

Antenna Specification

SHENZHEN KURUIJIE

**Our company's address: 5C407, Guangming
Huaqiang Technology Ecological Park, Fengen
Road, Guangming District, Shenzhen City,
Guangdong Province**

***Customer: Yaoyou
Project: RC3000***

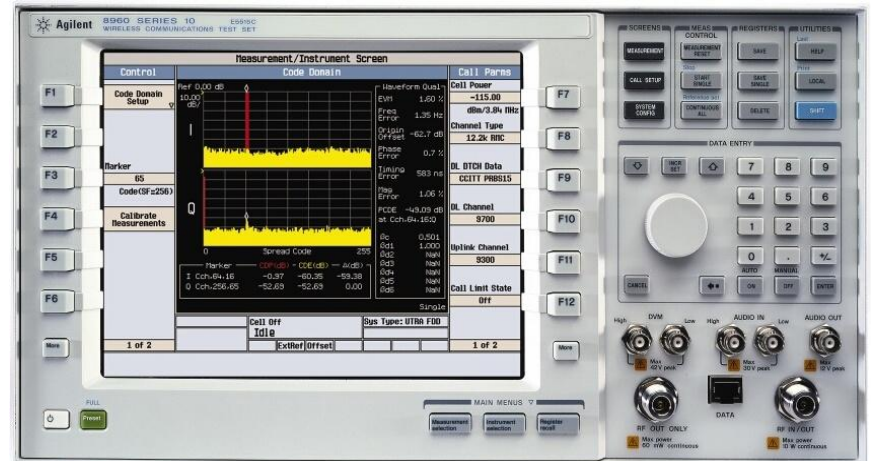
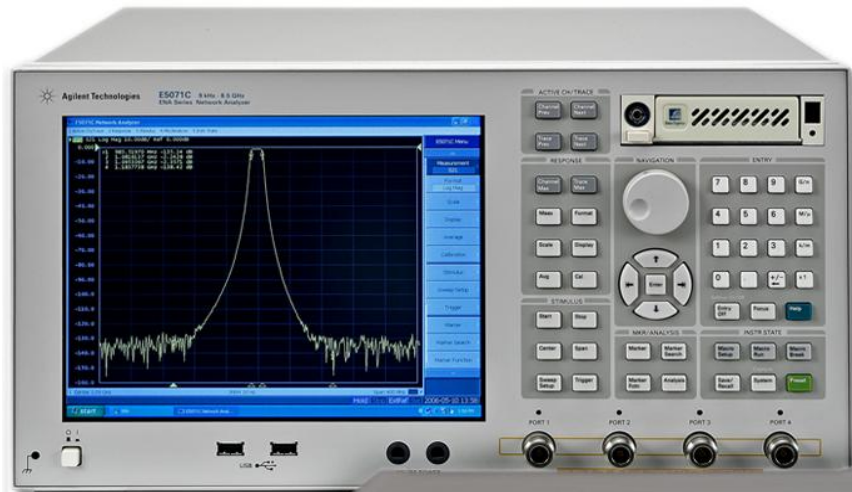
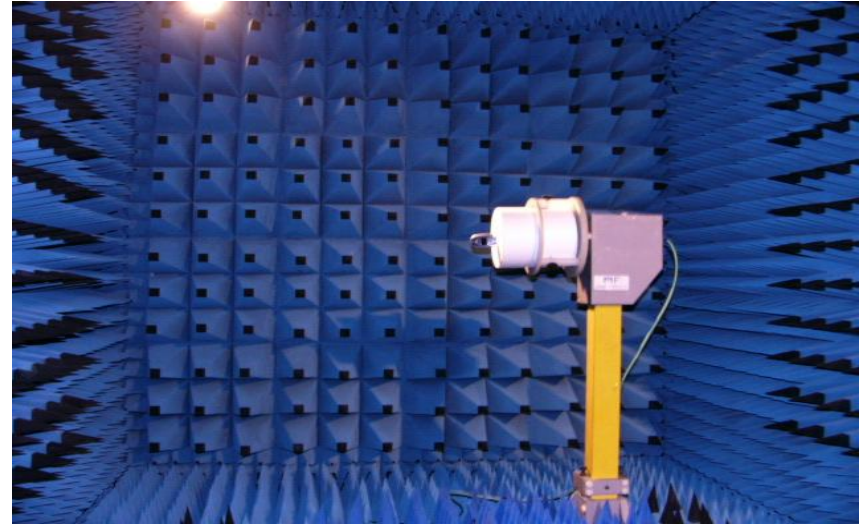
***RF Engineer: LIXIN
Testing Date: 2026.05.28***

Index:

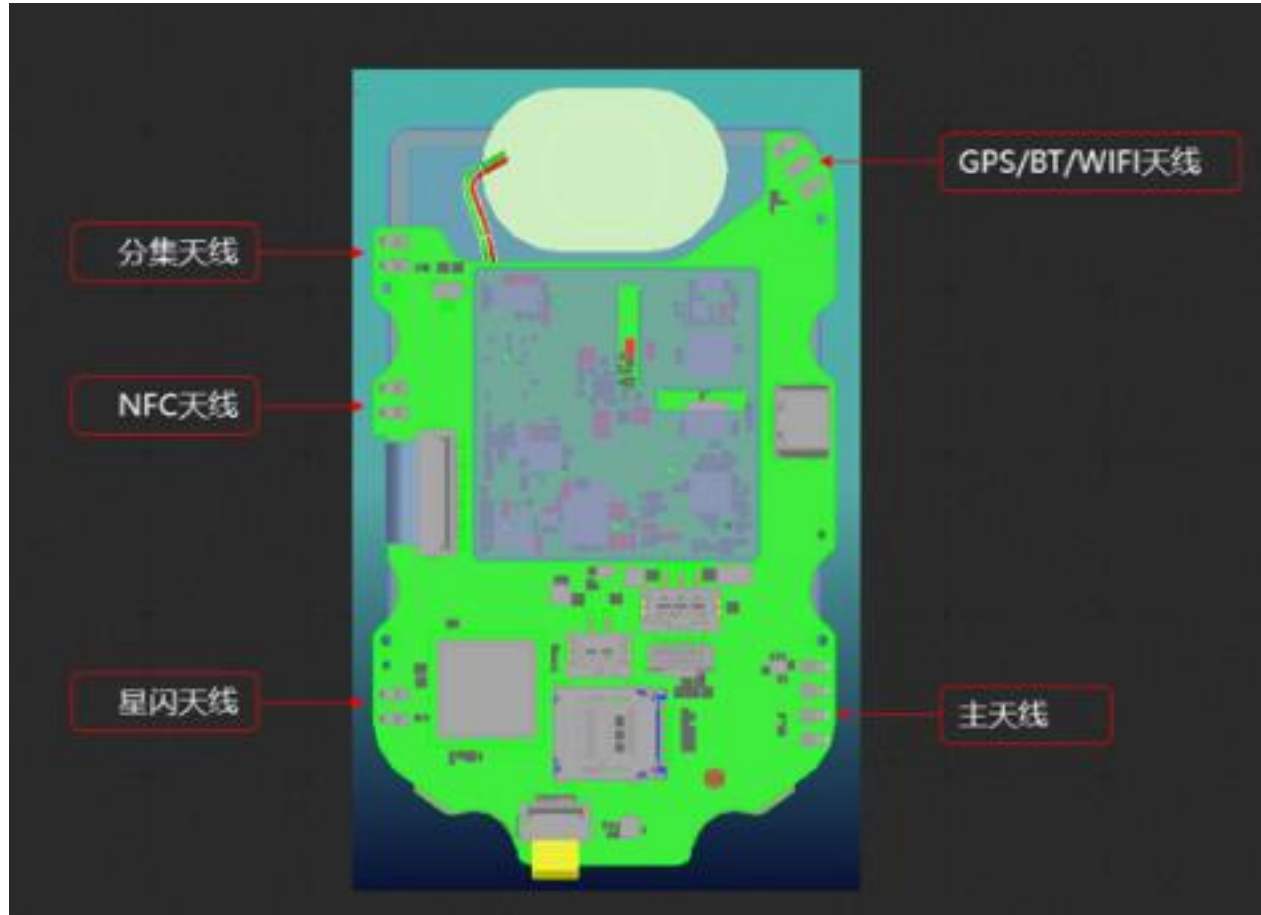
- 1. Testing Item & Equipments**
- 2. Matching Circuits**
- 3. Environmental Disposal**
- 4. Test Data**

