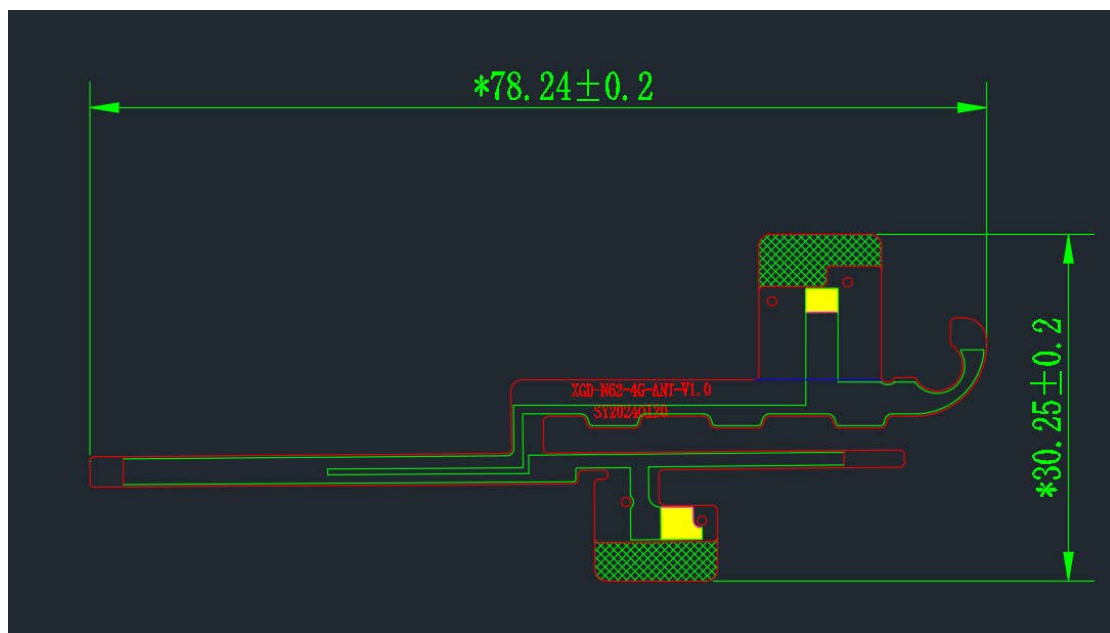


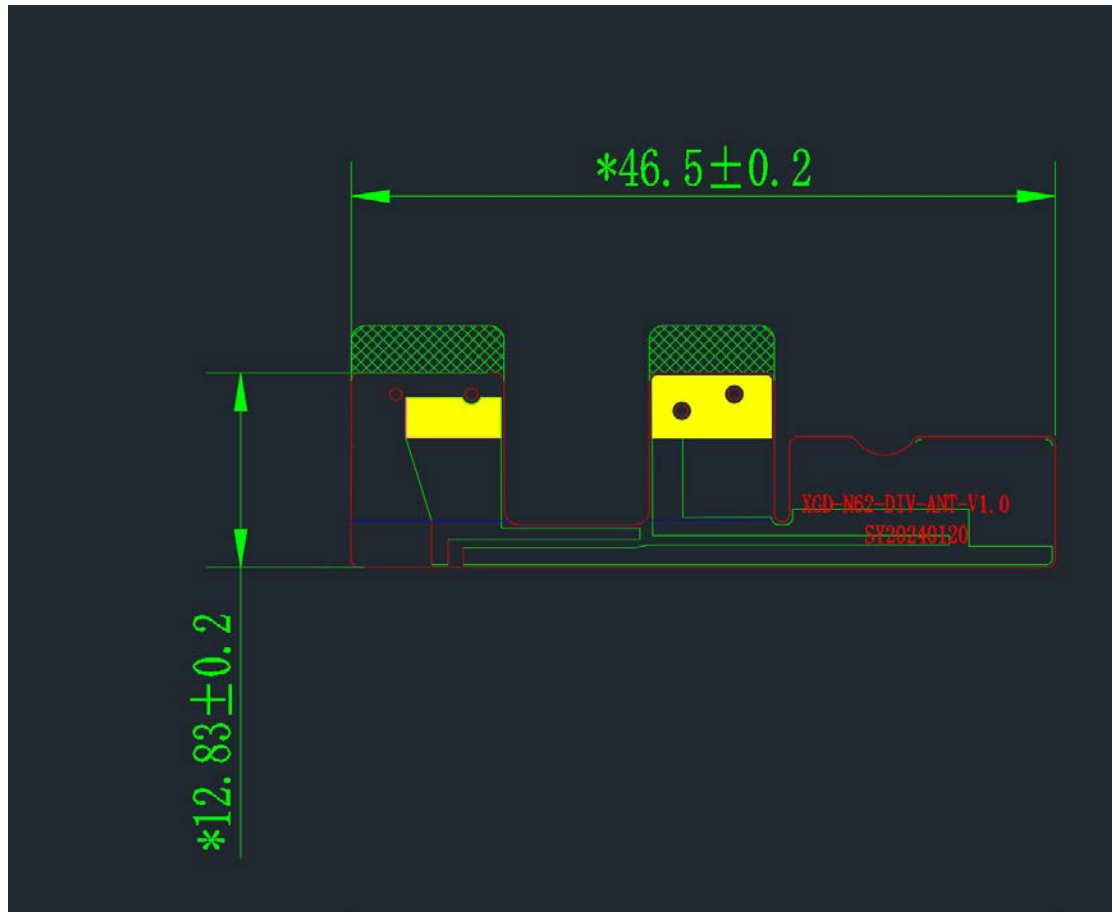
**Manufacturer:**SunnywayTechnology (China)Co.,  
Ltd.

