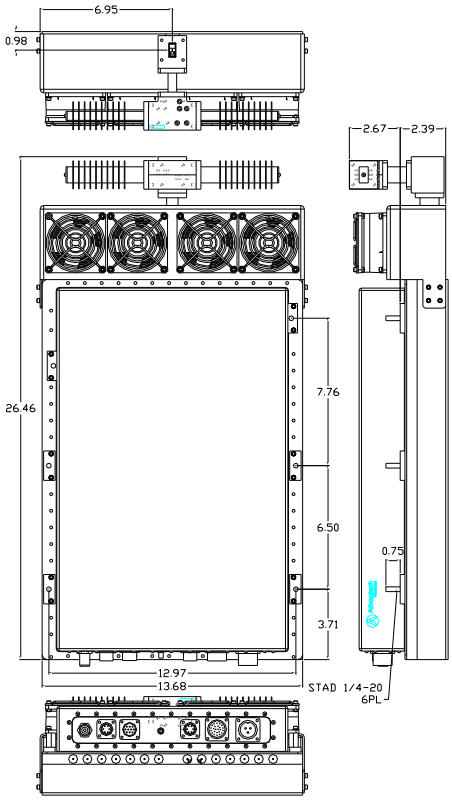
300 - 400W Ku-Band Hubmount SSPA/ SSPB GaN Technology

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.

400W Ku-Band Hubmount 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	300W	400W
P_{SAT}, typ	+55.0 dBm	+56.0 dBm	+55.0 dBm	+55.5 dBm
P_{LINEAR}	+52.0 dBm	+53.0 dBm	+52.0 dBm	+52.5 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)	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) 3 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	-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	<2.0º/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 $\pm 2^{-10}$ Aging/year $\pm 5^{-8}$ Stability $\pm 2^{-8}$ 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 26.4" x 13.7" x 5.0" (670 x 348 x 127 mm))			
Weight	53 lbs (24 kg)			
AC input voltage	190 – 265 VAC (47-63 Hz)			
Power consumption	1400W at P_{LINEAR} 1900W 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 -30ºC to +55 ºC Option 1 -40ºC to +55 ºC Option 2 -50ºC to +50 ºC Storage -55ºC to +85 ºC Humidity 100% condensing Altitude 10,000' AMSL, derated by 2 ºC/1000> from AMSL			