



Antenna Performance Description

Applicant: Xiaomi Communications Co., Ltd

Product description: Mobile Phone

Model Name: 22111317PG

FCC ID: 2AFZZ1317PG

Test date: 2022/09/28



1. Antenna information

Antenna	Model Name	Antenna Pattern	Antenna Type	Manufacturer	Test party of Antenna gain
ANT1	QN6335A	FPC	PIFA Antenna	Kun Shan Innwave Communication Technology Co., Ltd.	Kun Shan Innwave Communication Technology Co., Ltd.
ANT4	QN6335A	FPC	PIFA Antenna	Kun Shan Innwave Communication Technology Co., Ltd.	Kun Shan Innwave Communication Technology Co., Ltd.
ANT2	QN6335A	FPC	PIFA Antenna	Kun Shan Innwave Communication Technology Co., Ltd.	Kun Shan Innwave Communication Technology Co., Ltd.
ANT6	QN6335A	FPC	PIFA Antenna	Kun Shan Innwave Communication Technology Co., Ltd.	Kun Shan Innwave Communication Technology Co., Ltd.
ANT3	QN6335A	FPC	PIFA Antenna	Kun Shan Innwave Communication Technology Co., Ltd.	Kun Shan Innwave Communication Technology Co., Ltd.



ANT5	QN6335A	FPC	PIFA Antenna	Kun Shan Innowave Communication Technology Co., Ltd.	Kun Shan Innowave Communication Technology Co., Ltd.
ANT7	QN6335A	FPC	PIFA Antenna	Kun Shan Innowave Communication Technology Co., Ltd.	Kun Shan Innowave Communication Technology Co., Ltd.
ANT NFC	QN6335A	FPC+Ferrite	Loop Antenna	Kun Shan Innowave Communication Technology Co., Ltd.	Kun Shan Innowave Communication Technology Co., Ltd.



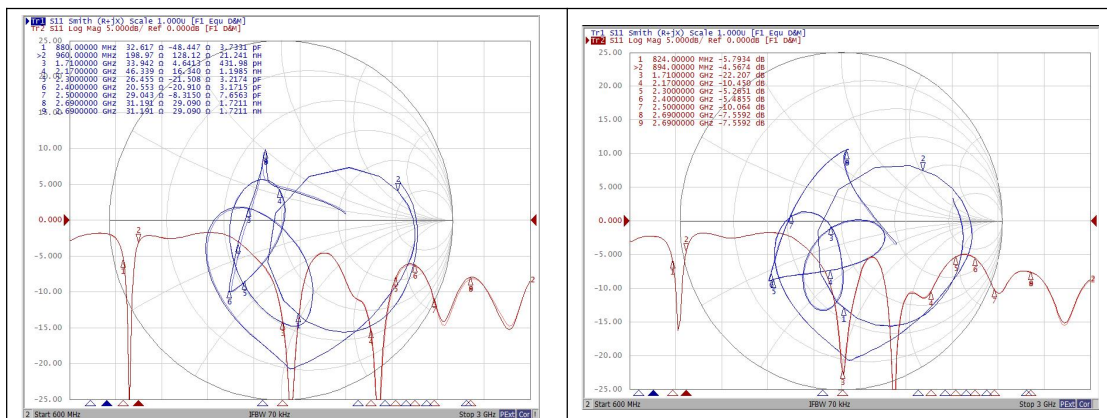
2、Test data

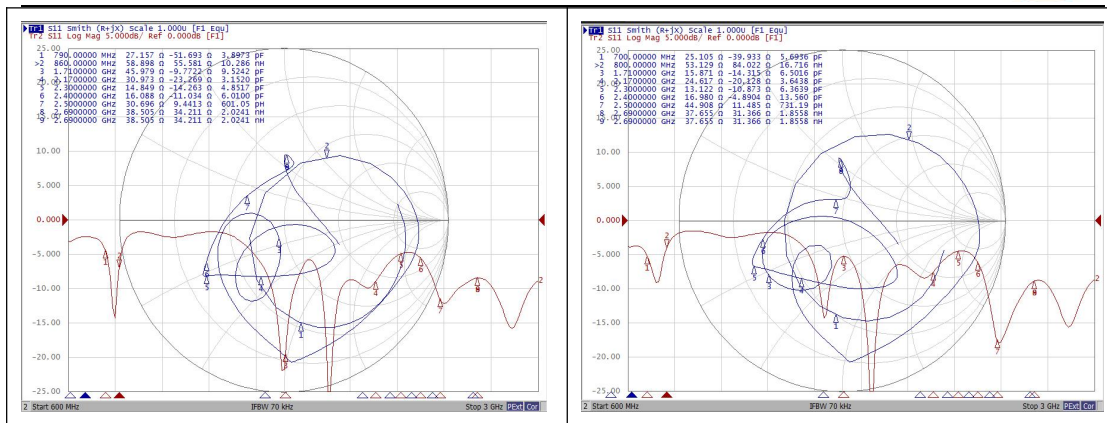
(ANT1)	band	Eff (dB)	Antenna Gain (dBi)
2G	GSM850 (824-849, 869-894)	-8.9	-4.3
	GSM900 (880-915, 925-960)	-8.2	-3
	GSM1800 (1710-1785, 1905-1880)	-3.6	1.4
	GSM1900 (1850-1910, 1930-1990)	-5.6	-1.1
3G	WCDMA B1 (1920-1980, 2110-2170)	-6.6	-2.1
	WCDMA B2 (1850-1910, 1930-1990)	-5.6	-1.1
	WCDMA B4 (1710-1785, 2110-2155)	-3.6	1.4
	WCDMA B5 (824-849, 869-894)	-8.9	-4.3
	WCDMA B8 (880-915, 925-960)	-8.2	-3
4G	TTE FDD 1: (1920-1980, 2110-2170)	-6.6	-2.1
	TTE FDD 2: (1850-1910, 1930-1990)	-5.6	-1.1
	TTE FDD 3: (1710-1785, 1905-1880)	-3.6	1.4
	TTE FDD 4: (1710-1785, 2110-2155)	-3.6	1.4
	TTE FDD 5: (824-849, 869-894)	-8.9	-4.3
	TTE FDD 7: (2500-2570, 2620-2690)	-6	-1.4
	TTE FDD 8: (880-915, 925-960)	-8.2	-3
	TTE FDD 20: (832-862, 791-821)	-8.3	-3.7
	TTE FDD 28: (703-748, 758-803)	-9.4	-5.1
	TTE TDD 38: (2570-2620)	-5.8	-1.3



5G	TTE TDD 40: (2300-2400)	-6.5	-1.7
	TTE TDD 41: (2496-2690)	-5.8	-1.3
	TTE FDD 66: (1710-1780, 2110-2200)	-3.6	1.4
	N1 (1920-1980, 2110-2170)	-6.6	-2.1
	N3 (1710-1785, 1905-1880)	-3.6	1.4
	N5 (824-849, 869-894)	-8.9	-4.3
	N7 (2500-2570, 2620-2690)	-6	-1.4
	N8 (880-915, 925-960)	-8.2	-3
	N20 (832-862, 791-821)	-8.3	-3.7
	N28 (703-748,758-803)	-9.4	-5.1
	N38 (2570-2620)	-5.8	-1.3
	N40 (2300-2400)	-6.5	-1.7
	N41 (2496-2690)	-5.8	-1.3

