



Antenna Part Specification

Project Name:	SW602
Antenna name:	BT+GPS antenna
Version:	V1.0
Date:	2024. 12. 12

Address : Chuangye Er Lu Eastlian Building, A505/506, Daliang Community, Xin'an Street, Bao'an District, Shenzhen City



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Change record			
Compile / change date	Reason for change	Changed content	Version
2024. 12. 12	first edition	first edition	V1.0

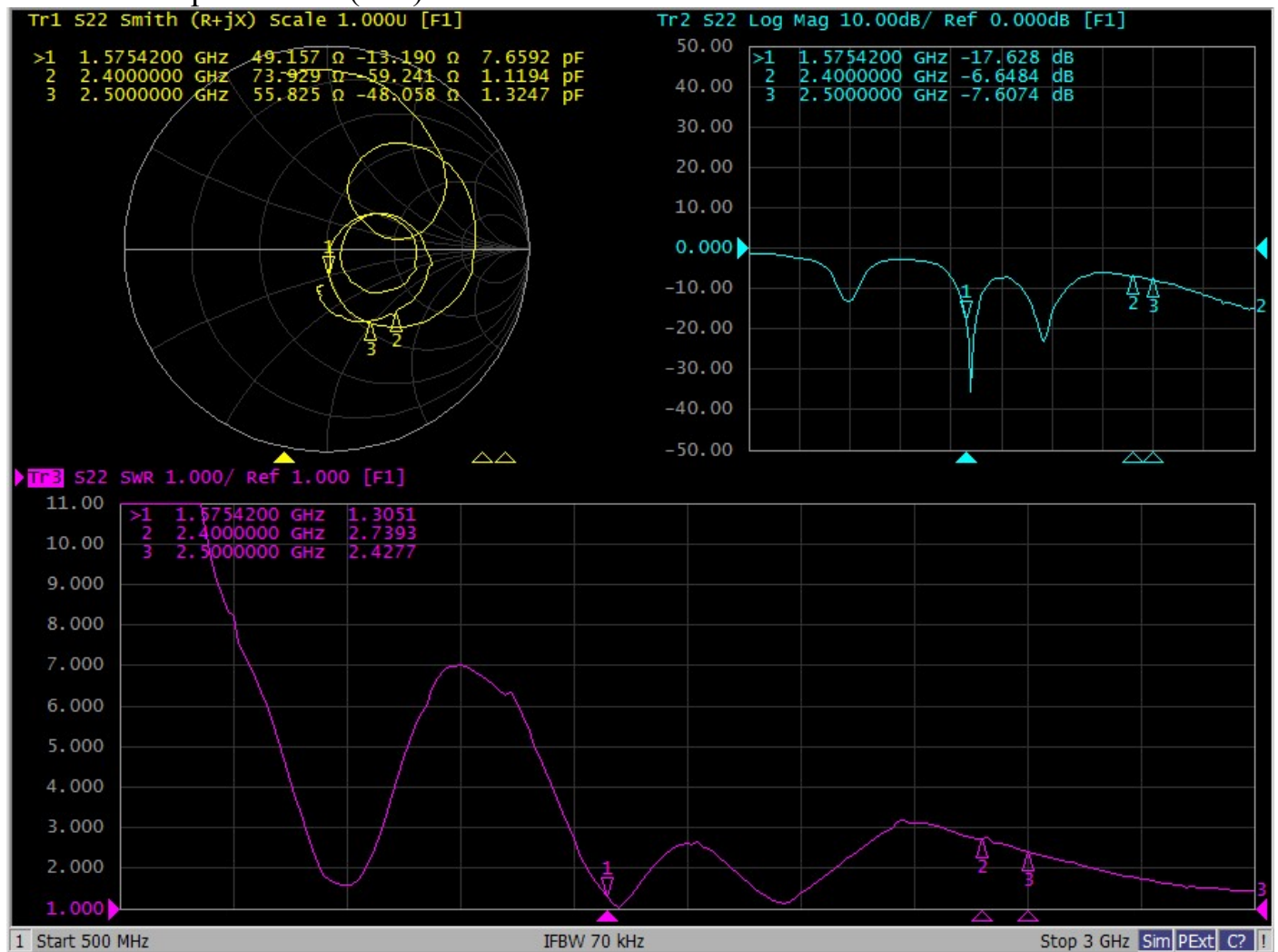


I: The report of passive data



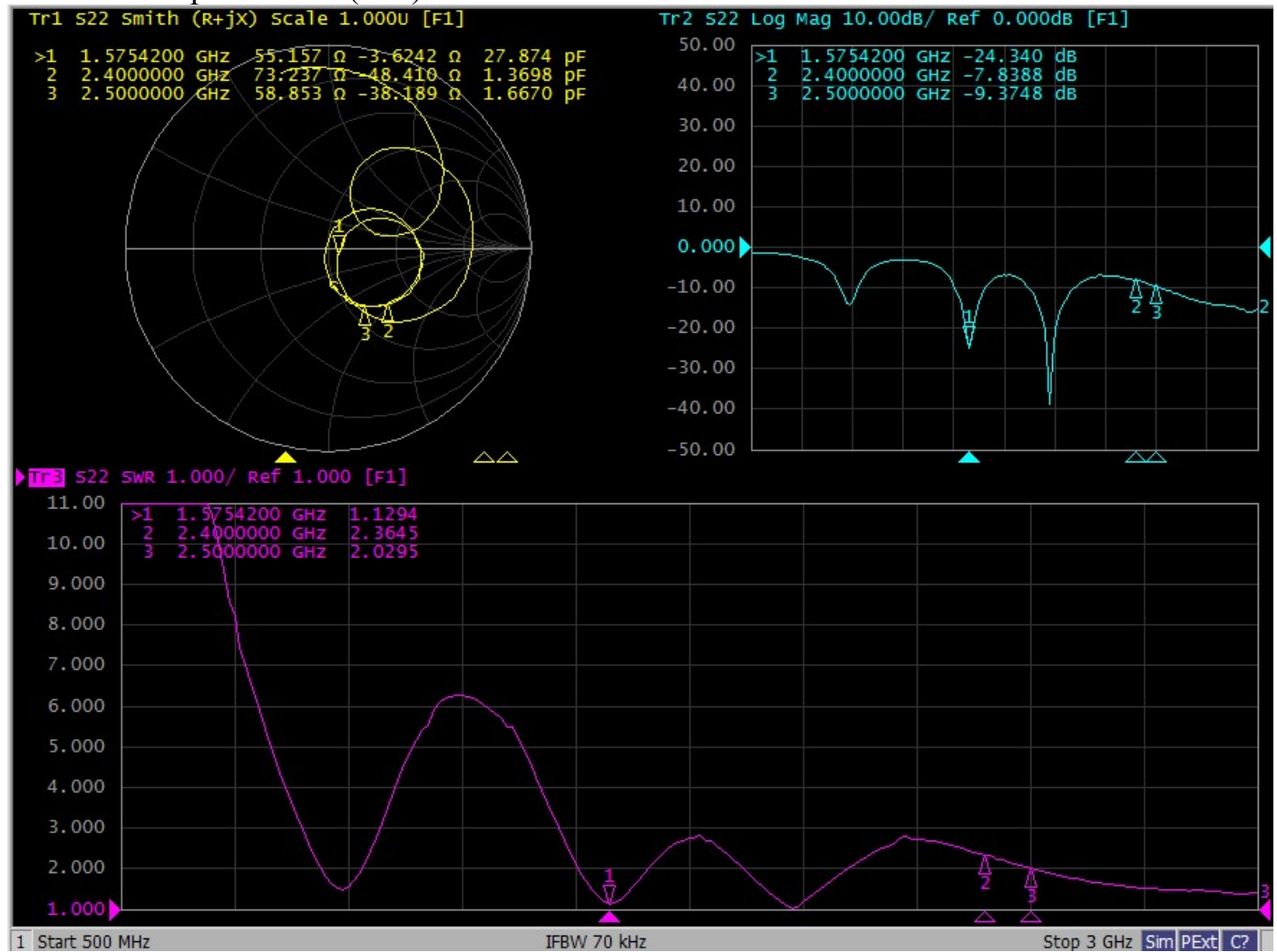
Angilent E5071C

Antenna S11 parameters (free):





