



CUSTOMER: xiaomi

LUXSHAREICT P/N: LX-P98816-MAIN-X3-4151-A
LX-P98816-DIV-X3-4175-A
LX-P98816-G&W-X3-4151-A

CUSTOMER APPROVER CHECKER

Kunshan Liantao Electronics Co., LTD

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Suzhou City, Jiangsu Province

Tel : 0512-82698999



Product Specification

P/N

LX-P98816-MAIN-X3-4151-A
LX-P98816-DIV-X3-4175-A
LX-P98816-G&W-X3-4151-A

Revision Date:

5/16/24

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ME	Xing Zhang	Check/Appr.	
Package Eng.			
RF	Nanmeng Ren	Check/Appr.	

Date	Issue	Detail changes

1. Scope

This document contains required environmental, electrical characteristic, mechanical, package and reliability test requirements.

2. Environmental Requirement

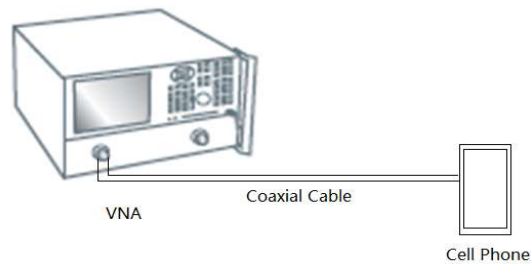
all components must be free from lead (Pb) and other banned or restricted substances according to customer's requirements.

3. Electrical Characteristic Measurement Method

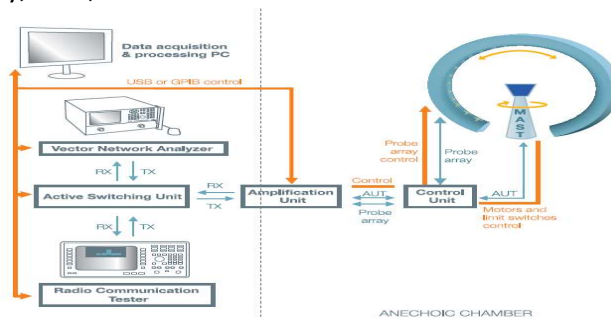
3.1 Measurement method

To measure the Return Loss and VSWR, Smith Chart, Vector Network Analyzer Agilent E5071C was used. Satimo SG24 Anechoic chamber was used to measure the Efficiency, Gain, TRP and TIS.

3.1.1 Return Loss and VSWR



3.1.2 Efficiency, Gain, OTA measurement

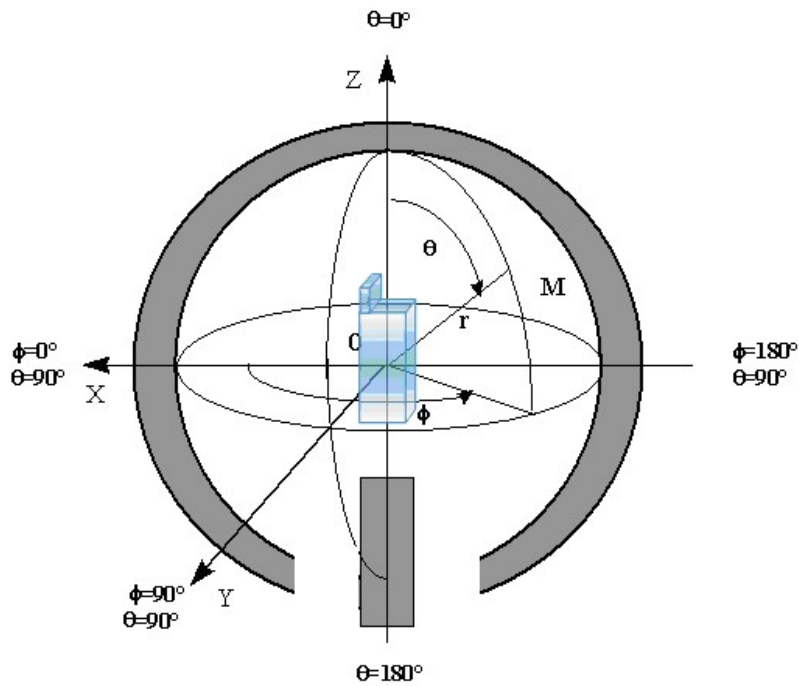


3.1.3 Cutting plane and polarization

Phi=0deg

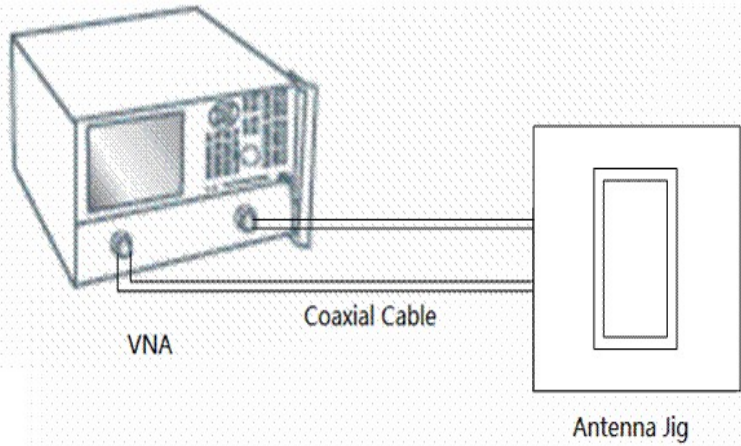
Phi=90deg

Theta=90deg



3.1.4 RF Jig

LUXSHAREICT designs a special S11 RF test jig for antenna test in mass production line. The antenna with average frequency in line is selected as reference antenna, and the results of the test jig is going to correlated to the performance in the real phone.

