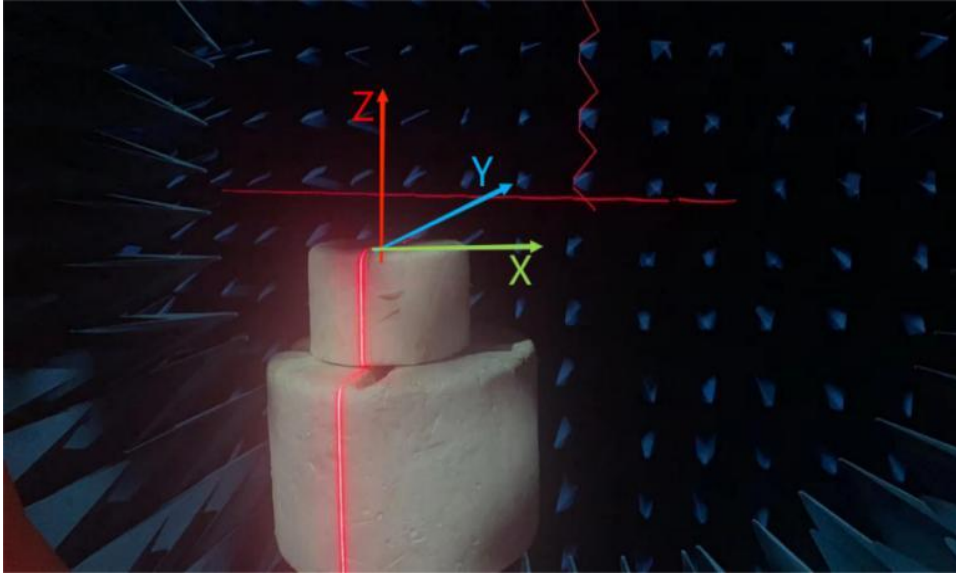


Antenna Test Data Report

1. Antenna and Test Setup Photos



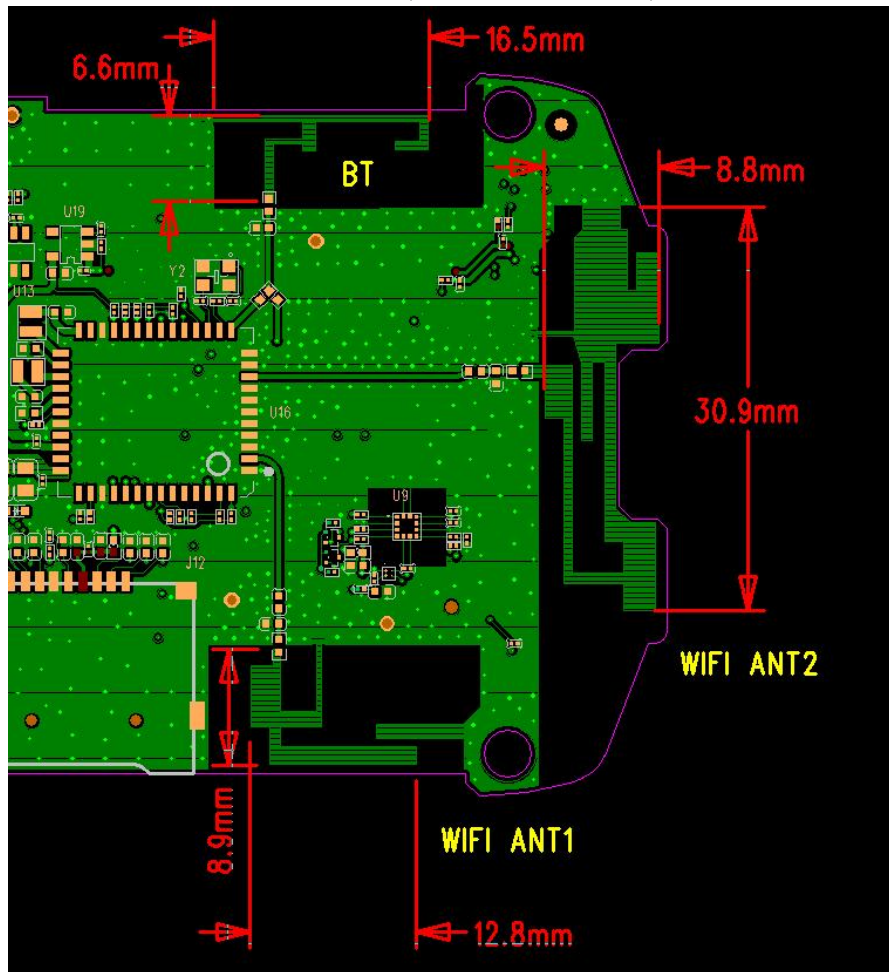
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2. Antenna Dimension Drawing

