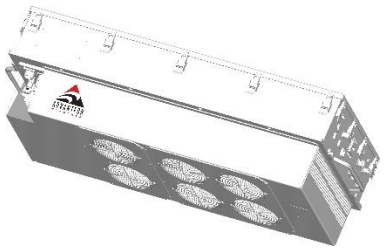
1000W Ku-Band BUC/ SSPB/ SSPA
Second Generation GaN Technology

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

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

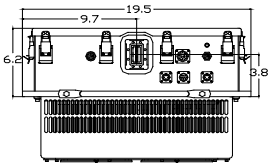


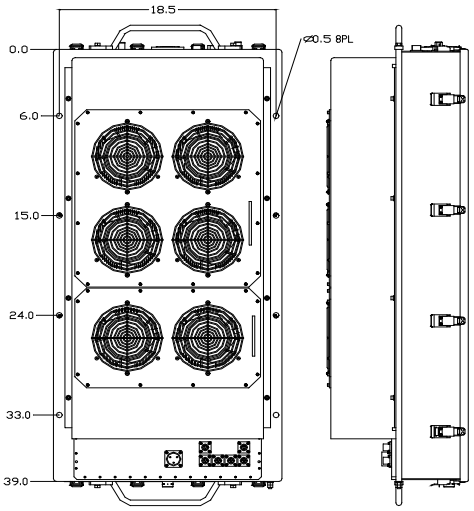
1:2 Redundant Version

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)

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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 $\pm 2 \times 10^{-10}$ Aging/year $\pm 5 \times 10^{-8}$ Stability $\pm 2 \times 10^{-8}$ 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 -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	3.8KW at 46 dBm 5KW at 56 dBm 6.5KW 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 RS232/RS485 MS3102 type 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

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

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