RADITEK INC.

MADE IN USA

RoHS COMPLIANT

code-L21

Solid State Power Amplifier 2.7-2.9GHz

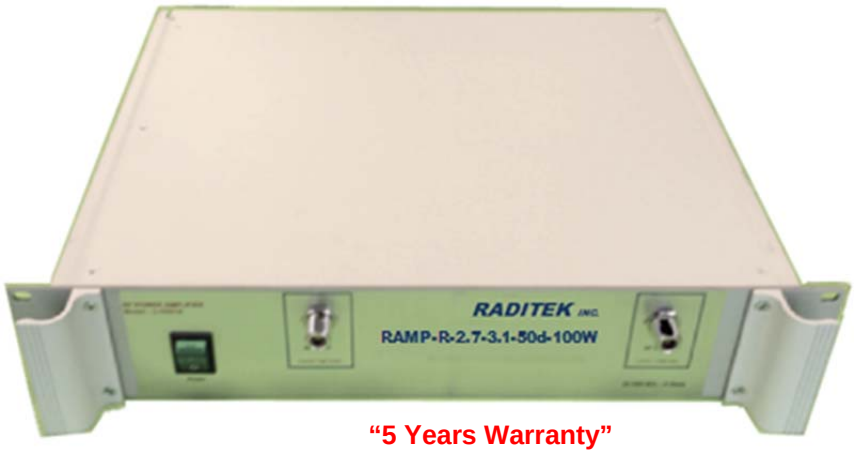
50dB Gain, 48VDC, 100Watts, 1KW PK 10% Duty Cycle, 19" Rack

Typical Applications

- **Solid State GaAs/GaN Design**
- **Instantaneous full Bandwidth**
- **Unconditional stability**
- **Control line for remote operation**
- **Reverse polarity protection**
- **Reverse power protection**
- **Over temperature protection & Alarm**
- **Rack mount unit: 19" x 15" x 3.5"**

Features

- **Broadband 2.7-2.9GHz**
- **Output Power of 100watts**
- **Gain of 50 dB**
- **48 VDC Power Supply**



"5 Years Warranty"

General Description:

This is a wideband Class AB CW/Pulse Power Amplifier, designed pulse operation, and general-purpose, amplification. Using an advanced high power density
LDMOS and GaN semiconductor processes, these high performance amplifiers achieve high efficiency, flat gain, and large instantaneous bandwidth in a single amplifier design.

Order Examples: **RAMP-R-2.7-2.9-50d-48V-100W-1KW Pk, 10%Dc-L21**
Description: *(Solid State Power Amplifier 2.7-2.9GHz, 50 dB Gain, 48V_{DC}, 100Watts 1KW Peak Power, 10% pulse, 19" Rack)*

PA basic specifications		Units
Frequency	2.7-2.9	GHz
Psat Output Power	50dBm (100W)	dBm (W)
Small Signal Gain	50	dB min
Gain flatness	±1dB p-p	dB max
Noise Figure	4	dB max
Input / Out Return Loss	2:1 Max	dB
TTL Rise fall Time	10	µs
Power Supply Voltage	48 (7A max)	Volts
Operating Temperature	0 ~ +50	°C
Storage Temperature	-40 ~ +85	°C
Relative Humidity	95(non-condensing)	%
Altitude	30,000 (Mil-STD-810FMethod 500.4)	feet
Vibration/Shock	Airborne (MIL-STD-810F Method 514.5)	
Dimensions L x W x H (4U)	19x15x3.5"	inches
RF Connectors	SMA/N Female	

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Additional Specs

Parameter	Specification	
Input power	0 dBm, Typical	
Peak output power	1kW, min	
Duty cycle	10 % or more	
Pulse width	1 to 500 µs or more	
Modulation	Pulse and LFM (CHIRP BW:1 to 10MHz)	
PRF	200 Hz - 100 kHz	
Rise/Fall time	<= 200ns	
Spurious level	<-50dBc	
Harmonics level	< -30dBc	
Impedance	50 ohm	
ON/OFF isolation	60dB ,minimum	
VSWR	2:1 or better	
Pulse droop	0.5 dB max for 500µs	
Cooling	Forced air cooled	
Controls	Cover pulse, TTL level, (differential signal)	
Control and monitoring interface	PC based GUI with suitable interface to the transmitter, logging facility and Ethernet Interface for remote monitoring and control of the power amplifier from external system.	
Power supply	Power supply with double the load capacity.	
EMI/EMC	Power amplifier should not cause interference to any other subsystem in the radar	
Status monitoring	Monitoring display at each module level VSWR RF Input power Temperature Forward power Reverse power Power Supply parameters (voltage & current) Amplifier OK/NOT_OK (using all the above) All the above parameters should present in the GUI page	ON SYSTEM
Interlock	Interlock condition for shutting down of the power amplifier. Over duty Over current Over Input power Over Pulse Width Over voltage Over Reverse power All interlock condition should have manual over-ride. All the interlocks should be latched until reset	
	All the parameters are to be logged at a rate decided by mutual discussions	

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