

## 9-10GHz/100Watts/Rack Mount

Model Number: KNP9500S50A

The KNP9500S50A is a rack-mountable unit incorporating a universal voltage power supply and a built in forced air-cooling system. This amplifier subsystem utilizes GaN power device that provides excellent power density, high efficiency, low distortion and wide dynamic range. Due to robust engineering and employment of advanced broadband RF matching networks, combining techniques and qualified components, the amplifier achieves consistent performance with field proven reliability.

### FEATURES:

- Digital interface option
- Compact and robust design
- Instantaneous ultra-broadband
- Pulse width/duty cycle protection
- Unconditional stability and ruggedness

### ELECTRICAL SPECIFICATIONS @ 220VAC, 25°C, 10μS, 10%,50Ω System

Parameter	Symbol	Minimum	Typical	Maximum	Units
Operating Frequency	BW	9		10	GHz
RF Output Power	P <sub>PK</sub>		100		Watt
Duty Cycle	Duty Cycle			10	%
Pulse Width	PWIDTH			10	μS
PRI	PRI			100	μS
Harmonics @ Pout = 80W	H		-35		dBc
Spurious Signals	Spur		-55		dBc
RF Input Power @ Pout =100W	PIN		0		dBm
Input Return Loss	S11		-10		dB
Rise /Fall time (Pulse Performance)	TRISE/FALL/O		50		nS
Power droop@100W	Droop		0.8		dB
In/Output Impedance	Impedance		50		Ω
Operating Voltage (1-phase)	VDC		220		Volt
Power Consumption @ 100W	P <sub>D</sub>		250		Watt

### MECHANICAL SPECIFICATIONS

Parameter	Value	Limits
Dimensions (W x H x D) – Bench Top / Rack	482.6 x 88.1 x 445 [19x3.47x17.52 ] (2U)	Max
Weight	30 kg [66 lbs]	Max
RF Connectors Input /Output	In: Type-N, Female; Output: Type-N, Female	
Cooling	Built-in internal forced air cooling system	

### ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

Parameter	Minimum	Typical	Maximum	Units	Notes
Operating Ambient Temperature	-20		50	°C	
Storage Temperature	-45		85	°C	
Relative Humidity (non-condensing)			95	%	

### PROTECTIONS

Input RF drive level without	+5 dBm (Max)
VSWR protection@80W	@ 3:1- PA output power will degrade to a safe operation level, and system will still work. @ >3:1 protection will make system shutdown.
Thermal Overload	Power will Gracefully Degrade, when Ambient Temp >85°C

### Focus on Your Application

\*Chengdu KeyLink Wireless Technology Co., Ltd.\*

>> 5-2, Huidu Headquarters Park, High-Tech(West) Zone, Chengdu, 611731, P. R. China

>> Phone: +86(28)87870761\*8708

>> Fax: +86(28)87883266

>> sales@keylinkmw.com

>> www.keylinkmw.com

Specifications subject to change without notice

# X-Band Pulsed High Power Amplifier Subsystem (SSPA)

REV.3.0\_2024.11.08

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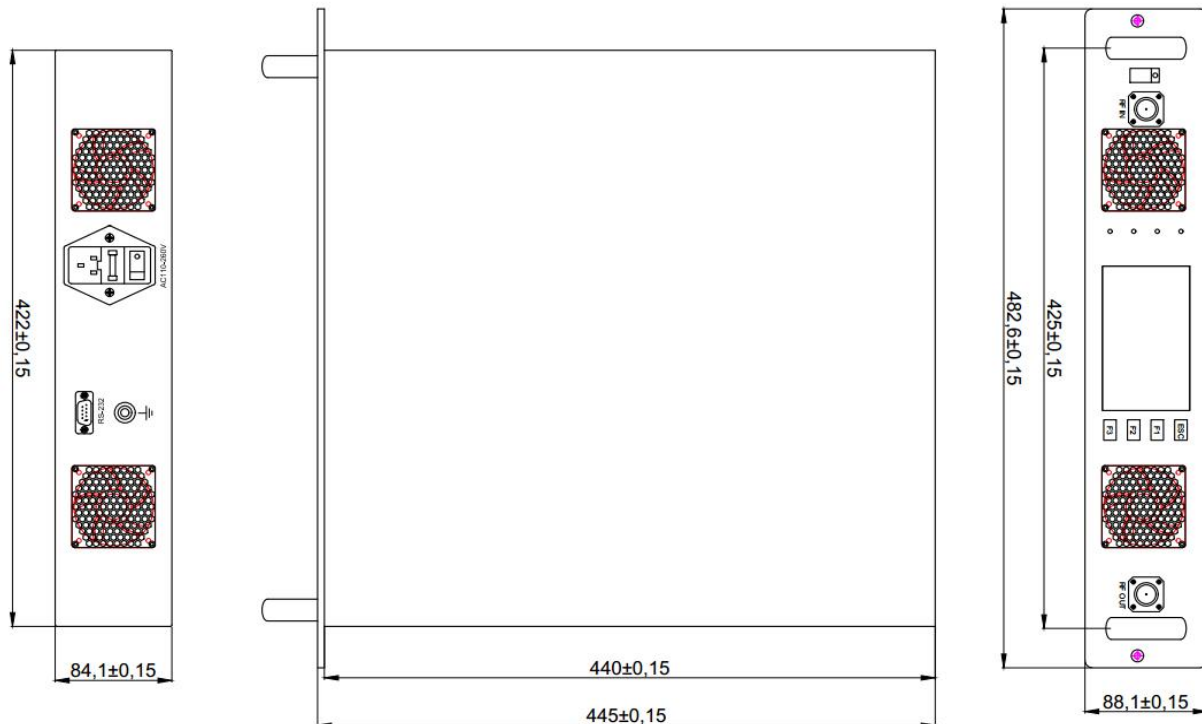
AVAILABLE OPTIONS (Selected options refer to the factory)

