



Antenna Performance Description

Applicant: Xiaomi Communications Co., Ltd

Product description: Mobile Phone

Model Name: 22111317G

FCC ID: 2AFZZ1317G

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

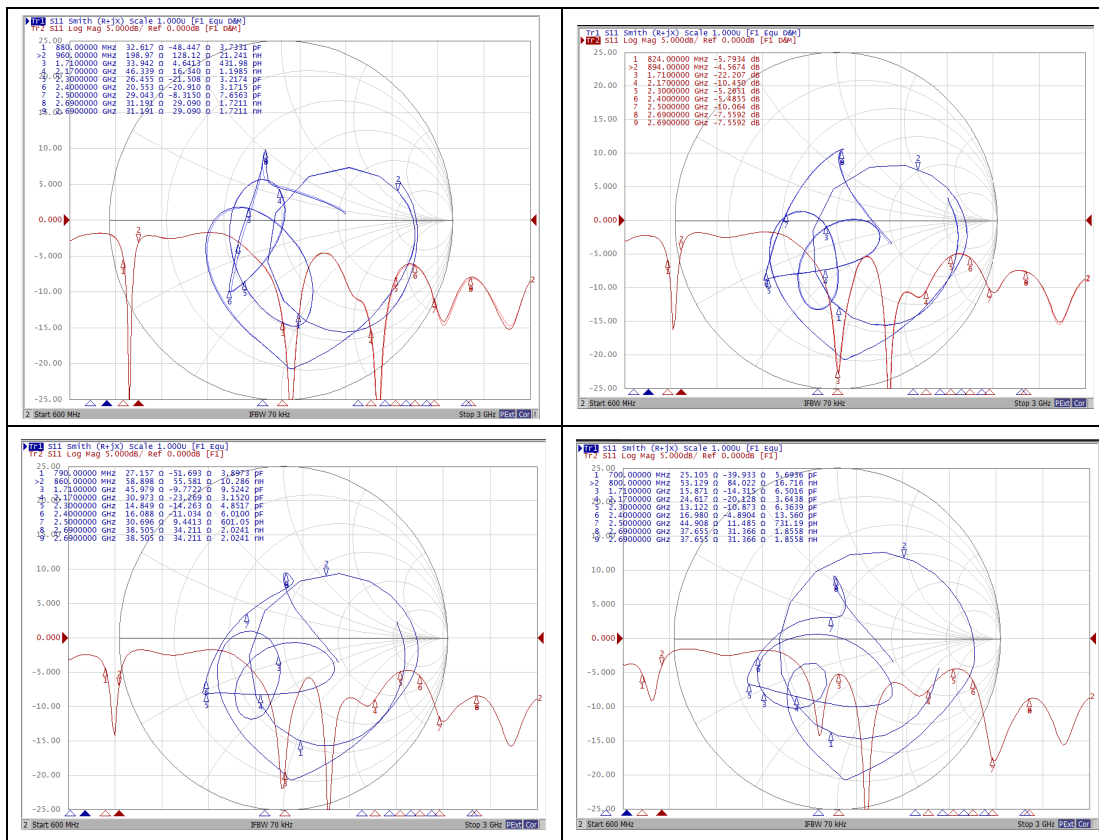
(ANT1)	band	Eff (dB)	Antenna Gain (dBi)
2G	GSM850 (824-849, 869-894)	-8.9	-4.3
	GSM900 (880-915, 925-960)	-8.2	-3
	GSM1800 (1710-1785, 1905-1880)	-3.6	1.4
	GSM1900 (1850-1910, 1930-1990)	-5.6	-1.1
3G	WCDMA B1 (1920-1980, 2110-2170)	-6.6	-2.1
	WCDMA B2 (1850-1910, 1930-1990)	-5.6	-1.1
	WCDMA B4 (1710-1785, 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



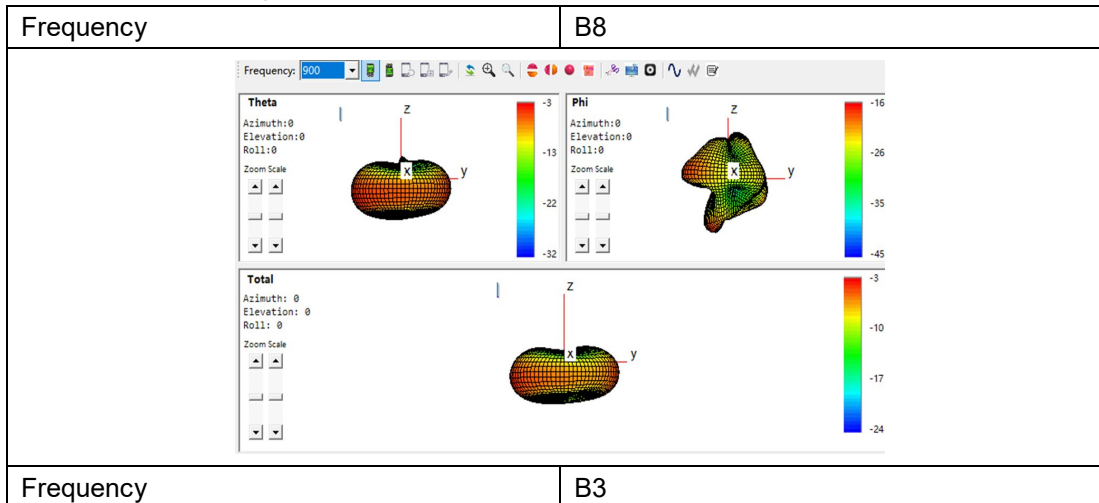
	TTE FDD 5: (824-849, 869-894)	-8.9	-4.3
	TTE FDD 7: (2500-2570, 2620-2690)	-6	-1.4
	TTE FDD 8: (880-915, 925-960)	-8.2	-3
	TTE FDD 20: (832-862, 791-821)	-8.3	-3.7
	TTE FDD 28: (703-748,758-803)	-9.4	-5.1
	TTE TDD 38: (2570-2620)	-5.8	-1.3
	TTE TDD 40: (2300-2400)	-6.5	-1.7
	TTE TDD 41: (2496-2690)	-5.8	-1.3
5G	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



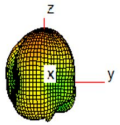
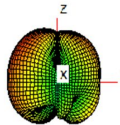
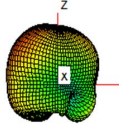
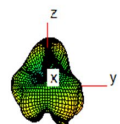
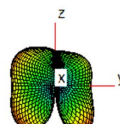
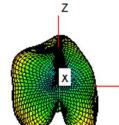
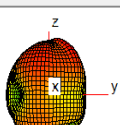
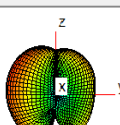
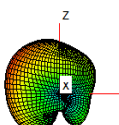
ANT1 S11&SMTH

