

BT0054 Antenna Test Report

Customer	今尚
Project	BT0054
Antenna Revision	FPC
Product Description	Monopole
Product No	V1.2 (DVT2)
DATE	2024. 11. 29

Purpose

This report is to measure the performance of BT antenna for BT0054. The antenna operating frequency at 2.4~2.5GHz, All test data are showed as below.

Content

1. Product Overview & Dimension
2. Test system
3. Antenna Matching Network
4. Test Result
 - 4.1 S11 Parameter
 - 4.2 Test coordinate
 - 4.3 2D Pattern
 - 4.4 OTA Data
 - 4.5 BT Boot measured
5. Antenna Assembly & environmental processing

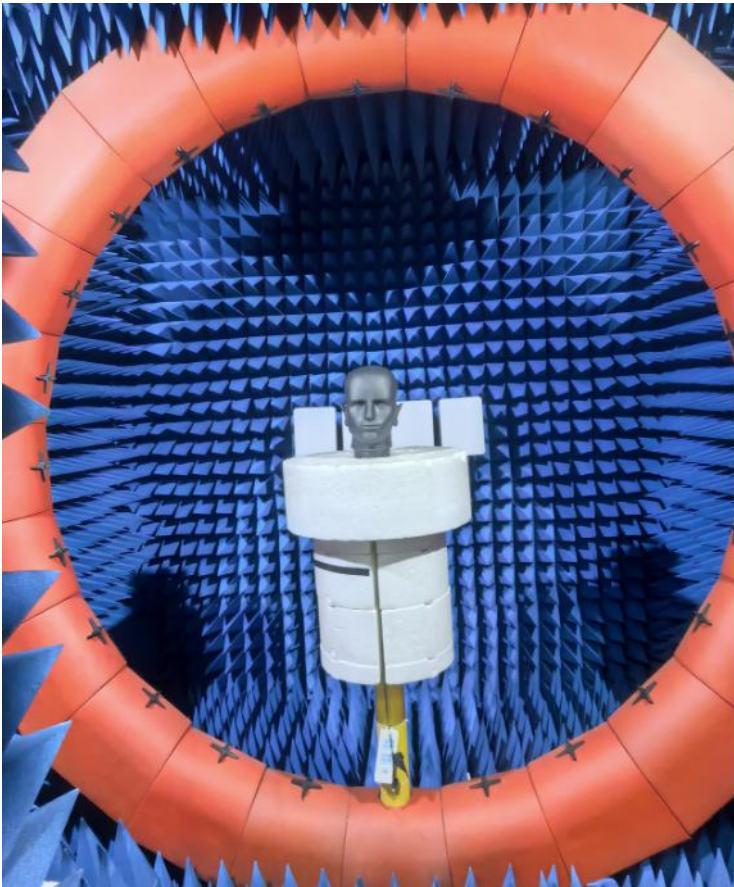
2. Test System

Sequence Number	Test Item	equipment
S parameter	VSWR	Agilent 5071C & Agilent 5062A
OTA Test	TRP&TIS	CMW500 & CMW270 ETS&SATIMO
Gain & Efficiency	Gain & Efficiency	ETS&SATIMO Agilent 5071C