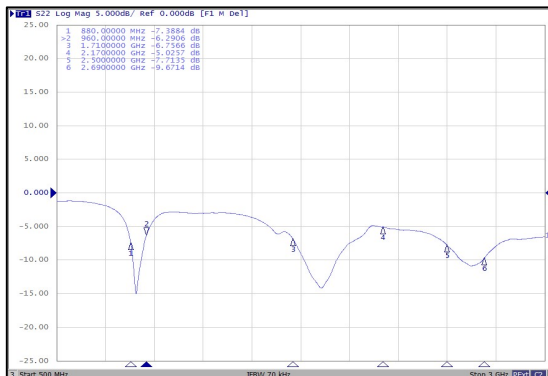


4. Pictures of antenna and antenna type

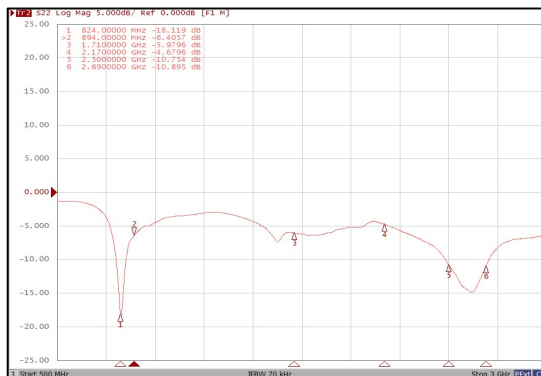
ANT	Type	Material Quality
Main	Internal	FPC
DIV	Internal	FPC
WCN	Internal	FPC

