

Customer : MIAOIN

Project Name:

RF Engineer:

Testing Date: 2022-9-8

FrequencyRange:WIFI

[illegible]

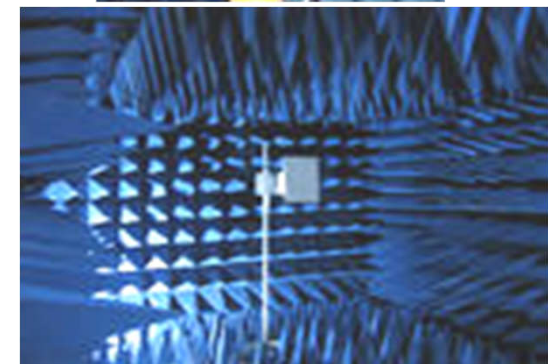
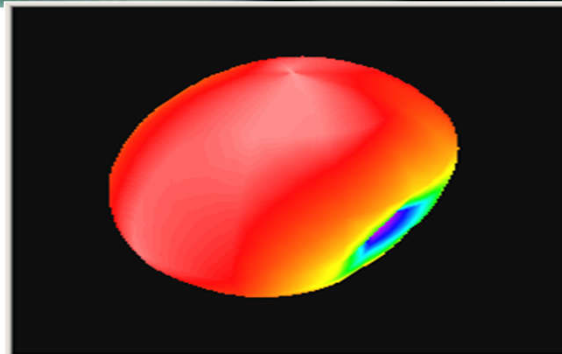
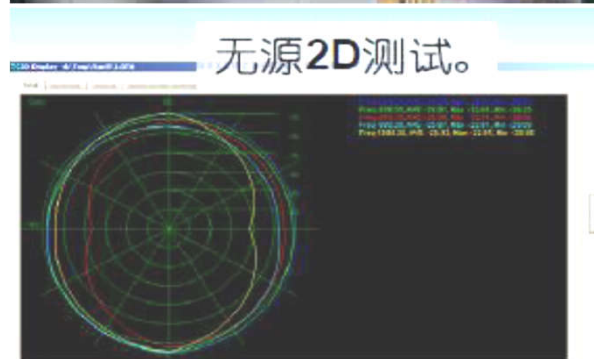
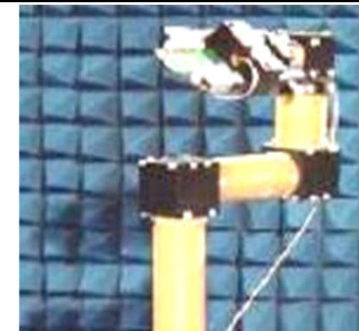


1. Project brief

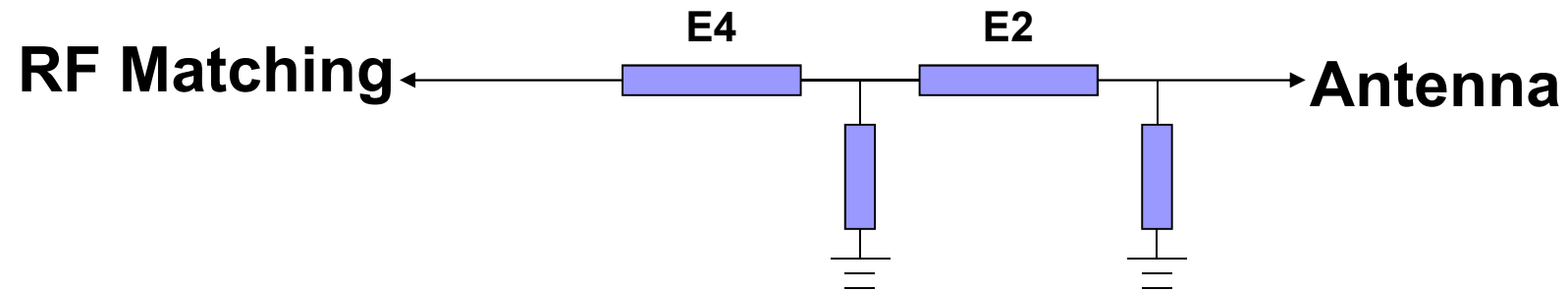
NO.	ITEMS	DETAILS	
1	Operating band	5G/2.4	
2	Frequency range	5.15-5.85G	
3	Antenna Type	IFA antenna	
4	material	CU+Plastic	
5	The mainboardversion		
6	InputImpedance	50 (Ω)	
7	Gain		
8	Polarization	Vertical polarization+horizontal polarization	
RF			
ME			

