

AMKU(S,D)-20W(NA)

GaAs + GaN Technology

AC POWERED OUTDOOR 20W Ku-Band BUCs



FEATURES:

- Hyper-Light Package Design Only 5.3lbs (2.4kg)
- Extreme Stability, Reliability and Performance
- Built-in HPA Overdrive Circuit Protection
- 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 IP68 Rated Fans
- AC Power 85-260VAC
- Fully Assembled, and Rigorously Tested in the USA
- 3 Year Warranty



DESIGN OVERVIEW:

The "MINI BRICK" series Extended (13.75 - 14.5GHz), Standard (14.0 - 14.5GHz) and Dual(13.75 - 14.5GHz | 14.0 - 14.5GHz) Frequency 20W Ku-Band BUCs are the next generation of the AC Powered feed-horn & boom-arm mountable BUCs, at only at 5.3lbs (2.4kg) and working at high temp up to 70°C.

PERFORMANCE SPECIFICATIONS

Operating RF Frequency	AMKS 14.0 - 14.5 GHz AMKU 13.75 - 14.5GHz AMKD 13.75 - 14.5 14.0 - 14.5 GHz
Operating IF frequency	950 to 1450 MHz 950 - 1700 MHz
Local Oscillator	12.80 GHz 13.05 GHz
Rated Output Power PSAT	20W 43.0 dBm
Linear Power SR @ -26dBc PLIN	16W 42.0 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	

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

POWER CONSUMPTION

20W 43.0 dBm PSAT	115W
16W 42.0 dBm PLIN	95W

PROTECTION

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

ENVIRONMENT 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	IP68, Ultra long life
Humidity	100% Condensing, IP67 Rated
Shock	20 g peak, 11 msec, 1/2 sine
Altitude	21,500ft, 6,500m
Built-in Receive Reject Filter	Suppression by +60dB (min)

GAIN

Gain (Temperature Compensated)	64dB(min) 68 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

PART NUMBERING SYSTEM

AM- "MINI 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 | 30 | 40 - 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 (+79dB - 82dB)

W - Weatherproof Pelican Style Case

O - Other Custom Option

X- Custom Cable



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INPUT|OUTPUT INTERFACE

IF Connector	N-type (50 Ohm) F-type (75 Ohm)
Universal Prime Power via 3pin Power Connector	+ 85-260 VAC
Aphenol PT02E-12-3P, Current Protection	
Output VSWR	1.3:1
Output Interface	WR75 Grooved
Input VSWR	1.5:1

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 (DC Powered)	6.73"x3.94"x 5.09" (171×100×129.3 mm) Without Connectors
Weight (DC Powered)	5.3lbs (2.4kg)