6. Passive Measurement Data

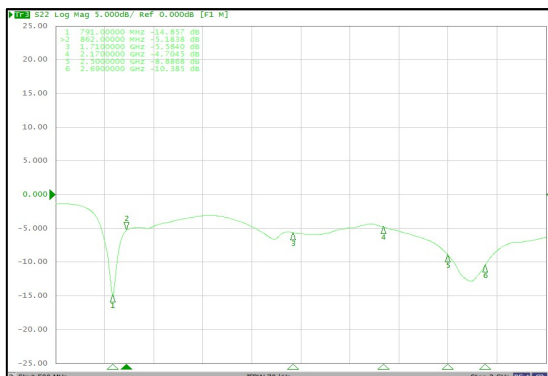
6.1 Main Ant



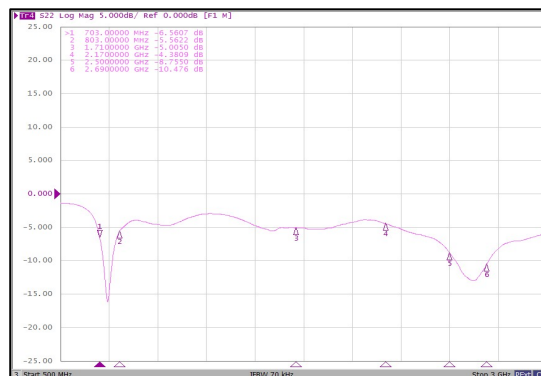
State 1



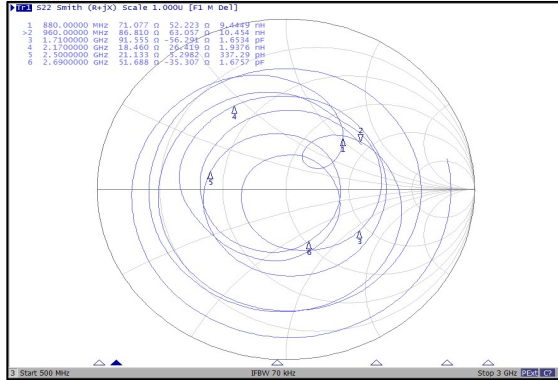
State 2



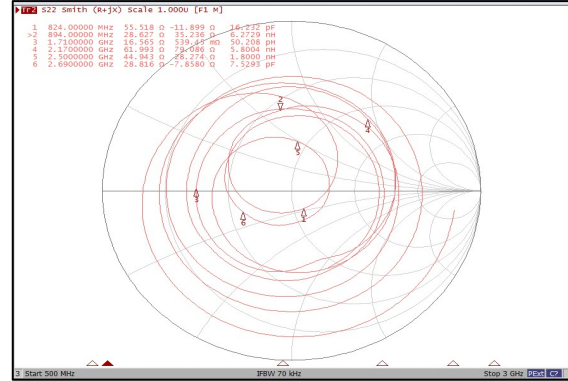
State 3



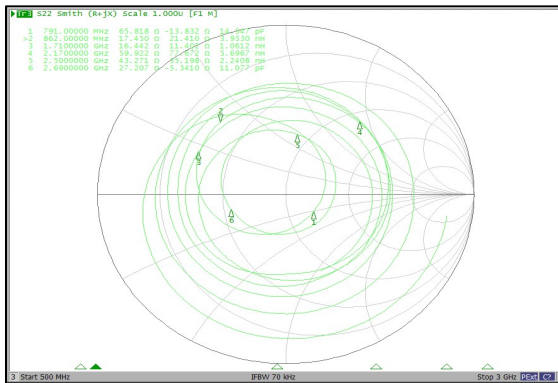
State 4



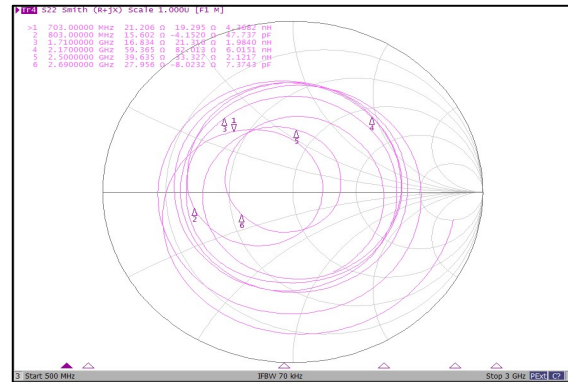
State 1



State 2

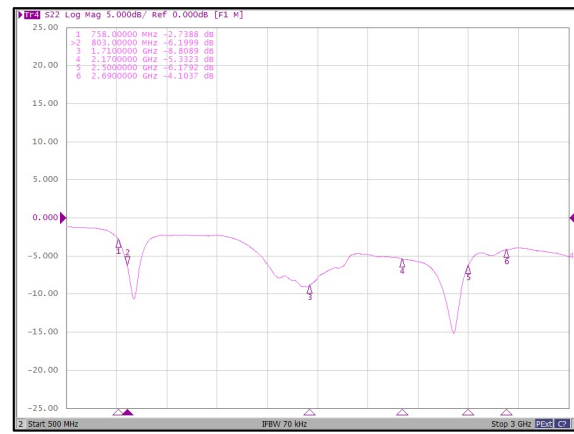
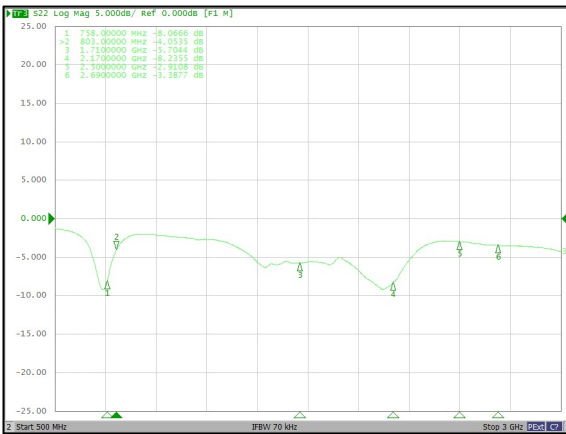
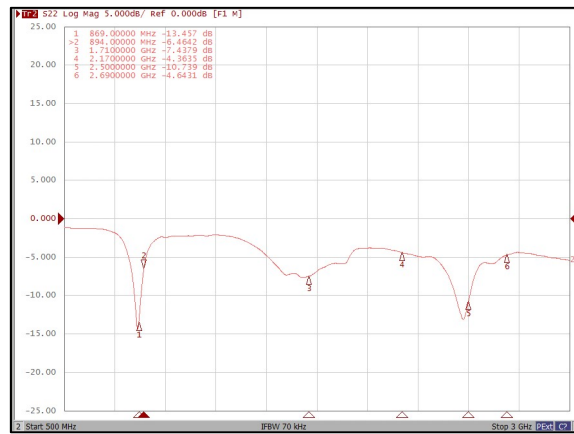
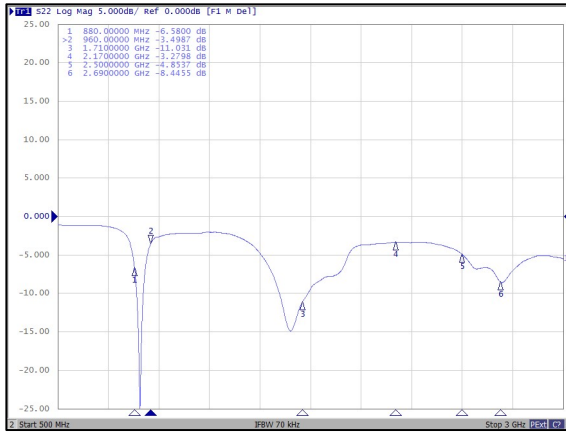


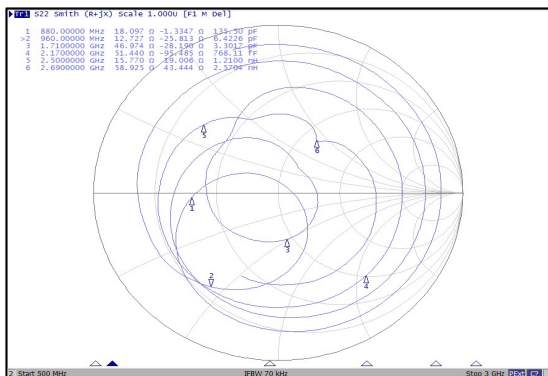
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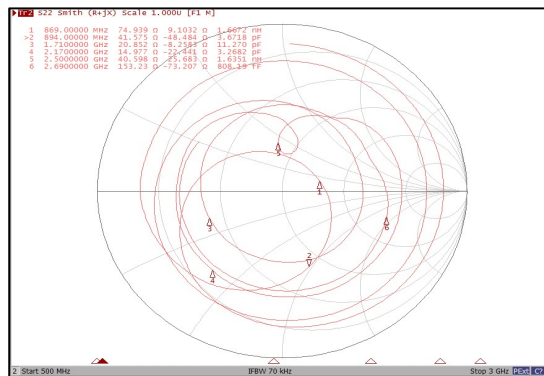
State 4