1. The Equipment of Active Test

- 1: Anechoic Chamber 7x4x3 m (3D)
- 2: Rohde & Schwarz CMW500
- 3: AGILENT 8960 5515C
- 4: Network Analyzer-AGILENT ENA5071B



Distribution of motherboard antennas



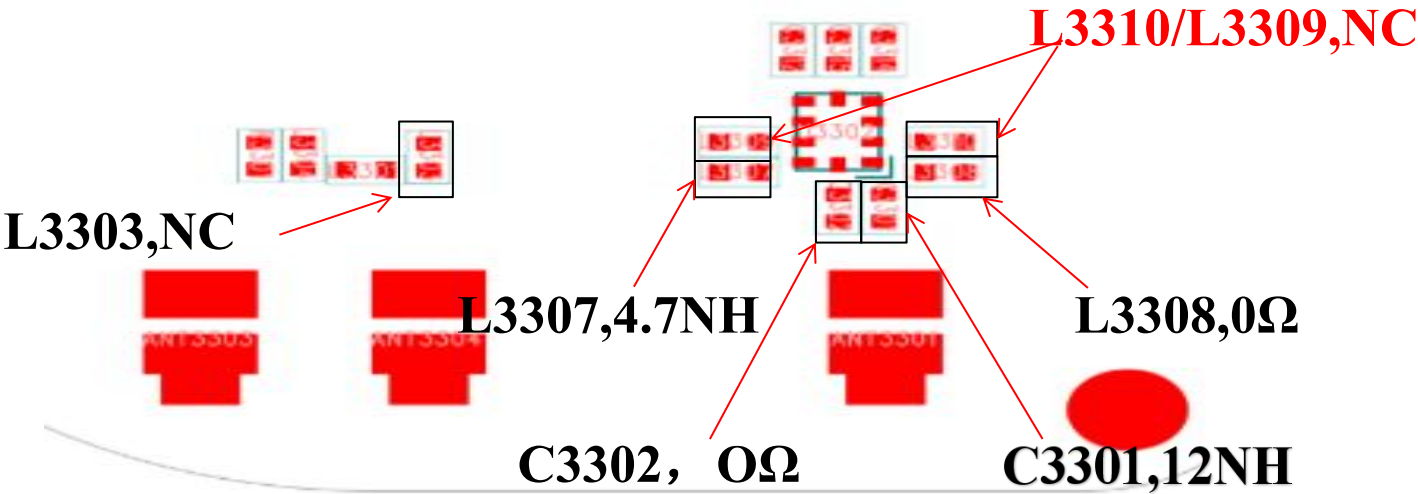
2. Project change records

Report version	Date	Description of chang
V1.0	2025.11.2 6	First version antenna
V1.1	2025.12.2 7	Readjust the main antenna (trial-produced motherboard)
V1.2	2026.01.0 5	Verification sample (trial-produced motherboard)
V1.3	2025.01.1 7	Increase antenna efficiency and gain

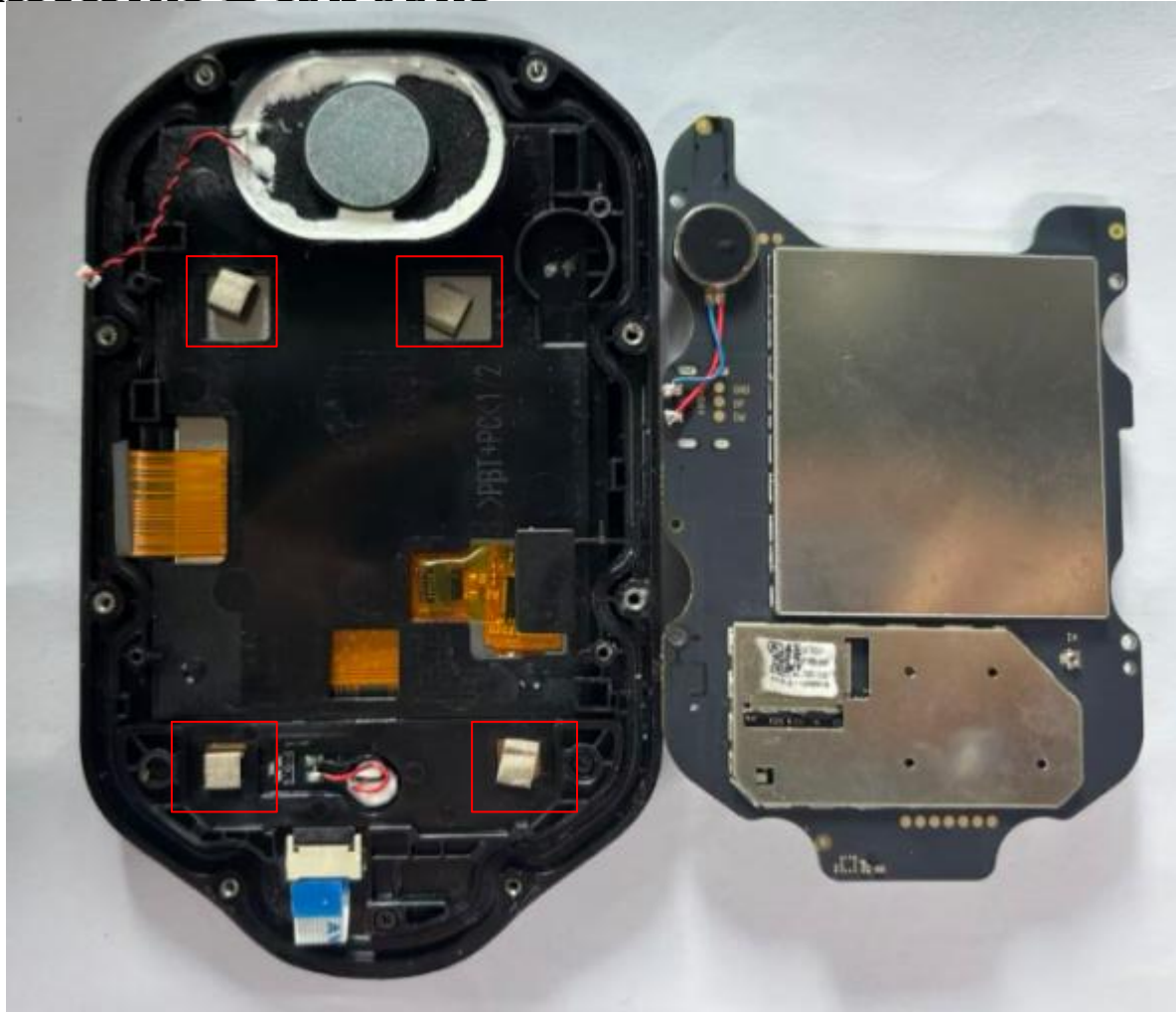
2. Matching Circuits-

Main antenna switch matching logic

Switch Path	Ref Des diagram	Matching parameter	2G	3G	4G
RF1	L3308	0 Ω		W1/2/4/8	B1/2/3/4/7/8/ 66/38/40/41
RF2	L3310	NC			B13
RF3	L3307	4.7NH		W5	B5/20
RF4	L33.9	NC			B12/17/28



3. Environmental Disposal



The copper-exposed area of the screen is connected to the conductive foam and grounded to the motherboard.

