

A(L,M,F,S)K-16-80W

GaAs + GaN Technology

The World's Smallest Outdoor 16-80W Ku-Band BUCs



FEATURES:

- Hyper-Light Package Design up to only 4.2lbs (1.9kg)
- Extreme Stability, Reliability and Performance
- Built-in HPA Overdrive Circuit Protection
- Built-in Optimized Linearization
- Built-in Ultra Receive Band Reject Filter (ALK, AMK only)
- 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 IP68 Rated Fans
- Fully Assembled, and Rigorously Tested in the USA
- 3 Year Warranty



DESIGN OVERVIEW:

The Ku-Band BUCs are the next generation of the world's most compact and efficient outdoor BUCs in the industry handling the output power up to 80W. We've picked the most mature, reliable and proven to be highly efficient amplifiers with internal overdrive protection. Its weatherproof and robust Hyper-Light package is constructed with the most advanced materials and mechanical precision engineering in mind, taking the MTBF to the next level of at least 15 years during normal operation. Each unit is vigorously tested at our California facility according to our Acceptance Testing Procedure.

PART NUMBERING SYSTEM

AL - "LIGHTWEIGHT" MODEL SERIES
AM - "MINI BRICK" MODEL SERIES
AF - "FAN-LESS BRICK" MODEL SERIES
AS - "SLIM FAN-LESS" 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 | 32 | 40 | 50 | 60 | 80 - Rated Power in Watts
N | F - 50 Ohm or 75 Ohm IF Input Connector Type
M - Full M&C Option RS232/485, SNMP, Ethernet
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 (+79dB - 82dB)
W - Weatherproof Pelican Style Case
O - Other Custom Option
X - Custom Cable

POWER CONSUMPTION

	ALK *	AMK *	AFK	ASK
16W 42.0 dBm PSAT	-	100W	85W	85W
13W 41.0 dBm PLIN	-	85W	65W	65W
20W 43.0 dBm PSAT	-	115W	95W	100W
16W 42.0 dBm PLIN	-	95W	75W	75W
25W 44.0 dBm PSAT	-	125W	-	110W
20W 43.0 dBm PLIN	-	105W	-	90W
32W 45.0 dBm PSAT	-	155W	-	145W
25W 44.0 dBm PLIN	-	115W	-	100W
40W 46.0 dBm PSAT	190W	190W	-	185W
32W 45.0 dBm PLIN	155W	155W	-	145W
50W 47.0 dBm PSAT	240W	240W	-	-
40W 46.0 dBm PLIN	200W	200W	-	-
60W 47.8 dBm PSAT	260W	-	-	-
50W 47.0 dBm PLIN	220W	-	-	-
80W 49.0 dBm PSAT	350W	-	-	-
60W 47.8 dBm PLIN	265W	-	-	-

GAIN

	ALK	66dB(min) 72 dB(typ.)
Gain (Temperature Compensated)	AMK/AFK	64dB(min) 68 dB(typ.)
	ASK	66dB(min) 70 dB(typ.)
TX Gain Flatness	± 0.75 dB max. over 40 MHz	
TX Gain variation 50MHz	± 0.5 dB	
TX Gain variation 500MHz	± 1.5 dB	
Gain Attenuation	31.5dB in 0.5dB Steps, 0.1dB available	

PERFORMANCE SPECIFICATIONS

Operating RF Frequency	A(L,M,F,S)KS 14.0 - 14.5 GHz	
	A(L,M,F,S)KU 13.75 - 14.5 GHz	
	A(L,M,F,S)KD -13.75 - 14.5 14.0 - 14.5 GHz	
	A(L,M,F,S)KL 12.75 - 13.25 GHz	
Operating IF frequency	950 - 1700 950 - 1450 MHz	
Local Oscillator	12.80 13.05 11.80 GHz	
Rated Output Power PSAT Linear Power SR @ -26dBc PLIN	A(M,F,S)K16	16W 42.0 dBm 13W 41.0 dBm
	A(M,F,S)K20	20W 43.0 dBm 16W 42.0 dBm
	A(M,S)K25	25W 44.0 dBm 20W 43.0 dBm
	A(M,S)K32	32W 45.0 dBm 25W 44.0 dBm
	A(L,M,S)K40	40W 46.0 dBm 32W 45.0 dBm
	A(L,M)K50	50W 47.0 dBm 40W 46.0 dBm
	A(L,M)K60	60W 47.8 dBm 50W 47.0 dBm
	ALK80	80W 49.0 dBm 60W 47.8 dBm
IMD3 (two tones) 3dB Back Off	-25 dBc max. 2 signal 5MHz apart at P-LINEAR	
Spectral Regrowth at PLINEAR		
(QPSK at 1.5x and OQPSK at 1.0x symbol rate offset with 2dB back-off from rated power)	-30 dBc	
10MHz External Ref. (Internal High Stability Optional)	10MHz Ref. Level: 0dBm +/- 5dBm Internal Ref. Stability +/- 0.1 ppm	

