
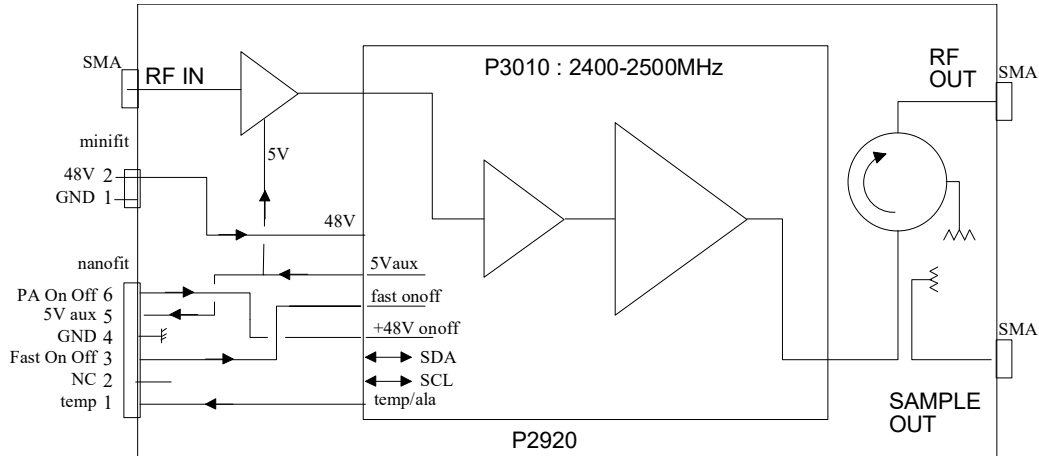


LPA Concepts

LINEAR POWER AMPLIFIER	LPA-AH0C-050AB-2400M-2500M-48-00
P2920	
FEATURES <ul style="list-style-type: none"> ◆ 2400-2500MHz ◆ Gain : 39 dB ◆ 50W P_{-1dB}, Class AB ◆ CW or pulse operation ◆ +48V / 2.5 A @ 50W CW ◆ Protection against reverse voltage, over current and over temperature ◆ Fast On/Off switching ◆ RoHS compliant 	<p style="text-align: center;">AH0C PACKAGE</p> 
	<p style="text-align: center;">APPLICATIONS</p> <ul style="list-style-type: none"> ◆ Jamming ◆ Heating

BLOCK DIAGRAM



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Electrical characteristics: 50 ohms; +48V; -25°C to +80°C (1)

Ref	parameter	conditions	note	min	typ	max	units
1	Bandwidth			2400		2500	MHz
2	Small signal Gain	2450 MHz; 50°C		38	39		dB
3	Ss Gain variation vs temp	-25°C to +80°C	2		2		dB
4	Gain at 50W	2450MHz, 50°C		36	37		dB
5	Gain variation vs frequency	2400 MHz - 2500 MHz				1	dBpp
6	Sample output	Relative to main output			-30		dBc
7	Input return loss	50 ohms				-15	dB
8	Output return loss	50 ohms				-15	dB
9	Multi tones intermodulation	10 tones 1MHz spacing, 50W peak,	3		-27	-25	dBc
10	Peak envelope power	2 tones , IMD3 = -30 dBc			50		W
11	Current consumption	48V, idle			0.28		A
12	Current Consumption	48V, 50W CW 2450MHz			2.5		A
13	Fast on/off control	TX ON			0	0.3	V
14	Fast on/off control	TX OFF		2.5	3		V
15	signal rise time	3V to 0V negative edge	4			1	μs
16	Rise time delay		4			3	μs
17	Signal fall time	0V to 3V positive edge	4			1	μs
18	Fall time delay		4			3	μs
19	Gain TX OFF	Tx=3V			-50		dB

1. Unless otherwise specified
2. Hot Spot Temperature
3. Peaked phases
4. Low impedance drive

Maximum ratings

Ref	parameter	conditions	note	min	Nom	max	units
1	Operating temperature	Flange temperature		-40		+90	°C
2	Supply voltage			30	48	50	V
3	Input power	CW				+3	dBm
4	Reverse power					47	dBm
5	Max load VSWR	@ 50W output				∞:1	-

