

# 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

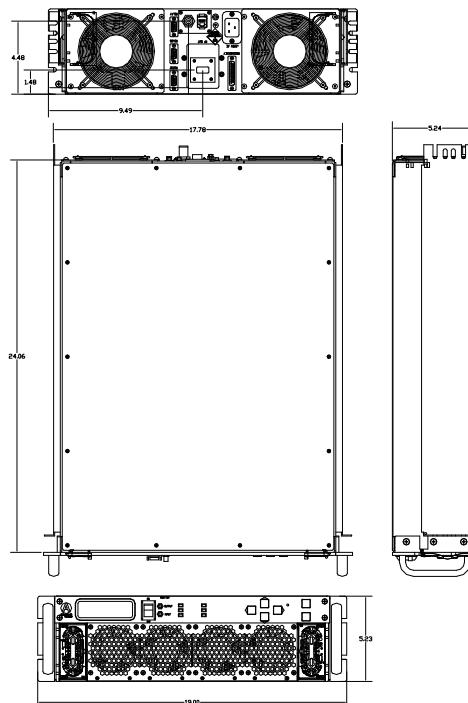
The new Super Compact SG Series C-Band SSPA/BUCs provide highest power density in the industry. Combined with the traditional Advantech Wireless features, these new series of BUCs provide the ultimate in performance and convenience.

## 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



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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
	PLINEAR 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, -145 dBm/Hz in Receive Band (3.4GHz – 4.2 GHz)					
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)	-25 dBc two signal 5 MHz apart at $P_{LINEAR}$ relative to total power					
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 range	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 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)	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					
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): Output Sample Port: RS485/RS232/Relay:	N type female N type female DB9	RF output: CPR-112G AC line: IEC 320 Inlet 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-22203

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