Antenna S11 parameters (arm):



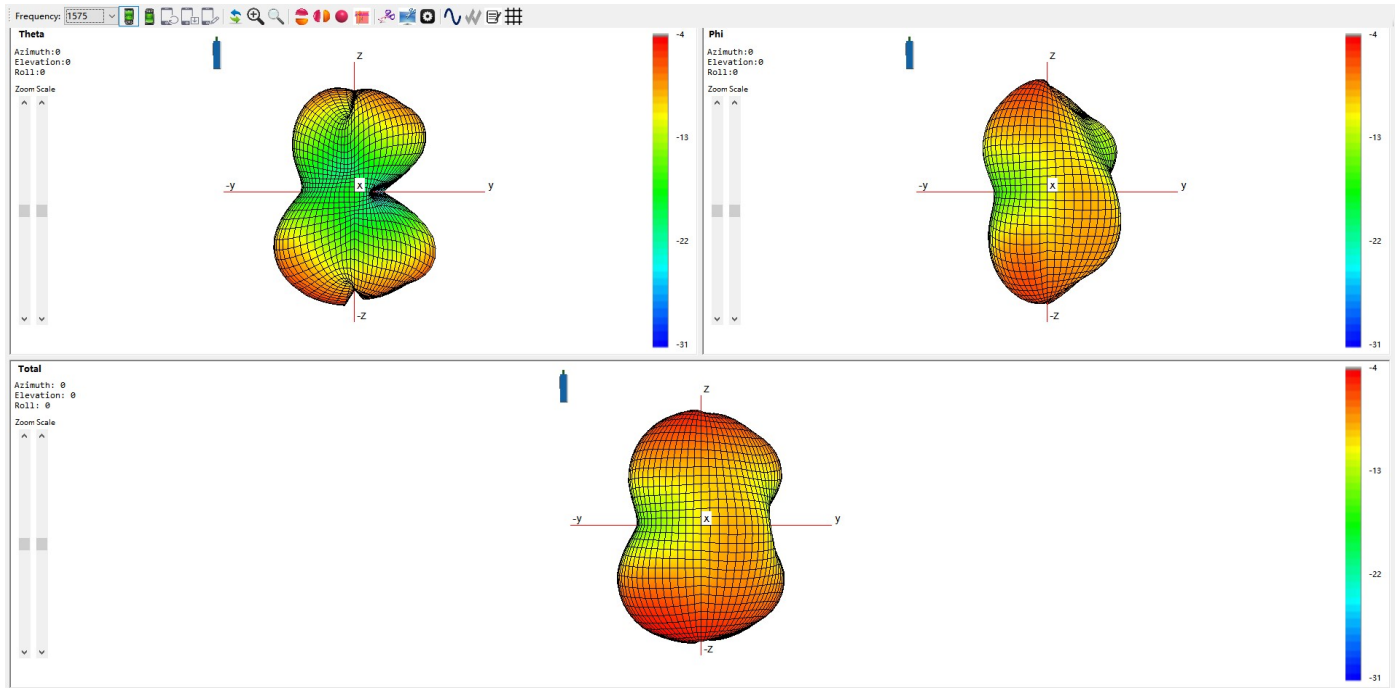
Passive parameters of antenna (free):

Free			
GPS			
Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency(%)
1570	-4.1	-8.6	13.7
1571	-4.1	-8.6	13.7
1572	-4.1	-8.6	13.7
1573	-4.1	-8.6	13.7
1574	-4.1	-8.6	13.8
1575	-4.1	-8.6	13.8
1576	-4.1	-8.6	13.8
1577	-4.2	-8.6	13.8
1578	-4.2	-8.6	13.8
1579	-4.2	-8.6	13.8
1580	-4.2	-8.6	13.8
Average value	-4.1	-8.6	13.8

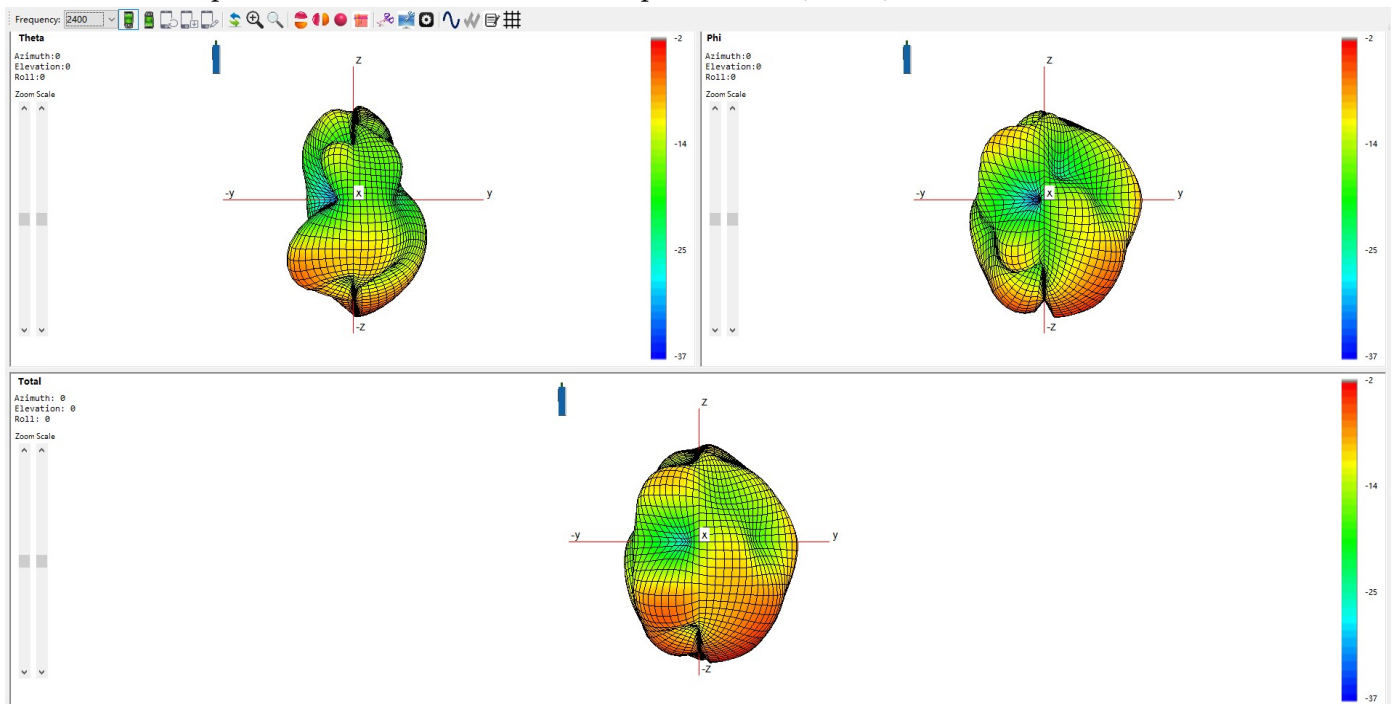
BT			
Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency(%)
2400	-2.7	-9.6	11.0
2410	-2.7	-9.6	11.1
2420	-2.7	-9.5	11.3
2430	-2.7	-9.5	11.1
2440	-2.7	-9.6	11.0
2450	-2.5	-9.4	11.5
2460	-2.5	-9.4	11.5
2470	-2.2	-9.1	12.4
2480	-2.0	-8.8	13.3
2490	-2.1	-8.9	13.0
2500	-2.1	-8.9	13.0
Average value	-2.4	-9.3	11.8