4. Test Data

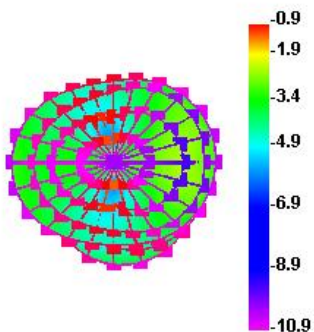
	TRP	TIS		TRP	TIS		TRP	TIS
WCDMA B1	18.2		LTE B1	18.6		LTE B13		
							15.2	-88.6
	18.5	-103.5		18.7	-90.4			
WCDMA B2	18.6		LTE B2	18.6		LTE B17	15.1	
	18.2	-103.3		18.8	-90.5		15.0	-90.2
WCDMA B4	18.3		LTE B3	18.5		LTE B20	18.1	
	18.4	-103.3		18.7	-91.1		17.6	-90.6
WCDMA B5	17.1		LTE B4	18.6		LTE B28	14.8	
	17.5	-103.1		18.4	-91.2		15.1	-90.0
WCDMA B8	18.1		LTE B5	18.0		LTE B66	18.3	
	17.8	-103.3		17.8	-90.4		18.5	-91.2
			LTE B7	18.4		LTE B38	17.6	
				17.6	-90.3		17.2	-91.1
			LTE B8	18.2		LTE B40	18.2	
				18.0	-91.0		18.3	-90.2
			LTE B12	15.2		LTE B41	17.0	
				15.0	-90.1		17.5	-90.2

Main antenna gain and efficiency

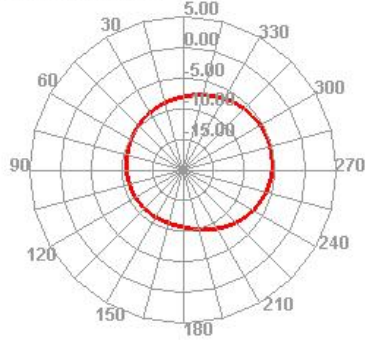
Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
700	9.4.66	-5.52	1760	36.91	0.92	2300	43.36	1.02
710	10.18	-5.48	1770	38.6	0.85	2310	41.55	1.34
720	11.13	-5.46	1780	36.36	0.65	2320	45.83	1.49
730	11.98	-5.68	1790	38.46	0.55	2330	43.72	1.23
740	13.32	-5.29	1800	36.68	0.22	2340	42.97	1.05
750	14.38	-5.15	1920	41.4	0.2	2350	45.01	1.31
760	14.9	-5.23	1930	40.89	0.08	2360	43.38	1.14
770	13.29	-5.91	1940	43.99	0.19	2370	46.56	1.42
780	14.41	-5.66	1950	47.45	0.46	2380	45.02	1.25
790	14.62	-5.44	1960	47.21	0.5	2390	46.41	1.44
800	15.43	-5.68	1970	48.37	0.78	2400	44.27	1.35
810	18.66	-5.83	1980	48.65	0.95	2500	43.82	0.39
820	24.13	-2.49	1990	46.76	1.21	2510	43.37	0.82
830	26.74	-1.99	2000	44.75	1.4	2520	42.85	0.42
840	25.23	-2	2010	44.33	1.33	2530	41.38	0.45
850	24.4	-1.04	2020	48.54	1.74	2540	45.41	0.27
860	23.96	-1.53	2030	45.48	1.57	2550	41.4	-0.12
870	24.67	-1.49	2040	49.73	1.84	2560	44.32	0.26
880	22.46	-1.75	2050	46.5	1.53	2570	39.68	-0.19
890	20.3	-1.33	2060	43.34	1.23	2580	42.89	0.16
900	27.64	-1.21	2070	41.23	1.12	2590	41.83	0.05
910	20.41	-1.51	2080	46.63	0.81	2600	38.35	-0.25
920	34.84	-1.25	2090	42.14	1.42	2610	38.09	-0.29
930	32.21	-0.87	2100	49.82	1.32	2620	38.07	-0.46
940	33.16	-1	2110	44.36	1.24	2630	38.69	-0.47
950	35.4	-1.43	2120	49.8	1.65	2640	36.48	-0.37
960	27.52	-2	2130	45.96	1.32	2650	35.04	-0.68
1710	30.95	0.8	2140	46.15	1.36	2660	32.74	-0.13
1720	34.8	1.03	2150	45.59	1.14	2670	32.73	-0.09
1730	33.93	0.82	2160	45.26	1.32	2680	31.45	-0.24
1740	32.21	1.16	2170	41.46	1.08	2690	31.31	-0.34
1750	32.58	0.85				2700	32.93	-0.13

Main antenna Apple diagram

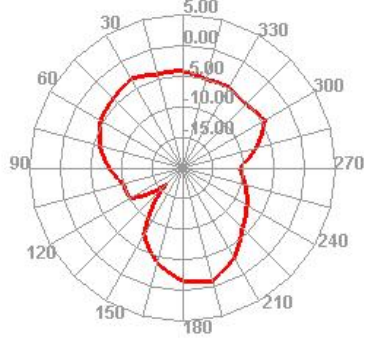
930.000MHz



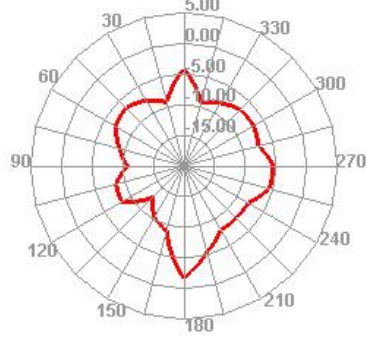
930.000MHz H



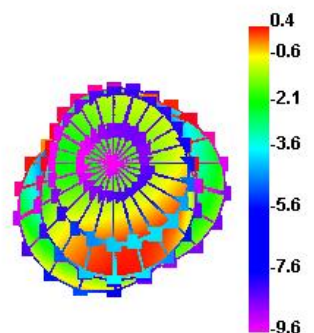
930.000MHz E1



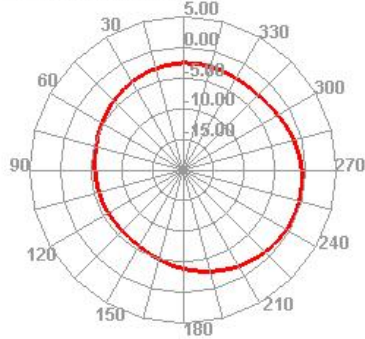
930.000MHz E2



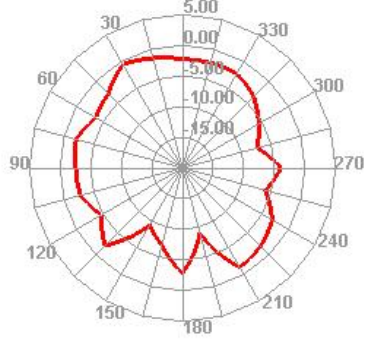
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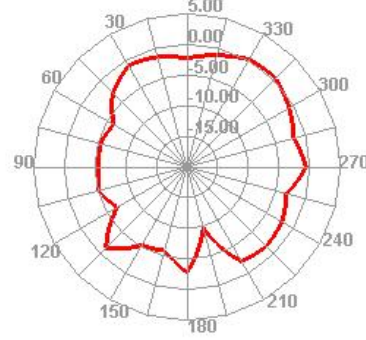
1850.000MHz H



