

# 80W / 100W / 125W Ku-Band BUC/ SSPB/ SSPA

## Second Generation GaN Technology

SSPBMg-K 2150-G series

### Features

- Output power of 80W to 125W in a single compact package
- High linearity
- Full M&C capability via RS485 and Ethernet port
- Weatherproof construction
- CE marking
- Switchable LO for Ku/Kx Bands
- Redundant ready



### Overview

Based on GaN technology the new G-Series Ku-Band BUCs provide high power density in a compact size. Combined with the traditional from Advantech Wireless Technologies, these new series of BUCs provide the ultimate in performance and convenience.

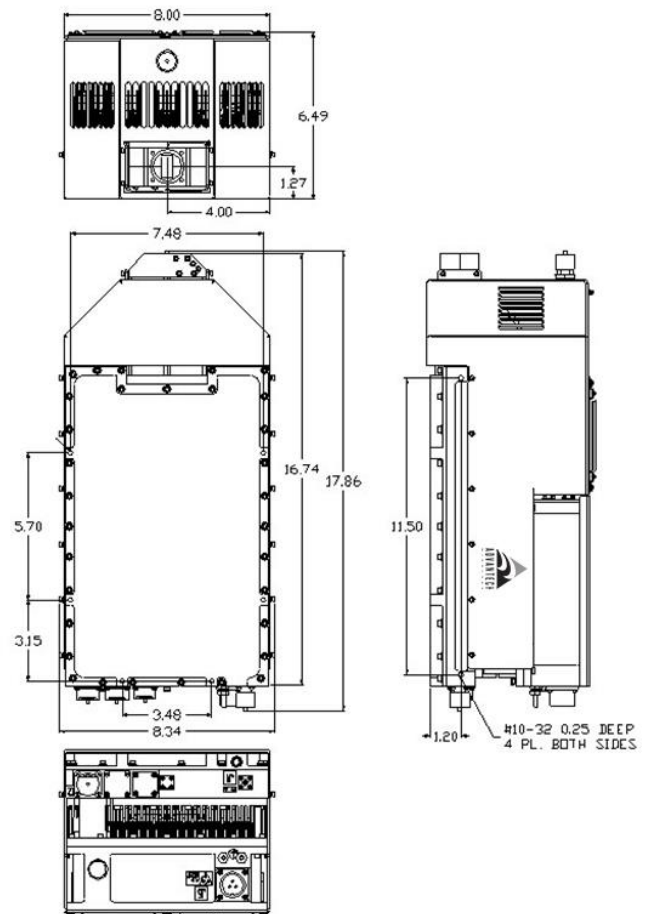
The products in the new G-Series Ku-Band BUCs are available as SSPA or SSPB (BUC). The product described in this bulletin is for an 80W to 125W BUC

### Options

- 1:1 or 1:2 Redundant Configuration
- Internal reference with autosensing
- 70 dB Receive Reject Filter (external)
- Discrete alarm interface

### Accessories

- Mounting kits
- External Receive Reject Filter
- Remote M&C panel with optional SNMP
- Flexible and rigid waveguides
- Boom mounting kit
- Replacement fans



## 80W / 100W / 125W Ku-Band BUC/ SSPB/ SSPA Second Generation GaN Technology

General Specifications			
	80W	100W	125W
Operating Frequency	14.00 – 14.50 GHz (KS-band) or 13.75 – 14.50 GHz (KX-band) or 12.75 – 13.25 GHz (KL-band)		
L-Band input (BUC)	950 – 1450 MHz (for KS/KL) or 950 – 1700 MHz (for KX)		
Output Power	$P_{SAT}$ (typical)	$P_{SAT}$ (typical)	$P_{SAT}$ (typical)
	+49.0 dBm	+50.0 dBm	+51.0 dBm
	$P_{LINEAR}$	$P_{LINEAR}$	$P_{LINEAR}$
	+45.0 dBm	+46.0 dBm	+47.0 dBm*
	$P_{LINEAR}$ is the maximum combined transmit power of two equal amplitude continuous wave (CW) carriers 5MHz apart, when the third order intermodulation product power is -25dB relative to the carrier level.		
Gain	SSPB (BUC)	SSPB (BUC)	SSPB (BUC)
	71 dB min	72 dB min	73 dB min
	SSPA	SSPA	SSPA
	61 dB min	62 dB min	63 dB min
Gain adjustment range	20 dB in 0.1 dB steps		
Gain flatness over full band	3 dB p-p max		
Gain slope over 40 MHz	1 dB p-p max		
Gain variation over temperature	± 1.5 dB max		
Input Impedance and VSWR	50 Ω 1.5:1		
Output VSWR	1.3:1		
Noise power density	-75 dBm/Hz in Transmit Band, -145 dBm/Hz in Receive Band (10.95 GHz – 12.75 GHz)		
Spurious	-55 dBc max at $P_{LINEAR}$		
AM/PM conversion	<1.0°/dB at $P_{LINEAR}$		
Third order IMD (two tones)	-25 dBc two signal 5 MHz apart at $P_{LINEAR}$		
Spectral regrowth	-30 dBc @ $P_{LINEAR}$		
Group delay	Ripple 1 nsec p-p max		
Local Oscillator freq.	KS 13.05 GHz	KX 12.8 GHz	KL 11.80 GHz
Phase Noise	-53 dBc/Hz at 10Hz -63 dBc/Hz at 100Hz	-73 dBc/Hz at 1000Hz -83 dBc/Hz at 10 kHz	-95 dBc/Hz at 100 kHz
External Reference Frequency	10 MHz (Option 1: Internal 10MHz reference; Option 2: Internal 10MHz reference with autosensing)		
Phase noise (max)	-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)	17.86" x 8.34" x 6.49" in (453.6 x 211.8 x 164.8 mm)		
Weight	22.05 lbs. (10.5 kg)		
Input voltage	AC 90 – 265 VAC (47 – 63 Hz)		
Power consumption (nominal)	$P_{SAT}$	$P_{SAT}$	$P_{SAT}$
	840W	850W	900W
	$P_{LINEAR}$	$P_{LINEAR}$	$P_{LINEAR}$
	610W	620W	625W
Interfaces	Input (L-Band): AC line: RS485 and Ethernet:	N type female MS3102 type MS3112 type	RF output: WR75 Grooved
Environmental	Temperature Operating: -30°C to +55°C -40°C to +55°C (Option 1) -50°C to +55°C (Option 2) Storage: -55°C to +85°C Humidity: 100% condensing Altitude: 10,000' AMSL de-rated by 2 °C/1000' from AMSL		
	*Note: For Kx-Band $P_{LINEAR}$ is Typical		

Ref.: PB-SSPBMg-2G-Ku-80W-100W-125W-21149

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