GPS antenna passive 3D directional pattern (free)



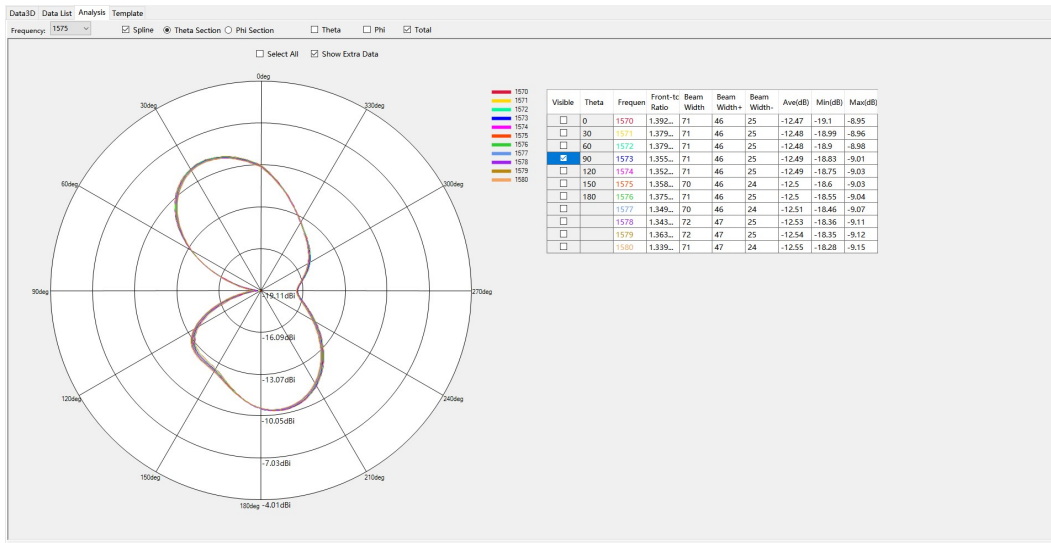
BT antenna passive 3D directional pattern (free)



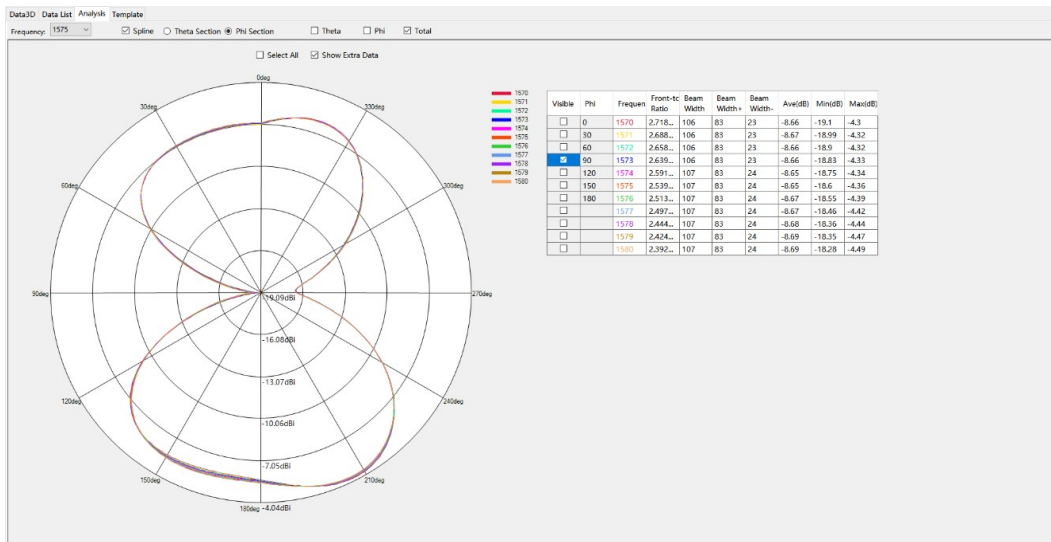


GPS antenna passive 2D directional pattern (free)