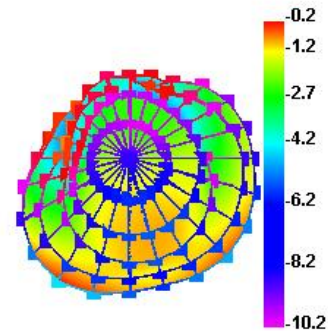
1850.000MHz E1



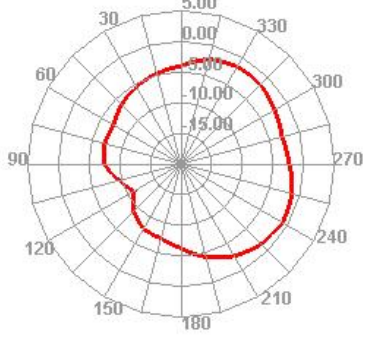
1850.000MHz E2



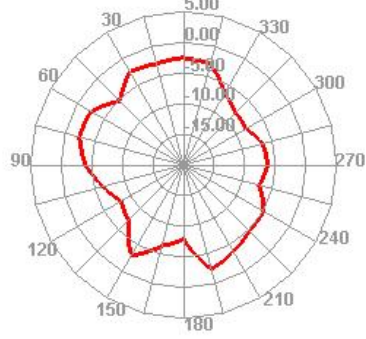
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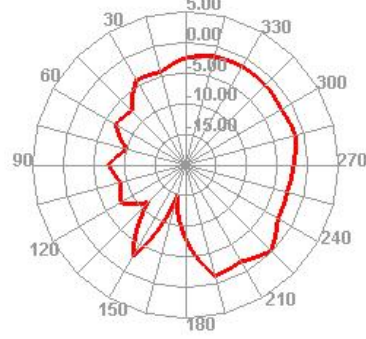
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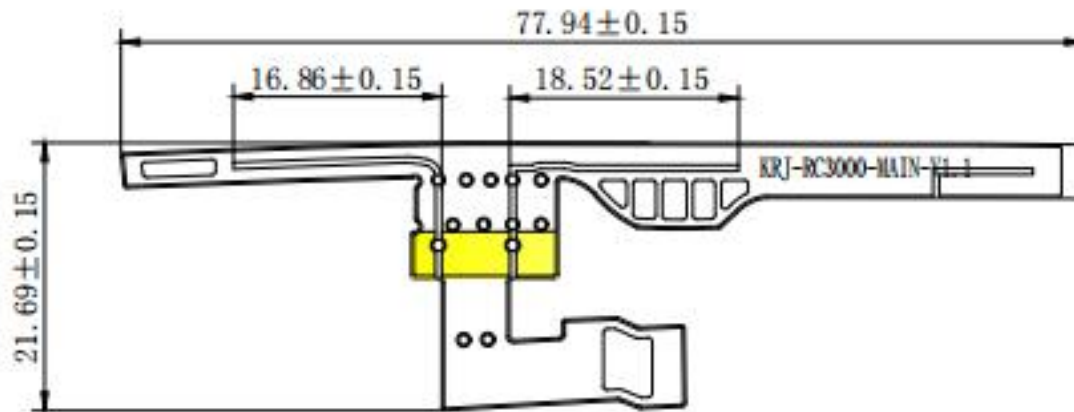
2600.000MHz E1



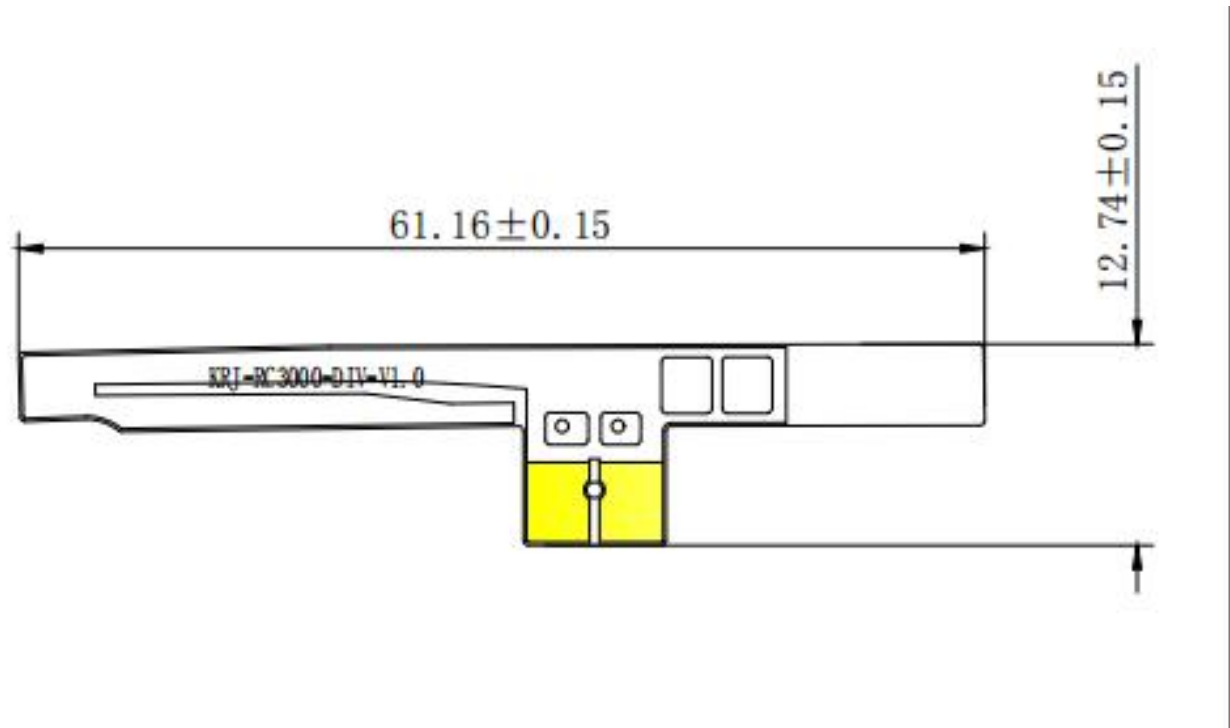
2600.000MHz E2



Dimensions of the main antenna diagram file



**Dimensions of the diversity antenna
diagram file**



5.GPS / WIFI

GPS Field Test Report

position	Test results
Our company's second-floor platform	Cold start positioning in 60 seconds, maximum CN value of 41.0, and the number of available stars is more than 5..

	WIFI2.4G(b/11m)		
	1	6	11
TRP	13.0	14.5	14.2
TIS	-81.1	-81.2	-81.1
	WIFI5.8G(a/54m)		
	36		165
TRP	9.0		10.1
TIS	-70.3		-71.0



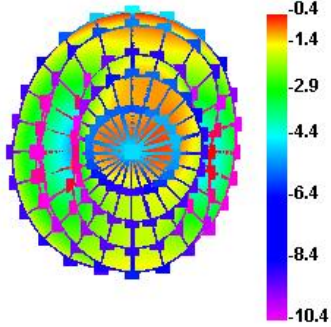
Three or more GPS signals with a strength of 40 or above can be received on the second floor of our company.

Gain and efficiency of GPS/WIFI/BT antennas

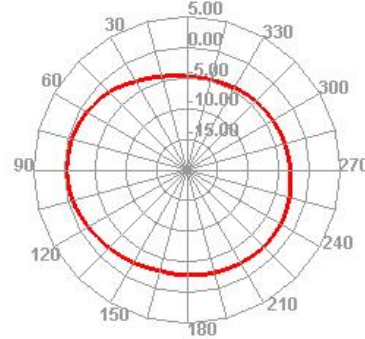
Passive Test For GPS		
Freq (MHz)	Effi (%)	Gain (dBi)
1575	39.11	1.89
2400	29.98	-0.49
2410	30.31	0.23
2420	32.74	0.43
2430	33.68	0.47
2440	35.02	0.41
2450	37.32	0.71
2460	35.71	0.56
2470	35.27	0.34
2480	34.71	0.54
2490	33.64	0.64
2500	33.25	0.65
5100	44.21	3.14
5200	39.64	2.75
5300	38.68	3.19
5400	38.81	3.21
5500	48.92	3.14
5600	53.51	3.81
5700	40.93	2.2
5800	36.77	3.38