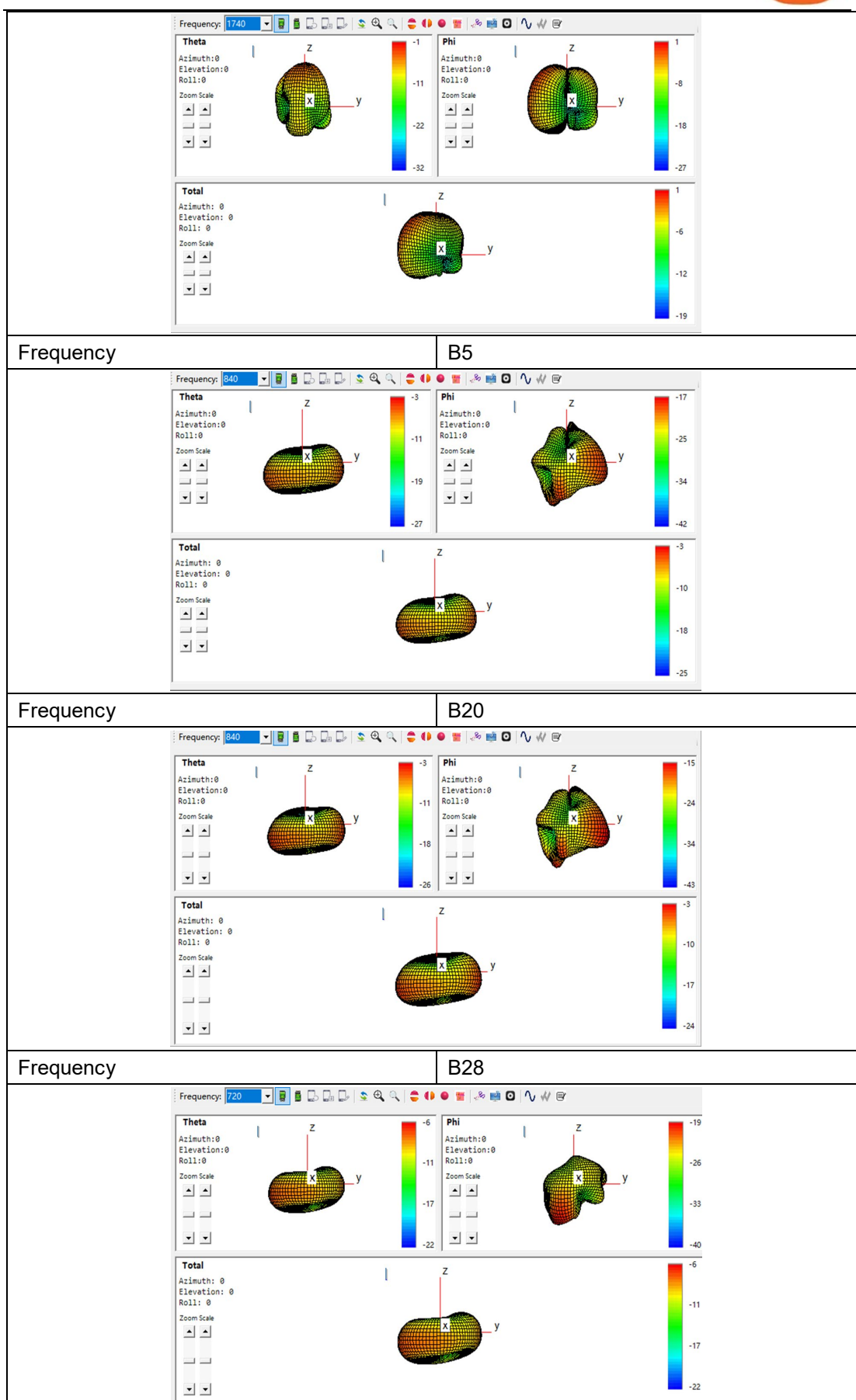


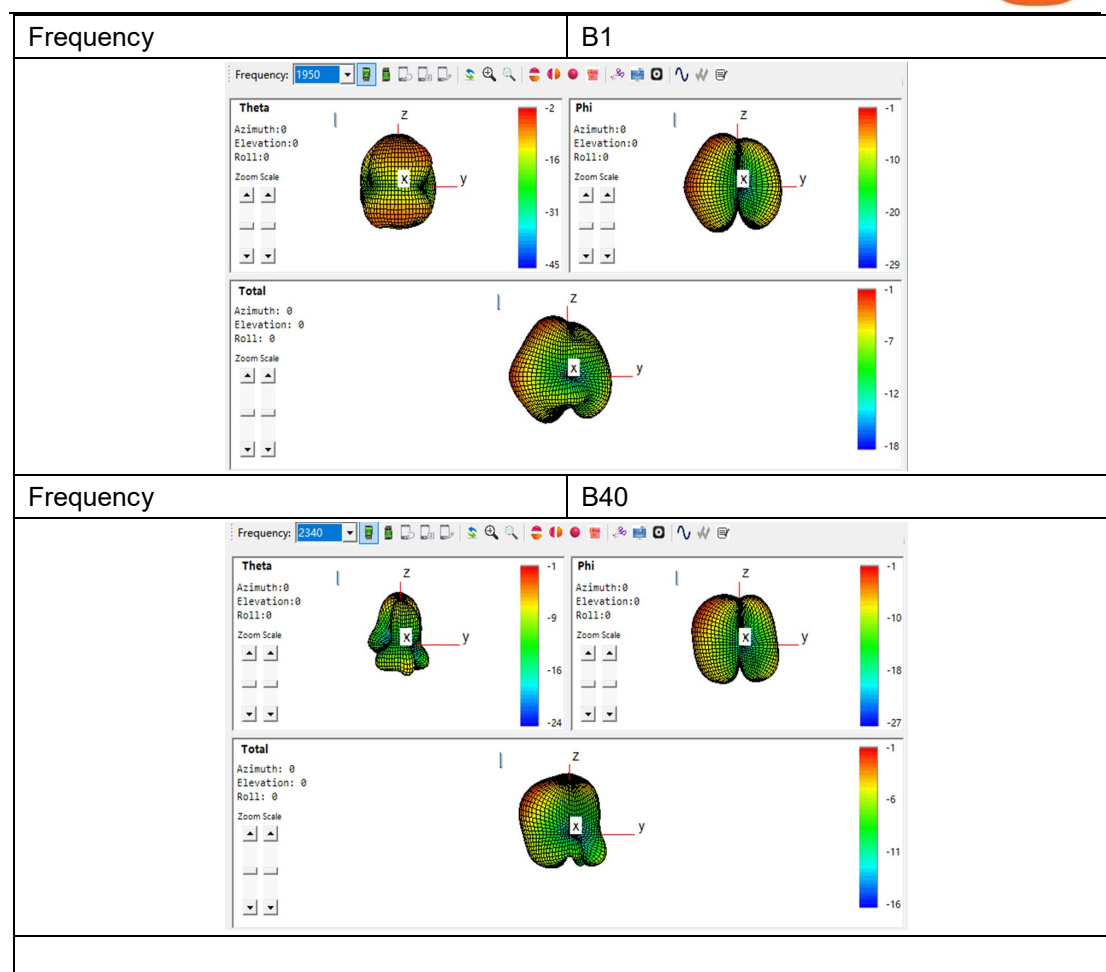
ANT1 directional diagram





Frequency: 1740 Theta Azimuth: 0 Elevation: 0 Roll: 0 Zoom Scale  0 -12 -24 -36 Phi Azimuth: 0 Elevation: 0 Roll: 0 Zoom Scale  1 -11 -23 -35 Total Azimuth: 0 Elevation: 0 Roll: 0 Zoom Scale  1 -6 -12 -19	
Frequency	B41/38
Frequency: 2520 Theta Azimuth: 0 Elevation: 0 Roll: 0 Zoom Scale  -3 -10 -17 -24 Phi Azimuth: 0 Elevation: 0 Roll: 0 Zoom Scale  -2 -10 -17 -25 Total Azimuth: 0 Elevation: 0 Roll: 0 Zoom Scale  -1 -6 -11 -16	
Frequency	B2
Frequency: 1860 Theta Azimuth: 0 Elevation: 0 Roll: 0 Zoom Scale  -3 -20 -36 -53 Phi Azimuth: 0 Elevation: 0 Roll: 0 Zoom Scale  -1 -11 -20 -30 Total Azimuth: 0 Elevation: 0 Roll: 0 Zoom Scale  -1 -6 -10 -15	
Frequency	B4





