

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

Talon Line

SapphireBlu™ UltraLinear™

SSPA
Ext. Ku-Band SSPA
SSPB (BUC)

AWMA-K 4200-G series
AWMAG-500KX-CSE
SSPBM-K 4200-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
- M&C capability via RS232, RS485
- 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
- IP 65 compliance

Overview

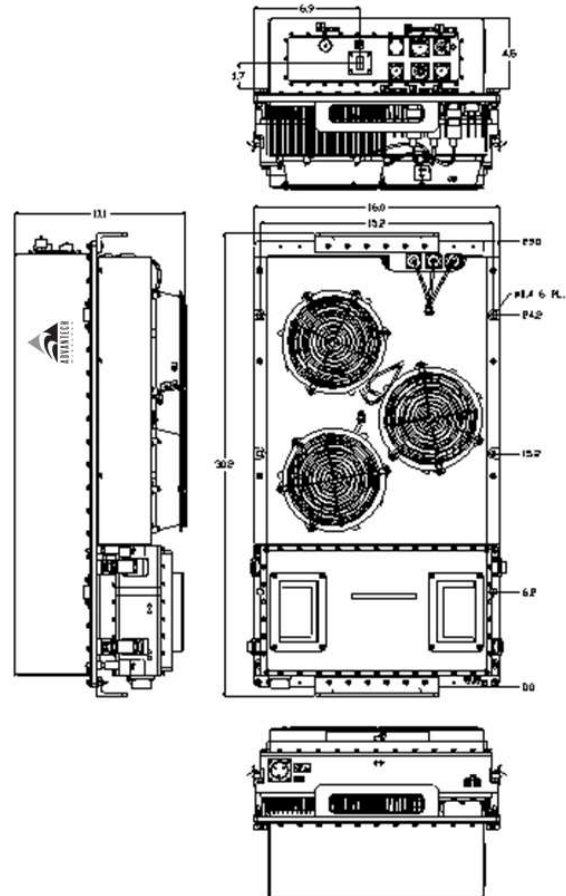
Based on GaN technology the new G-Series Ku-Band BUCs provide high power density in a compact size. Combined with the traditional from Advantech Wireless Technologies, these new series of BUCs and SSPAs provide the ultimate in performance and convenience.

Options

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

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		+53.5 dBm
	P_{LINEAR} is the power at which the IMD=-25 dBc for two CW signals 5 MHz apart, 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) 3 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	-45 dBc @ P_{LINEAR} -60 dBc @ P_{LINEAR} (with an optional external harmonics filter)				
AM/PM conversion	<1.0°/dB P_{LINEAR}				
Third order IMD (two tones)	-25 dBc 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		
		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-23103

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