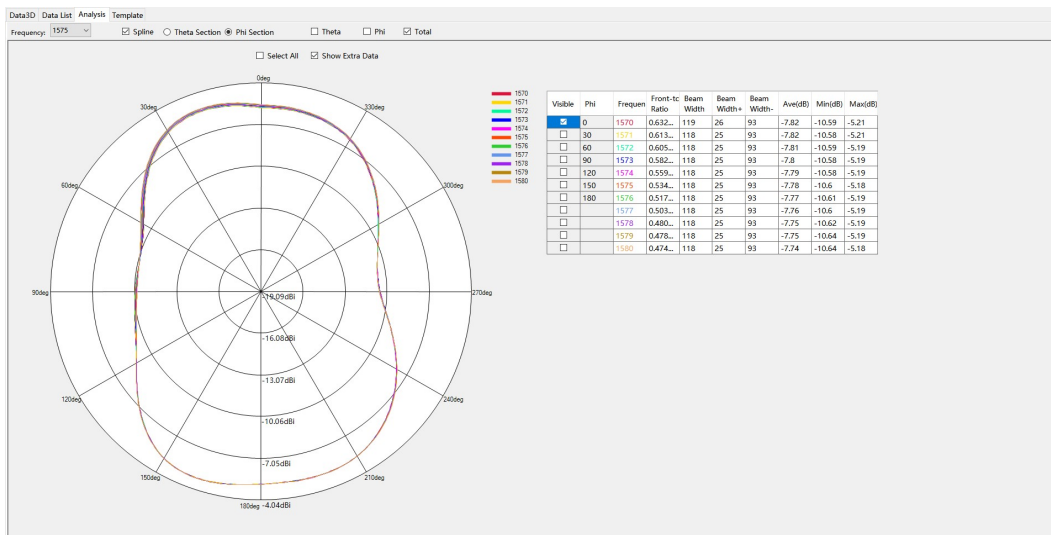
Theta=90°



Phi=90°



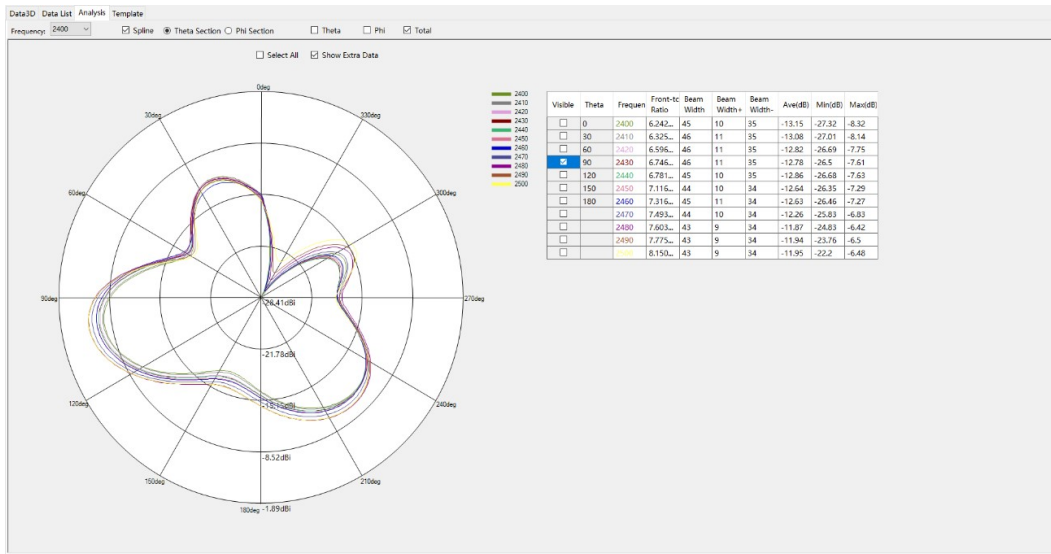
Phi=0°



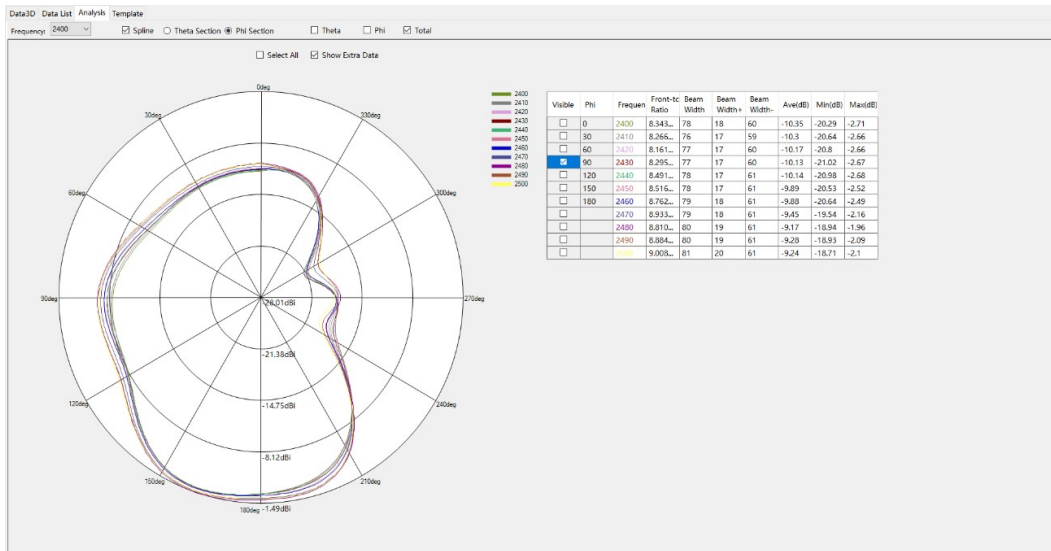


BT antenna passive 2D directional pattern (free)

