



深圳市昱晟通讯设备有限公司

Yusheng Communications-equipment Co.,LTD

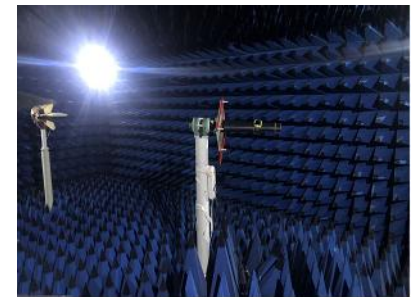
The T1201 antenna test report

Radio frequency: Zhou Junyu

Date: 2024-3-31

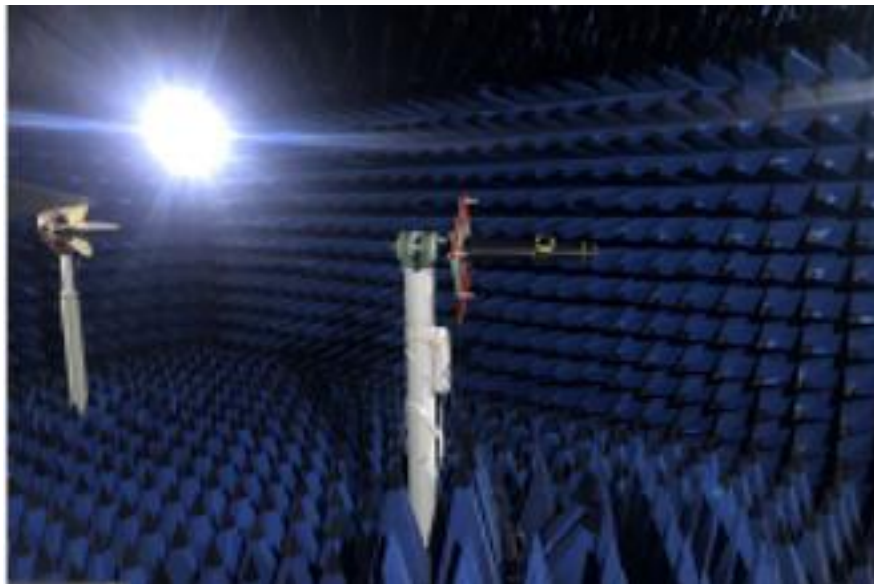
Contact information:

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Project development environment

We are moving from the Internet era to the intelligent era, and the country is building a digital society and a smart city. In the next 5-10 years, there is a huge development potential in both the consumer electronics market and the Internet of Things market. The field of wireless communication is very diversified. In the future, relying on the customer platform advantages of the main antenna industry, Yusheng will strive to provide customers with professional product solutions with market competitiveness.



Yu Sheng communication products cover almost all wireless terminal equipment antenna applications, including car antenna, high precision surveying and mapping antenna, drone ground and satellite data navigation, high precision positioning antenna, medical equipment wireless transmission, consumer antenna (mobile phone antenna, PAD, laptop antenna), base station / indoor distribution antenna, smart wear antenna (smart watches, TWS headphones), security household antenna and a variety of wireless data transmission and wireless control of intelligent equipment antenna, etc.

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Summary & additional note

Project
commissioning brief

type	dull and stereotyped			
template	motherboard			
Frequency band and antenna material	main antenna	frequency range		material quality
		2G	GSM850/900/1800/1900	
		3G	WCDMA B1/2/5/8	
		4G	LTE B1/2/3/4/5/7/8/12/17/20/28AB/66/34/38/39/40/41	
	Other antennas	GWB	1575.42MHz/2.4GHz/5GHz	
		DRX	1700–2700MHz	
performance requirement				

Outline of the
report version

Report version	Report time	The problem solved by the antenna development
V0.6	20240131	Complete machine test
V0.7	20240229	Change to WiFi5 debugging
V0.8	20240331	Latest shell test

Antenna parameters–Main board conduction parameters

	frequency range	CH	TRP (db)	TIS (dbm)	frequency range	CH	TRP (db)	TIS (dbm)
4G	B1	CH (low)	21.6		B5	CH (low)	21.7	
		CH (centre)	21.6			CH (centre)	21.9	
		CH (tall)	21.6	-98		CH (tall)	21.8	-98
	B2	CH (low)	22.3		B7	CH (low)	22.4	
		CH (centre)	22.3			CH (centre)	22.7	
		CH (tall)	22.2	-98		CH (tall)	22.5	-98
	B3	CH (low)	21.8		B8	CH (low)	22.8	
		CH (centre)	21.8			CH (centre)	22.8	
		CH (tall)	21.8	-98		CH (tall)	22.8	-98
	B4	CH (low)	22.4		B20	CH (low)	22.2	
		CH (centre)	22.4			CH (centre)	22.2	
		CH (tall)	22.4	-97		CH (tall)	22.2	-97

Antenna parameters main

board conduction

	freque ncy range	CH	TRP (db)	TIS (dbm)	frequen cy range	CH	TRP (db)	TIS (dbm)
4G	B12	CH(low)	21.5		B34	CH(low)	22	
		CH(centre)	21.5			CH(centre)	22	
		CH(tall)	21.5	-97		CH(tall)	22	-98
	B17	CH(low)	23.1		B38	CH(low)	23	
		CH(centre)	23.1			CH(centre)	23	
		CH(tall)	23.1	-98		CH(tall)	23	-96
	B28A	CH(low)	21		B39	CH(low)	21.3	
		CH(centre)	21			CH(centre)	21.3	
		CH(tall)	21	-98		CH(tall)	21.4	-96
	B28B	CH(low)	21		B40	CH(low)	21.5	
		CH(centre)	21			CH(centre)	21.5	

Antenna parameters–Main
board conduction parameters

	frequency range	CH	TRP (db)	TIS (dbm)
4G	B41	CH(low)		
		CH(centre)	22.4	-96
		CH(tall)		
	B66	CH(low)	22.3	
		CH(centre)	22.2	
		CH(tall)	22.2	-98

Antenna active parameters

frequency range	CH	TRP (db)	TIS (dbm)	frequency range	CH	TRP (db)	TIS (dbm)
GSM850	CH (low)	26.26		WB1	CH (low)	18.02	
	CH (centre)	26.1			CH (centre)	17.69	
	CH (tall)	26.5	-102.21		CH (tall)	17.08	-104.52
EGSM900	CH (low)	26.69		WB2	CH (low)	18.19	
	CH (centre)	26.73			CH (centre)	17.57	
	CH (tall)	26.42	-101.12		CH (tall)	17.81	-104.22
DCS1800	CH (low)	24.26		WB5	CH (low)	16.38	
	CH (centre)	25.49			CH (centre)	16.29	
	CH (tall)	25.11	-103.16		CH (tall)	16.12	-103.77
PCS1900	CH (low)	25.23		WB8	CH (low)	16.07	
	CH (centre)	24.31			CH (centre)	16.03	
	CH (tall)	23.58	-103.06		CH (tall)	16.14	-103.32

