

# RDVW-AMKU40W

## GaAs + GaN Technology

40W Ku-Band BUC



### FEATURES:

- Light Package Design Only 3.5lbs (1.6kg)
- 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
- 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 40W Ku-Band BUCs are the next generation of the feed-horn & boom-arm mountable BUCs in the industry, weighing-in only at 3.5lbs (1.6kg) and working at high temp up to 70°C.

### PERFORMANCE SPECIFICATIONS

<b>Operating RF Frequency</b>	AMKL 12.75 - 13.25 GHz AMKS 14.0 - 14.5 GHz AMKU 13.75 -14.5GHz AMKD 13.75 -14.5   14.0 - 14.5 GHz
<b>Operating IF frequency</b>	950 to 1450 MHz   950 - 1700 MHz
<b>Local Oscillator</b>	11.80 GHz   13.05 GHz   12.80 GHz
<b>Rated Output Power PSAT</b>	40W 46 dBm
<b>Linear Power SR @ -26dBc PLIN</b>	32W 45.0 dBm
<b>IMD3 (two tones) 3dB Back Off</b>	-25 dBc max. 2 signal 5MHz apart at P-LINEAR
<b>Spectral Regrowth at PLINEAR</b> (QPSK at 1.5x and OQPSK at 1.0x symbol rate offset with 2dB back-off from rated power)	-30 dBc
<b>10MHz External Ref. (Internal High Stability Optional)</b>	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

<b>In-Band/Out-band Spurious</b>	-60dBc max.
<b>Group Delay</b>	Ripple 1 nsec point to point max.
<b>AM/PM Conversion</b>	1.0°/dB max. at 3 dB output backoff
<b>Noise Power Density (TX)</b>	-85dBm/Hz
<b>Noise Power Density (RX)</b>	-155dBm/Hz (10.95 - 12.75 GHz)
<b>Phase Noise (Up Converter) (Ext. Ref.)</b>	-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

<b>40W 46 dBm PSAT</b>	190W
<b>32W 45.0 dBm PLIN</b>	155W

### PROTECTION

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

## ENVIRONMENT SPECIFICATIONS

<b>Environmental MIL-STD</b>	Compliant with MIL-STD810E
<b>Vibration MIL-STD</b>	MIL-STD810F, Method 514.5
<b>Operating Temperature Range</b>	- 40° C to + 70° C
<b>Storage Temperature Range</b>	- 60°C to + 85°C
<b>Fan Rating / Field Replaceable</b>	IP68 Ultra Long Life
<b>Humidity</b>	100% Condensing, IP67 Rated
<b>Shock</b>	20 g peak, 11 msec, 1/2 sine
<b>Altitude</b>	21,500ft, 6,500m
<b>Built-in Receive Reject Filter</b>	Suppression by +60dB (min)

## GAIN

<b>Gain (Temperature Compensated)</b>	65dB(min) 70 dB(typ.)
<b>TX Gain Flatness</b>	± 0.75 dB max. over 40 MHz
<b>TX Gain variation 50MHZ</b>	± 0.5 dB
<b>TX Gain variation 500MHZ</b>	± 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

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

## INPUT|OUTPUT INTERFACE

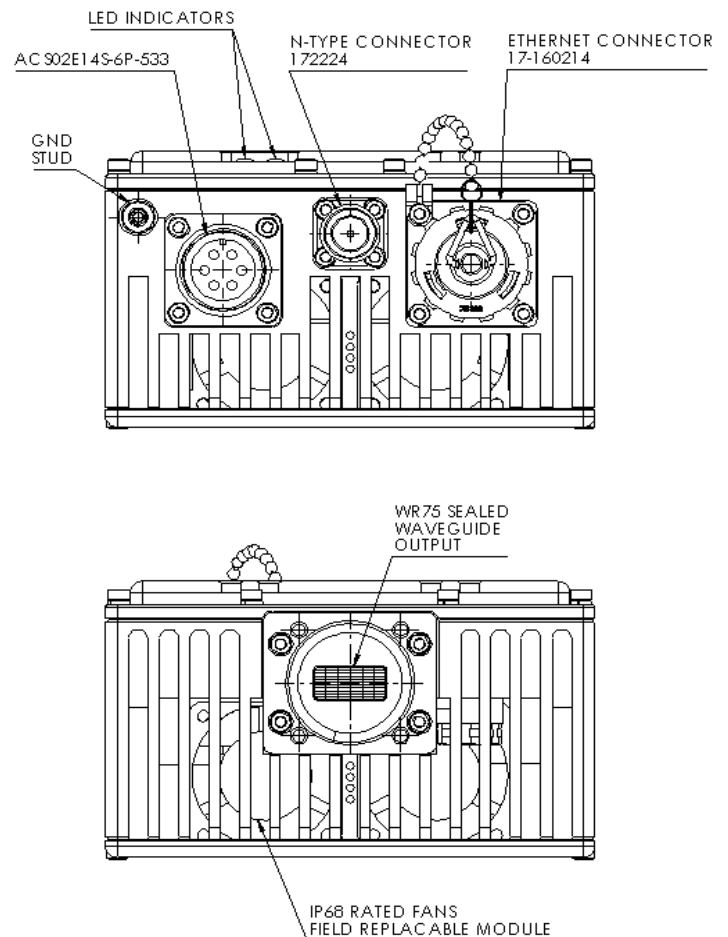
<b>IF Connector</b>	N-type (50 Ohm)   F-type (75 Ohm)
<b>Universal Prime Power via IF or MS/M&amp;C Connector (7.0 A Current Limit Protection Through Coax)</b>	+ 22 - 55 VDC
<b>Output VSWR</b>	1.3:1
<b>Output Interface</b>	WR75 Grooved
<b>Input VSWR</b>	1.5:1

## M&C INTERFACE

<b>Advanced Monitor &amp; Control</b>	Ethernet Web Page Based, SNMP
<b>ALARMS</b>	PLL LOCK, HPA, VSWR, MUTE, TX
<b>Stealth PLin Operation Mode</b>	LED Shut-Off   Silenced fans

## MECHANICAL SPECIFICATIONS

<b>Dimensions (DC Powered)</b>	6.236" x 5" x 2.93" (158.4×127×74.4 mm) Without Connectors
<b>Weight (DC Powered)</b>	3.5lbs (1.6kg )



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