



# 150W/ 200W/ 250W/ 300W/ 350W / 400W/ 500W/ 600W X-Band Indoor BUC/SSPB/SSPA Second Generation GaN Technology

## SapphireBlu™ SG Series

SSPA	ARMA-Xg	SG series
SSPB (BUC)	ARMU-Xg	SG series



## Features

- Full range of output power of 150W to 600W 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

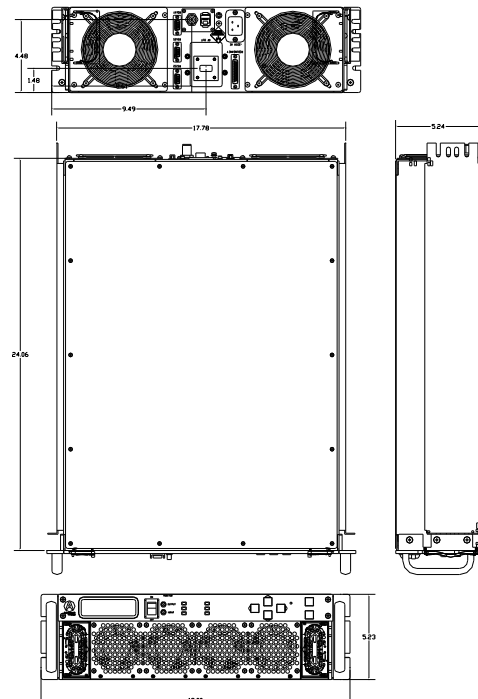
The new Super Compact SG Series C-Band SSPA/BUCs provide highest power density in the industry. Combined with the traditional Advantech Wireless features, these new series of BUCs provide the ultimate in performance and convenience.

## 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





# 150W/ 200W/ 250W/ 300W/ 350W/ 400W/ 500W/ 600W

## X-Band Indoor BUC/SSPB/SSPA

### Second Generation GaN Technology

Technical Specifications									
Output Power	150W	200W	250W	300W	350W	400W	500W	600W	
$P_{SAT}$ (typ.)	+52.0 dBm	+53.0 dBm	+53.2 dBm	+55.0 dBm	+55.5 dBm	+56.0 dBm	+57.0 dBm	+58.0 dBm	
$P_{LINEAR}$	+50.0 dBm	+51.0 dBm	+52.0 dBm	+53.0 dBm	+53.5 dBm	+54.0 dBm	+55.0 dBm	+56.0 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 for a single QPSK/OQPSK/8PSK signal								
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 ±2-10		Aging/year ±5-8					
			Stability ±2-8 over temp range						
Phase Noise	--88 dBc/Hz at 10 kHz								
	-73 dBc/Hz at 100Hz		-98 dBc/Hz at 100 kHz						
	-78 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)	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) PF0.95 min								
Power consumption (nominal)	750W at $P_{LINEAR}$				1400W at $P_{LINEAR}$		1600W at $P_{LINEAR}$		
	900W at $P_{SAT}$				1600W at $P_{SAT}$		1800W at $P_{SAT}$		
Interfaces	Input (RF or L-Band)		N type female		AC line MS3102 type				
	Output Sample Port		N type female		RF output CPR137				
	RS485/RS232/Ethernet		MS3112 type						
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						