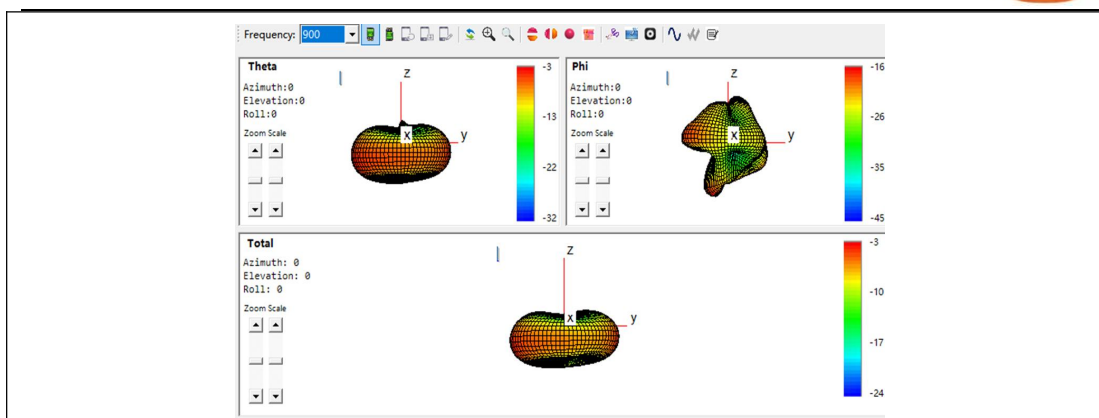
ANT1 S11&SMTH





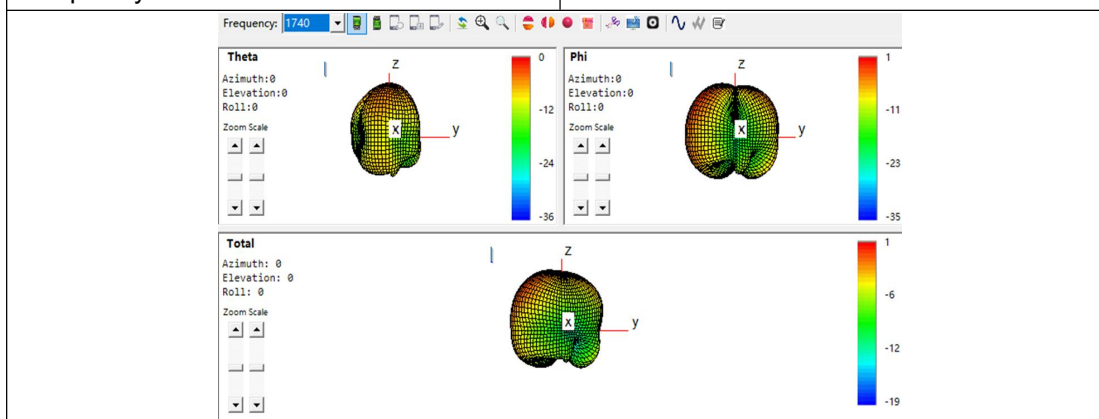
ANT1 directional diagram

Frequency	B8
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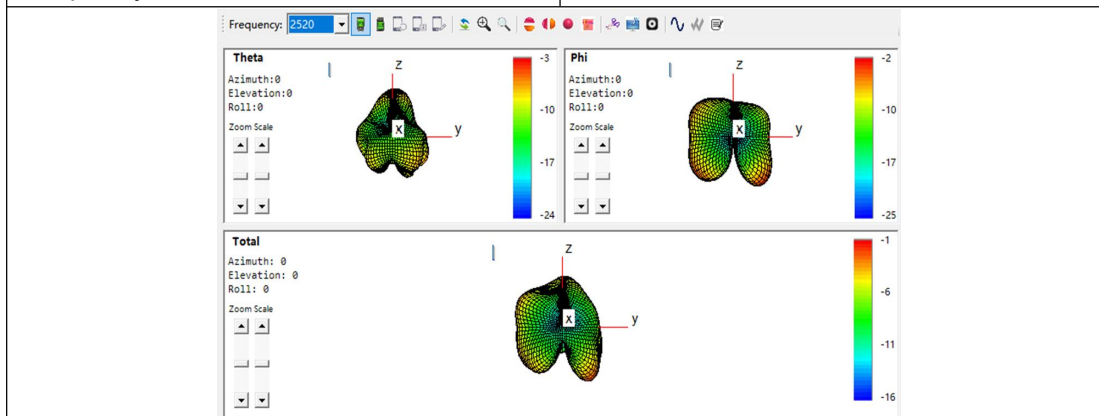
Frequency

B3



Frequency

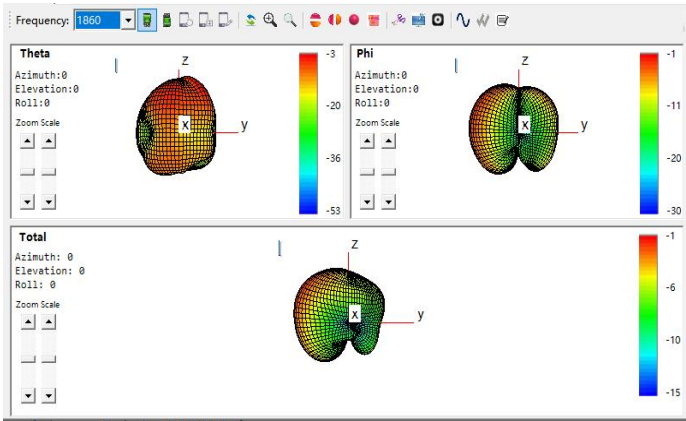
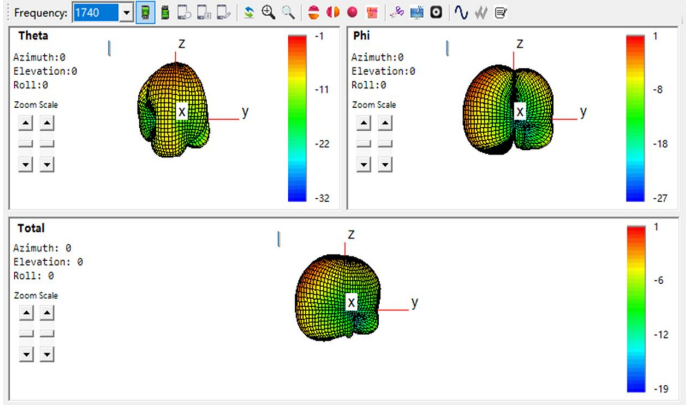
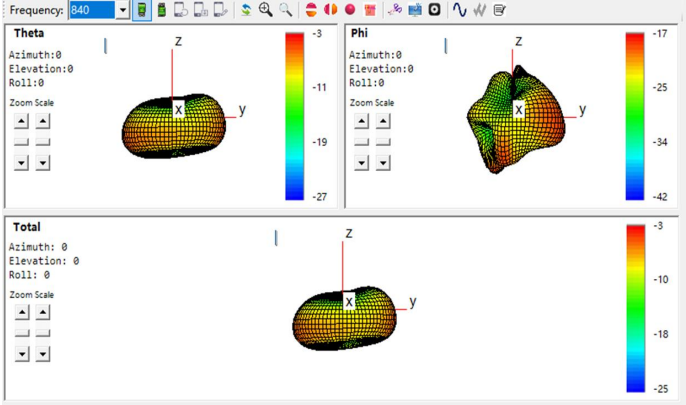
B41/38