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

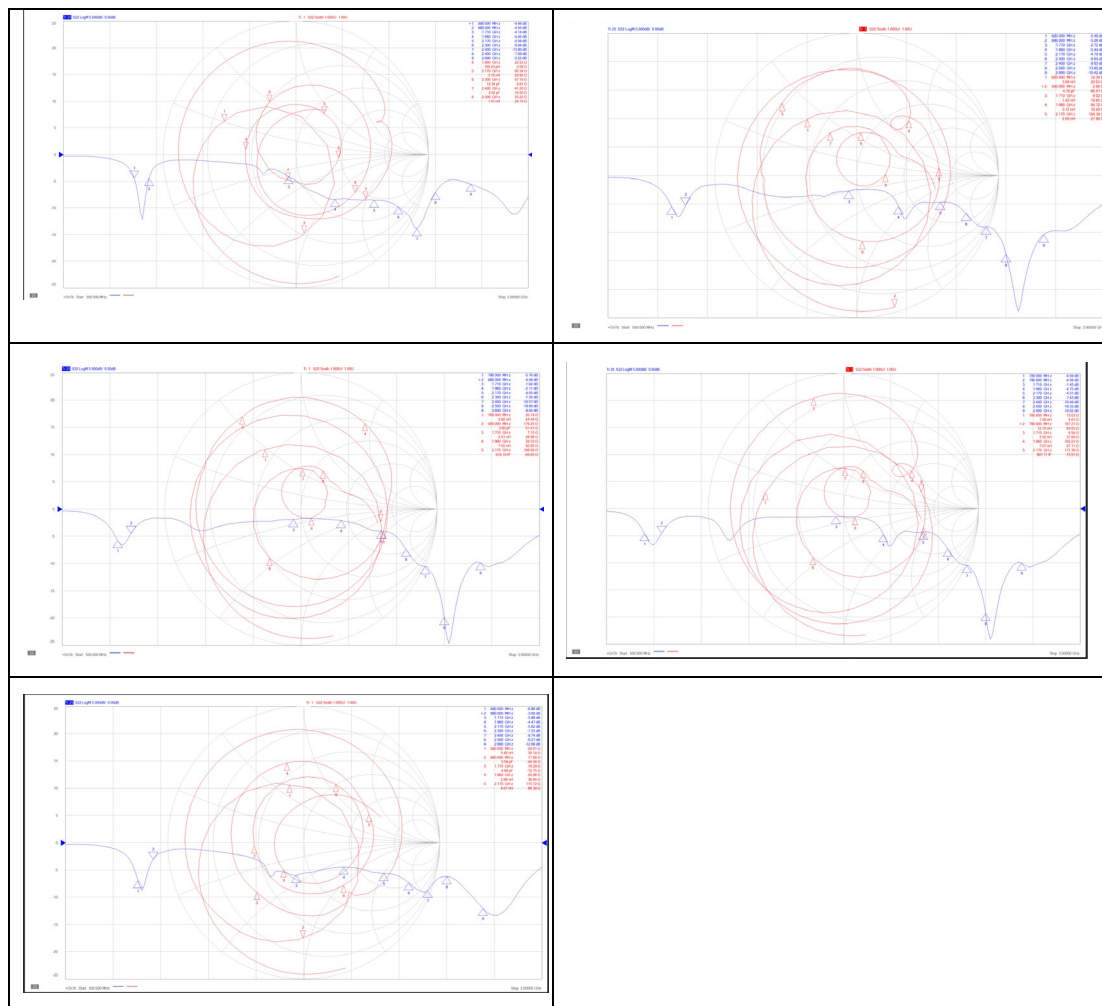


	WCDMA B8 (880-915, 925-960)	-10.1	-4.9
4G	TTE FDD 1: (1920-1980, 2110-2170)	-5.2	-1.6
	TTE FDD 2: (1850-1910, 1930-1990)	-5	-1.8
	TTE FDD 3: (1710-1785, 1905-1880)	-6.7	-2.8
	TTE FDD 4: (1710-1785, 2110-2155)	-6.7	-2.8
	TTE FDD 5: (824-849, 869-894)	-10.9	-6
	TTE FDD 7: (2500-2570, 2620-2690)	-5.4	-0.4
	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
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

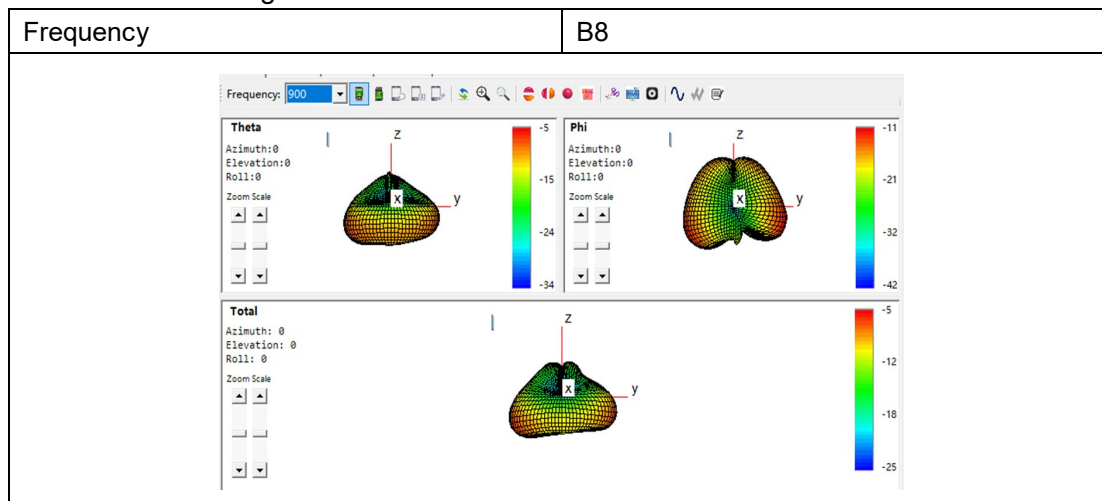


	N40 (2300-2400)	-4.8	0.5
	N41 (2496-2690)	-5.7	-0.8

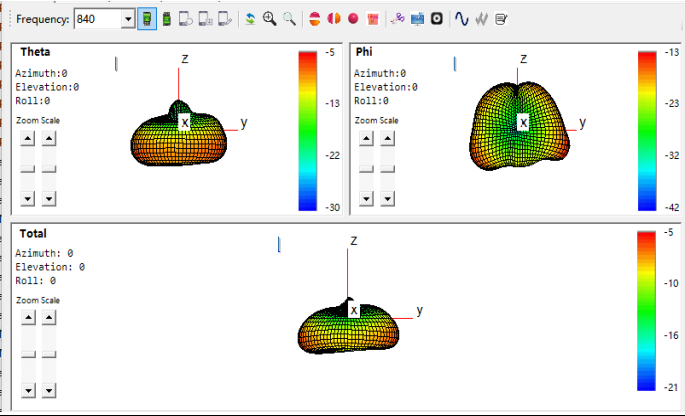
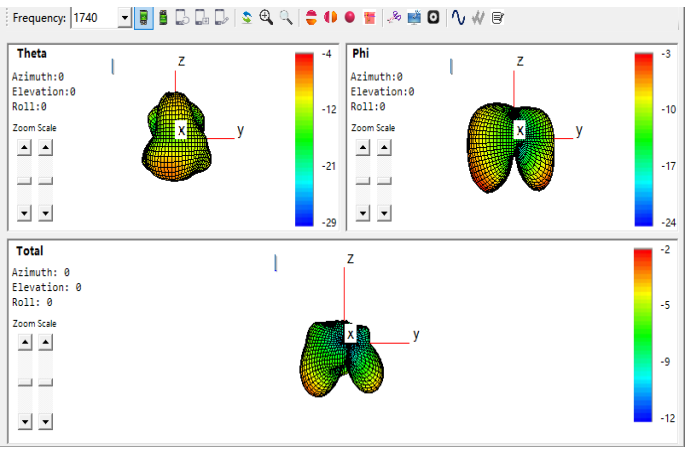
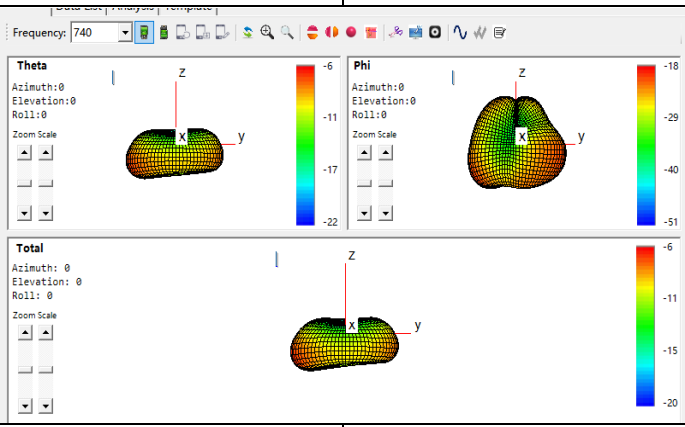
ANT4 S11&SMTTH



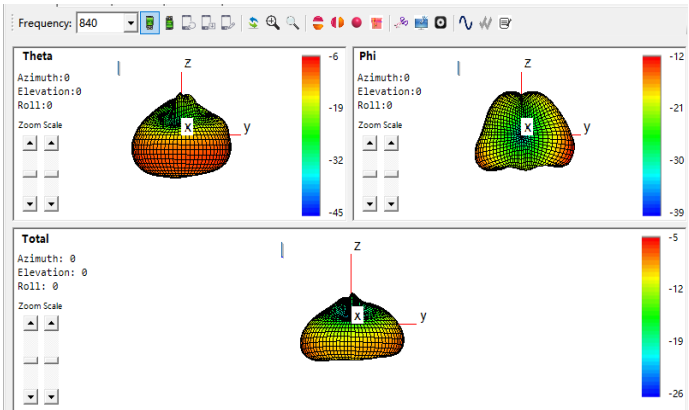
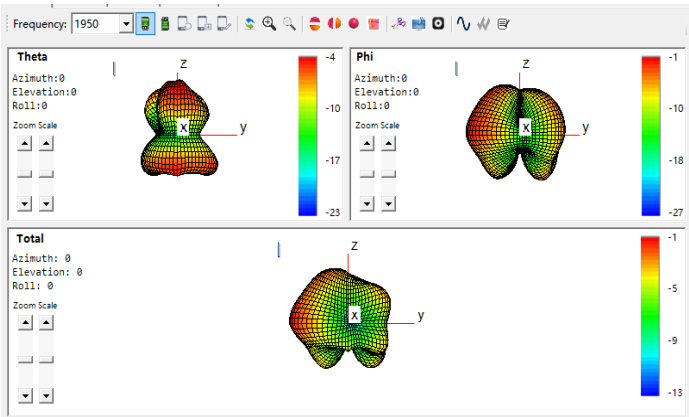
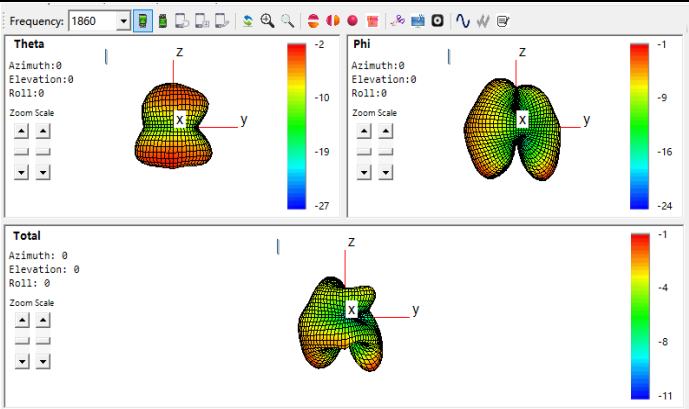
ANT4 directional diagram

