

Jiahe CE-2520B Project

Antenna RF System

Development Report

+ RF: Wu ZeChang
Ver: 20231106 V2.3

Shenzhen Cicent Communication Technology Co., Ltd.

The industry's leading provider of RF technology and antenna solutions

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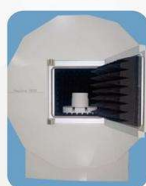
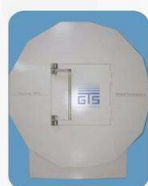
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Project Development Introduction

CE-2520B	Frequency Band		Antenna Material	Antenna Form	Design Area	Matching Changes
Antenna	4G	2.4G	FPC	Monopole	Headphone Antenna Area	YES
Prototype Status	EVT		Environmental Treatment	/		

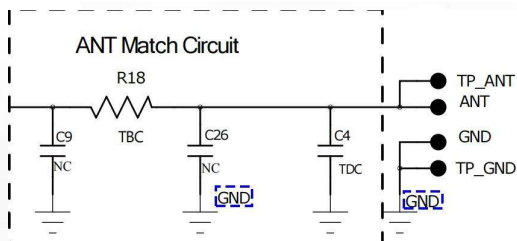
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Version	Date	Content Overview
V1	06/27/2023	Feedback of antenna data for prototype V1 of the hand board
V2	08/22/2023	Feedback on prototype antenna data after EVT trial production optimization
V2.1	08/25/2023	Update retest passive data
V2.2	10/24/2023	Change to maximum gain directional pattern as requested
V2.3	10/06/2023	Change to maximum gain directional map scale as requested

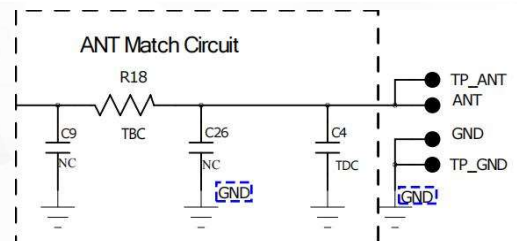
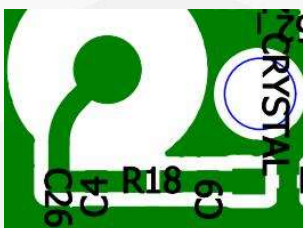
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L