**Address:**Floor 6, Building 5, Nam Tai Inno Park,  
Guangming District, Shenzhen

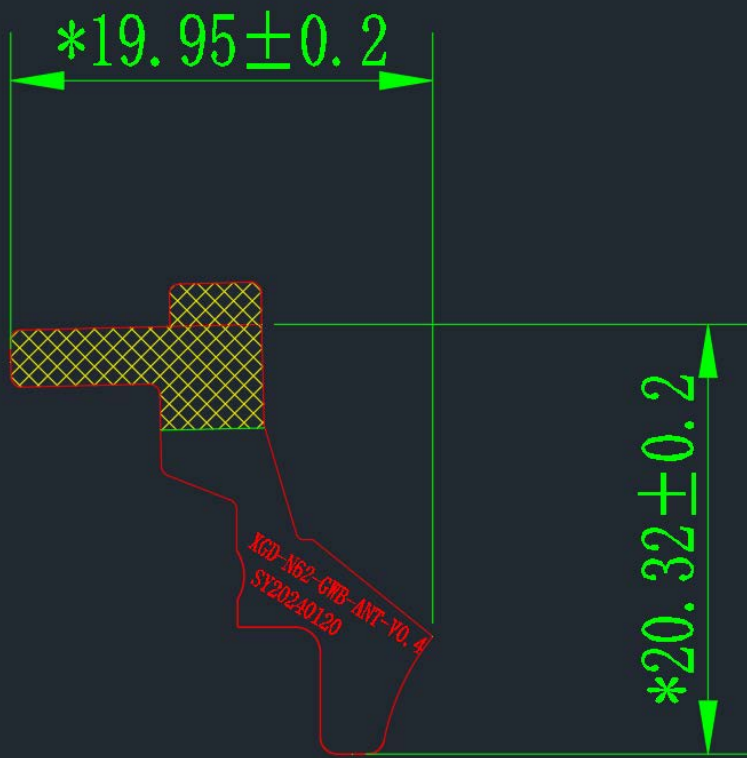
# MAIN ANT



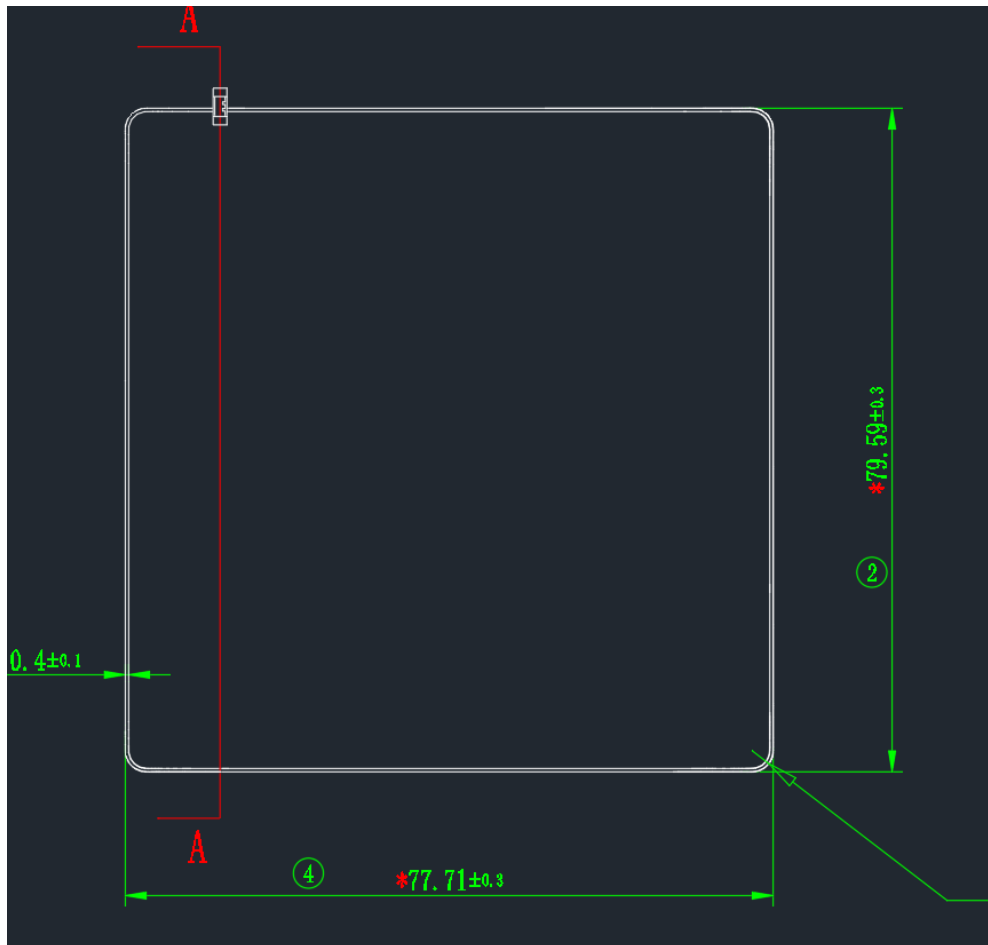
# DIV ANT



# BWG ANT

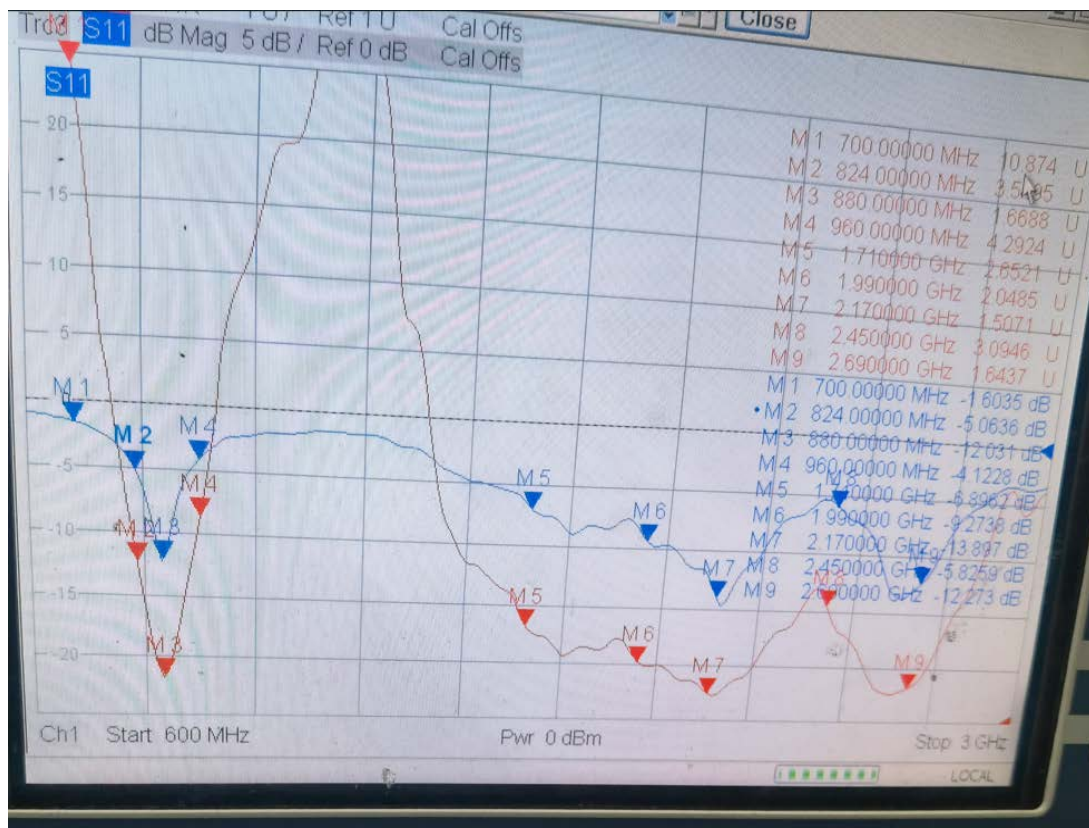