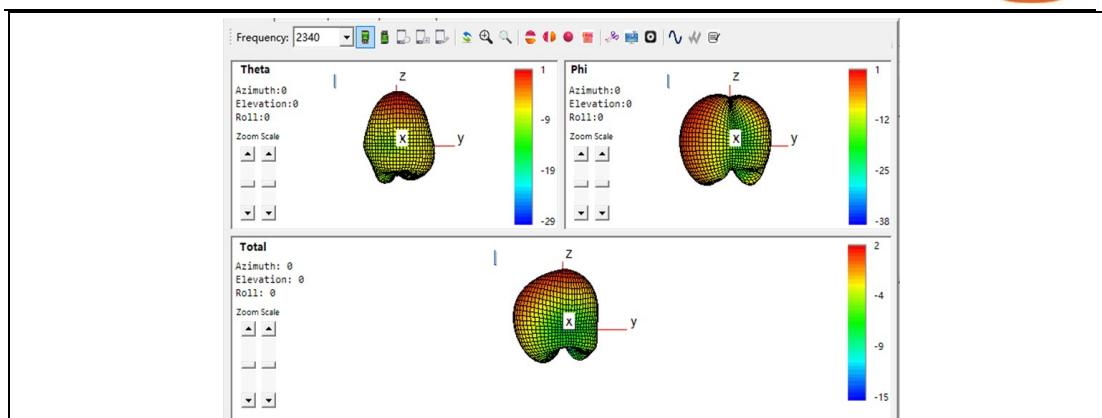




Frequency	B5
	
Frequency	B3
	
Frequency	B28
	
Frequency	B20

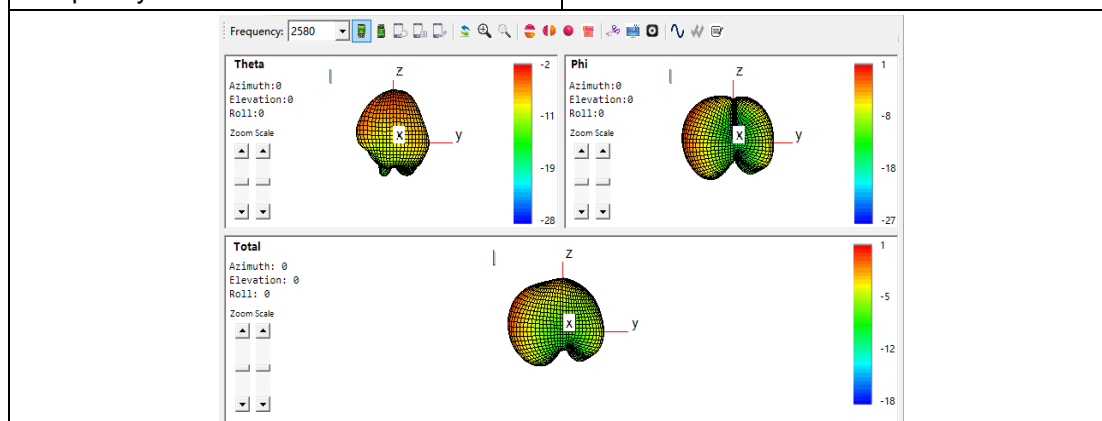


	
Frequency	B1
	
Frequency	B2
	
Frequency	B40



Frequency

B41

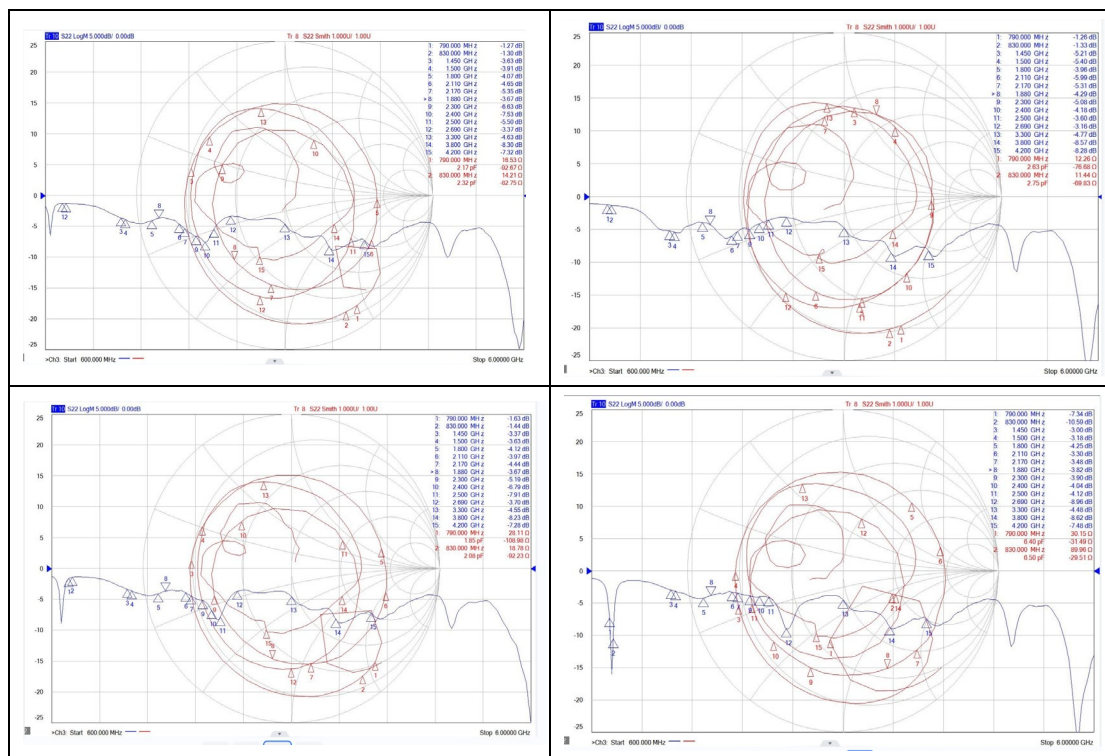


ANT2	band	Eff (dB)	Antenna Gain (dBi)
4G	TTE FDD 1: (1920-1980, 2110-2170)	-9.1	-3.8
	TTE FDD 2: (1850-1910, 1930-1990)	-9.1	-4.4
	TTE FDD 3: (1710-1785, 1905-1880)	-9.1	-4.5
	TTE FDD 7: (2500-2570, 2620-2690)	-7.9	-3.3
	TTE FDD 20: (832-862, 791-821)	-16.7	-13.1