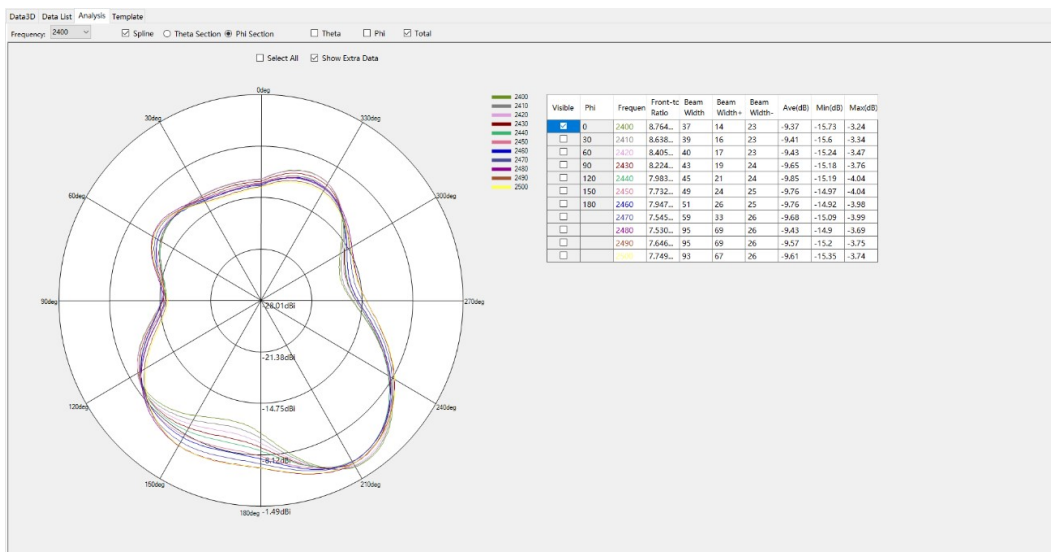
Theta=90°



Phi=90°



Phi=0°

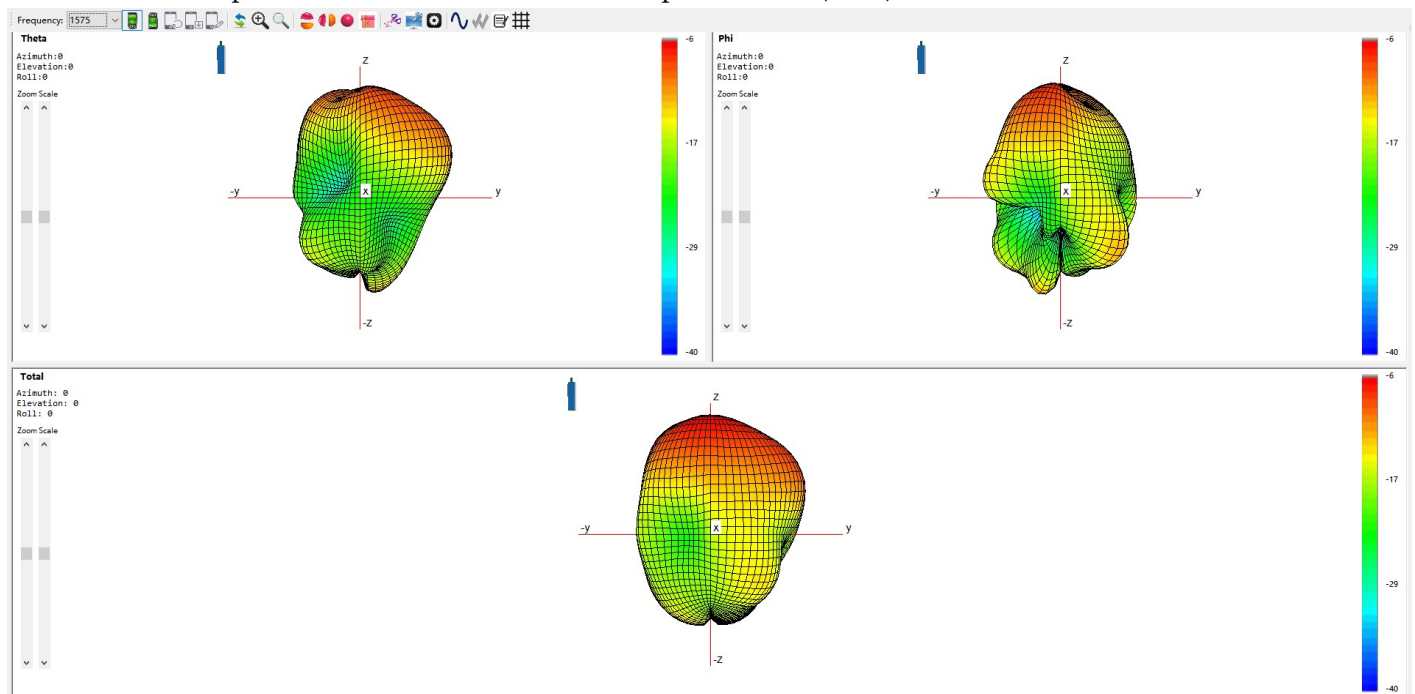




Passive parameters of antenna (arm):

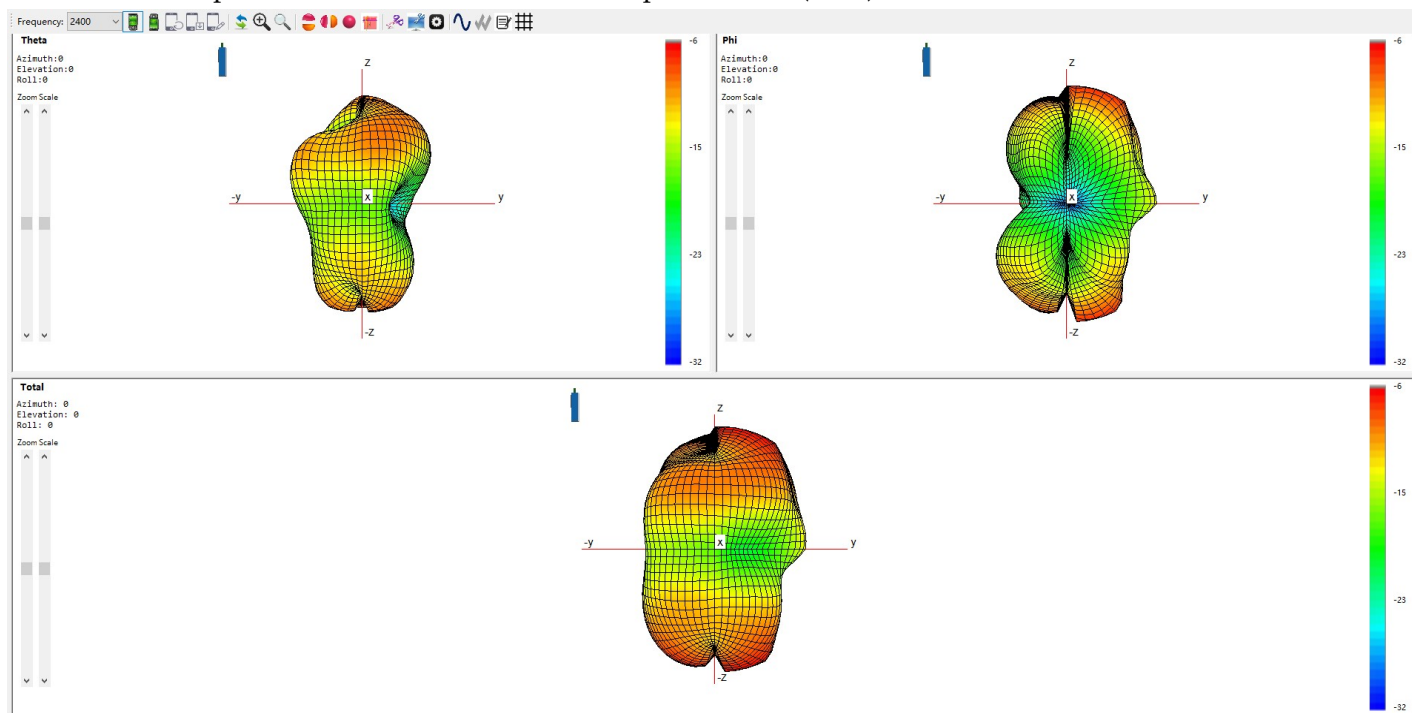
arm								
GPS					BT			
Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency(%)		Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency(%)
1550	-6.8	-12.7	5.4		2400	-6.1	-12.1	6.1
1555	-6.8	-12.7	5.3		2410	-5.9	-12.1	6.2
1560	-6.9	-12.8	5.3		2420	-5.6	-12.1	6.2
1565	-6.8	-12.8	5.3		2430	-5.6	-12.2	6.1
1570	-6.8	-12.8	5.3		2440	-5.6	-12.3	5.9
1575	-6.8	-12.8	5.3		2450	-5.2	-12.1	6.2
1580	-6.8	-12.8	5.2		2460	-5.2	-12.1	6.2
1585	-6.8	-12.8	5.2		2470	-4.7	-11.7	6.7
1590	-6.8	-12.9	5.2		2480	-4.3	-11.4	7.3
1595	-6.8	-12.9	5.2		2490	-4.4	-11.5	7.1
1600	-6.8	-12.9	5.1		2500	-4.2	-11.4	7.2
Average value	-6.8	-12.8	5.3		Average value	-5.2	-11.9	6.5

GPS antenna passive 3D directional pattern (arm)





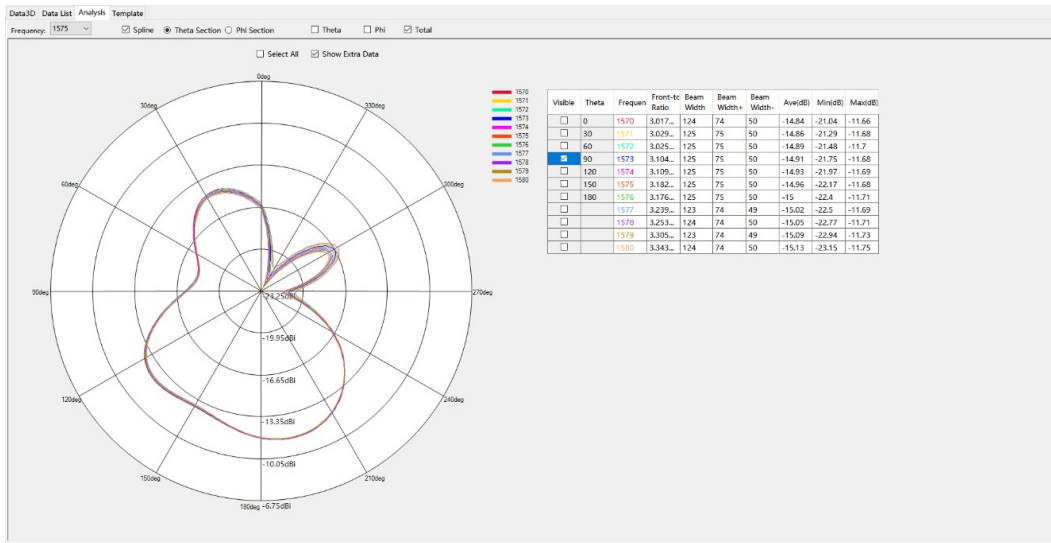
BT antenna passive 3D directional pattern (arm)