# NFC ANT :



# 1. MAIN antenna

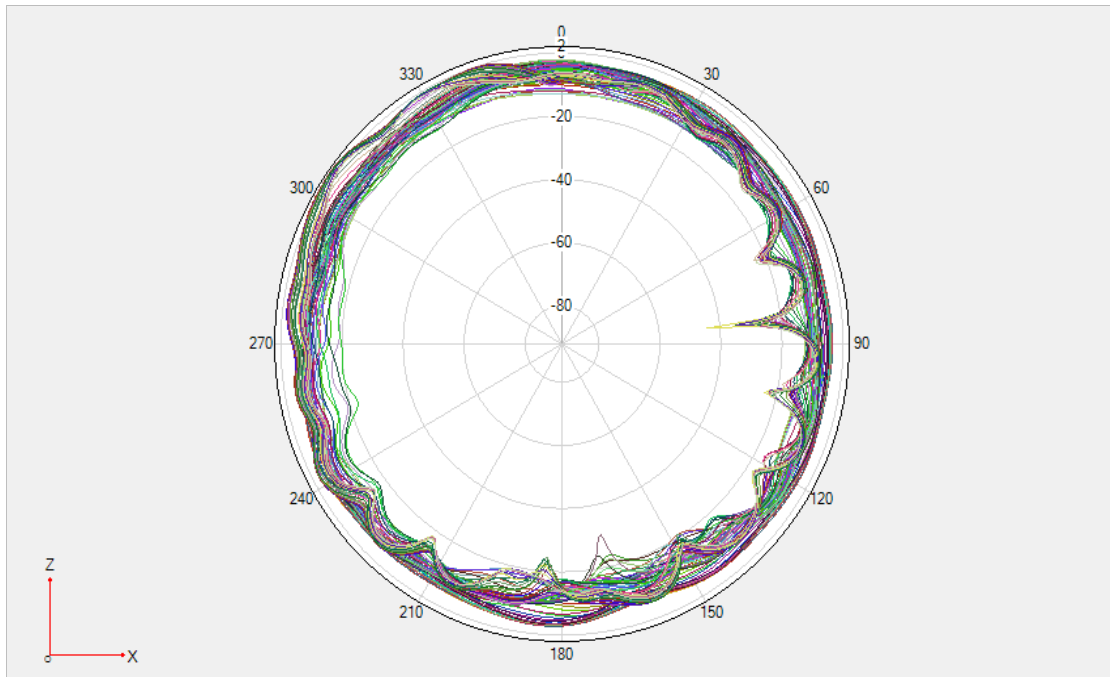
## 1. Passive performance test parameters



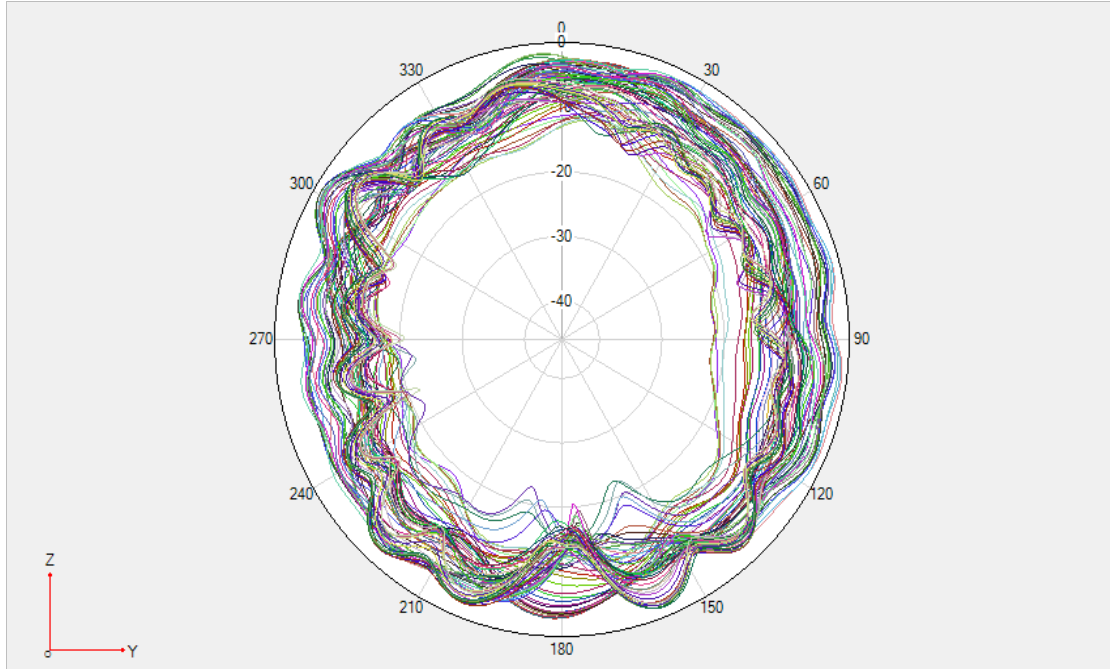
## 2. antenna passive data :