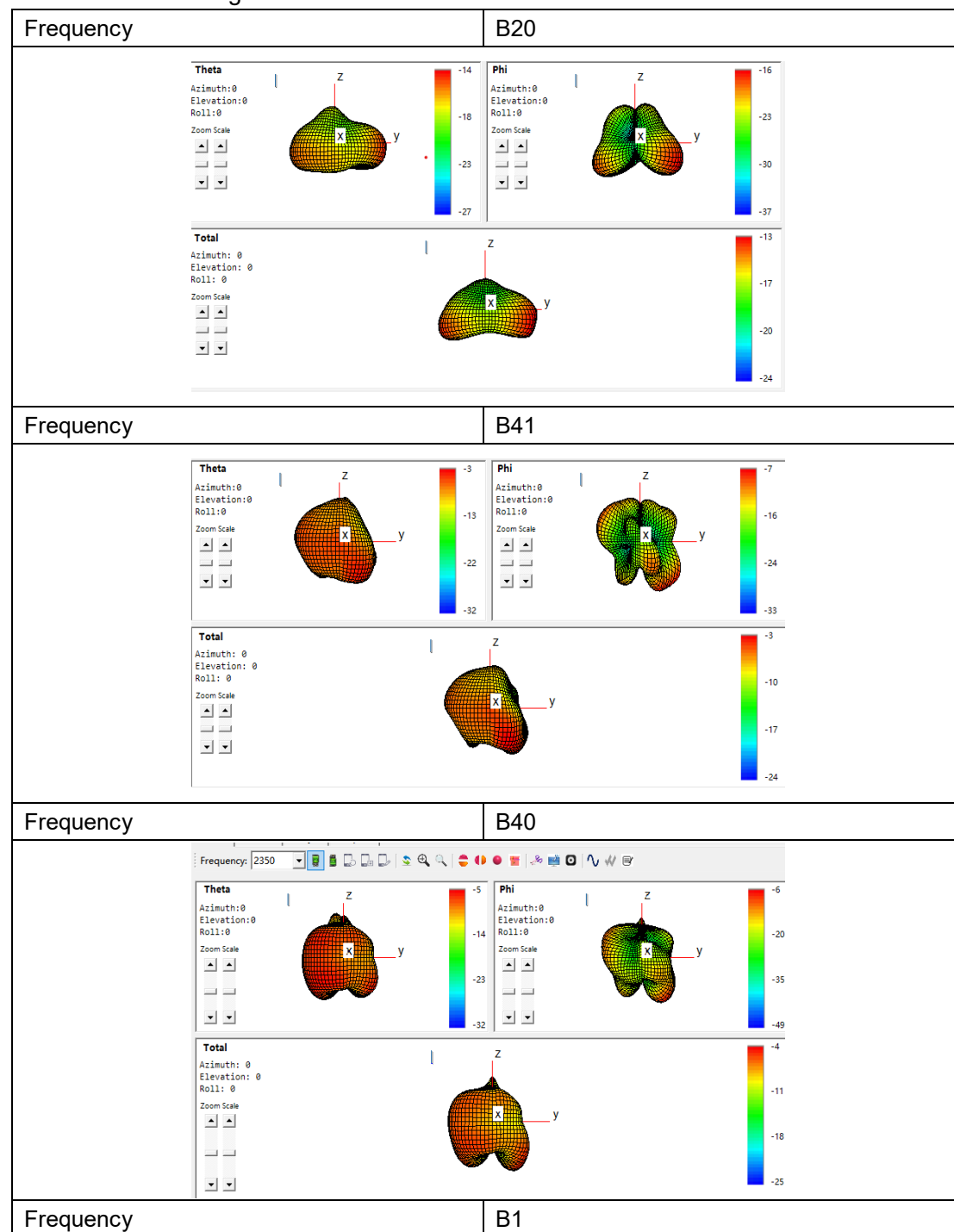
5G	TTE TDD 38: (2570-2620)	-7.9	-3
	TTE TDD 40: (2300-2400)	-9.2	-3.9
	TTE TDD 41: (2496-2690)	-7.9	-3
	N38 (2570-2620)	-7.9	-3
5G	N41 (2496-2690)	-7.9	-3
	N77 (3300-4200)	-6.9	-2.2
	N78 (3300-3800)	-7.4	-3.2