6.2 Diversity antenna

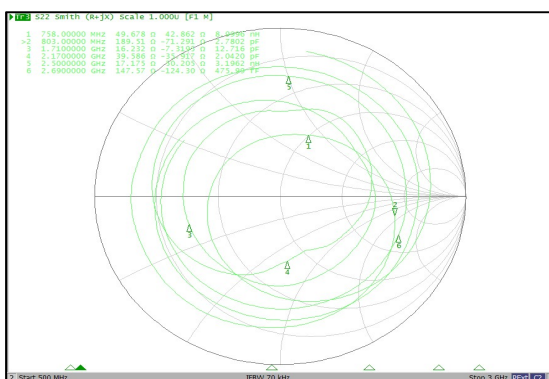




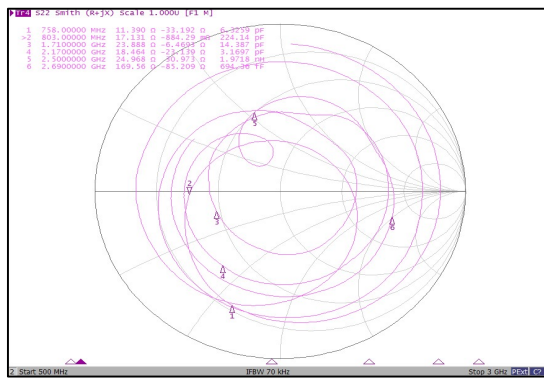
State 1



State 2

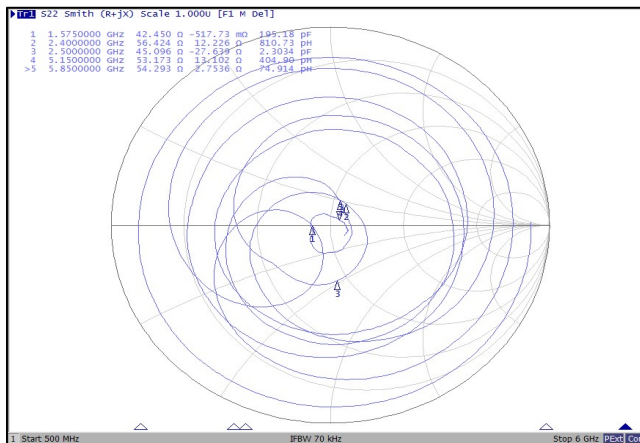
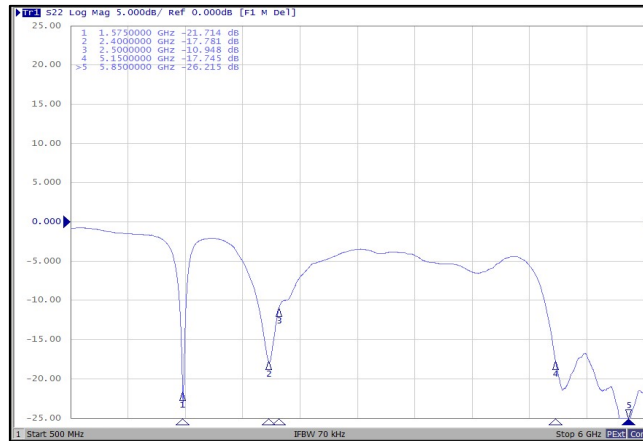