2. Test system and equipment

	Test Item	Test equipment
1. S parameter	1. Return loss 2. Standing wave ratio	network analyzer: HP 8753D
2. Coupling Power test	1. Transmitting power 2. Receiving sensitivity	GSM Tester: Agilent 8960 E5515C
3. Radiation pattern & gain	1. Radiation pattern 2. Antenna gain	1. darkroom: 7x4x3 m (ETS-3D) 2. network analyzer: HP 8753D



3. Matching circuits

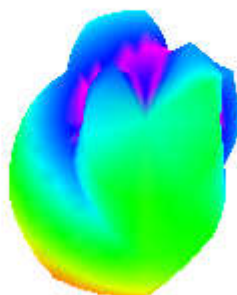


**No modification of
matching circuit**

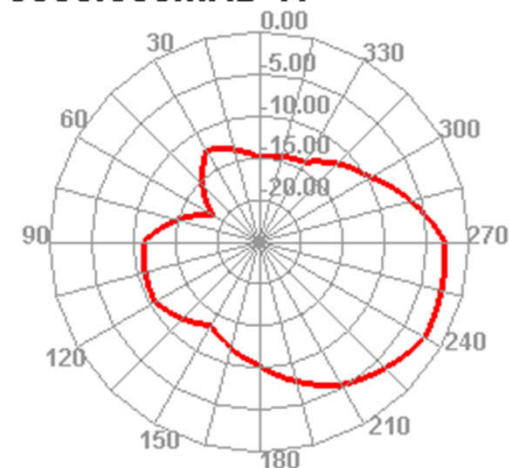
4.Active result (5G) antenna (External)

Freq (MHz)	Effi (%)	Gain (dBi)
5150	45.62	-0.75
5200	41.62	-2.28
5250	40.29	-2.46
5300	42.48	-1.68
5350	45.76	-0.63
5400	49.89	0.62
5450	46	-0.26
5500	43.29	-1.1
5550	44.47	-0.57
5600	49.06	0.52
5650	54.48	1.9
5700	52.65	1.62
5750	48.26	0.9
5800	51.75	1.81
5850	59.81	3.23

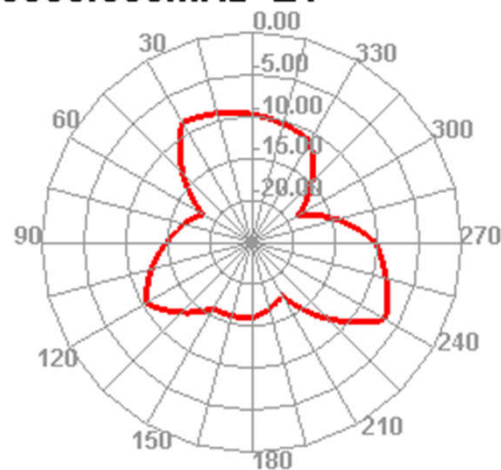
5500.000MHz



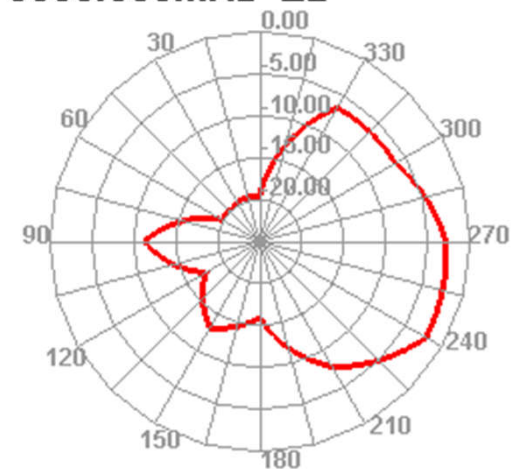
5500.000MHz H



5500.000MHz E1



5500.000MHz E2



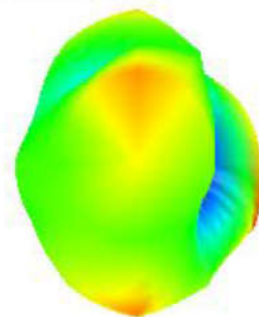
4.Active result (2.4G) antenna (External)