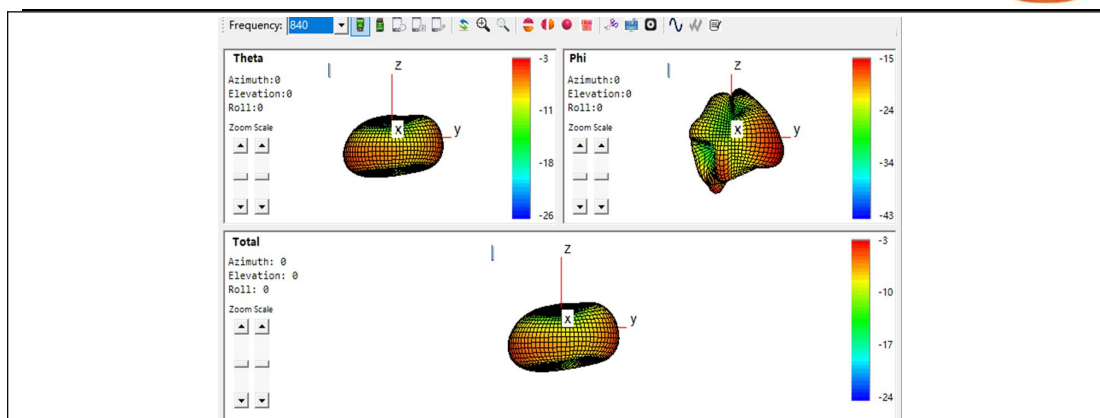


Frequency

B2

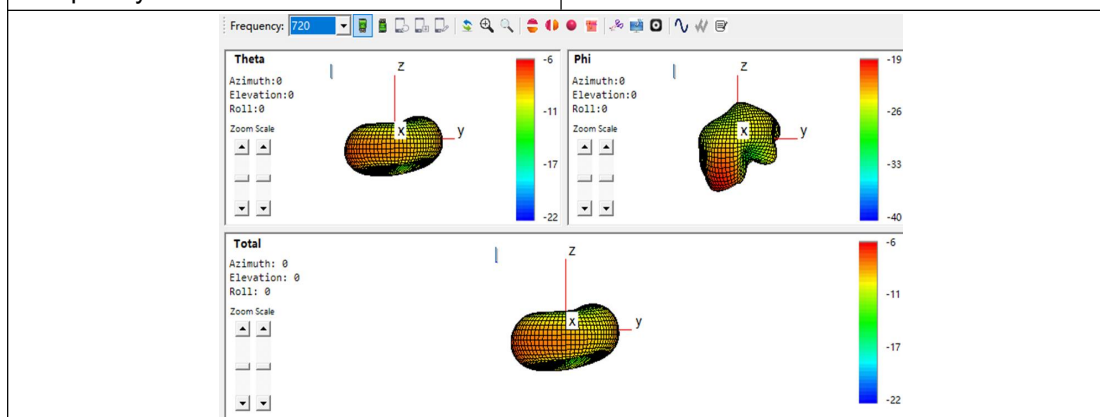


	
Frequency	B4
	
Frequency	B5
	
Frequency	B20



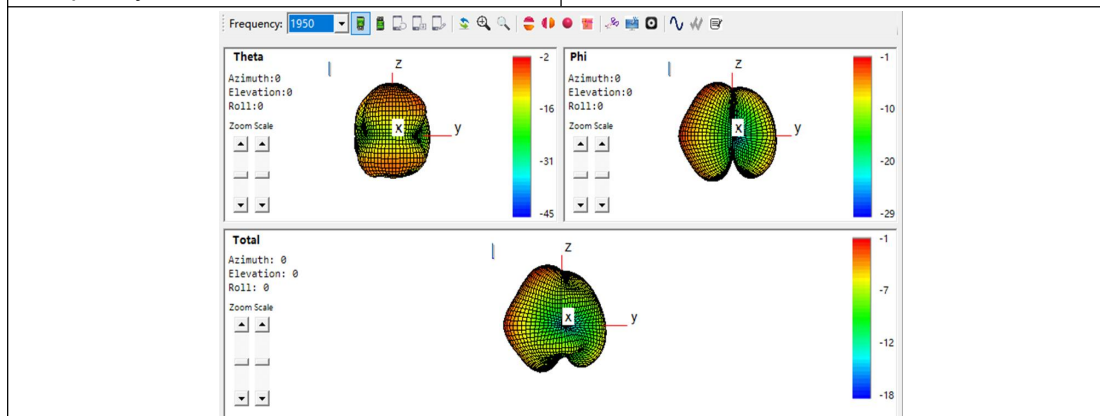
Frequency

B28



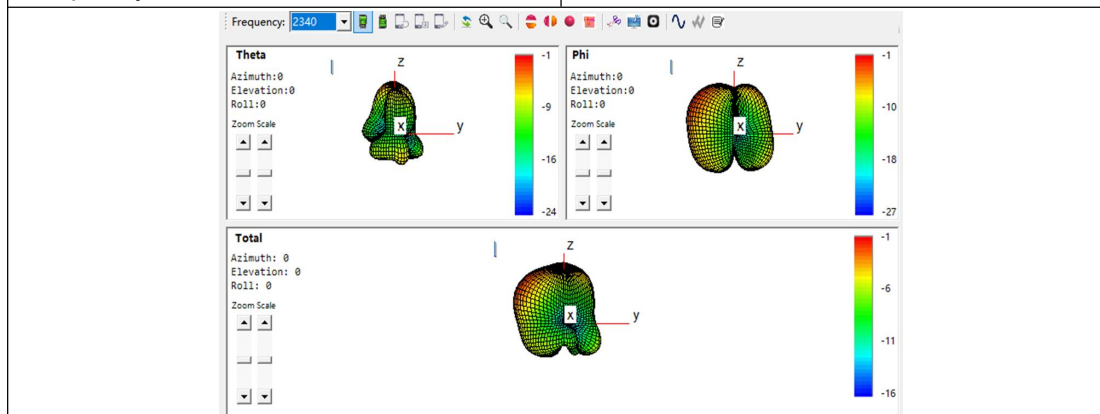
Frequency

B1



Frequency

B40



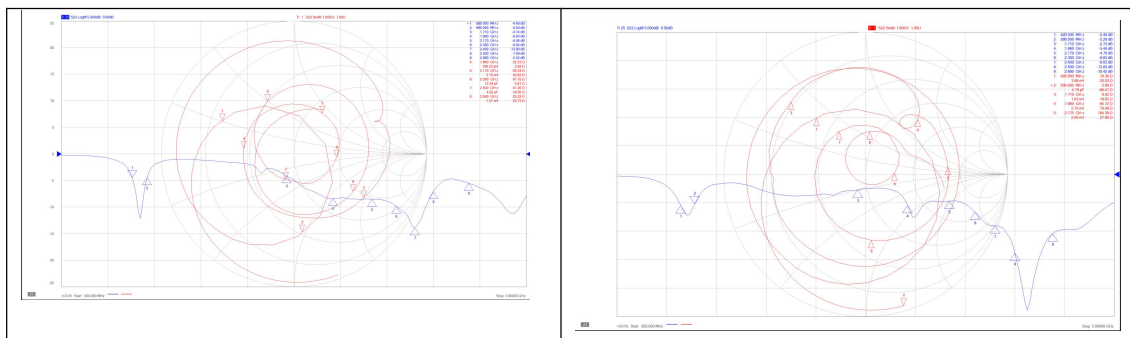


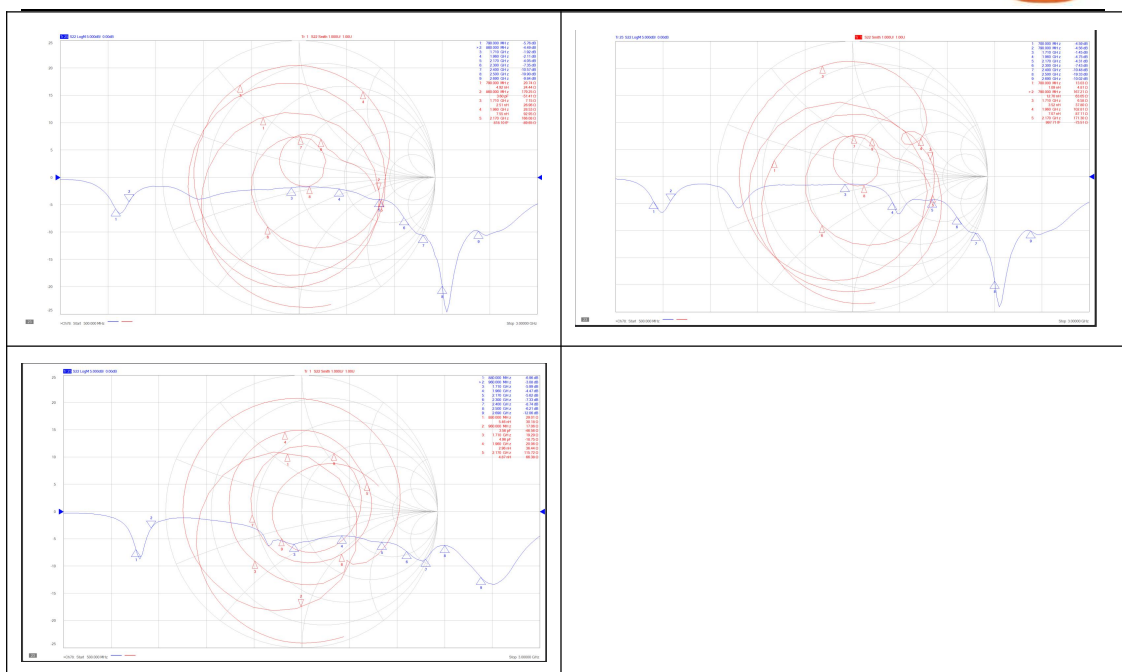
ANT4	band	Eff (dB)	Antenna Gain (dBi)
2G	GSM850 (824-849, 869-894)	-10.9	-6
	GSM900 (880-915, 925-960)	-10.1	-4.9
	GSM1800 (1710-1785, 1905-1880)	-6.7	-2.8
	GSM1900 (1850-1910, 1930-1990)	-5	-1.8
3G	WCDMA B1 (1920-1980, 2110-2170)	-5.2	-1.6
	WCDMA B2 (1850-1910, 1930-1990)	-5	-1.8
	WCDMA B4 (1710-1785, 2110-2155)	-6.7	-2.8
	WCDMA B5 (824-849, 869-894)	-10.9	-6
	WCDMA B8 (880-915, 925-960)	-10.1	-4.9
4G	TTE FDD 1: (1920-1980, 2110-2170)	-5.2	-1.6
	TTE FDD 2: (1850-1910, 1930-1990)	-5	-1.8
	TTE FDD 3: (1710-1785, 1905-1880)	-6.7	-2.8
	TTE FDD 4: (1710-1785, 2110-2155)	-6.7	-2.8
	TTE FDD 5: (824-849, 869-894)	-10.9	-6
	TTE FDD 7: (2500-2570, 2620-2690)	-5.4	-0.4
	TTE FDD 8: (880-915, 925-960)	-10.1	-4.9
	TTE FDD 20: (832-862, 791-821)	-10.3	-5.3
	TTE FDD 28: (703-748, 758-803)	-10.6	-6.6
	TTE TDD 38: (2570-2620)	-5.7	-0.8



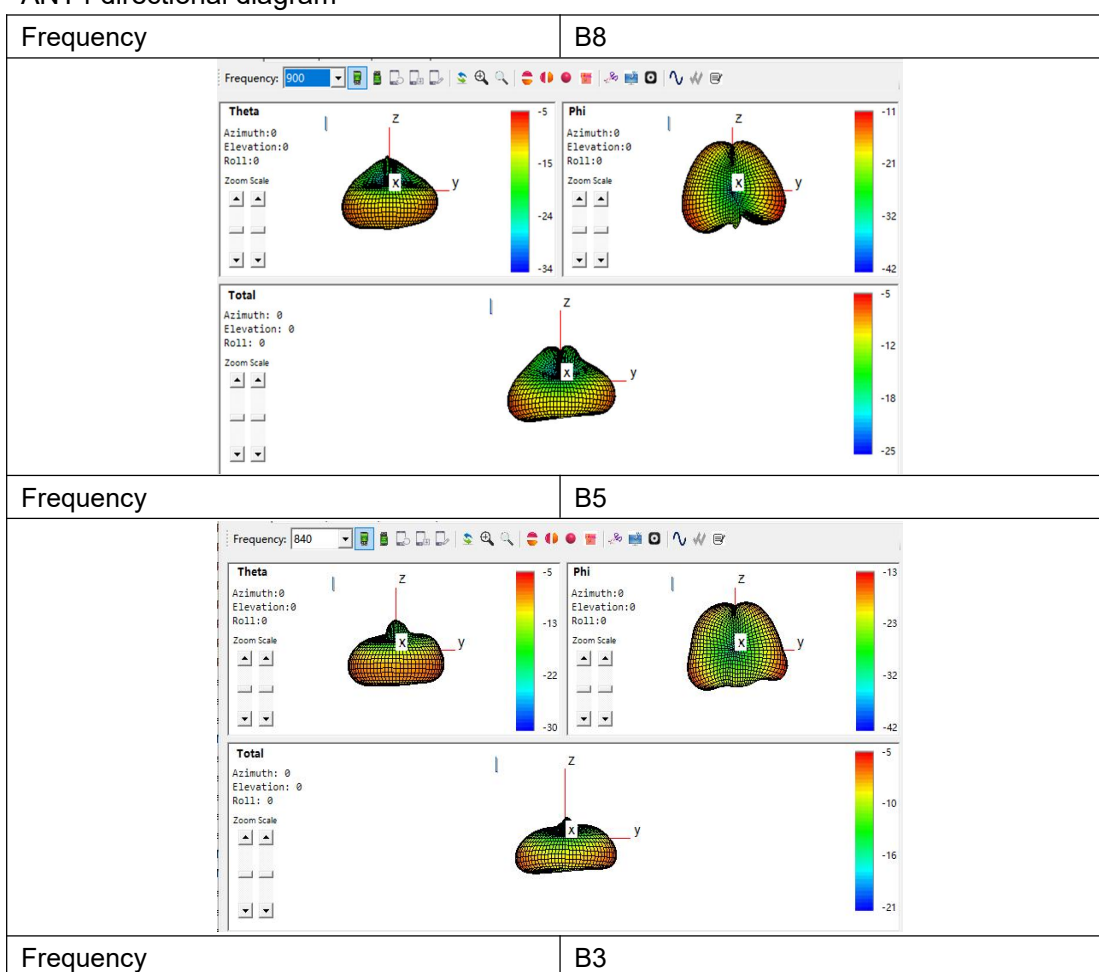
	TTE TDD 40: (2300-2400)	-4.8	0.5
	TTE TDD 41: (2496-2690)	-5.7	-0.8
	TTE FDD 66: (1710-1780, 2110-2200)	-6.7	-2.8
5G	N1 (1920-1980, 2110-2170)	-5.2	-1.6
	N3 (1710-1785, 1905-1880)	-6.7	-2.8
	N5 (824-849, 869-894)	-10.9	-6
	N7 (2500-2570, 2620-2690)	-5.4	-0.4
	N8 (880-915, 925-960)	-10.1	-4.9
	N20 (832-862, 791-821)	-10.3	-5.3
	N28 (703-748, 758-803)	-10.6	-6.6
	N38 (2570-2620)	-5.7	-0.8
	N40 (2300-2400)	-4.8	0.5
	N41 (2496-2690)	-5.7	-0.8