State 3



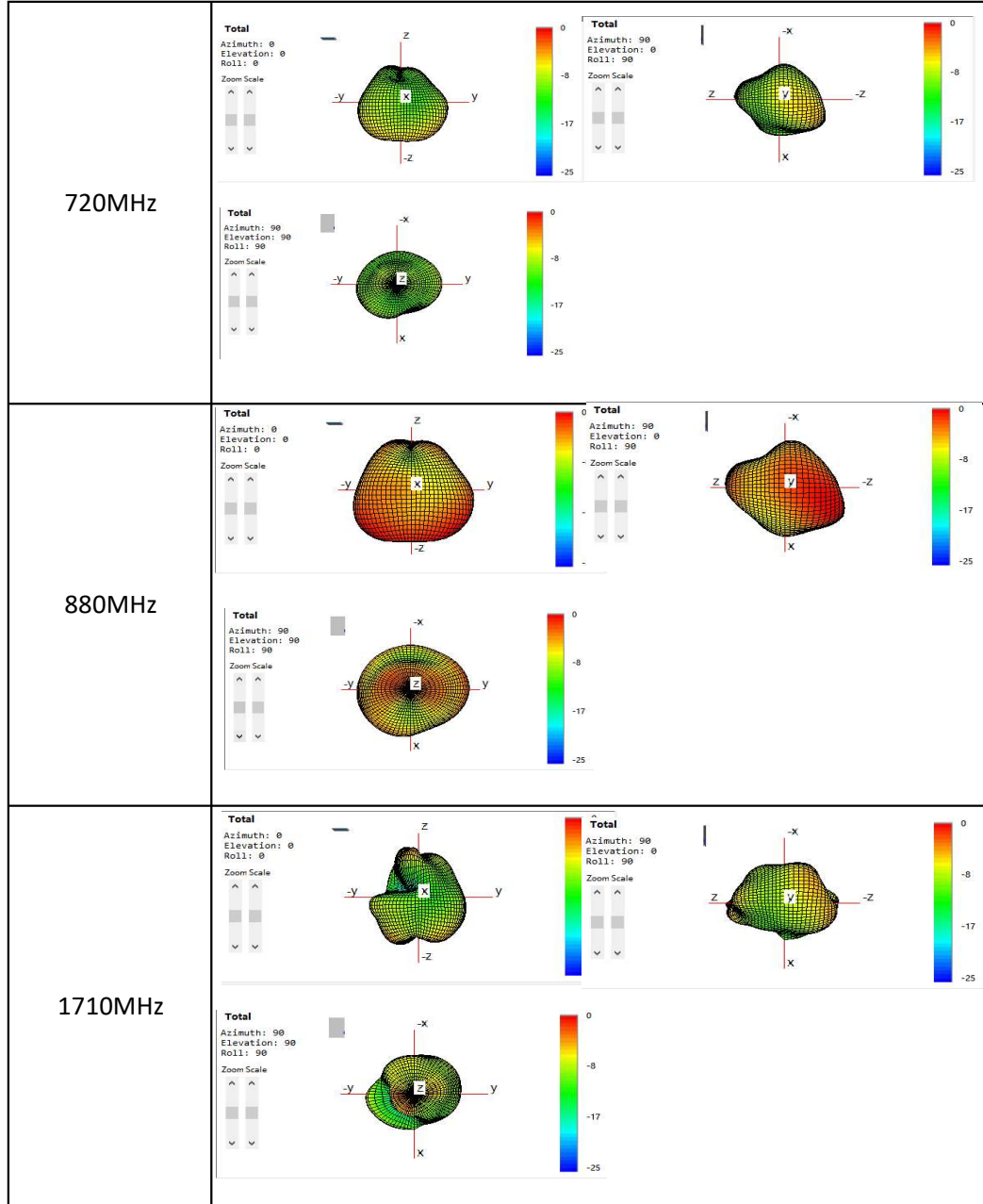
State 4

6.3 WCN Ant



6.4 Radiation Pattern

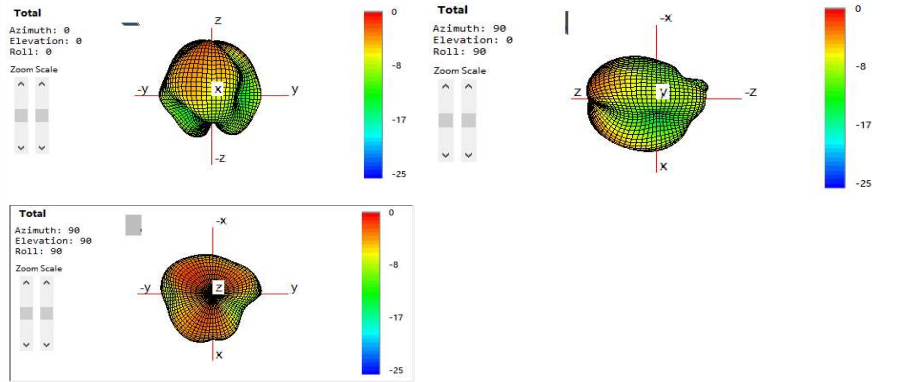
Main ant



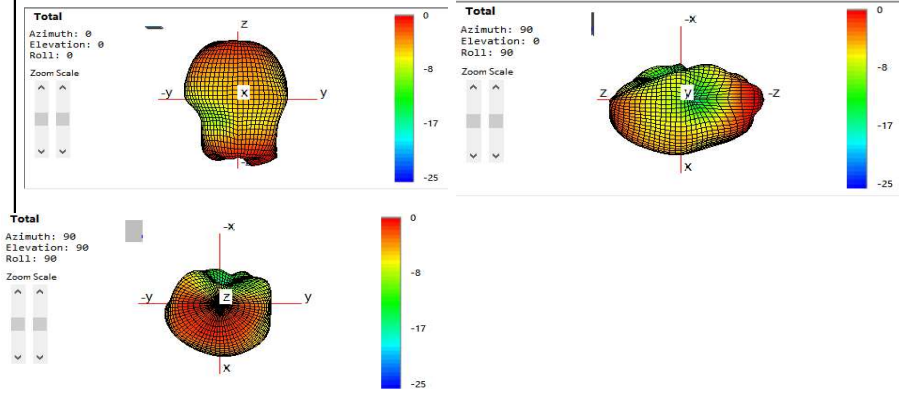
6.4 Radiation Pattern

Main ant

2100MHz

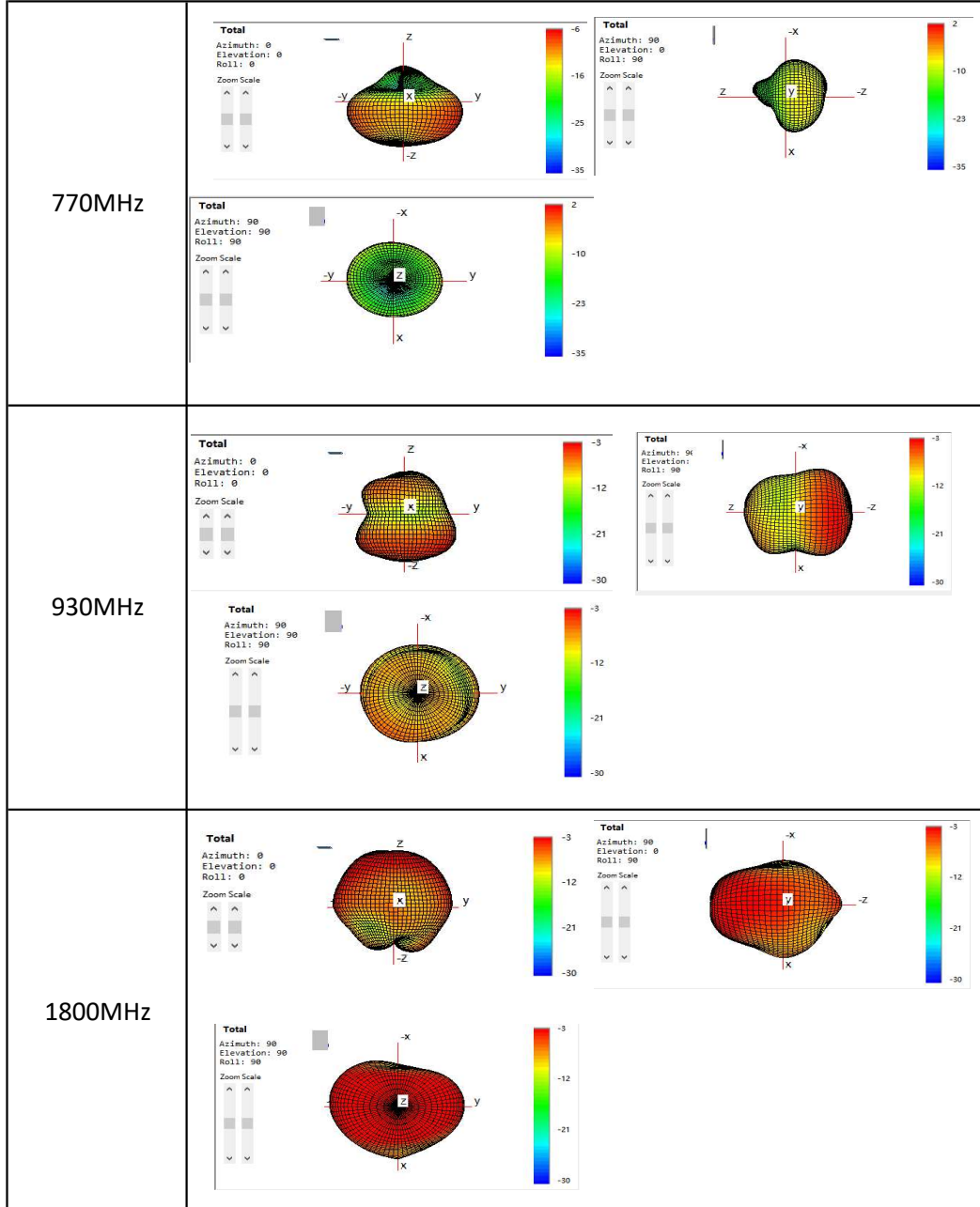


2600MHz



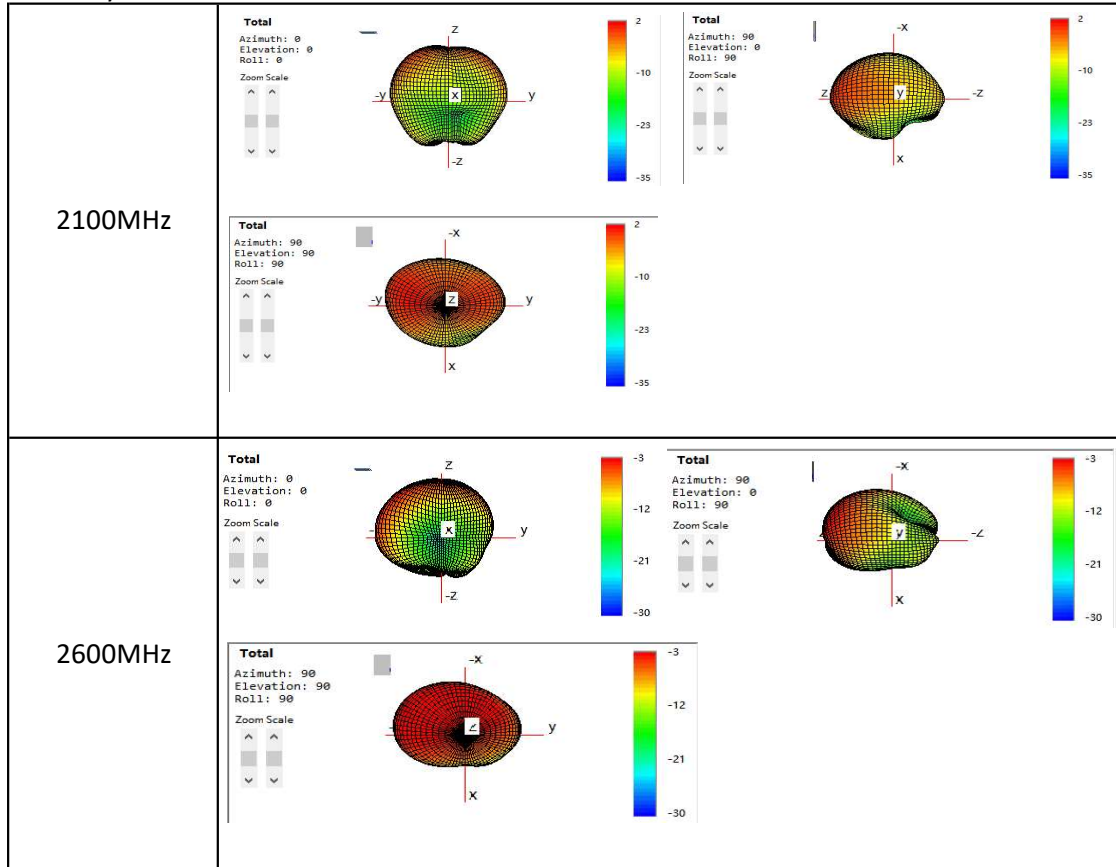
6.4 Radiation Pattern

Diversity ant



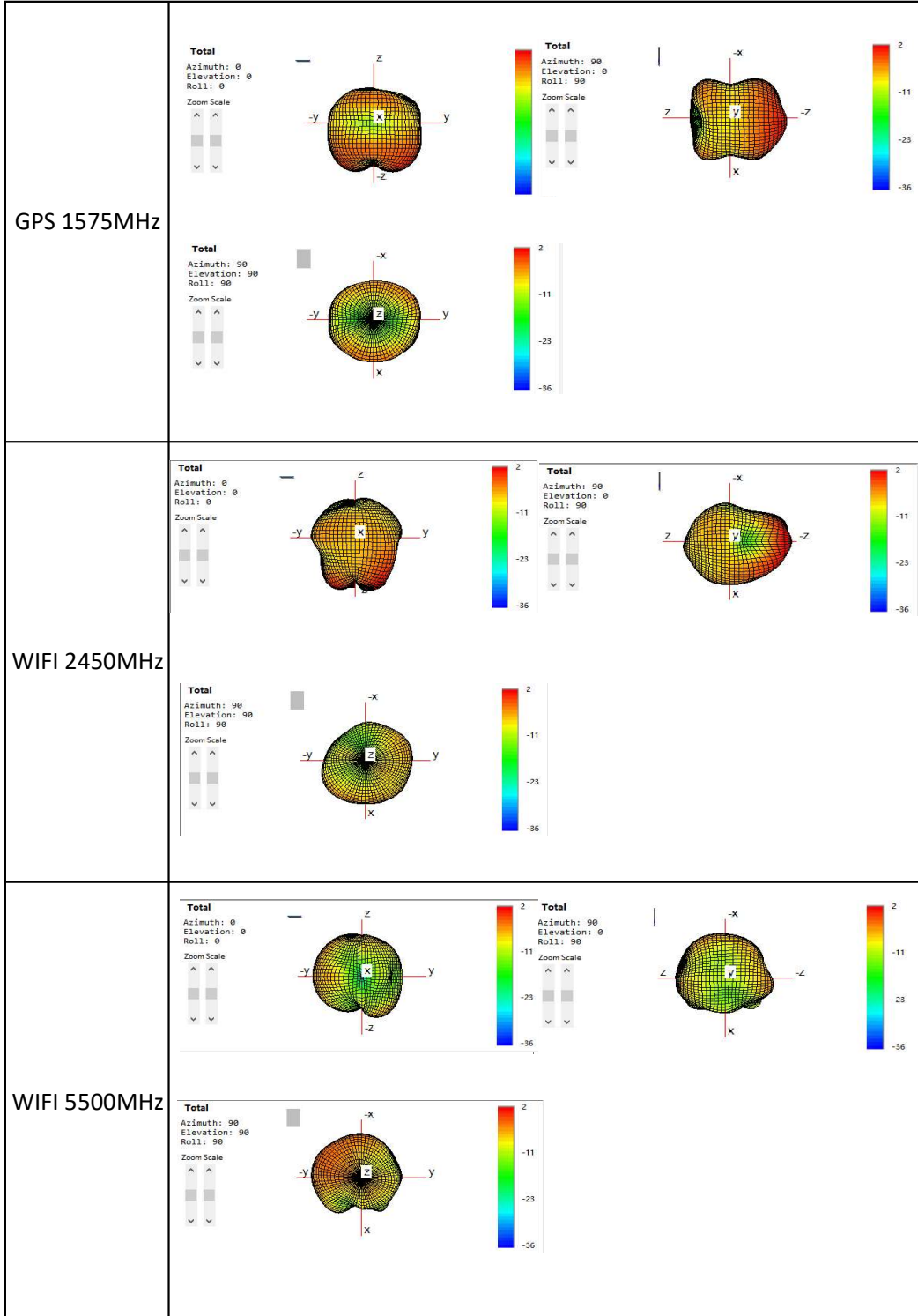
6.4 Radiation Pattern

Diversity ant



