

300W/400W/ 500W KL-Band Hubmount BUC/ SSPB/ SSPA Second Generation GaN Technology

SSPA	AWMAg-KL	4200-G series
SSPB (BUC)	SSPBMg-KL	4200-G series

SapphireBlu™ UltraLinear™

**500W/900W Low Ku-Band (12.75 – 13.25 GHz)
1:1 Redundant or 1+1 Phase Combined**

Features

- Output power of 300W to 500W in a single package
- Very High linearity
- Redundant ready with no external controller
- Full M&C capability via RS232, RS485 or Ethernet port
- Built-in Forward precision powering metering
- Output RF calibrated Sample Port
- Redundant Systems shipped fully tested
- Infinite VSWR protection with automatic high reflected power shutdown
- Weatherproof construction
- CE marking

Overview

Based on GaN technology the new G-Series Low 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.

Options

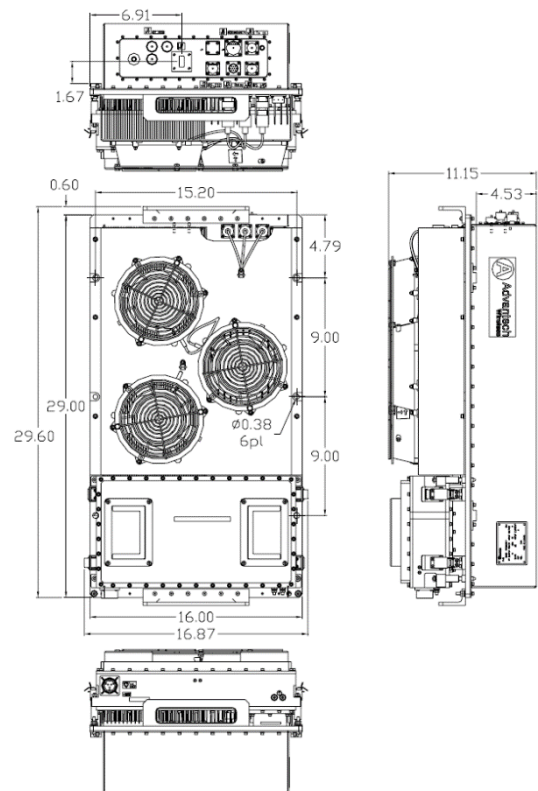
- 1:1 or 1:2 Redundant configuration
- 1:1 Redundant or 1+1 Phase Combined
- L-Band input (SSPB/BUC operation)
- Internal/External reference with auto-sensing
- Ethernet port

Accessories

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



1+1/1:1 Phase Combined /Redundant System



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General Specifications

Operating Frequency	Low Ku-Band: 12.75 – 13.25 GHz			
L-Band input (BUC)	Ku-band IF: 950 – 1450 MHz			
Output power	300W	400W	500W	
P _{SAT} (typ.)	+55.0 dBm	+56.0 dBm	+56.5 dBm	
P _{1dB}	+54.0 dBm	+55.0 dBm	+56.0 dBm	
P _{LINEAR}	+52.0 dBm	+53.0 dBm	+54.0 dBm	
	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.			
Optional Phase Combined System	2.5 dB increase vs single unit Plinear			
Gain	SSPA 66 ± 3 dB			
	SSPB (BUC) 76 ± 3 dB			
Phase Combined System	70 ± 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	System 1.5:1
Output VSWR	1.25:1			
Noise power density	-75 dBm/Hz in Transmit Band, -145 dBm/Hz in Receive Band (10.95-11.7 GHz)			
Spurious at P _{LINEAR}	-65 dBc max			
Harmonics	-60 dBc @ P _{LINEAR}			
AM/PM conversion	<1.0°/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		
Local Oscillator freq.	11.8 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	-65 dBc/Hz at 100Hz	-85 dBc/Hz at 10 kHz		
	-75 dBc/Hz at 1kHz	-100 dBc/Hz at 100 kHz		
External Reference	10 MHz			
Frequency phase noise (max)	-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

Unit Dimensions (L x W x H)	29.6" x 16.87" x 11.5" (752 x 428.5 x 292 mm)			
1+1/1:1 Red/ Phase Combined (L x W x H)	52" x 42" x 30" (1321 x 1067 x 762 mm)			
Weight	Single Unit = 119 lbs (54 Kg) 1+1/1:1 Phase Combined Redundant System = 606 lbs (275 Kg) with shipping crate			
AC input voltage	180 – 264 VAC (47-63 Hz)			
Power consumption (nominal)	Single unit = 2400W at P _{LINEAR} ; 3200W 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	MS3112 type	Ethernet	RJ45 Weatherized
Environmental	Temperature	Operating -30°C to +55°C Storage -50°C to +85°C		
	Humidity	100% condensing		
	Altitude	10,000' AMSL, derated by 2 °C/1000'> from AMSL		

Ref.: PB-SSPBMg-2G-KL-300W-400W-500W-19014

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