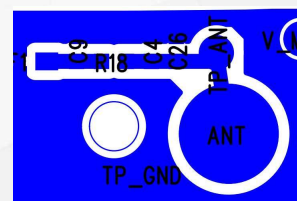
R



图示编号	匹配值
C4	N/A
C26	1.5NH
R18	0Ω
C9	N/A

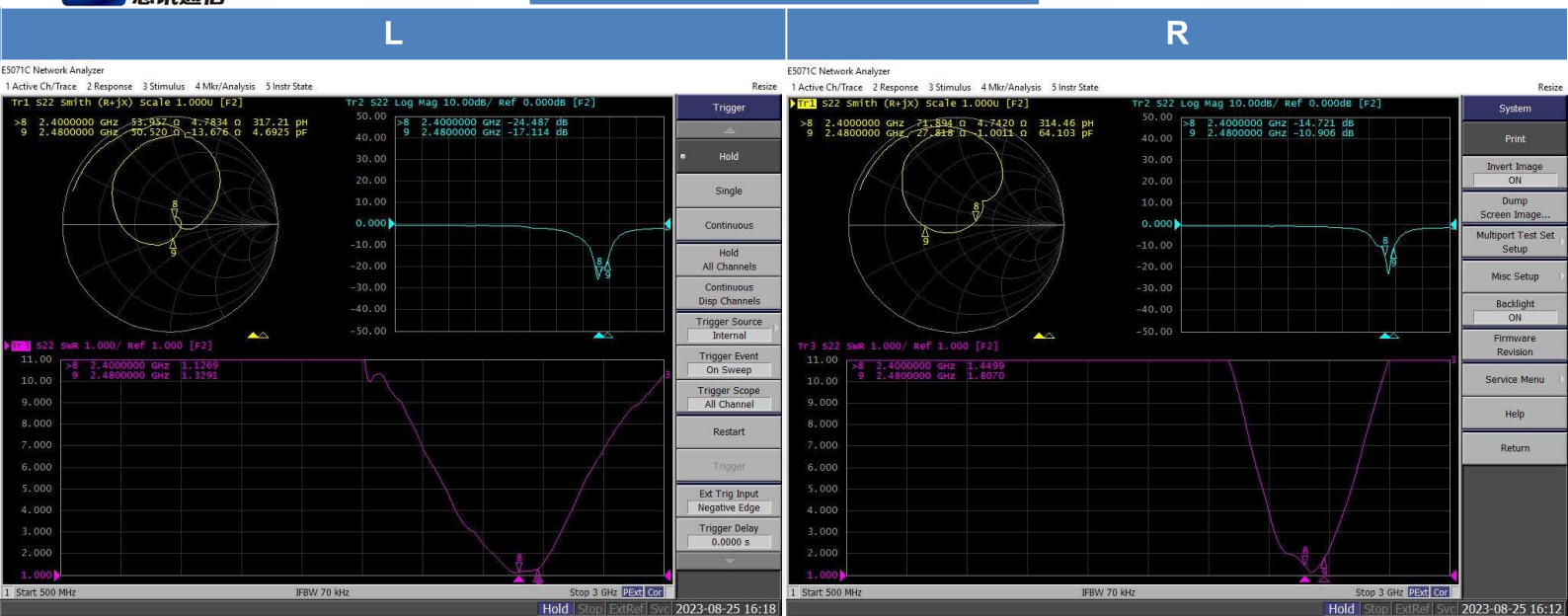


图示编号	匹配值
C4	N/A
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Antenna S11 Parameters



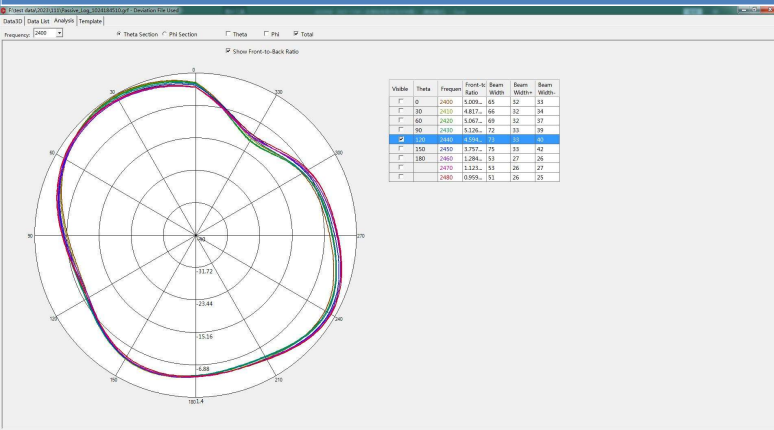
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Antenna Passive Efficiency

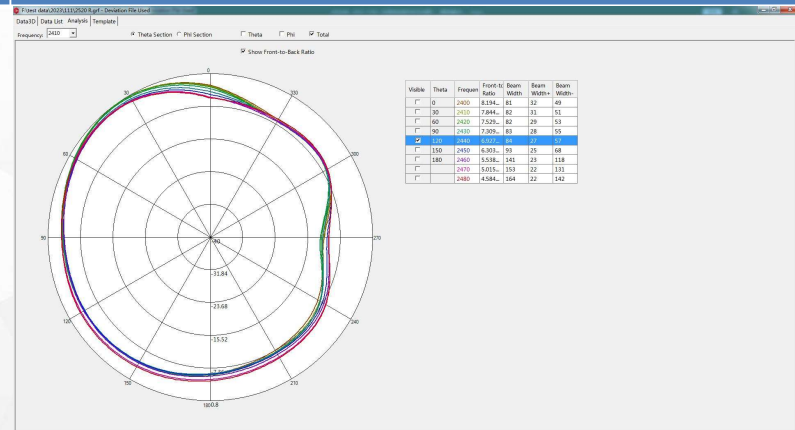
L				R			
2.4G	Efficiency%	Efficiency dB	Gain dBi	2.4G	Efficiency%	Efficiency dB	Gain dBi
2400	36.3	-4.4	1.3	2400	36.1	-4.4	0.7
2410	37.0	-4.3	1.1	2410	36.6	-4.4	0.8
2420	37.7	-4.2	1.0	2420	37.7	-4.2	0.7
2430	37.1	-4.3	0.8	2430	37.1	-4.3	0.5
2440	36.5	-4.4	0.5	2440	35.7	-4.5	0.0
2450	37.8	-4.2	0.2	2450	36.1	-4.4	-0.4
2460	37.4	-4.3	-0.1	2460	36.2	-4.4	-0.7
2470	39.6	-4.0	0.2	2470	39.7	-4.0	-0.5
2480	41.1	-3.9	0.2	2480	41.0	-3.9	-0.6
Average Value	37.8	-4.2	0.6	Average Value	37.4	-4.3	0.1

