
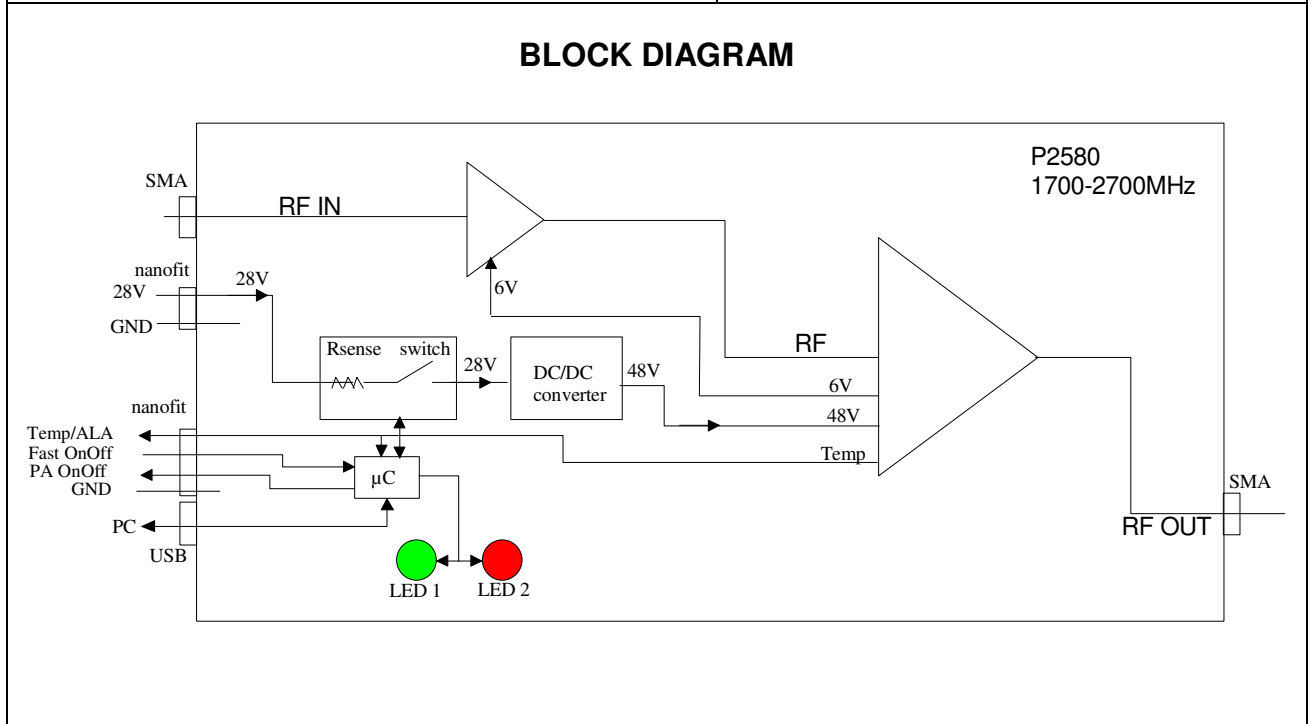


LINEAR POWER AMPLIFIER	LPA-AH1-020AB-1700M-2700M-28-00
P2580	
FEATURES <ul style="list-style-type: none"> ◆ 1700-2700MHz ◆ Gain : 40 dB Class AB ◆ Peak power > 20W ◆ Instantaneous bandwidth 200MHz ◆ 28V / 1.6 A @ 10W CW ◆ Temperature compensated gain ◆ monitoring voltage, current and temperature ◆ Protection over voltage, over current and over temperature ◆ USB communications ◆ RoHS compliant 	AH1 PACKAGE  APPLICATIONS <ul style="list-style-type: none"> ◆ Instrumentation ◆ Communications ◆ Heating



Specifications and information are subject to change without notice

Electrical characteristics: 50 ohms; +28V; -25°C to +85°C (1)

Ref	parameter	conditions	note	min	typ	max	units
1	Bandwidth			1700		2700	MHz
2	Instantaneous bandwidth			100			MHz
3	Gain small signal	2200 MHz; 50°C			40		dB
4	Gain variation vs frequency	1700 MHz - 2700 MHz				2	dBpp
5	Gain variation vs temperature	-25°C to +85°C	2		1		dB
6	Input return loss	50 ohms				-18	dB
7	Output return loss	50 ohms				-18	dB
8	Peak envelope power 10 tones	IMD3 < -30 dBc	3		20		W
9	Peak envelope power 2 tones	IMD3 < -30 dBc			20		W
10	Instantaneous bandwidth	IMD3 < -27 dBc		200			MHz
11	Current consumption	28V, idle			0.4		A
12	Current Consumption	28V, 10W CW 2200MHz			1.6		A