Frequency/Mhz	Efficiency / %	Max Gain/dBi	Frequency/Mhz	Efficiency / %	Max Gain/dBi	Frequency/Mhz	Efficiency / %	Max Gain/dBi
700	7.31	-9.26	1710	14.82	-4.66	2250	15.45	-3.74
710	7.36	-9.26	1730	14.79	-4.98	2270	15.5	-3.7
720	7.54	-9.34	1750	14.89	-5.34	2290	15.3	-3.37
730	7.81	-9.41	1770	17.25	-4.53	2310	16.22	-2.73
740	8.36	-8.9	1790	18.93	-3.99	2330	18	-1.89
750	9.12	-8.16	1810	21.94	-3.09	2350	20.38	-1.06
760	10.65	-7.15	1830	23.75	-2.23	2370	23.97	0.05
770	12	-6.56	1850	27.75	-1.4	2390	26.09	0.62
780	12.89	-6	1870	28.17	-1.58	2410	29.72	1.46
790	14.59	-4.99	1890	28.6	-1.86	2430	31.36	1.7
800	15.35	-6.11	1910	28.07	-1.63	2450	34.31	1.97
810	17.11	-5.39	1930	28.93	-1.37	2470	35.2	2.09
820	19.32	-4.7	1950	29.77	-1.18	2490	34.65	2.02
830	22.5	-3.64	1970	31.92	-0.55	2510	33.91	1.92
840	24.68	-3.35	1990	31.85	-0.77	2530	31.92	1.46
850	26.63	-2.7	2010	31.55	-0.91	2550	31.24	1.42
860	28.55	-2.45	2030	30.82	-1.14	2570	28.88	1.07
870	29.89	-2.25	2050	31.49	-1.14	2590	28.71	0.98
880	30.88	-2.36	2070	30.06	-1.58	2610	25.75	0.28
890	30	-2.22	2090	29.66	-1.67	2630	25.37	0.29
900	30.12	-2.15	2110	26.83	-1.86	2650	23.28	-0.18
910	28.33	-2.34	2130	26.93	-1.46	2670	22.82	-0.25
920	27.34	-2.47	2150	23.49	-2.46	2690	21.75	-0.45
930	26.04	-2.66	2170	21.29	-3.22			
940	25.84	-2.9	2190	19.26	-3.56			
950	23.71	-3.56	2210	17.74	-3.75			
960	21.63	-4.12	2230	15.72	-4.04			

