

Shenzhen World Elite Electronic Co. LTD.

Sample Approval Sheet

Product Information:

Customer	Guangzhou Panyu Juda Car Audio Equipment Co., Ltd.
Material Description	PCM788 BT Antenna
Customer's Part number	
Specifications	FPC (35.5*7mm) +Black Coaxial Cable (ϕ 1.13*135mm) +Welding
Supplier's Part number	5-02-063-000348
Date	2025-10-22

Supplier:

Prepared By	Checked By	Approved By
Zhang Dengqiao	Li Yuepeng	Zhang Hongying

Customer Approval:

Accepted By	Checked By	Approved By

Results:

- ☐ Full Approval
- ☐ Conditional Approval
- ☐ Unqualified
- ☐ Others:

Shenzhen World Elite Electronic Co. LTD.

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1、Specification

This report mainly provides the testing status of various electrical and structural performance parameters of PCM788 BT Antenna.



Figure 1 Antenna

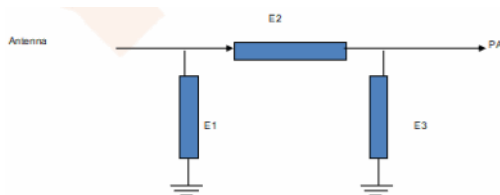
1.1 Electrical specification standard

1.1.1 Electrical Specifications

The antenna operates in the 2400-2500 MHz. The following table is the electrical performance index of the antenna designed by our company.

Antenna	PCM788 BT Antenna
Frequency Range	2400-2500MHz
VSWR	< 2.0
Efficiency	>40%
Impedance	50 ohm
Polarization	Linear polarization

1.1.2 Antenna Matching Network



Element	Value
E1(0402)	N/A
E2(0402)	0R
E3(0402)	N/A

2、Test

The antenna was debugged and tested with the prototype provided by the customer.

2.1 Test of passive S11

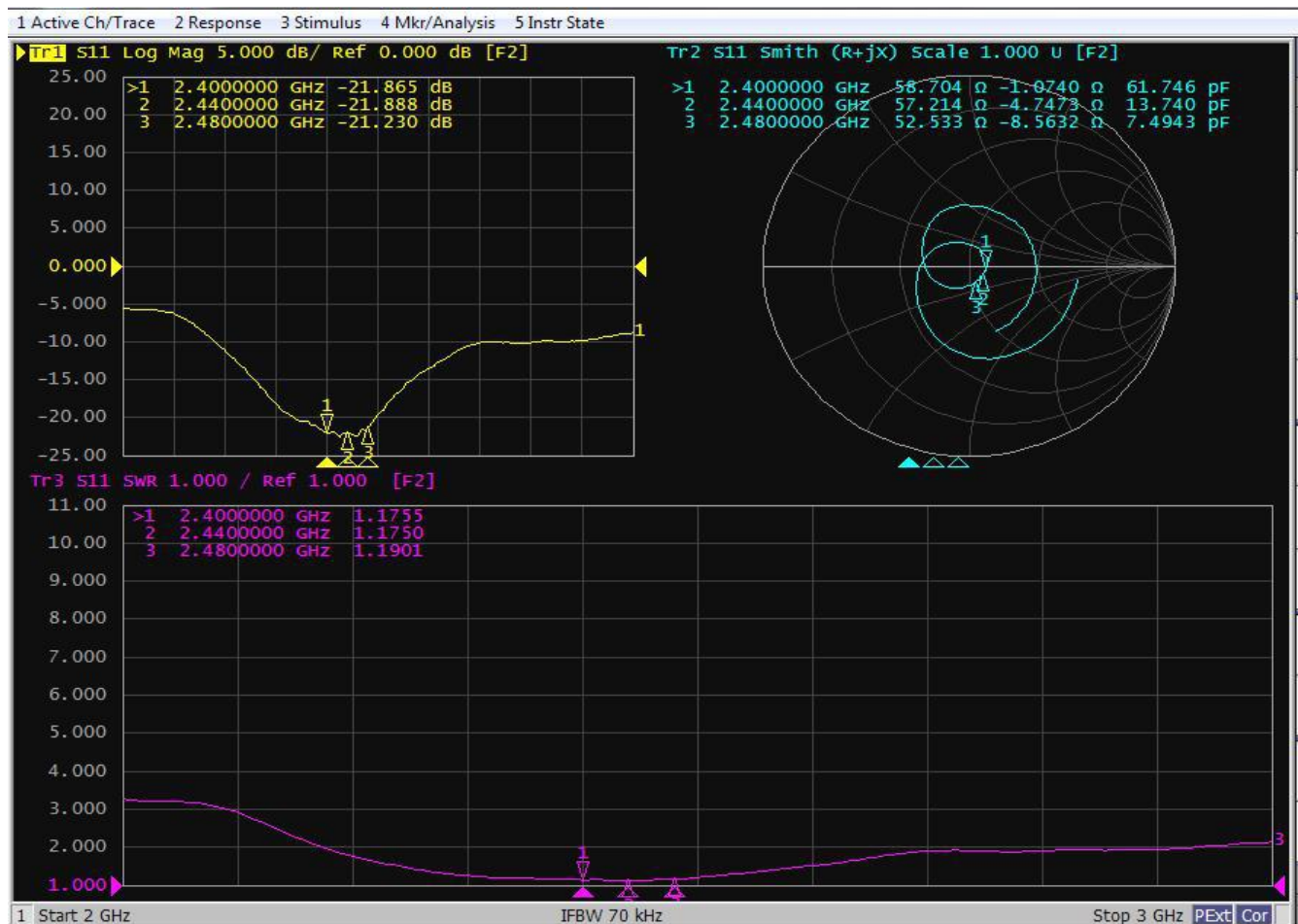
2.1.1 Test connection

The passive S11 test device is connected as follows: Network Analyzer → Test Line → Test Fixture.