Pin #	Description	Specifications
RS422	Serial management of device / local operator access	D-Sub 9-Pin, Male
Status Monitor	LCD Controller	Digital Display, including FWD/REV Power indication (dBm or Watt scale), Standby mode, Fault indication
WAN	Serial management of device / local operator access	Internet access

### I/O CONNECTOR-Monitor Display or RS422

Pin #	Description	Specifications
1	ENABLE	Amplifier Enable: TTL Logic High (3.3V-5V) (Internally Pulled-Low)
2	TEMP SENSE	Analog voltage relative to temperature@0.5V+10mV / °C
3	ALARM	Amplifier Alarm indicator: Normally TTL Low
4	Reserved	Reserved
5	RS422-T+	Transmit data-TxD
6	RS422-T-	Transmit data-TxD
7	RS422-R+	Transmit data-RxD
8	RS422-R-	Transmit data-RxD
9	GND	GND

### OUTLINE DRAWING (All dimensions in mm)



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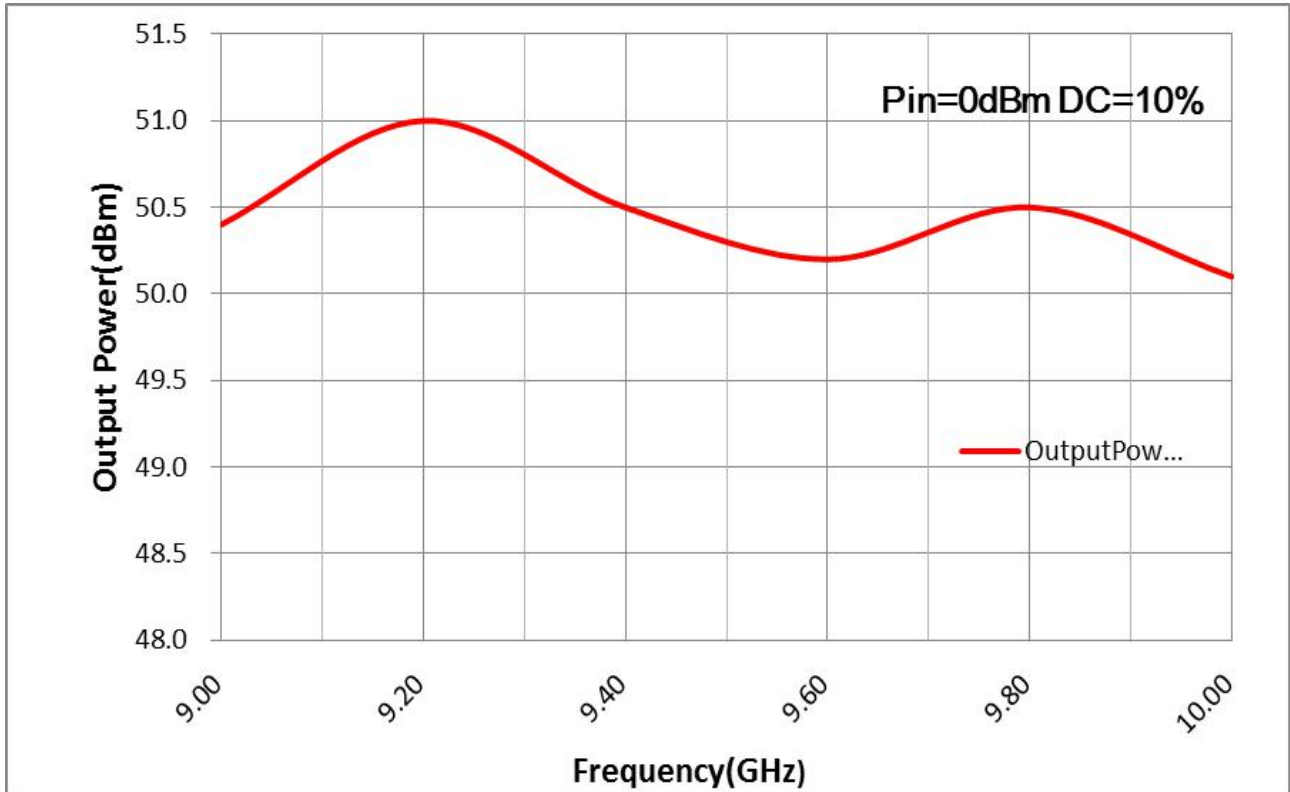
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TYPICAL PERFORMANCE PLOTS (For reference only, 25°C, 10μS, 10%)



Note: Adequate heat sink required.

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