### 3. Directional diagram

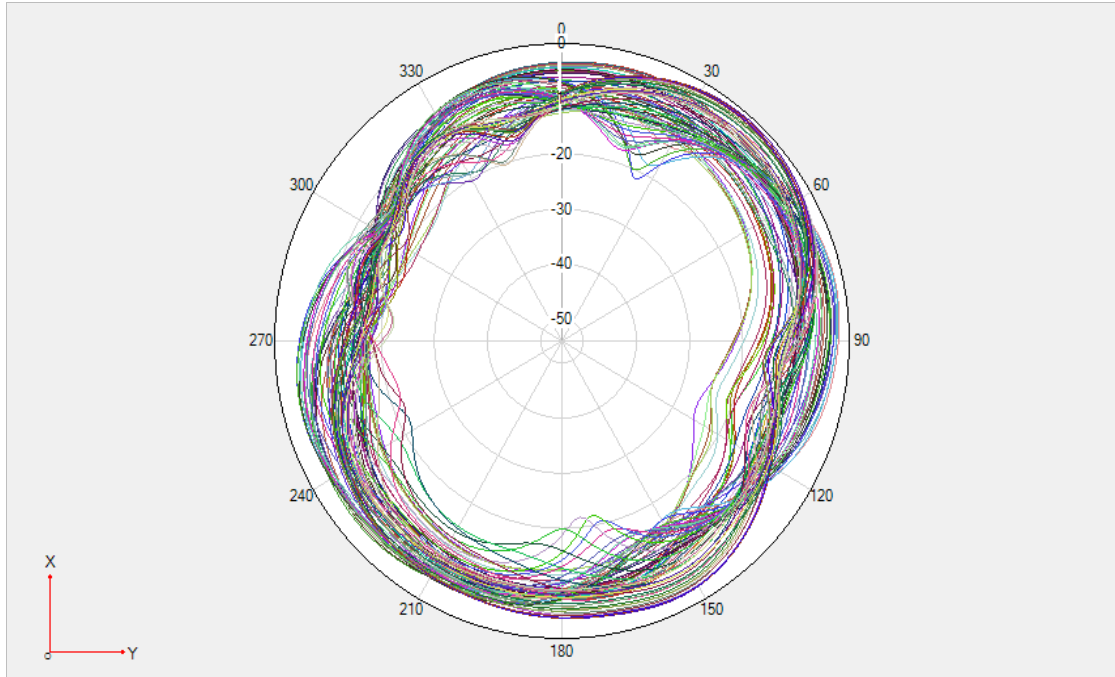


Phi 0 2D



Phi 90 2D





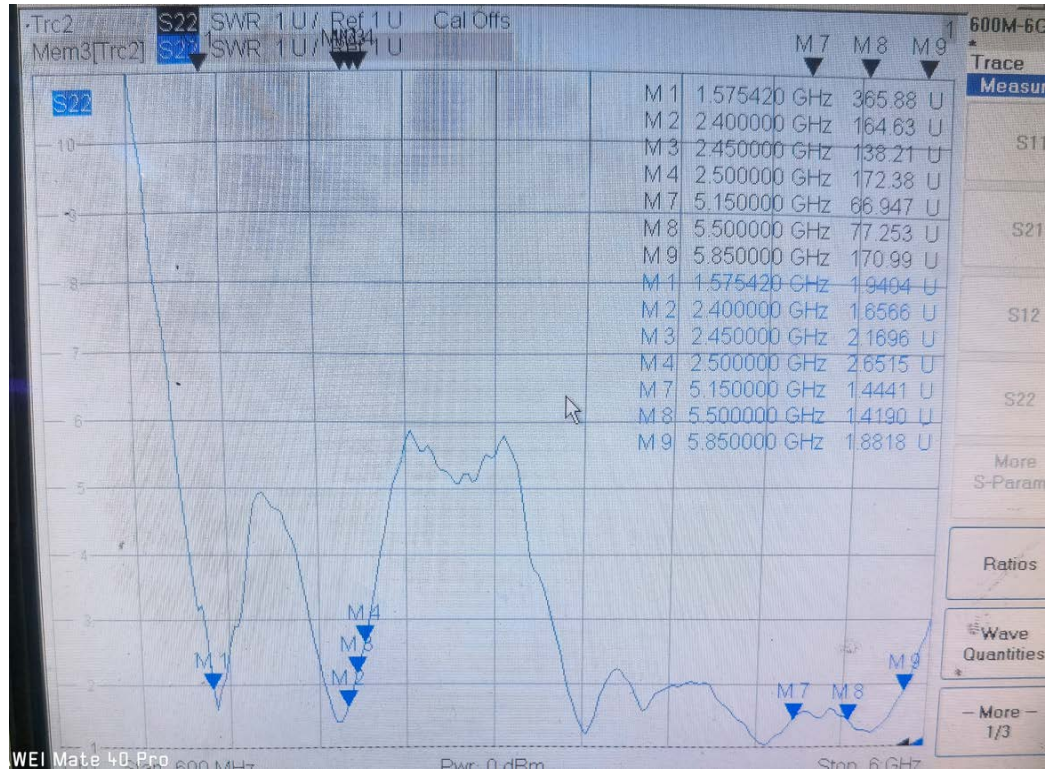
Theta 90 2D

#### 4. antenna OTA data :

Measurement	Band	Channel	Total	Measurement	Band	Channel	Total
TRP	FDD_B1(10MHz)	18050	17.17	TRP	FDD_B8(10MHz)	21500	18.81
TRP	FDD_B1(10MHz)	18300	17.57	TRP	FDD_B8(10MHz)	21625	20.21
TRP	FDD_B1(10MHz)	18550	17.66	TRP	FDD_B8(10MHz)	21750	18.6
TIS(RSSI)	FDD_B1(10MHz)	550	-90.67	TIS(RSSI)	FDD_B8(10MHz)	3750	-90.23
TRP	FDD_B2(10MHz)	18650	17.03	TRP	FDD_B20(10MHz)	24200	17.47
TRP	FDD_B2(10MHz)	18900	17.43	TRP	FDD_B20(10MHz)	24300	18.01
TRP	FDD_B2(10MHz)	19150	17.46	TRP	FDD_B20(10MHz)	24400	17.95
TIS(RSSI)	FDD_B2(10MHz)	1150	-92.42	TIS(RSSI)	FDD_B20(10MHz)	6400	-82.39
TRP	FDD_B3(10MHz)	19250	17.22	TRP	FDD_B28(10MHz)	27260	14.26
TRP	FDD_B3(10MHz)	19575	17.74	TRP	FDD_B28(10MHz)	27435	15.1
TRP	FDD_B3(10MHz)	19900	17.1	TRP	FDD_B28(10MHz)	27610	14.4
TIS(RSSI)	FDD_B3(10MHz)	1900	-93.09	TIS(RSSI)	FDD_B28(10MHz)	9610	-88.26
TRP	FDD_B4(10MHz)	20000	17.68	TRP	TDD_B38(20MHz)	37850	17.4
TRP	FDD_B4(10MHz)	20175	17.66	TRP	TDD_B38(20MHz)	38000	18.08
TRP	FDD_B4(10MHz)	20350	17.69	TRP	TDD_B38(20MHz)	38150	17.05
TIS(RSSI)	FDD_B4(10MHz)	2350	-91.57	TIS(RSSI)	TDD_B38(20MHz)	38150	-88.09
TRP	FDD_B5(10MHz)	20450	17.4	TRP	TDD_B40(20MHz)	38750	18.03
TRP	FDD_B5(10MHz)	20525	17.66	TRP	TDD_B40(20MHz)	39150	18.76
TRP	FDD_B5(10MHz)	20600	17.72	TRP	TDD_B40(20MHz)	39550	19.84
TIS(RSSI)	FDD_B5(10MHz)	2600	-89.36	TIS(RSSI)	TDD_B40(20MHz)	39550	-90.55
TRP	FDD_B7(10MHz)	20800	18.7	TRP	TDD_B41(20MHz)	40340	17.75
TRP	FDD_B7(10MHz)	21100	17.49	TRP	TDD_B41(20MHz)	40620	17.75
TRP	FDD_B7(10MHz)	21400	17.19	TRP	TDD_B41(20MHz)	41140	17.07
TIS(RSSI)	FDD_B7(10MHz)	3400	-90.85	TIS(RSSI)	TDD_B41(20MHz)	41140	-88.93

## 2. BWG antenna

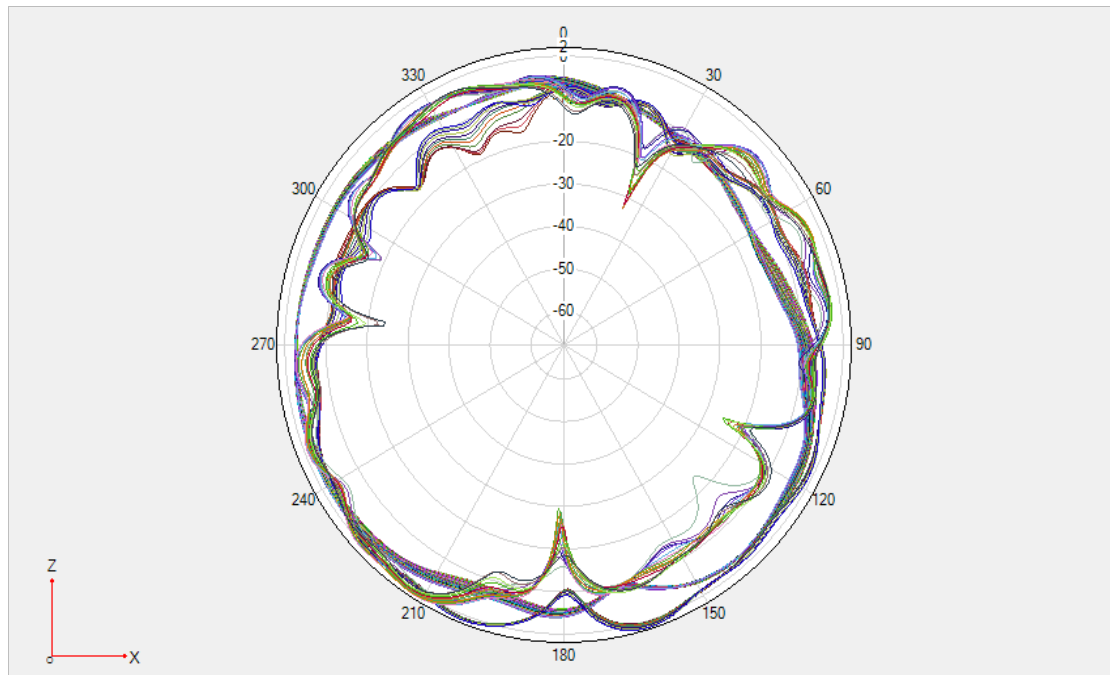
### 1. Passive performance test parameters



