

SSPA	AWMAg-K	7000-SapphireBlu™ Series
SSPB (BUC)	SSPBMg-K	7000-SapphireBlu™ Series



- 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, Built in Redundancy

**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
- Built in Redundancy, Field replaceable RF or Power Supplies Modules

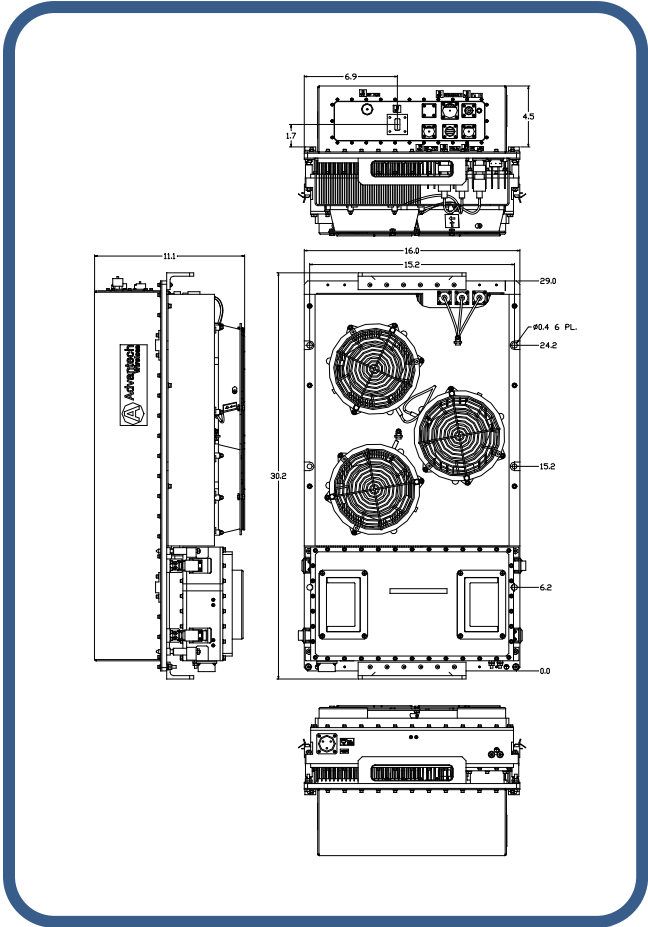
⇒ The Highest Linear Power Available! Exceeds all barriers between Klystrons, TWTs and SSPAs

⇒ We can now saturate all transponders of an entire satellite and obtain maximum bandwidth/power efficiency!

⇒ 2 years warranty, due to increased GaN Technology reliability

⇒ Backed by over 25 years of Outdoor SSPA design and manufacturing.

**SapphireBlu™ UltraLinear™
SECOND GENERATION GaN TECHNOLOGY**



3,200W Ku-Band Hubmount BUC/ SSPB/ SSPA SapphireBlu™ / UltraLinear™ Second Generation GaN Technology



SMARTER SOLUTIONS.
GLOBAL REACH.

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	3200W		
PSAT, PA Module	+65.0 dBm nominal		
P _{SAT} , at Flange	+64.3 dBm nominal		
PLINEAR	+61.3 dBm minimum		
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	68 ± 3 dB	
	SSPB (BUC)	78 ± 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	1.3:1		
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 versus total power (61.0 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 ⁻¹⁰
		Aging/year	±5 × 10 ⁻⁸
		Stability	±2 × 10 ⁻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	-155 dBc/Hz at 10 kHz	
	-120 dBc/Hz at 10Hz	-160 dBc/Hz at 100 kHz	
	-135 dBc/Hz at 100Hz		
-150 dBc/Hz at 1000Hz			
Weight & Dimensions			
Dimensions	L x W x H 81.00" x 63.00" x 47.00" (206 x 160 x 120 cm)		
Weight	1320 lbs (600 kg)		
AC input voltage	190 – 265 VAC (47-63 Hz)		
Power consumption	21,000W at P _{LINEAR} 26,000W 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
	Humidity	Storage -55°C to +85 °C 100% condensing	
	Altitude	10,000' AMSL, derated by 2 °C/1000' from AMSL	

Specifications are subject to change without notice

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