

2.4G Antenna 1 Test Report

1. (Electrical Characteristics)	
Frequency	2.4 ~2.5GHz
VSWR	≤2
Return Loss	≤-11.7dB
Isolation	2.4G>25db 5G>25db 2.4G&5G>20db
Efficiency	>65%
Impedance	50 Ohm
Polarization	Linear
Peak Gain	4.23dBi
Radiation	Omni
2. (Mechanical parameters)	
Cable Type	Φ1.13mm Low Loss Grey
Cable Length	90mm
Connector Type	MHF Plug
Connector Pull Force	>15N
Antenna Colour	White & Grey

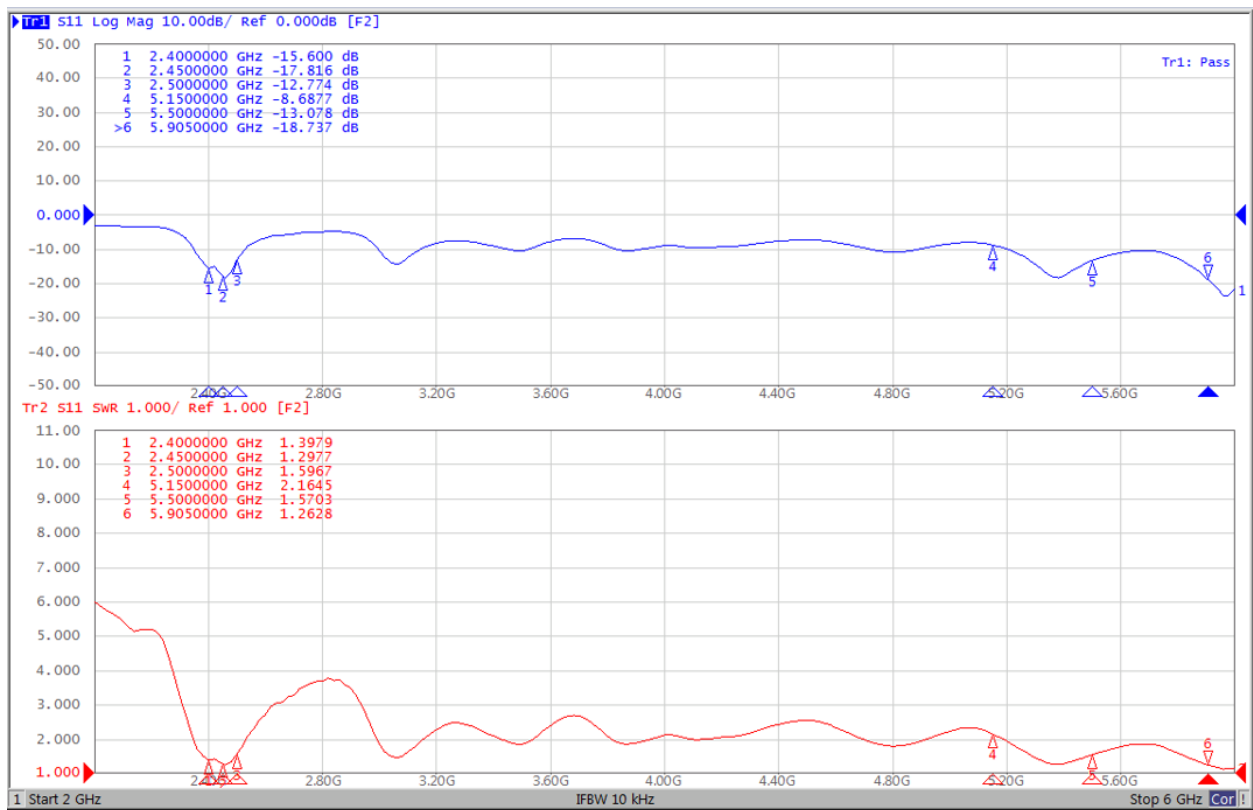
3. VSWR Return Loss Parameter Test:

Test Equipment:DEVISER NA7682C

Test Environment:

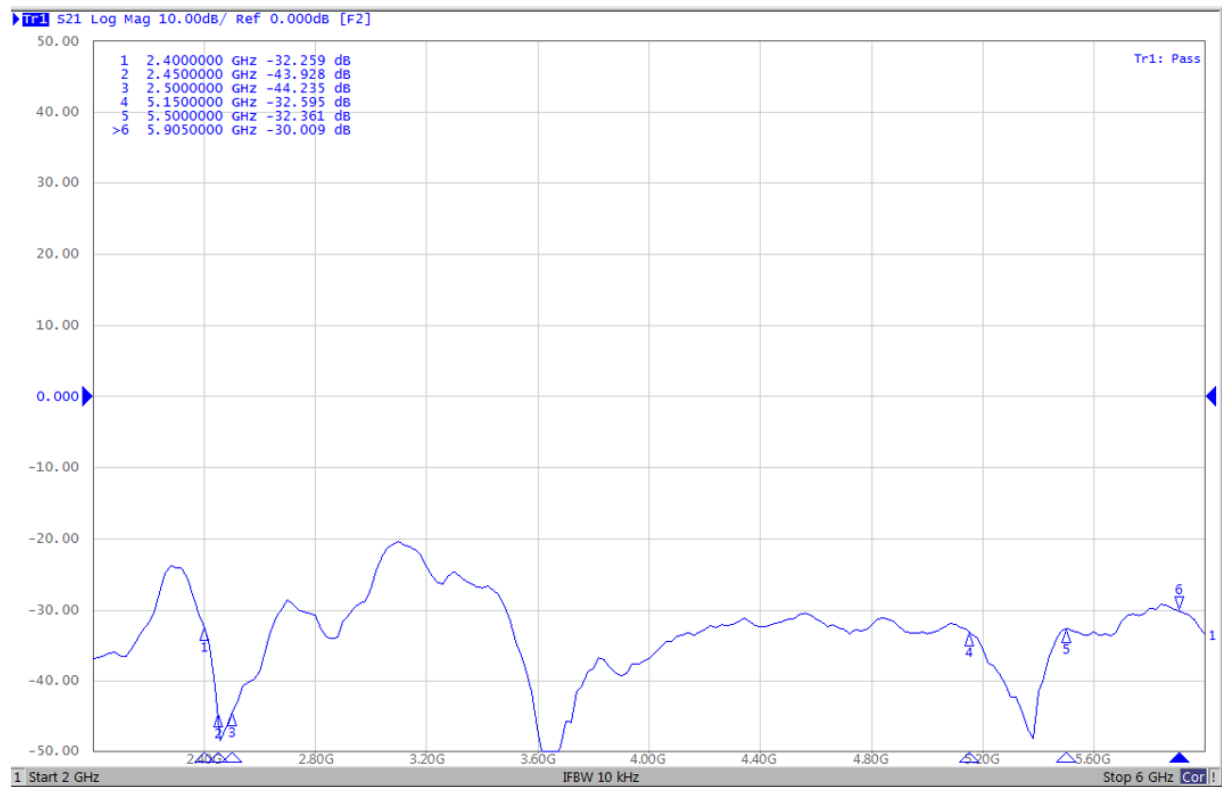


2.4G Antenna 1 (90mm)



4. Isolation

1. (2.4G-90mm) & (5.8G-105mm) Isolation

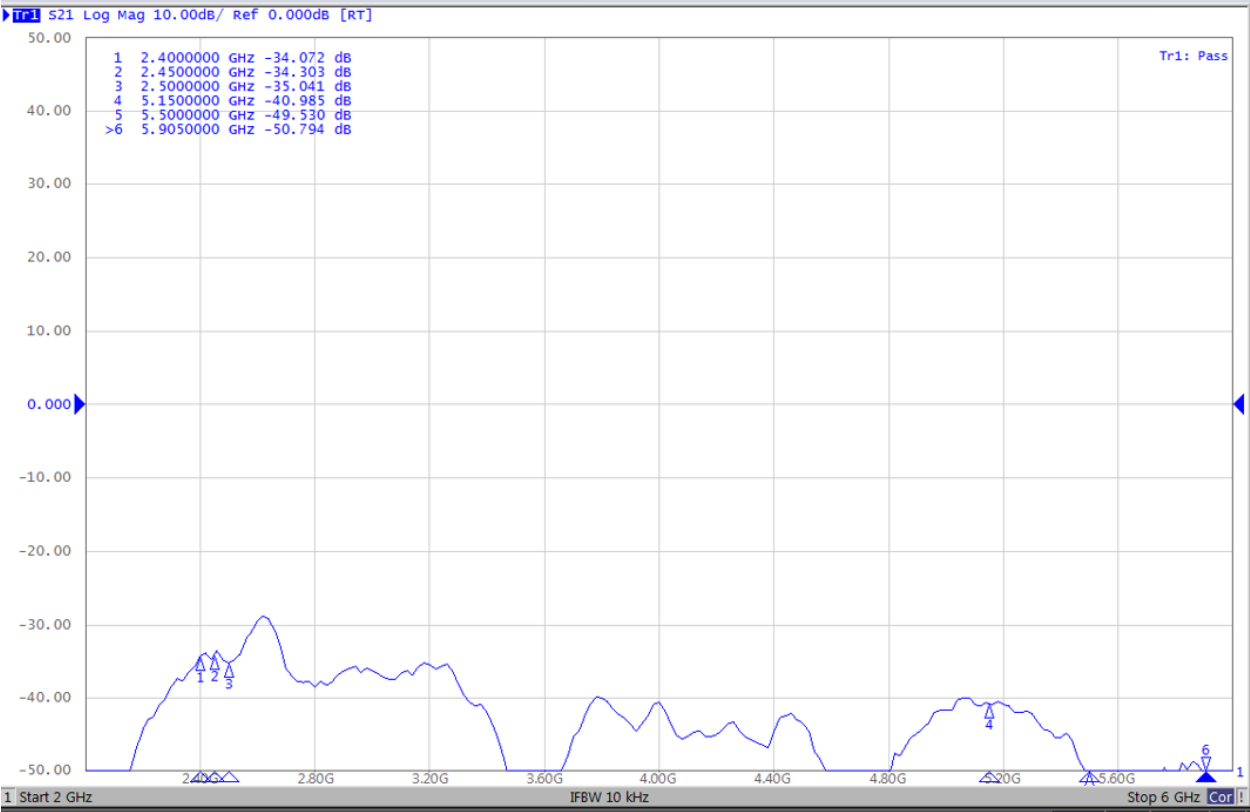


2. (2.4G-90mm) & (5.8G-215mm) Isolation



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3. (2.4G-90mm) & (2.4&5.8G-200mm) Isolation

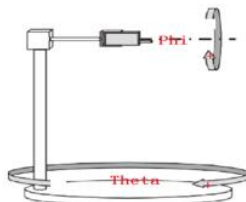
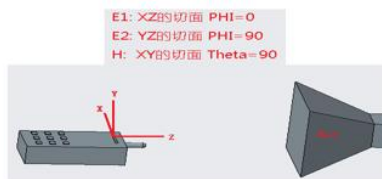


5. Antenna OTA Test:

Test Equipment & Conditions

1. Network Analyzers :HP8753D
2. Communications Test Set:
3. 3D Chamber Test System:Guangpin

网络分析仪：HP8753D



测试系统

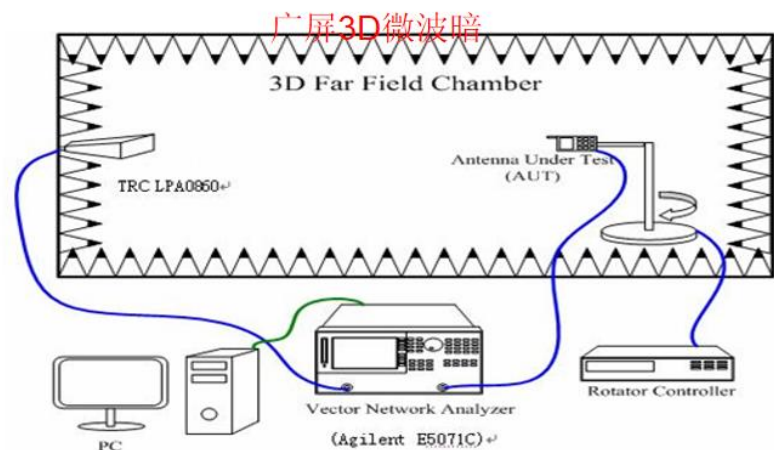
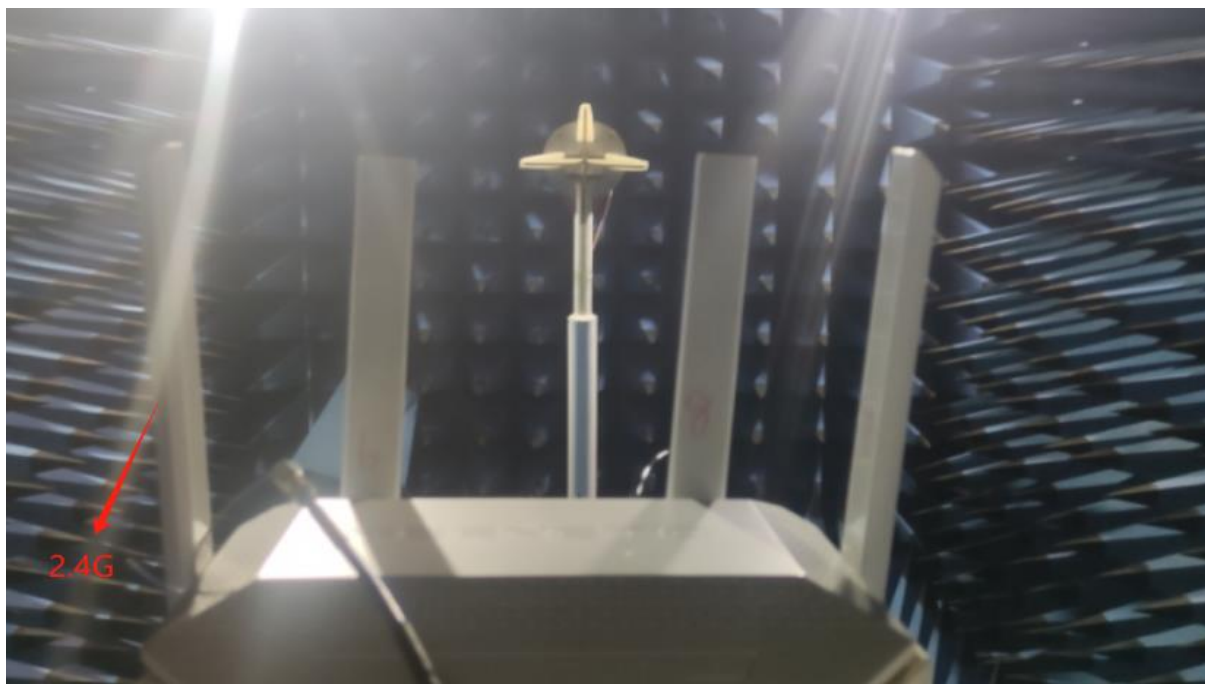