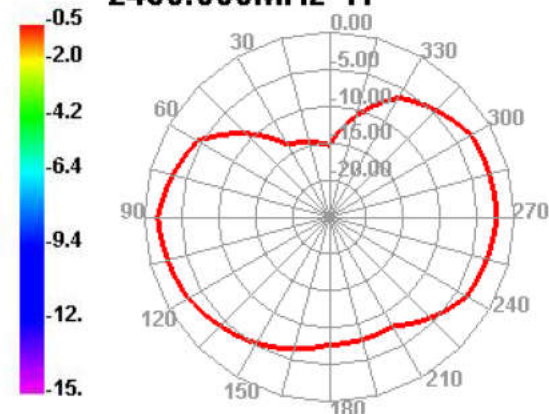
无源数据

Passive Test For wifi 2.4G		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	45.18	2.19
2410	46.05	2.4
2420	47.57	2.55
2430	48.29	2.68
2440	50.14	3.09
2450	51.8	3.14
2460	50.46	3.11
2470	48.95	2.91
2480	46.75	2.58
2490	45.46	2.26
2500	44.26	2.11

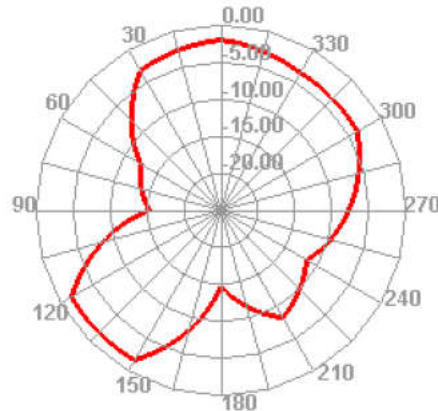
2450.000MHz



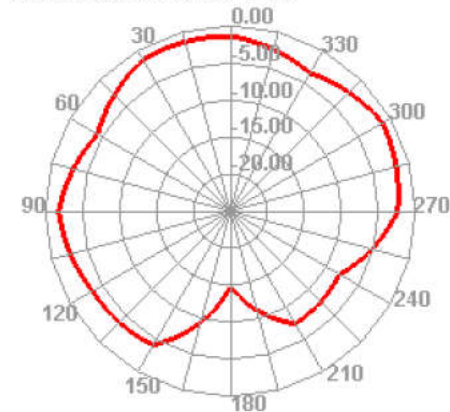
2450.000MHz H