Antenna active parameters

frequency range	CH	TRP (db)	TIS (dbm)	frequency range	CH	TRP (db)	TIS (dbm)
LTE-B1	CH(low)	16.42		LTE-B5	CH(low)	16.15	
	CH(centre)	16			CH(centre)	16.35	
	CH(tall)	15.61	-92.55		CH(tall)	15.9	-92.34
LTE-B2	CH(low)	17.79		LTE-B7	CH(low)	16.77	
	CH(centre)	17.55			CH(centre)	17.32	
	CH(tall)	17.81	-91.59		CH(tall)	17.87	-91.17
LTE-B3	CH(low)	17.42		LTE-B8	CH(low)	15.84	
	CH(centre)	17.77			CH(centre)	15.94	
	CH(tall)	17.25	-90.94		CH(tall)	15.86	-92.56
LTE-B4	CH(low)	17.23		LTE-B20	CH(low)	15.35	
	CH(centre)	17.88			CH(centre)	15.17	
	CH(tall)	18.06	-91.86		CH(tall)	15.14	-89.94

Antenna active parameters

frequency range	CH	TRP (db)	TIS (dbm)	frequency range	CH	TRP (db)	TIS (dbm)
LTE-B12	CH (low)			LTE-B34	CH (low)	15.49	
	CH (centre)	10.25	-87.94		CH (centre)	15.44	
	CH (tall)				CH (tall)	15.37	-91.15
LTE-B17	CH (low)	13.09		LTE-B38	CH (low)	18.03	
	CH (centre)	13.36			CH (centre)	18.17	
	CH (tall)	13.59	-86.34		CH (tall)	18.15	-90.59
LTE-B28A	CH (low)	10.99		LTE-B39	CH (low)	16.64	
	CH (centre)	11.67			CH (centre)	16.33	
	CH (tall)	11.94	-89.14		CH (tall)	16.87	-89.91
LTE-B28B	CH (low)	11.41		LTE-B40	CH (low)	14.22	
	CH (centre)	11.8			CH (centre)	14.62	
	CH (tall)	12.45	-88.33		CH (tall)	15.42	-90.56

Antenna active parameters

frequency range	CH	TRP (db)	TIS (dbm)
LTE-B41	CH(low)		
	CH(centre)	17.79	-90.83
	CH(tall)		
LTE-B66	CH(low)	17.56	
	CH(centre)	18.05	
	CH(tall)	17.64	-92.36

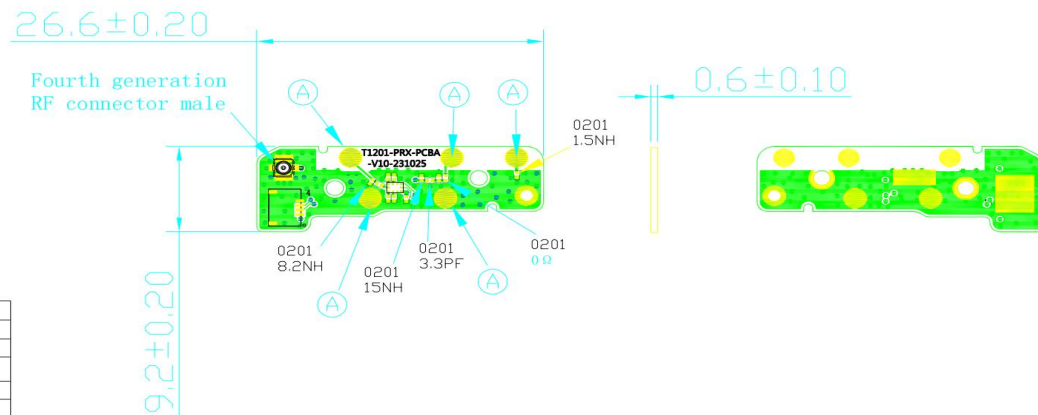
Antenna active parameters

			Bright screen		conduct	
	frequency range	CH	TRP (db)	TIS (dbm)	TRP (db)	TIS (dbm)
WIFI	11B	CH1	11.2		15.06	
		CH6	11.52		15.8	
		CH11	9.89	-77.24	13.55	
	11G	CH1	9.33		14.8	
		CH6	11.4		15.9	
		CH11	8.27	-65.4	13.8	
	11N	CH1	10		14.6	
		CH6	10.33		15.4	
		CH11	8.75	-63.38	13.59	
	11A	CH36	6.57		15.6	
		CH157	7.37		16	
		CH161	7.25	-66.4	16	

antenna gain

Band	dBi	Band	dBi
GSM850	-2.77	Band12	-7.8
GSM900	-2.36	Band17	-7.8
GSM1800	1.3	Band20	-2.78
GSM1900	0.37	Band28A	-6.64
WB1	-0.07	Band28B	-6.5
WB2	0.37	Band66	1.3
WB5	-2.77	Band34	0.99
WB8	-2.36	Band38	-0.68
Band1	-0.07	Band39	0.59
Band2	0.37	Band40	-0.81
Band3	1.3	Band41	-0.89
Band4	1.3	BT	0.12
Band5	-2.77	2.4GHzWiFi	0.12
Band7	-1.04	5GHzWiFi	-1.31
Band8	-2.36	GPS	-1.17