Protections

Ref	parameter	description	remarks
1	Overvoltage	Shut down if supply > 50 V	
2	Under voltage	Shut down if supply < 30 V	
3	Reverse voltage	No current drawn	
4	Overcurrent	Shut down if current > 2.9 A	Lower power and PA On/Off to recover
5	Temperature	Shut down if temp > 80°C	Auto recover at 75°C

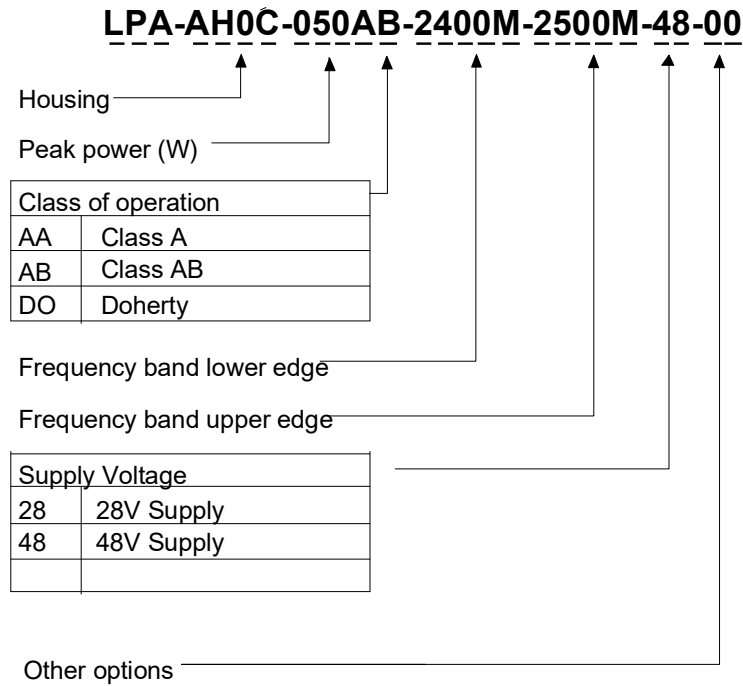
Monitoring & control

Ref	characteristic	description	remarks
1	PA On/Off	48V switching (used for reset)	+0V=ON internal pull down
2	Fast On/Off	Gain switching	+0V=ON internal pull down
3	Temperature	Analog output	-40°C to +100°C (TMP20)
4	Alarm		<0.1V for alarm

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Part numbering:



Support material

Ref	Characteristic	Description	Remarks
1	T280	Analog control board	uses 5V aux from amplifier
2	P3090	Analog control & ALC	uses 5V aux from amplifier
3			

Related products

Ref	Characteristic	Description	Remarks
1			
2			
3			

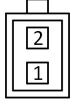
Communication DC Connector Molex NanoFit 105405-1206

Pin description		Mate with 105308-1206	PINOUT
Pin 1 : Analog temperature	Pin 4 : Gnd		
Pin 2 : NC	Pin 5 : 5V aux		
Pin 3 : Fast on/off	Pin 6 : Power On/Off		