ANT4 S11&SMTTH

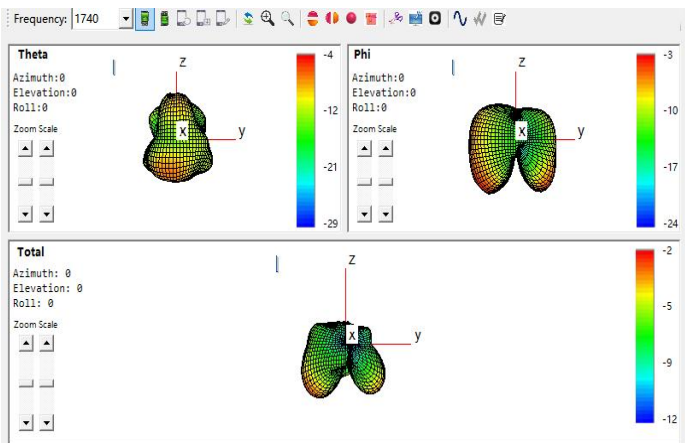
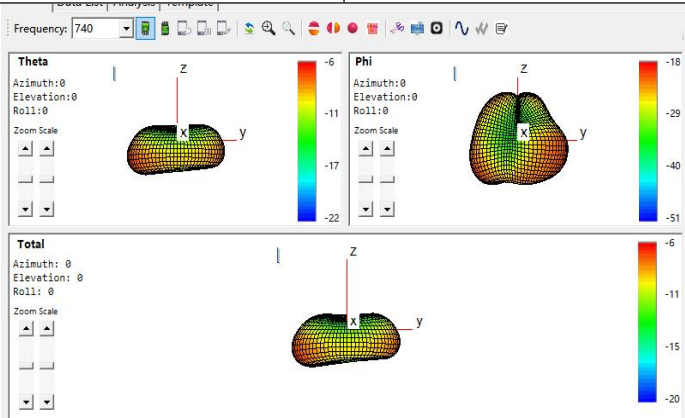
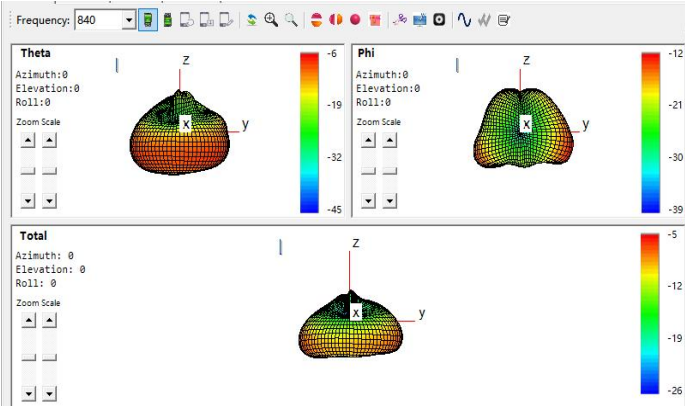