1. Unless otherwise specified
2. Hot Spot Temperature
3. 10 CW tones, 2200MHz center frequency

Maximum ratings

Ref	parameter	conditions	note	min	Nom	max	units
1	Operating temperature	Flange temperature		-25°C		+85	°C
2	Supply voltage			2'	28	32	V
3	Input power	CW frequency				4	dBm

Protections

Ref	Parameter	Description	Remarks
1	Overvoltage	Shut down if supply > 32V	
2	Under voltage	Shut down if supply < 24 V	
3	Overcurrent	Shut down if current > 2.7 A	Rsense=20 mohms
4	Temperature	Shut down if temp > 85°C	Auto recovery (at 75°C)
5	Temperature warning	Alarm, no shut down	Warning on for temp>60°C Warning off for temp<55°C

Analog monitoring & controls

Ref	Characteristic	Description	Remarks
1	Temperature	Analog output	-40°C to +100°C (TMP20)
2	Alarm	Open drain (ALA when 0)	Multiplexed with analog temp
3	Fast On Off	Amplifier Muted if FOO > 3V	48V remains applied to xtors
4	PA On Off	Amplifier Off if PAOO > 3V	48V is switched Off

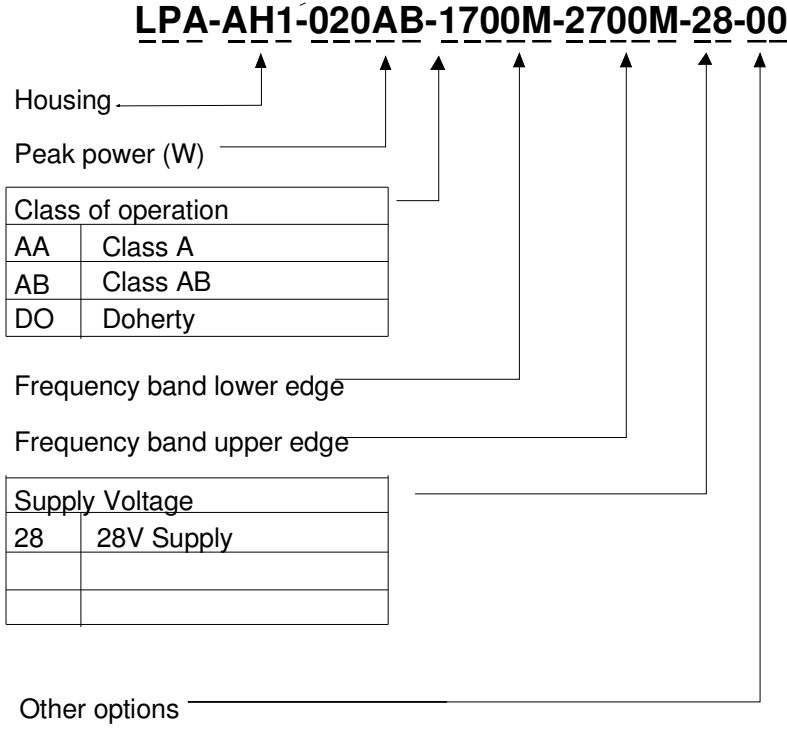
USB Monitoring & controls (4, 5)

Ref	Characteristic	Description	Remarks
1	Temperature	Temperature of main amplifier	Digital sensor
2	Supply voltage	Voltage applied by user	
3	Current	Through sense resistor	Rsense=20 mohms
4	Internal voltage	Voltage after DC/DC converter	
5	PA ON/OFF	Shut down amplifier	
6	Alarm	Provide state of amplifier	

1. For more details see programmer's guide
2. Driver needed for communication

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Part numbering:

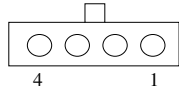


Support material:


Ref	Document type	Document number	Title	Date
1	USB Cable		USB to mini USB B	

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
Communication DC Connector Molex NanoFit 105313-1104

Pin description			PINOUT
Pin 1 : GND		Mate with 105313-1104	
Pin 2 : PA On Off			
Pin 3 : Fast On Off			
Pin 4 : Temperature /ALA	Open drain		

Communication USB

Pin description			PINOUT
Pin 1 : GND		Mini USB B	
Pin 2 : Data-			
Pin 3 : Data+			
Pin 4 : Vbus			

Power Supply DC Connector Molex NanoFit 105313-1102

Pin description			PINOUT
Pin 2 : Supply +28V		Mate with 105307-1202 with 105300-2100 inserts and AWG20-22 wires	
Pin 1 : Gnd			

LED significations

LED 1 (green)	LED 2 (red/orange)	Signification
OFF	OFF	Amplifier not supplied
ON	OFF	Amplifier ON
Blinking	OFF	Amplifier Muted by operator
ON	Orange	Temperature warning, amplifier ON
OFF	Red	Amplifier OFF (Under voltage, over voltage, over temp....)