图. 1. 微波暗室内部仪器设置 r. e)

Test Environment:

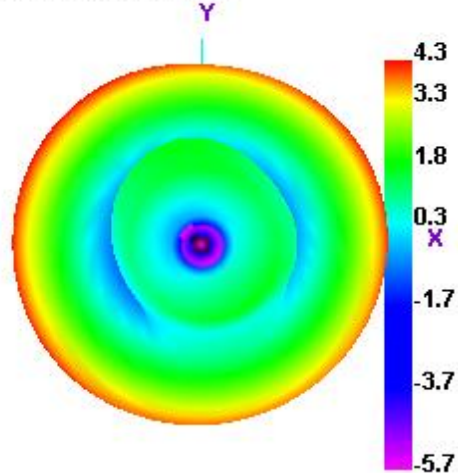


2.4G Antenna Gain&Efficiency

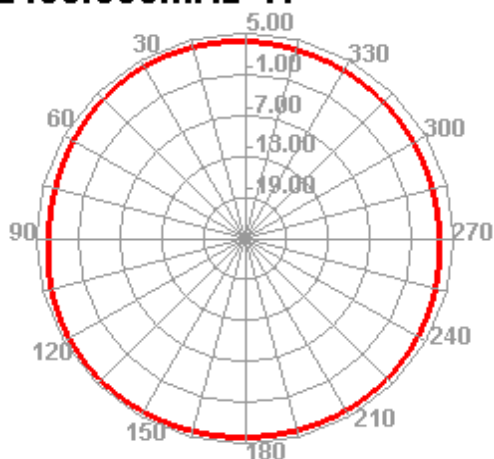
Freq (MHz)	Effi (%)	Gain (dBi)
2400	76.53	3.29
2410	77.38	3.39
2420	75.41	3.37
2430	78.12	3.58
2440	78.99	4.13
2450	72.84	4.23
2460	68.55	3.86
2470	66.36	3.61
2480	68.81	3.36
2490	73.33	3.28
2500	70.82	3.13

2.4G Patten

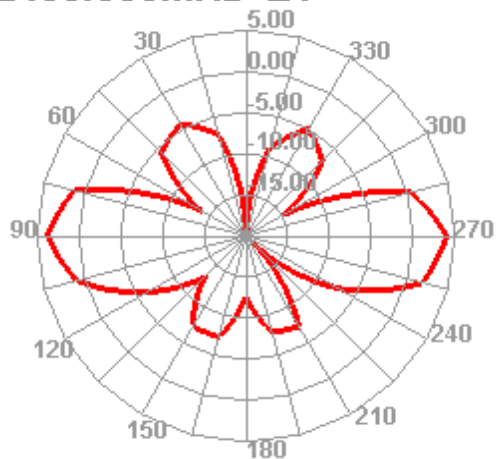
2400.000MHz



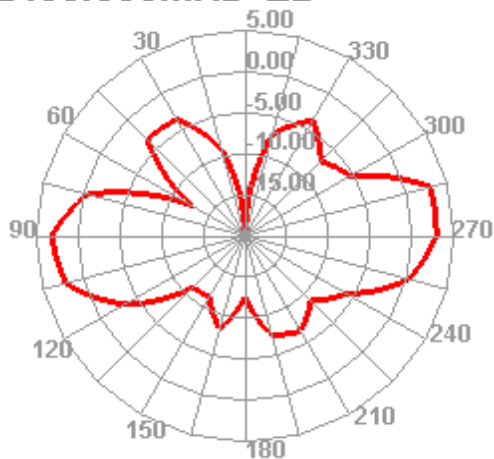
2400.000MHz H



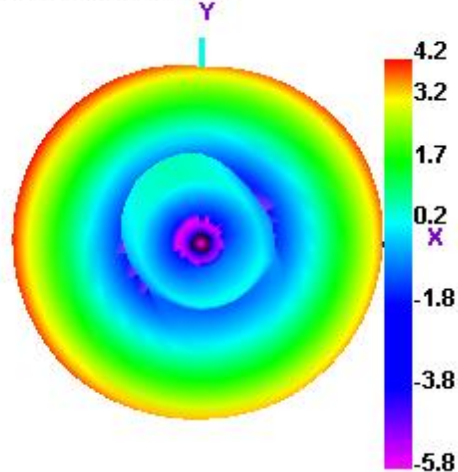
2400.000MHz E1



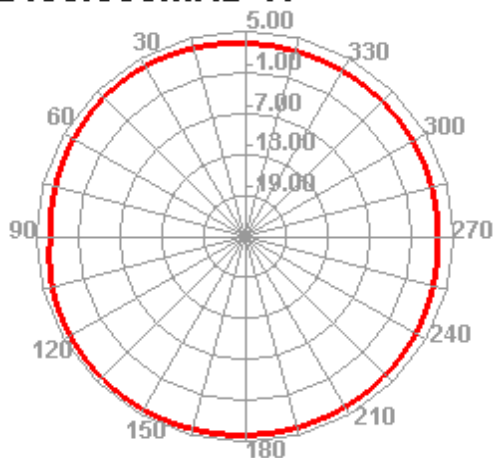
2400.000MHz E2



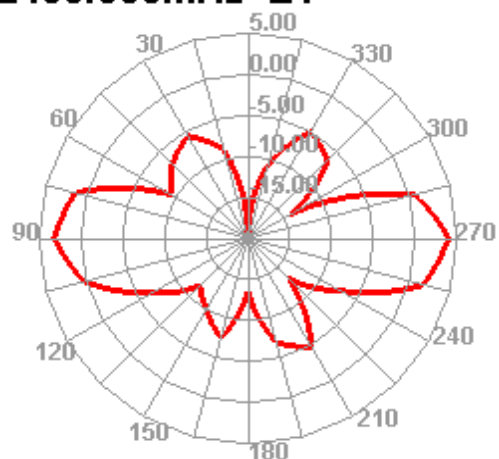
2450.000MHz



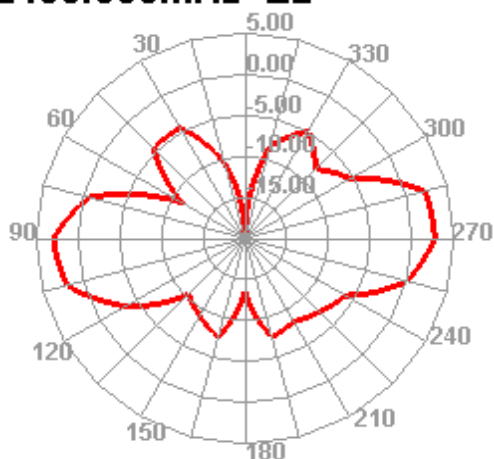
2450.000MHz H



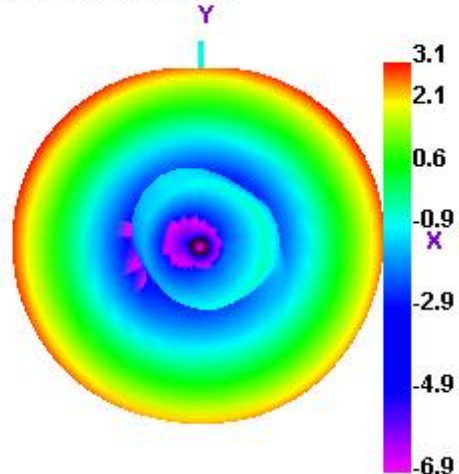
2450.000MHz E1



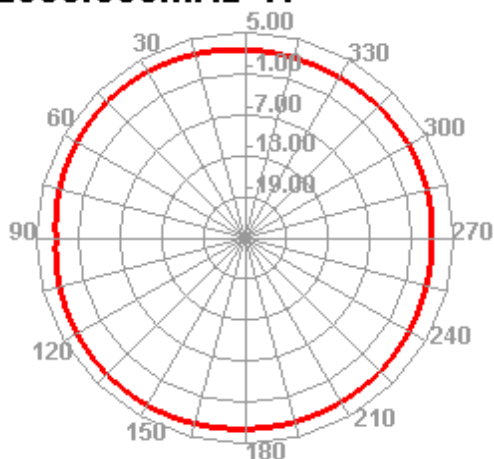
2450.000MHz E2



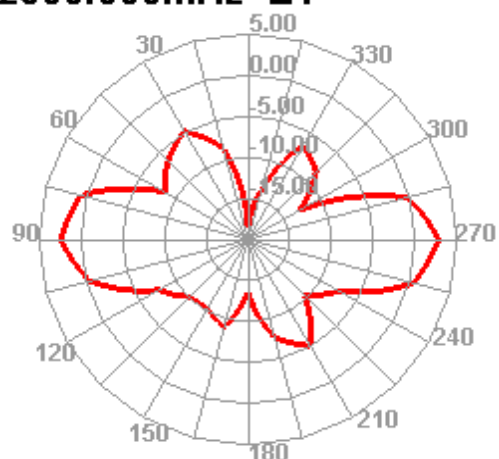
2500.000MHz



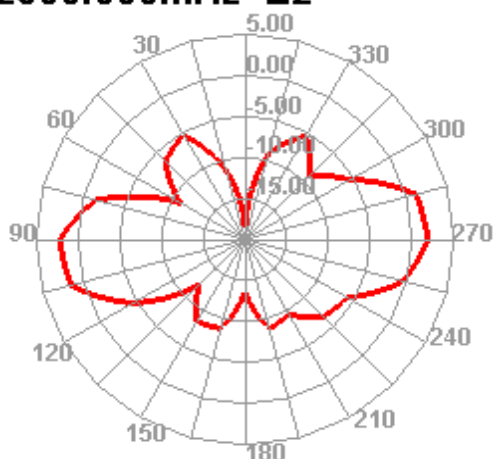
2500.000MHz H



2500.000MHz E1



2500.000MHz E2



2.4G&5G Antenna 2 Test Report

1. (Electrical Characteristics)	
Frequency	2.4 ~2.5GHz & 5.15~5.905Ghz
VSWR	≤2
Return Loss	≤-11.7dB
Isolation	2.4G>25db 5G>25db 2.4G&5G>20db
Efficiency	>65%
Impedance	50 Ohm
Polarization	Linear
Peak Gain	2.82/3.52dBi
Radiation	Omni
2. (Mechanical parameters)	
Cable Type	Φ1.13mm Low Loss White
Cable Length	200mm
Connector Type	MHF Plug
Connector Pull Force	>15N
Antenna Colour	White & Grey

3. VSWR Return Loss Parameter Test:

Test Equipment:DEVISER NA7682C

Test Environment:

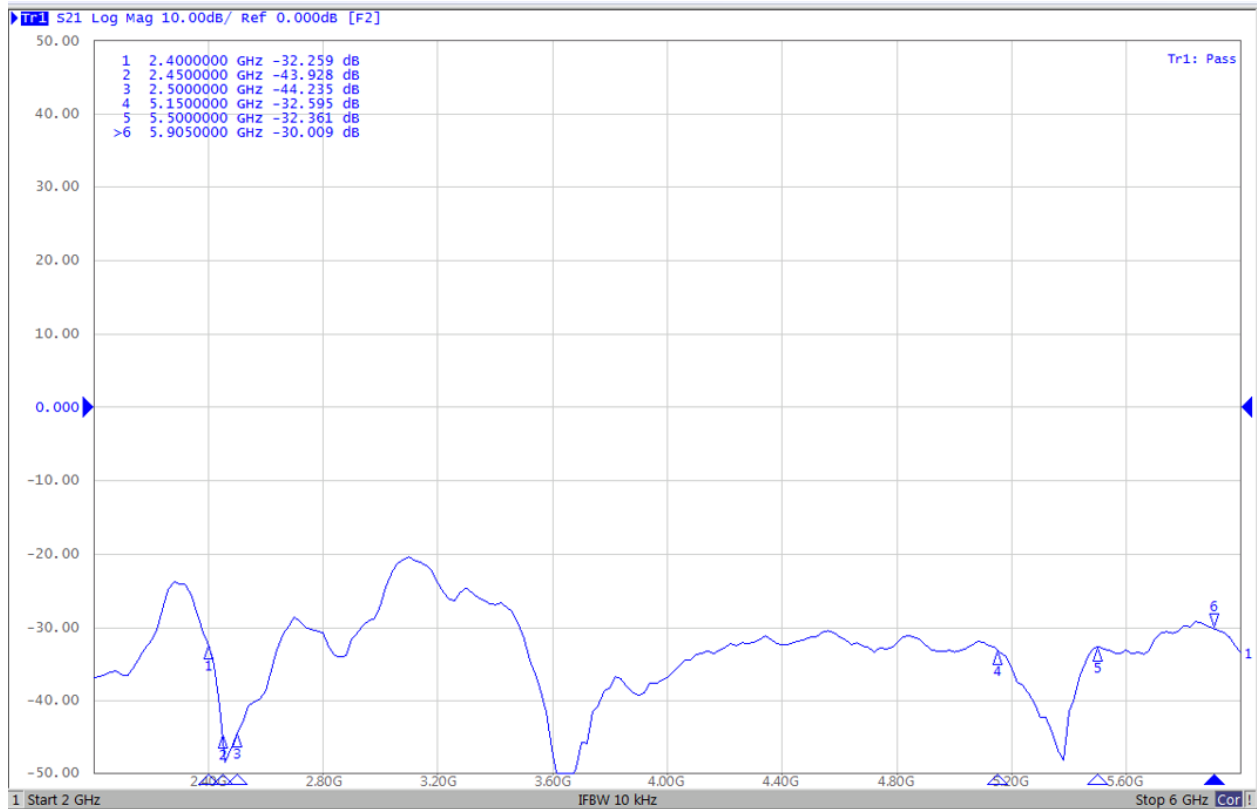


2.4G&5.8G Antenna 2 (200mm)

