AMKOM DESIGN GROUP INC.

STEP ELECTRONICS
A Division of Av-Comm

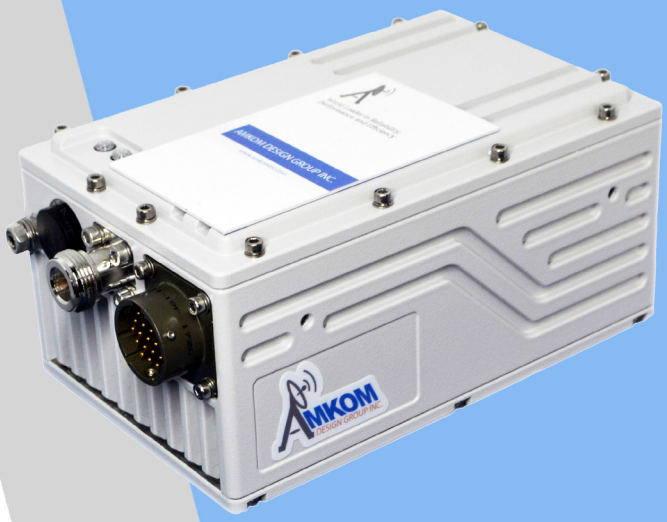
GaAs + GaN Technology

THE WORLD's SMALLEST OUTDOOR up to + 70°C 10W DBS-Band BUC

AMKD10-XXXXX

Features:

- Hyper-Light Package Design Only 3.1lbs (1.4kg)
- Extreme Stability, Reliability and Performance
- Built-in HPA Overdrive Circuit Protection
- High Temperature Mode - up to + 70°C
- Built-in Optimized Linearization
- Built-in Ultra Receive Band Reject Filter
- Built-in Anti Vibration Technology
- Built-in DC Input Noise Suppression Filter
- Extreme GaN Linearity and Efficiency
- Exceeds ALL IESS-308/309 Phase Noise Standards
- Triple protection sealed waveguide output
- Field Replaceable IP69K Rated Fans
- Assembled and Rigorously Tested in the USA
- 3 Year Warranty



Design Overview:

The "MINI BRICK" series DBS (17.3 - 18.1 GHz & 18.1 to 18.4 GHz) DBS-Band BUCs are the next generation of the World's Smallest feed-horn & boom-arm mountable BUCs in the industry, weighing-in only at 3.1lbs (1.4kg) and handling output power of 10W PSAT (min). We've picked the best of both worlds as we implemented the most mature, proven efficient and reliable GaAs + GaN High Power Amplifiers with internal overdrive protection. We've chosen an absolute and "No Corner Cutting" concept in our design. Its weatherproof and robust Hyper-Light package is constructed with the most advanced mechanical precision engineering in mind. Each unit is vigorously tested at our California facility according to our ATP (acceptance testing procedure).

24/9 Powells Road, Brookvale, NSW 2100, Australia
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Preliminary SPECIFICATION 20W DBS-Band BUC	
Operating RF Frequency	17.3 - 18.1 GHz & 18.1 to 18.4 GHz
Operating IF frequency	950 to 1750 MHz, 1400MHz - 1700MHz
Local Oscillator (switchable)	16.35GHz, 16.70GHz
PSAT Rated Power	10W (40.0dBm min)
PLinear Power	8W (39.0dBm min)
IF Connector Input	N-TYPE
Prime Power Consumption	18-55VDC 55W at PSAT
10MHz External Ref. (Internal High Stability Optional)	10MHz Reference Level: 0dBm +/- 5dBm
Output Interface	WR62
Gain (Temperature Compensated)	69 dB (typical)
TX Gain variation 50MHz	± 0.5 dB
TX Gain variation 1000MHz	± 1.5 dB
TX Gain Flatness	± 0.50 dB max. over 40 MHz
IMD3 (two tones) 3dB off	-25 dBc max. 2 signal 5MHz apart at P-LINEAR
In-Band/Out-band Spurious	-60dBc max.
Input VSWR	1.5:1
Output VSWR	1.5:1
Spectral Regrowth Linearized at P_{LINEAR} (QPSK at 1.5x and OQPSK at 1.0x symbol rate off-set with 2dB back-off from rated power)	-30 dBc
Phase Noise (Up Converter) | (Ext. Ref.)	-65 dBc/Hz @ 100 Hz | -135dBc/Hz -75 dBc/Hz @ 1 kHz | - 150dBc/Hz -85 dBc/Hz @ 10 kHz | -155dBc/Hz -95 dBc/Hz @ 100 kHz | -160dBc/Hz
Environmental MIL-STD Vibration MIL-STD	Compliant with MIL-STD810E MIL-STD810F, Method 514.5 C-2 Transport
Operating Temperature Range	- 40° C to + 70°C
Storage Temperature Range	- 60°C to + 85°C
Fan Rating / Field Replaceable	IP 69K
Humidity	100% Condensing, IP67 Rated
Shock	20 g peak, 11 msec, 1/2 sine
Altitude	21,500ft, 6,500m
Dimensions	6" x 3.7" x 2.91" (152x94x74 mm) Without Connectors
Weight	3.1lbs (1.4kg)