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L(dBi)

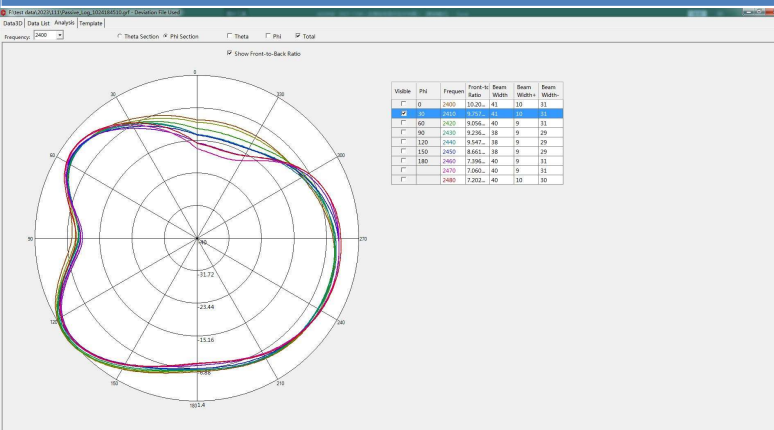


R(dBi)

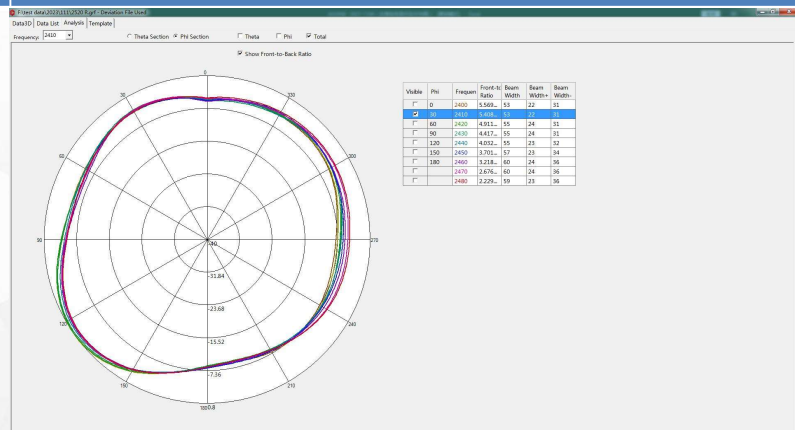


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L(dBi)



R(dBi)

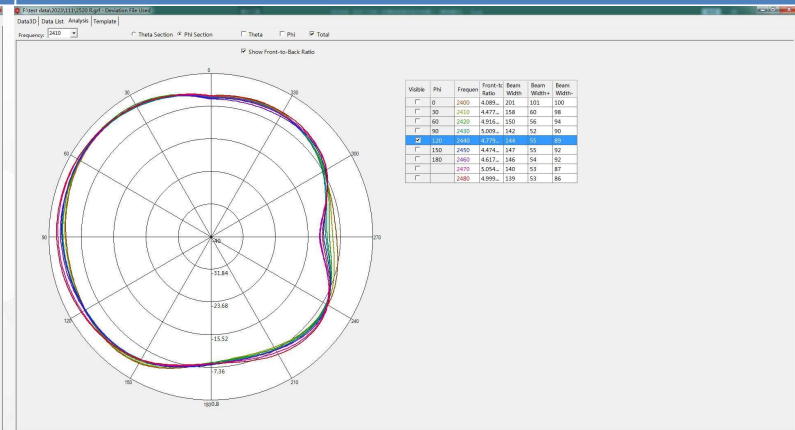
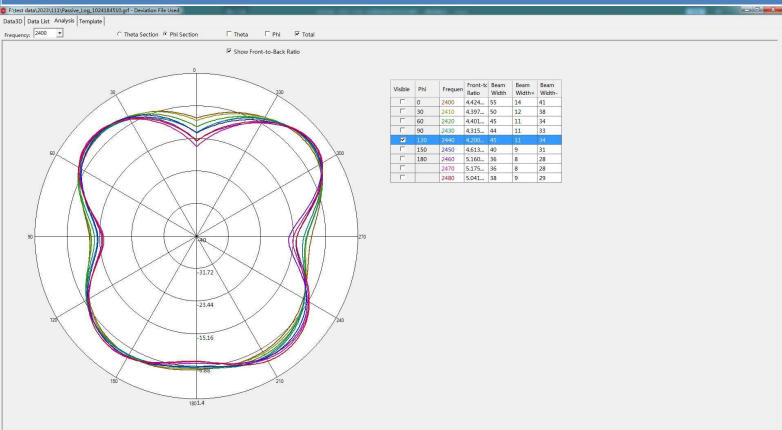