2.1.2 Passive S11

The following table shows the standing wave ratio values of the edge frequency points of the antenna operating frequency band. The waveform of Return Loss and VSWR obtained by the test is shown as follows.

Frequency(MHz)	2400	2440	2480
VSWR	1.18	1.18	1.19
Return Loss	-21.87	-21.89	-21.23



2.2 Gain and efficiency test

2.2.1 Test Position

Microwave anechoic chamber, the test frequency range is 400MHz-6GHz.

2.2.2 Test equipment

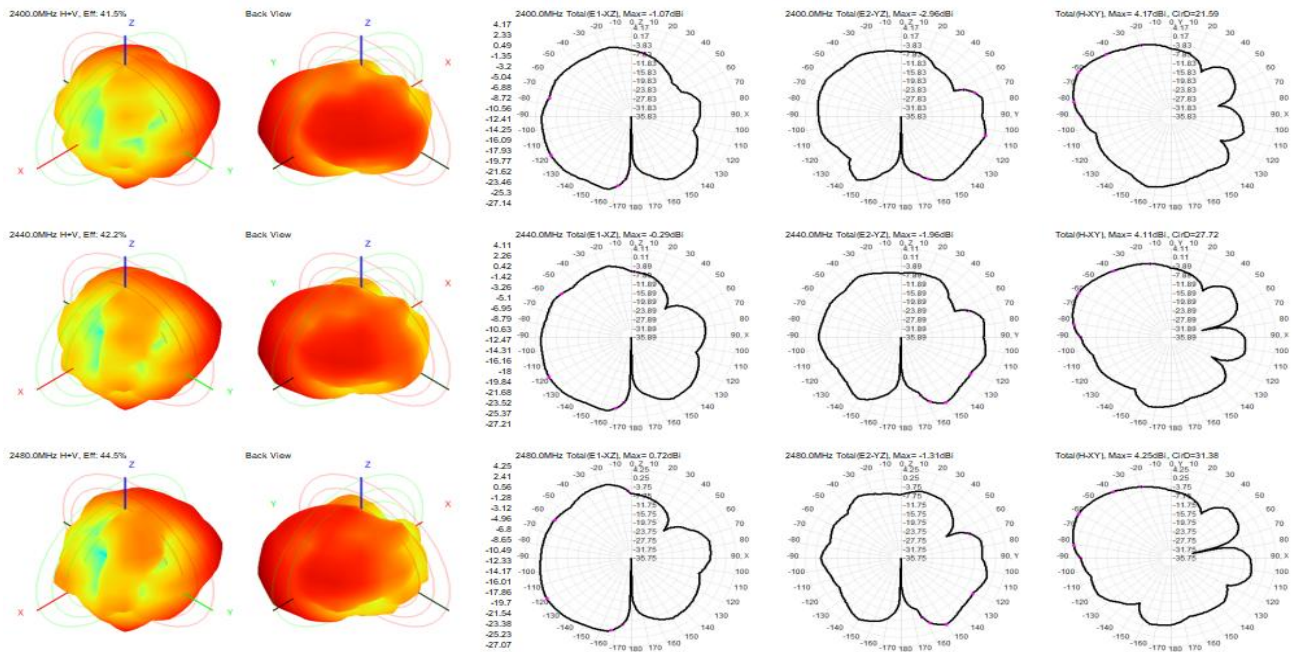
Network analyzer, standard horn antenna, multi-probe near field antenna test system, test computer, etc

2.2.3 Results Summary

In the microwave anechoic chamber, the measured values related to efficiency and gain are shown in the table below.

Frequency(MHz)	Gain(dBi)	Efficiency(%)
2400	4.17	41.51
2410	4.16	41.58
2420	4.14	41.95
2430	4.11	42.25
2440	4.11	42.17
2450	4.16	42.47
2460	4.19	42.69
2470	4.27	43.81
2480	4.25	44.51
2490	4.34	45.75
2500	4.52	47.09

2.2.4 Radiation Pattern Results



3、 Conclusion

This antenna is designed on the basis of the prototype provided by the customer. The above electrical performance parameters are tested under the environmental treatment conditions of the test prototype. The electrical parameters and structural performance have met the technical requirements. Please confirm!

1	2	3	4	5	6	7	8	
					Rev	Description	Date	Remark
					A	New drawing		

Technical drawing showing dimensions and callouts:

- 7.00±0.2
- 35.50±0.2
- 135±2
- 0.13
- Callout 1: Points to the top layer (PDM788).
- Callout 2: Points to the antenna structure.

Technical requirements:

1. 未标注尺寸依照图纸;
2. 无虚焊、假焊、连锡、短路、断路等焊接不良现象;
3. 所有部件需符合RoHS/REACH要求。

No.	Part No.	Name	Specification	Amount	Remark
1	05-01-002-000760	PDM788 BT PCC	单面板BT电焊铜, 黑色, 背胶3M9471	1	
2	164-0001A-001	W1122 2.4G BT模块	φ1.13*135mm/黑色同轴轴/一代端子	1	

深圳市沃莱特电子有限公司 Shenzhen World Elite Electronic Co. LTD			
Third Angle	Project	Date	2025-10-22
0~10 ±0.05	Part Name	Designed by	张雪桥
10~18 ±0.10	Part No.	Checked by	RF
18~30 ±0.12	Material	MD	
30~40 ±0.15	Technology	Unit	mm
40~ ±0.20	Angle	Scale	1:1
		Rev	V2

4、Part Drawing