6.4 Radiation Pattern

WCN ant





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6.5 Efficiency

main ant

Fre(MHz)	Eff(dB)	Eff(%)	Peak Gain
700	-10.7	8.6	-7.0
720	-8.9	12.8	-5.6
740	-8.0	15.8	-4.8
760	-7.0	20.1	-3.8
780	-6.5	22.3	-2.9
800	-6.8	20.9	-2.7
820	-5.8	26.2	-1.3
840	-4.6	34.7	-0.2
860	-4.8	33.4	-0.6
880	-5.3	29.2	-1.1
900	-4.6	34.6	-0.6
920	-5.8	26.5	-1.9
940	-7.3	18.8	-3.4
960	-8.7	13.5	-5.1
1710	-6.3	23.2	-3.0
1730	-5.4	29.0	-2.4
1750	-4.9	32.7	-1.9
1770	-5.0	32.0	-1.3
1790	-4.6	34.4	-0.7
1810	-4.3	37.5	-0.6
1830	-4.0	40.1	0.3
1850	-3.5	45.1	0.2
1870	-3.5	44.8	0.0
1890	-3.5	45.2	0.4
1910	-3.9	40.6	0.4
1930	-3.6	44.2	0.3
1950	-4.0	39.4	0.7
1970	-4.4	36.5	0.6
1990	-4.0	39.4	0.6
2010	-4.6	34.8	0.7
2030	-4.4	36.0	0.6
2050	-4.6	34.4	0.6
2070	-5.1	31.0	0.1
2090	-5.4	29.1	-0.1
2110	-5.5	28.1	-0.3
2130	-5.5	28.4	-1.0
2150	-5.6	27.8	-0.2
2170	-6.0	25.0	-0.2

