

# 80W / 100W Ka-Band GaN SSPA /BUC

## K-2 Series

### Advanced GaN Technology

#### 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 high-power amplifier technologies typically used in gateway earth stations.

#### 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

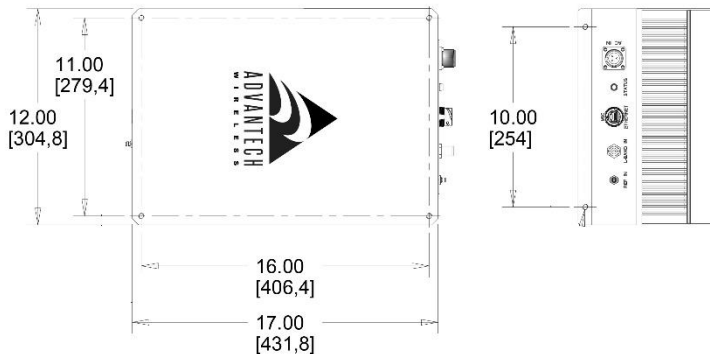
The K-2 Series systems are designed for Ka-Band satellite up-link applications. The rugged outdoor design lends itself to any commercial or military application where size, weight and performance are key. Suitable for hub mount and well as any mobile application such as military mobile or SNG.

#### 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





## 80W / 100W Ka-Band GaN SSPA /BUC K-2 Series

### Technical Specifications

Electrical Characteristics	80W		100W	
Output power (Psat)	49.0 dBm		50.0 dBm	
Linear Power (P <sub>Linear</sub> )	45.0 dBm		46.0 dBm	
	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	Dual Band (Switchable LO)	
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)	70dB			
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, 8PSK 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	4 ns p-p over full band 1.0 ns p-p over 120MHz	4 ns p-p over full band 1.5 ns p-p over 120MHz		
External Reference Require				
Reference frequency			10 MHz	
Reference frequency level	NA	-10dBm to +5dBm		
Power Requirements				
AC Input Voltage	190 – 265 VAC (47-63 Hz)			
Power consumption				
at Linear Power (nominal)	750W		825W	
at Saturation (max)	1000W		1200W	
Mechanical Characteristics				
Dimensions (L x W x H)	16" x 12" x 7"    406.4 x 304.8 x 177.8 mm			
Weight	52 lbs. (23.6 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	MS3102E20-19P		
	Ethernet	RJFTV21N		
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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