ALX-20

THE WORLD'S SMALLEST OUTDOOR 20W X-Band BUC High Temp +70C

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 20W 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 **Linear Power SR @-26 dBc PLIN**	20W 43.0 dBm 16W 42.0 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 MIL-STD-461E	DO-160G	ROHS, REACH, WEEE

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

20W 43.0 dBm PSAT	95W
16W 42.0 dBm PLIN	85W

PROTECTION

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

ENVIRONMENTAL SPECIFICATIONS

Environmental MIL-STD Vibration MIL-STD	Compliant with WGS, MIL-STD-810E 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

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

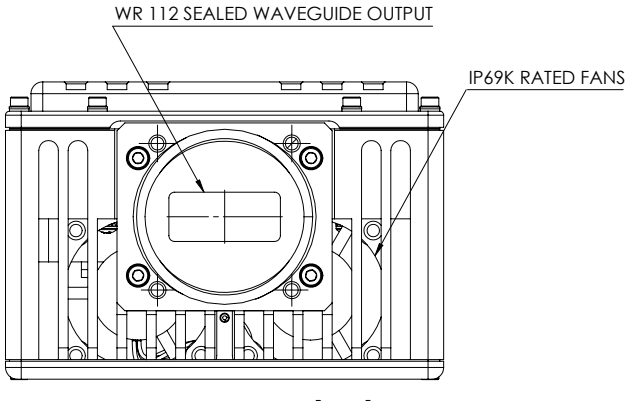
Gain (Temperature Compensated)	66 dB (min) 70 dB (typ.)
Gain Flatness 1 MHz	± 0.1 dB
Gain Flatness 36 MHz	± 0.5 dB
Gain Flatness Full Band	± 1.5 dB

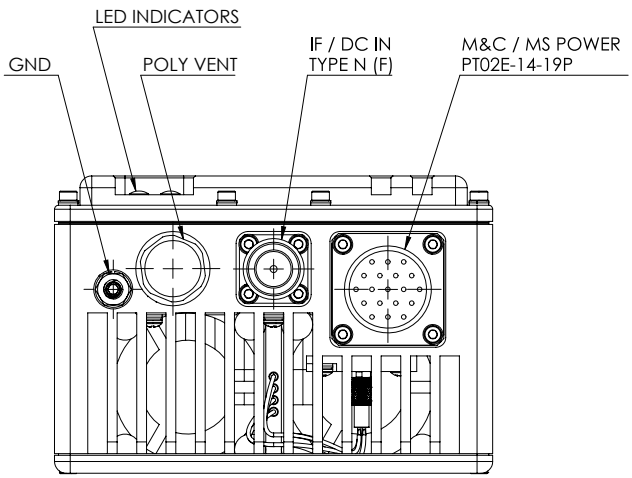
MECHANICAL SPECIFICATIONS

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

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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