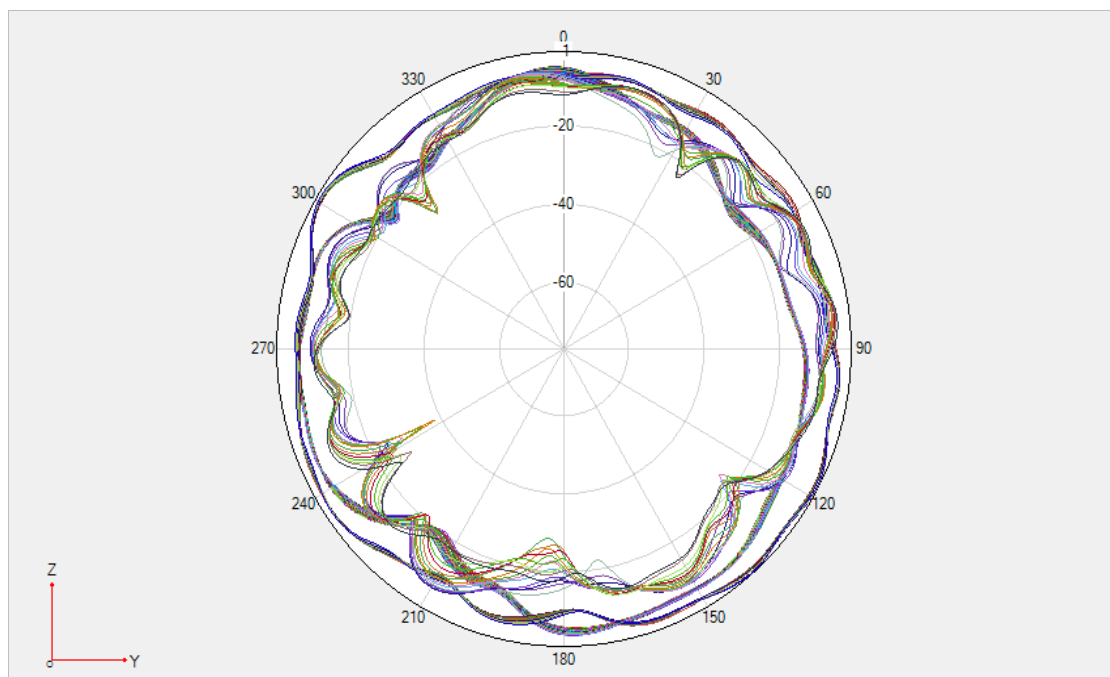
## 2. antenna passive data :

Frequency /Mhz	Efficienc y / %	Max Gain/dBi	Frequency /Mhz	Efficienc y / %	Max Gain/dBi	Frequency /Mhz	Efficienc y / %	Max Gain/dBi
1560	18.32	-2.39	2400	34.83	1.04	5150	26.94	-0.77
1565	19.1	-2.18	2410	34.67	0.91	5200	28.18	0.06
1570	19.68	-2.09	2420	33.27	0.72	5250	30.42	1.24
1575	20.28	-2.02	2430	34.43	0.77	5300	31.29	1.8
1580	20.09	-1.93	2440	35.89	1	5350	31.71	1.84
1585	19.77	-1.78	2450	35.89	0.98	5400	32.5	1.99
1590	19.77	-1.62	2460	35.73	1.11	5450	32.42	1.75
1595	18.92	-1.56	2470	37.07	1.46	5500	32.5	1.71
1600	18.54	-1.41	2480	37.84	1.68	5550	31.87	1.37
1605	19.19	-1.16	2490	37.15	1.69	5600	31.14	1.15
1610	18.84	-1.18	2500	36.9	1.6	5650	31.56	0.93
						5700	32.3	0.63
						5750	32.26	0.38
						5800	31.29	-0.06
						5850	32.18	0.04