Fre(MHz)	Eff(dB)	Eff(%)	Peak Gain
2190	-5.8	26.1	0.0
2210	-5.7	27.0	0.2
2230	-6.0	24.9	-0.7
2250	-5.5	28.2	-1.0
2270	-5.9	25.9	-1.6
2290	-5.7	27.0	-1.3
2310	-5.5	28.1	-1.3
2330	-5.7	27.0	-1.6
2350	-5.2	30.0	-0.7
2370	-5.1	30.9	-0.3
2390	-5.1	31.3	-0.4
2410	-4.5	35.7	-0.7
2430	-4.8	33.3	-0.4
2450	-4.7	33.8	0.0
2470	-5.1	30.6	0.4
2490	-5.2	30.5	0.5
2510	-5.1	31.1	0.3
2530	-5.6	27.5	-0.1
2550	-5.1	30.7	0.2
2570	-5.6	27.7	-0.1
2590	-5.6	27.7	0.1
2610	-6.4	22.8	-0.5
2630	-6.4	23.0	-0.5
2650	-6.4	23.1	0.0
2670	-6.6	22.1	-1.0
2690	-6.5	22.5	-1.2

6.5 Efficiency

Diversity ant

Fre(MHz)	Eff(dB)	Eff(%)	Peak Gain
700	-14.1	3.9	-9.9
720	-13.1	4.9	-9.0
740	-12.9	5.2	-8.9
760	-12.2	6.0	-7.8
780	-11.8	6.6	-7.2
800	-11.8	6.6	-6.8
820	-12.2	6.1	-7.1
840	-10.9	8.2	-6.1
860	-9.3	11.7	-4.1
880	-8.5	14.2	-3.2
900	-9.0	12.7	-4.1
920	-7.6	17.5	-2.9
940	-8.2	15.1	-3.1
960	-9.1	12.5	-4.5
1710	-4.6	34.6	1.1
1730	-4.7	33.8	0.7
1750	-5.0	31.4	0.2
1770	-5.6	27.5	-0.5
1790	-5.8	26.2	-0.8
1810	-6.2	24.3	-1.1
1830	-6.5	22.7	-1.5
1850	-6.9	20.7	-2.1
1870	-7.4	18.1	-2.7
1890	-6.2	24.3	-1.1
1910	-6.0	25.2	-1.1
1930	-5.9	25.9	-1.2
1950	-5.9	25.9	-1.2
1970	-5.7	26.9	-1.1
1990	-5.3	29.6	-0.8
2010	-5.1	31.3	-0.4
2030	-4.8	33.3	0.0
2050	-4.4	36.7	0.7
2070	-4.4	36.6	1.2
2090	-4.5	35.7	1.6
2110	-4.3	37.3	1.9
2130	-4.8	33.1	1.6
2150	-5.0	31.5	1.3
2170	-5.9	25.9	0.2

Fre(MHz)	Eff(dB)	Eff(%)	Peak Gain
2190	-6.1	24.6	-0.1
2210	-5.5	28.3	0.7
2230	-5.2	30.1	1.1
2250	-4.8	33.0	1.9
2270	-4.8	33.2	1.9
2290	-4.7	34.0	2.0
2310	-4.5	35.9	1.9
2330	-5.0	31.5	1.3
2350	-5.1	30.9	0.8
2370	-5.6	27.5	0.1
2390	-6.3	23.7	-1.1
2410	-5.9	25.6	0.6
2430	-6.0	25.0	0.4
2450	-5.8	26.5	0.5
2470	-5.6	27.9	0.3
2490	-5.8	26.1	0.0
2510	-5.9	25.8	-0.2
2530	-5.9	25.6	-0.1
2550	-6.2	24.0	-0.1
2570	-6.3	23.7	0.0
2590	-5.6	27.5	0.5
2610	-5.3	29.5	0.6
2630	-5.5	28.4	0.1
2650	-5.9	25.8	-0.5
2670	-6.4	23.0	-1.2
2690	-6.7	21.5	-1.4

6.5 Efficiency

WCN ant

Frequency/MHZ	Eff(dB)	Eff(%)	Gain (dB)	Upper Hem.Total Radiated Pwr (dBm)
1550	-4.5	35.6	-0.3	-9.5
1560	-4.8	33.5	-0.4	-9.5
1570	-4.5	35.4	-0.5	-9.5
1580	-4.5	35.3	-0.8	-9.8
1590	-5.2	30.1	-1.4	-10.2
1600	-5.6	27.6	-1.9	-10.7
1610	-6.1	24.5	-2.0	-11.7
1620	-6.1	24.4	-2.5	-11.9

2400	-4.0	39.6	1.5	-9.2
2410	-3.6	43.7	1.5	-9.1
2420	-4.1	38.7	1.4	-9.0
2430	-4.2	38.4	1.0	-9.1
2440	-3.9	40.7	1.2	-9.0
2450	-4.3	37.3	1.0	-9.3
2460	-4.3	36.8	1.3	-9.0
2470	-4.7	34.2	1.4	-9.3
2480	-4.4	36.7	1.1	-9.4
2490	-4.5	35.3	1.3	-9.4
2500	-4.4	36.2	0.9	-9.2

5150	-7.5	17.8	-2.9	-9.6
5250	-7.1	19.3	-1.4	-8.9
5350	-6.0	25.2	-0.5	-8.8
5450	-5.8	26.2	0.1	-8.1
5550	-5.1	31.1	0.4	-7.2
5650	-5.4	29.2	0.0	-7.9
5750	-5.5	28.4	-1.2	-7.9
5850	-5.7	27.0	-1.1	-8.3