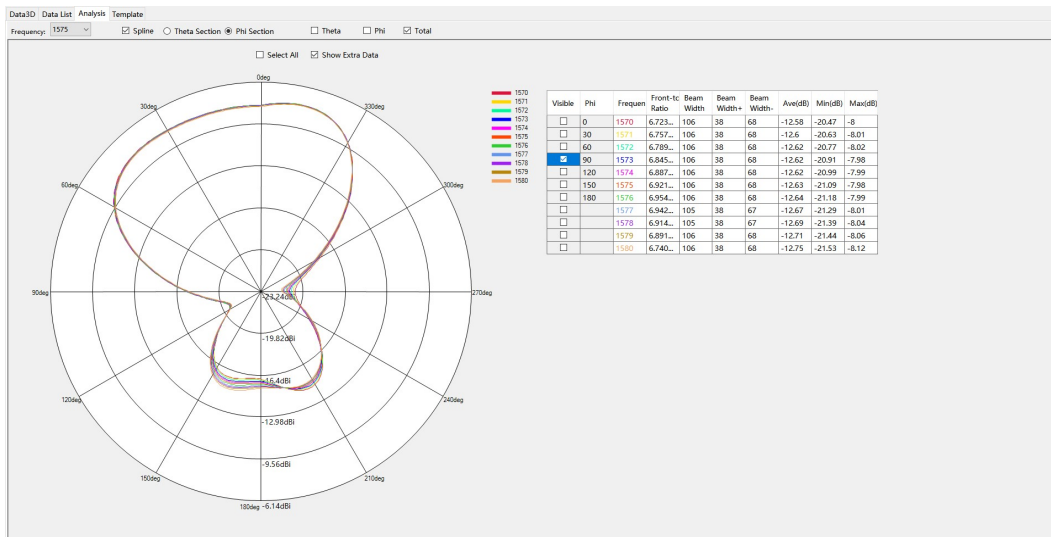


GPS antenna passive 2D directional pattern (arm)

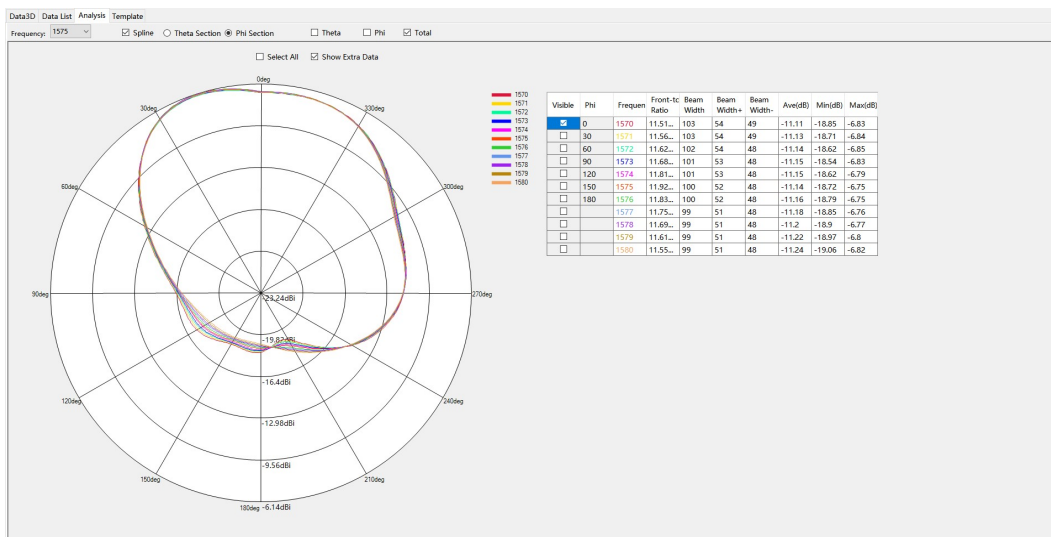
Theta=90°



Phi=90°



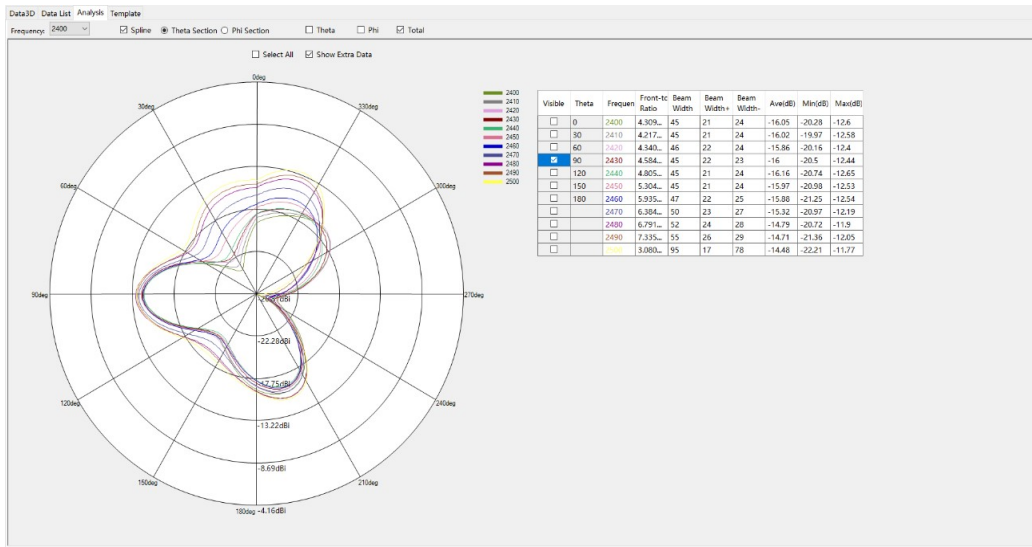
Phi=0°



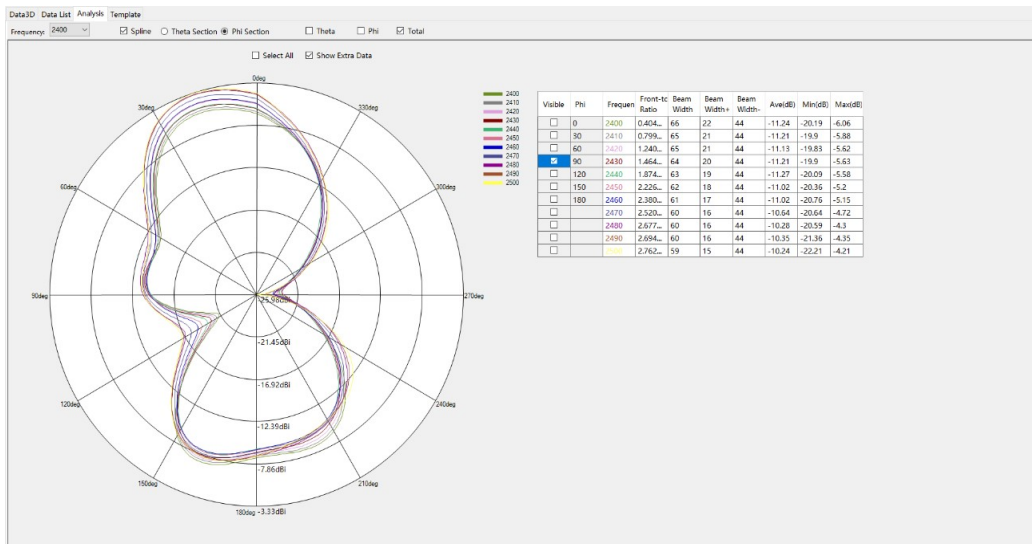


BT antenna passive 2D directional pattern (arm)