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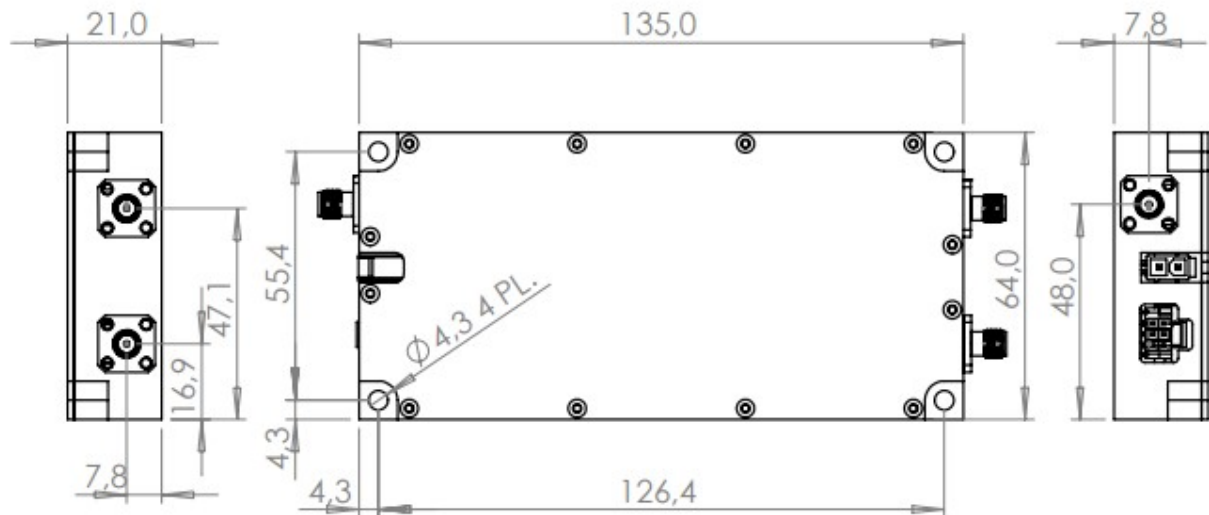
Power Supply DC Connector Molex MiniFit Jr 39-30-1020

Pin description		PINOUT
Pin 2 : Supply +48V	Mate with 39-01-2020 and inserts 39-00-0038	
Pin 1 : Gnd		

Mechanical characteristics

Ref	characteristic	description	remarks
1	Housing dimensions	135mm x 64mm x 21mm	
2	Housing finish	Electroless nickel (-00 option)	Surtec 650 (-01 option)
3	Mounting	4 M4 screws	
4	Input/output RF connectors	SMA	
5	DC supply connector	Molex 39-30-1020	Male type
6	DC controls connector	Molex 105405-1206	Male type
7	Weight	400 grams	

Package outline:

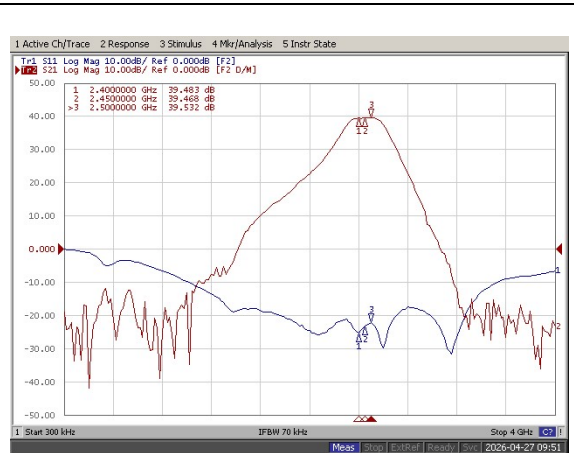


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TYPICAL PERFORMANCE



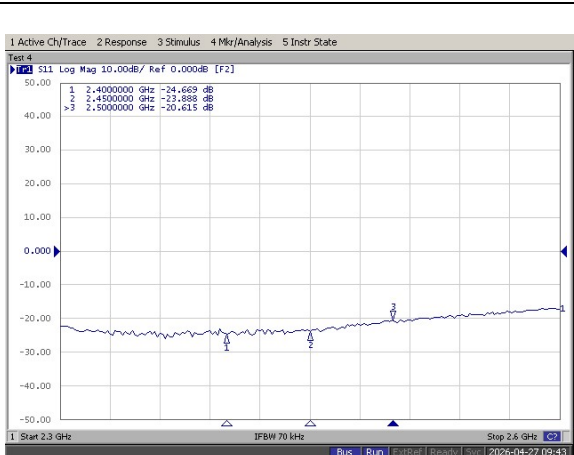
Gain vs frequency



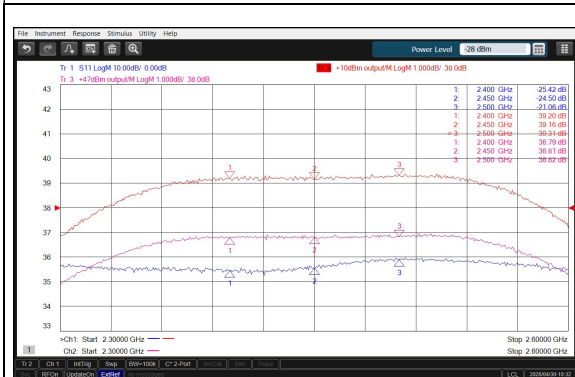
Wideband gain vs frequency



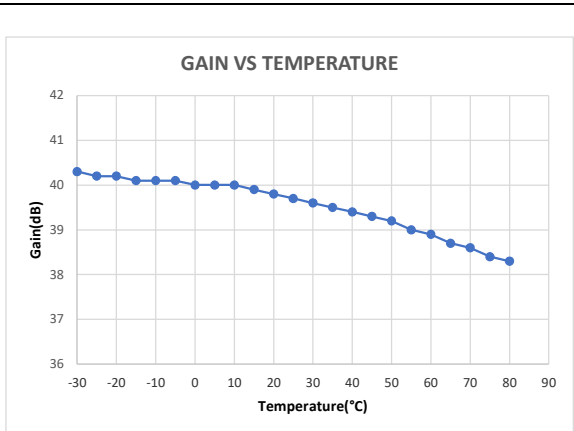
Sample



Output return loss vs frequency

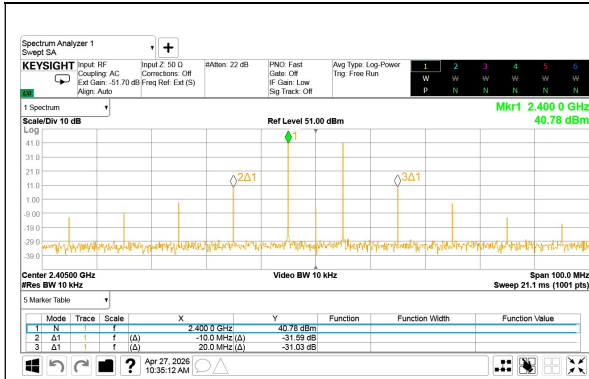


Gain compression @50Woutput (10μs/1ms pulses)

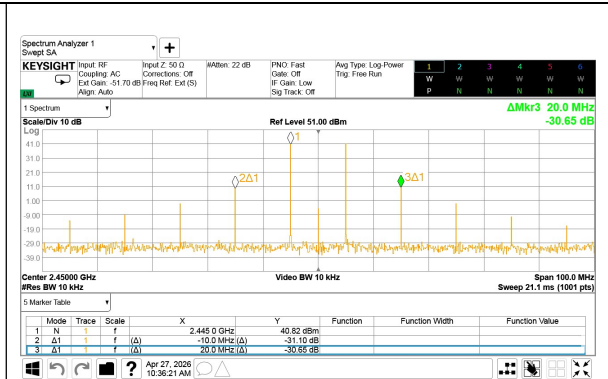


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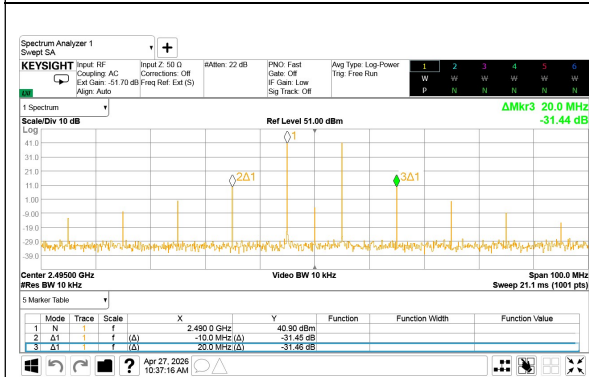
TYPICAL PERFORMANCE (continued)



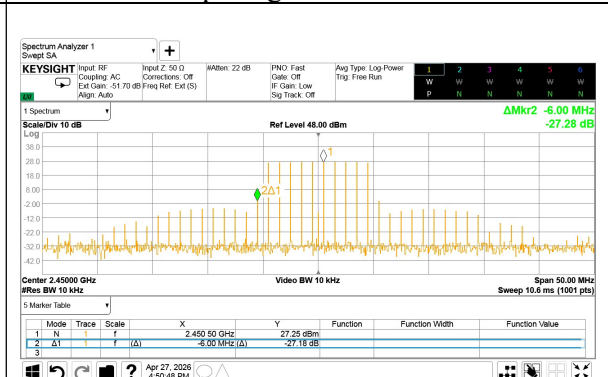
2 tones 25W average 2400MHz 10MHz spacing 48V/1.57A