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Antenna 2D pattern

L(dBi)

R(dBi)



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Conduction Test Data

L

R

	Channel	Power	Sensitivity
L	CH 0	8.8	-95.9
	CH 39	9.0	-96.0
	CH 78	8.5	-95.9

	Channel	Power	Sensitivity
R	CH 0	9.7	-96.0
	CH 39	10.0	-96.0
	CH 78	9.5	-96.0

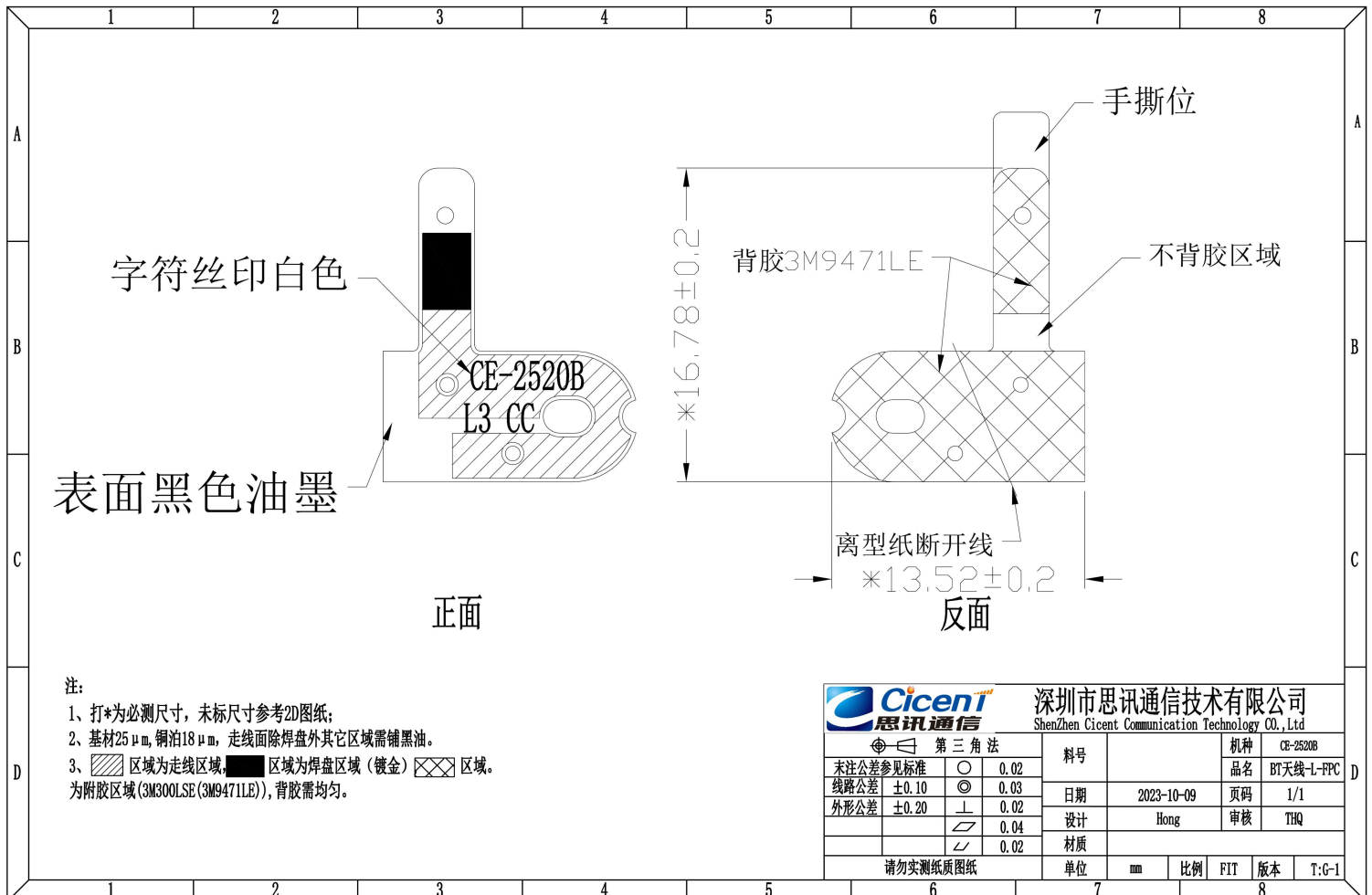
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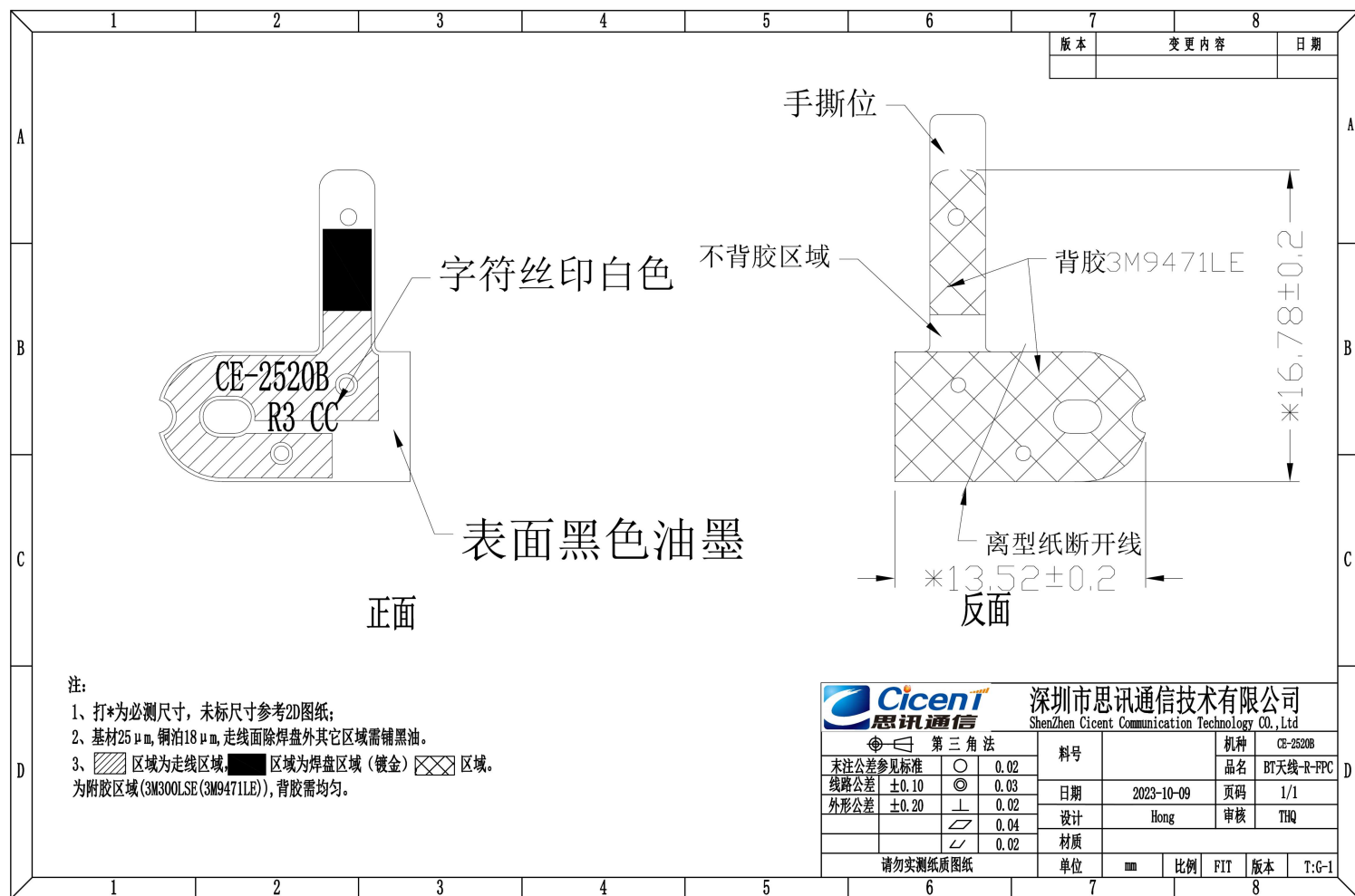
L