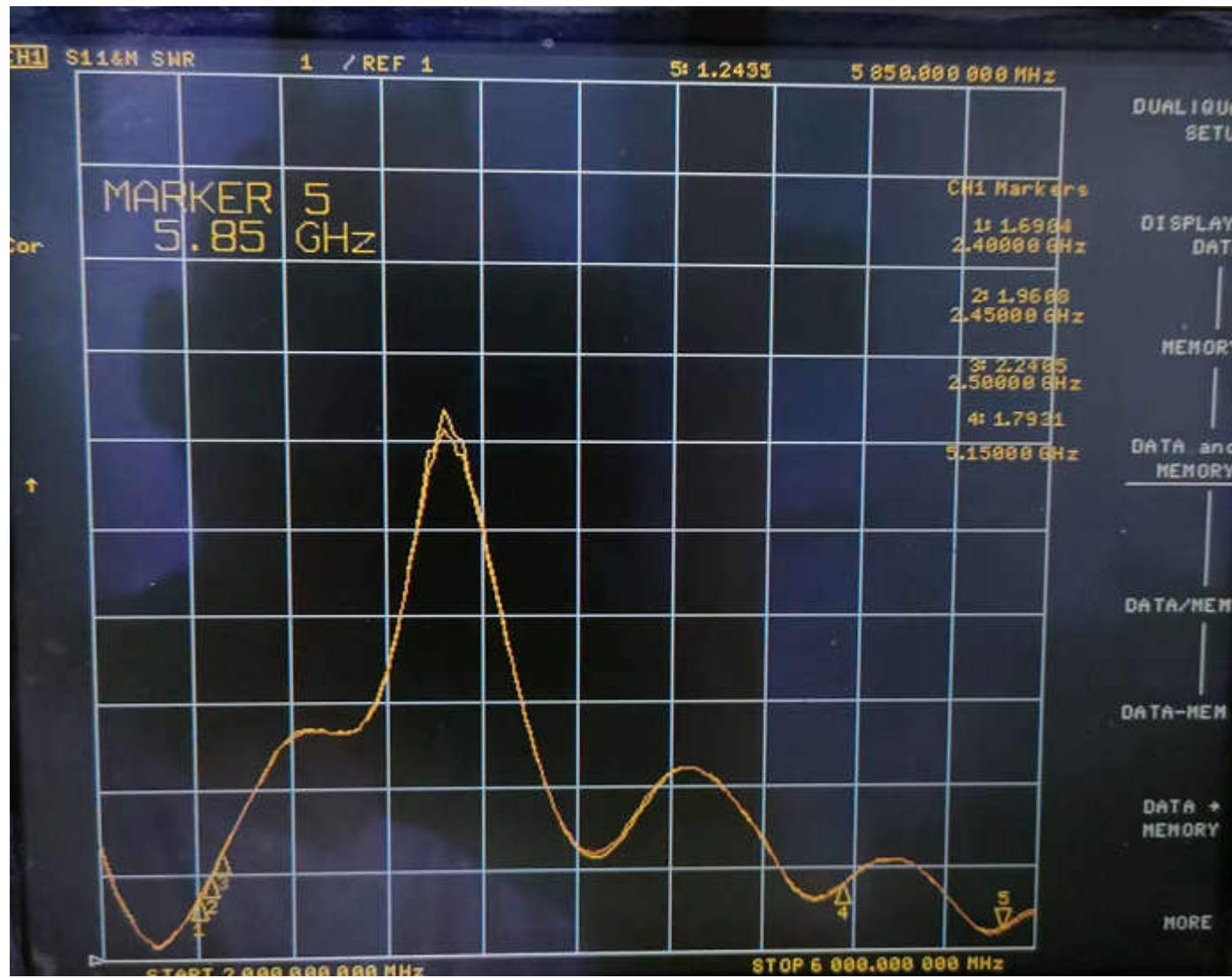
2450.000MHz E1



2450.000MHz E2



SWR





Active testreport

WIFI A pattern Active test

Test	ifi 5G TRP	Application Information			
Result	36	O4Version	5.218.327		
Frequency (MHz)	5180	TotalTime	5m 5s 956ms		
Txp Ave(dBm)	10.09	AdditionalInfor	802.11a : 54Mbps		
NHPRP(dBm)	NULL				
MAX(dBm)	14.71				
EIRP peak	14.71				
Min(dBm)	-5.98				
Attenuation Horiz	23.76				
Attenuation Vertic	24				