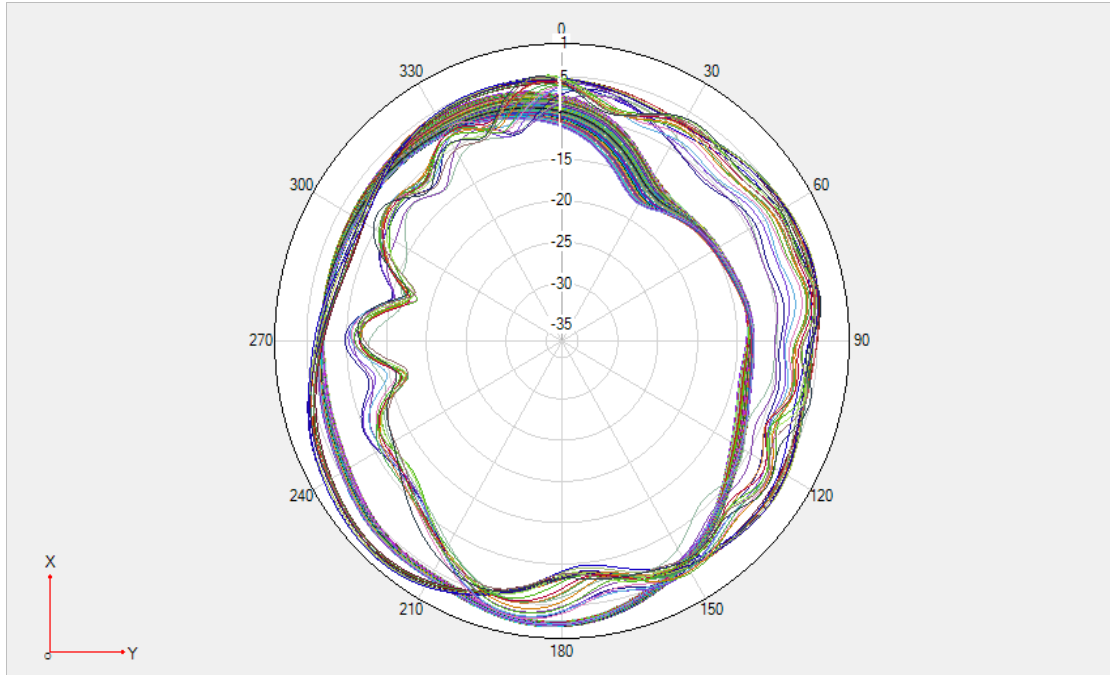
### 3. Directional diagram



Phi 0 2D



Phi 90 2D



Theta 90 2D

#### 4. antenna OTA data :

##### WIFI OTA

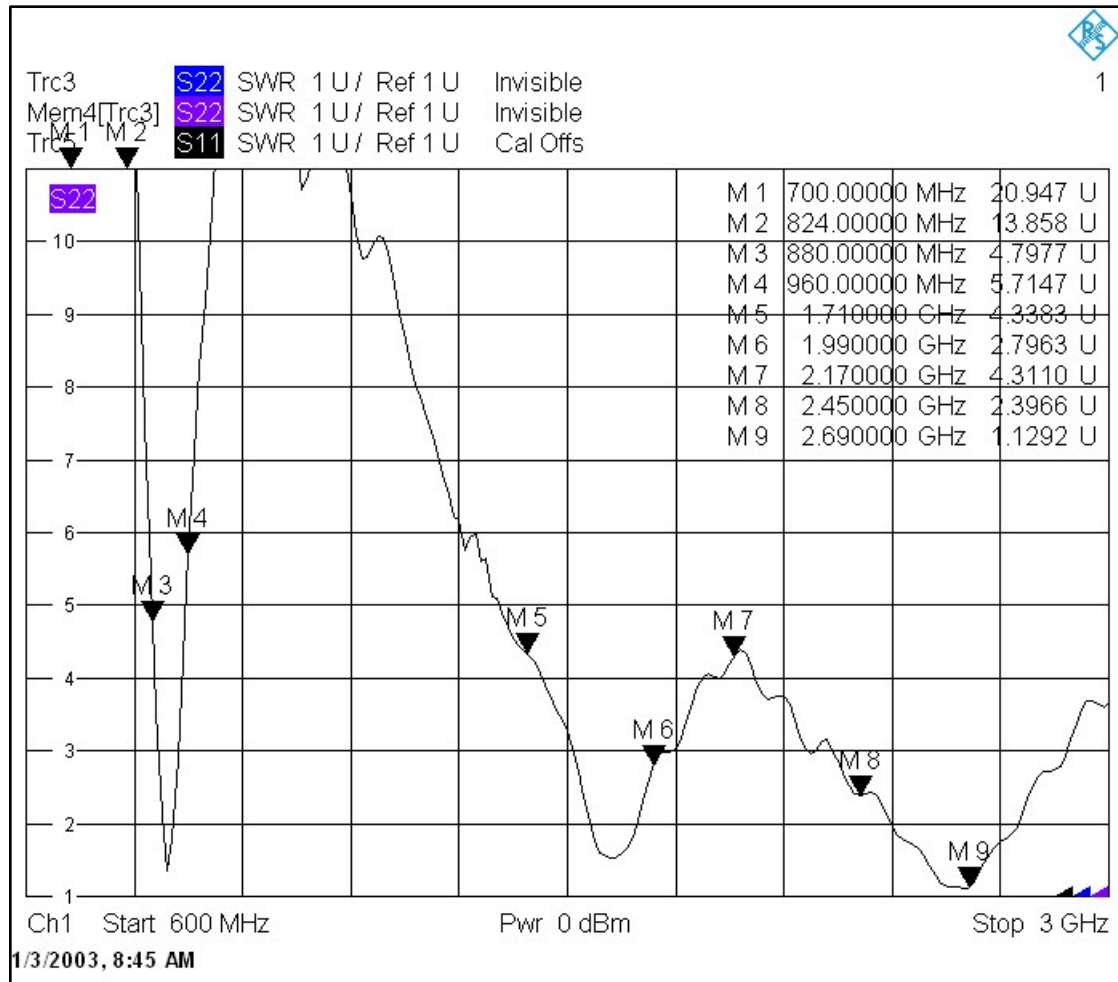
Measurement	Band	Channel	Total
TRP	WIFI_B (1M)	1	12.14
TRP	WIFI_B (1M)	6	12.92
TRP	WIFI_B (1M)	11	13.19
TIS(EIRP)	WIFI_B (11M)	11	-81.71
TRP	WIFI_G (6M)	1	10.1
TRP	WIFI_G (6M)	6	10.32
TRP	WIFI_G (6M)	11	11.6
TIS(EIRP)	WIFI_G (54M)	11	-68.46
TRP	WIFI_A (6M)	36	9.66
TRP	WIFI_A (6M)	149	10.59
TRP	WIFI_A (6M)	165	10.54
TIS(EIRP)	WIFI_A (54M)	165	-67.32

