

2.0-6.0GHz-200W

Power Amplifier Test Report



June, 2026

1. Description

Product Name: Solid-State High-Power Amplifier Module;

Model No.: AMT-SPA-2060-200M_v2

Series No.: 20031823

Quantity: 1 unit

2. Inspection Basis

2.0-6.0GHz 200W spec.

3. Test Instruments List

No.	Equipment Name		QTY	Remarks
1	VNA		1 Set	
2	Spectrum Analyzer		1 Set	
3	Signal Generator		1 Set	

4. Specifications Test Table

No.	Technique Spec.s	Technique Spec.s	Test Result	Remarks
1	Frequency range	2-6 GHz	2-6	
2	Power gain	≥ 50 dB	52.7	
3	Gain Flatness	$\leq \pm 2.5$ dB	± 1.4	
4	Output power Saturation	≥ 53 dBm	53	
5	Input VSWR	$\leq 2:1$	See S11 chart	
6	Max. Input power level (no damage)	≤ 10 dBm	10	
7	Spurious signals	≤ -60 dBc	-70	

No.	Technique Spec.s	Technique Spec.s	Test Result	Remarks
8	Operating voltage	+28V	DC +28V	
9	Operating current	Typ 35 A	33.1	
10	Input and output RF Impedance	50 Ω	50 Ω	
11	Load Mismatch (VSWR, No Degradation)	$\leq 5:1$	Compliant	

5. Mechanical specification

No.	parameter	Specification	Inspection Result	Remark
1	Dimension (WxDxH)	260x205x54 mm approx.	260x205x50.2mm	
2	Weight	5 Kg maximum	4 Kg	
3	RF connector input	SMA-Female	SMA-Female	
4	RF connector output	N-Female	N-Female	
5	Data & Power Connector	D-Sub 9W4 Pin	D-Sub 9W4 Pin	
6	Cooling	External heatsink (not supply)	External heatsink (not supply)	
7	Protection Function	Over-Temperature, Over-Current, Over-Voltage and Over-Reflection	Compliant	

6. Environmental characteristics

No.	parameter	Specification	Inspection Result	Remark
1	Operating temperature	-40~+55 °C	Compliant	
2	Non-operating temperature	-40~+85 °C	Compliant	
3	Relative Humidity	$\leq 95\%$	Compliant	

7. Conclusion

Based on the comprehensive testing conducted on the solid-state high-power amplifier module, the product's performance specification fully comply with the technical specifications outlined in the Technical Agreement for Solid-State High-Power Amplifier Modules.

8. +25 °C Test Data

No.	parameter	Unit	Test Data							
1	Frequency	GHz	2	2.1	2.2	2.3	2.4	2.5	2.6	2.7
2	Output power Saturation	dBm	54.8	54.6	54.4	55	55	54.5	54.9	55.5
3	Power Gain	dB	55	54.4	54.2	54.4	54	53.3	53.8	55.1
4	Input Power for PSAT	dBm	-10.65	-6.67	-5.08	-6.09	-4.8	-1.51	-3.32	-6.54
5	RF Input Power Range	dBm					10			
6	Harmonic 2nd	dBc	-15.5	-14.2	-11.6	-10.5	-10.5	-10.1	-15.6	-22.3
7	Harmonic 3rd	dBc	-28.1	-20.3	-20.5	-36	-42	-47.1	-48.5	-41.5
8	Spurious Signals	dBc					-70			
9	Supply Current @Pout=53dBm	A	24.2	24.2	23.2	22.5	22.4	22.1	22.4	21.8
10	Frequency	GHz	2.8	2.9	3	3.1	3.2	3.3	3.4	3.5
11	Output power Saturation	dBm	55.3	55	54.3	54.4	53.6	53.4	54.5	55.3
12	Power Gain	dB	54.7	54.8	54.2	54.2	54	54.5	55	55.5
13	Input Power for PSAT	dBm	-5.76	-7.18	-7.81	-6.11	-8.61	-8.02	-8.33	-9.93
14	RF Input Power Range	dBm								
15	Harmonic 2nd	dBc	-24.6	-14.6	-12.4	-15.5	-16.5	-17.8	-30.4	-35.9
16	Harmonic 3rd	dBc	-40.4	-39.8	-32.4	-31.4	-29.3	-44.9	-46	-52
17	Spurious Signals	dBc								
18	Supply Current @Pout=53dBm	A	20.4	21	20.7	20.1	20.6	21	21.4	22

8. +25°C Test Data

No.	parameter	Unit	Test Data							
19	Frequency	GHz	3.6	3.7	3.8	3.9	4	4.1	4.2	4.3
20	Output power Saturation	dBm	55.4	55.2	54.7	54.6	54.2	54	54.3	54
21	Power Gain	dB	55	55	54.5	53.9	53.5	53.1	53.5	53.6
22	Input Power for PSAT	dBm	-7.45	-7.37	-5.89	-3.91	-2.72	-1.14	-3.17	-3.19
23	RF Input Power Range	dBm								
24	Harmonic 2nd	dBc	-45.5	-37	-34	-39.2	-28.5	-28.6	-32	-29.7
25	Harmonic 3rd	dBc	-40	-32.8	-34.3	-34.2	-26.3	-31.5	-33.7	-35
26	Spurious Signals	dBc								
27	Supply Current @Pout=53dBm	A	22.2	22.5	24	24.8	25.1	25.1	23.1	24.2
28	Frequency	GHz	4.4	4.5	4.6	4.7	4.8	4.9	5	5.1
29	Output power Saturation	dBm	54.3	53.1	54.6	53.2	53.1	54	54.7	53.3
30	Power Gain	dB	54	53.1	54.8	53.2	53.3	54	53.6	53.1
31	Input Power for PSAT	dBm	-5.41	-1.55	-10.64	-1.23	-4.72	-6.31	-5.31	-0.33
32	RF Input Power Range	dBm								
33	Harmonic 2nd	dBc	-25.4	-32.8	-32.9	-29.2	-29.8	-29.9	-35.6	-37.5
34	Harmonic 3rd	dBc	-44.5	-47.9	-50	-51	-54.7	-54	-53.7	-52.1
35	Spurious Signals	dBc								
36	Supply Current @Pout=53dBm	A	22.6	27.8	21.8	29.5	29	27.7	28.6	32.4

