AKF-20W

Low cost 20W Ku-Band BUCs

FEATURES:

- Low Cost Solution
- Extreme Efficiency, Stability, Reliability and Performance
- Hyper-Light Package, Only 1.5 lbs
- Super Low Power Consumption (70W* @20W)
- Fan-less Design
- Exceeds ALL IESS-308/309 Phase Noise Standards
- 3-Year Warranty

DESIGN OVERVIEW:

The low cost "FANLESS BRICK" series Ku-Band BUCs are the next generation of the World's Smallest feed-horn & boom-arm mountable BUCs in the industry, weighing only 1.5 lbs and handling output power of 20W at the Ku-Band frequencies. We've picked the most mature, reliable and proven to be highly efficient amplifiers with internal overdrive protection. Each unit is vigorously tested at our California facility according to our ATP (Acceptance Testing Procedure).

PERFORMANCE SPECIFICATIONS

Operating RF Frequency	AKSF 14.0 - 14.5 GHz AKUF 13.75 - 14.5 GHz AKDF 13.75 - 14.5 | 14.0 - 14.5 GHz
Operating IF frequency	950 - 1700 | 950 - 1450 MHz
Local Oscillator	12.80 | 13.05 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 r ated power)**	-30 dBc

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 (10.95 - 12.75 GHz)
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	70W
16W 42.0 dBm PLIN	60W

COMPLIANCE INFORMATION

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

PROTECTION

VOLTAGE	OVERTEMP	CURRENT
SMART ALARMS IN THE M&C	MICROPHONIC	

ENVIROMENT SPECIFICATIONS

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
Humidity	100% Condensing, IP67
Shock	20 g peak, 11 msec, 1/2 sine
Altitude	50,000 ft, 15,240 m

M&C INTERFACE

Advanced Monitor & Control	RS232 (RS48, Ethernet Web Page Based, Telnet)*
ALARMS	PLL LOCK, HPA, MUTE, TX
Stealth PLIN Operation Mode	LED Shut-Off | Silenced fan

PART NUMBERING SYSTEM

S - Slim Size Series
F - Fan-less Series
G - Fan-less and Slim Series
KU - Universal Ku-Band 13.75 - 14.50 GHz
KS - Standard Ku-Band 14.0 - 14.50 GHz
KL - Low Ku-Band 12.75 - 13.25 GHz
KD - Dual Ku-Band 13.75 - 14.50 GHz \| 14.0 - 14.50 GHz
6 \| 8 \| 10 \| 12 \| 16 \| 20 - Rated Power in Watts
N \| F - 50 Ohm or 75 Ohm IF Input Connector Type
M1 - M&C Option RS232 Only
M2 * - RS232/485, Ethernet, SNMP, Telnet
E - Power through MC connector
R - 10 MHz Ref. Auto Sense \| Internal Reference
B - Custom Label
H - High Gain +5 dB
U - Universal Mounting Bracket
C xxxx - Custom RAL Color Code
X - Custom Cable

* Advanced M&C option coming soon

INPUT|OUTPUT INTERFACE

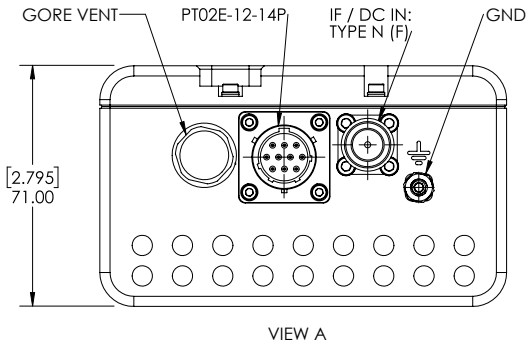
IF Connector	N-type (50 Ohm) | F-type (75 Ohm)
Universal Prime Power via IF	+ 18 - 55 VDC
Output Interface	WR75 Sealed & Grooved

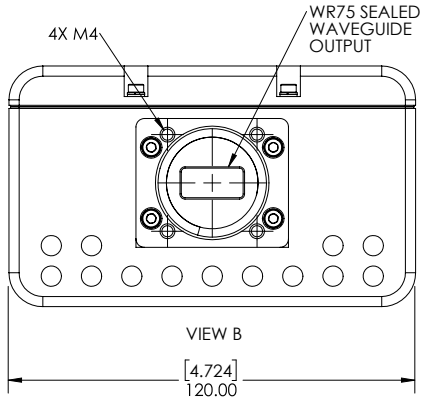
GAIN

Gain (Temperature Compensated)	55 dB (min) 60 dB (typ.)
TX Gain Flatness	± 0.75 dB max. over 40 MHz
TX Gain variation 50 MHz	± 0.5 dB
TX Gain variation 500 MHz	± 1.5 dB

MECHANICAL SPECIFICATIONS

Dimensions	6.1" x 4.7" x 2.8" (153 × 120 × 71 mm)
Weight	1.5 lbs (0.68 kg)





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