

# ALDB-40W



40W 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 40W 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

<b>Operating RF Frequency</b>	17.3 - 18.1 GHz & 18.1 - 18.4 GHz
<b>Operating IF frequency</b>	950 - 1750 MHz   1400 - 1700 MHz
<b>Local Oscillator</b>	16.35GHz   16.70GHz
<b>Rated Output Power PSAT</b>	40W 46.0 dBm
<b>Linear Power SR @-26 dBc PLIN</b>	32W 45.0 dBm
<b>IMD3 (two tones) 3 dB Back Off</b>	-25 dBc max. 2 signal 5 MHz apart at P-LINEAR
<b>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)</b>	-30 dBc
<b>10 MHz External Ref. (Internal High Stability Optional)</b>	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

<b>In-Band/Out-band Spurious</b>	-60 dBc max.
<b>Group Delay</b>	Ripple 1 nsec point to point max.
<b>AM/PM Conversion</b>	1.0°/dB max. at 3 dB output backoff
<b>Noise Power Density (TX)</b>	-85 dBm/Hz
<b>Noise Power Density (RX)</b>	-155 dBm/Hz
<b>Phase Noise (Up Converter) (Ext. Ref.)</b>	-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

<b>40W 46.0 dBm PSAT</b>	205W
<b>32W 45.0 dBm PLIN</b>	185W

## PROTECTION

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

## ENVIRONMENT SPECIFICATIONS

<b>Environmental MIL-STD</b>	Compliant with MIL-STD 810E
<b>Vibration MIL-STD</b>	MIL-STD 810F, Method 514.5
<b>Operating Temperature Range</b>	- 40° C to + 70° C
<b>Storage Temperature Range</b>	- 50° C to + 85° C
<b>Fan Rating / Field Replaceable</b>	IP69K (fan module can be purchased separately)
<b>Humidity</b>	100% Condensing, IP67 Rated
<b>Shock</b>	20 g peak, 11 msec, 1/2 sine
<b>Altitude</b>	70,000 ft, 21,336 m

## M&C INTERFACE

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

## MECHANICAL SPECIFICATIONS

<b>Dimensions (DC Powered)</b>	6.5" x 3.9" x 3" (165 x 100 x 76 mm)
<b>Weight (DC Powered)</b>	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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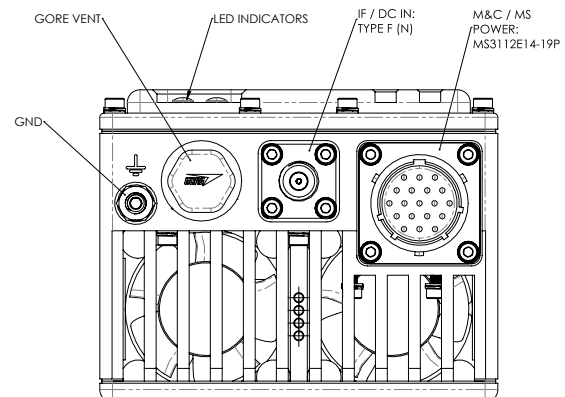
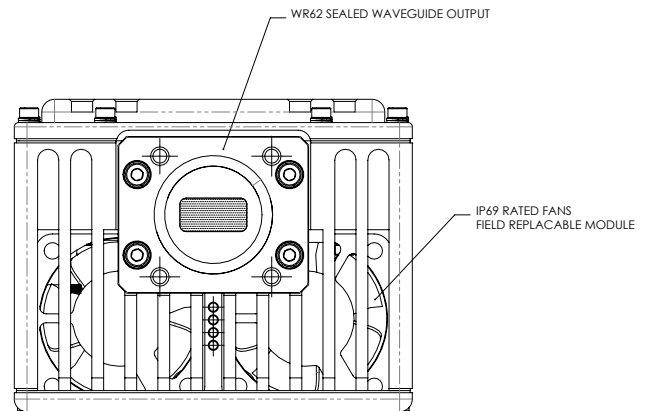
Amkom Design Group Inc.

## INPUT|OUTPUT INTERFACE

<b>IF Connector</b>	N-type (50 Ohm)   F-type (75 Ohm)
<b>Universal Prime Power via IF or MS/M&amp;C Connector (7.0 A Current Limit Protection Through Coax)</b>	+22 -55 VDC 250W (max)
<b>Output VSWR</b>	1.5:1
<b>Output Interface</b>	WR62 Grooved
<b>Input VSWR</b>	1.5:1
<b>10 MHz External Ref. (Internal High Stability +/- 0.1 ppm Option Available)</b>	10 MHz Reference Level: 0 dBm +/- 5 dBm

## GAIN

<b>Gain (Temperature Compensated)</b>	65 dB (min) 70 dB (typ.)
<b>Gain Flatness 1 MHz</b>	± 0.1 dB
<b>Gain Flatness 36 MHz</b>	± 0.5 dB
<b>Gain Flatness Full Band</b>	± 1.5 dB
<b>Gain Attenuation</b>	31.5 dB in 0.5 dB Steps, 0.1 dB available



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