Test Result

OTA-BH

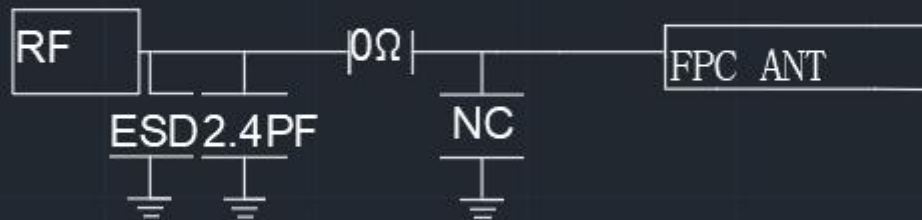


产品图片

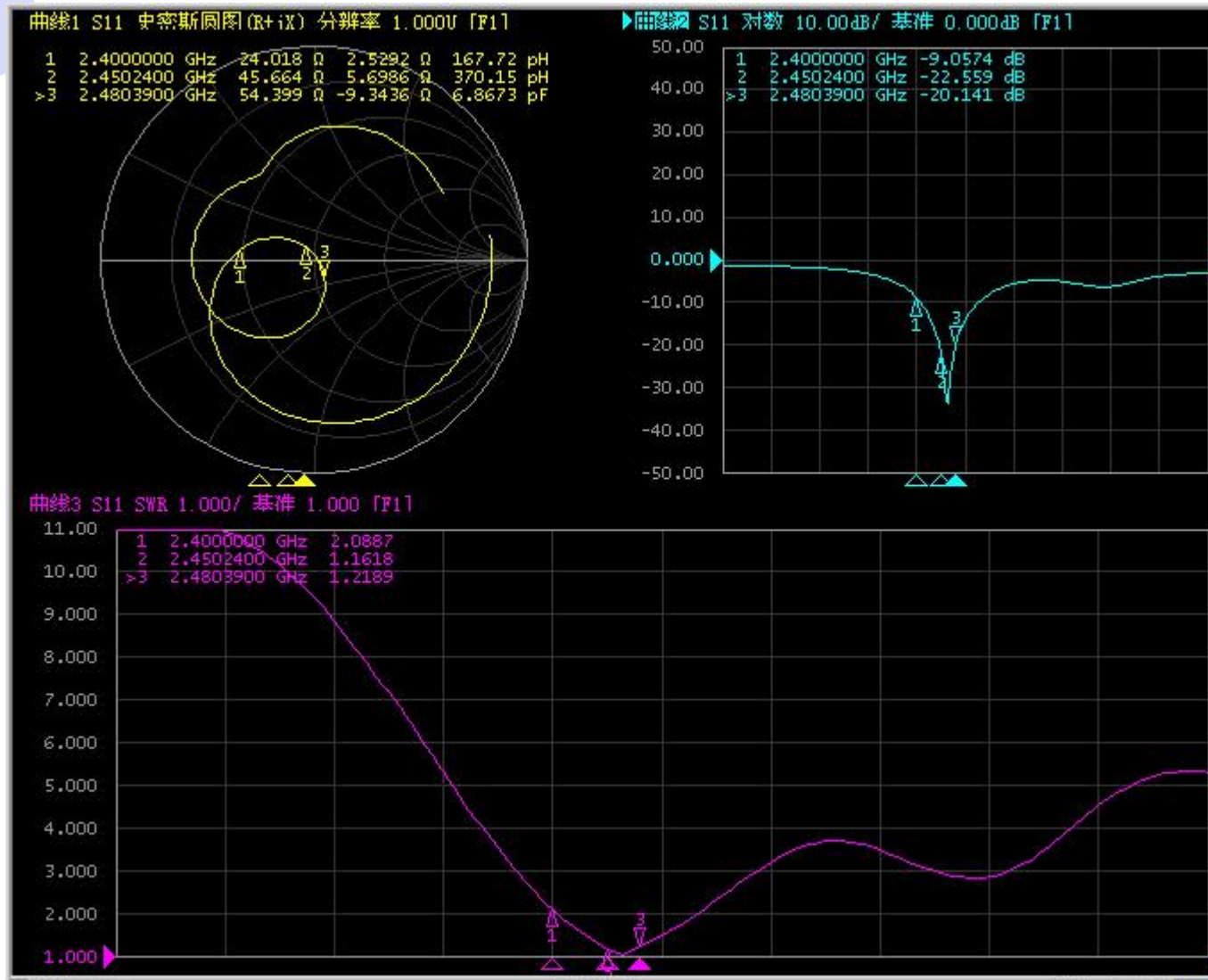


匹配参数

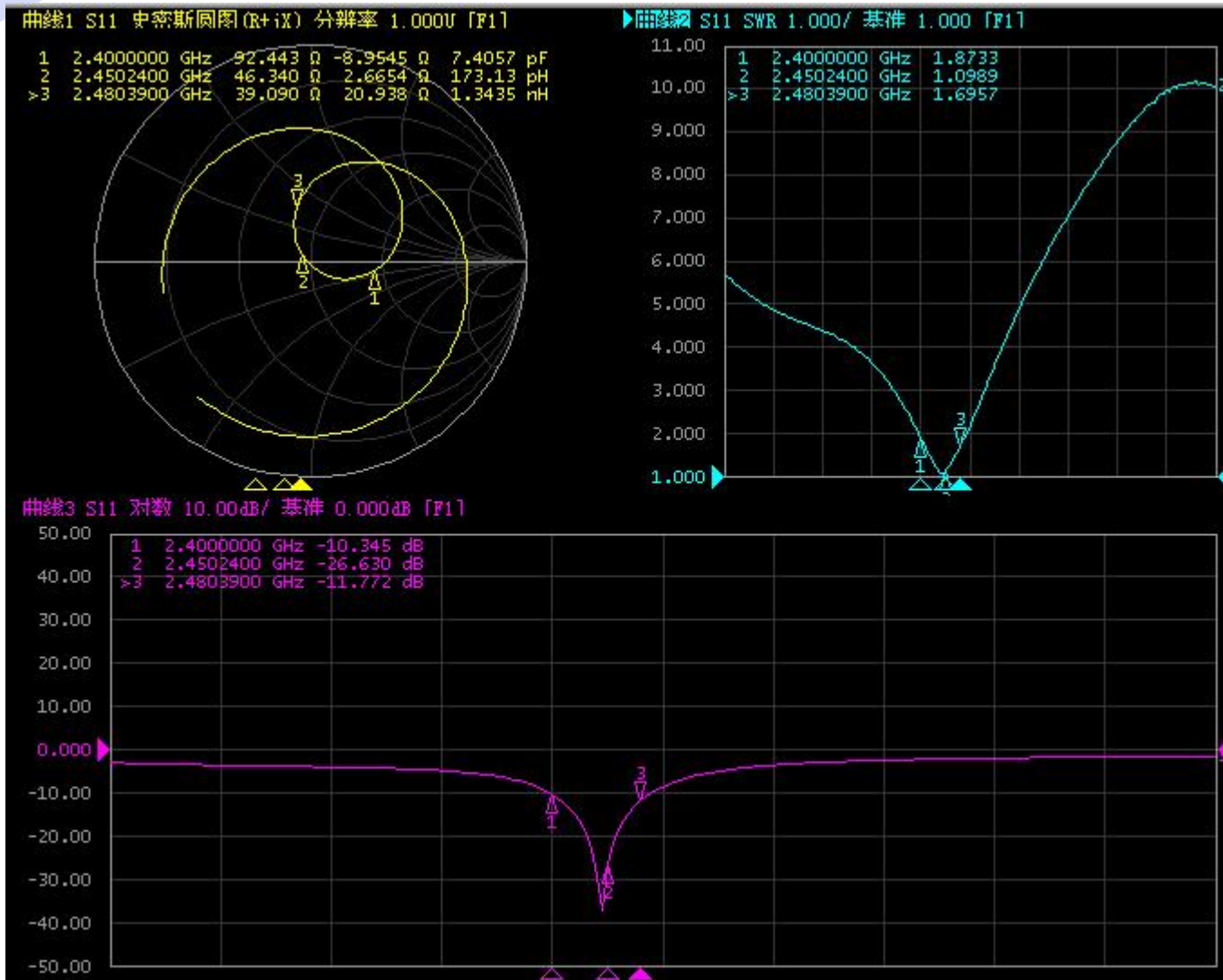
R/L共匹配 BT0054



无源S11—(BT ANT) R



无源S11—(BT ANT)-L



无源效率

Gain & Efficiency—**BT- ANT(L)**

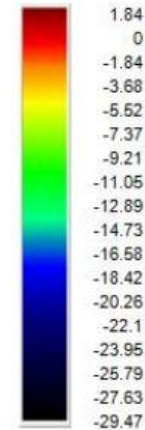