GPS/WIFI/BT antenna Apple diagram

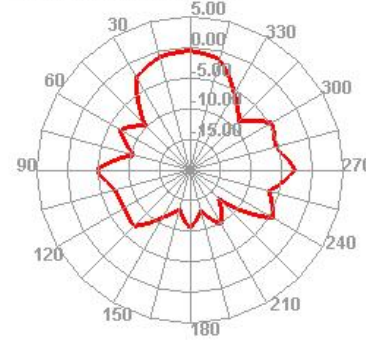
1575.000MHz



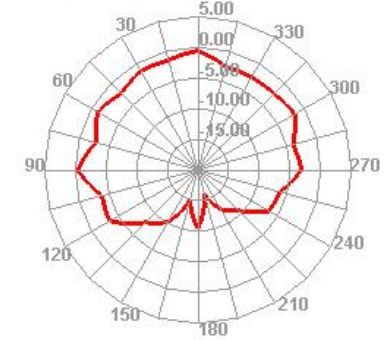
1575.000MHz H



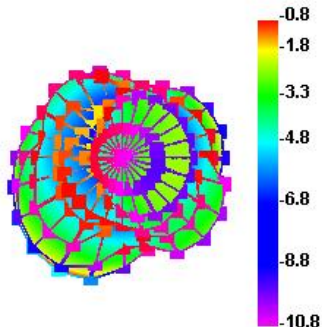
1575.000MHz E1



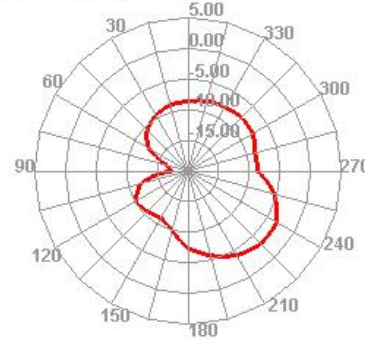
1575.000MHz E2



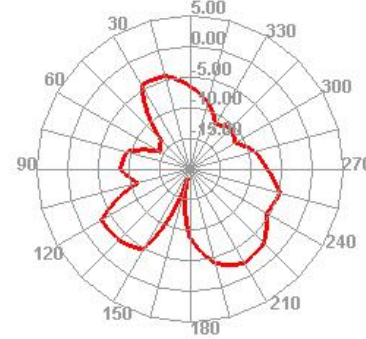
2450.000MHz



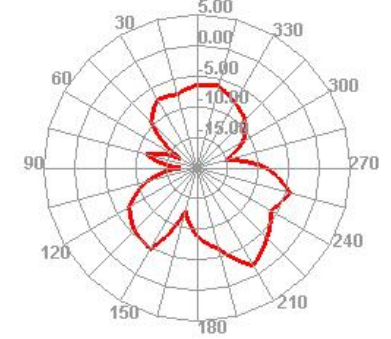
2450.000MHz H



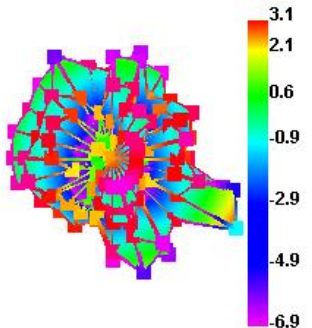
2450.000MHz E1



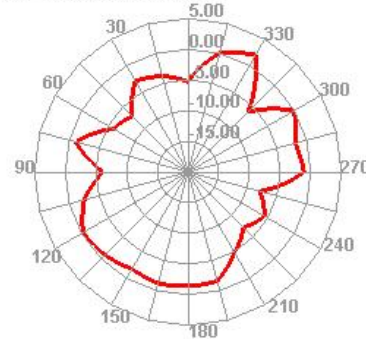
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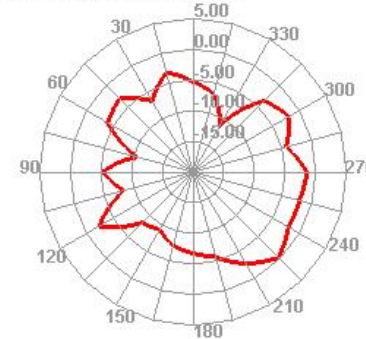
5500.000MHz