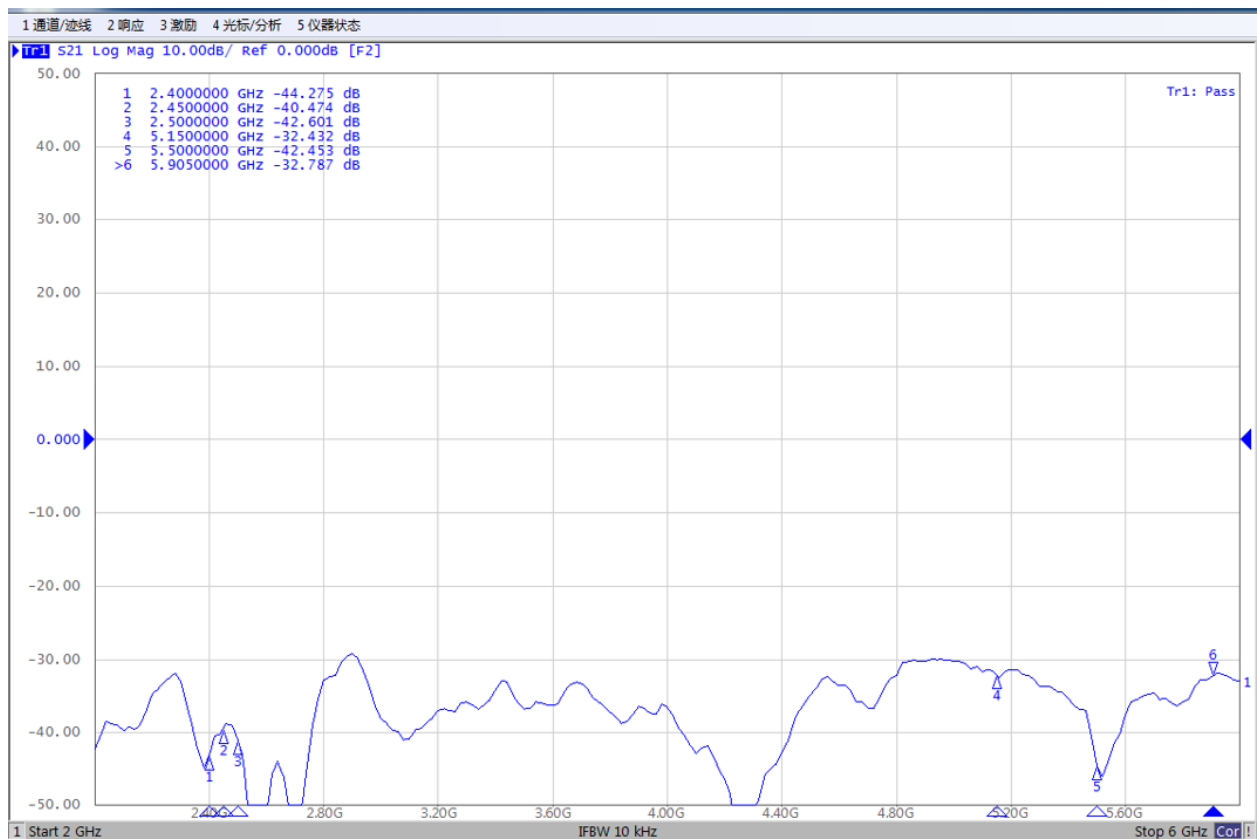


4. Isolation

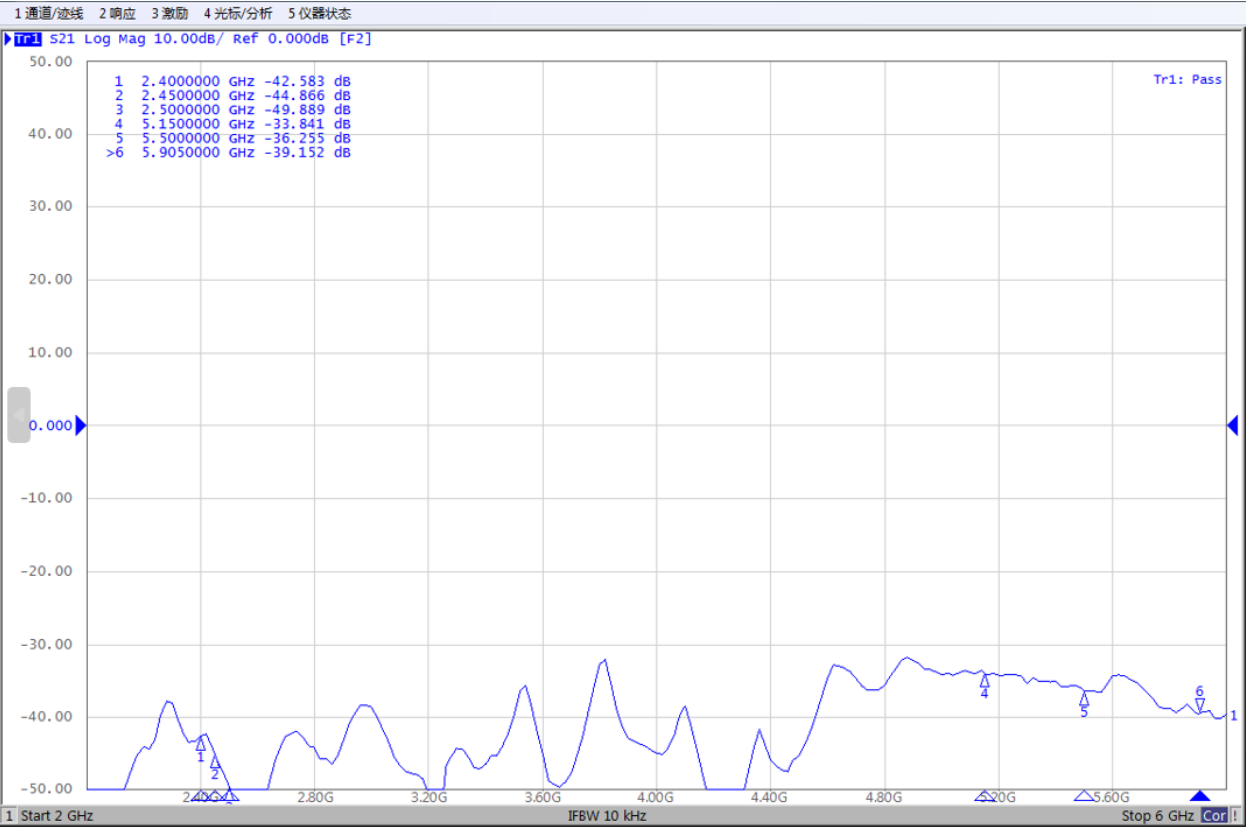
1. (2.4G&5G-200mm) & (2.4G-90mm) Isolation



2. (2.4G&5G-200mm) & (5.8G-105mm) Isolation



3. (2.4G&5G-200mm) & (5.8G-215mm) Isolation

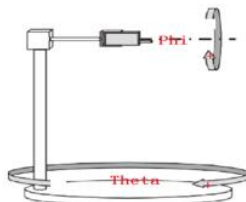
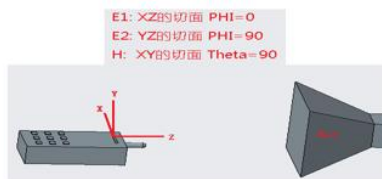


5. Antenna OTA Test:

Test Equipment & Conditions

1. Network Analyzers :HP8753D
2. Communications Test Set:
3. 3D Chamber Test System:Guangpin

网络分析仪: HP8753D



测试系统

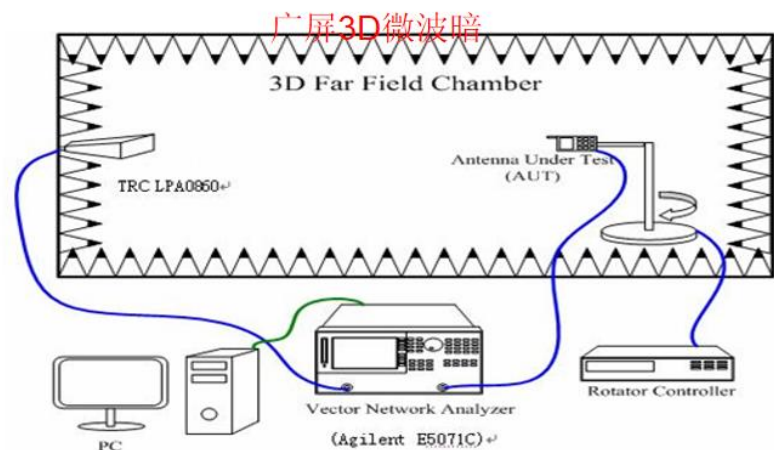


图. 1. 微波暗室内部仪器设置 r. e)

Test Environment:



2.4G Antenna Gain&Efficiency

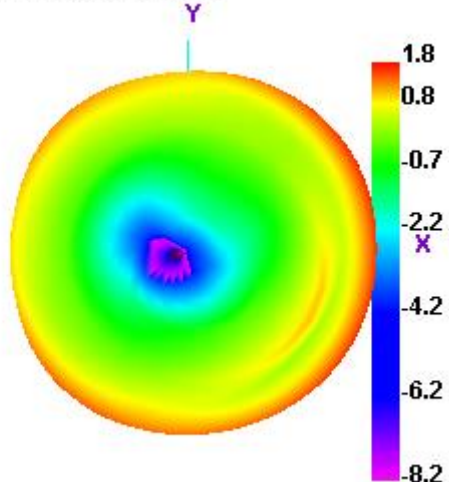
Freq (MHz)	Effi (%)	Gain (dBi)
2400	66.88	2.77
2410	68.67	2.82
2420	70.45	2.66
2430	78.8	2.55
2440	70.3	2.72
2450	75.49	2.45
2460	72.42	2.33
2470	68.63	2.27
2480	68.92	2.16
2490	69.46	2.37
2500	67.07	2.44

5G Antenna Gain&Efficiency

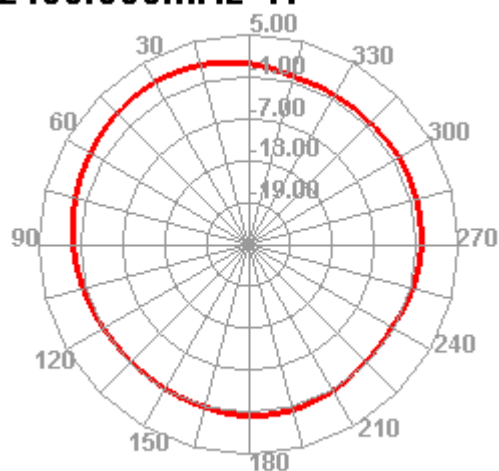
Freq (MHz)	Effi (%)	Gain (dBi)
5150	67.65	2.99
5200	68.87	2.04
5250	65.35	3.21
5300	66.68	2.44
5350	68.76	2.36
5400	72.89	3.29
5450	73.94	3.33
5500	73.08	3.41
5550	73.1	3.52
5600	77.79	2.96
5650	69.35	2.94
5700	68.09	2.79
5750	68.58	2.24
5800	65.44	2.51
5850	67.43	2.46
5900	67.58	2.46