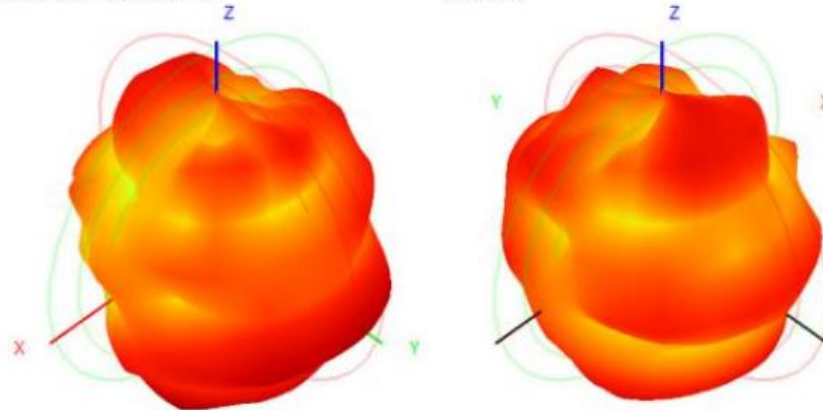
Frequency (MHz)	Peak GAIN (dBi)	Efficiency (%)
2400	-1.83	15.32
2410	-1.15	17.82
2420	-0.32	21.17
2430	0.31	25.84
2440	0.90	28.88
2450	1.84	31.87
2460	1.23	32.76
2470	1.28	33.33
2480	1.00	33.58
2490	0.38	31.76
2500	0.66	30.10