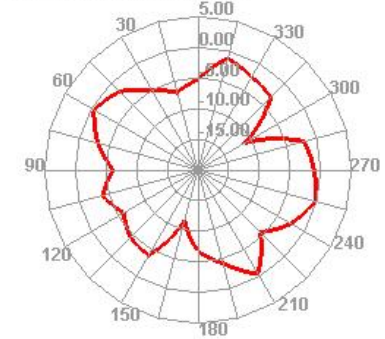
5500.000MHz H



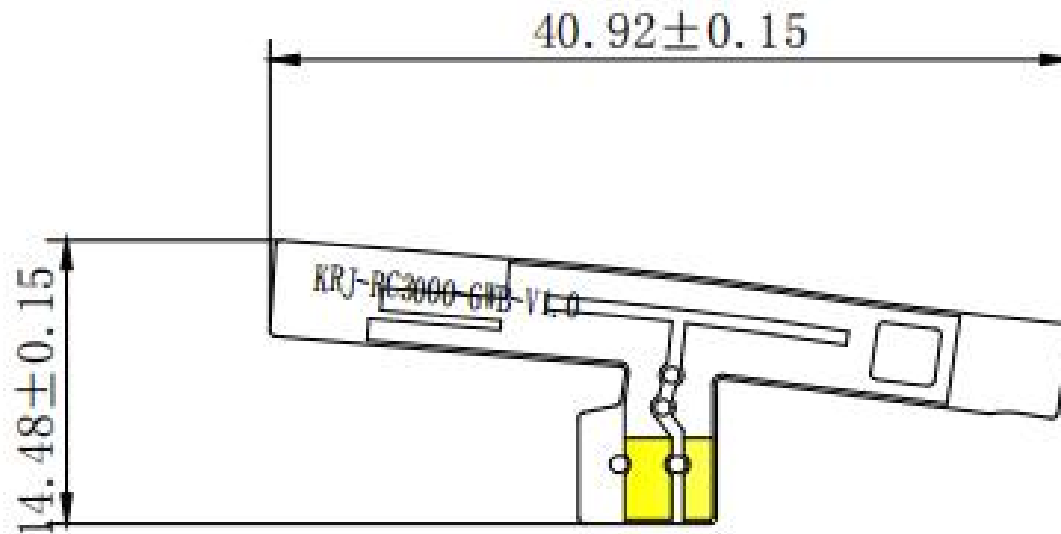
5500.000MHz E1



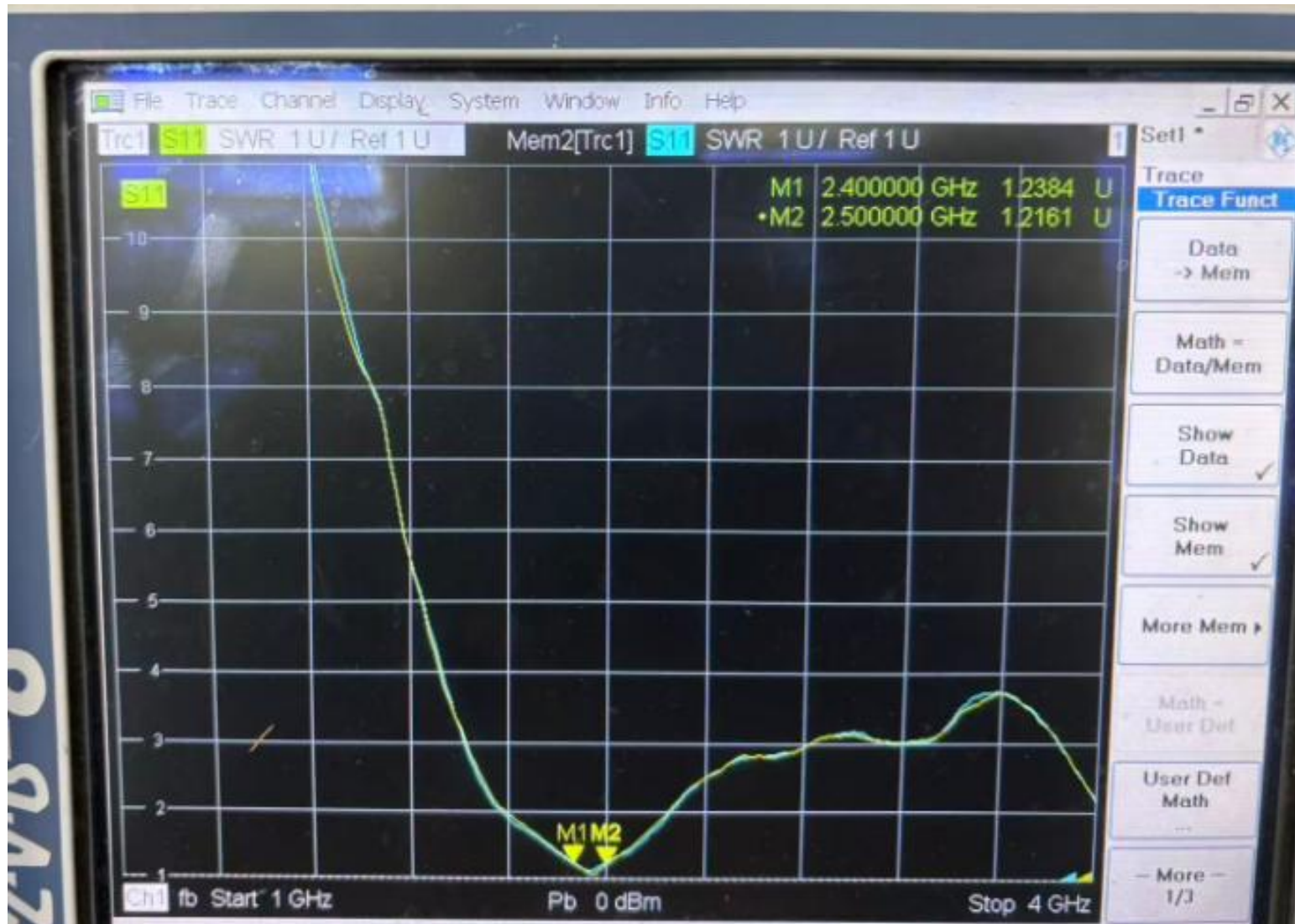
5500.000MHz E2



Dimensions of GPS/WIFI/BT antenna drawings



5.SmartFlash antenna

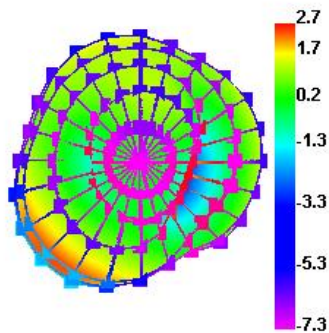


SmartFlash antenna efficiency and gain

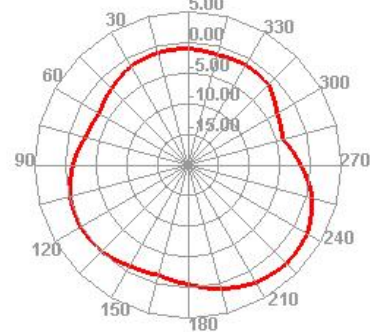
Passive Test For 星闪		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	39. 2	1. 42
2410	40. 56	1. 44
2420	47. 46	1. 59
2430	41. 08	1. 45
2440	48. 73	1. 46
2450	49. 58	1. 47
2460	47. 76	1. 53
2470	46. 48	1. 58
2480	45. 12	1. 62
2490	45. 49	1. 57
2500	44. 61	1. 38