Main antenna size diagram

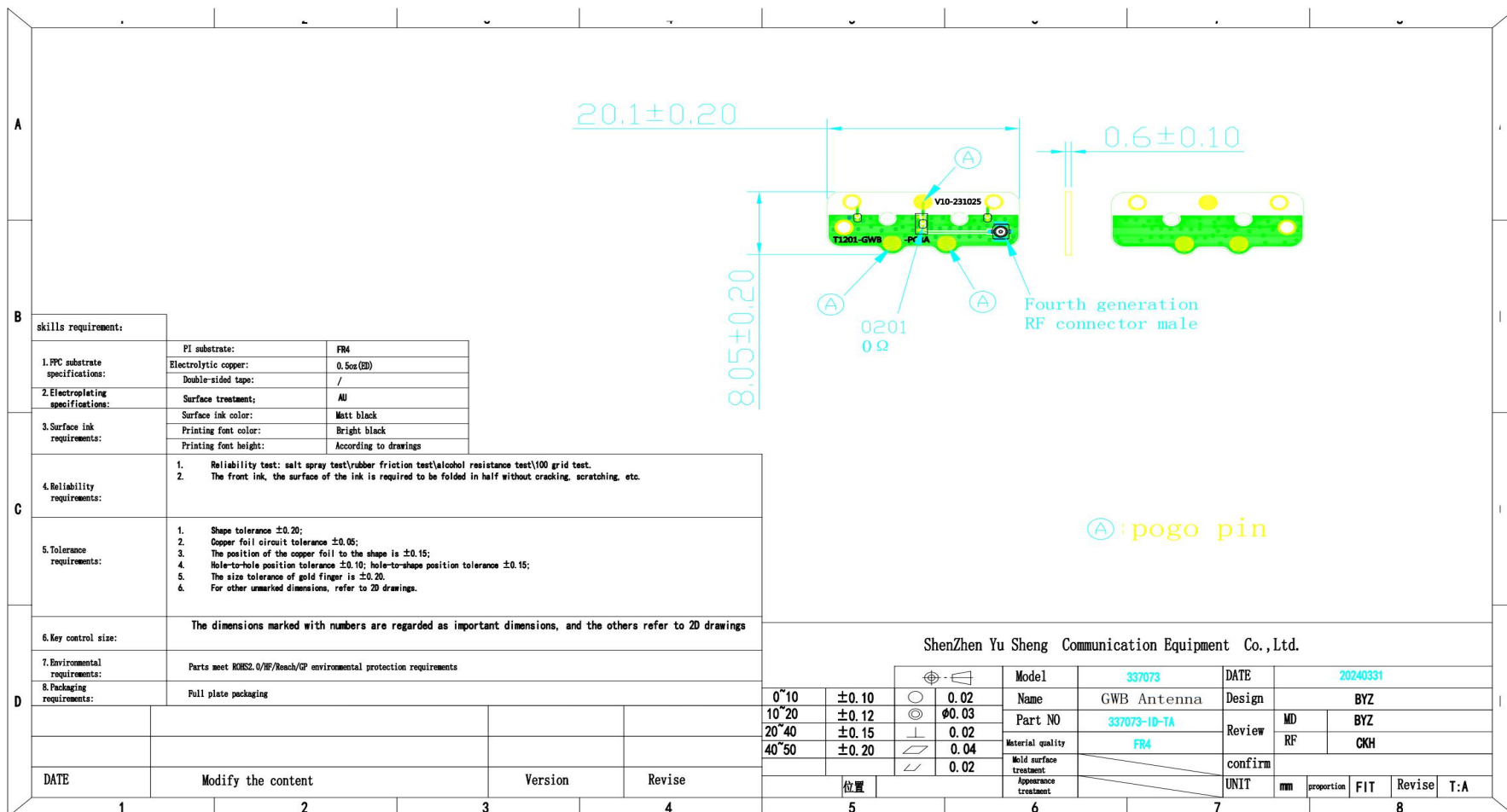


B	skills requirement:	
	1.PPC substrate specifications:	PI substrate: FR4 Electrolytic copper: 0.5oz (20)
	2.Electroplating specifications:	Double-sided tape: / Surface treatment: AU
	3.Surface ink requirements:	Surface ink color: Matt black Printing font color: Bright black Printing font height: According to drawings
C	4.Reliability requirements:	1. Reliability test: salt spray test/rubber friction test/alcohol resistance test/100 grid test. 2. The front ink, the surface of the ink is required to be folded in half without cracking, scratching, etc.
	5.Tolerance requirements:	1. Shape tolerance ± 0.20 ; 2. Copper foil circuit tolerance ± 0.05 ; 3. The position of the copper foil to the shape is ± 0.15 ; 4. Hole-to-hole position tolerance ± 0.10 ; hole-to-shape position tolerance ± 0.15 ; 5. The size tolerance of gold finger is ± 0.20 . 6. For other unmarked dimensions, refer to 2D drawings.
	6.Key control size:	The dimensions marked with numbers are regarded as important dimensions, and the others refer to 2D drawings
D	7.Environmental requirements:	Parts meet ROHS2.0/REACH/CP environmental protection requirements
	8.Packaging requirements:	Full plate packaging
	DATE	Modify the content
		Version
		Revise

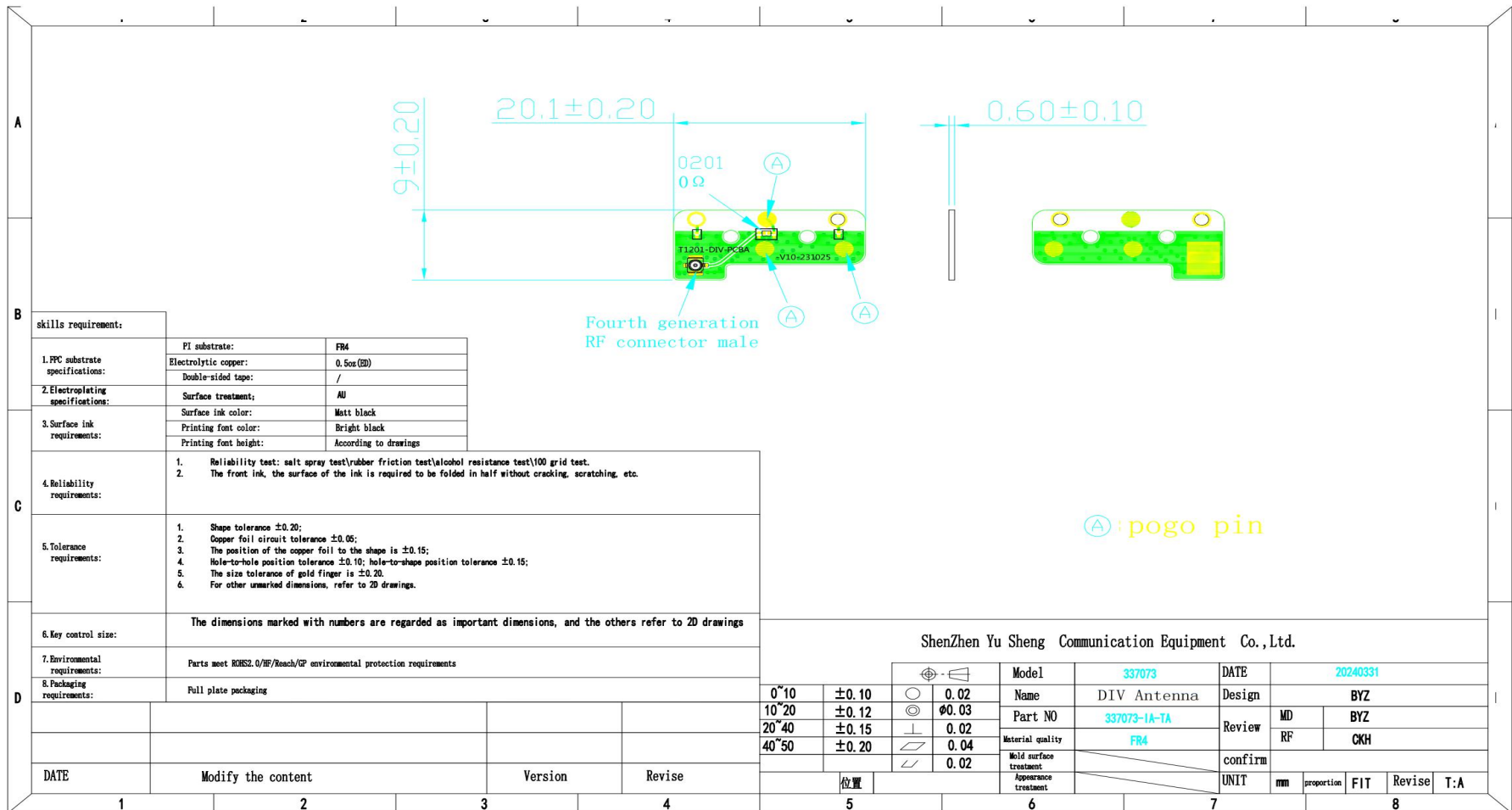
ShenZhen Yu Sheng Communication Equipment Co.,Ltd.

