

## 60W / 80W / 100W / 125W Ku-Band BUC / SSPA / SSPB GaN Technology

Athos-Line

60W / 80W / 100W / 125W  
SSPBMg-K 2125-G series

### Features

- Output power of 60W to 125W in a single compact package
- High linearity
- Waveguide Output Isolator
- Full M&C capability via RS485 or Ethernet port
- Weatherproof construction
- CE marking

### Options

- Ethernet port
- Internal reference with autosensing
- 70 dB Receive Reject Filter (external)
- Redundant ready
- 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

### Overview

Based on GaN technology the G-Series Ku-Band BUCs provide high power density in a compact size. Combined with the traditional Advantech features, these 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 a 60W to 125W BUC.

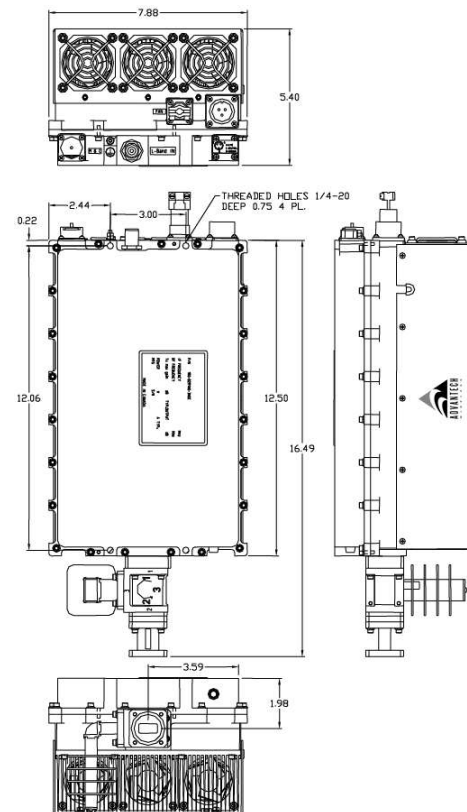


Figure 1: 125W BUC (AC operation)

## 60W / 80W / 100W / 125W Ku-Band BUC / SSPA / SSPB GaN Technology

General Specifications		60W	80W	100W	125W
Operating Frequency		KS 14.00 – 14.50 GHz KX 13.75 – 14.50 GHz			
L-Band input (BUC)		KS 950 – 1450 MHz KX 950 – 1700 MHz			
Output Power	$P_{SAT}$ (typical)	+48.0 dBm	+49.0 dBm	+50.0 dBm	+51.0 dBm
	$P_{LINEAR}$	+44.0 dBm	+45.0 dBm	+46.0 dBm	+47.0 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			
Gain	SSPB (BUC) SSPA	70 dB min. 60 dB min.			
Gain adjustment range		20 dB in 0.1 dB steps			
Gain flatness over full band		4 dB p-p max			
Gain slope over 40 MHz		1 dB p-p dB max			
Gain variation over temperature		± 1.5 dB max			
Input Impedance and VSWR		50 Ω 1.3:1			
Output VSWR		1.25:1			
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		
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	Optional; Internal 10MHz auto-sensing reference		
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		
<b>Weight &amp; Dimensions</b>					
Dimensions	(L x W x H) With isolator	12.1" x 7.9" x 5.4" (307x200x137 mm) 16.5" x 7.9" x 5.20" (419x200x132mm)			
Weight		21.1 lbs. (9.6 kg)			
Input voltage		DC 48V (40v – 60V) AC 90 – 265 VAC (47 – 63 Hz)			
Power consumption (nominal)		500W@Psat, 420W@ $P_{LINEAR 1}$		550W@Psat, 470W@ $P_{LINEAR 1}$	
Interfaces		Input (L-Band) DC line MS3112 type RS485/Ethernet (optional)	N type female MS3102 type	RF output AC line	WR75 Grooved MS3102 type RS485/RS232 or Ethernet (optional)
Environmental		Temperature	Operating -30°C to +55 °C Storage -55°C to +85 °C	Option 1 -40°C to +60 °C	
		Humidity	100% condensing		
		Altitude	10,000' AMSL, de-rated by 2 °C/1000' from AMSL		

Ref.: PB-SSPBg-KU-60-80-100-125-24102

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