

SSPA AWMAg-K 5200-SapphireBlu™ Series
SSPB (BUC) SSPBMg-K 5200-SapphireBlu™ Series



1:2 Redundant Version

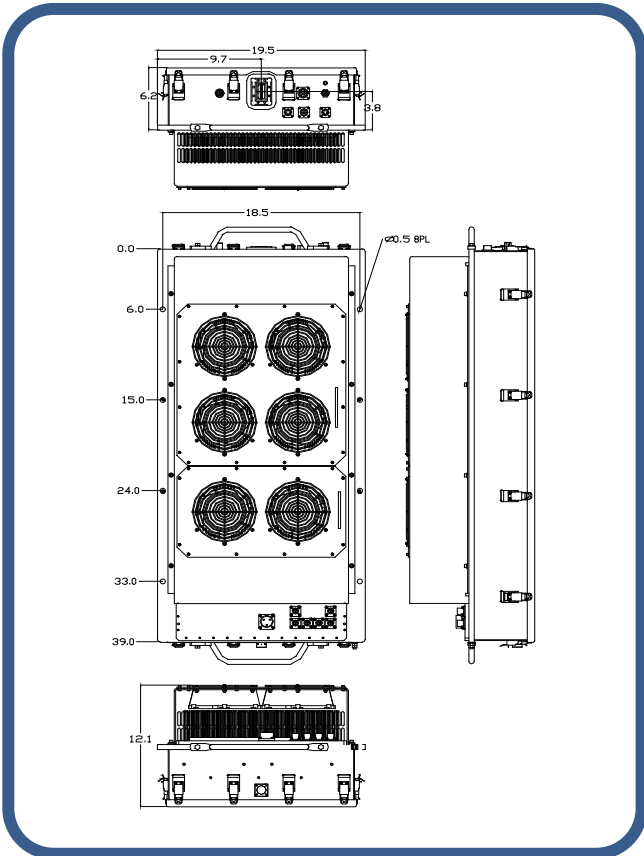
- High power density in a compact, rugged, weatherproof package
- UltraLinear™, designed for Multi Carrier Operations
- High Performance GaN Technology SSPA Outdoor design concept
- High Reliability, High Linearity, Low Energy Consumption

NEXT GENERATION GaN TECHNOLOGY

THE ULTIMATE SOLUTION FOR DIRECT TO HOME TV

- Save 8 to 10 dB power compared to Indoor Klystron
- Save Millions of dollars in Energy Cost, Satellite Bandwidth, CAPEX
- Can cover multiple transponders, full DVB-S2 enabled
- Rugged, Weatherproof Outdoor Package,
- MIL-STD-188-164A Compliant
- Redundant Ready, Power Expandable to
- 3 KW by phase combining

- ⇒ Exceeds all barriers between Klystrons, TWTs and SSPAs
- ⇒ We can now saturate all transponders of an entire satellite and obtain maximum bandwidth/power efficiency! (using modular RF concept)
- ⇒ 3 years warranty, due to increased GaN Technology reliability
- ⇒ Backed by over 25 years of Outdoor SSPA design and manufacturing.



1,250W Ku-Band Hubmount SapphireBlu™ / UltraLinear™ SSPA/ SSPB Second Generation GaN Technology



Advantech
Wireless

SMARTER SOLUTIONS
GLOBAL REACH.

General Specifications

		KS /KX	
Operating Frequency	14.0 – 14.5 GHz / 13.75 – 14.5 GHz		
L-Band input (BUC)	950 – 1450 MHz / 950 – 1700 MHz		
Output Power	1250W		
PSAT, PA Module	+60.7 dBm nominal		
P _{SAT} , at Flange	+58.5 dBm nominal		
PLINEAR	+57.0 dBm minimum		
PLINEAR is the maximum combined transmit power of two equal amplitude continuous wave (CW) carriers 5MHz apart, when the third order intermodulation product power is -25dB relative to the combined power of the two CW carriers.			
Gain	SSPA	68 ± 3 dB	
	SSPB (BUC)	78 ± 3 dB	
Gain adjustment range	20 dB in 1.0 dB steps		
Gain flatness over full band	SSPA 2dB p-p max	SSPB (BUC) 4 dB p-p max (KS);	4dB p-p (KX)
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	1.3:1		
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	-50 dBc @ P _{LINEAR}		
AM/PM conversion	<1.0°/dB P _{LINEAR}		
Third order intermod (two tones)	-25 dBc two signals 5 MHz apart at total +57 dBm Plinear		
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	12.8 GHz	
Internal Reference frequency (optional)	10 MHz	Aging/day	±2 ⁻¹⁰
		Aging/year	±5 ⁻⁸
		Stability	±2 ⁻⁸ over temp range
Phase Noise	-53 dBc/Hz at 10Hz	-83 dBc/Hz at 10 kHz	
	-63 dBc/Hz at 100Hz	-93 dBc/Hz at 100 kHz	
	-73 dBc/Hz at 1000Hz		
External Reference Frequency phase noise (max)	10 MHz		
	-120 dBc/Hz at 10Hz	-155 dBc/Hz at 10 kHz	
	-135 dBc/Hz at 100Hz	-160 dBc/Hz at 100 kHz	
	-150 dBc/Hz at 1000Hz		
Weight & Dimensions			
Dimensions	L x W x H 39.00" x 18.50" x 12.10" (990 x 470 x 307 mm)		
Weight	176 lbs (80 kg)		
AC input voltage	190 – 265 VAC (47-63 Hz)		
Power consumption	3.5kW at 53 dBm	5kW at P _{LINEAR}	7.0kW 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	RJ45 (Weatherized)	
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		

Specifications are subject to change without notice

NORTH AMERICA USA

Tel: +1 703 659 9796
Fax: +1 703 635 2212
info.usa@advantechwireless.com

CANADA

Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.canada@advantechwireless.com

EUROPE

UNITED KINGDOM
Tel: +44 1480 357 600
Fax: +44 1480 357 601
info.uk@advantechwireless.com

RUSSIA & CIS

Tel: +7 495 971 59 18
info.russia@advantechwireless.com

INDIA

Tel: +91 33 2415 5922
info.india@advantechwireless.com

SOUTH AMERICA

Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.latam@advantechwireless.com

BRAZIL

Tel: +55 11 3054 5701
Fax: +55 11 3054 5701
info.brazil@advantechwireless.com

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Ref.: PB-SAPPH-2G-Ku-1250-16125

www.advantechwireless.com