		Model	337073	DATE	20240331
		Name	PRX Antenna	Design	BYZ
		Part NO	337073-1B-TA	Review	MD BYZ
		Material quality	FR4	RF	CKH
		Mold surface treatment		confirm	
		Appearance treatment		UNIT	mm
		位置		proportion	FIT
				Revise	T:A

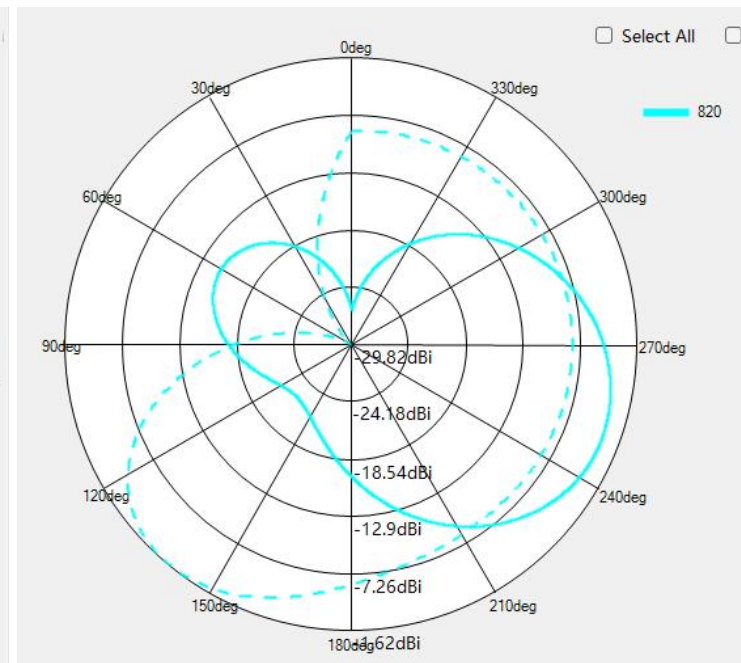
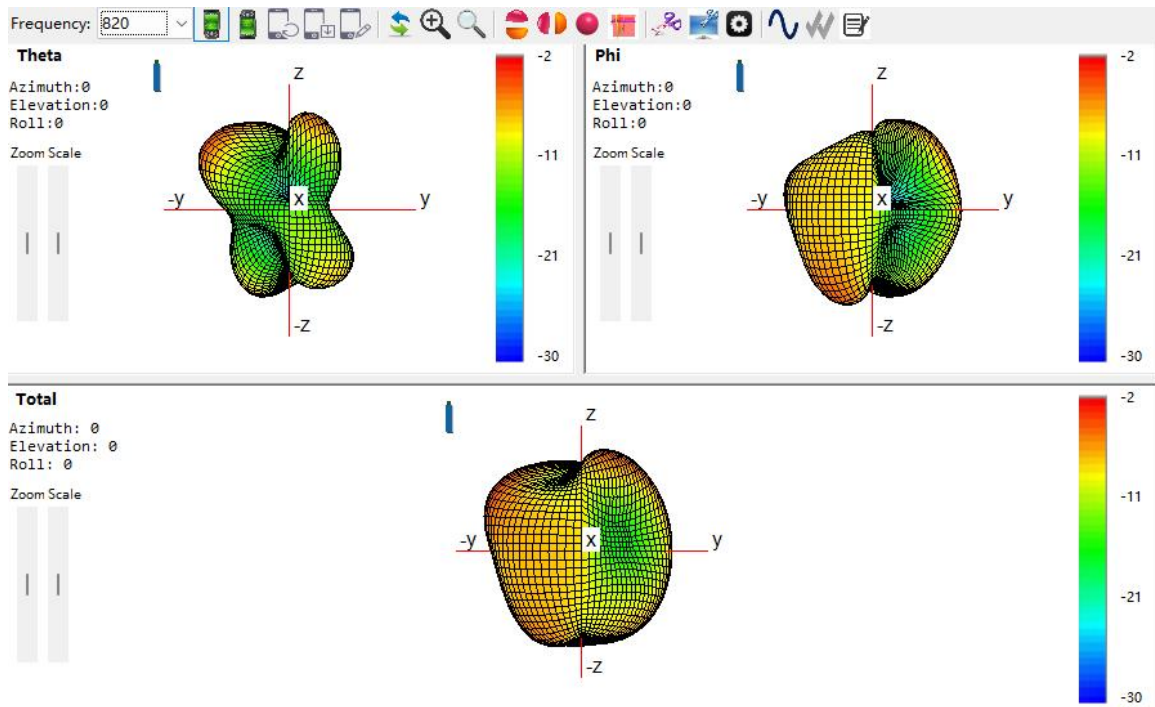
Four-in-one antenna dimensions diagram