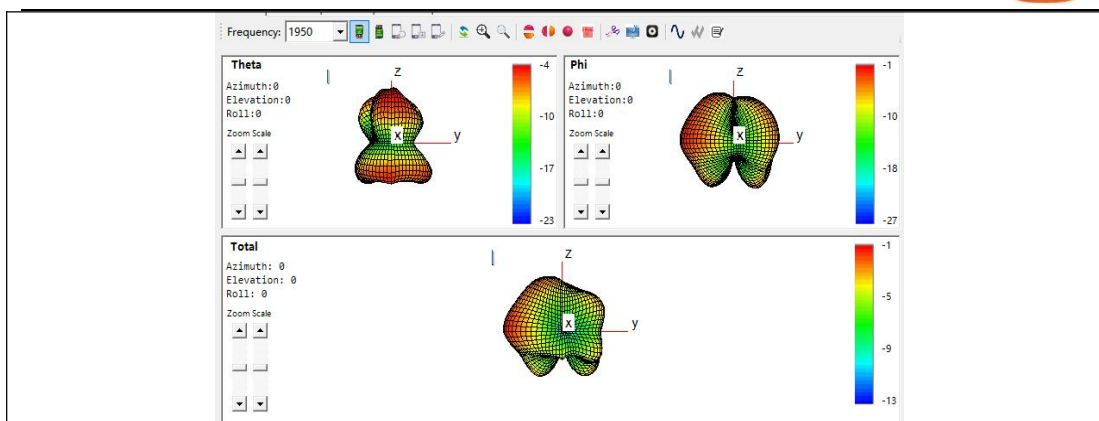


ANT4 directional diagram



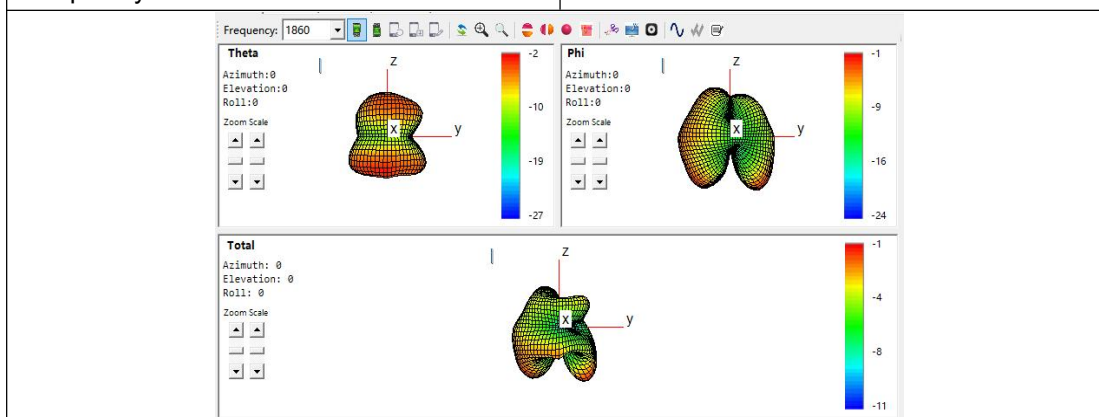


	
Frequency	B28
	
Frequency	B20
	
Frequency	B1



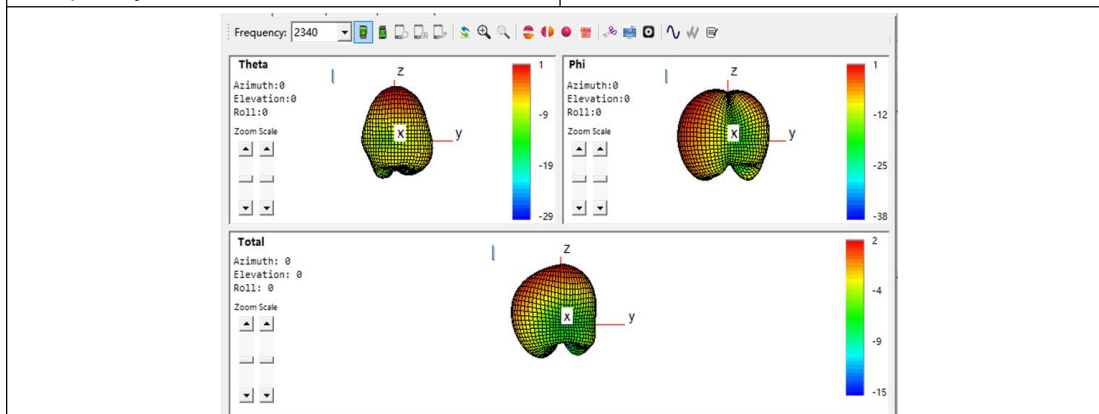
Frequency

B2



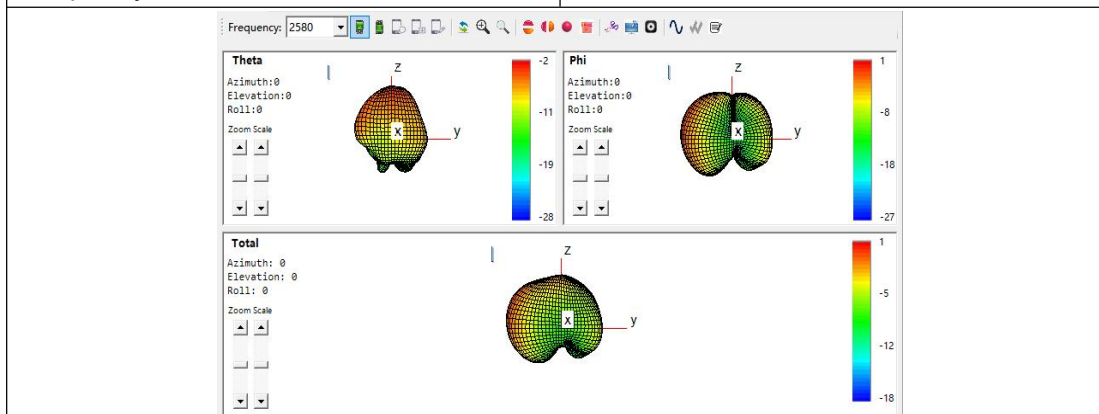
Frequency

B40



Frequency

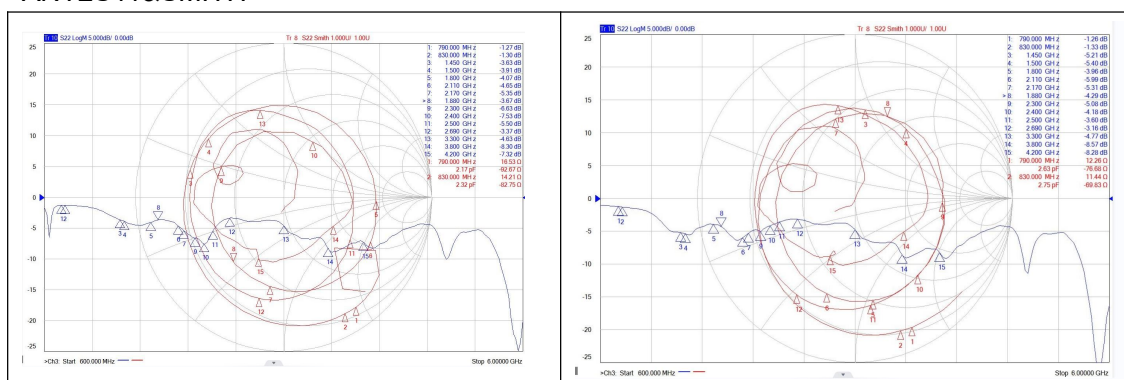
B41

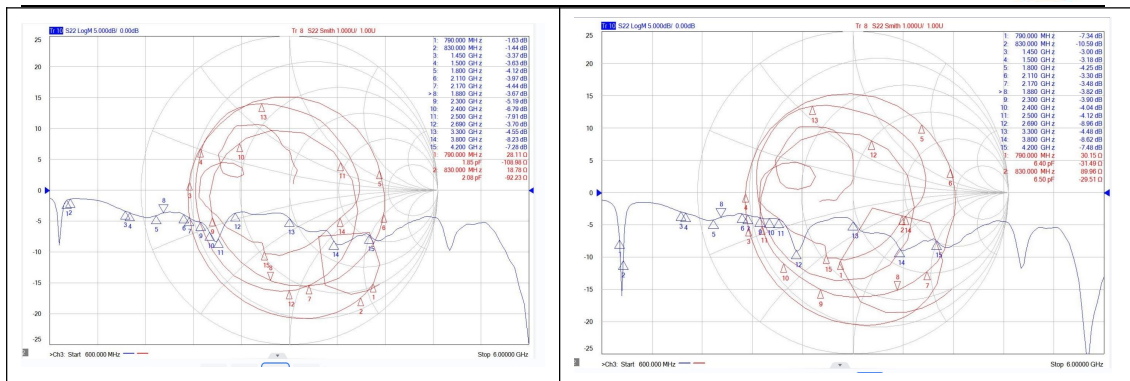




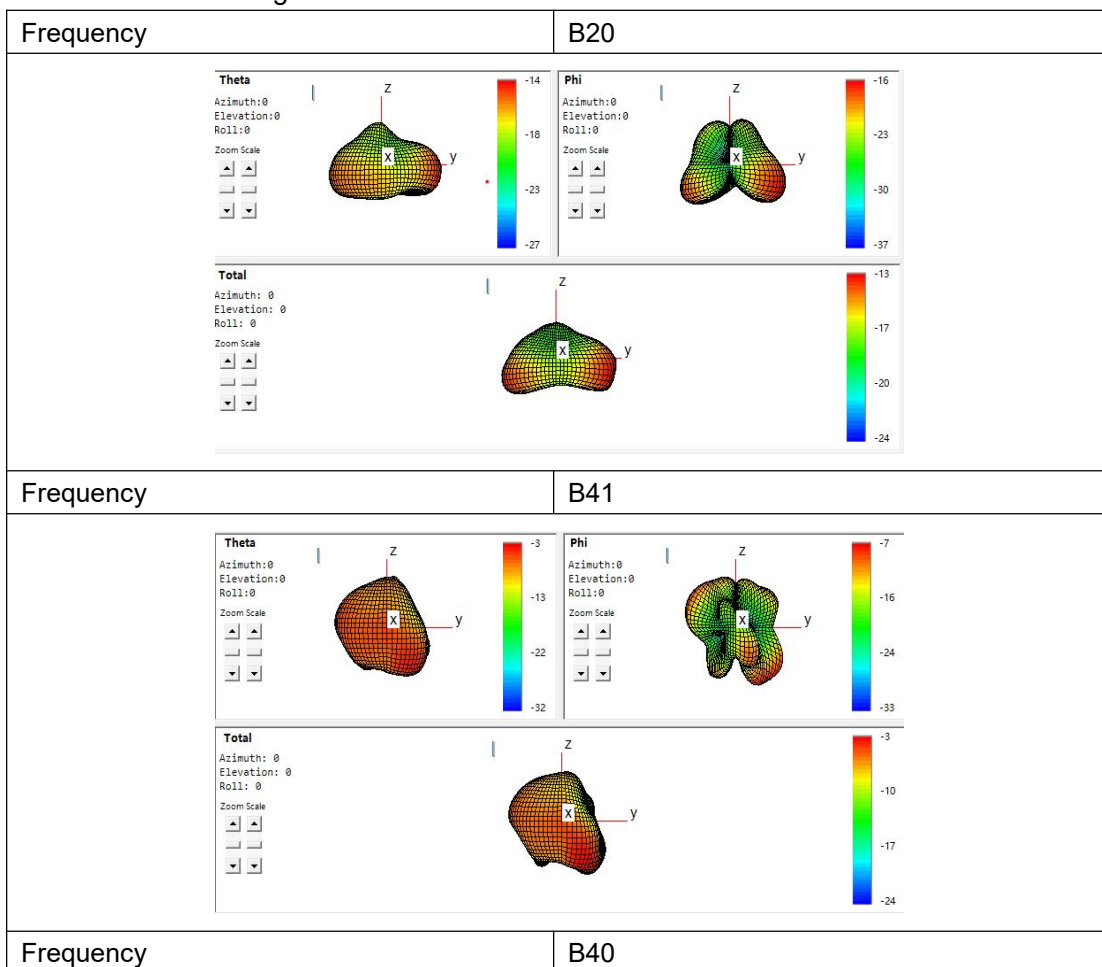
ANT2	band	Eff (dB)	Antenna Gain (dBi)
4G	TTE FDD 1: (1920-1980, 2110-2170)	-9.1	-3.8
	TTE FDD 2: (1850-1910, 1930-1990)	-9.1	-4.4
	TTE FDD 3: (1710-1785, 1905-1880)	-9.1	-4.5
	TTE FDD 7: (2500-2570, 2620-2690)	-7.9	-3.3
	TTE FDD 20: (832-862, 791-821)	-16.7	-13.1
	TTE TDD 38: (2570-2620)	-7.9	-3
	TTE TDD 40: (2300-2400)	-9.2	-3.9
	TTE TDD 41: (2496-2690)	-7.9	-3
	TTE FDD 66: (1710-1780, 2110-2200)	-9.1	-4.5
5G	N38 (2570-2620)	-7.9	-3
	N41 (2496-2690)	-7.9	-3
	N77 (3300-4200)	-6.9	-2.2
	N78 (3300-3800)	-7.4	-3.2

