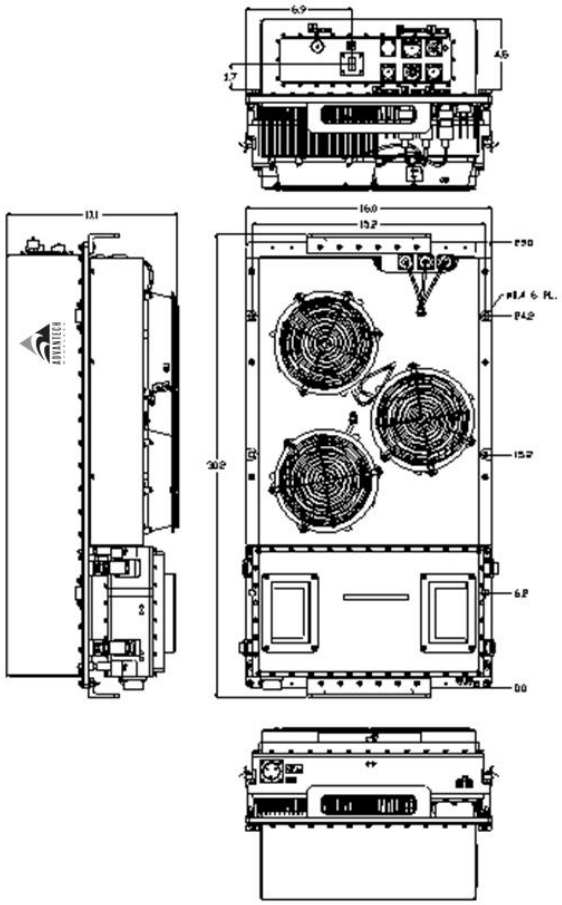
300W/400W/500W Ku-Band BUC/ SSPB/ SSPA
Second Generation GaN Technology

SapphireBlu™ UltraLinear™

SSPA	AWMA-K 4200-G series
Ext. Ku-Band SSPA	AWMAg-500KX-CSE
SSPB (BUC)	SSPBM-K4200-G series

Features

- Full range of output power of 300W, 400W or 500W in a single package
- Very High linearity
- Redundant ready with no external controller
- Full M&C capability via RS232, RS485 or Ethernet port
- Built-in Forward precision powering metering
- Output RF calibrated Sample Port
- Redundant Systems shipped fully tested
- Infinite VSWR protection with automatic high reflected power shutdown
- Weatherproof construction
- CE marking



Overview

Based on GaN technology the new G-Series Ku-Band BUCs provide high power density in a compact size. Combined with the traditional from Advantech Wireless Technologies, these new series of BUCs and SSPAs provide the ultimate in performance and convenience.

Options

- 1:1 or 1:2 Redundant configuration
- L-Band input (SSPB/BUC operation)
- Internal/External reference with auto-sensing
- Ethernet port

Accessories

- Mounting kits
- Remote M&C panel with optional SNMP
- Handheld terminal
- Flexible and rigid waveguides
- Mounting frames

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General Specifications

Output power	300W	400W	500W
Operating Frequency			
KS-band (14.00 – 14.50 GHz)	✓	✓	✓
KX-band (13.75 – 14.50 GHz)	✓	✓	✓
KL-band (12.75 – 13.25 GHz)	✓	✓	–
L-Band input (BUC)	950 – 1450 MHz (for KS/KL) or 950 – 1700 MHz (for KX)		
$P_{SAT\ (typ.)}$	+55.0 dBm	+56.0 dBm	+57.0 dBm
P_{LINEAR}	+52.0 dBm	+53.0 dBm	+54.0 dBm
	P_{LINEAR} is the power at which the IMD=-25 dBc for two CW signals 5 MHz apart versus total power, and the spectral regrowth is <-30 dBc @ 1.0 x symbol rate for a single QPSK/OQPSK/8PSK signal.		
Gain SSPA SSPB (BUC)	66 ± 3 dB 76 ± 3 dB		
Gain adjustment range	20 dB in 0.1 dB steps		
Gain flatness over full band	SSPA 2dB p-p max SSPB (BUC) 4 dB p-p max		
Gain slope over 40 MHz	± 0.3 dB max SSPB (BUC) ± 0.5 dB max		
Gain variation over temperature	± 1.5 dB max		
Input Impedance and VSWR	50 Ω SSPA 1.3:1 SSPB (BUC) 1.4:1		
Output VSWR	1.25:1		
Noise power density	-70 dBm/Hz in Transmit Band, -145 dBm/Hz in Receive Band (10.95 GHz – 12.75 GHz)		
Spurious at P_{LINEAR}	SSPA: -65 dBc max SSPB (BUC): -55 dBc max		
Harmonics	-60 dBc @ P_{LINEAR}		
AM/PM conversion	<1.0°/dB P_{LINEAR}		
Third order intermod (two tones)	-25 dBc two signal 5 MHz apart at P_{LINEAR}		
Group delay	Ripple 1 nsec p-p max over any 40 MHz band		
Residual AM Noise	0 – 10 kHz -45 dBc 10 kHz – 500 kHz -20 (1.25 + log F) dBc F = Frequency in kHz 500 kHz – 1 MHz -80 dBc		
SSPB (BUC)			
Local Oscillator freq.	13.05 GHz (for KS) or 12.80 GHz (for KX) or 11.80 GHz (for KL)		
Internal Reference frequency (optional)	10 MHz Aging/day $\pm 2 \times 10^{-10}$ Aging/year $\pm 5 \times 10^{-8}$ Stability $\pm 2 \times 10^{-8}$ over temp range		
Phase Noise	-53 dBc/Hz at 10Hz -73 dBc/Hz at 1000Hz -93 dBc/Hz at 100 kHz -63 dBc/Hz at 100Hz -83 dBc/Hz at 10 kHz		
External Reference Frequency phase noise (max)	10 MHz -120 dBc/Hz at 10Hz -150 dBc/Hz at 1000Hz -160 dBc/Hz at 100 kHz -135 dBc/Hz at 100Hz -155 dBc/Hz at 10 kHz		
Weight & Dimensions			
Dimensions (L x W x H)	30.2" x 16.0" x 11.1" (767x 406 x 282 mm)		
Weight	119 lbs (54 kg)		
AC input voltage	190 – 265 VAC (47-63 Hz)		
Power consumption (nominal)	1800W at P_{LINEAR} 2500W at P_{SAT}	2400W at P_{LINEAR} 3200W at P_{SAT}	2600W at P_{LINEAR} 3500W at P_{SAT}
Interfaces	Input (RF or L-Band): N type female AC line: MS3102 type Output Sample Port: N type female RF output: WR75 Cover RS485/Ethernet: MS3112 type		
Environmental	Temperature Operating -30°C to +55 °C Option 1 -40°C to +55 °C Option 2 -50°C to +50 °C Storage -55°C to +85 °C Humidity 100% condensing Altitude 10,000' AMSL, derated by 2 °C/1000> from AMSL		

Ref.: PB-SSPBMg-2G-Ku-300W-400W-500W-19049

NORTH AMERICA

USA
info.usa@advantechwireless.com

CANADA
Info.canada@advantechwireless.com

EUROPE

UNITED KINGDOM
info.uk@advantechwireless.com

RUSSIA & CIS
info.russia@advantechwireless.com

SOUTH AMERICA

info.latam@advantechwireless.com

BRAZIL
info.brazil@advantechwireless.com

ASIA

info.asia@advantechwireless.com

INDIA
info.india@advantechwireless.com