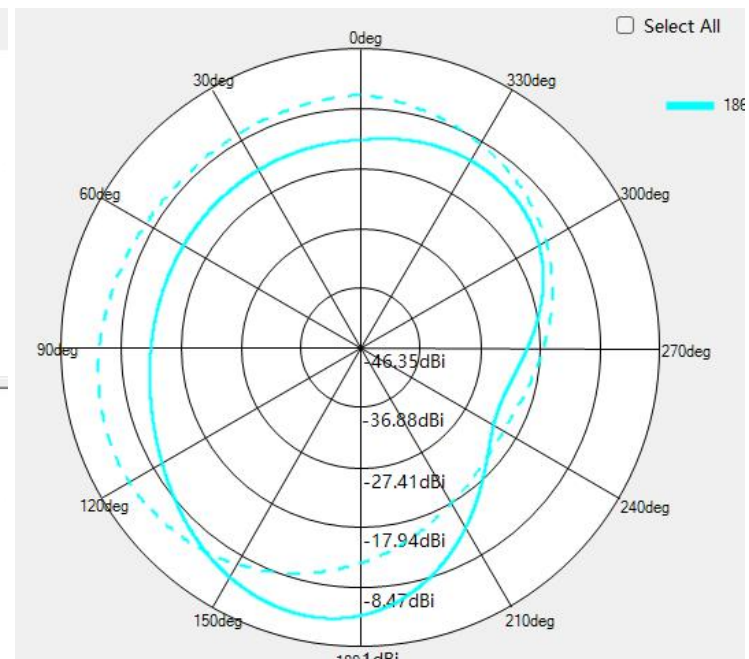
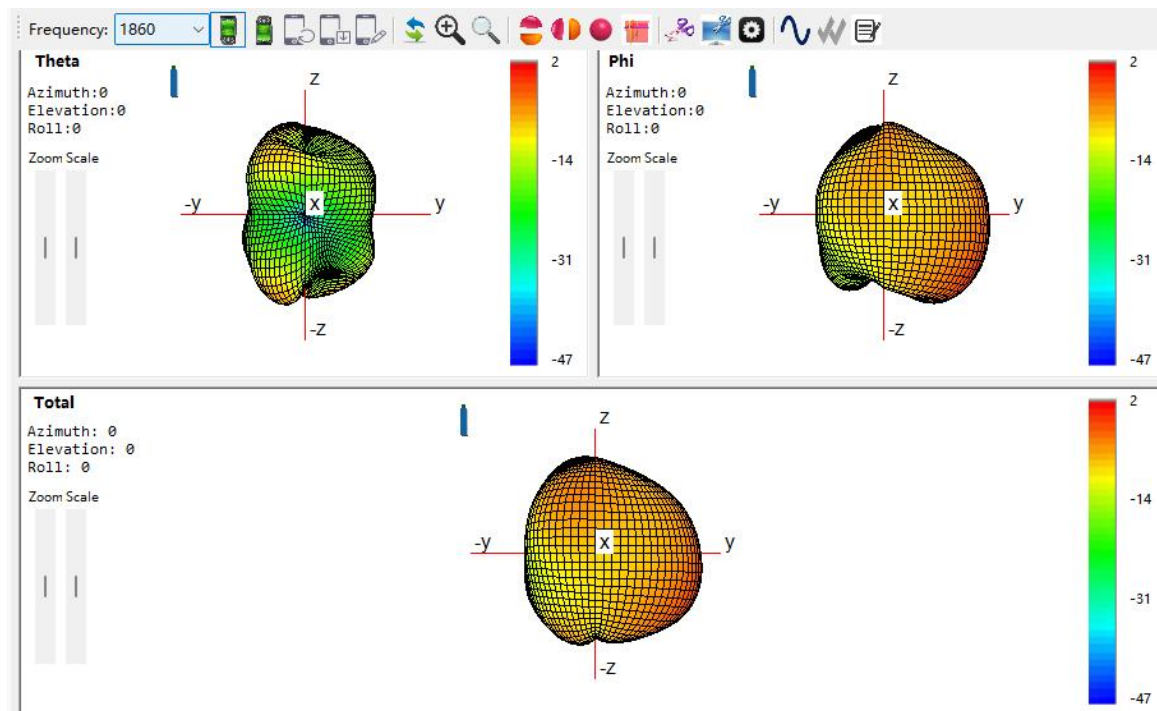
Subted antenna dimension plot



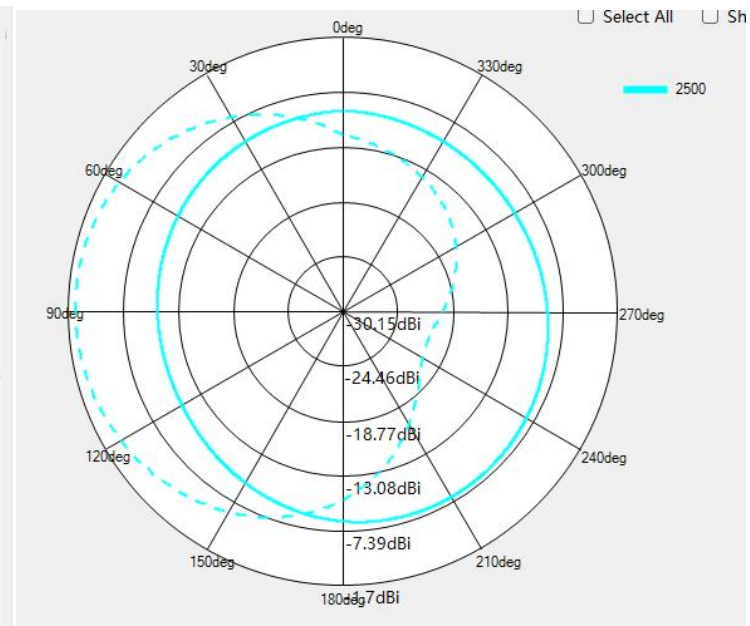
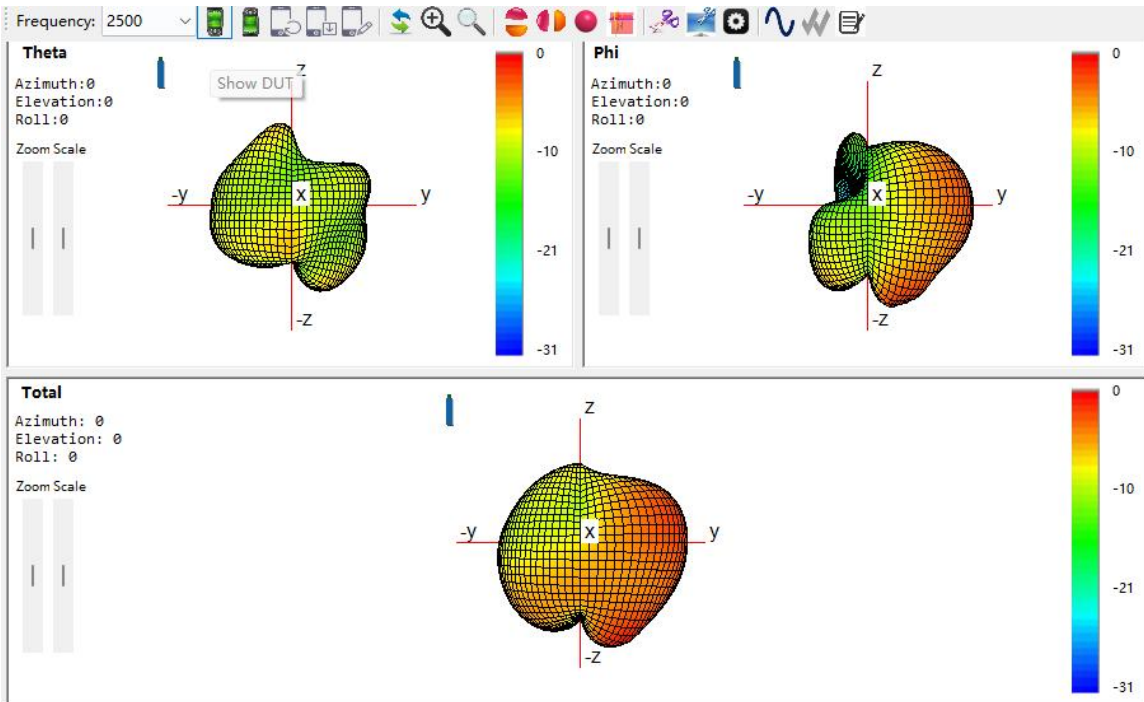
Antenna parameters-direction / plan-LTE-800M