Test Result

2D&3D — BT- ANT

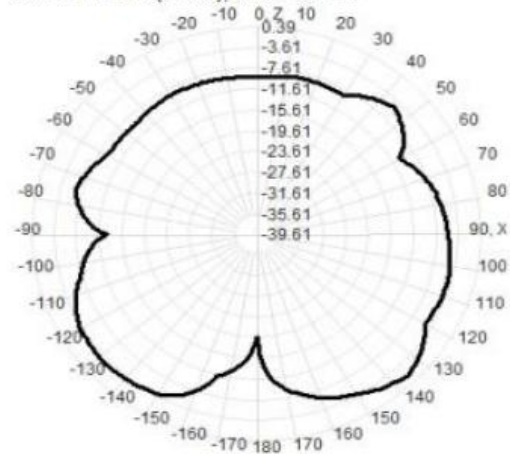
2450.0MHz H+V, Eff: 31.9%

Back View

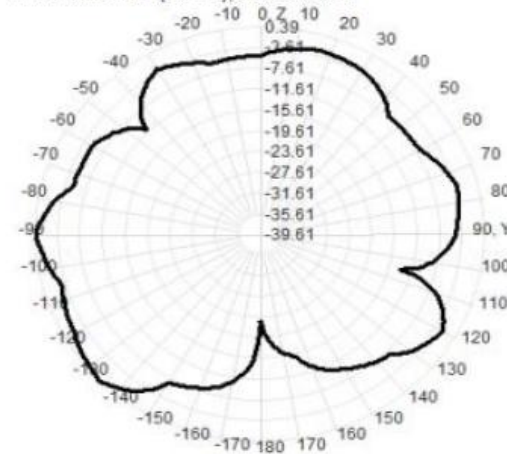


L边

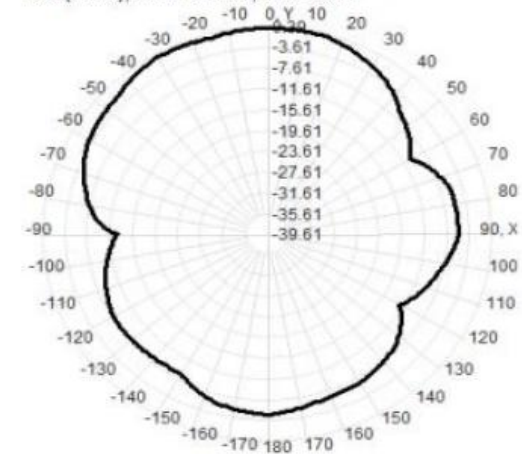
2450.0MHz Total(E1-XZ), Max= -1.48dBi



2450.0MHz Total(E2-YZ), Max= 0.39dBi



Total(H-XY), Max= 0.17dBi, CirD=13.17



无源效率

Gain & Efficiency—**BT- ANT(R)**

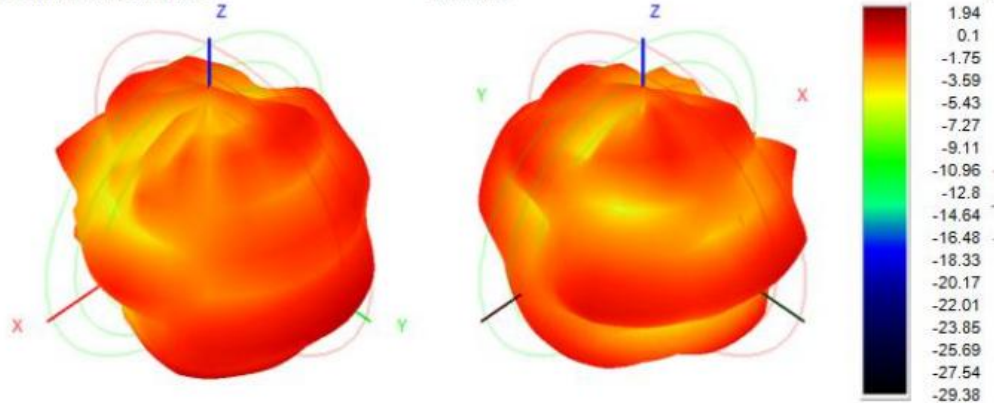
Frequency (MHz)	Peak GAIN (dBi)	Efficiency (%)
2400	-0.20	20.54
2410	0.08	22.39
2420	1.69	25.43
2430	2.39	29.22
2440	2.09	30.41
2450	1.94	31.90
2460	1.89	31.32
2470	1.49	30.47
2480	1.09	28.22
2490	0.71	26.33
2500	0.42	23.76