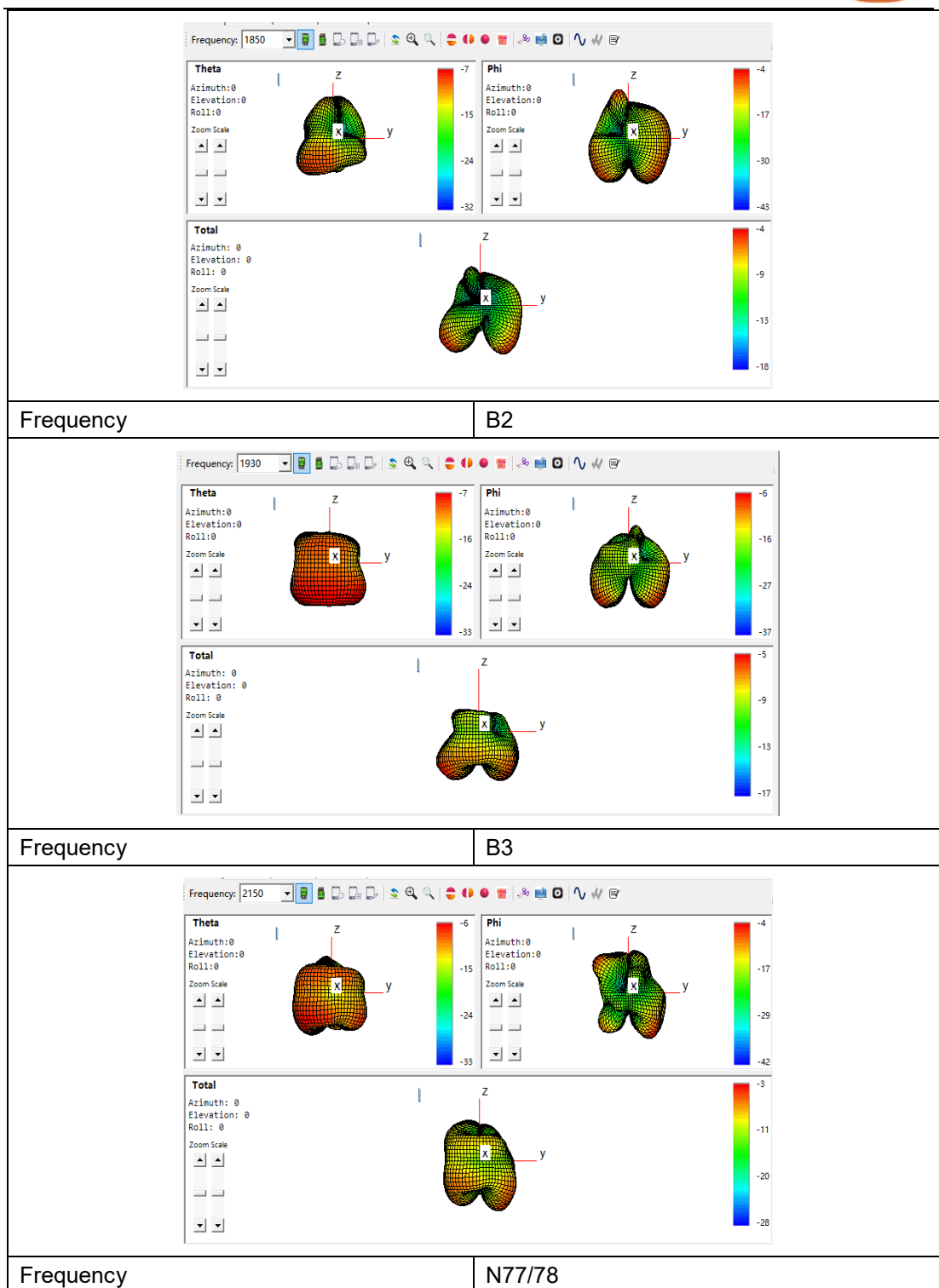
ANT2S11&SMITH

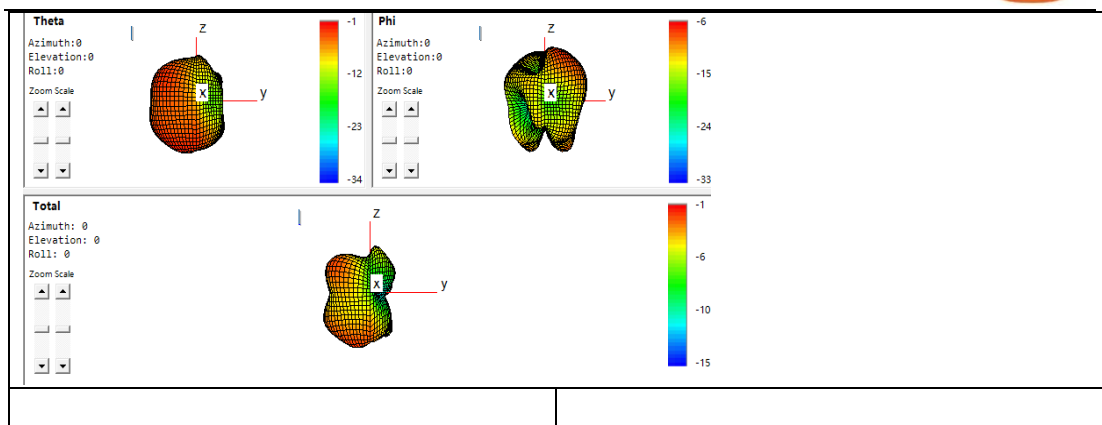




ANT2 directional diagram

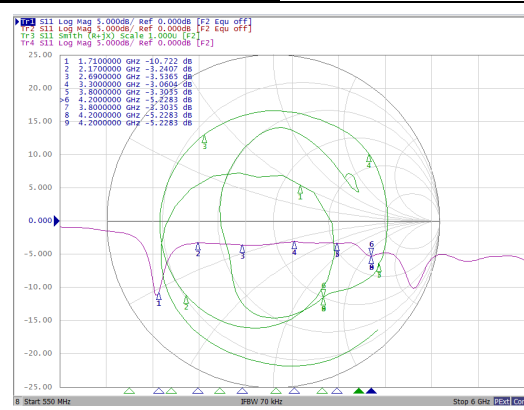
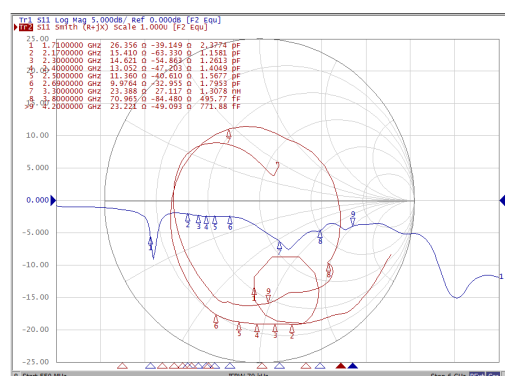




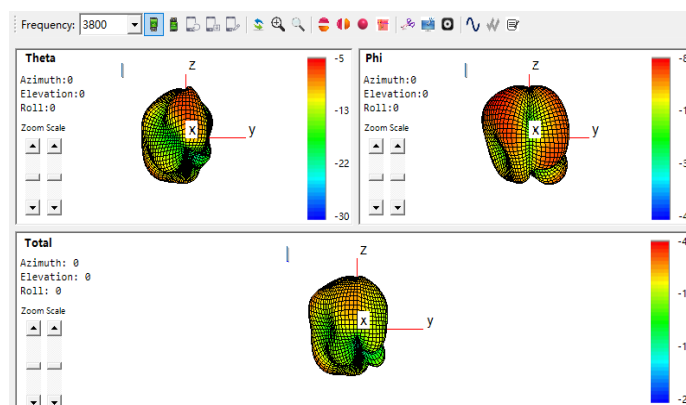


ANT6	band	Eff (dB)	Antenna Gain (dBi)
	N77 (3300-4200)	-9.6	-4.3
	N78 (3300-3800)	-8.8	-3.8

ANT6S11&SMITH



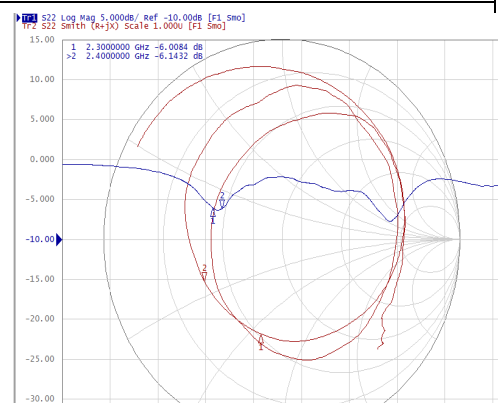
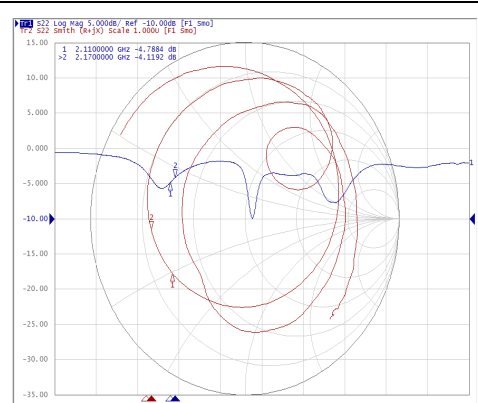
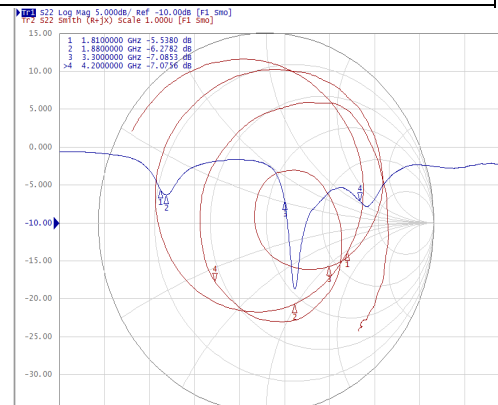
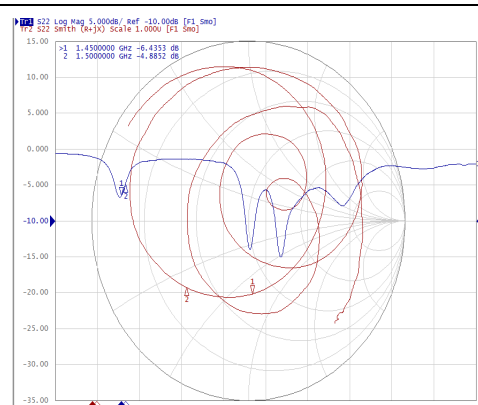
ANT6 directional diagram

