @ 100 Hz	-135 dBc/Hz
	-75 dBc/Hz @ 1 kHz	-150 dBc/Hz
	-85 dBc/Hz @ 10 kHz	-155 dBc/Hz
	-95 dBc/Hz @ 100 kHz	-160 dBc/Hz

POWER CONSUMPTION

1W 30.0 dBm PSAT	25W
0.5W 27.0 dBm PLIN	20W

PROTECTION

VOLTAGE	OVERTEMP	VSWR
SMART ALARMS IN THE M&C	MICROPHONIC	CURRENT

ENVIRONMENTAL SPECIFICATIONS

Environmental MIL-STD	Compliant with WGS, MIL-STD-810E
Vibration MIL-STD	STD-188-164, and RTCA/DO-160G
Operating Temperature Range	- 40° C to + 70° C
Storage Temperature Range	- 60° C to + 85° C
Fan Rating / Field Replaceable	IP69K (fan module can be purchased separately)
Humidity	100% Condensing, IP67 Rated
Shock	20 g peak, 11 msec, 1/2 sine
Altitude	50,000ft, 15,240m
Built-in Receive Reject Filter	Suppression by +60 dB (min)

M&C INTERFACE

Advanced Monitor & Control	Ethernet Web Page Based, SNMP, RS232/485
ALARMS	PLL LOCK, HPA, VSWR, MUTE, TX
Stealth PLIN Operation Mode	LED Shut-Off Silenced fans
Administrative Interface (Optional)	OpenBMIP through RS-422

PART NUMBERING SYSTEM

AL - "LIGHTWEIGHT" MODEL SERIES

X - X-Band 7.9 - 8.4 GHz

20 | 30 | 40 | 50 | 60 | 80 | 100 - Rated Power in Watts

N | F - 50 Ohm or 75 Ohm IF Input Connector Type

M - Full M&C Option RS232/485, SNMP, Ethernet

A - AC Power 85-260VAC (increases size and weight)

R - 10 MHz Ref. Auto Sense | Internal Reference

K - FSK Option

U - Universal Mounting Bracket

J - Weatherproof DC/RJ45 Cable Dongle

C xxxx - Custom RAL Color Code

L - Custom Language

P - Custom Part number

B - Custom Label

G - Custom Logo

T - Redundancy Ready

H - High Gain (+79 dB - 82 dB)

W - Weatherproof Pelican Style Case

O - Other Custom Option

X - Custom Cable



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INPUT|OUTPUT INTERFACE

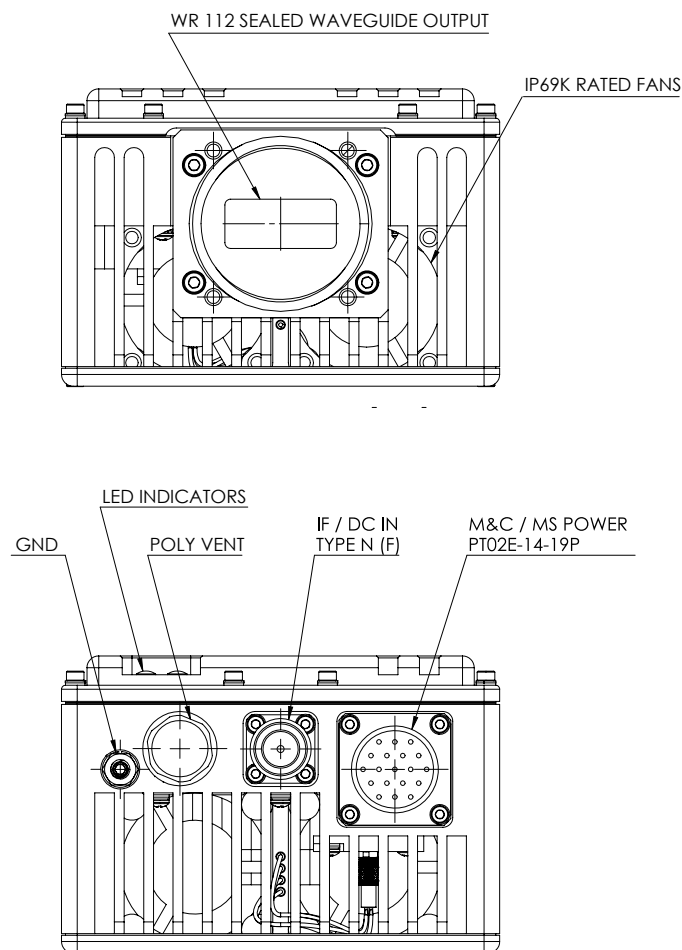
IF Connector	N-type (50 Ohm) F-type (75 Ohm)
Universal Prime Power via IF or MS/M&C Connector (7.0 A Current Limit Protection Through Coax)	+ 22 - 55 VDC
Output VSWR	1.5:1
Output Interface	CPR-112G, WR-90G, WR-112G
Input VSWR	1.5:1

GAIN

Gain (Temperature Compensated)	66 dB (min) 70 dB (typ.)
Gain Flatness 1 MHz	± 0.1 dB
Gain Flatness 36 MHz	± 0.5 dB
Gain Flatness Full Band	± 1.5 dB

MECHANICAL SPECIFICATIONS

Dimensions (DC Powered)	6.55" x 4.4" x .3" (166.5 x 112 x 76 mm) Without Connectors
Weight (DC Powered)	4 lbs (1.8 kg)



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