Test Result

2D&3D — BT- ANT

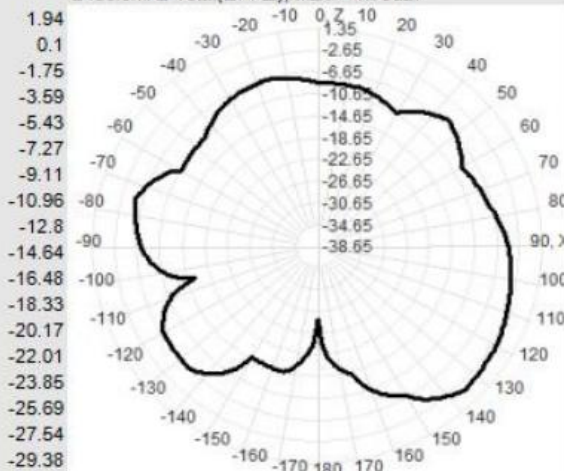
2450.0MHz H+V, Eff: 31.9%

Back View

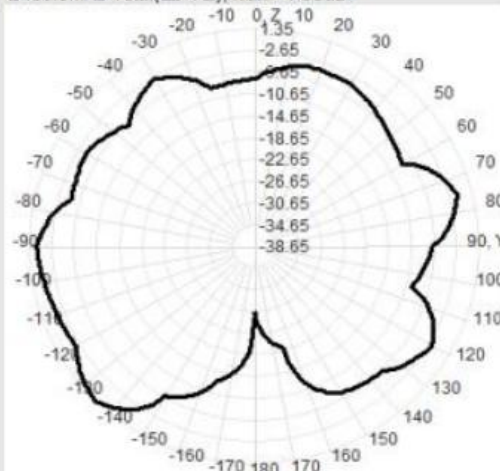


2. R边

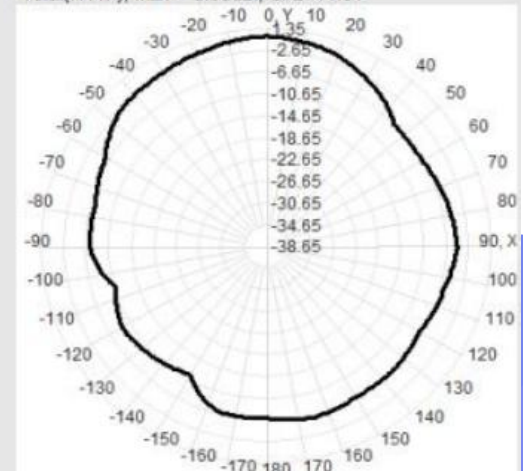
2450.0MHz Total(E1-XZ), Max=-1.70dBi



2450.0MHz Total(E2-YZ), Max= 1.35dBi



Total(H-XY), Max=-0.06dBi, CirD=11.61



客户组装样机测试

DVT2原始未拆机

1#	CH	L	R	2#	CH	L	R	3#	CH	L	R
TRP	0	1.63	-2.92	TRP	0	1.63	-2.92	TRP	0	1.63	-2.92
	38	3.95	0.04		38	3.95	0.04		38	3.95	0.04
	79	6.23	3.22		79	6.23	3.22		79	6.23	3.22
TIS	0	-81.1	-78.48	TIS	0	-81.1	-78.48	TIS	0	-81.1	-78.48
	38	-83.25	-81.31		38	-83.25	-81.31		38	-83.25	-81.31
	79	-84.63	-84		79	-84.63	-84		79	-84.63	-84
4#	CH	L	R	5#	CH	L	R	金样10#	CH	L	R
TRP	0	1.63	-2.92	TRP	0	1.63	-2.92	TRP	0	7.56	6.56
	38	3.95	0.04		38	3.95	0.04		38	6.85	6.45
	79	6.23	3.22		79	6.23	3.22		79	6.33	5.89
TIS	0	-81.1	-78.48	TIS	0	-81.1	-78.48	TIS	0	-89.3	-88.65
	38	-83.25	-81.31		38	-83.25	-81.31		38	-88.89	-86.78
	79	-84.63	-84		79	-84.63	-84		79	-86.78	-85.96

优化天线-自由空间

DVT2优化天线（自由空间）

1#	CH	L	R	2#	CH	L	R	3#	CH	L	R
TRP	0	7.56	6.63	TRP	0	7.73	6.5	TRP	0	7.42	7.32
	38	6.98	5.1		38	6.89	6.84		38	6.91	8.42
	79	6.45	5.13		79	5.05	6.24		79	6.13	7.55