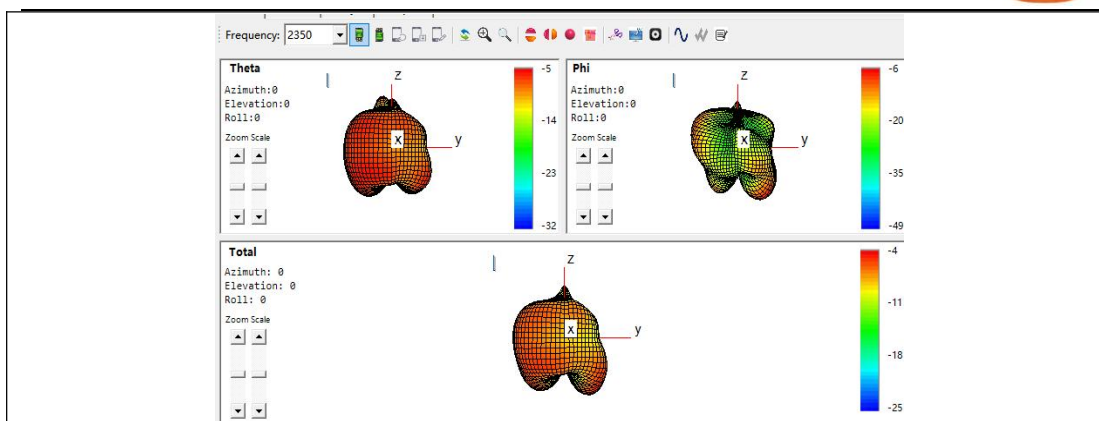
ANT2S11&SMITH





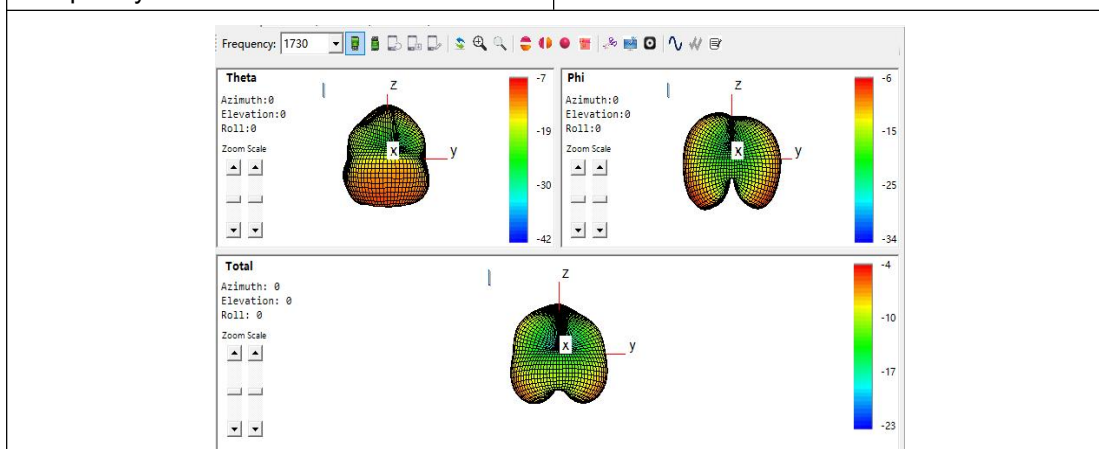
ANT2 directional diagram





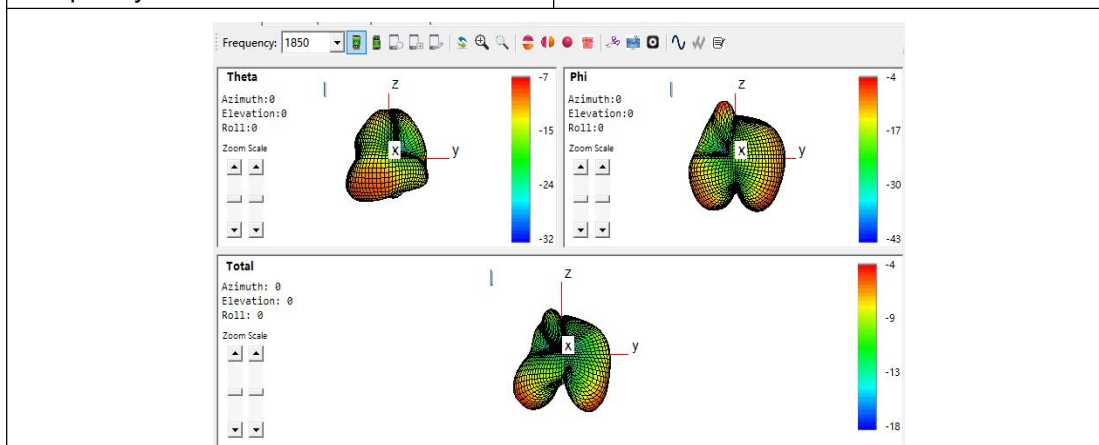
Frequency

B66



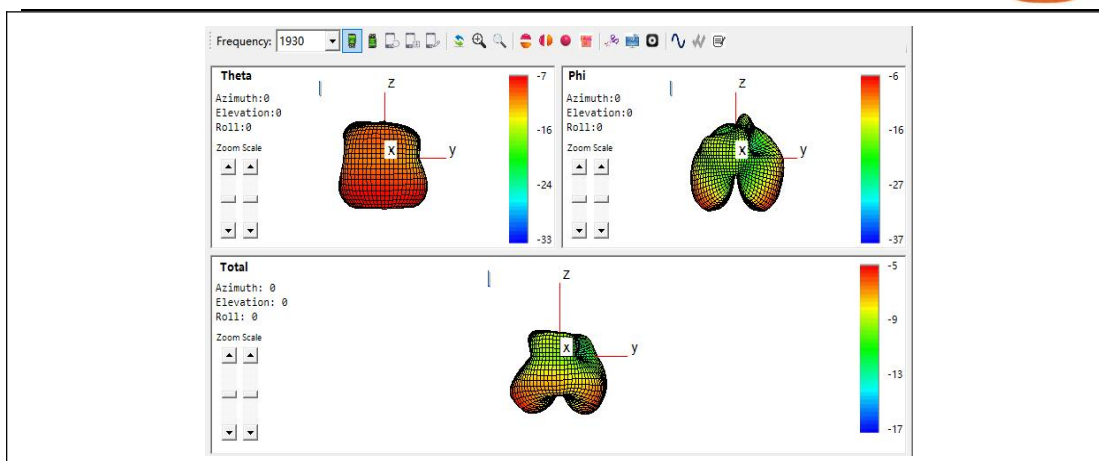
Frequency

B1



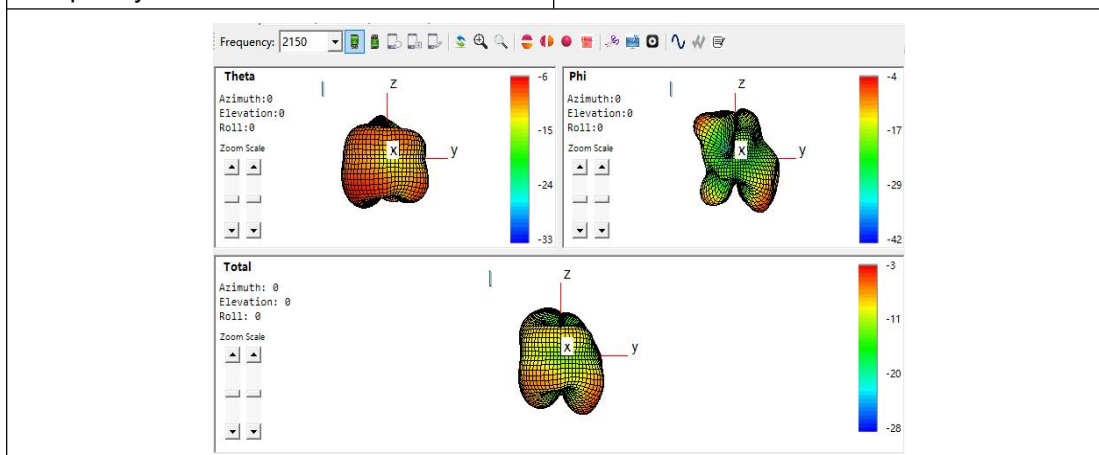
Frequency

B2



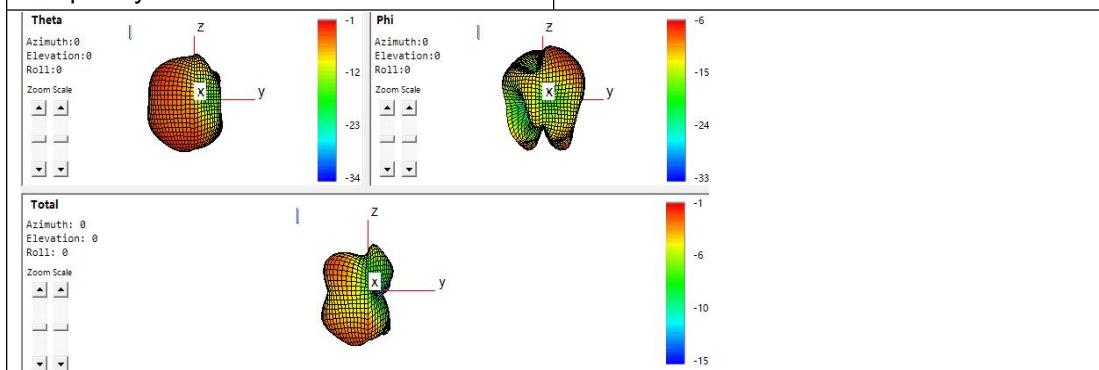
Frequency

B3



Frequency

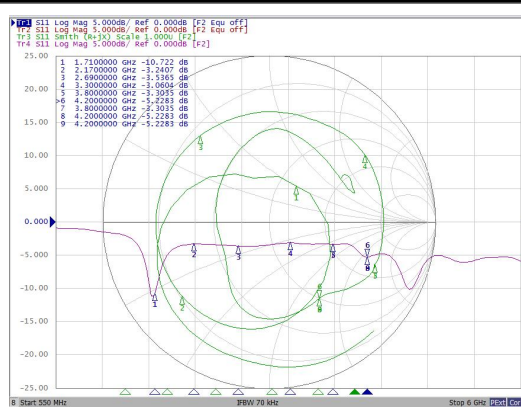
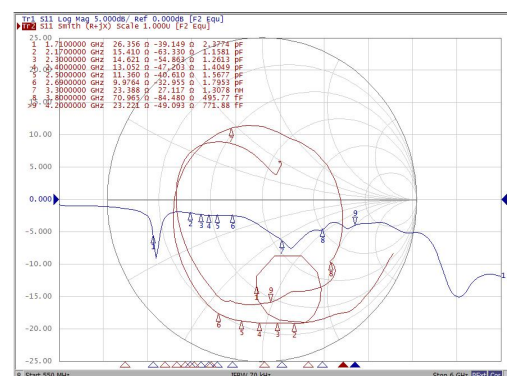
N77/78



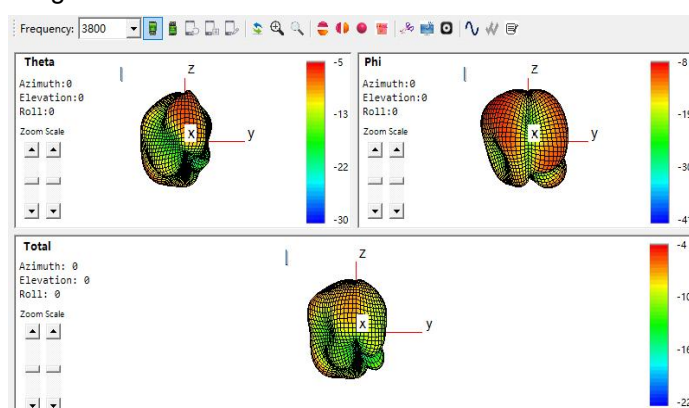
ANT6	频段	效率	最大增益
	N77 (3300-4200)	-9.6	-4.3
	N78 (3300-3800)	-8.8	-3.8



