

# 150W / 200W / 250W Ku-Band Indoor BUC/SSPB/SSPA Second Generation GaN Technology

## SapphireBlu™

SSPA	ARMAg-K	SG series
SSPB (BUC)	ARMUg-K	SG series

## Features

- Output power of 150W to 250W in a compact single package
- High linearity
- Redundant ready with no external controller
- Full M&C capability via RS232, RS485
- 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
- Detachable power supply module
- 19" Rackmount, 4RU, 28" deep
- CE marking

## Options

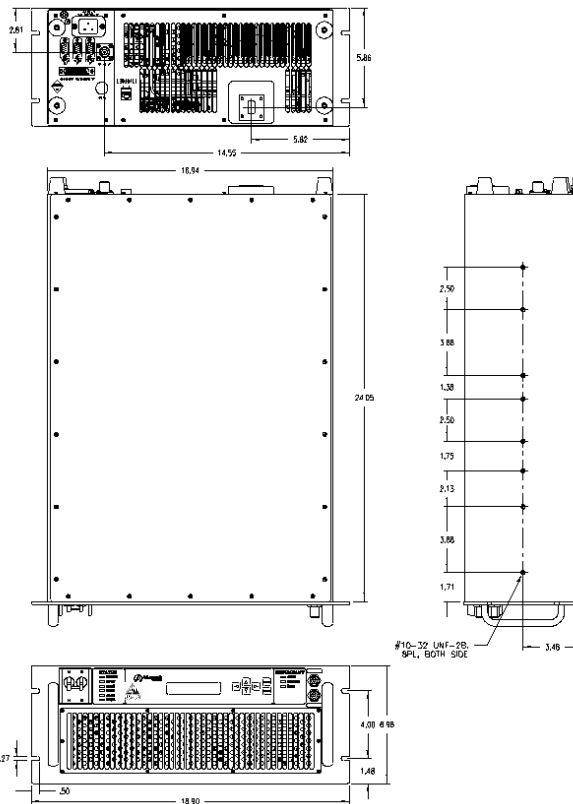
- 1:1 or 1:2 Redundant configuration
- L-Band input (SSPB/BUC operation)
- Internal/External reference with auto-sensing
- Ethernet port

## Accessories

- Mounting slides
- Remote M&C panel with optional SNMP
- Flexible and rigid waveguides

## Overview

The SG Series Ku-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.





# 150W / 200W / 250W Ku-Band Indoor BUC/SSPB/SSPA Second Generation GaN Technology

Technical Specifications						
Output Power	150W		200W		250W	
$P_{SAT}$ (nominal)	+52.0 dBm		+53.0 dBm		+54.0 dBm	
$P_{LINEAR}$	+49.0 dBm		+50.0 dBm		+50.5 dBm	
Operating Frequency	Ku	14.0 – 14.500 GHz	KX	13.75 – 14.5 GHz		
L-Band input (BUC)	Ku	950 – 1450 MHz	KX	950 – 1700 MHz		
Gain	SSPA	62dB typ. (+/-3dB)	SSPA	63dB typ. (+/-3dB)	SSPA	64dB typ. (+/-3dB)
	SSPB	72dB typ. (+/-3dB)	SSPB	73dB typ. (+/-3dB)	SSPB	74dB typ. (+/-3dB)
Gain adjustment range	20 dB in 0.1 dB steps					
Gain flatness over full band	SSPA	2 dB p-p max	SSPB (BUC)	4 dB p-p max		
Gain slope over 40 MHz	SSPA	± 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	1.25:1					
Noise power density	-70 dBm/Hz in Transmit Band, -145 dBm/Hz in Receive Band (10.95GHz – 12.75 GHz)					
Spurious at $P_{LINEAR1}$	SSPA: -65 dBc max SSPB (BUC): -55 dBc max					
Harmonics	-50 dBc at $P_{LINEAR}$					
AM/PM conversion	1°/dB at $P_{LINEAR}$					
Third order IMD (two tones)	-25 dBc max (two tones 5 MHz apart at $P_{LINEAR}$ relative to the single tone level)					
Spectral Regrowth	-30 dBc max at $P_{LINEAR}$ (for QPSK, 8PSK, 16APSK at 1.5 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.	Ku -13.050 GHz		KX - 12.800 GHz			
Internal Reference frequency (optional)	10 MHz					
	Aging/day	±2 × 10 <sup>-10</sup>	Aging/year	±5 × 10 <sup>-8</sup>		Stability
Phase Noise	-53 dBc/Hz at 10 kHz		-73 dBc/Hz at 1000Hz		-93 dBc/Hz at 100 kHz	
	-63 dBc/Hz at 100Hz		-83 dBc/Hz at 10 KHz			
External Reference	10 MHz					
Frequency phase noise (max)	-120 dBc/Hz at 10Hz		-150 dBc/Hz at 1000Hz		-160 dBc/Hz at 100 kHz	
	-135 dBc/Hz at 100Hz		-155 dBc/Hz at 10 kHz			
Weight & Dimensions						
Dimensions (L x W x H)	19" rackmount 4RU high , 28" deep					
Weight	66 lbs (30kg)					
AC input voltage	220V AC					
Power consumption (nominal)	900W at $P_{LINEAR}$		1000W at $P_{LINEAR}$		1200W at $P_{LINEAR}$	
	1100W at $P_{SAT}$		1300W at $P_{SAT}$		1500W at $P_{SAT}$	
Interfaces	Input (RF or L-Band)	N type female	RF output	WR 75	AC line	IEC 320 inlet
	Output Sample Port	N-type female	RS-232 serial port	D-sub 9S	RS-485	D-sub 9S
	Redundancy	D-sub 25S	Relay	D-sub 9P	Ethernet (option)	RJ-45
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-Ku-Rack-150W-250W-001-21057

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