Antenna Type: PCB

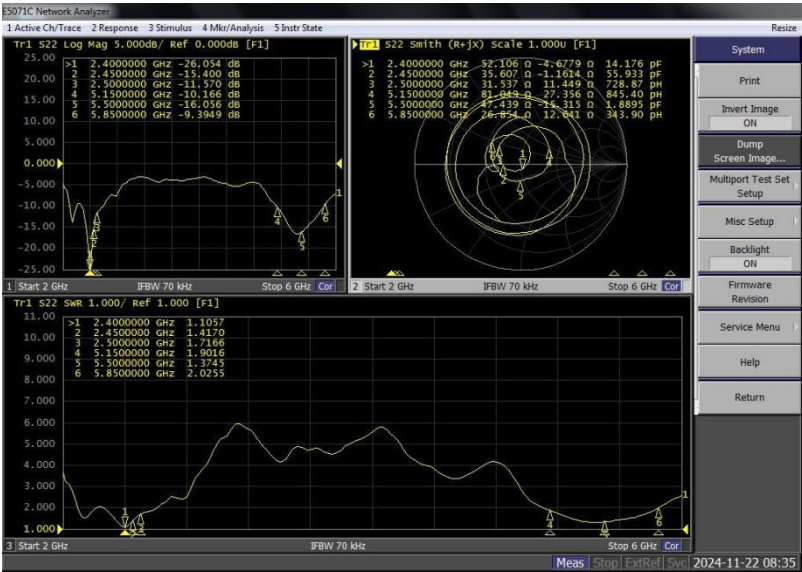
Antenna Model: SN9BTCC-BT, SN9BTCC-WIFI1, SN9BTCC-WIFI2