ANT6S11&SMITH

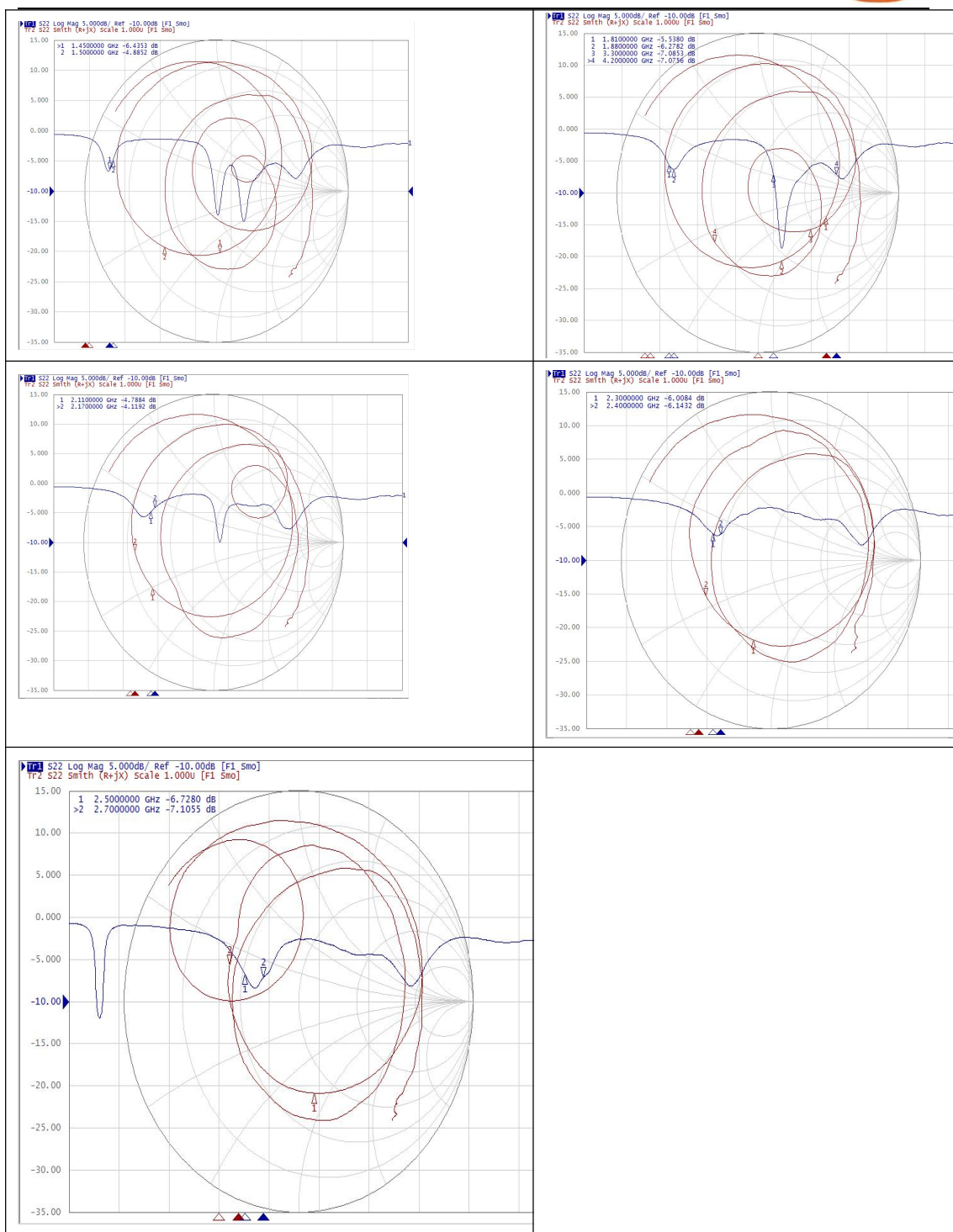


ANT6 directional diagram



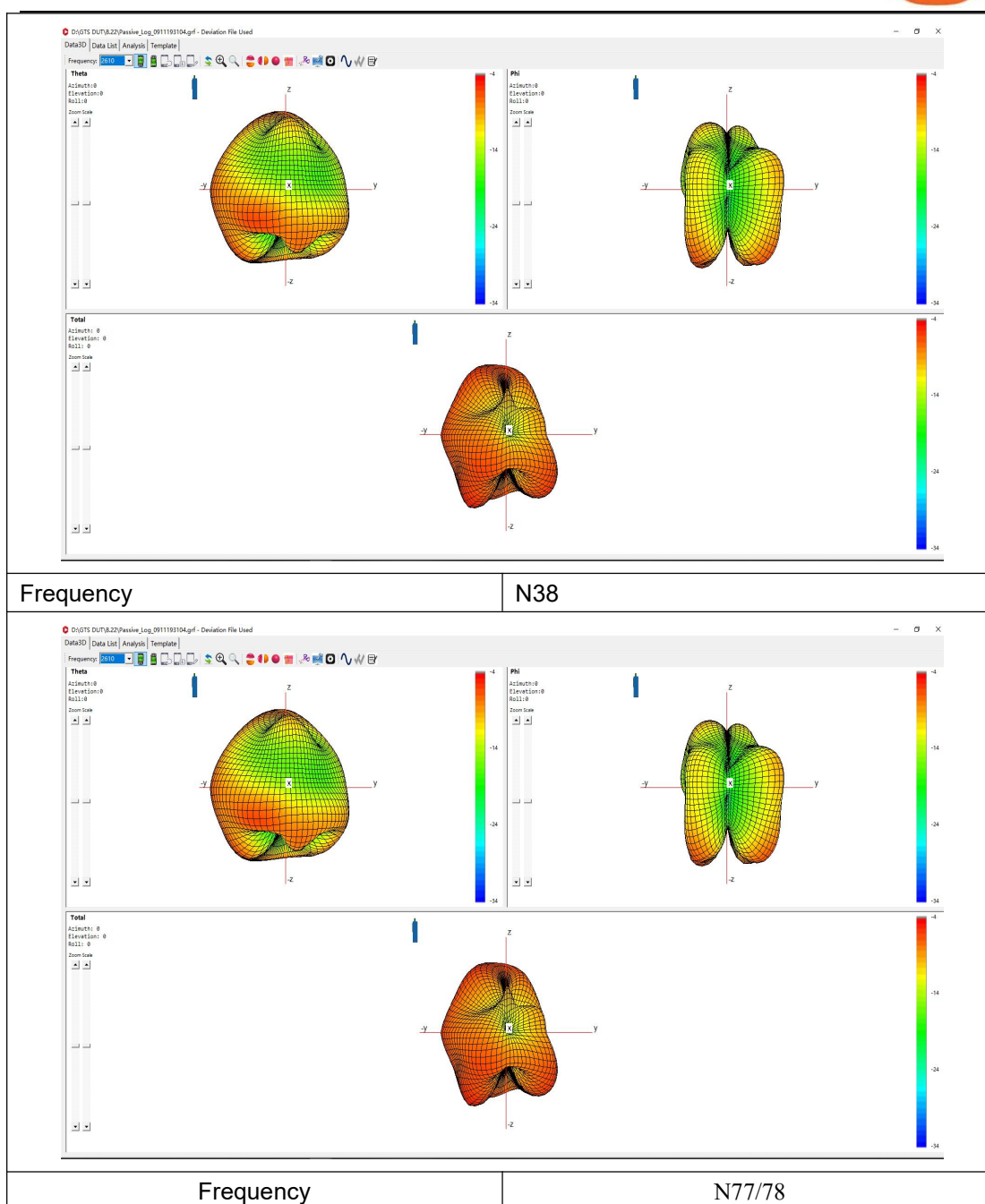
ANT5	band	Eff (dB)	Antenna Gain (dBi)
5G	N38 (2570-2620)	-7.8	-4.4
	N41 (2496-2690)	-7.8	-4.4
	N77 (3300-4200)	-7	-2.2
	N78 (3300-3800)	-7.3	-2.1

