



**Advantech**  
Wireless



# SapphireBlu™ Class GaN Technology

1,250W Ku-Band Rackmount  
UltraLinear™ SSPA/ SSPB

SSPA                      ARMAg-K      5200-SapphireBlu™ series  
SSPB (BUC)          ARMUg-K      5200-SapphireBlu™ series

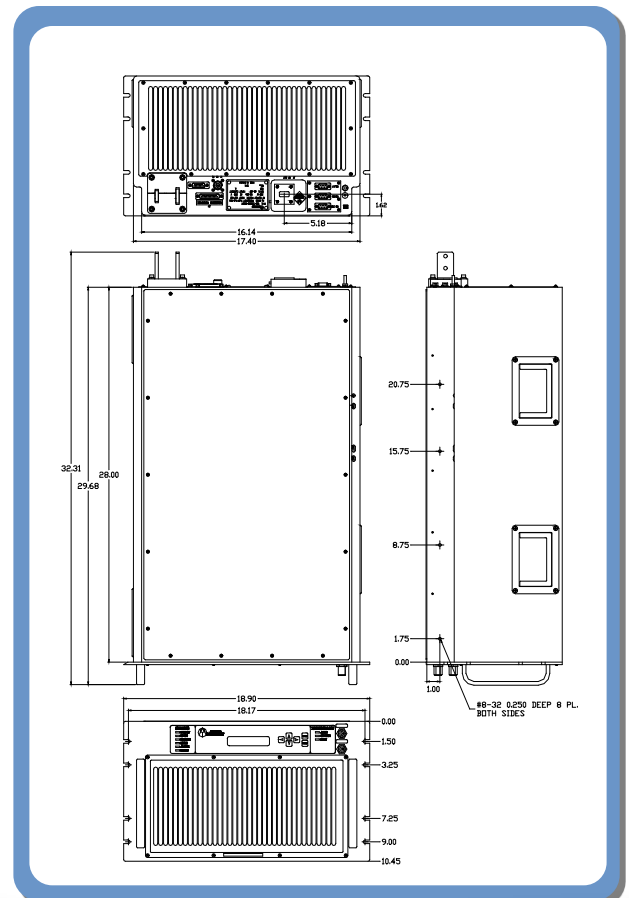


- High power density in a compact, indoor package
- UltraLinear™, designed for Multi Carrier Operations
- High Performance GaN Technology SSPA Indoor design concept
- High Reliability, High Linearity, Low Energy Consumption

## THE ULTIMATE SOLUTION FOR DIRECT TO HOME TV

- Exceeds all barriers between Klystrons, TWTs and SSPAs
- Save Millions of dollars in Energy Cost, Satellite Bandwidth, CAPEX
- Can cover multiple transponders, full DVB-S2 enabled
- Indoor Package, MIL-STD-188-164A Compliant
- Redundant Ready, Power Expandable to 3 KW by phase combining

- ⇒ 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 Indoor SSPA design and manufacturing.



Please call or visit our site for more information >>>

[www.AdvantechWireless.com](http://www.AdvantechWireless.com)

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 <sub>SAT</sub> , at Flange	+58 dBm nominal	
PLINEAR	+56.0 dBm minimum	
	P <sub>LINEAR</sub> is the power at which the IMD specs are met and the spectral regrowth is <-30 dBc @ 1.0 x symbol rate for QPSK/OQPSK/8PSK modulation QPSK/OQPSK/8PSK modulation	
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 <sub>LINEAR</sub>	SSPA: -65 dBc max    SSPB (BUC): -55 dBc max	
Harmonics	-50 dBc @ P <sub>LINEAR</sub>	
AM/PM conversion	<1.0°/dB P <sub>LINEAR</sub>	
Third order intermod (two tones)	-25 dBc two signals 5 MHz apart at total +56 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	
<b>SSPB (BUC)</b>		
Local Oscillator freq.	13.05 GHz	12.8 GHz
Internal Reference frequency (optional)	10 MHz	Aging/day ±2 <sup>-10</sup>
		Aging/year ±5 <sup>-8</sup>
		Stability ±2 <sup>-8</sup> 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	
<b>Weight &amp; Dimensions</b>		
Dimensions	19" Rackmount 6 RU + 2 RU Power supply 28" deep	
Weight	198 lbs (90 kg)	
AC input voltage	190 – 265 VAC (47-63 Hz)	
Power consumption	3.5kW at 53 dBm	5kW at P <sub>LINEAR</sub> 7.0kW at P <sub>SAT</sub>
Interfaces	Input (RF or L-Band) - N type female	AC line - IEC 320 Inlet
	Output Sample Port - N type female	RF output - WR75 Cover
	RS485/Ethernet	DB9 / RJ45
Environmental	Temperature	Operating 0°C to +50 °C Storage -55°C to +85 °C
	Humidity	5% to 95% non condensing
	Altitude	10,000' AMSL, derated by 2 °C/1000' from AMSL

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Specifications are subject to change without notice