R

Free	Channel	TRP (dBm)	TIS (dBm)		Free	Channel	TRP (dBm)	TIS (dBm)
L	CH 0	6.1	-91.1		R	CH 0	5.2	-92.6
	CH 39	6.3	-92.9			CH 39	6.6	-93.7
	CH 78	4.7	-91.8			CH 78	6.0	-92.9
Headform	Channel	TRP (dBm)	TIS (dBm)		Headform	Channel	TRP (dBm)	TIS (dBm)
L	CH 0	-0.4	-86.2		R	CH 0	-1.0	-86.2
	CH 39	0.1	-87.2			CH 39	0.6	-87.4
	CH 78	-0.2	-86.9			CH 78	-0.5	-86.7

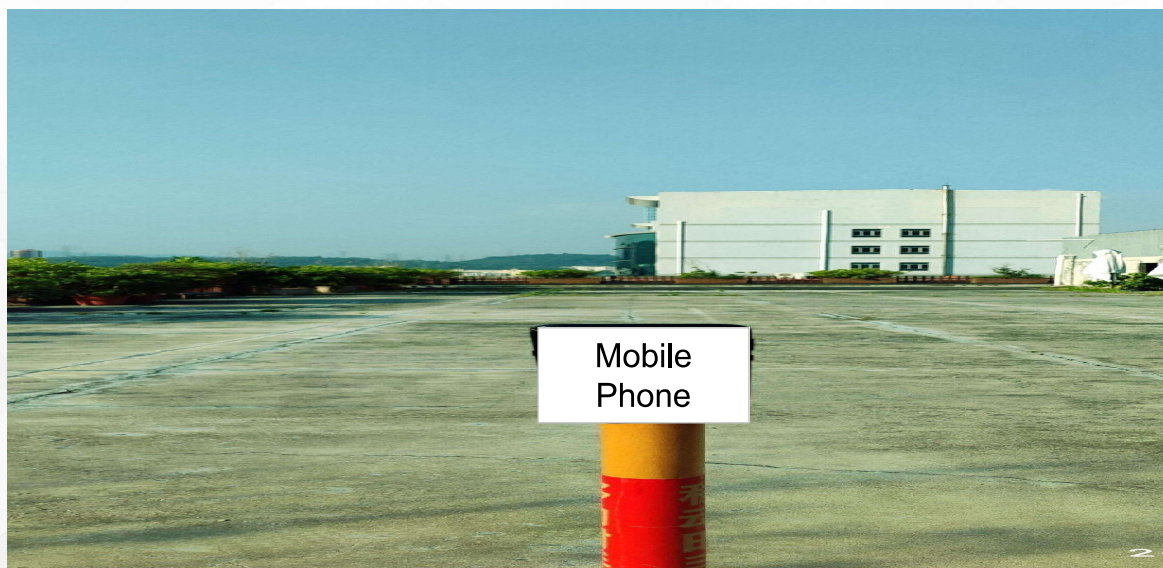
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Actual Measurement Effect

Actual site testing situation



Temperature: 30℃

Weather: Sunny

Terrain: Cicent Building Roof Terrace

Actual experience test results

Measurement method:

360 ° pull test:

Test requirements: Place the test phone on a wooden stool in the center of the square, with the phone screen facing the front of the person wearing the earphones. Conduct a rotation angle test on the human body at 0 °, 90 °, 180 °, and 270 °, respectively, to test the farthest listening distance of 360 °.

Actual measurement results (tension test):

Test BT headphones: Jiahe CE-2520B	
Testingphones	Samsung s8
Pulldistance	21m
Testingphones	iPhone6s
Pulldistance	40+m

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Additional Instructions

- 1、 Please carefully confirm whether the matching circuit mentioned in the report is modified and whether the environmental treatment is imported, which will directly affect the antenna performance.
- 2、 The parameters provided in the report are only the parameters given by the customer to our company for debugging and testing the prototype, and do not represent the final mass production status of your company's final project.
- 3、 If your company has the latest prototype for trial production or update status (material replacement, software update, environment change, etc.), please submit it to our company for verification as soon as possible to confirm whether the antenna performance is affected.
- 4、 If your company needs to send it to a third party for retest or to the customer for testing, please be sure to send the machine to be tested to our company for testing and confirmation, because the consistency of the motherboard, the consistency of the assembly, and the antenna assembly differences and other factors may lead to the deviation of the antenna parameters.

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THE END

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