3. Antenna VSWR and Isolation Performance

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ANT-1

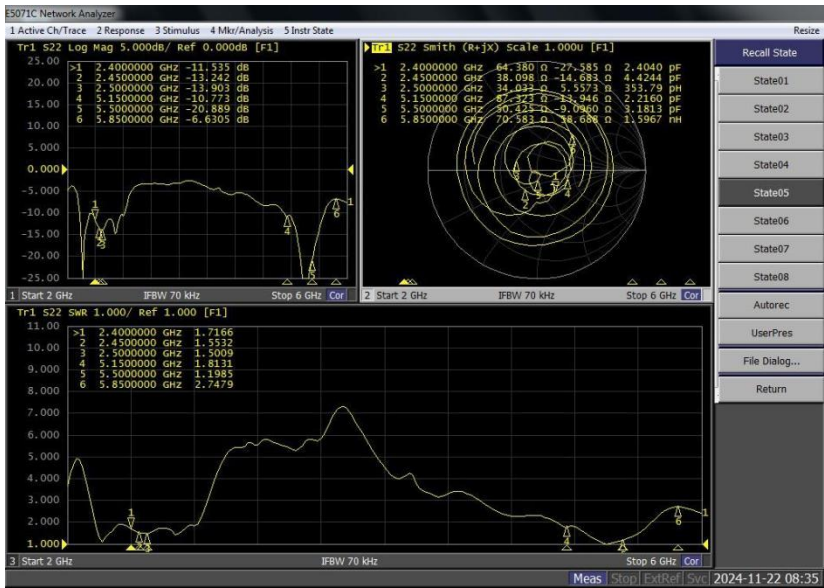


V.S.W.R

Freq/GHz	2.4	2.45	2.5	5.15	5.5	5.85
VSWR	1.1	1.4	1.7	1.9	1.3	2.0

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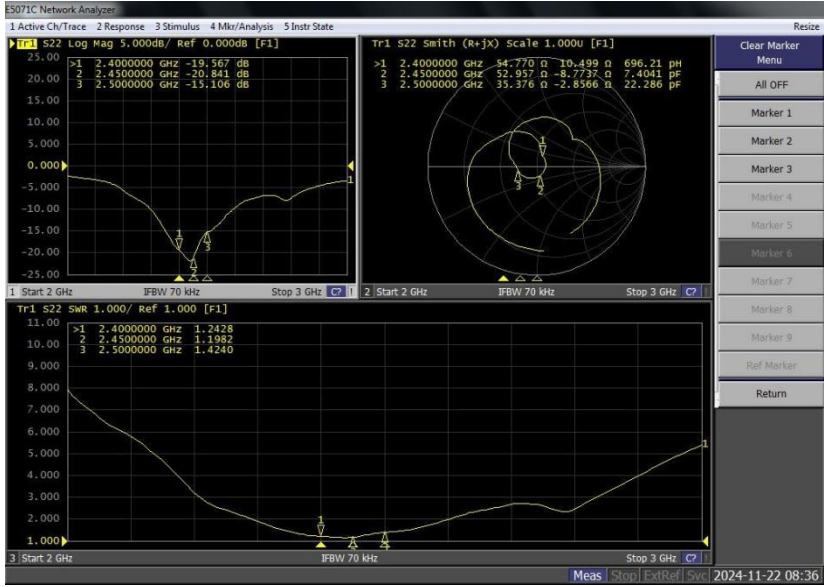
ANT-2