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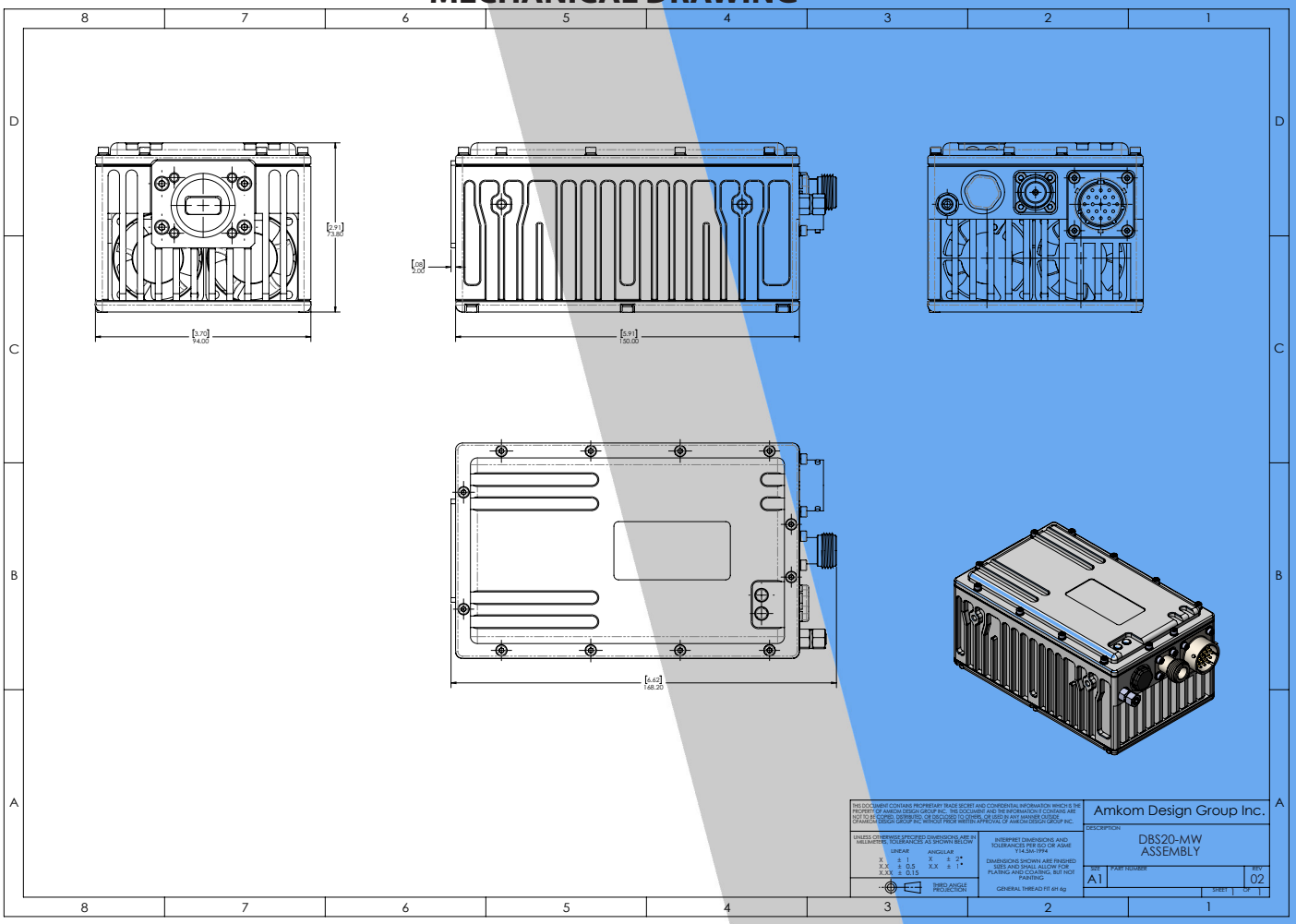
MECHANICAL DRAWING



PART NUMBERING SYSTEM

Example: AMKD10NDMR

AM - "MINI BRICK" MODEL SERIES
KD - DBS-Band 17.30 - 18.40 GHz
10 | 20 - Rated PSAT Power in Watts
N - 50 Ohm IF Input Connector Type | F - 75 Ohm IF Input Connector Type
D - Universal power through IF or MS Connector
M - M&C Option - RS232/485 + Ethernet
R - 10 MHz Internal Ref. Auto Sense | Shut-off Feature
C - Custom option availability