SmartFlash antenna radiation pattern

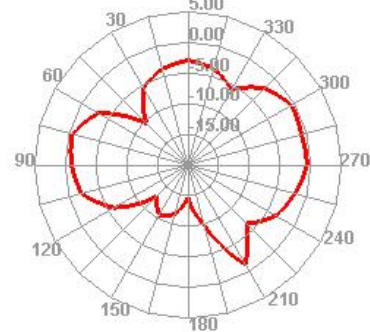
2400.000MHz



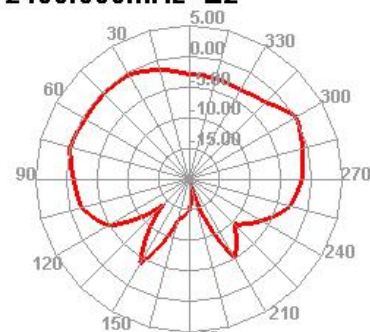
2400.000MHz H



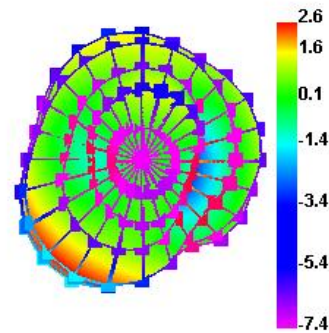
2400.000MHz E1



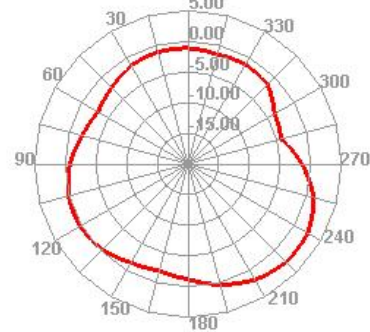
2400.000MHz E2



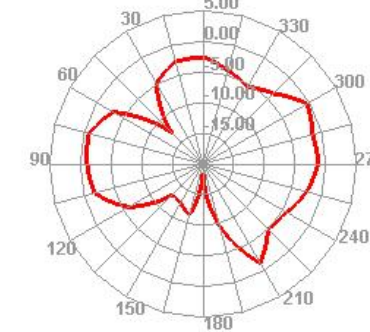
2450.000MHz



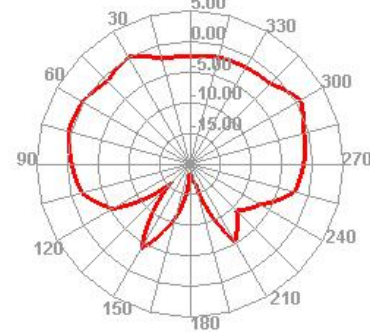
2450.000MHz H



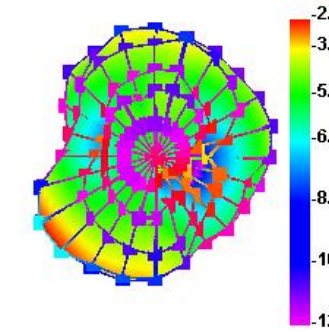
2450.000MHz E1



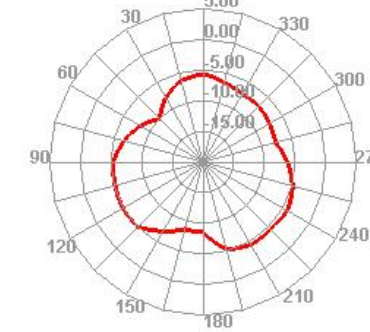
2450.000MHz E2



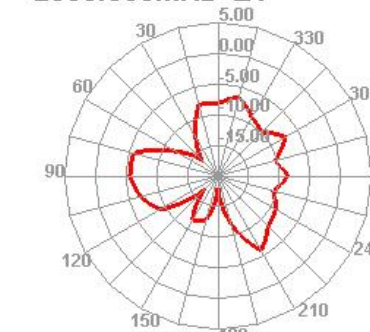
2500.000MHz



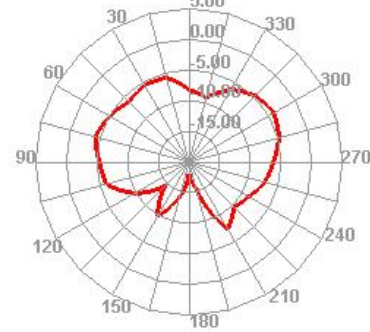
2500.000MHz H



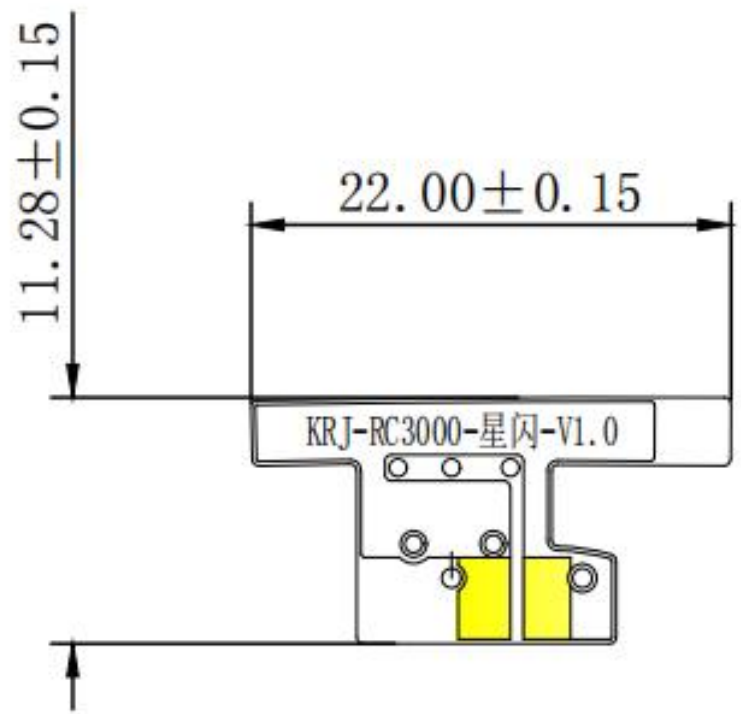
2500.000MHz E1



2500.000MHz E2



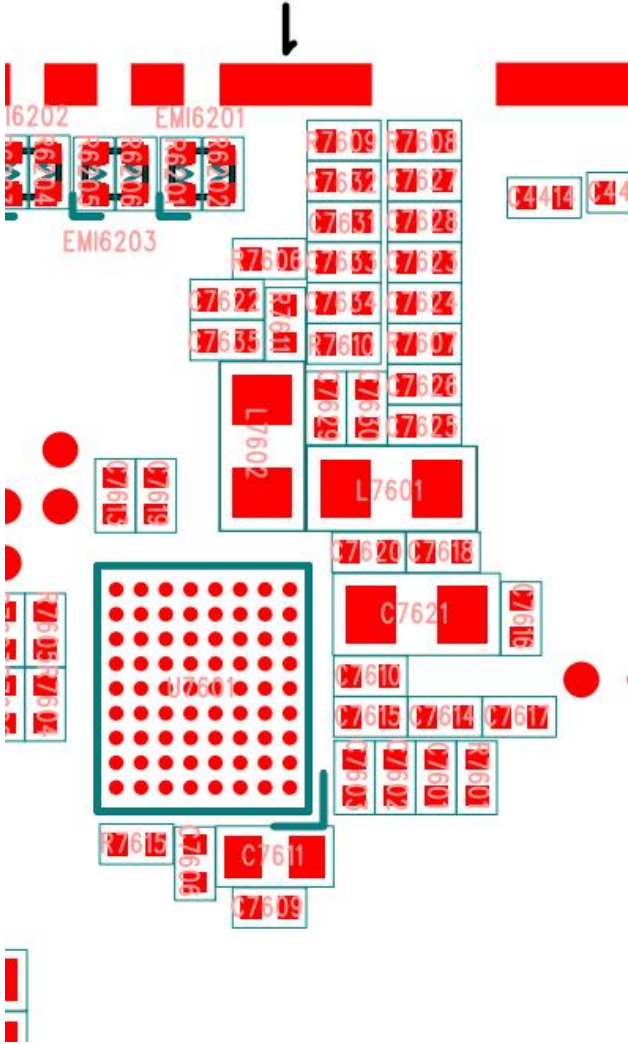
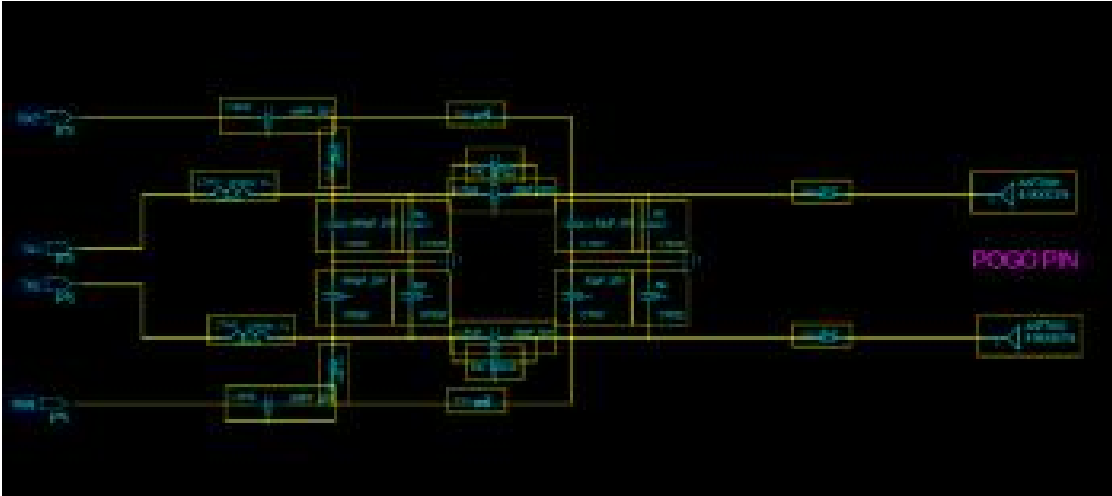
**Dimensions of SmartFlash
antenna drawings**



6. NFC matching modification

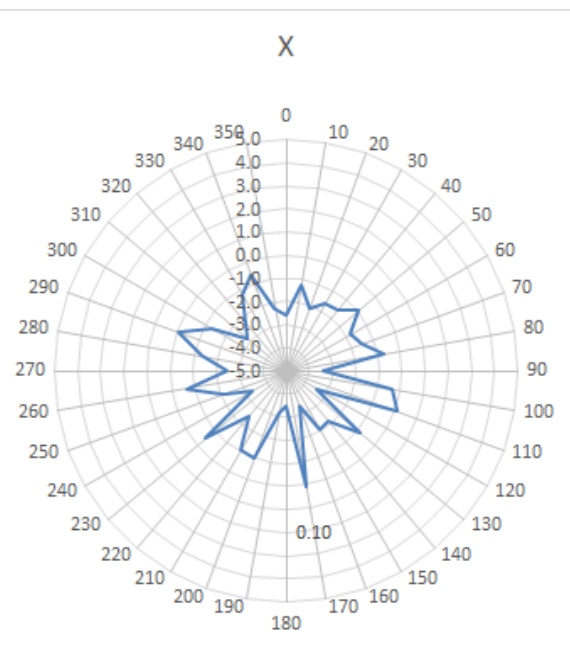
Ref	Original	Revised
L7601/L7602	160nH	160nH
C7625/C7629	680pF	680pF
C7626/C7630	NC	NC
C7624/C7633	68pF	68pF
C7623/C7634	NC	NC
C3127/C3128	NC	NC
C7627/C7631	82PF	150pF
C7628/C7632	NC	NC

Note: Red items indicate matching modifications; black items represent unchanged patch status.

