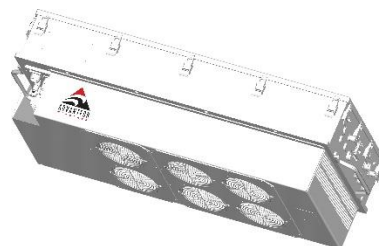


1000W Ku-Band BUC/ SSPB/ SSPA

Second Generation GaN Technology

SSPA AWMAg-K 5200-SapphireBlu™ series
Ext. Ku-Band SSPA AWMg-1250KX

SSPB (BUC) SSPBMg-K 5200-SapphireBlu™ series



1:2 Redundant Version

Overview

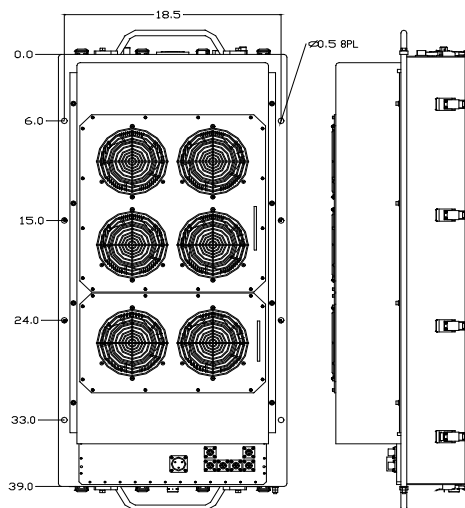
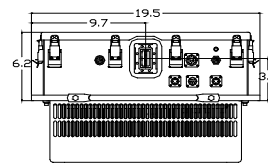
The 1000W Ku-Band BUC/ SSPA from Advantech Wireless Technologies is a high Performance GaN Technology based SSPA designed for Multi Carrier Operations in an outdoor design concept.

With High Reliability, High Linearity, and Low Energy Consumption these systems provide high power density in a compact, rugged, weatherproof package.

The Ultimate Solution for Direct to Home TV

Features

- Save 8 to 10 dB power compared to Indoor Klystron
- Save 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 2-5 kW by phase combining
- 2 years warranty, due to increased GaN Technology reliability
- Backed by over 25 years of Outdoor SSPA design and manufacturing
- 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)



1000W Ku-Band BUC/ SSPB/ SSPA Second Generation GaN Technology

General Specifications				
		KS /KX /KL		
Operating Frequency		14.0 – 14.5 GHz (KS)	13.75 – 14.5 GHz (KX)	12.75 – 13.25 GHz (KL)
L-Band input (BUC)		950 – 1450 MHz (KS)	950 – 1700 MHz (KX)	950 – 1450 MHz (KL)
Output Power		1000W		
P _{SAT}		+60 dBm nominal		
P _{LINEAR}		+57.0 dBm minimum		
		P _{LINEAR} 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 each carrier and the spectral regrowth is <-30 dBc @ 1.0 x symbol rate for QPSK/OQPSK/8PSK modulation.		
Gain	SSPA SSPB (BUC)	68 ± 3 dB 78 ± 3 dB		
Gain adjustment range		20 dB in 1.0 dB steps		
Gain flatness over 500 MHz		SSPA: 2 dB 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		1.3:1		
Noise power density		-75 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): -60 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, versus each carrier		
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 (KS)	12.8 GHz (KX)	11.8 GHz (KL)
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 -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	
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		3.8KW at 46 dBm	5KW at 56 dBm	6.5KW at P _{SAT}
Interfaces		Input (RF or L-Band) Output Sample Port RS232/RS485	N type female N type female MS3102 type	AC line RF output Ethernet MS3102 type WR75 Cover RJ45 (Weatherized)
Environmental		Temperature	Operating -30°C to +55 °C Storage -55°C to +85 °C	Option 1 -40°C to +55 °C Option 2 -50°C to +50 °C
		Humidity	100% condensing	
		Altitude	10,000' AMSL, derated by 2 °C/1000' from AMSL	

Ref.: PB-SAPPH-2G-Ku-1000W-19109

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