400 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

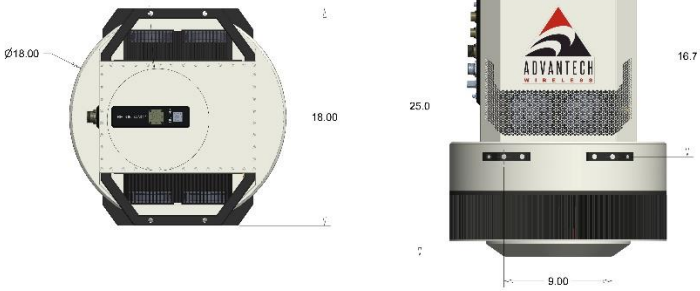
- Meets the requirements per MIL-STD-188-164A
- Internal High Stability Reference with auto-sensing
- Weatherproof package
- Remote Monitor & Control
- Ethernet SNMP v1, v2 with Web Server
- Compact packaging
- CE compliant

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

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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)	56.0 dBm		
Linear Power (P_{Linear})	52.0 dBm		
Intermodulation – with respect to each of 2 equal carriers 5 MHz apart	25 dBc max. @ PLinear		
NPR	19dB @ PLinear		
Gain (0dB attenuation)	76dB		
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_{Linear}	2°/dB @ P_{Linear}	
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 Requir			
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)	2800 W	2800 W	
at Saturation (max)	3500 W	3500 W	
Mechanical Characteristics			
Dimensions (L x W x H)	18" x 18" x 25" 457.2 x 457.2 x 635 mm		
Weight	97 lbs. (44 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.*

Ref.: PB-AWT-K2g-Ka-400-001-21133

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