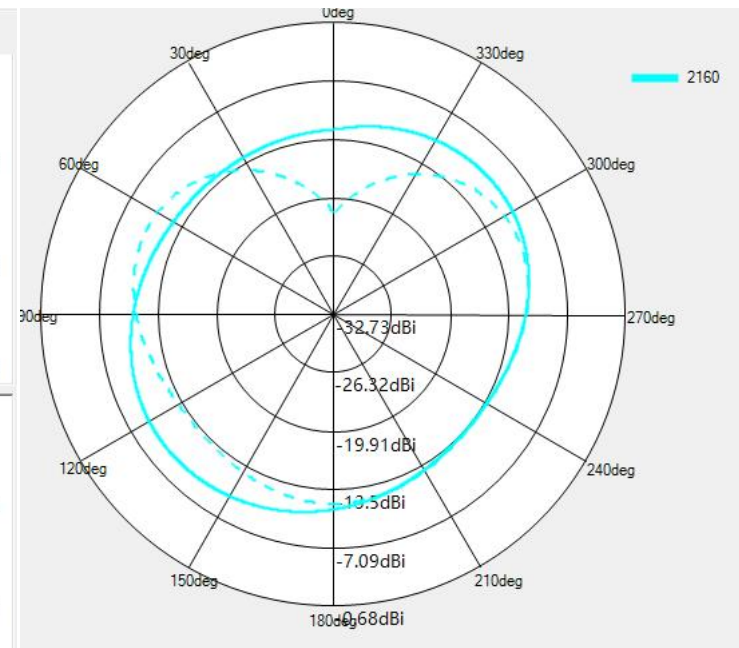
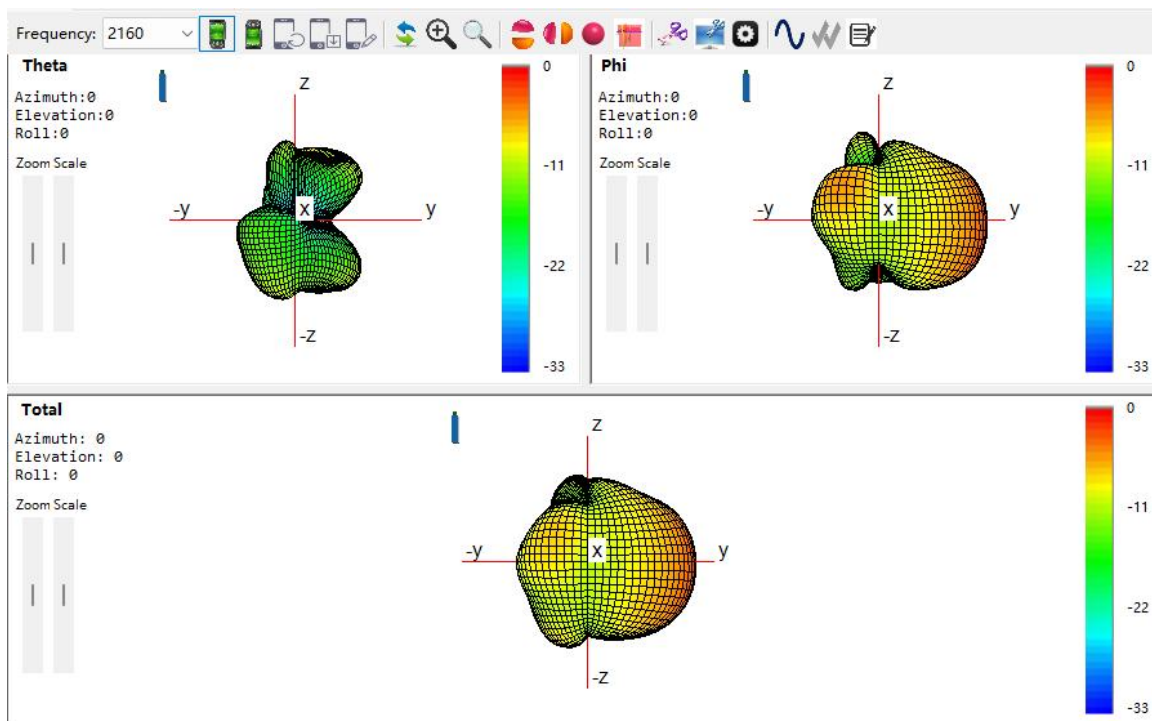
Antenna parameters-direction / plan-LTE-1800M



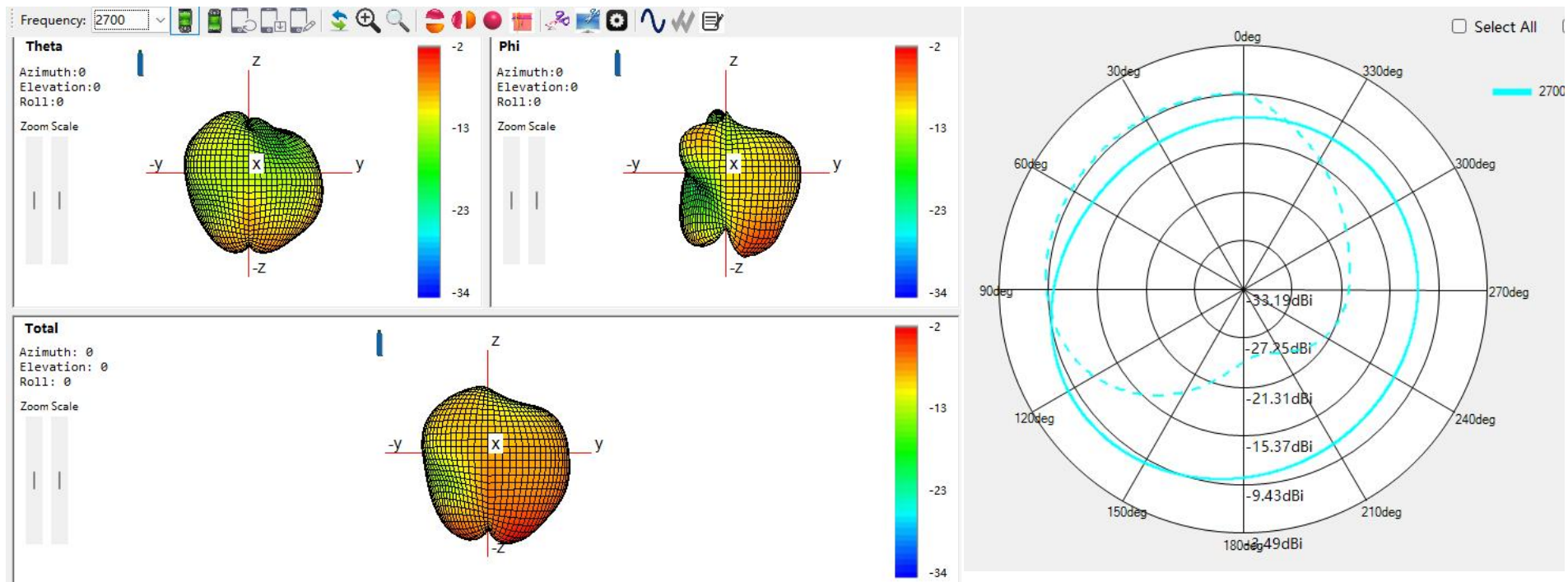
Antenna parameters-direction / plan-LTE-2500M