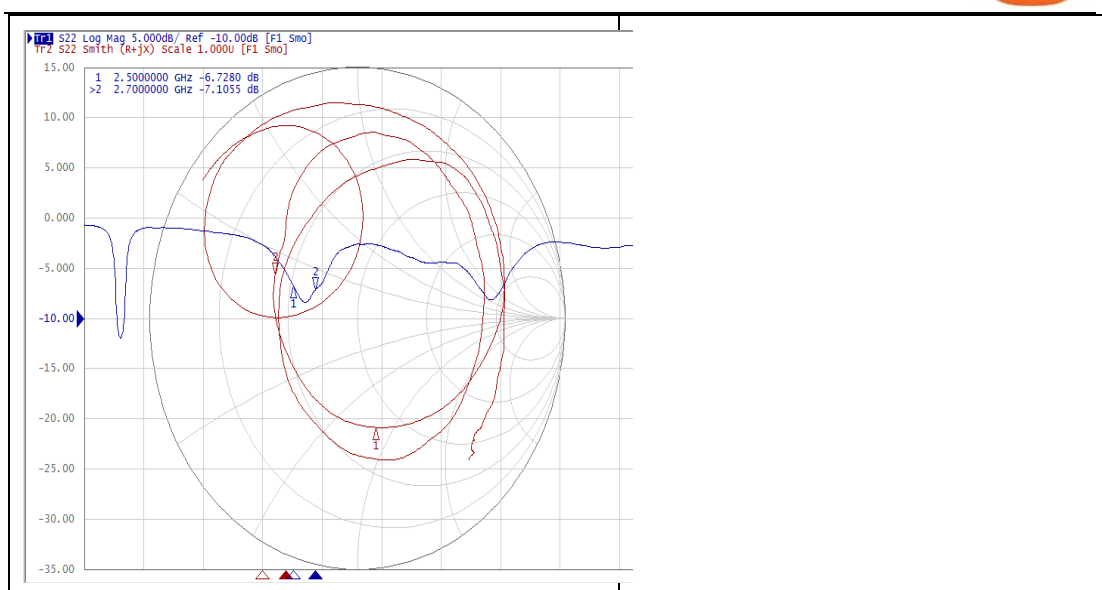




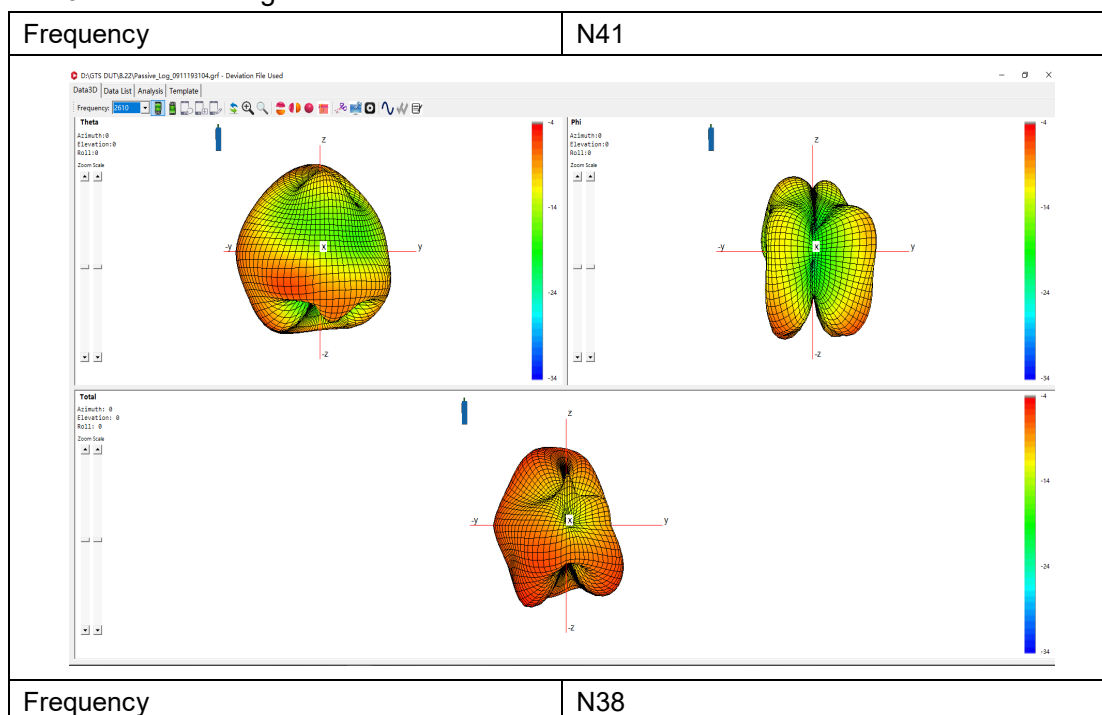
ANT5	band	Eff (dB)	Antenna Gain (dBi)
5G	N38 (2570-2620)	-7.8	-4.4
	N41 (2496-2690)	-7.8	-4.4
	N77 (3300-4200)	-7	-2.2
	N78 (3300-3800)	-7.3	-2.1

