

# 200 Watt 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. K-2 is available in 27.5-30GHz and 30-31GHz configurations.

#### 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

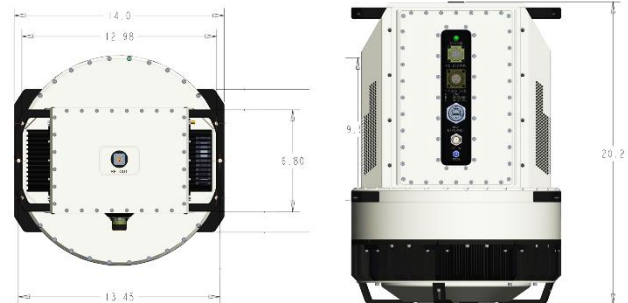
The K-2 Series systems are designed for Ka-Band satellite up-link applications. The rugged outdoor design lends itself to any commercial or military application where size, weight and performance are key. Suitable for hub mount and well as any mobile application such as military mobile or SNG.

#### 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





## 200 Watt Ka-Band GaN SSPA /BUC K-2 Series

Technical Specifications			
Electrical Characteristics	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	
Output power (Psat)		53.0 dBm	
Linear Power (P <sub>Linear</sub> )		49.0 dBm	
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)		73dB	
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	
<b>External Reference Requir</b>			
Reference frequency			10 MHz
Reference frequency level	NA		-10dBm to +5dBm
<b>Power Requirements</b>			
AC Input Voltage			190 – 265 VAC (47-63 Hz)
Power consumption			
at Linear Power (nominal)	1600W	1600W	
at Saturation (max)	2200W	2200 W	
<b>Mechanical Characteristics</b>			
Dimensions (L x W x H)	20" x 14" x 12.98"	508 x 406.4 x 355.6 mm	
Weight	77 lbs. (35 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	
<b>Environmental Conditions</b>			
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.

Ref.: PB-AWT-K2g-Ka-200-001-21133

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