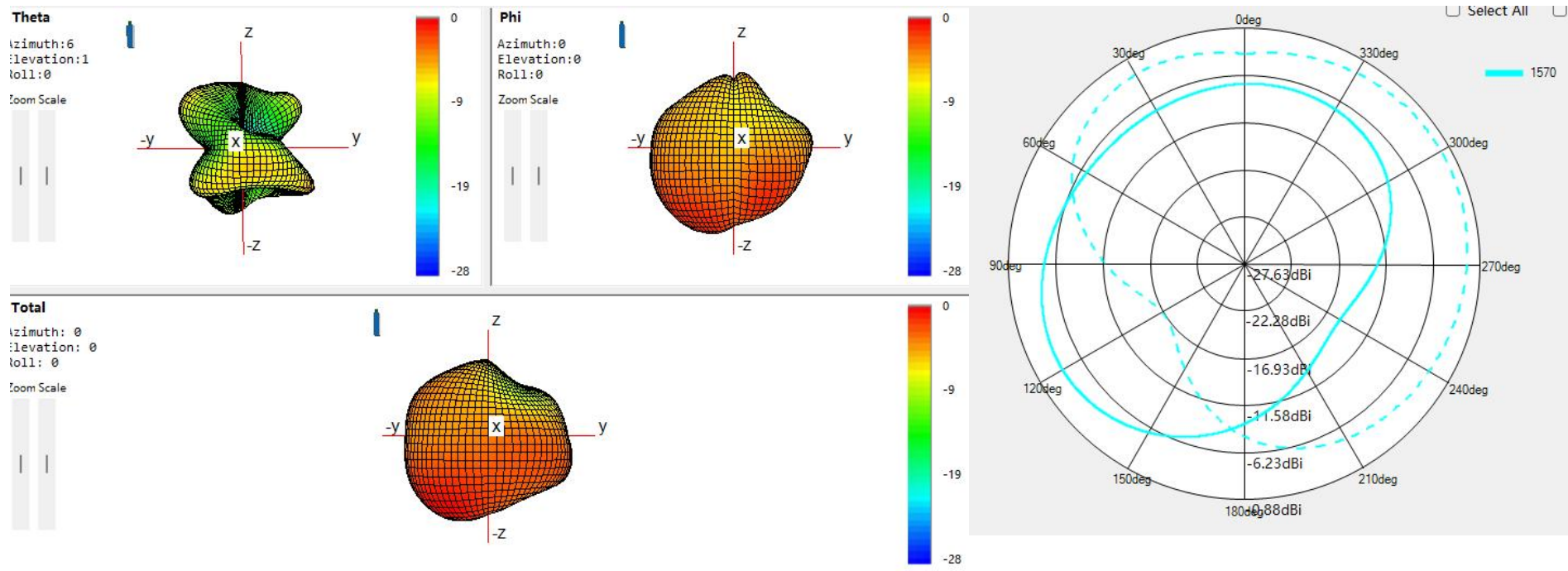
Antenna parameters-direction / plan-DIV-2100M



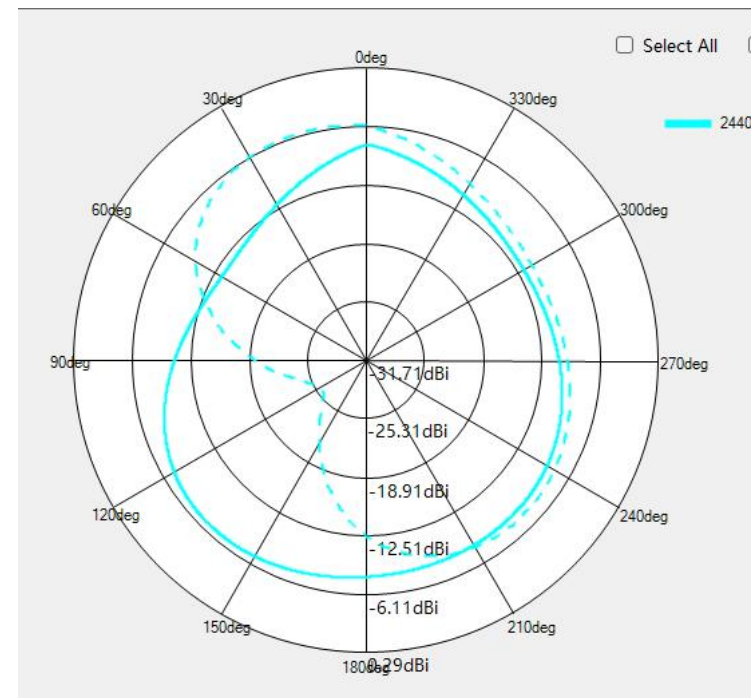
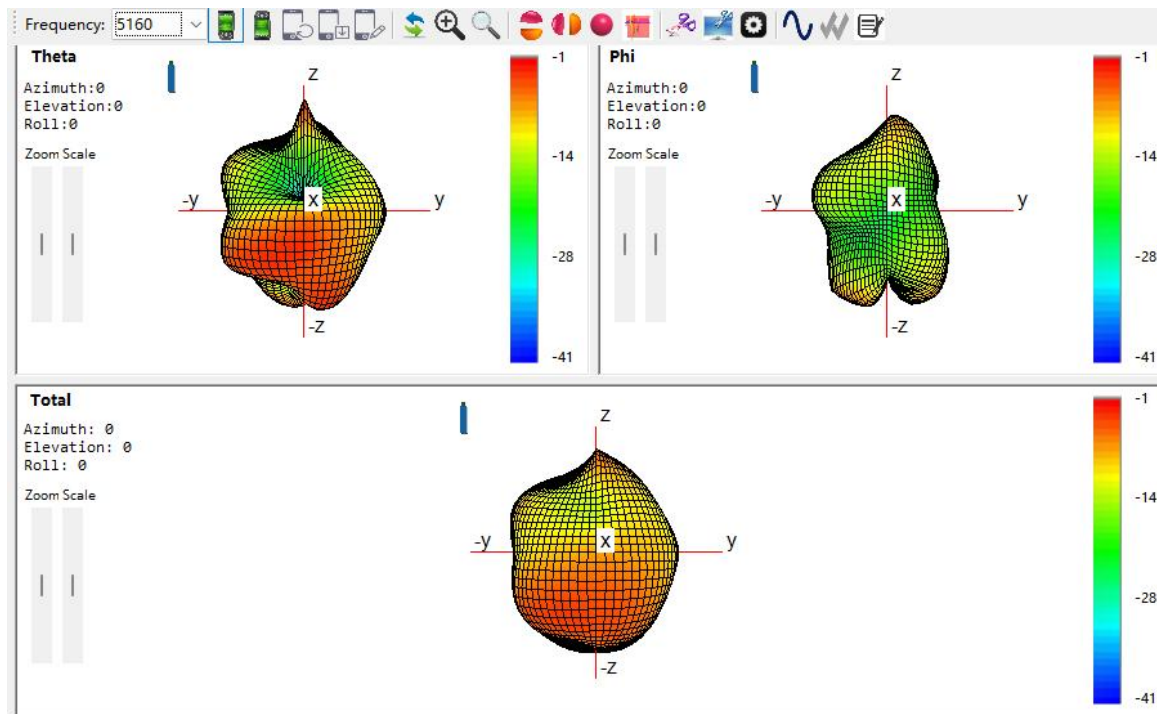
Antenna parameters-direction / plan-DIV-2700