##### GPS OTA

Type	CNO	UHIS	PIGS	TIS
Gps	27.07	141.64	142.83	-141.42

### 3. DIV antenna

#### 1. Passive performance test parameters

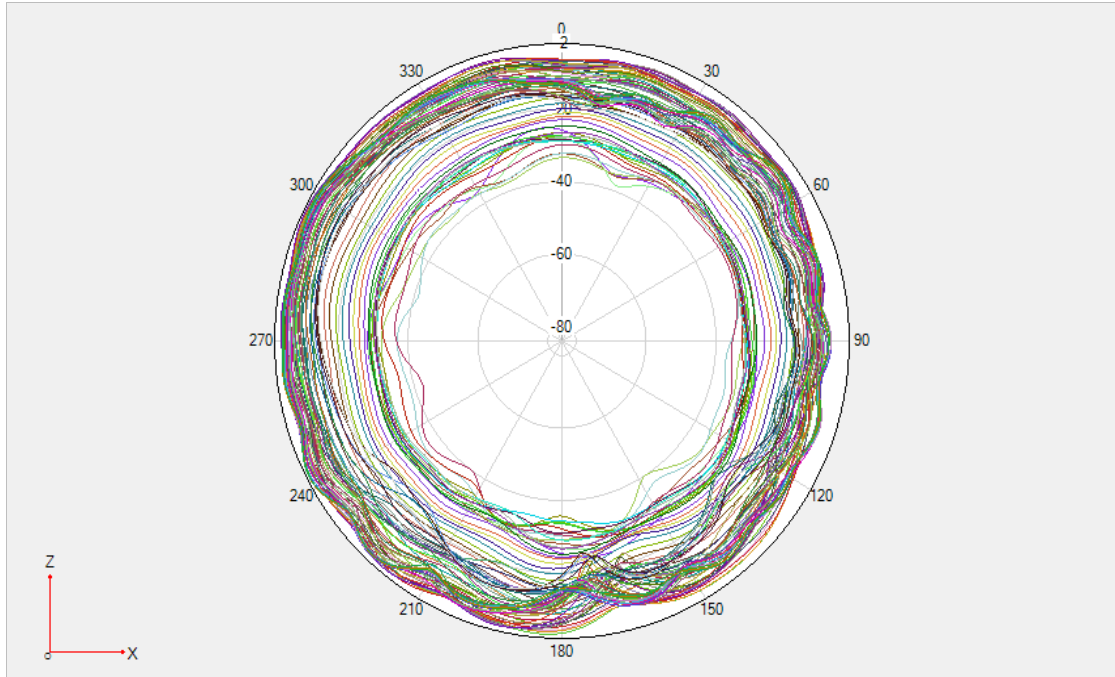


## 2. antenna passive data :

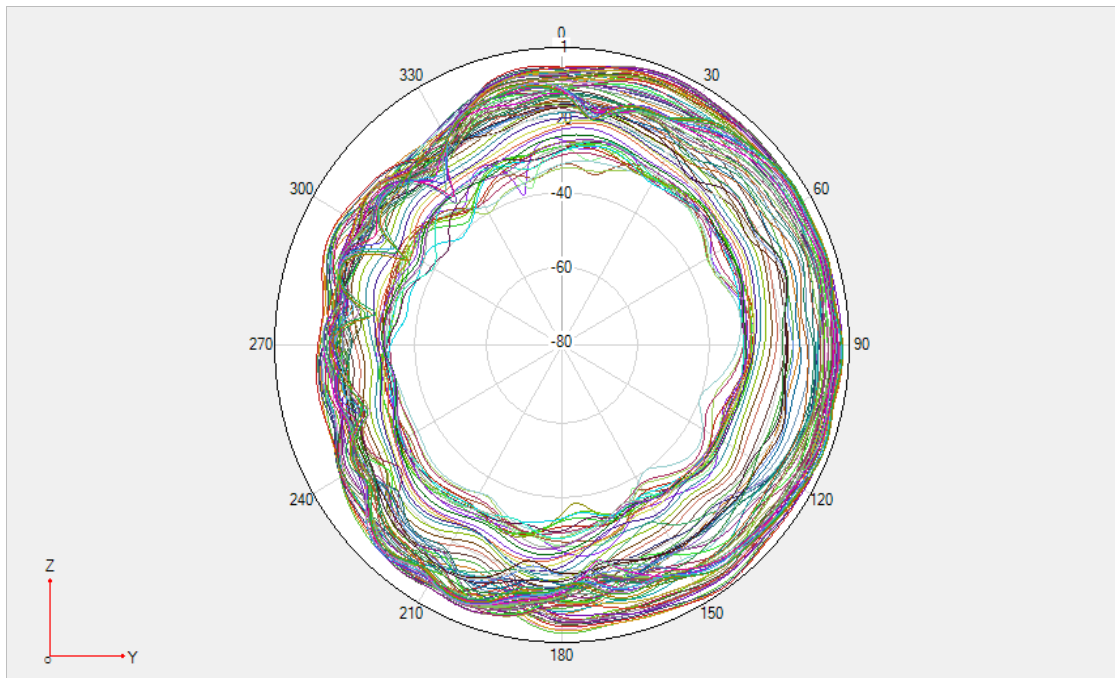
Frequen cy/Mhz	Efficien cy / %	Max Gain/d Bi	Frequen cy/Mhz	Efficien cy / %	Max Gain/d Bi	Frequen cy/Mhz	Efficien cy / %	Max Gain/d Bi
800	8.08	-26.27	1710	16.47	-5.1	2210	13.32	-6.98
810	8.09	-24.83	1730	16.61	-5.11	2230	11.9	-9.01
820	8.09	-24.85	1750	16.89	-4.93	2250	11.13	-10.59
830	8.09	-25.09	1770	17.62	-4.76	2270	10.61	-11.44
840	8.1	-25.17	1790	17.59	-4.97	2290	10.26	-11.2
850	8.13	-24.12	1810	19.53	-4.56	2310	10.1	-11.33
860	8.17	-22.21	1830	22.19	-3.91	2330	10.07	-11.35
870	8.23	-20.72	1850	27.63	-2.1	2350	10.26	-10.44
880	8.31	-20.03	1870	28.46	-1.59	2370	11.1	-9.63
890	8.41	-19.45	1890	29.28	-1.05	2390	13.14	-7.18
900	8.6	-18.26	1910	28.23	-1.21	2410	14.1	-6.79
910	8.89	-16.79	1930	25.82	-2.85	2430	15.16	-6.58
920	9.34	-15.37	1950	24.52	-3.13	2450	16.07	-6.25
930	9.85	-13.82	1970	26.16	-2.47	2470	18.47	-4.56
940	10.94	-11.71	1990	27.19	-1.99	2490	19.53	-4.07
950	12.24	-9.94	2010	28.65	-1.9	2510	21.27	-3.33
960	14.27	-8.15	2030	29.48	-1.88	2530	21.55	-3.98
			2050	30.91	-1.47	2550	23	-3.91
			2070	29.23	-1.98	2570	23.31	-3.64
			2090	27.82	-2.78	2590	25.62	-3.01
			2110	24.44	-3	2610	25.7	-3.03
			2130	22.62	-3.17	2630	27.72	-2.54
			2150	18.99	-4.52	2650	27.77	-2.57
			2170	16.91	-5.22	2670	28.37	-2.46
			2190	15.08	-5.86	2690	27.41	-2.56

## 3. Directional diagram

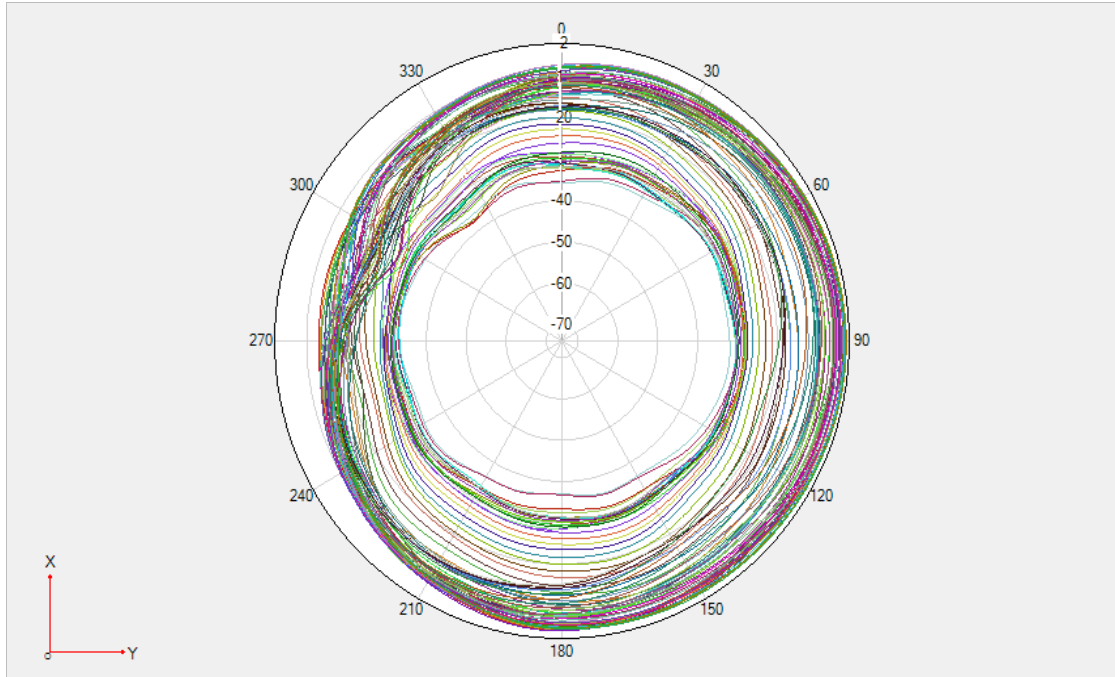




Phi 0 2D



Phi 90 2D



Theta 90 2D