8. +25°C Test Data

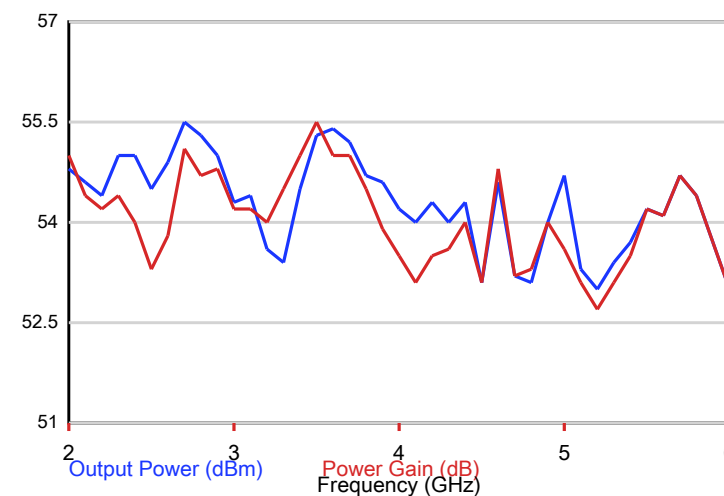
No.	parameter	Unit	Test Data							
37	Frequency	GHz	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9
38	Output power Saturation	dBm	53	53.4	53.7	54.2	54.1	54.7	54.4	53.7
39	Power Gain	dB	52.7	53.1	53.5	54.2	54.1	54.7	54.4	53.7
40	Input Power for PSAT	dBm	-1.24	-0.36	-1.38	-6.39	-5.9	-9.41	-12.71	-5.32
41	RF Input Power Range	dBm								
42	Harmonic 2nd	dBc	-45.4	-41.3	-41.3	-43	-39.8	-39.2	-40.1	-38.5
43	Harmonic 3rd	dBc	-50.7	-58.7	-57.9	-62.2	-61.1	-61	-62.1	-63.4
44	Spurious Signals	dBc								
45	Supply Current	A	33.1	33.1	32	28.9	28.3	24.9	25.8	26.2
46	Frequency	GHz	6							
47	Output power Saturation	dBm	53							
48	Power Gain	dB	53							
49	Input Power for PSAT	dBm	-0.32							
50	RF Input Power Range	dBm								
51	Harmonic 2nd	dBc	-34.6							
52	Harmonic 3rd	dBc	-60.8							
53	Spurious Signals	dBc								
54	Supply Current @Pout=53dBm	A	27							

Note: RF Input Power (10 dBm) and Spurious (-70 dBc) are full-band (2–6 GHz) specifications, not frequency-point data; table placement is for layout purposes only.

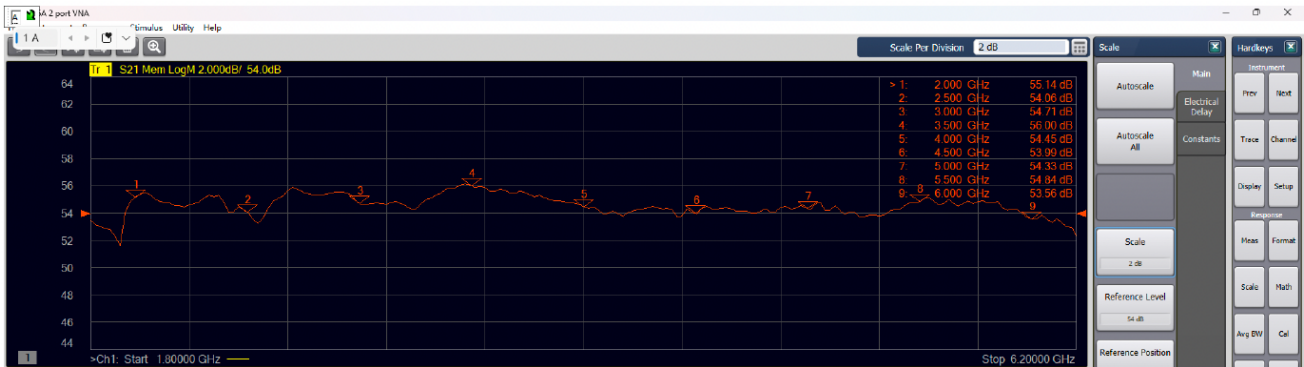
8. +25°C Test Data Summary

No.	parameter	Unit	Test Data
5	Power Gain	dB	≥ 52.7
6	Input Power for PSAT	dBm	-12.71 to -0.32
7	Gain Flatness	dB	± 1.4
8	Spurious signals	dBc	≤ -70
9	Harmonic 2nd	dBc	≤ -10.1
10	Harmonic 3rd	dBc	≤ -20.3
11	Input VSWR	2:1	See S11 chart

Power Trend



9. S Parameters Gain



Input VSWR