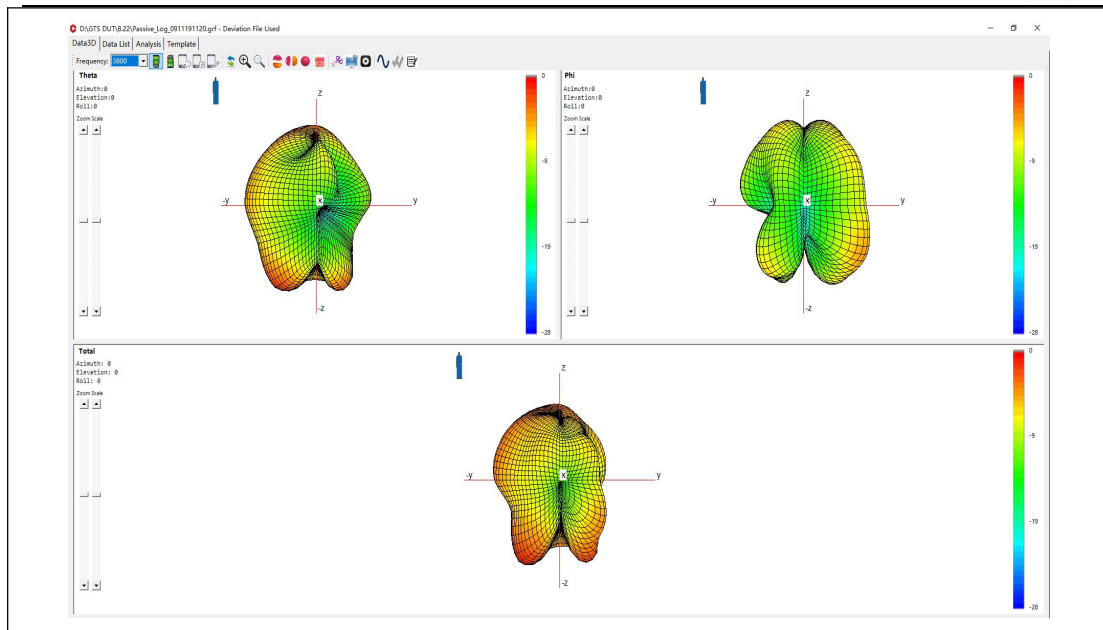
ANT5S11&SMITH



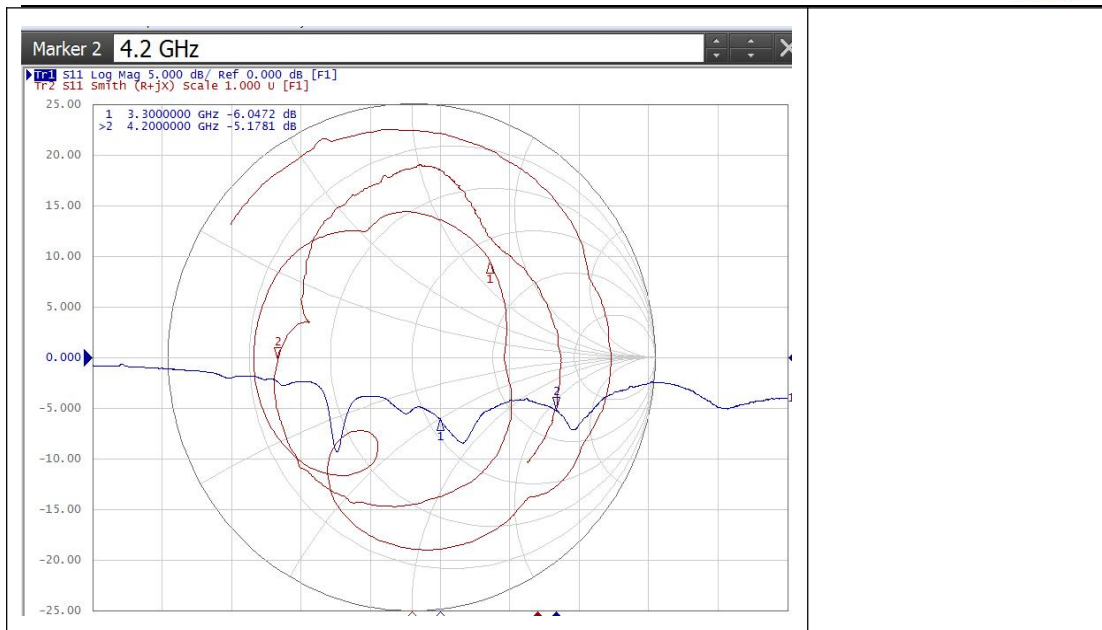
ANT6 directional diagram

Frequency	N41
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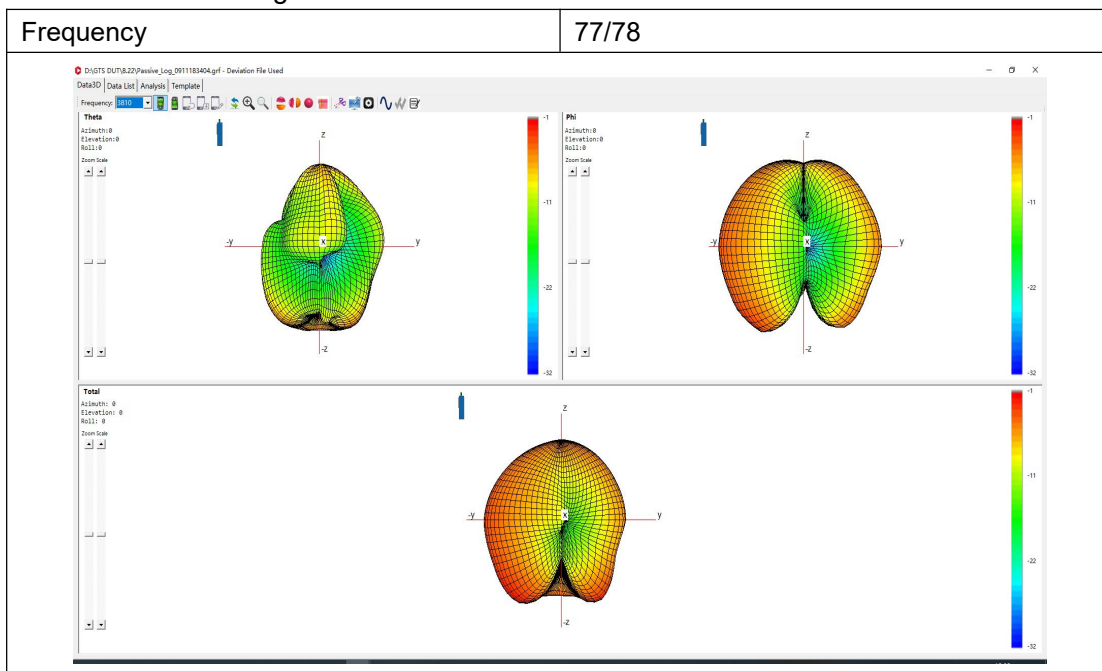




ANT3	band	Eff (dB)	Antenna Gain (dBi)
5G	N77 (3300-4200)	-6	-2.2
	N78 (3300-3800)	-6.2	-2.5

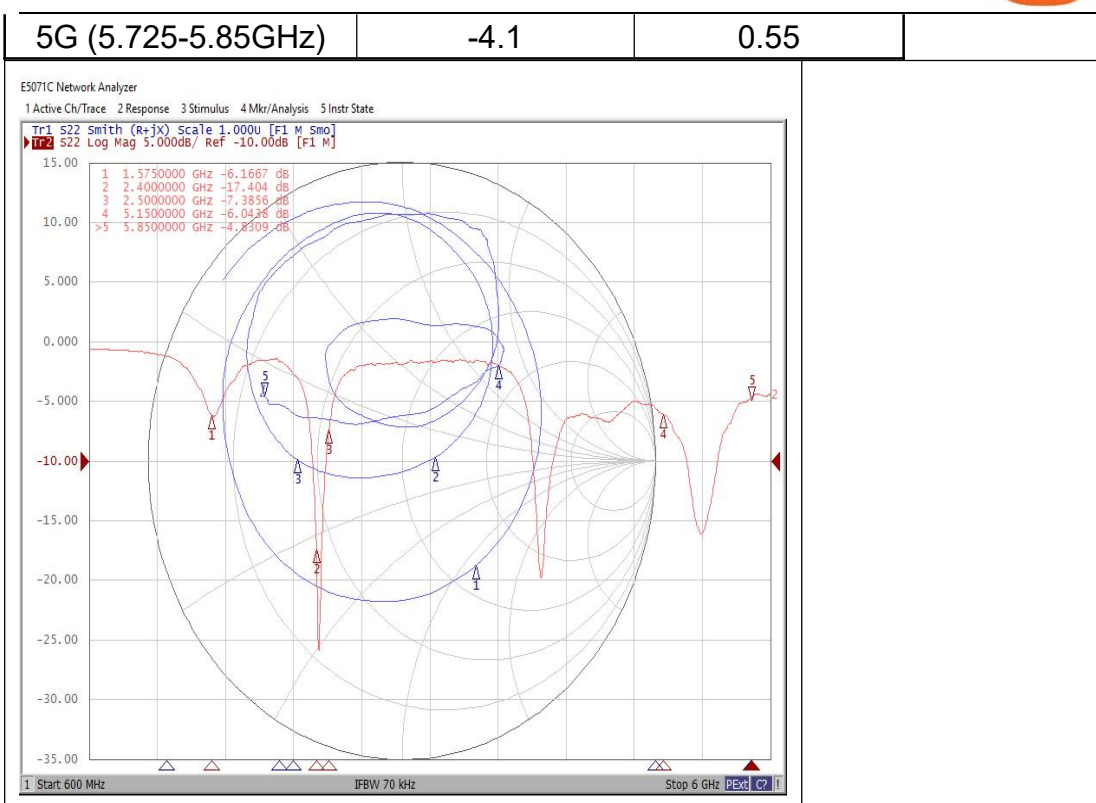


ANT3 directional diagram

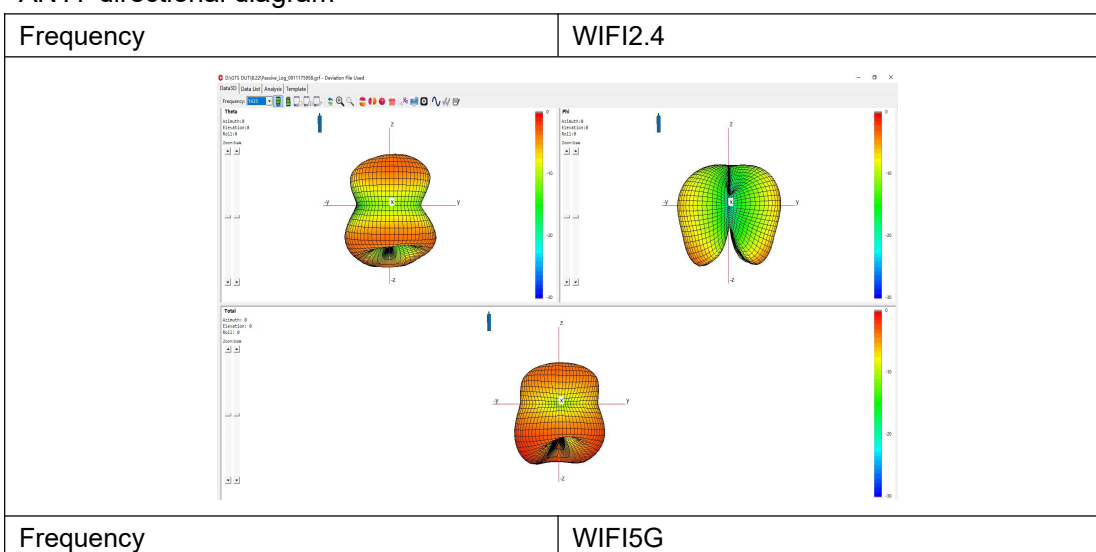


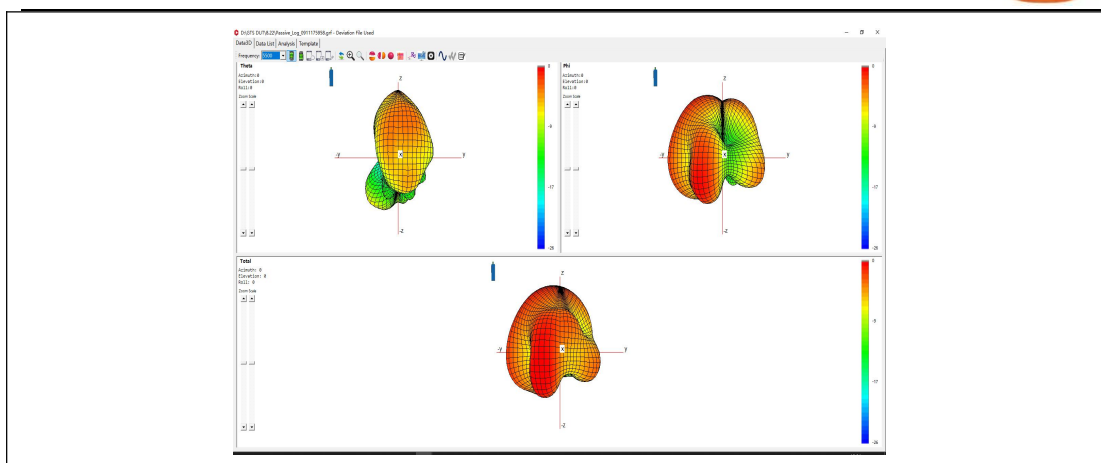
ANT7

band	Eff (dB)	Antenna Gain (dBi)
2.4G(2.4-2.5GHZ)	-5.2	0.5
5G (5.15-5.25GHZ)	-3.7	1
5G (5.25-5.35GHZ)	-4.3	0.7
5G (5.47-5.725GHZ)	-4.4	0.3



ANT7 directional diagram





3、 Main Test Instruments

Name	Manufacturer	Model name	Serial Number	Cal., Date	Exp., Date
E5071B	KEYSIGHT	E5071B	EQ60215	2022-4-21	2023-4-20

4、 Test Site

Shanghai



End of Test Report