



**Advantech
Wireless**

300 - 400W Ku-Band Hubmount SapphireBlu™ SSPA/ SSPB GaN Technology



SSPA AWMA-K 4200-G series
SSPB (BUC) SSPBM-K 4200-G series



Features

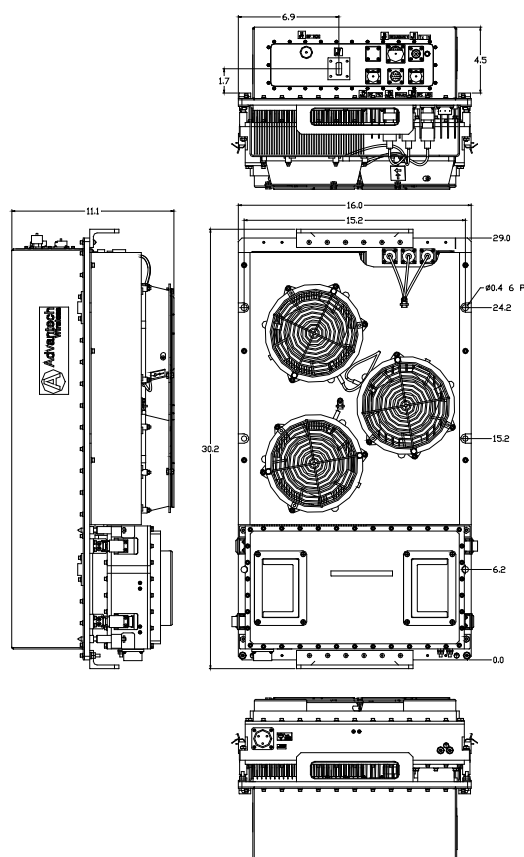
- Full range of output power of 300W or 400W in a single package
- High linearity
- Redundant ready with no external controller
- Full M&C capability via RS232, RS485 or Ethernet port
- Built-in Forward and Reflected precision power metering
- Output RF calibrated Sample Port
- Redundant Systems shipped fully tested
- Infinite VSWR protection with automatic high reflected power shutdown
- Weatherproof construction
- CE marking

Options

- 1:1 or 1:2 Redundant configuration
- L-Band input (SSPB/BUC operation)
- Internal/External reference with auto-sensing
- Ethernet port

Accessories

- Mounting kits
- Remote M&C panel with optional SNMP
- Handheld terminal
- Flexible and rigid waveguides
- Mounting frames



Overview

Based on GaN technology the new G-Series Ku-Band BUCs provide high power density in a compact size. Combined with the traditional Advantech Wireless features, these new series of BUCs provide the ultimate in performance and convenience.

300 - 400W Ku-Band Hubmount SapphireBlu™ SSPA/ SSPB

General 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	300W		400W	
P _{SAT} , typ	+55.0 dBm		+56.0 dBm	
P _{LINEAR}	+51.0 dBm		+52.0 dBm	
	P _{LINEAR} 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	
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	-80 dBm/Hz in Transmit Band, -150 dBm/Hz in Receive Band (10.95 GHz – 12.75 GHz)			
Spurious at P _{LINEAR} 1	SSPA: -65 dBc max SSPB (BUC): -55 dBc max			
Harmonics	-50 dBc @ P _{LINEAR}			
AM/PM conversion	<1.0º/dB P _{LINEAR}			
Third order intermod (two tones)	-25 dBc two signal 5 MHz apart at P _{LINEAR}			
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 Aging/year ±5 ⁻⁸ Stability ±2 ⁻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 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	2400W at P _{LINEAR} 3200W at P _{SAT}			
Interfaces	Input (RF or L-Band) - N type female Output Sample Port - N type female RS485/Ethernet MS3112 type		AC line - MS3102 type RF output - WR75 Cover	
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		

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