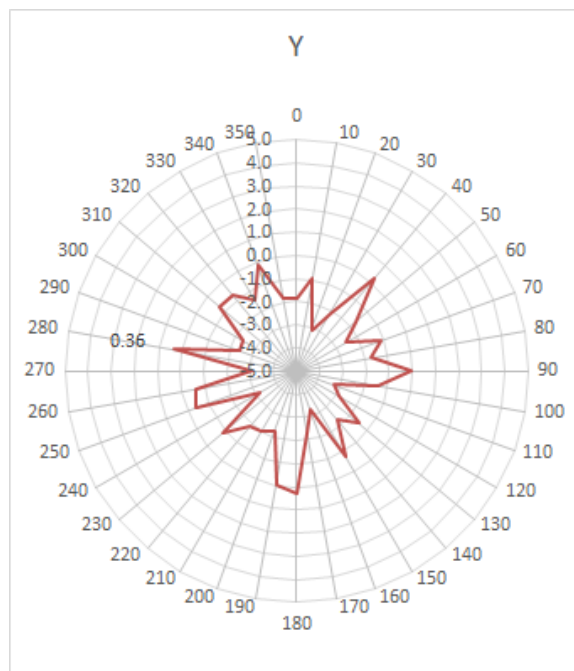


Gain
NFC:0.5dBi

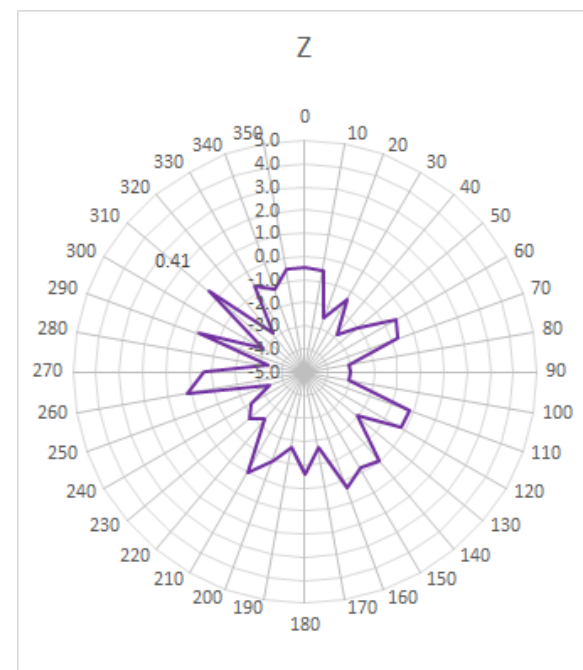
X



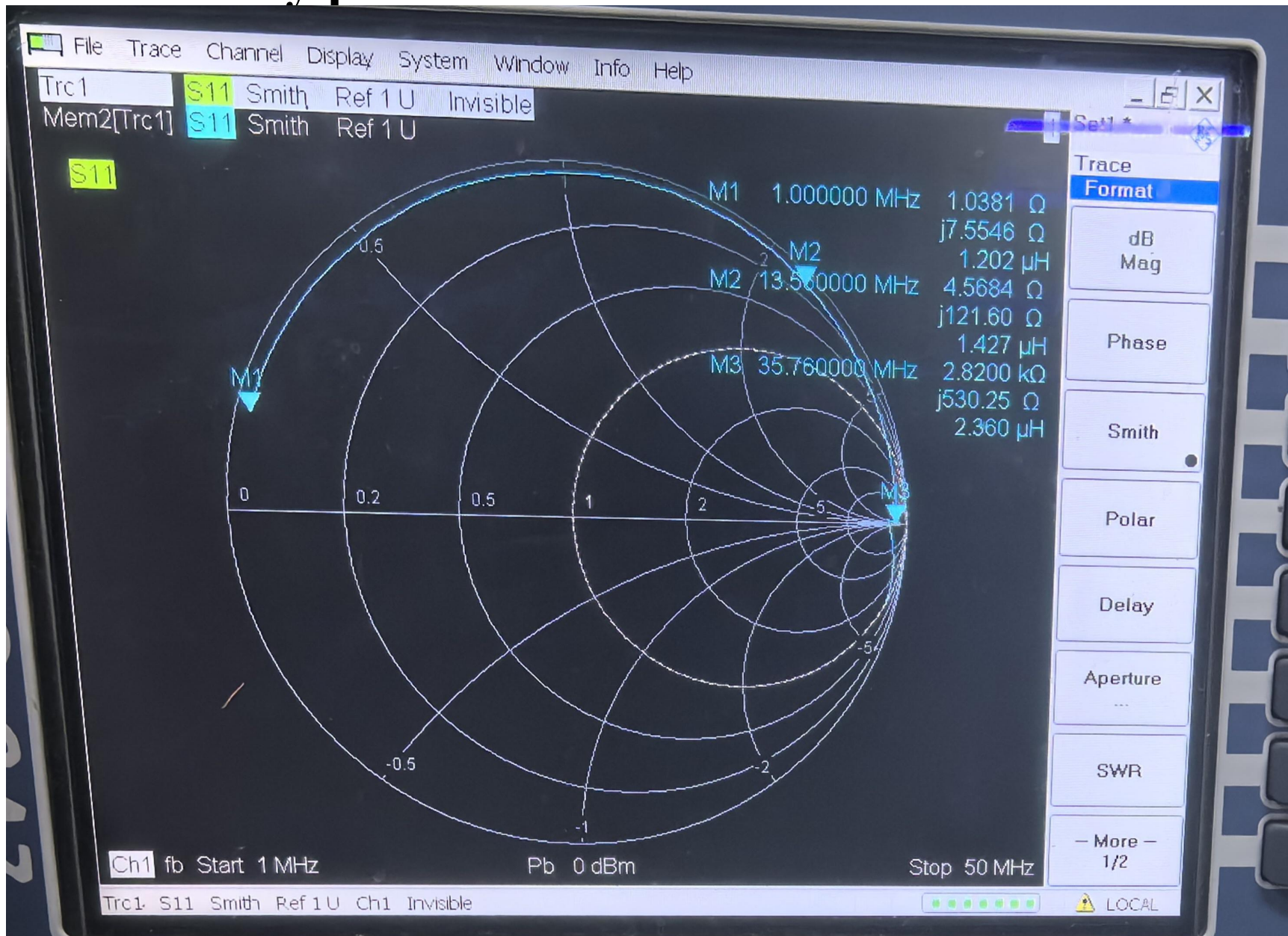
Y



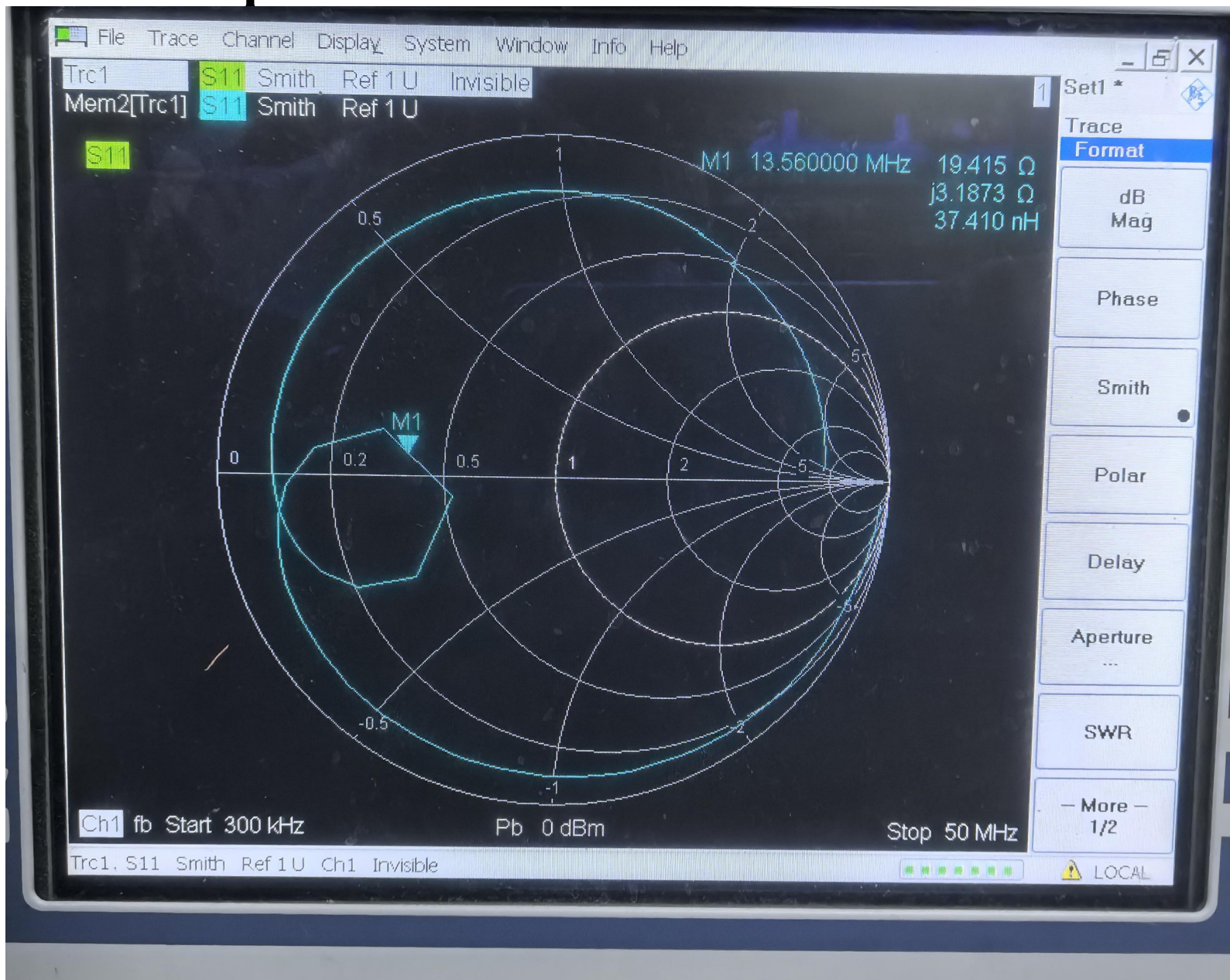
Z



Antenna body parameters



Antenna impedance



NFC overall performance



project	RC3000	
classification	Test card	Test results
Reader mode communication distance	IOS 15693	50mm
	Card 2	30mm
	Card 4	18mm
	Card B / ID card	15mm
	Transit card	30mm

NFC antenna drawing dimensions

