

ALDB-50W



50W DBS-Band BUC 17.3-18.1 GHz & 18.1 -18.4 GHz

FEATURES:

- Ruggedized Design
- Extreme Stability, Reliability and Performance
- Multiple Layers of Protection
- Highly Customizable
- Extreme GaN Linearity and Efficiency
- OPENBMIP Ready
- Sealed waveguide output
- Field Replaceable IP69K Rated Fans
- Fully Assembled, and Rigorously Tested in the USA
- 3-Year Warranty



DESIGN OVERVIEW:

The "LIGHTWEIGHT" series is a DBS-Band BUC with dual L.O. covering 17.3 - 18.1 GHz and 18.1 - 18.4 GHz frequencies. It is not only the world's smallest and most efficient feed-horn mountable BUC, but it is filled with state of the architecture, weighing only 3.2 lbs and handling output power of up to 50W PSAT. We've hand picked world's most efficient components to build the most advanced architecture in DC and GaN amplification circuits with total protection. We've chosen an absolute and "No Corner Cutting" concept in our design. Each unit is vigorously tested at our California facility according to our ATP (acceptance testing procedure).

PERFORMANCE SPECIFICATIONS

Operating RF Frequency	17.3 - 18.1 GHz & 18.1 - 18.4 GHz
Operating IF frequency	950 - 1750 MHz 1400 - 1700 MHz
Local Oscillator	16.35GHz 16.70GHz
Rated Output Power PSAT	50W 47.0 dBm
Linear Power SR @-26 dBc PLIN	40W 46.0 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

50W 47.0 dBm PSAT	250W
40W 46.0 dBm PLIN	190W

PROTECTION

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

ENVIRONMENT SPECIFICATIONS

Environmental MIL-STD	Compliant with MIL-STD 810E
Vibration MIL-STD	MIL-STD 810F, Method 514.5
Operating Temperature Range	- 40° C to + 70° C
Storage Temperature Range	- 50° 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	70,000 ft, 21,336 m

M&C INTERFACE

Advanced Monitor & Control	HTTPS Ethernet, SNMP, Telnet, RS232/485, FSK Optional
ALARMS	PLL LOCK, HPA, VSWR, MUTE, TX
Stealth PLIN Operation Mode	LED Shut-Off Silenced fans

MECHANICAL SPECIFICATIONS

Dimensions (DC Powered)	6.5" x 3.9" x 3" (165 x 100 x 76 mm)
Weight (DC Powered)	3.2 lbs (1.5 kg)

PART NUMBERING SYSTEM

AL - Amkom "LIGHTWEIGHT" MODEL SERIES
 DB - DBS-Band 17.3 - 18.1 GHz & 18.1 to 18.4 GHz
 30 | 40 | 50 - Rated Power in Watts
 N | F - 50 Ohm or 75 Ohm IF Input Connector Type
 M - M&C RS232/485, Ethernet, Telnet & SNMP
 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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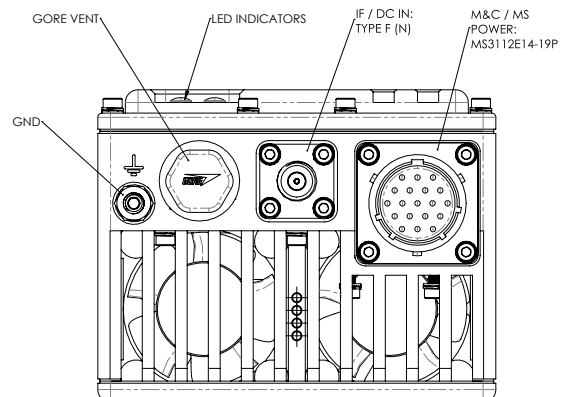
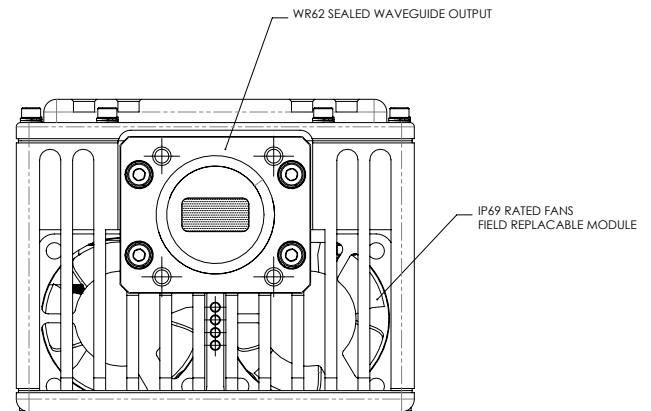
Amkom Design Group Inc.

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 250W (max)
Output VSWR	1.5:1
Output Interface	WR62 Grooved
Input VSWR	1.5:1
10 MHz External Ref. (Internal High Stability +/- 0.1 ppm Option Available)	10 MHz Reference Level: 0 dBm +/- 5 dBm

GAIN

Gain (Temperature Compensated)	65 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
Gain Attenuation	31.5 dB in 0.5 dB Steps, 0.1 dB available



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