V.S.W.R

Freq/GHz	2.4	2.45	2.5	5.15	5.5	5.85
VSWR	1.7	1.5	1.5	1.8	1.1	2.7

BT



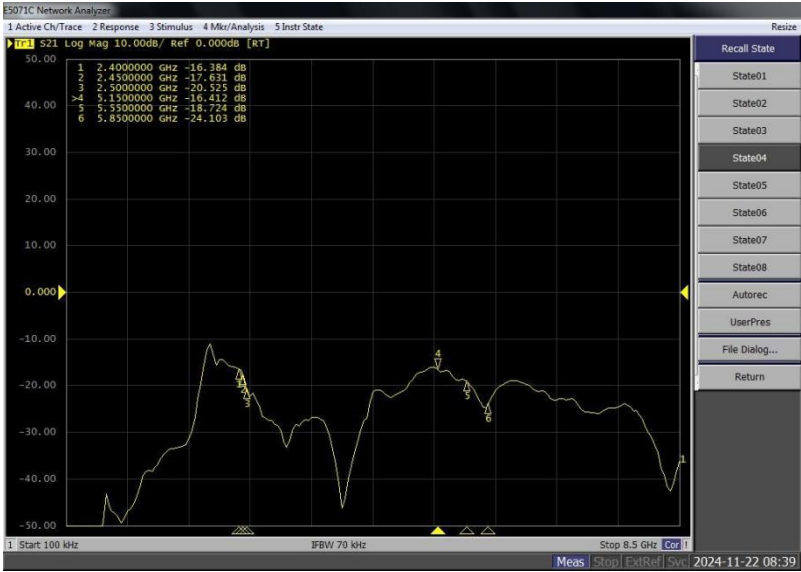
V.S.W.R

Freq/GHz	2.4	2.45	2.5
VSWR	1.2	1.1	1.4

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Isolation

ANT1-ANT2



Log mag

Freq/GHz	2.4	2.45	2.5	5.15	5.5	5.85
Log mag	-16.3	-17.6	-20.5	-16.4	-18.7	-24.1

ANT1-BT



Log mag

Freq/GHz	2.4	2.45	2.5
Log mag	-27.1	-25	-22.6

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ANT2-BT



Log mag

Freq/GHz	2.4	2.45	2.5
Log mag	-16.5	16.2	-15.8

4. Antenna Passive Efficiency

ANT-1

Gain&Efficiency&PhaseCenter						
增益、效率和相位中心						
Frequency 频率(MHz)	Gain 增益(dBi)	MinGain 最小增益 (dBi)	CO Gain 主极化最 大增益 (dBi)	CP Gain 交叉极化 最大增益 (dBi)	Efficiency 效率(dB)	Efficiency 效率(%)
2400.00	3.99	-21.52	3.68	2.47	-2.88	51.51
2410.00	4.10	-21.44	3.83	2.72	-2.99	50.20
2420.00	4.79	-24.99	4.48	3.55	-2.72	53.48
2430.00	4.32	-27.18	4.03	3.17	-3.00	50.17
2440.00	4.69	-23.83	4.40	3.61	-3.04	49.66
2450.00	4.77	-19.29	4.50	3.71	-2.83	52.07
2460.00	4.10	-17.02	3.86	3.05	-3.08	49.17
2470.00	4.09	-14.33	3.85	2.99	-3.12	48.72
2480.00	3.88	-12.58	3.69	2.81	-3.19	47.99
2490.00	3.45	-14.02	3.26	2.38	-3.33	46.44
2500.00	2.60	-15.24	2.46	1.46	-3.20	47.86
Gain&Efficiency&PhaseCenter						
增益、效率和相位中心						
Frequency 频率(MHz)	Gain 增益(dBi)	MinGain 最小增益 (dBi)	CO Gain 主极化最 大增益 (dBi)	CP Gain 交叉极化 最大增益 (dBi)	Efficiency 效率(dB)	Efficiency 效率(%)
5150.00	2.76	-16.82	2.72	1.83	-2.37	57.91
5200.00	2.70	-18.30	2.62	2.42	-2.36	58.12
5250.00	3.63	-20.01	3.48	3.38	-2.01	62.92
5300.00	3.81	-18.85	3.71	3.06	-2.54	55.75
5350.00	4.31	-16.48	4.19	3.24	-2.39	57.70
5400.00	4.68	-21.28	4.62	3.72	-2.30	58.87
5450.00	4.90	-32.49	4.84	4.16	-2.24	59.70
5500.00	5.44	-16.60	5.39	4.72	-1.89	64.78
5550.00	5.61	-16.24	5.50	5.03	-1.95	63.87
5600.00	5.17	-21.11	5.05	4.66	-2.48	56.51
5650.00	6.22	-19.72	6.10	5.53	-1.90	64.53
5700.00	6.17	-19.18	5.94	5.64	-1.90	64.58

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5750.00	6.52	-22.59	5.90	5.83	-1.64	68.53
5800.00	6.11	-25.28	5.23	5.01	-2.14	61.04
5850.00	5.15	-35.00	4.30	4.27	-2.16	60.77

ANT-2

Gain&Efficiency&PhaseCenter						
增益、效率和相位中心						
Frequency 频率(MHz)	Gain 增益(dBi)	MinGain 最小增益 (dBi)	CO Gain 主极化最大增益 (dBi)	CP Gain 交叉极化最大增益 (dBi)	Efficiency 效率(dB)	Efficiency 效率(%)
2400.00	4.15	-24.35	4.13	3.33	-3.05	49.51
2410.00	4.08	-23.65	4.07	3.11	-3.22	47.63
2420.00	4.64	-21.85	4.63	3.58	-2.80	52.48
2430.00	4.11	-21.37	4.11	3.09	-2.95	50.65
2440.00	4.31	-21.11	4.30	3.39	-2.86	51.75
2450.00	4.34	-21.29	4.32	3.55	-2.44	57.01
2460.00	3.55	-23.45	3.52	2.92	-2.95	50.69
2470.00	3.35	-24.82	3.31	2.90	-2.51	56.15
2480.00	3.69	-25.39	3.58	3.14	-2.34	58.37
2490.00	3.54	-26.21	3.44	2.67	-2.41	57.35
2500.00	3.54	-27.08	3.44	1.80	-2.56	55.50
Gain&Efficiency&PhaseCenter						
增益、效率和相位中心						
Frequency 频率(MHz)	Gain 增益(dBi)	MinGain 最小增益 (dBi)	CO Gain 主极化最大增益 (dBi)	CP Gain 交叉极化最大增益 (dBi)	Efficiency 效率(dB)	Efficiency 效率(%)
5150.00	2.89	-19.31	2.11	-0.45	-2.83	52.10
5200.00	2.20	-19.05	1.45	0.07	-2.94	50.87
5250.00	2.73	-26.57	2.17	0.99	-2.46	56.76
5300.00	2.69	-25.48	2.35	0.98	-2.44	56.99
5350.00	3.18	-20.98	3.02	0.61	-2.34	58.39
5400.00	2.99	-16.33	2.78	0.49	-2.47	56.65
5450.00	3.55	-15.28	3.32	1.41	-2.45	56.93
5500.00	3.80	-16.99	3.69	2.36	-2.45	56.85
5550.00	3.27	-19.13	2.94	2.23	-2.82	52.26

