



**Advantech  
Wireless**



# SapphireBlu™ Class GaN Technology

600W Ku-Band Hubmount  
UltraLinear™ SSPA/ SSPB

SSPA                      AWMAg-K    4200-SapphireBlu™ series  
SSPB (BUC)            SSPBMg-K    4200-SapphireBlu™ series

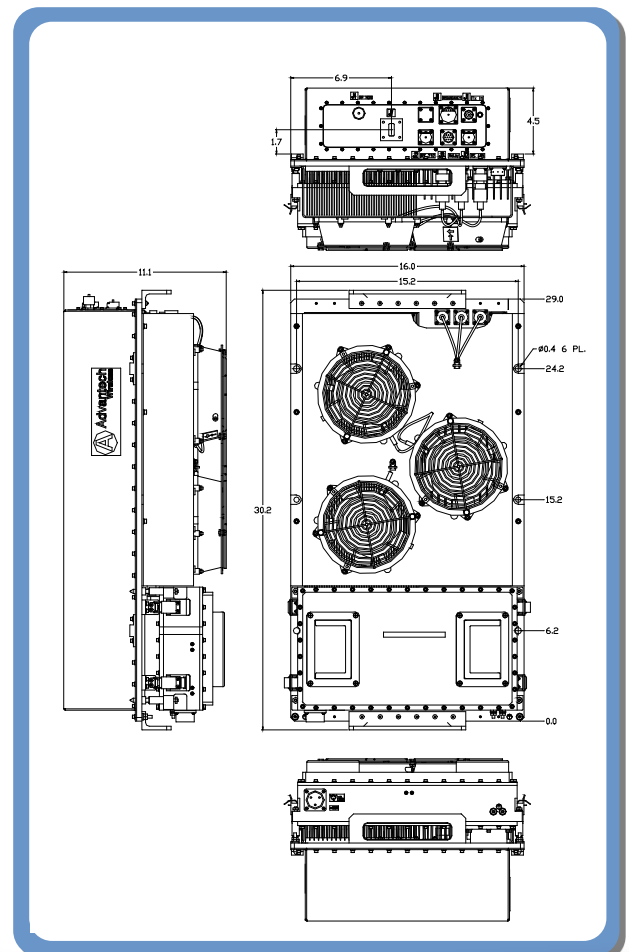


## THE ULTIMATE SOLUTION FOR DIRECT TO HOME TV

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.

- 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



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	600W	
PSAT, PA Module	+57.7 dBm nominal	
P <sub>SAT</sub> , at Flange	+56.5 dBm nominal	
PLINEAR	+53.0 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)	73 ± 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 (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	1.25:1	
Noise power density	-70 dBm/Hz in Transmit Band, -145 dBm/Hz in Receive Band (10.95 GHz – 12.75 GHz)	
Spurious at P <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 +53 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 -63 dBc/Hz at 100Hz -73 dBc/Hz at 1000Hz	-83 dBc/Hz at 10 kHz -93 dBc/Hz at 100 kHz
External Reference Frequency phase noise (max)	10 MHz -120 dBc/Hz at 10Hz -135 dBc/Hz at 100Hz -150 dBc/Hz at 1000Hz	-155 dBc/Hz at 10 kHz -160 dBc/Hz at 100 kHz
<b>Weight &amp; Dimensions</b>		
Dimensions	L x W x H 36.2" x 15.8" x 11.1" (920 x 401 x 282 mm)	
Weight	119 lbs (54 kg)	
AC input voltage	190 – 265 VAC (47-63 Hz)	
Power consumption	2500W at P <sub>LINEAR</sub> 3300W at P <sub>SAT</sub>	
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
	Humidity	Storage -55°C to +85 °C 100% condensing
	Altitude	10,000' AMSL, derated by 2 °C/1000' from AMSL

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Ref.: PB-SAPPH-Ku-600-01-14119

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Specifications are subject to change without notice