2.4G Patten

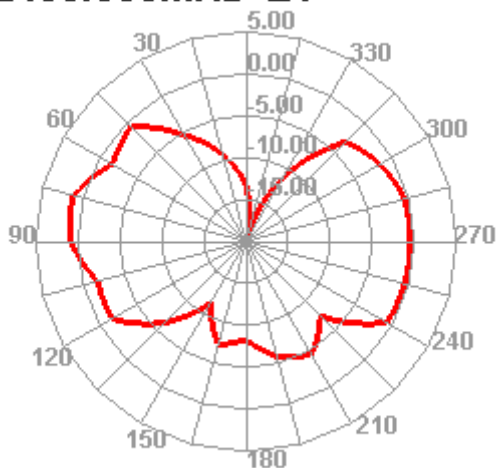
2400.000MHz



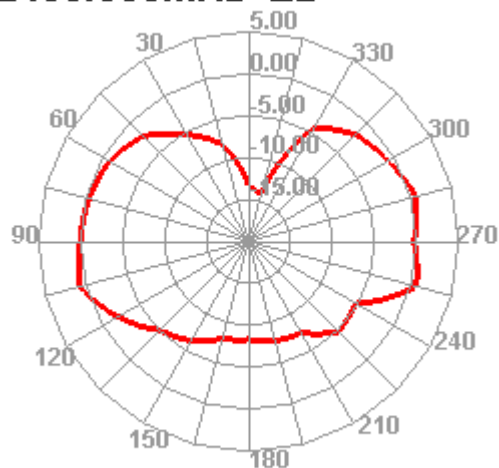
2400.000MHz H



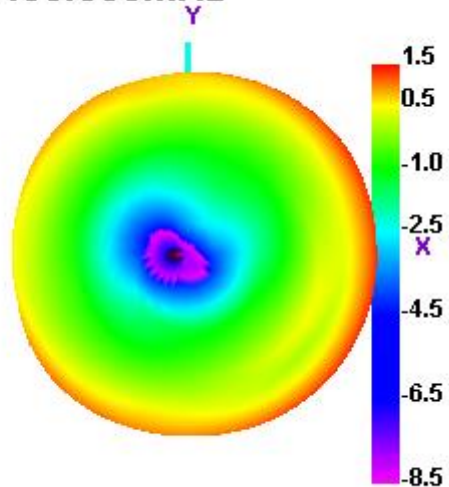
2400.000MHz E1



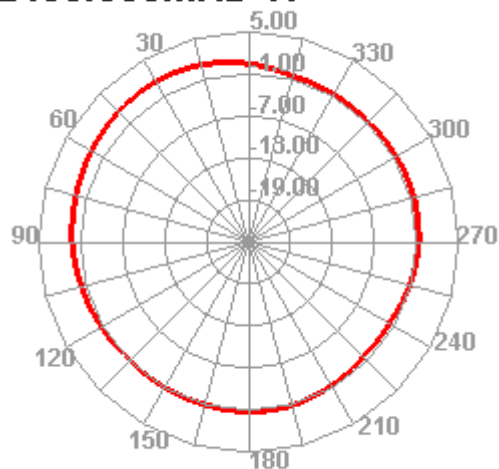
2400.000MHz E2



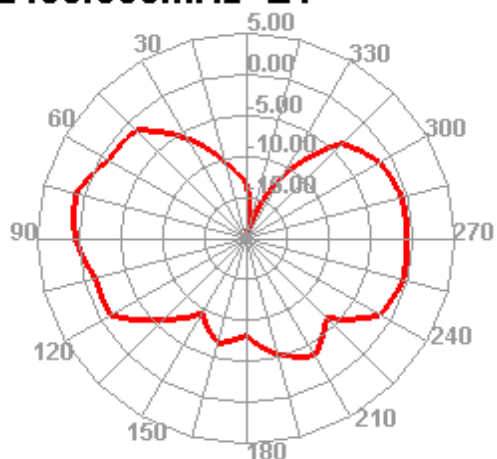
2450.000MHz



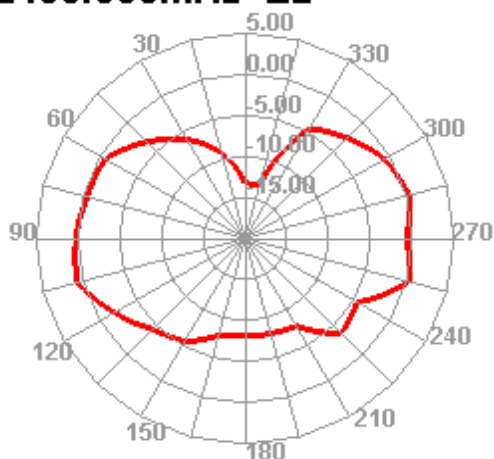
2450.000MHz H



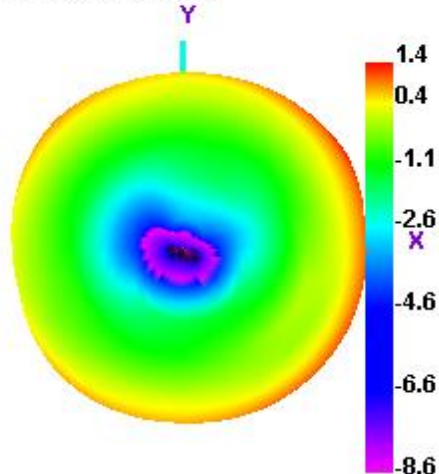
2450.000MHz E1



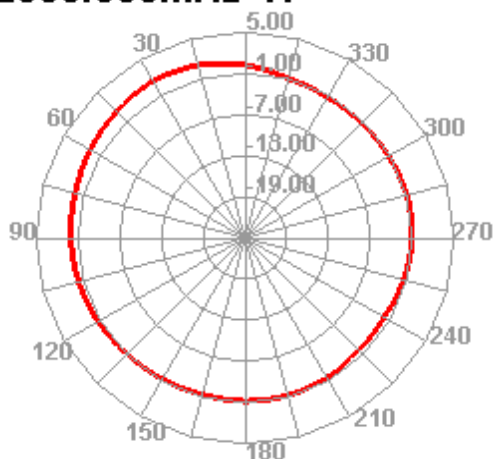
2450.000MHz E2



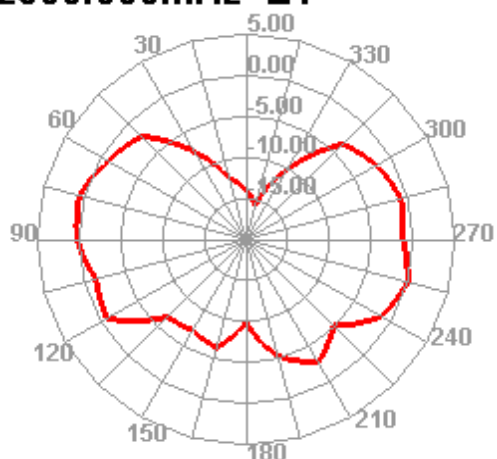
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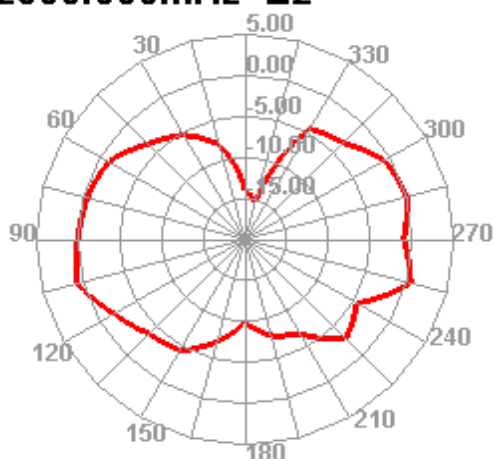
2500.000MHz H



2500.000MHz E1

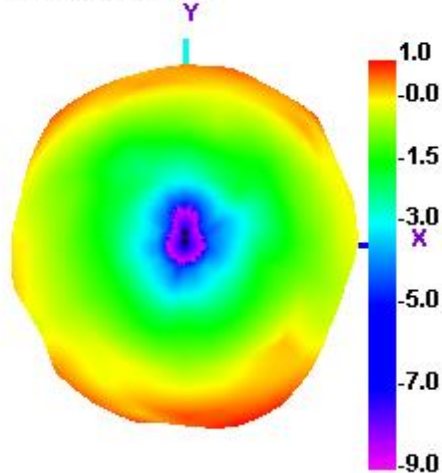


2500.000MHz E2

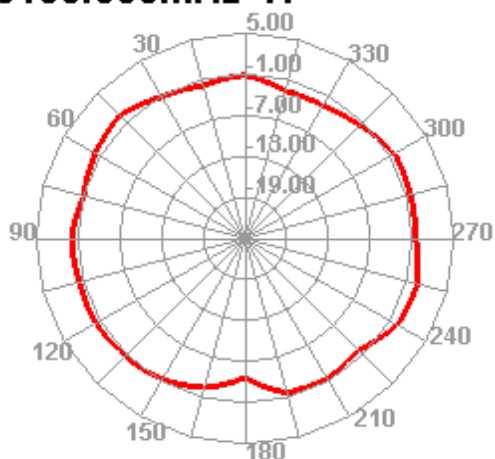


5G Patten

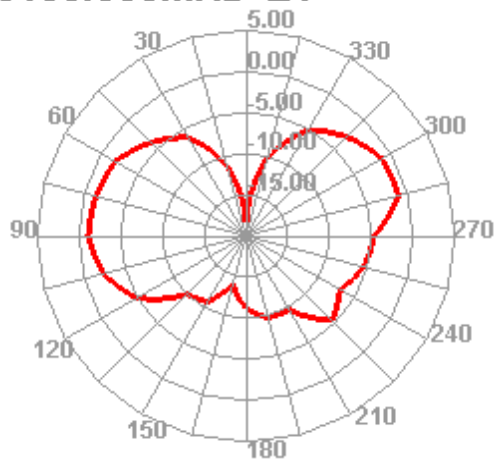
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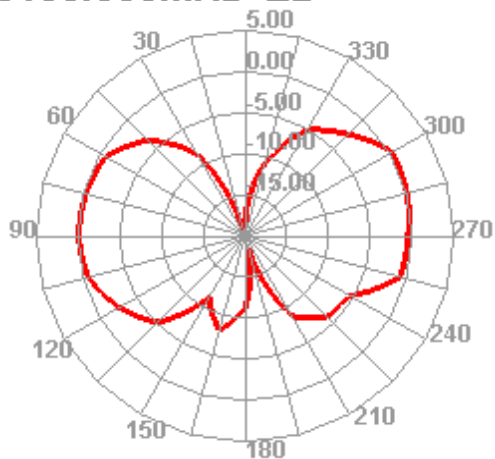
5150.000MHz H



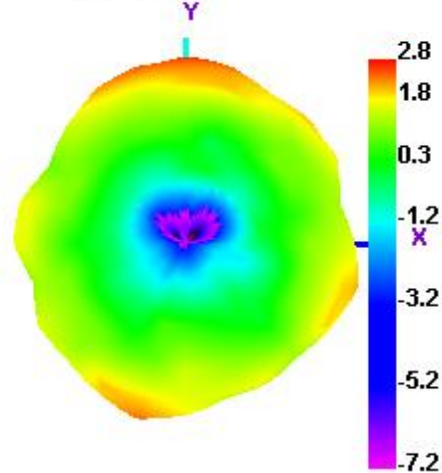
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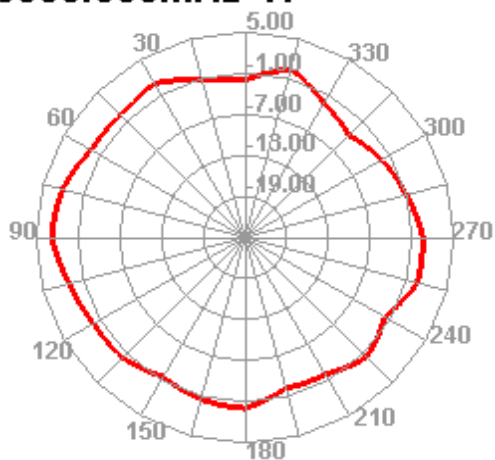
5150.000MHz E2