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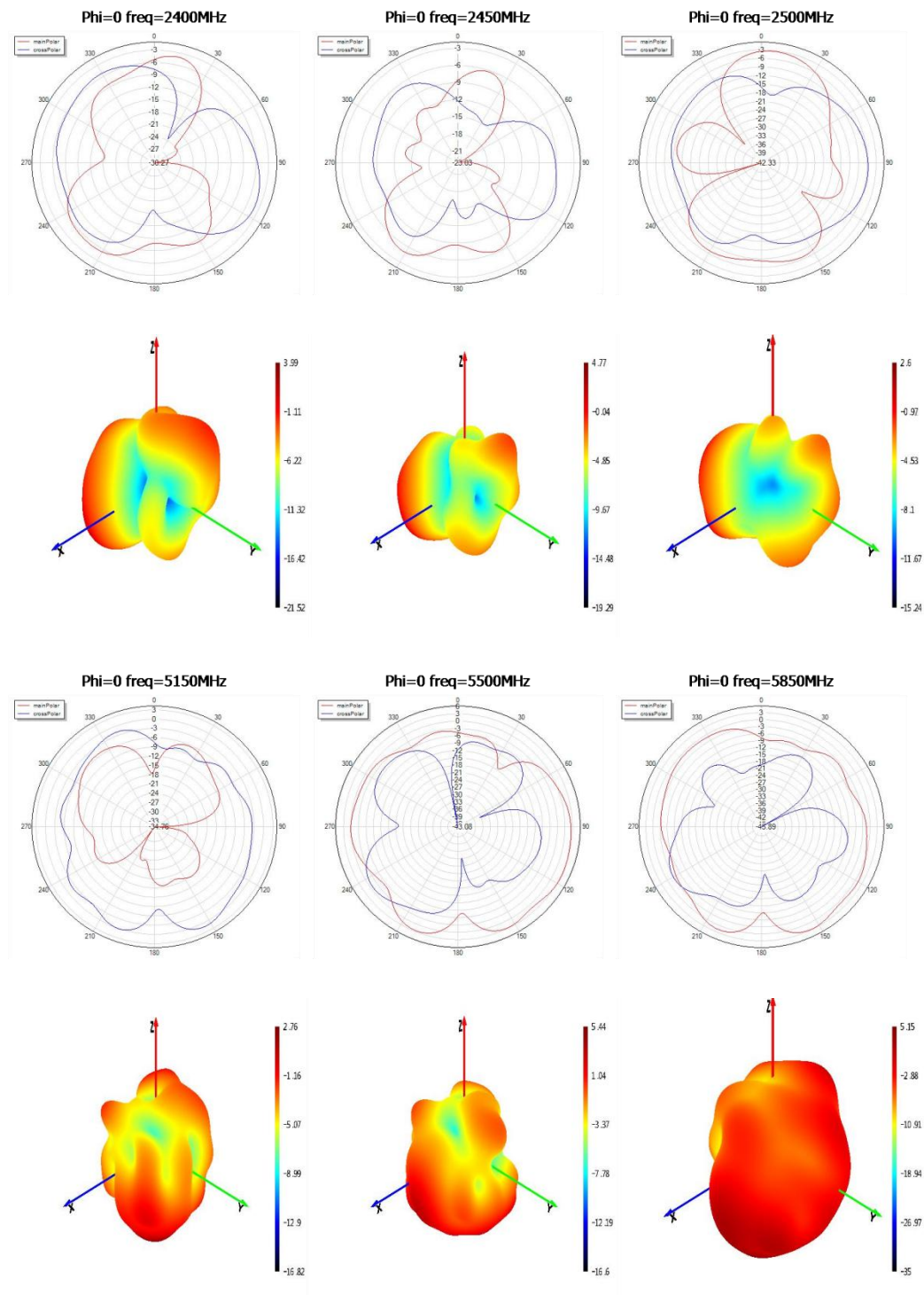
5600.00	2.24	-20.72	2.02	1.88	-2.85	51.89
5650.00	3.29	-22.12	3.23	2.79	-3.01	49.95
5700.00	4.02	-31.11	3.96	3.42	-3.26	47.19
5750.00	3.68	-34.07	3.61	2.85	-3.34	46.32
5800.00	3.24	-25.62	3.10	1.85	-3.27	47.14
5850.00	3.35	-17.21	2.70	1.84	-3.35	46.24

