

150W/ 200W/ 250W/ 300W/ 400W/ 500W X-Band Indoor BUC/SSPB/SSPA GaN Technology

SapphireBlu™ SG Series

SSPA	ARMAG-X	SG series
SSPB (BUC)	ARMUG-X	SG series

Features

- Full range of output power of 150W to 500W in a compact single package
- Very High linearity
- Redundant ready with no external controller
- Full M&C capability via RS232, RS485 or Ethernet port
- Built-in Forward
- Output RF calibrated Sample Port
- Redundant Systems shipped fully tested
- Infinite VSWR protection with automatic high reflected power shutdown
- Detachable power supply module
- 19" Rackmount, 24" deep
- CE marking
- Designed to withstand 20G at 11 ms ½ sine wave non-operating conditions and MIL-STD-810G, method 514-4 transportation vibration

Overview

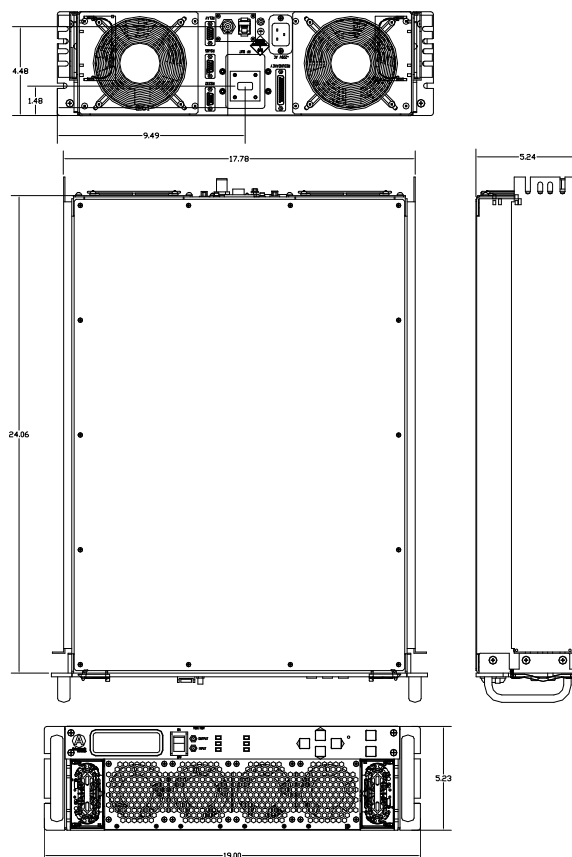
The new Super Compact SG Series C-Band SSPA/BUCs provide highest power density in the industry. Combined with the traditional Advantech Wireless features, these new series of BUCs provide the ultimate in performance and convenience.

Accessories

- Mounting kits
- External Harmonics reject filter (-65dBc)
- Remote M&C panel with optional SNMP
- Flexible and rigid waveguides
- High power terminations

Options

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



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Technical Specifications							
Output Power		150W	200W	250W	300W	400W	500W
	P _{SAT} (typ.)	+52.0 dBm	+53.0 dBm	+53.2 dBm	+55.0 dBm	+56.0 dBm	+57.0 dBm
	P _{LINEAR}	+49.0 dBm	+50.0 dBm	+51.0 dBm	+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 and the Spectral regrowth is <-30 dBc @ 1.0 x symbol rate, tested with a single QPSK, 2MS/s SR, 0.35 roll-off						
Operating Frequency		7.9 – 8.4 GHz					
L-Band input (BUC)		950 – 1450 MHz					
Gain		SSPA 67dB min	SSPB (BUC)		77dB min		
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		1.3:1					
Noise power density		-70 dBm/Hz in Transmit Band, -105 dBm/Hz in Receive Band (7.25GHz – 7.75 GHz) with optional Receive Reject Filter					
Spurious at P _{LINEAR}		SSPA: -65 dBc max		SSPB (BUC): -55 dBc max			
Harmonics		-35 dBc at P _{LINEAR}					
AM/PM conversion		1°/dB at P _{LINEAR}					
Third order intermod. (two tones)		-25dBc at Plin (MIL-STD-188-164B)					
Spectral Regrowth		-30 dBc at P _{LINEAR} (for QPSK at 1.5 x symbol rate and OQPSK at 1,0 x symbol rate)					
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.		6.95 GHz					
Internal Reference frequency (optional)		10 MHz	Aging/day Stability	±2-10 ±2-8 over temp	Aging/year	±5-8	
Phase Noise		-73 dBc/Hz at 100Hz -78 dBc/Hz at 1000Hz	-88 dBc/Hz at 10 kHz -98 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							
Dimensions (L x W x H)		19” rackmount 3U high , 24” deep					
Weight		38 lbs. (17 kg)			48.5 lbs (22 kg)		
AC input voltage		95 – 265 VAC(47 – 63 Hz) PF 0.95 min			190 – 265 VAC(47 – 63 Hz)		
Power consumption (nominal)		750W at P _{LINEAR} 900W at P _{SAT}			1400W at P _{LINEAR} 1600W at P _{SAT}		1600W at P _{LINEAR} 1800W at P _{SAT}
Interfaces		Input (RF or L-Band):	N type female	RF output: CPR-112G			
		Output Sample Port:	N type female	AC line: IEC 320 Inlet			
		RS485/RS232/Relay:	DB9	Ethernet: RJ45			
Environmental		Temperature	Operating 0°C to +50 °C Storage -55°C to +85 °C				
		Humidity	5% to 95% non condensing				
		Altitude	10,000’ AMSL, de-rated by 2 °C/1000’ from AMSL				

Ref.: PB-SSPBg-2G-X-Rack-150W-500W-25003

NORTH AMERICA

USA
info.usa@advantechwireless.com

CANADA
Info.canada@advantechwireless.com

EUROPE

UNITED KINGDOM
info.uk@advantechwireless.com

SOUTH AMERICA

info.latam@advantechwireless.com

BRAZIL
info.brazil@advantechwireless.com

ASIA

info.asia@advantechwireless.com

INDIA
info.india@advantechwireless.com