MTBF

Temperature (sensor)	MTBF	First year failure rate
65°C (10)	>300 000 hours	TBD%

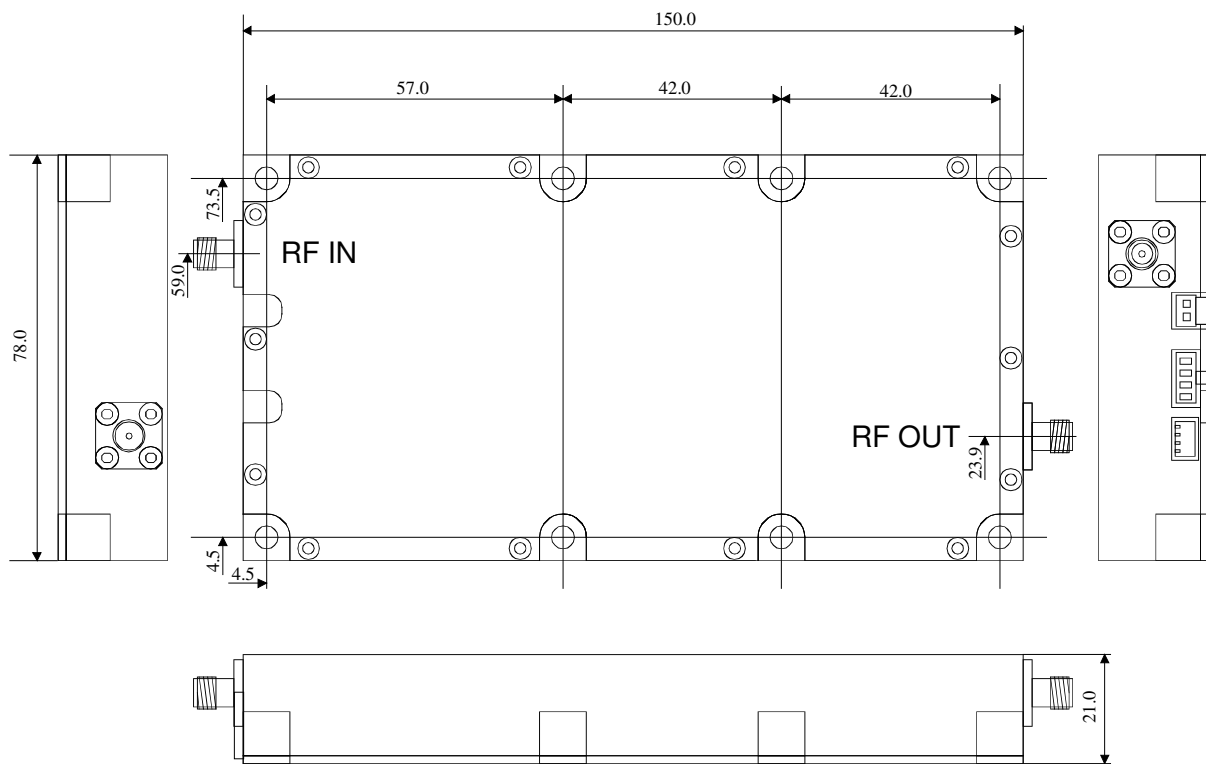
10. Although specified up to 85°C, this calculation assumes an average temperature of 65°C