BT

Gain&Efficiency&PhaseCenter 增益、效率和相位中心						
Frequency 频率(MHz)	Gain 增益 (dBi)	MinGain 最小增益 (dBi)	CO Gain 主极化 最大增益 (dBi)	CP Gain 交叉极 化最大 增益 (dBi)	Efficiency 效率(dB)	Efficiency 效率(%)
2400.00	3.05	-23.09	2.95	2.74	-3.08	49.24
2410.00	3.01	-26.11	2.99	2.57	-3.23	47.51
2420.00	3.48	-30.09	3.48	2.73	-2.90	51.28
2430.00	2.95	-32.89	2.93	2.28	-3.12	48.78
2440.00	3.08	-29.86	3.04	2.19	-3.04	49.66
2450.00	2.88	-29.91	2.82	2.25	-2.77	52.81
2460.00	2.00	-29.46	1.93	1.30	-3.31	46.68
2470.00	1.71	-28.49	1.65	1.21	-3.01	49.96
2480.00	1.89	-24.62	1.77	1.68	-2.93	50.92
2490.00	1.58	-24.37	1.51	1.47	-3.04	49.65
2500.00	1.53	-22.97	1.41	1.22	-3.21	47.73

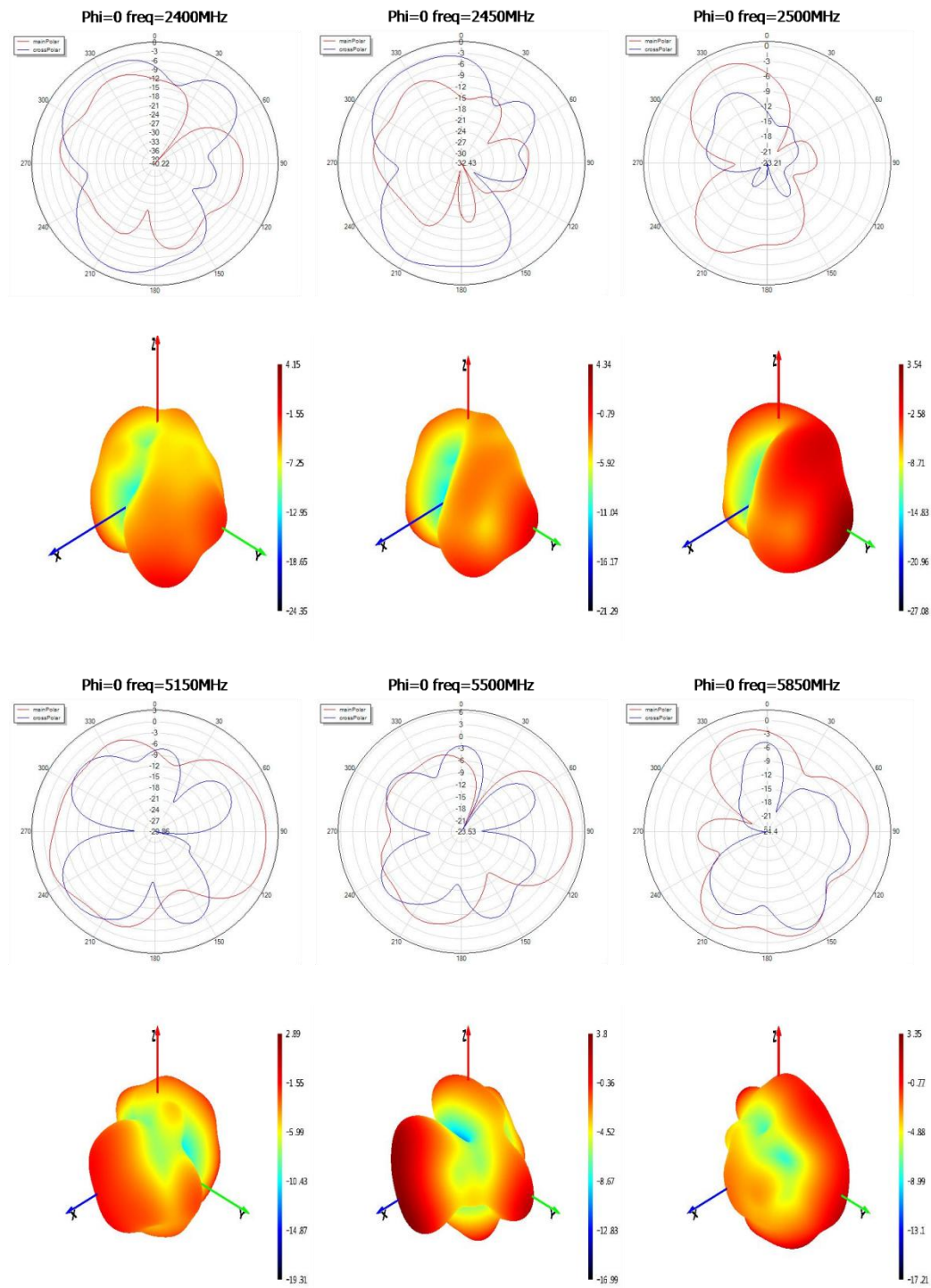
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5. 2D/3D Radiation PatternsANT-1