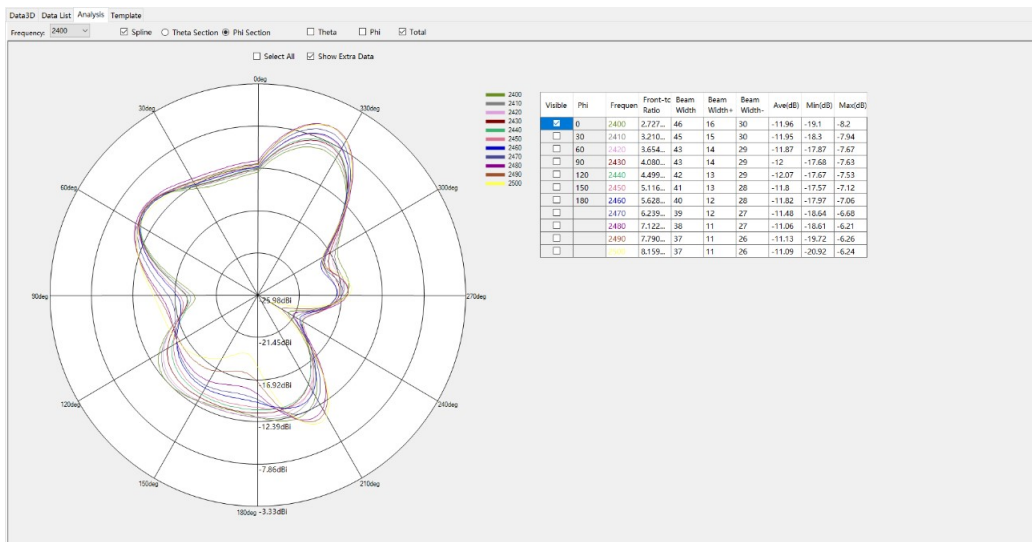
Theta=90°



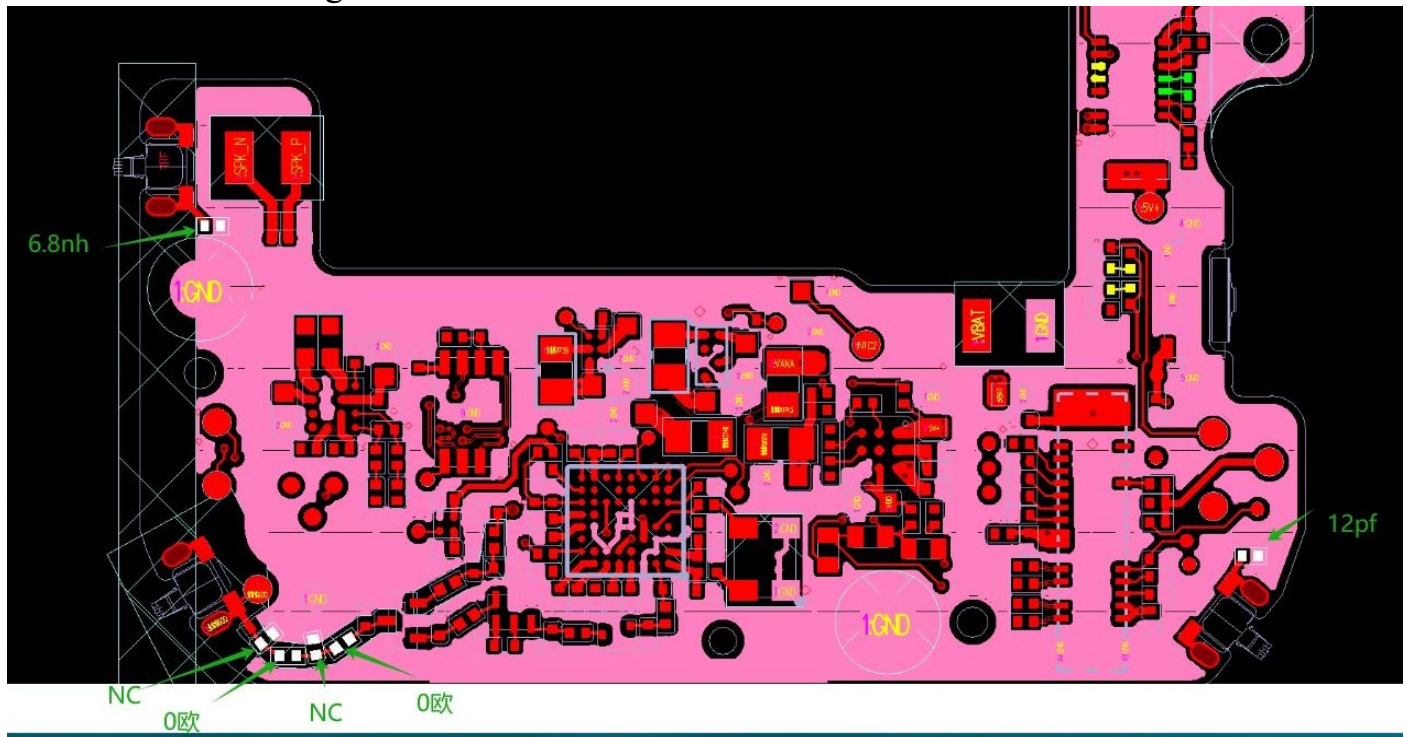
Phi=90°



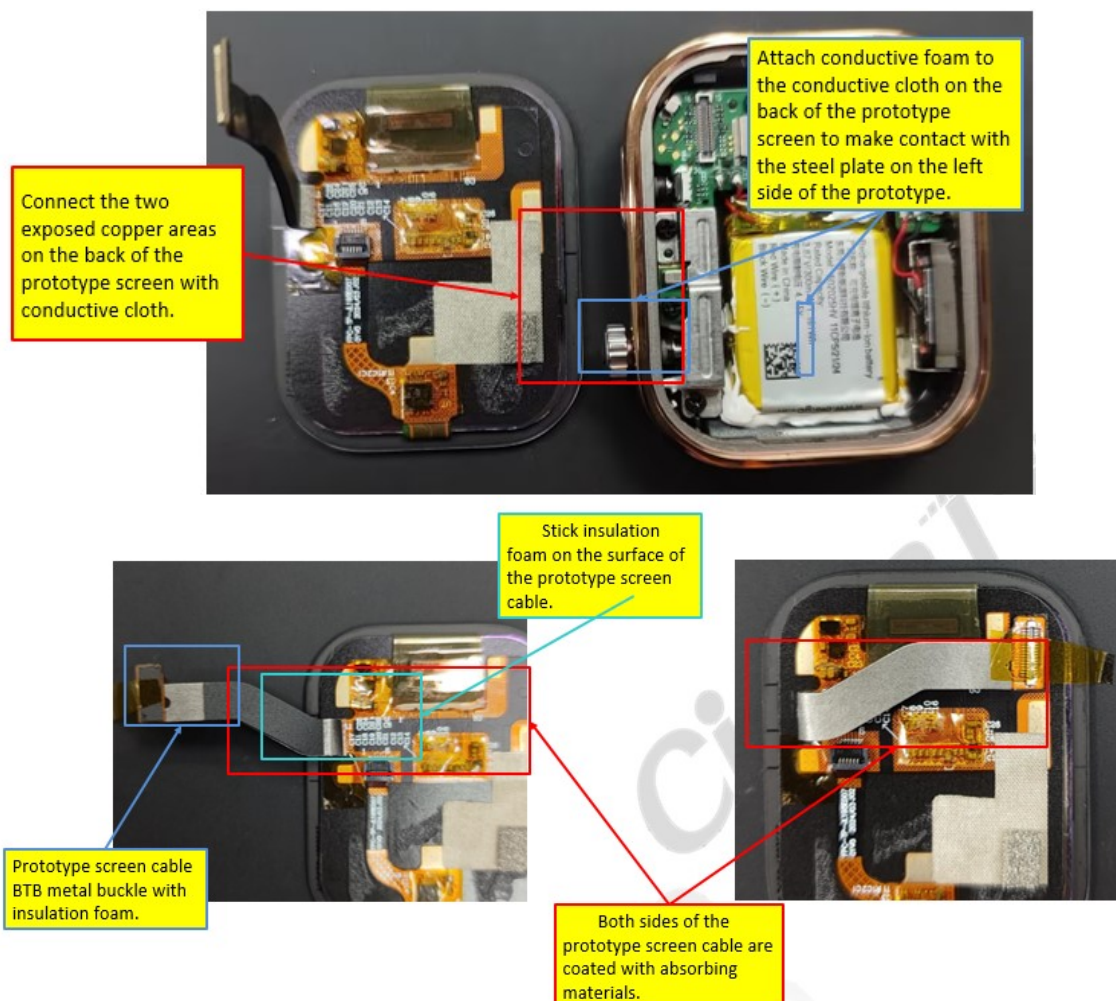
Phi=0°

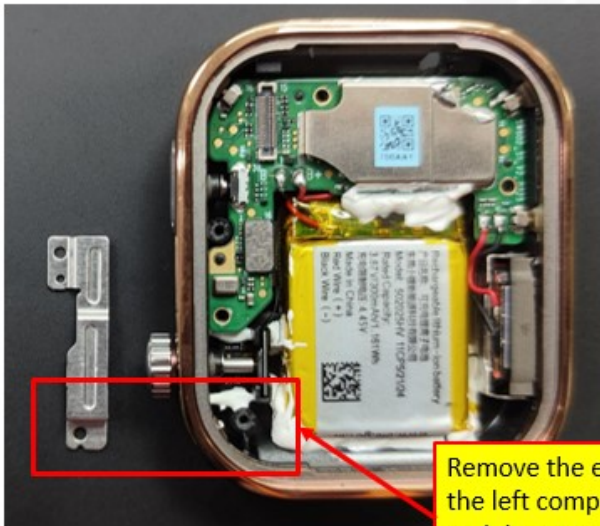


II: Antenna matching



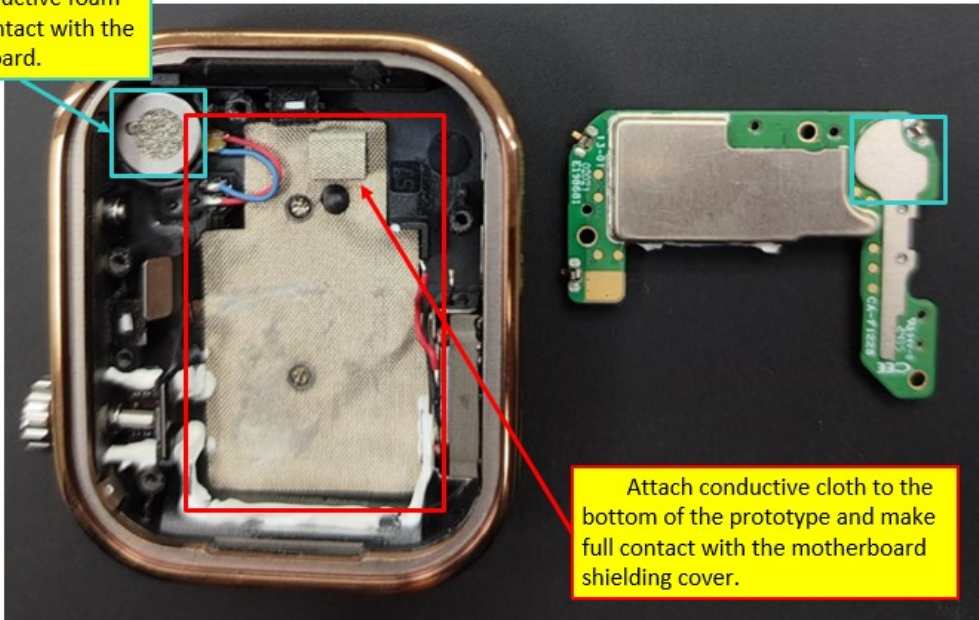
III: Precautions for Handling the Whole Machine Environment



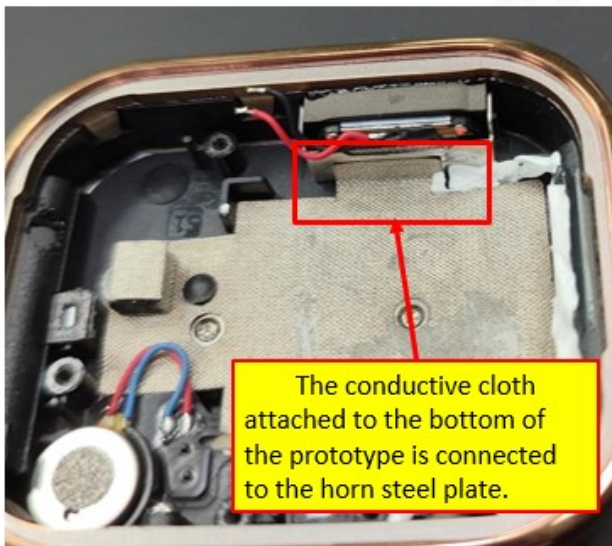


Remove the extension angle of the left compression steel plate and do not make contact with the metal frame.

The motor is attached with conductive foam and in contact with the motherboard.



Attach conductive cloth to the bottom of the prototype and make full contact with the motherboard shielding cover.



The conductive cloth attached to the bottom of the prototype is connected to the horn steel plate.

Dimension drawing :