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Mechanical characteristics

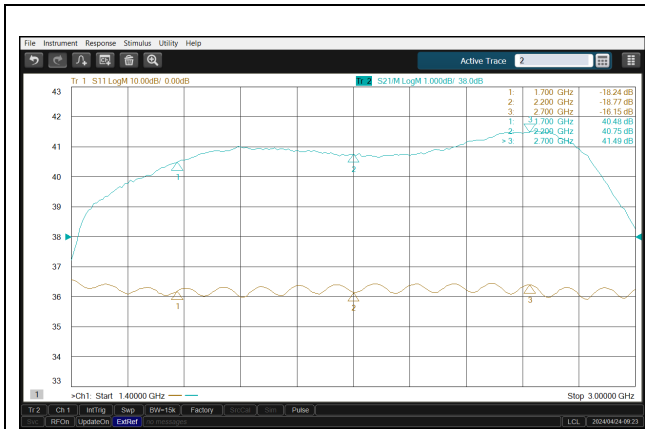
Ref	characteristic	description	remarks
1	Housing dimensions	150mm x 78mm x 21mm	
2	Housing cover finish	Electroless nickel	
3	Mounting	8 M4 screws	
4	Input/output RF connectors	SMA	
5	DC supply connector	Molex 105313-1102	Male type
6	DC controls connector	Molex 105313-1104	Male type
7	USB connectors	Mini USB B	
8	Weight	460 grams	

Package outline:

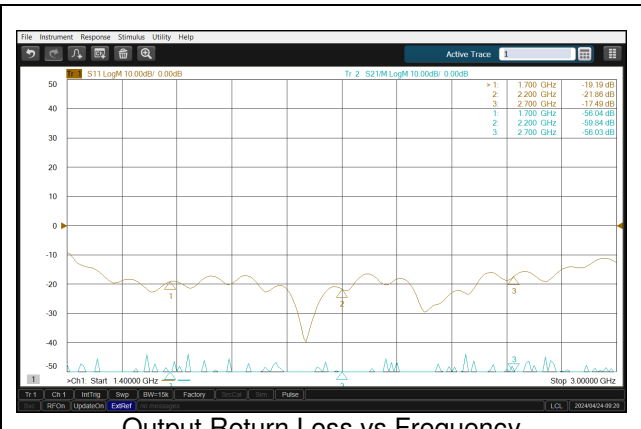


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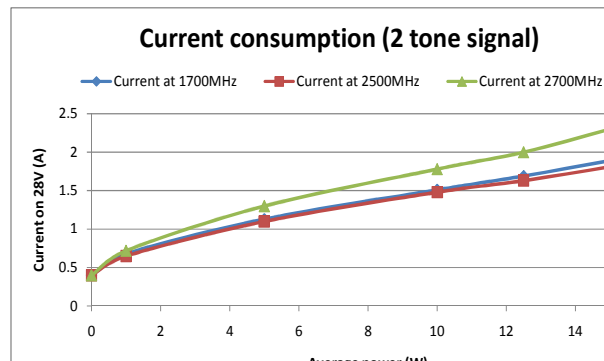
TYPICAL PERFORMANCE



Gain vs Frequency

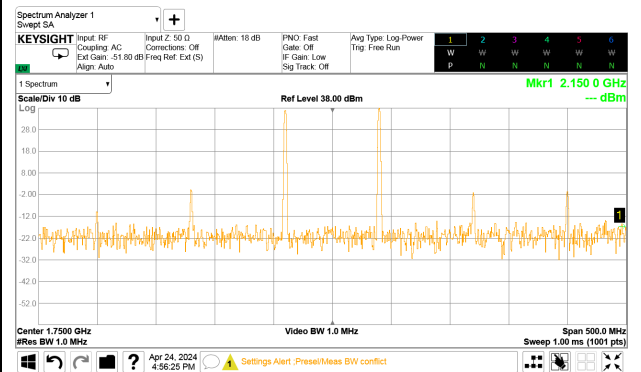


Output Return Loss vs Frequency



Current consumption (2 tone signal)

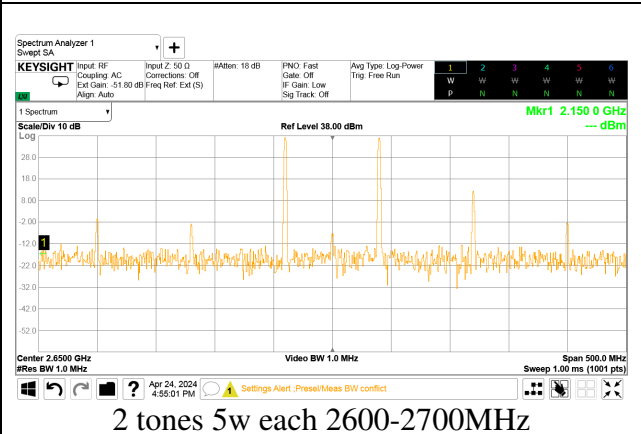
Current vs ave power (2 tones 10MHz spacing)



2 tones 5W each 1700-1800MHz



2 tones 5W each 2150-2250MHz



2 tones 5w each 2600-2700MHz

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TYPICAL PERFORMANCE (continued)



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