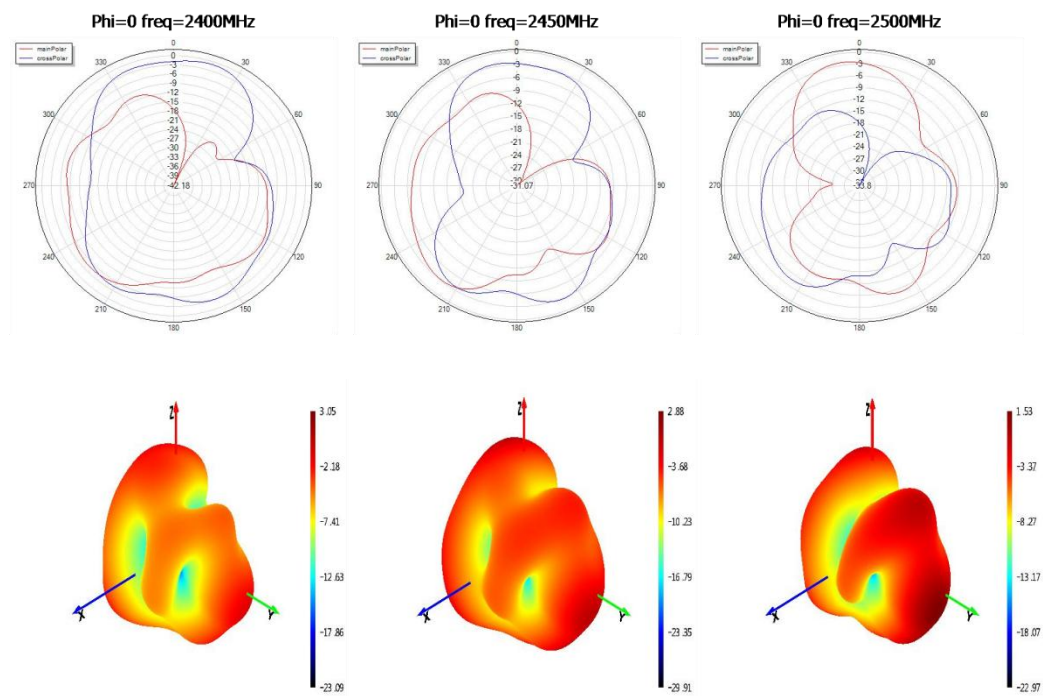
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ANT-2



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BT



6. OTA Data

Test	Wifi 2G TRP			Test	Wifi 2G TIS		
CH	1	6	13	CH	1	6	13
Frequency (MHz)	2412	2437	2472	Frequency (MHz)	2412	2437	2472
TRP(dBm)	12.61	13.39	13.75	TIS(dBm)	-77.65	-77.3	-77.06

Test mode: 802.11a 54Mbps BW 20M

Test	Wifi 5G TRP			Test	Wifi 5G TIS		
CH	36	100	165	CH	36	100	165
Frequency (MHz)	5180	5500	5825	Frequency (MHz)	5180	5500	5825
TRP(dBm)	16.57	14.9	14.34	TIS(dBm)	-74.06	-72.18	-72.68