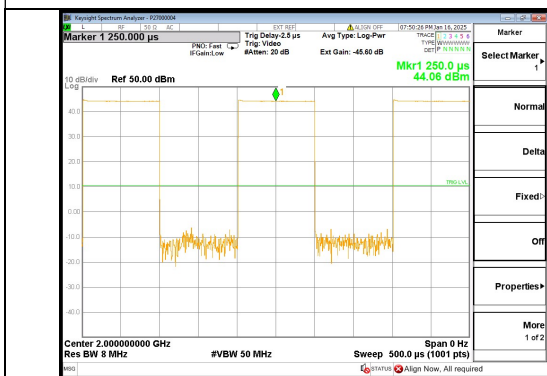
2 tones 25W average 2450MHz 10MHz spacing 48V/1.58A



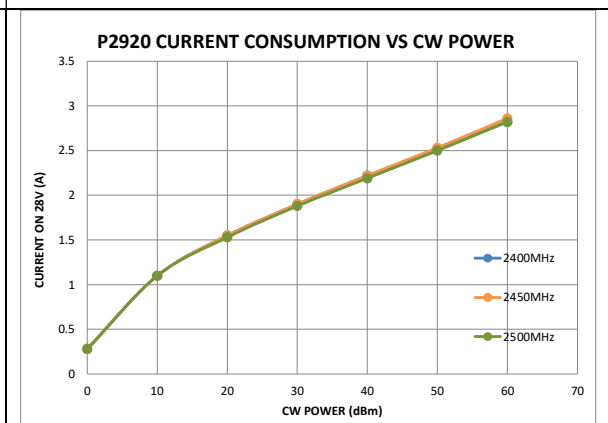
2 tones 25W average 2500MHz 10MHz spacing 48V/1.54A



10 tones 1MHz spacing 5W average 2450MHz 48V/0.52A

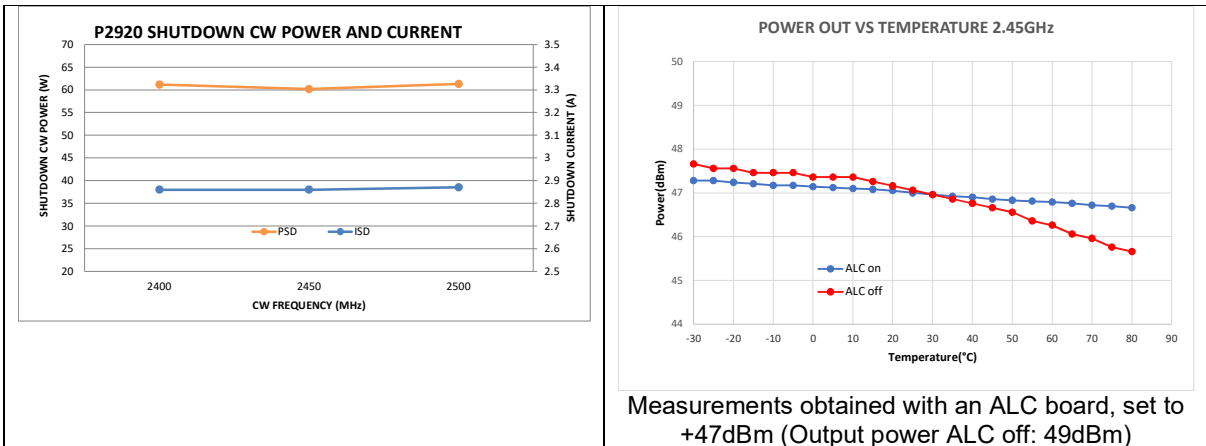


Fast OnOff 100μs On 25W, 100μs Off



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TYPICAL PERFORMANCE (continued)



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