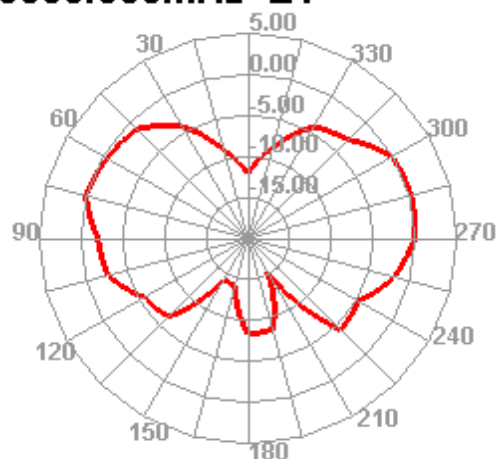
5550.000MHz



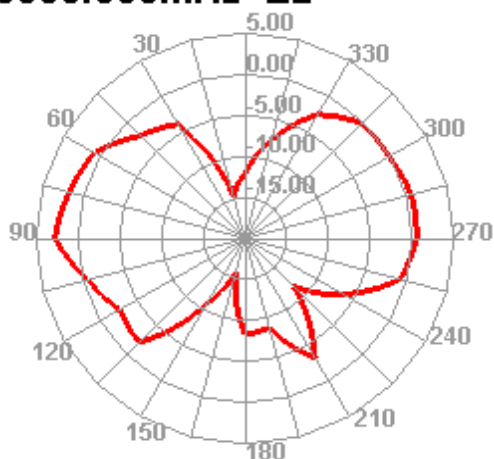
5550.000MHz H



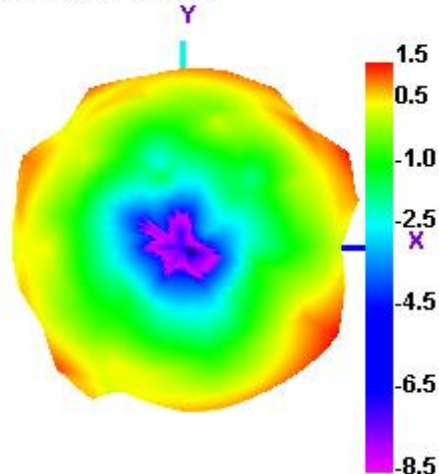
5550.000MHz E1



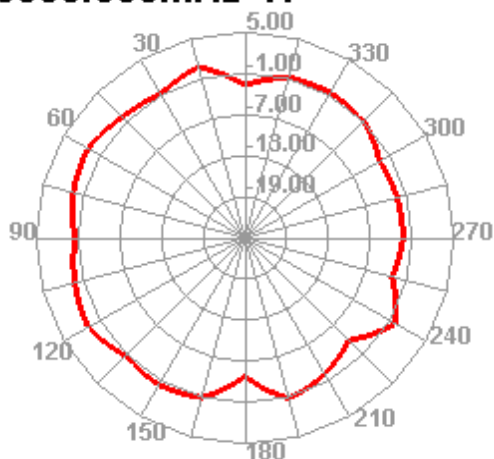
5550.000MHz E2



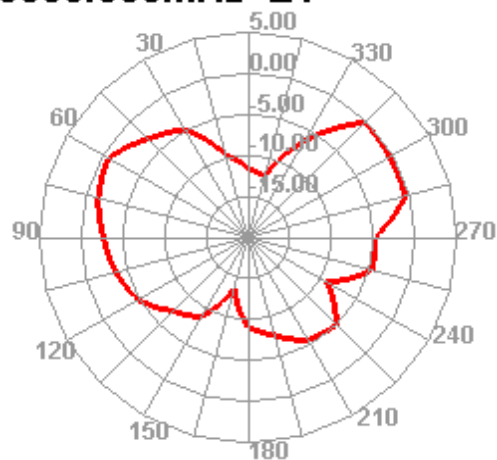
5850.000MHz



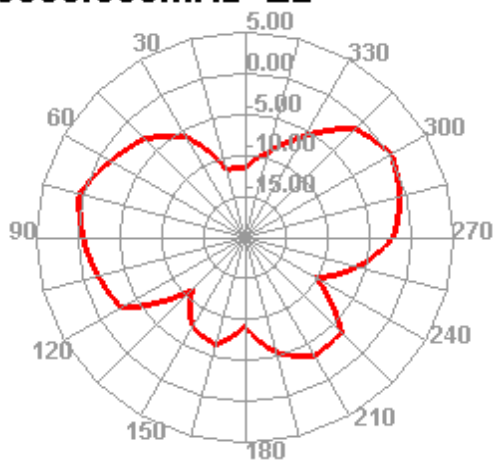
5850.000MHz H



5850.000MHz E1



5850.000MHz E2



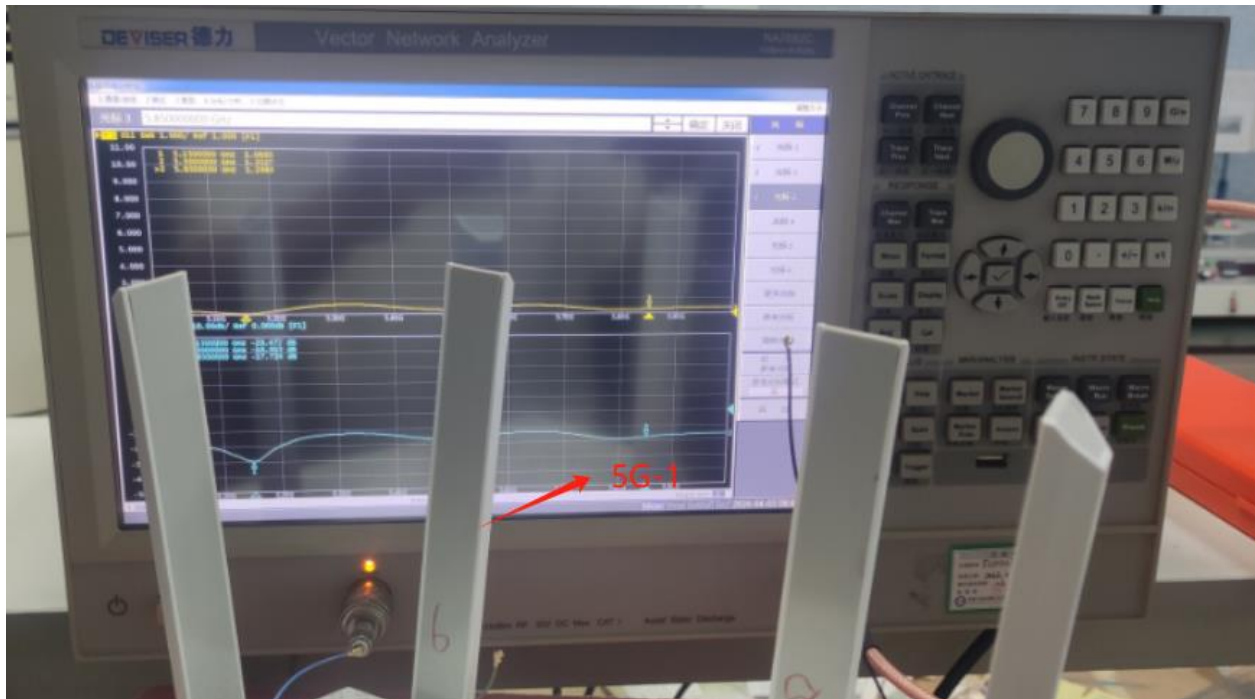
5G-1 Antenna 3 Test Report

1. (Electrical Characteristics)	
Frequency	5.15~5.905Ghz
VSWR	≤2
Return Loss	≤-11.7dB
Isolation	2.4G>25db 5G>25db 2.4G&5G>20db
Efficiency	>65%
Impedance	50 Ohm
Polarization	Linear
Peak Gain	3.37dBi
Radiation	Omni
2. (Mechanical parameters)	
Cable Type	Φ1.13mm Low Loss Blue
Cable Length	105mm
Connector Type	MHF Plug
Connector Pull Force	>15N
Antenna Color	White & Grey

3. VSWR Return Loss Parameter Test:

Test Equipment:DEVISER NA7682C

Test Environment:

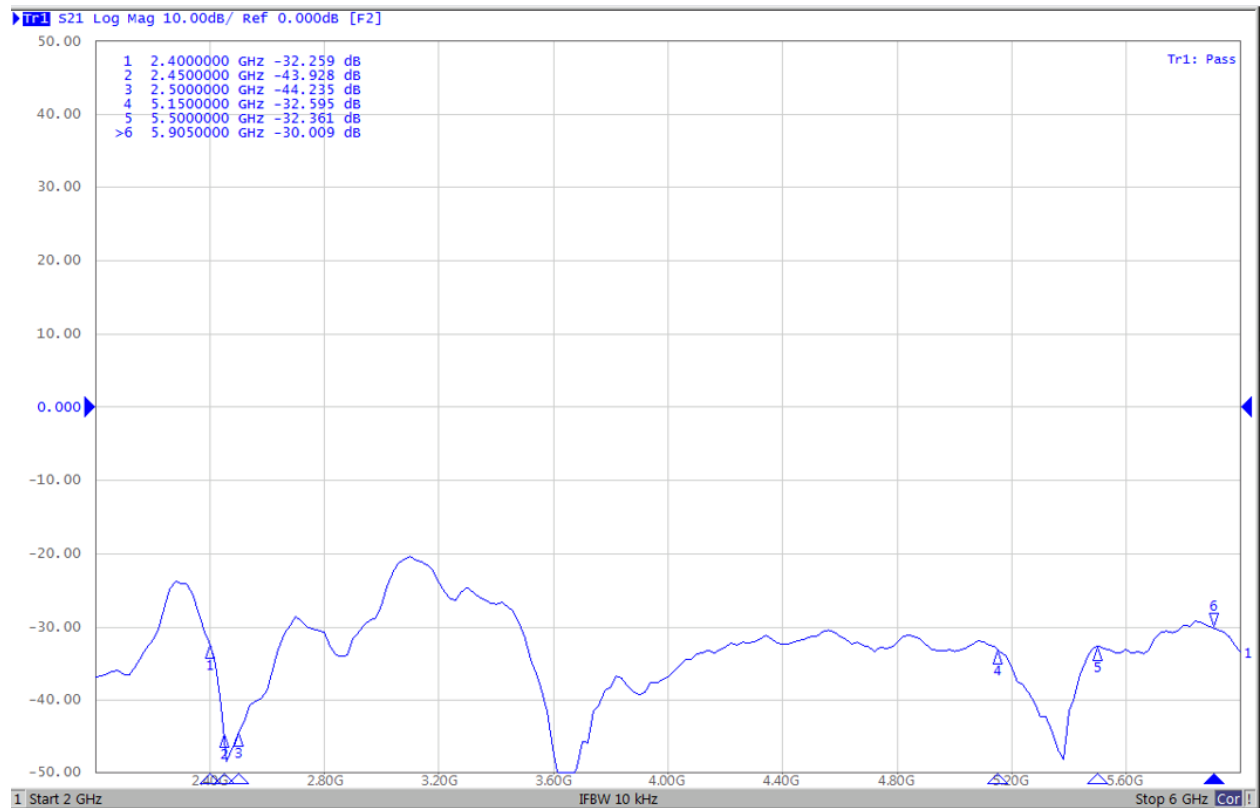


5G-1 Antenna3(105mm)

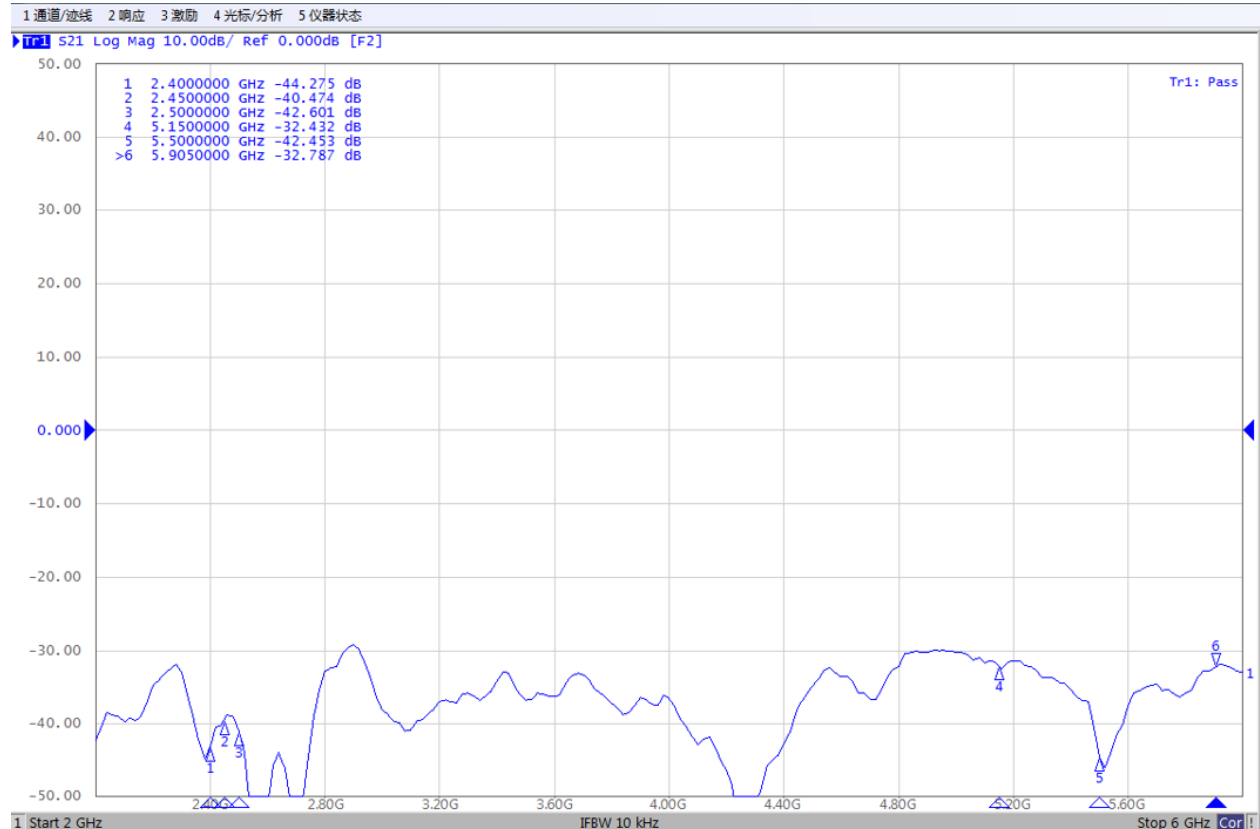


4. Isolation

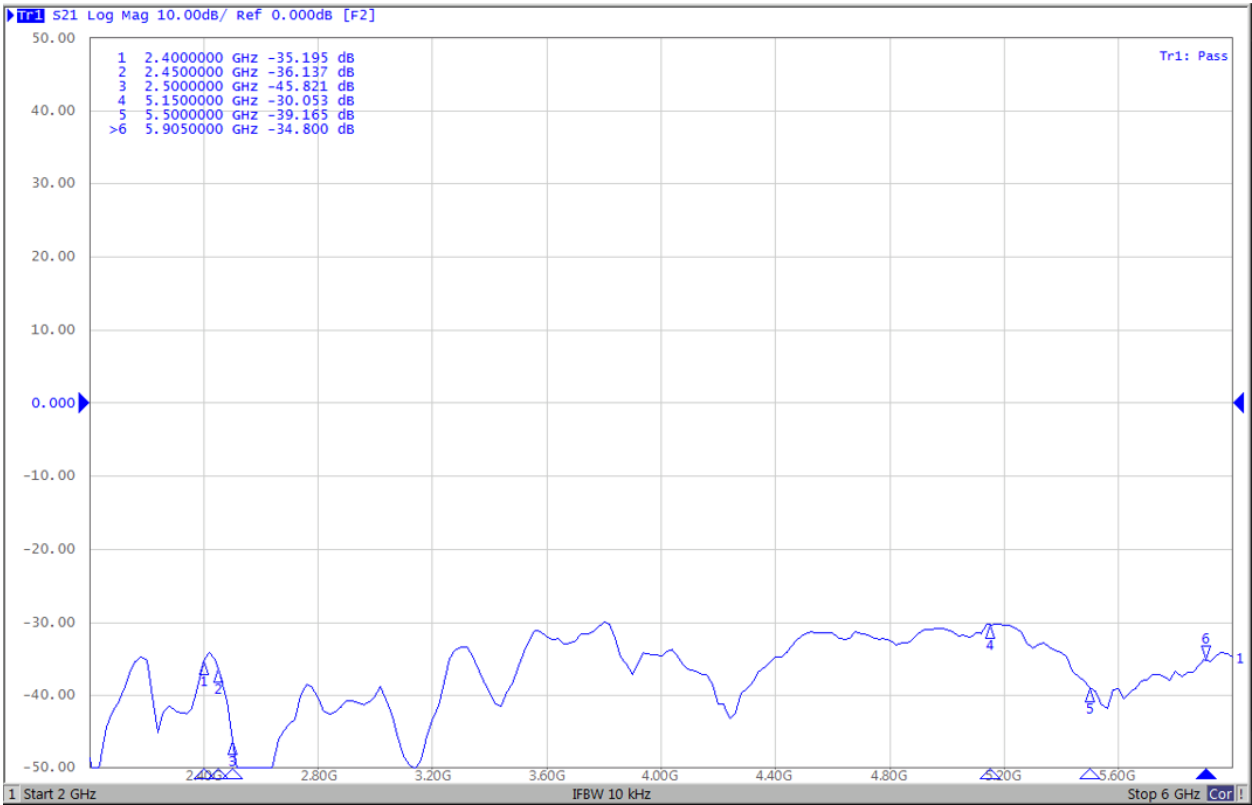
1. (5G-105mm) & (2.4G-90mm) Isolation



2. (5G-105mm) & (2.4&5G-200mm) Isolation



3. (5G-105mm) & (5G-215mm) Isolation

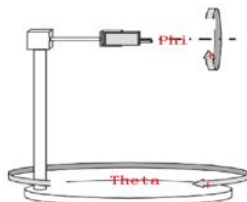
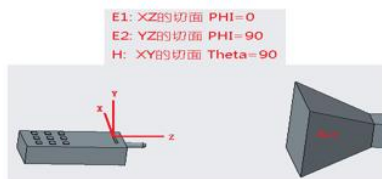