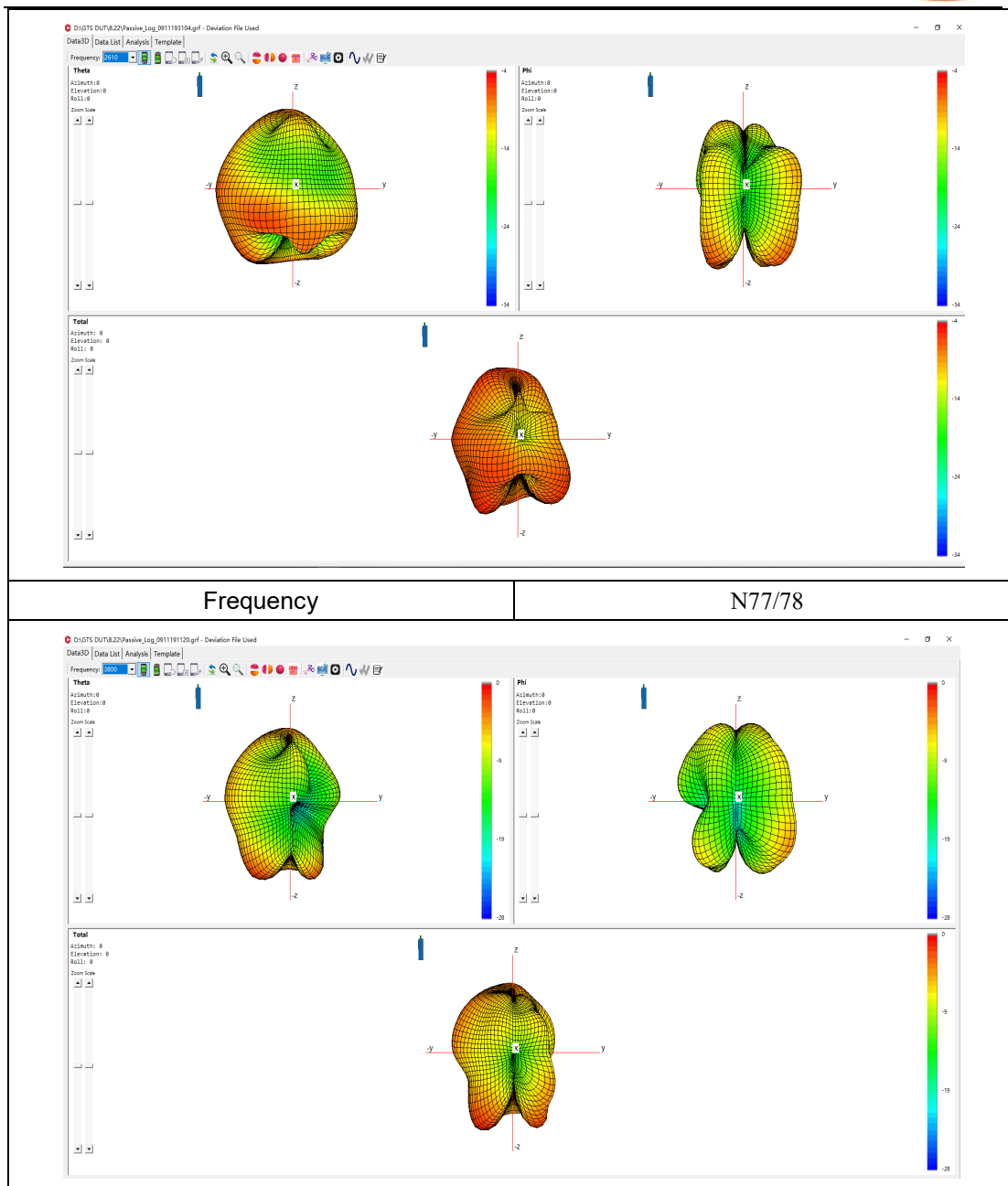
ANT5S11&SMITH





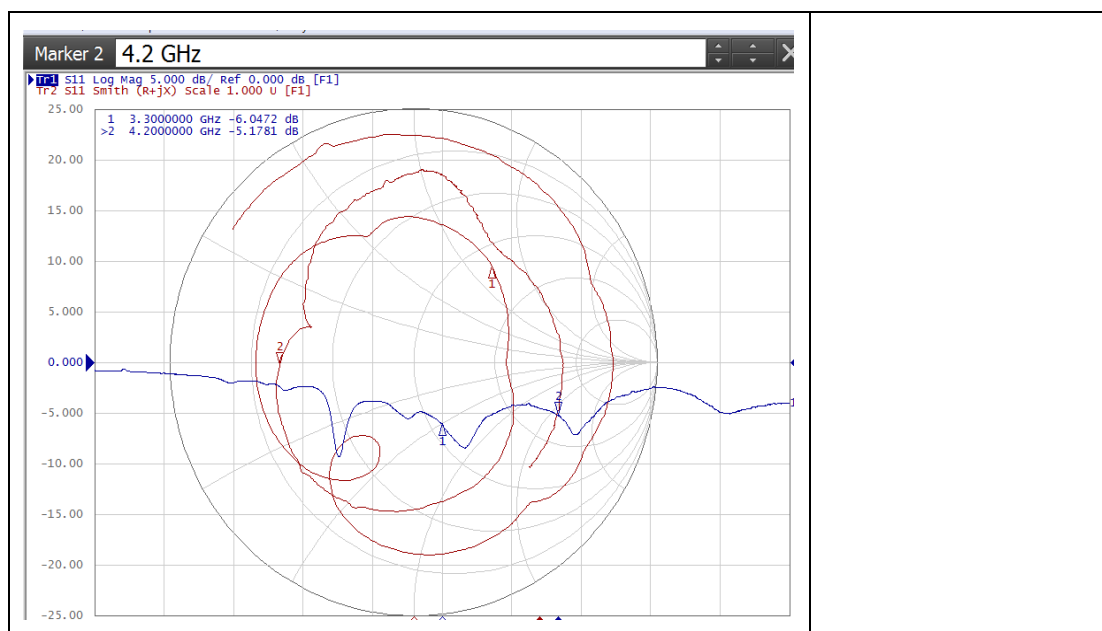
ANT6 directional diagram



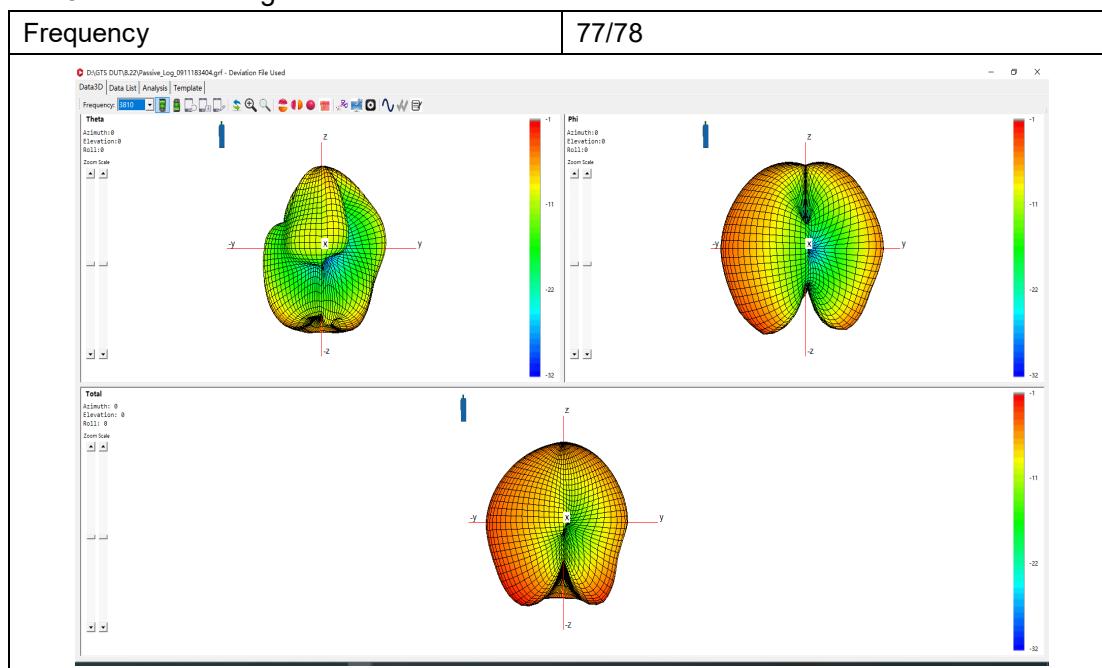




ANT3	band	Eff (dB)	Antenna Gain (dBi)
5G	N77 (3300-4200)	-6	-2.2
	N78 (3300-3800)	-6.2	-2.5



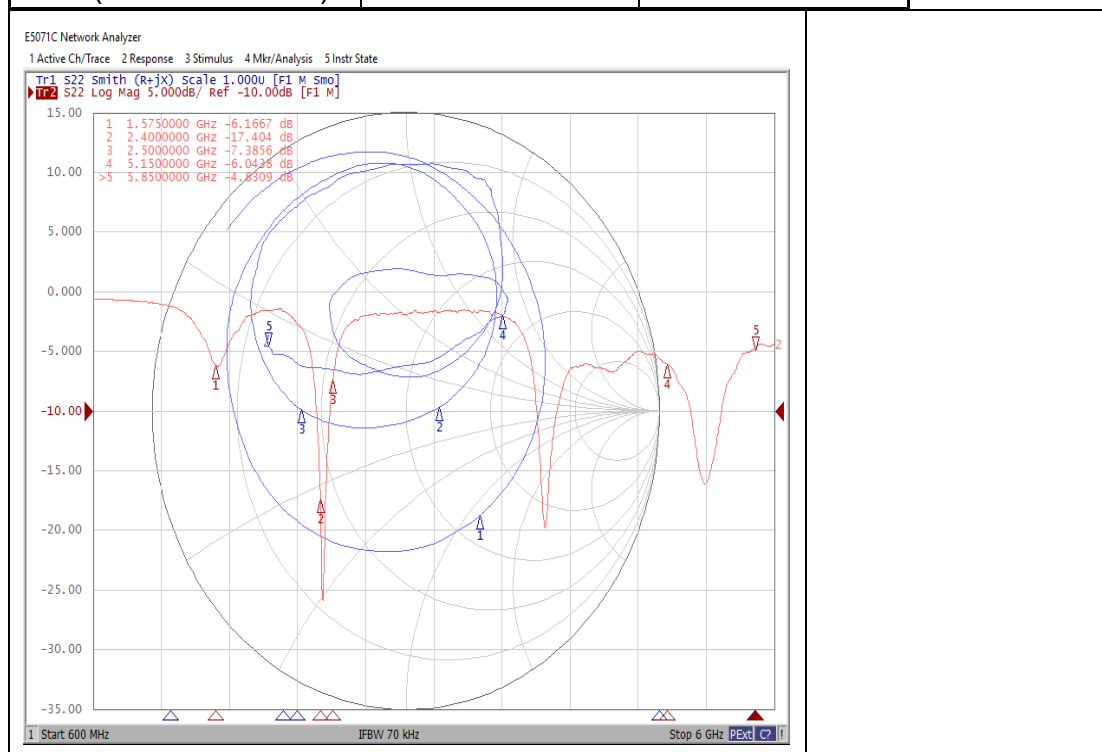
ANT3 directional diagram



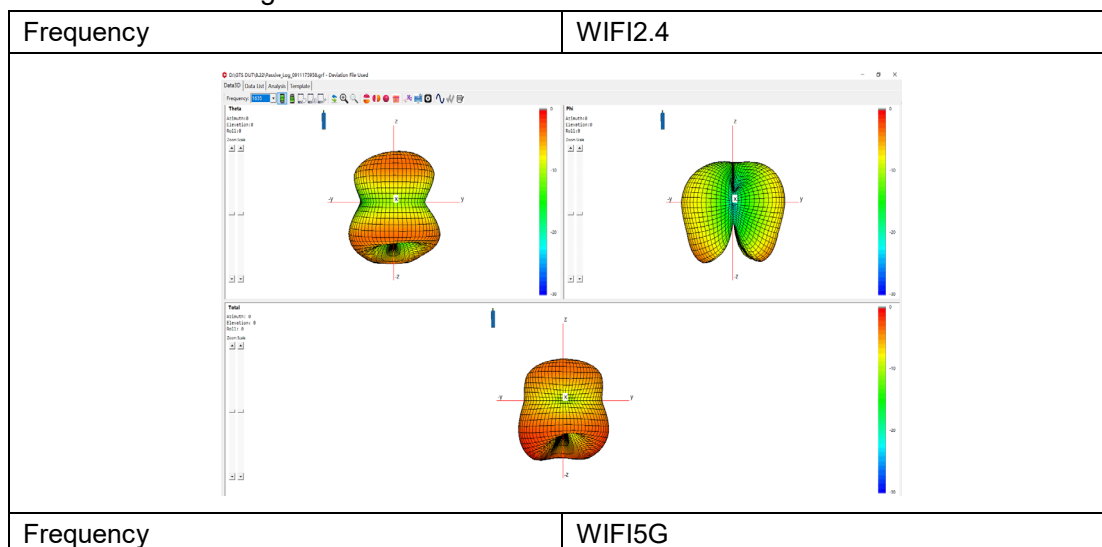


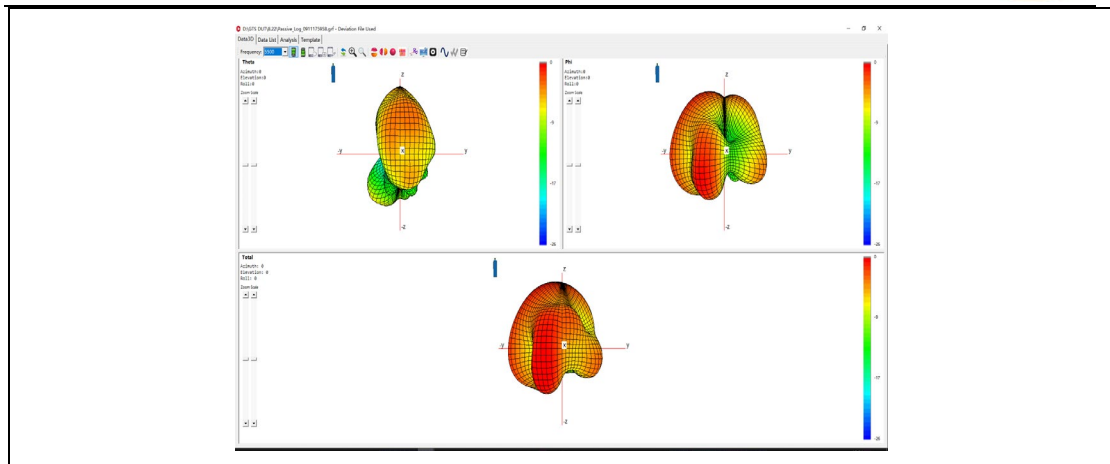
ANT7

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
5G (5.725-5.85GHz)	-4.1	0.55



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