COMPLIANCE INFORMATION

MIL - STD - 188/164C	MIL - STD - 461	ROHS, REACH, WEEE
MIL - STD - 810E	DO - 160 G	

ENVIROMENT SPECIFICATIONS

Environmental MIL-STD	Compliant with MIL-STD810E	
Vibration MIL-STD	MIL-STD810F, Method 514.5	
Operating Temperature Range	- 40° C to + 70°C	
Storage Temperature Range	- 60°C to + 85°C	
Fan Rating / Field Replaceable	IP 68, Ultra Long Life	
Humidity	100% Condensing, IP67 Rated	
Shock	20 g peak, 11 msec, 1/2 sine	
Altitude	50,000ft, 15,240m	

PROTECTION

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

SPURIOUS & PHASE NOISE

In-Band/Out-band Spurious	-60dBc 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)	-85dBm/Hz	
Noise Power Density (RX)	-155dBm/Hz (10.95 - 12.75 GHz)	
Phase Noise (Up Converter) (Ext. Ref.)	-55 dBc/Hz @ 10 Hz	-115dBc/Hz
	-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

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

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	ALK	6.55" x 3.94" x 3" (166 x 100 x 76.2 mm)
	AMK	6" x 3.7" x 2.91" (152 x 94 x 74 mm)
	AFK	6.54" x 4.72" x 3.10" (166 x 120 x 79 mm)
	ASK	6" x 4.41" x 1.82" (152 x 112 x 43.7 mm)
Weight	ALK	3.5lbs (1.6kg)
	AMK	3.1lbs (1.4kg)
	AFK	4.2lbs (1.9kg)
	ASK	3.3lbs (1.5kg)

KU-BAND BUC OPTIONS:



ALK

Lightweight Brick Series



AMK

Mini Brick Series



AFK

Fan-less Brick Series



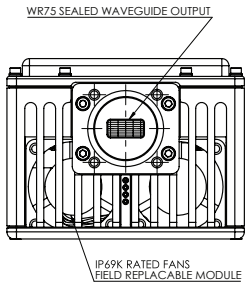
ASK

Slim Fan-less Brick Series

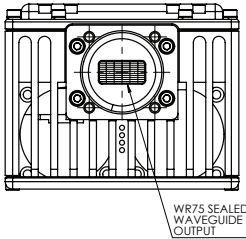
FEATURES:

- ALK - Lightweight Brick Series - World's smallest outdoor Ku-Band BUCs in the industry
- AMK - Mini Brick Series - Hyper-light package design only 3.1lbs
- AFK - Fan-less Brick Series - Convection cooled housing
- ASK - Slim Fan-less Brick Series - Customer cooling baseplate required, HPA overdrive circuit protection with over-temp shut down, High Temperature Mode - up to + 70°C

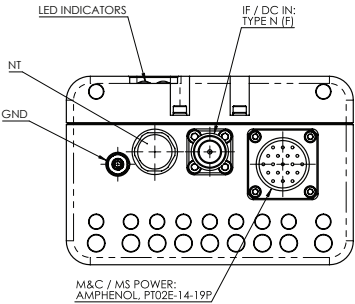
LIGHTWEIGHT SERIES



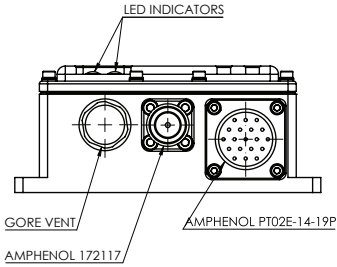
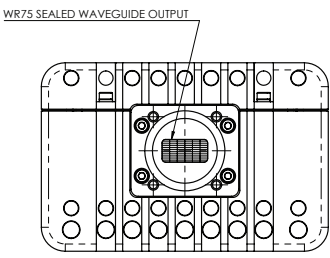
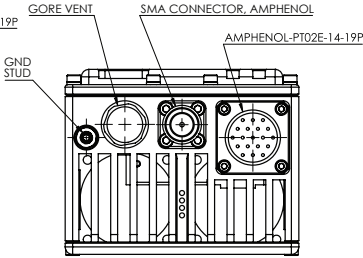
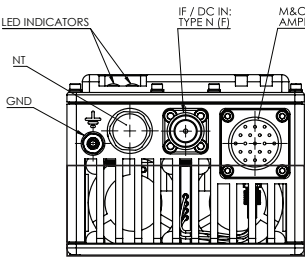
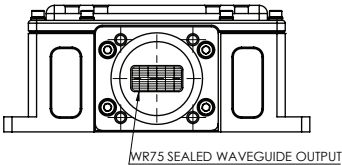
MINI BRICK SERIES



FANLESS BRICK SERIES



FANLESS & SLIM SERIES



Visit Product Page



Visit Product Page



Visit Product Page



Visit Product Page