5. Antenna OTA Test:

Test Equipment & Conditions

1. Network Analyzers :HP8753D
2. Communications Test Set:
3. 3D Chamber Test System:Guangpin

网络分析仪: HP8753D



测试系统

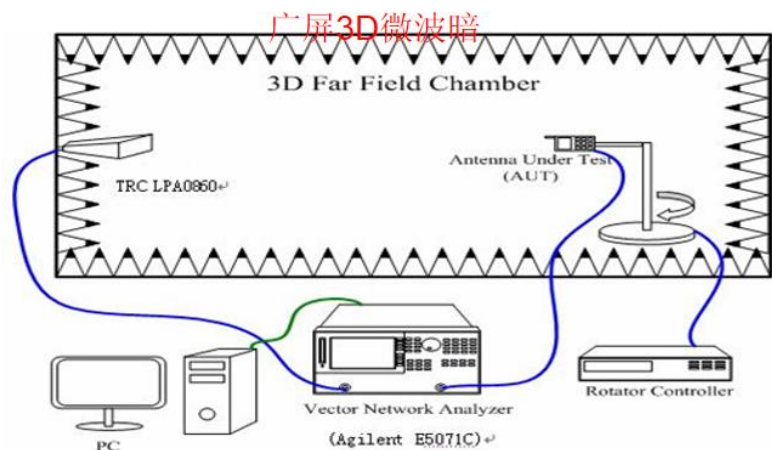
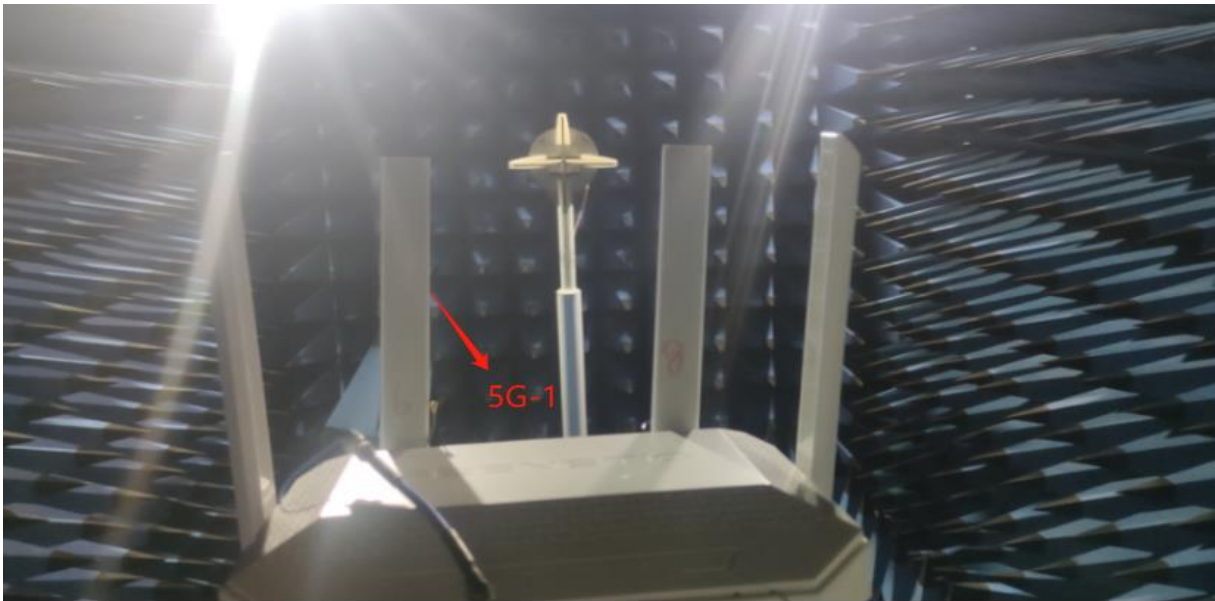


图. 1. 微波暗室内部仪器设置 r. e)

Test Environment:

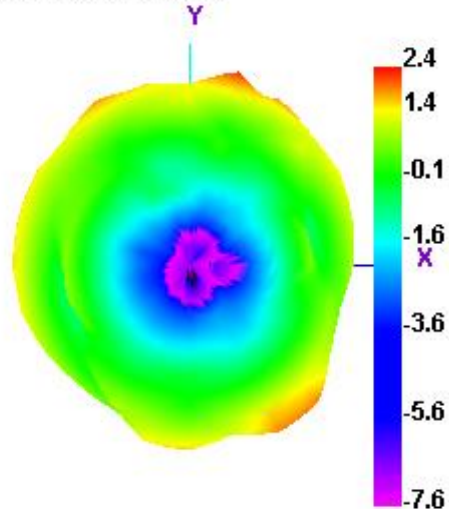


5G Antenna Gain&Efficiency

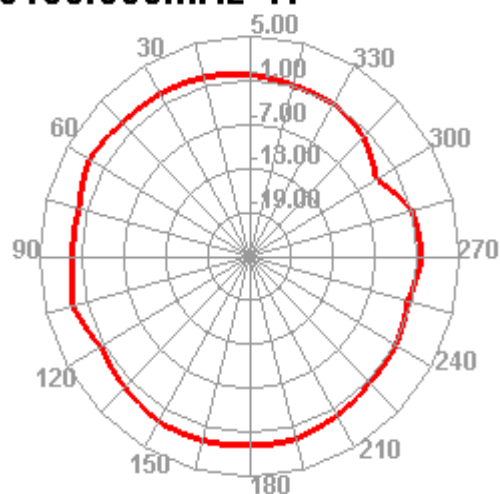
Freq (MHz)	Effi (%)	Gain (dBi)
5150	76.19	2.37
5200	71.35	2.43
5250	71.28	2.23
5300	74.21	2.16
5350	76.02	2.32
5400	74.54	2.31
5450	73.54	2
5500	71.8	2.82
5550	75.23	2.18
5600	70.03	2.07
5650	74.08	2.76
5700	72.89	3.36
5750	72.36	3.37
5800	69.07	2.86
5850	70.45	2.79

5G Patten

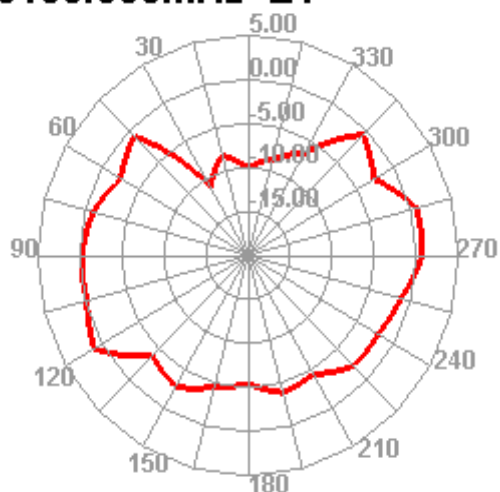
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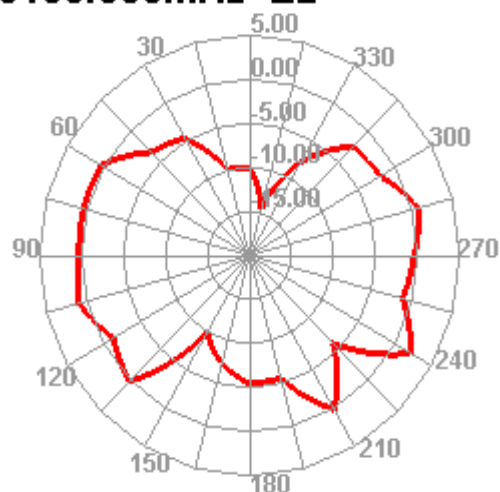
5150.000MHz H



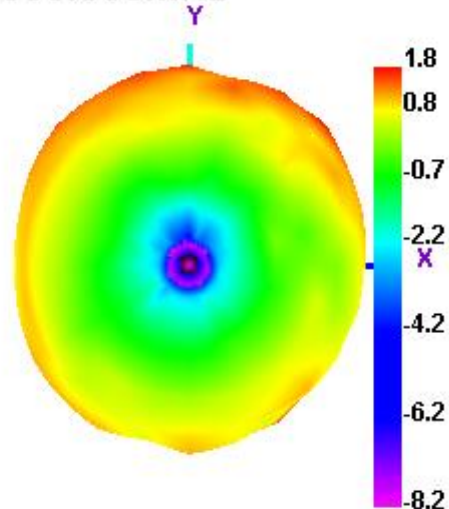
5150.000MHz E1



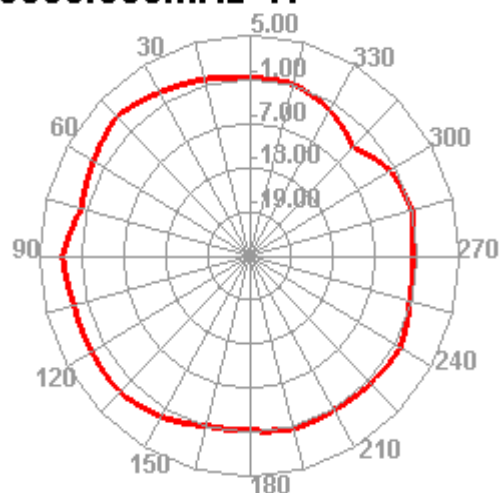
5150.000MHz E2



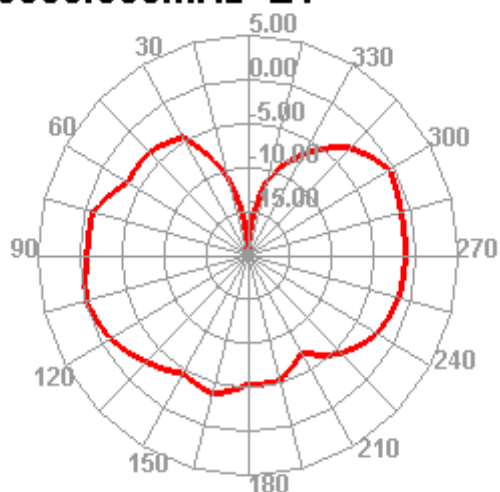
5500.000MHz



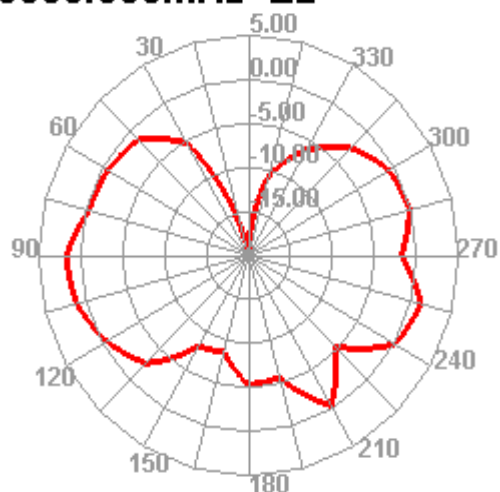
5500.000MHz H



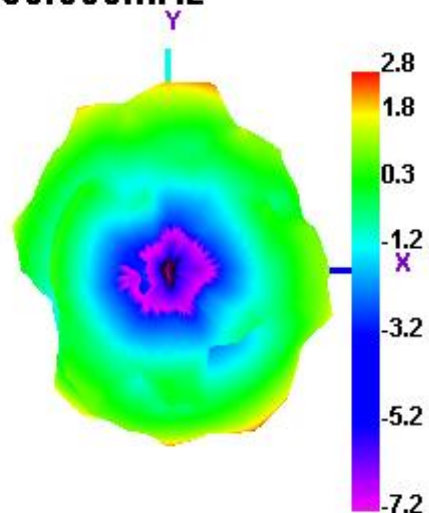
5500.000MHz E1



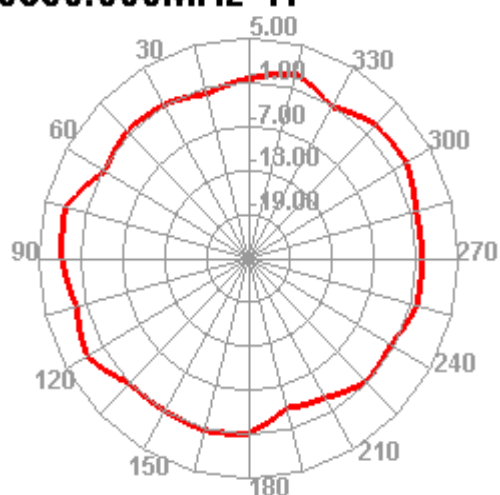
5500.000MHz E2



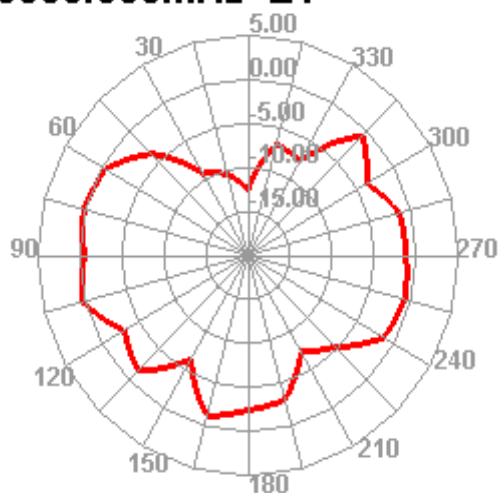
5850.000MHz



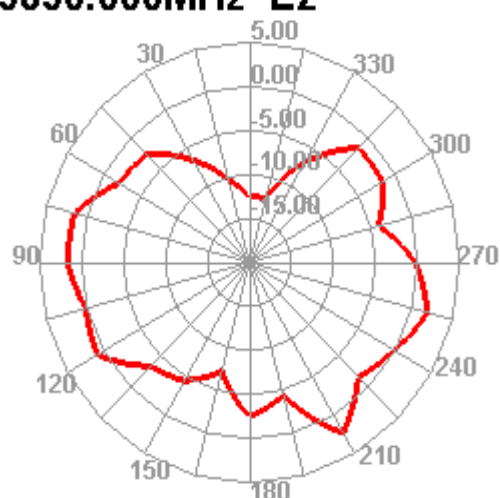
5850.000MHz H



5850.000MHz E1



5850.000MHz E2



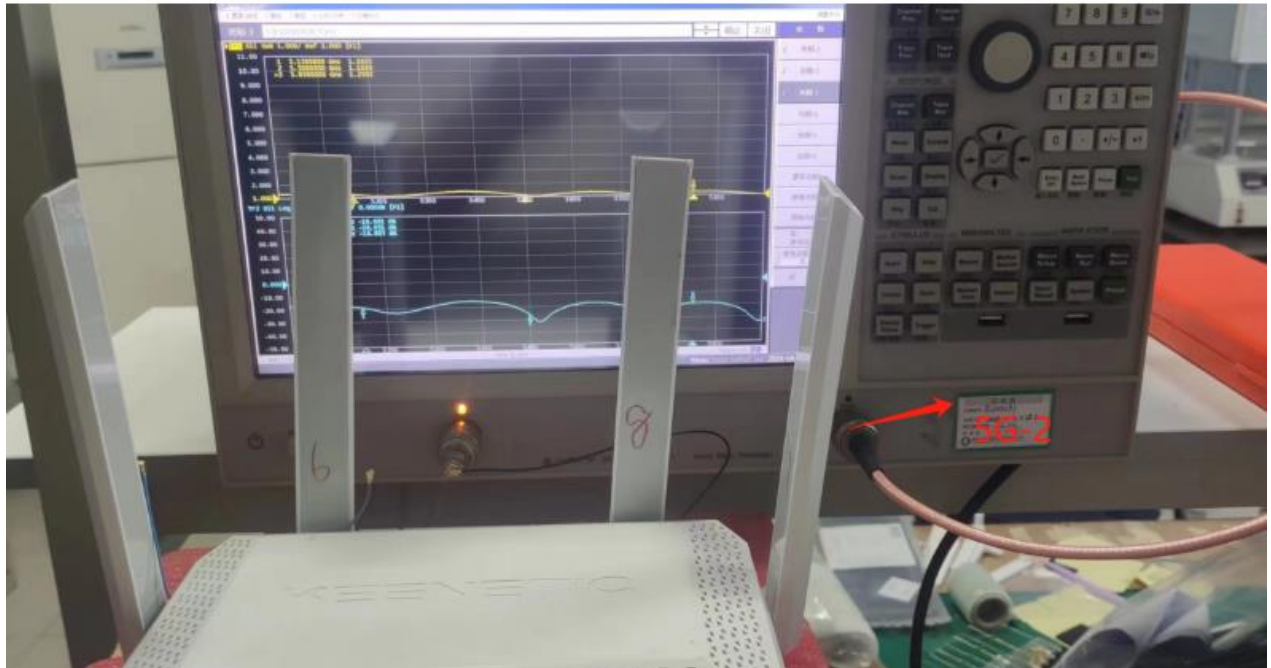
5G-2 Antenna 4 Test Report

1. (Electrical Characteristics)	
Frequency	5.15~5.905Ghz
VSWR	≤2
Return Loss	≤-11.7dB
Isolation	2.4G>25db 5G>25db 2.4G&5G>20db
Efficiency	>65%
Impedance	50 Ohm
Polarization	Linear
Peak Gain	2.35dBi
Radiation	Omni
2. (Mechanical parameters)	
Cable Type	Φ1.13mm Low Loss Black
Cable Length	215mm
Connector Type	MHF Plug
Connector Pull Force	>15N
Antenna Color	White & Grey