TIS	0	-89.6	-87.05	TIS	0	-88.39	-88.85	TIS	0	-88.01	-82.84
	38	-88.5	-86.12		38	-86.06	-85.35		38	-86.3	-88.36
	79	-87.6	-86.17		79	-85.55	-85.92		79	-85.97	-86.83
4#	CH	L	R	5#	CH	L	R	金样10#	CH	L	R
TRP	0	7.23	6.98	TRP	0	6.42	6.53	TRP	0		
	38	6.95	6.21		38	6.18	5.76		38		
	79	6.39	5.27		79	5.94	5.69		79		
TIS	0	-88.3	-88.19	TIS	0	-86.59	-88.21	TIS	0		
	38	-87.4	-85.71		38	-85.59	-85.52		38		
	79	-85.95	-85.81		79	-85.68	-85.79		79		

优化天线-头模

DVT2优化天线（头模）

1#	CH	L	R	2#	CH	L	R	3#	CH	L	R
TRP	0	4.5	3.2	TRP	0	4.5	3.3	TRP	0	4.2	3.7
	38	3.6	2.7		38	3.5	3.4		38	3.7	3.6
	79	3.3	2.6		79	3.2	2.9		79	3.5	3.6
TIS	0	-85.6	-85.2	TIS	0	-85.1	-85.3	TIS	0	-84.9	-85.2
	38	-85.2	-84.6		38	-84.6	-85.2		38	-84.6	-84.8
	79	-85.1	-84.5		79	-84.5	-84.8		79	-84.3	-84.7
4#	CH	L	R	5#	CH	L	R	金样10#	CH	L	R
TRP	0	4.1	3.9	TRP	0	3.3	3.2	TRP	0		
	38	3.7	3.7		38	3.2	2.8		38		
	79	3.5	3.6		79	3.1	2.7		79		
TIS	0	-84.6	-85.3	TIS	0	-85.3	-85.6	TIS	0		
	38	-84.3	-84.7		38	-84.6	-84.6		38		
	79	-84.1	-84.6		79	-84.3	-83.6		79		

实景测试



测试场地：恒丰篮球场	测试手机	测试距离（360°）
	苹果6	16M
	华为P40	25M

Thanks for your comment!

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