AFKU(S,D)-16W

THE WORLD's SMALLEST Fan-less 16W Ku-Band BUC

FEATURES:

- Hyper-Light Package Design Only 3.1 lbs (1.4 kg)
- Extreme Stability, Reliability and Performance
- Built-in HPA Overdrive Circuit Protection
- Built-in Optimized Linearization
- Built-in 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
- Fan-less Design
- Fully Assembled and Rigorously Tested in the USA
- 3-Year Warranty

DESIGN OVERVIEW:

The "FANLESS BRICK" series Extended (13.75 - 14.5 GHz), Standard (14.0 - 14.5 GHz) and Dual (13.75 - 14.5 GHz | 14.0 - 14.5 GHz) Frequency 16W Ku-Band BUCs are the next generation of the World's Smallest feed-horn & boom-arm mountable BUCs in the industry, weighing-in only at 3.1 lbs (1.4 kg) and working at high temp up to 60°C.

PERFORMANCE SPECIFICATIONS

Operating RF Frequency	AFKS 14.0 - 14.5 GHz AFKU 13.75 -14.5 GHz AFKD 13.75 -14.5 | 14.0 - 14.5 GHz
Operating IF frequency	950 - 1450 MHz | 950 - 1700 MHz
Local Oscillator	13.05 GHz | 12.80 GHz
Rated Output Power PSAT **Linear Power SR @-26 dBc PLIN**	16W 42.0 dBm PSAT 13W 41.0 dBm PLIN
IMD3 (two tones) 3 dB Back Off	-25 dBc max. 2 signal 5MHz 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

PROTECTION

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

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

16W 42.0 dBm PSAT	85W
13W 41.0 dBm PLIN	65W

COMPLIANCE INFORMATION

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

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 + 60°C
Storage Temperature Range	- 60° C to + 85° C
Humidity	100% Condensing, IP67 Rated
Shock	20 g peak, 11 msec, 1/2 sine
Altitude	50,000 ft, 15,240 m

M&C INTERFACE

Advanced Monitor & Control	Ethernet Web Page Based, SNMP, RS232/485, FSK (opt.)
ALARMS	PLL LOCK, HPA, VSWR, MUTE, TX
Stealth PLIN Operation Mode	LED Shut-Off | Silenced fans

MECHANICAL SPECIFICATIONS

Dimensions	6.54" x 4.72" x 3.10" (166 × 120 × 79 mm) Without Connectors
Weight	3.1 lbs (1.4 kg)

PART NUMBERING SYSTEM

AF - "FAN-LESS BRICK" MODEL 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
16 | 20 | 25 -Rated Power in Watts
N | F - 50 Ohm or 75 Ohm IF Input Connector Type
M - Full M&C Option RS232/485, SNMP, Ethernet
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

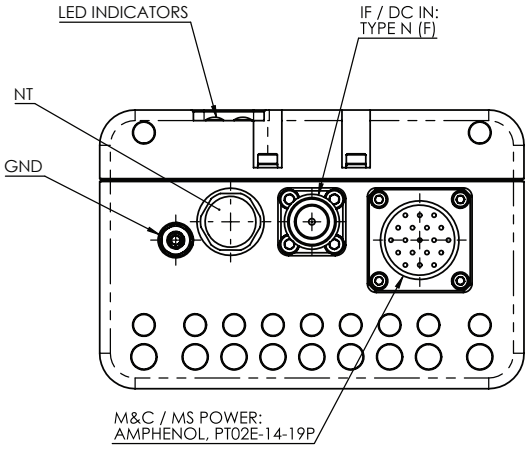
Visit Product Page

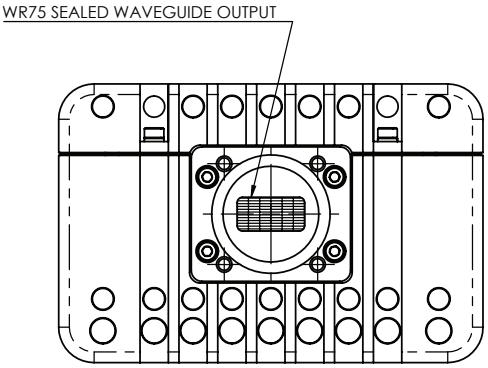
INPUT|OUTPUT INTERFACE

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)	+ 16 - 55 VDC
Output VSWR	1.3:1
Output Interface	WR75 Sealed & Grooved
Input VSWR	1.5:1
10 MHz External Ref. (Internal High Stability +/- 0.1 ppm Option Available)	10 MHz Ref. Level: 0 dBm +/- 5 dBm Internal Ref. Stability +/- 0.1 ppm

GAIN

Gain (Temperature Compensated)	64 dB (min) 68 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
Built-in Receive Reject Filter	Suppression by +50 dB (min)





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