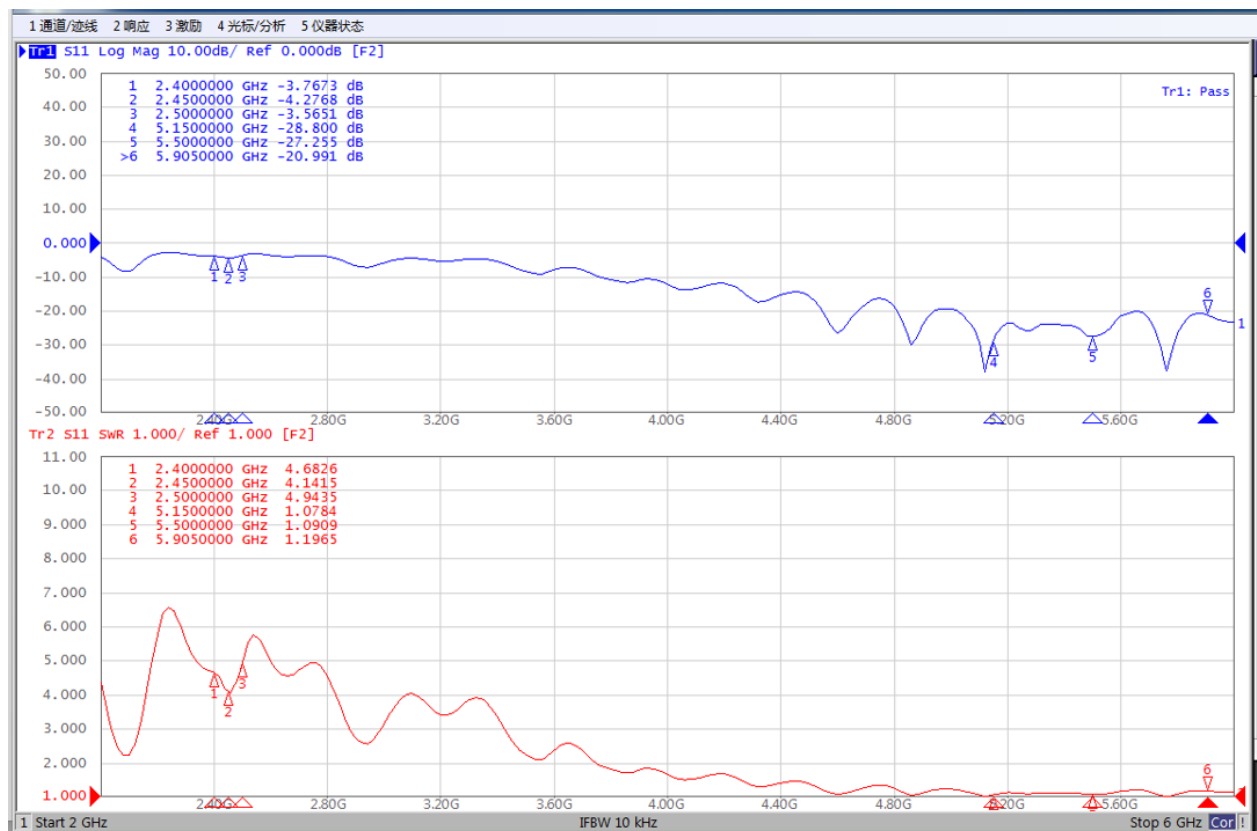
3. VSWR Return Loss Parameter Test:

Test Equipment:DEVISER NA7682C

Test Environment

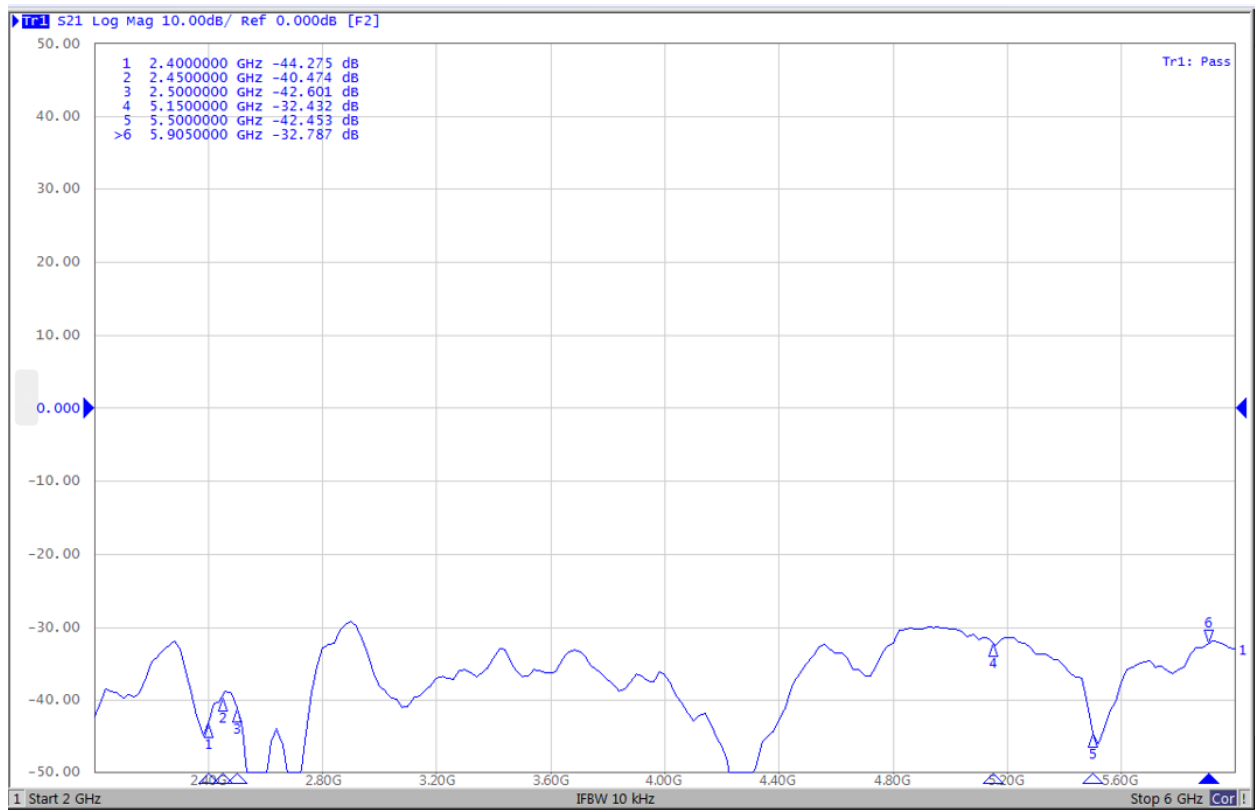


5G-2 Antenna 4 (215mm)

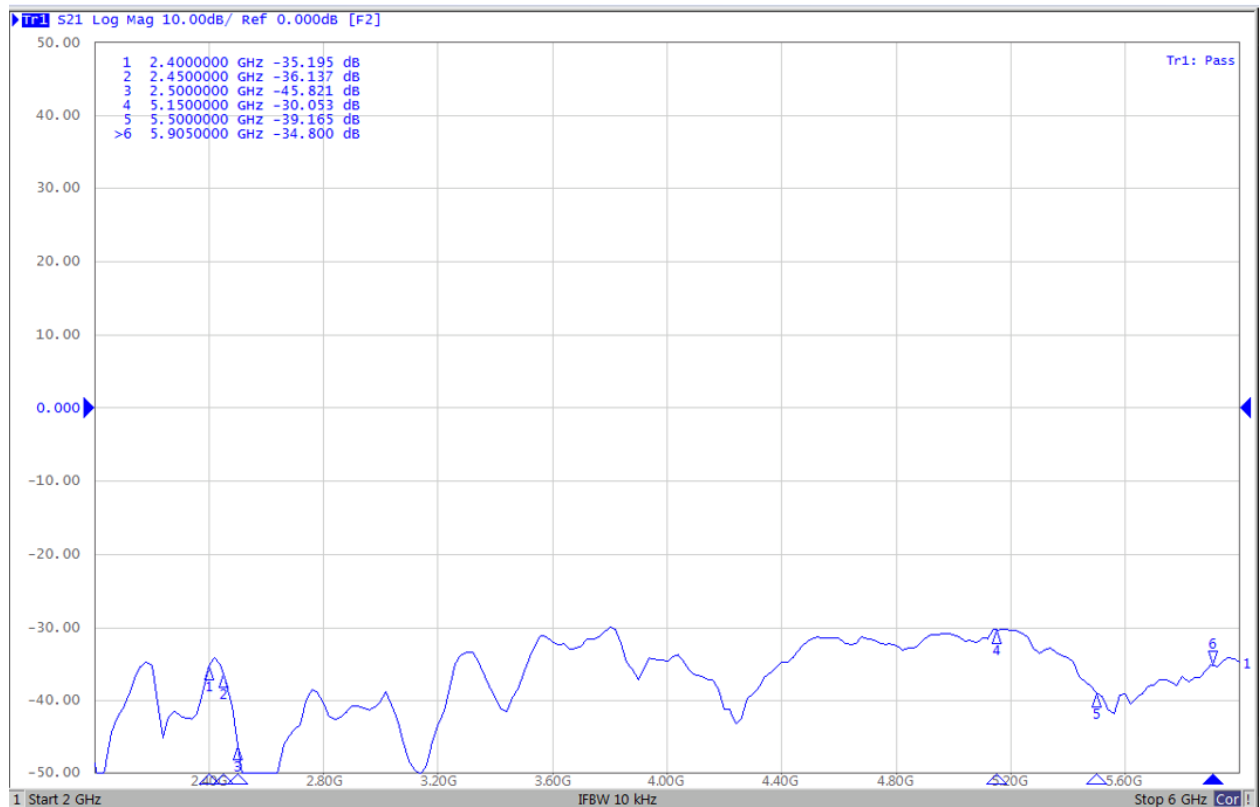


4. Isolation

1. (5G-215mm) & (2.4G-90mm) Isolation

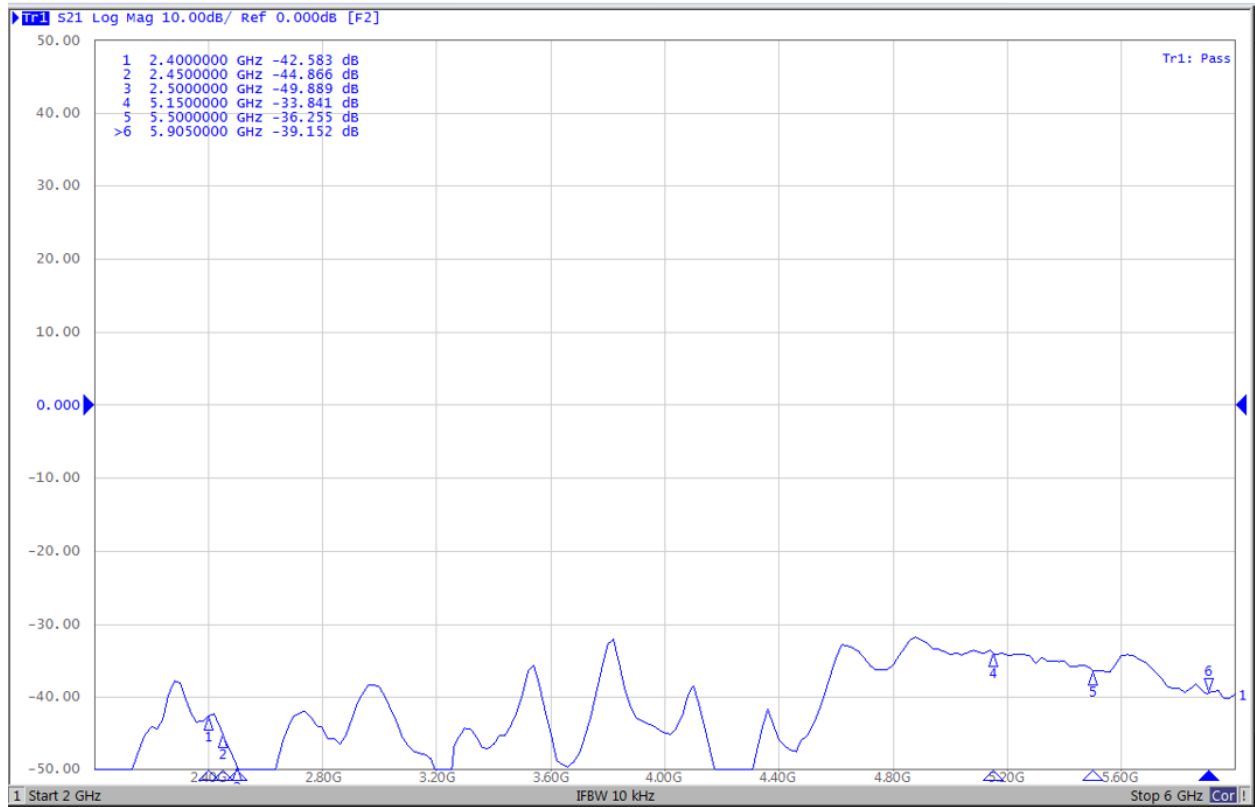


2. (5G-215mm) & (5G-105mm) Isolation



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3. (5G-215mm) & (2.4G&5G-200mm) Isolation

