

A(L,S)X-20-100W



The World's Smallest Outdoor 20-100 X-Band BUC

FEATURES:

- Hyper-Light yet Robust Package: 1.4 - 4 lbs (0.64 - 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:

Amkom's X-band 7.9 - 8.4 GHz BUCs are the next generation of the world's most compact and efficient feed-horn & boom-arm mountable BUCs in the industry. They come with the following available output powers: 20W, 30W, 40W, 60W, 80W and 100W. We've chosen the best of both worlds as we implemented the most mature, proven efficient and reliable GaN High Power Amplifiers with added internal overdrive protection. We take MTBF seriously and to the next level of at least 15 years during normal operation. We've taken absolutely no compromises during each of the design stages. Each unit is designed and tested to comply with the WGS, MIL-STD-188-164, and RTCA/DO-160G. It is vigorously tested at our California facility according to our ATP (Acceptance Testing Procedure).

PART NUMBERING SYSTEM

- AL - "LIGHTWEIGHT" MODEL SERIES
- AS - "SLIM FAN-LESS" MODEL SERIES
- X - X-Band 7.9 - 8.4 GHz
- 20 | 30 | 40 | 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

POWER CONSUMPTION

	ALX	ASX
20W 43.0 dBm PSAT	95W	85W
16W 42.0 dBm PLIN	85W	75W
30W 44.8 dBm PSAT	140W	130W
25W 44.0 dBm PLIN	130W	120W
40W 46.0 dBm PSAT	165W	155W
32W 45.0 dBm PLIN	155W	145W
60W 47.8 dBm PSAT	180W	170W
50W 47.0 dBm PLIN	160W	150W
80W 49.0 dBm PSAT	235W	225W
60W 47.8 dBm PLIN	175W	165W
100W 50.0 dBm PSAT	285W	275W
70W 48.5 dBm PLIN	200W	190W

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

PERFORMANCE SPECIFICATIONS

Operating RF Frequency	A(L,S)X 7.9 - 8.4 GHz	
Operating IF frequency	950 - 1450 MHz	
Local Oscillator	6.95 GHz	
	A(L,S)X20	20W 43.0 dBm 16W 42.0 dBm
	A(L,S)X30	30W 44.8 dBm 25W 44.0 dBm
	A(L,S)X40	40W 46.0 dBm 30W 44.8 dBm
	A(L,S)X60	60W 47.8 dBm 50W 47.0 dBm
	A(L,S)X80	80W 49.0 dBm 60W 47.8 dBm
	A(L,S)X100	100W 50.0 dBm 70W 48.5 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	

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

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 * * ALX series only	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)

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

INPUT|OUTPUT INTERFACE

IF Connector	ALX N-type (50 Ohm) F-type (75 Ohm) ASX SMA (50 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	ALX CPR-112G, WR-90G, WR-112G ASX SMA
Input VSWR	1.5:1

PROTECTION

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

COMPLIANCE INFORMATION

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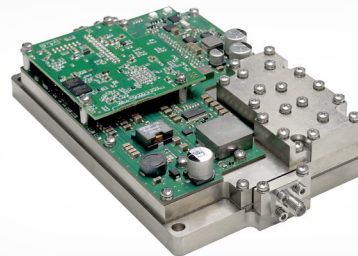
MECHANICAL SPECIFICATIONS

Dimensions	ALX	6.55" x 4.4" x .3" (166.5 x 112 x 76 mm) Without Connectors
	ASX	5.9" x 3.74" x 1.22" (150 x 95 x 31 mm) Without Connectors
Weight	ALX	4 lbs (1.8 kg)
	ASX	1.4 lbs (0.64 kg)

X-BAND BUC OPTIONS:



ALX - Lightweight Brick Series

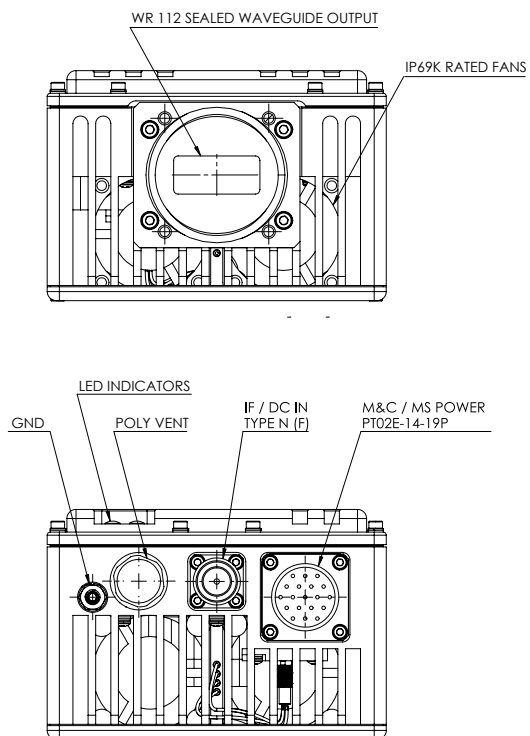


ASX - Slim Fan-less Series
Non-IP Rated

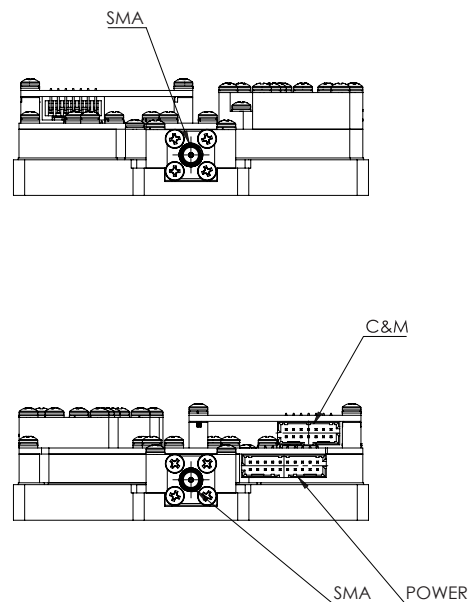
FEATURES:

- ALX - Lightweight Brick Series - world's most compact and efficient outdoor X-Band BUCs in the industry
- ASX - Slim Fan-less Series - non-IP rated housing. Customer cooling baseplate required

LIGHTWEIGHT SERIES



FANLESS & SLIM SERIES NON IP



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