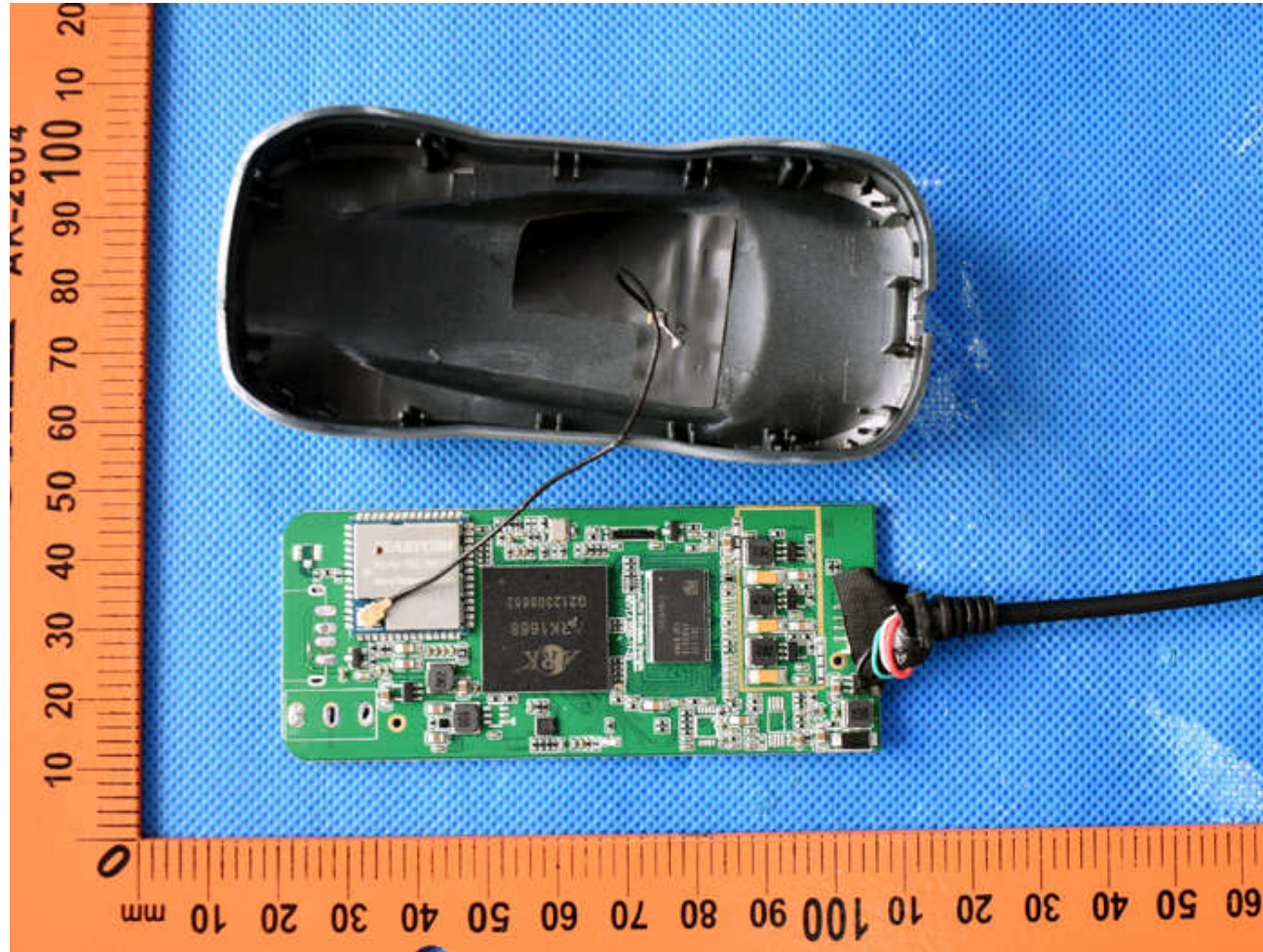
Test	ifi 5G TIS	Application Information			
Result	36	O4Version	5.218.327		
Frequency (MHz)	5180	TotalTime	5m 5s 956ms		
Sens Ave(dBm)	-66.46	AdditionalInfor	802.11a : 54Mbps		
NHPIS(dBm)	NULL				
RSSIAve	8.27				
MaxPosRSSI	11.88				
MaxPosSens	-70.07				
MAX(dBm)	13.49				
EIS peak	13.49				
Min(dBm)	-7.19				
Attenuation Horiz	22.57				
Attenuation Vertic	22.73				

WIFI N pattern Active test

Test	ifi 5G TRP	Application Information			
Result	36	O4Version	5.218.327		
Frequency (MHz)	5180	TotalTime	3m 56s 703ms		
Txp Ave(dBm)	10.06	AdditionalInfor	802.11n : MCS7		
NHPRP(dBm)	NULL				
MAX(dBm)	15.08				
EIRP peak	15.08				
Min(dBm)	-5.13				
Attenuation Horiz	23.76				
Attenuation Vertic	24				

Test	ifi 5G TIS	Application Information			
Result	36	O4Version	5.218.327		
Frequency (MHz)	5180	TotalTime	3m 56s 703ms		
Sens Ave(dBm)	-65.46	AdditionalInfor	802.11n : MCS7		
NHPIS(dBm)	NULL				
RSSIAve	8.84				
MaxPosRSSI	12.45				
MaxPosSens	-66.07				
MAX(dBm)	13.87				
EIS peak	13.87				
Min(dBm)	-6.34				
Attenuation Horiz	22.57				
Attenuation Vertic	22.73				

Antenna position



The end , thanks!