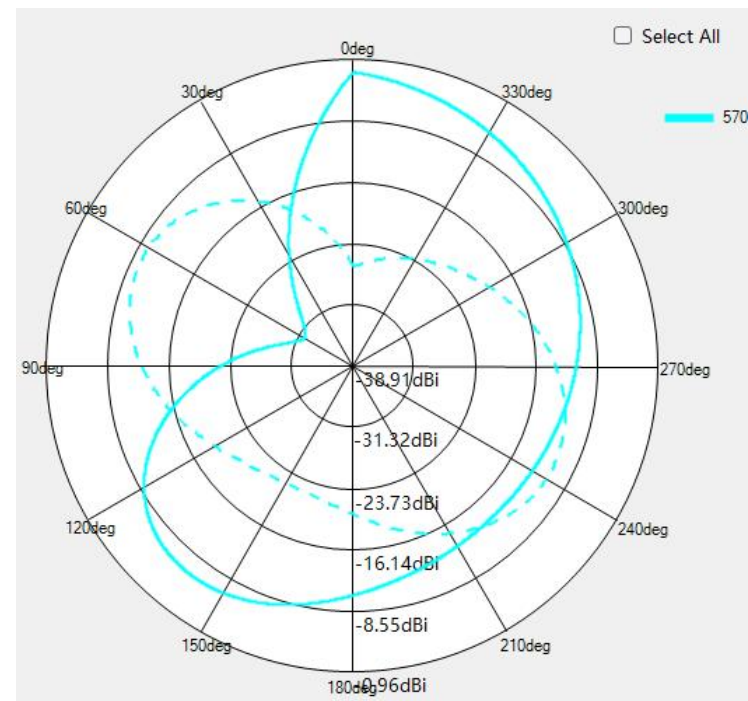
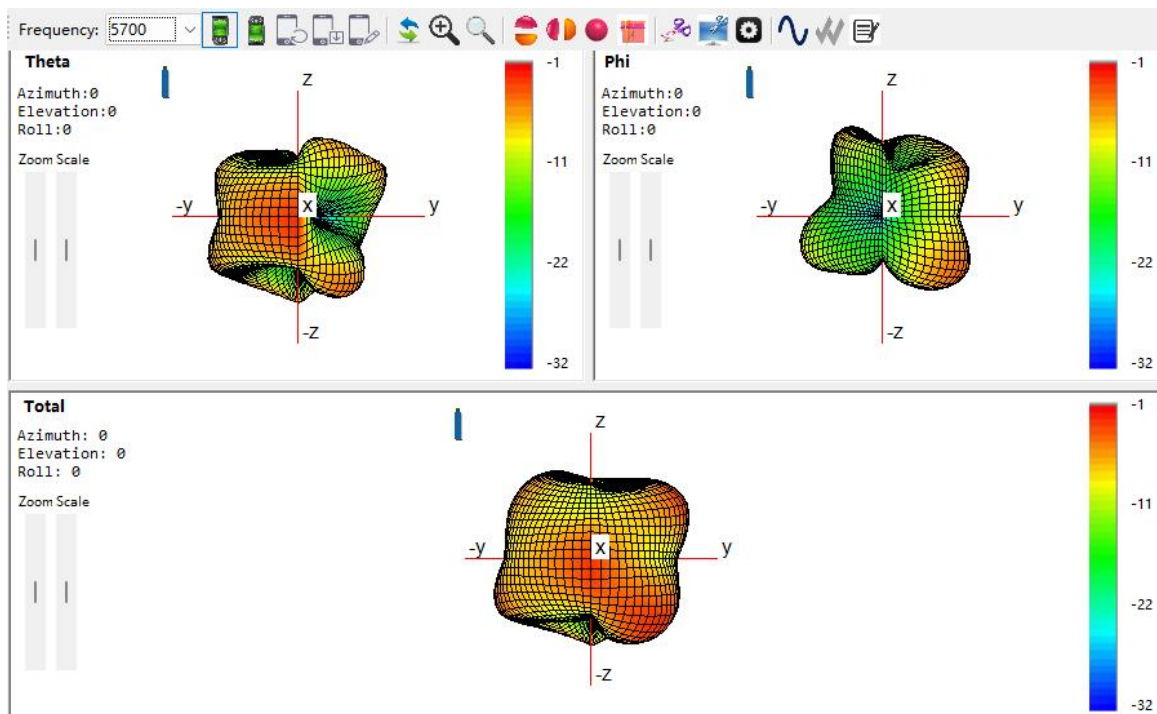
Antenna parameters-direction / floor plan-GPS



Antenna parameters— direction / plan plan-2.4G



Antenna parameters— direction / plan plan-5.8G



Thank you!



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