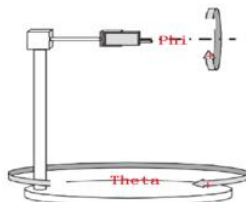
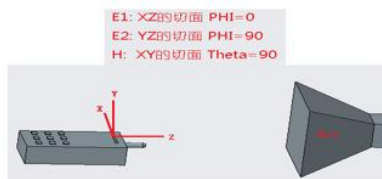


5. Antenna OTA Test:

Test Equipment & Conditions

1. Network Analyzers :HP8753D
2. Communications Test Set:
3. 3D Chamber Test System:Guangpin

网络分析仪: HP8753D



测试系统

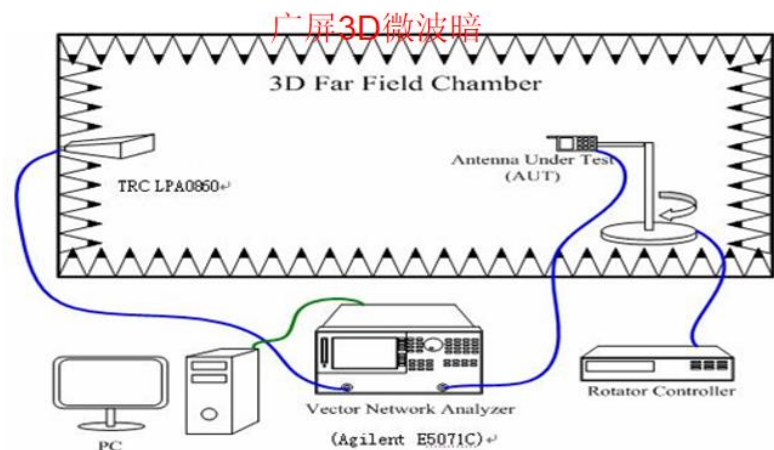
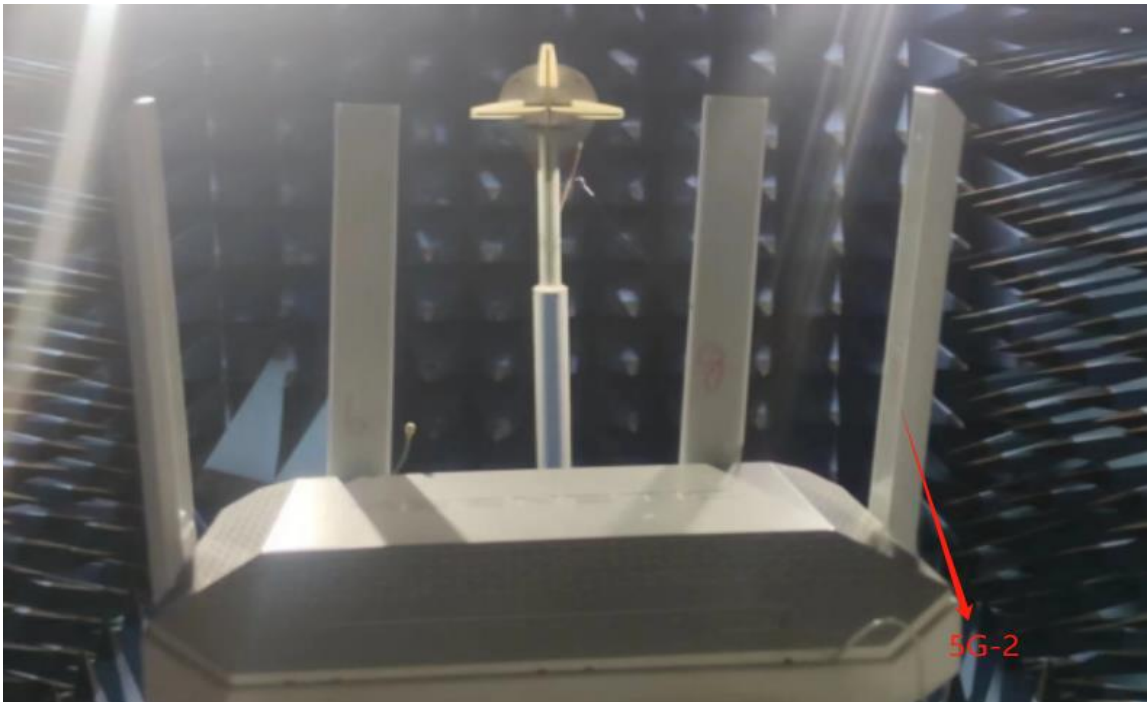


图. 1. 微波暗室内部仪器设置 r.

Test Environment:

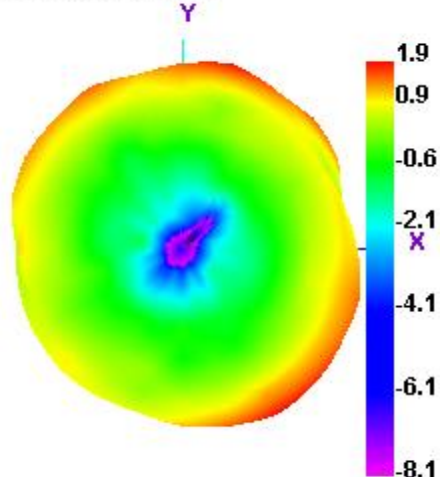


5G Antenna Gain&Efficiency

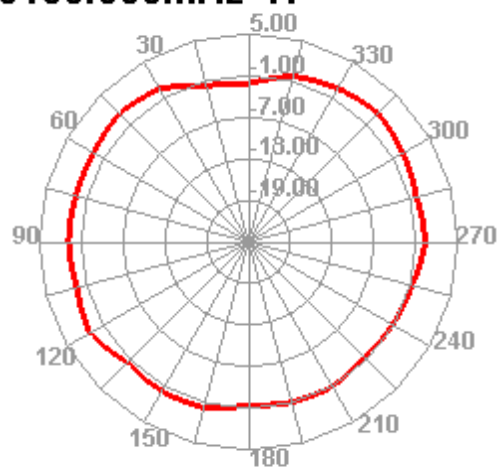
Freq (MHz)	Effi (%)	Gain (dBi)
5150	69.85	1.9
5200	65.66	1.93
5250	68.67	1.96
5300	66.19	2.35
5350	67.52	2.33
5400	68.41	1.98
5450	68.88	1.74
5500	69.66	2.08
5550	65.51	1.83
5600	66.48	1.69
5650	65.66	2.18
5700	65.51	2.06
5750	65.79	2.19
5800	65.64	1.97
5850	65.97	1.89

5.8G Patten

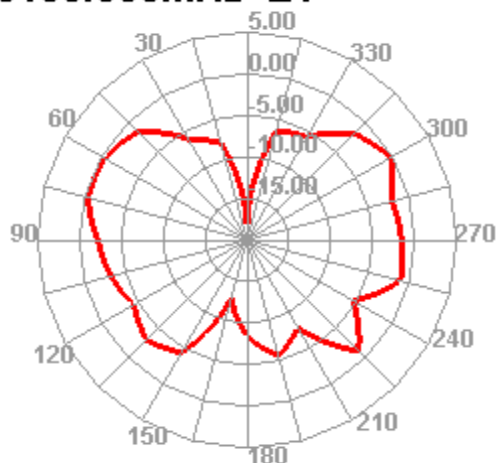
5150.000MHz



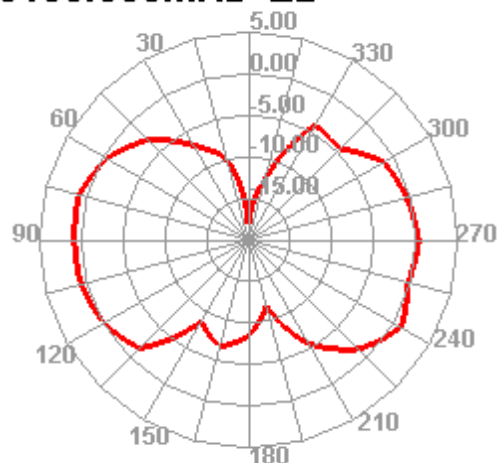
5150.000MHz H



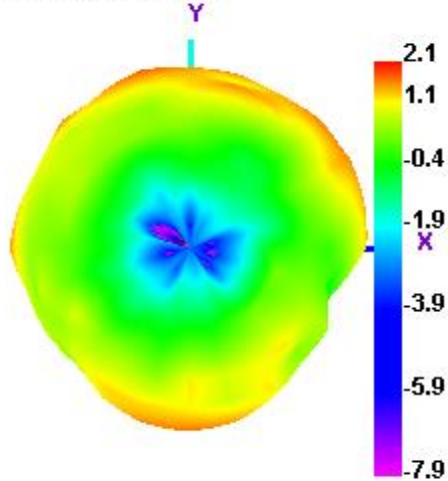
5150.000MHz E1



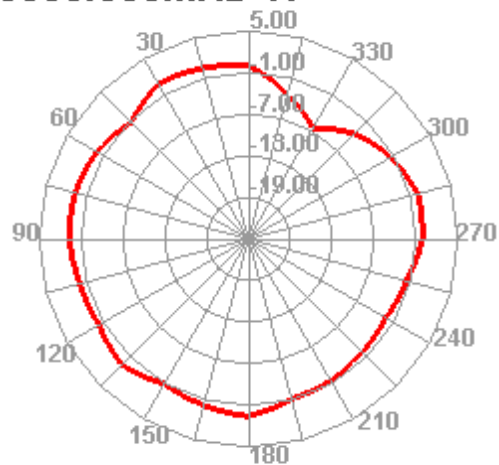
5150.000MHz E2



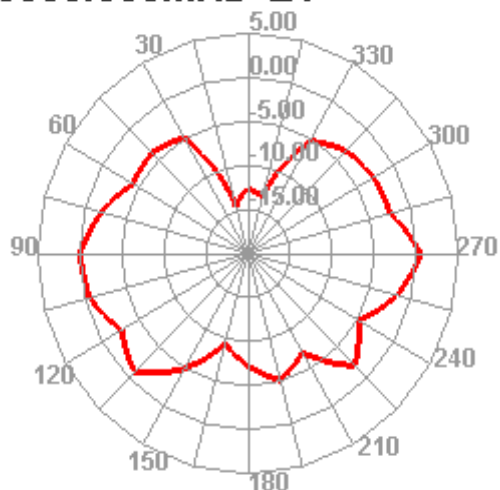
5500.000MHz



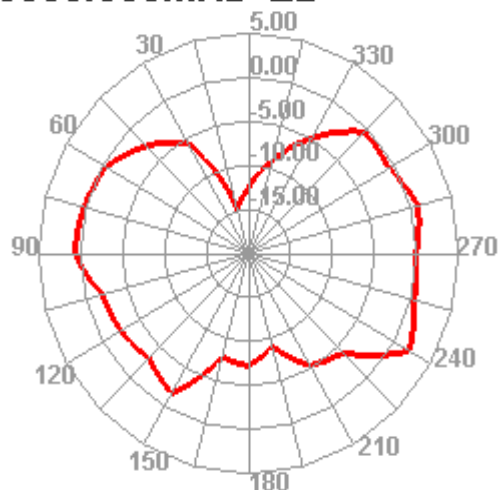
5500.000MHz H



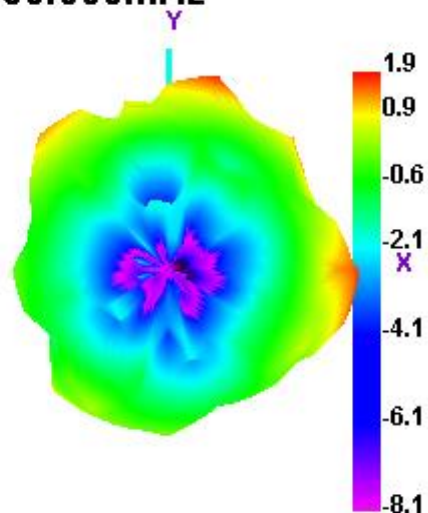
5500.000MHz E1



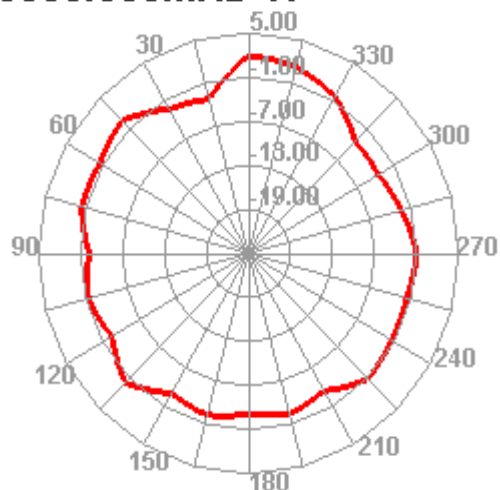
5500.000MHz E2



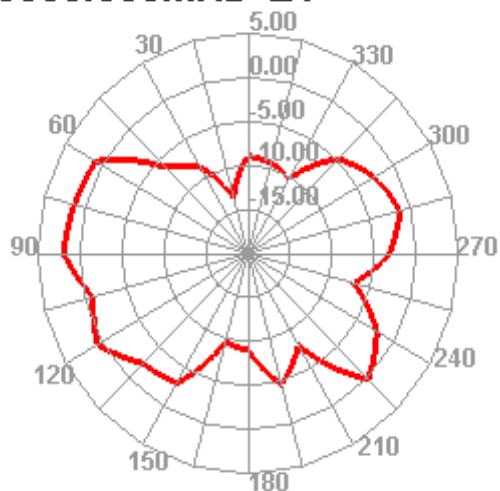
5850.000MHz



5850.000MHz H



5850.000MHz E1



5850.000MHz E2

