

# 40W Ka-Band GaN SSPA / BUC

## K-2 Series Advanced GaN Technology

### Raptor Line

SSPA	AWMAg-40Ka
SSPB (BUC)	SSPBMg-40Ka

### Overview

Introducing the K-2 series of Ka-band Solid State Power Amplifiers. K-2 SSPAs represent the latest Ka-band offering from Advantech Wireless Technologies and are available with or without an integrated BUC. K-2 was designed to serve as a solid state alternative to competing amplifier technologies.

### Features

- Meets the requirements per MIL-STD-188-164A
- Internal High Stability Reference with auto-sensing
- Weatherproof package
- Remote Monitor & Control
- Ethernet SNMP v1, v2 with Web Server
- Compact packaging
- CE compliant

### Application

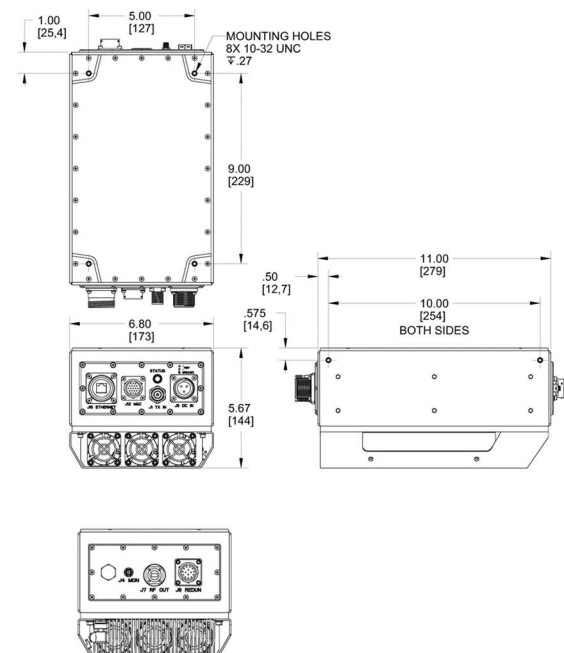
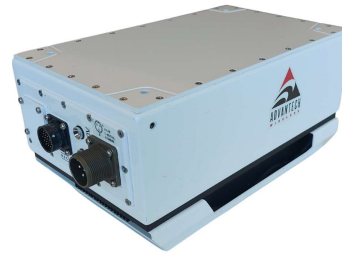
The K-2 Series systems are designed for Ka-Band satellite up-link applications. The rugged outdoor design lends itself to any commercial or military application where size, weight and performance are key. Suitable for hub mount and well as any mobile application such as military mobile or SNG.

### Redundancy

K-2 SSPAs are available in 1:1 and 1:2 redundant configurations with a single M&C interface. Standalone units are Redundant ready.

### Options

- Ethernet SNMP v3
- Dual Band (Switchable LO)
- 1:1 or 1:2 Redundancy Kits





## 40W Ka-Band GaN SSPA / BUC K-2 Series

Technical Specifications			
Electrical Characteristics		40W	
Output power (Psat) typ.	46.0dBm		
Linear Power (P <sub>Linear</sub> ) min.	43.0dBm		
	SSPA	BUC	Notes
Output Frequency range options	27.5 – 30.0GHz, 29.0 – 31.0GHz 30.0 – 31.0GHz	1GHz sub-band within 27.5 – 31.0 GHz	Factory preset L.O., not adjustable by customer
Input Frequency range options	27.5 – 30.0GHz, 29.0 – 31.0GHz 30.0 – 31.0GHz	1000 – 2000 MHz	Other IF options available.
Output Spectrum	Non-inverting		
Intermodulation – with respect to each of 2 equal carriers 5 MHz apart	25 dBc max. @ P <sub>Linear</sub>		
NPR	19dB @ P <sub>Linear</sub>		
Gain (0dB attenuation)	65dB min.		
Gain slope	0.6dB/120MHz	1dB/120MHz	
Gain flatness	3 dB p-p max over 2.5GHz	4 dB p-p max over 1000MHz	
Gain variation over temperature	3 dB p-p max over frequency range		
Gain variation over 24 hours	±0.25 dB max at constant temperature & drive level		
Gain adjustment range	20 dB (0.1 dB steps)		
Input VSWR	1.4:1	1.5:1	
Output VSWR	1.3:1	1.3:1	
Spurious at Plin	65 dBc	55 dBc	
AM/PM conversion	2°/dB @ P <sub>Linear</sub>	2°/dB @ P <sub>Linear</sub>	
Noise Power Density max.	In band: -80 dBm/Hz	In band: -75 dBm/Hz; In Receive band (18.2 - 21.2GHz) -150dBm/Hz	
Spectrum Regrowth	-30 dBc at Plin		QPSK, carrier at 1.0 Symbol Rate offset
Phase Noise	N/A	10 Hz: -50 dBc/Hz 100 Hz: -71 dBc/Hz 1 KHz: -84 dBc/Hz 10 KHz: -93 dBc/Hz	100 KHz: -99 dBc/Hz 1 MHz: -117 dBc/Hz 10 MHz: -123 dBc/Hz 100 MHz: -127 dBc/Hz
Group Delay variation	3 ns p-p over full band 1.0 ns p-p over any 120MHz	4 ns p-p over full band 1.5 ns p-p over any 120MHz	
External Reference Require			
Reference frequency	10 MHz		
Reference frequency level	NA	-5dBm to +5dBm	
Power Requirements			
Input Voltage	95 – 265 VAC (47-63 Hz), (option 40 – 60 VDC)		
Power consumption			
at Linear Power (nominal)	400W		
at Saturation (max)	550W		
Mechanical Characteristics			
Dimensions (L x W x H)	11.00" x 6.80" x 5.67"    279.0 x 173.0 x 144.0 mm		
Weight	12.2 lbs. (5.53 kg)		
Interfaces	RF Input SSPA	2.92mm	RF Input BUC    N-Type (F)
	RF output	WR28 Grooved / WR34 (Optional)	
	Output monitor	2.92mm (Option)	
	AC Line	MS3102R16-10P	DC (option)    3102R16-10PX w/180° Rotation
Ethernet	RJFTV21N	M&C MS3112E14-19P	Redundancy    MS3112E14-15P
Environmental Conditions			
Temperature:	Operating	-30°C to +55°C	
	Storage	-55°C to +85°C	
Humidity	100%, condensing (2" rain/hour)		
Altitude	10,000' AMSL, de-rated 2°C/1,000' from AMSL		

\*Other frequencies are available. Please consult our Sales Representatives.

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