



Antenna Part Specification

Project name:	WBT1004
Antenna material:	BT/WIFI/MIC Antenna
Antenna type:	Dipole
Version:	V3.0
Date:	2024.06.12
Supplier:	Shenzhen Cicent Communication Technology Co., Ltd.
Supplier Address:	505-506 ,ABlock,Donglian Building,Chuangye 2 road,Baoan District,Shenzhen,Guangdong,P.R china



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Change record			
Compile / change date	Reason for change	Changed content	Version
2024.04.13	First edition	First edition	V1.0
2024.05.15	Antenna optimization	Change the length of coaxial lines	V2.0
2024.06.12	ANT4 antenna update	Extend the coaxial line and increase the FPC antenna size	V3.0



I: The report of passive data



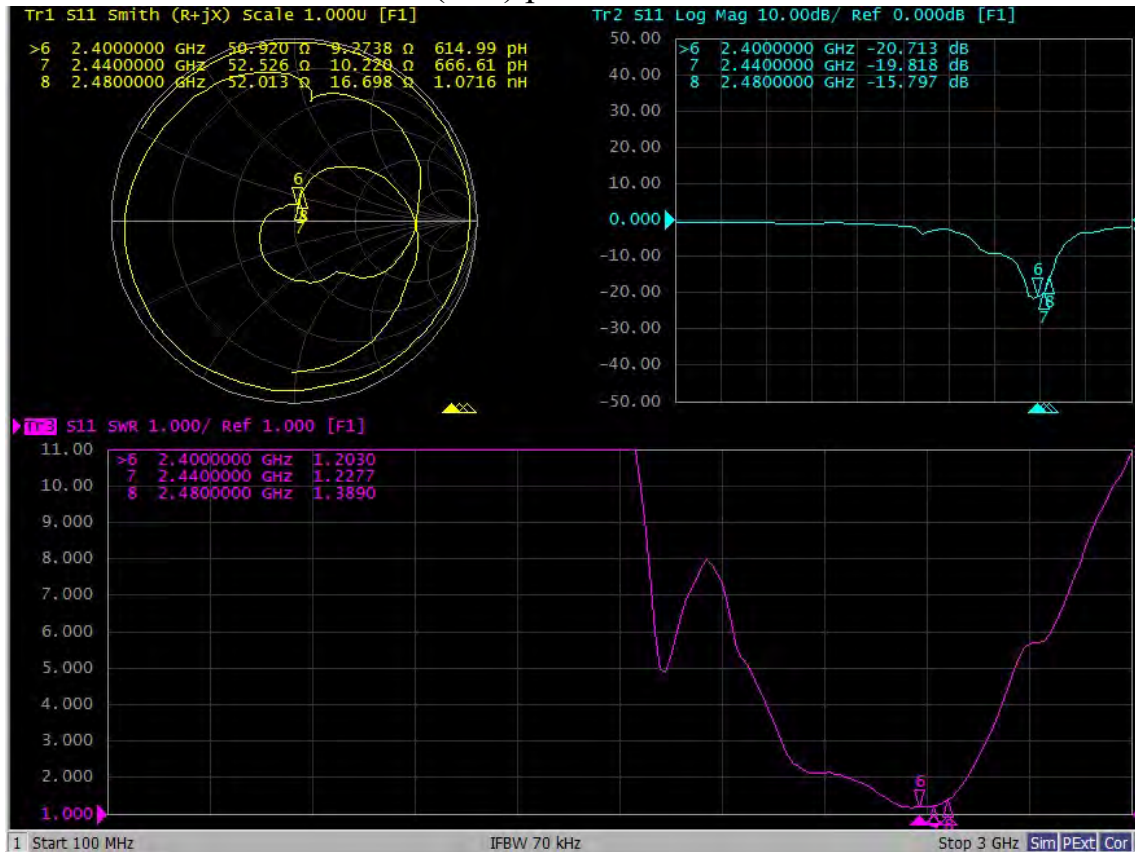
Angilent E5071C

ANT1 BT Antenna VSWR(S11) parameter:

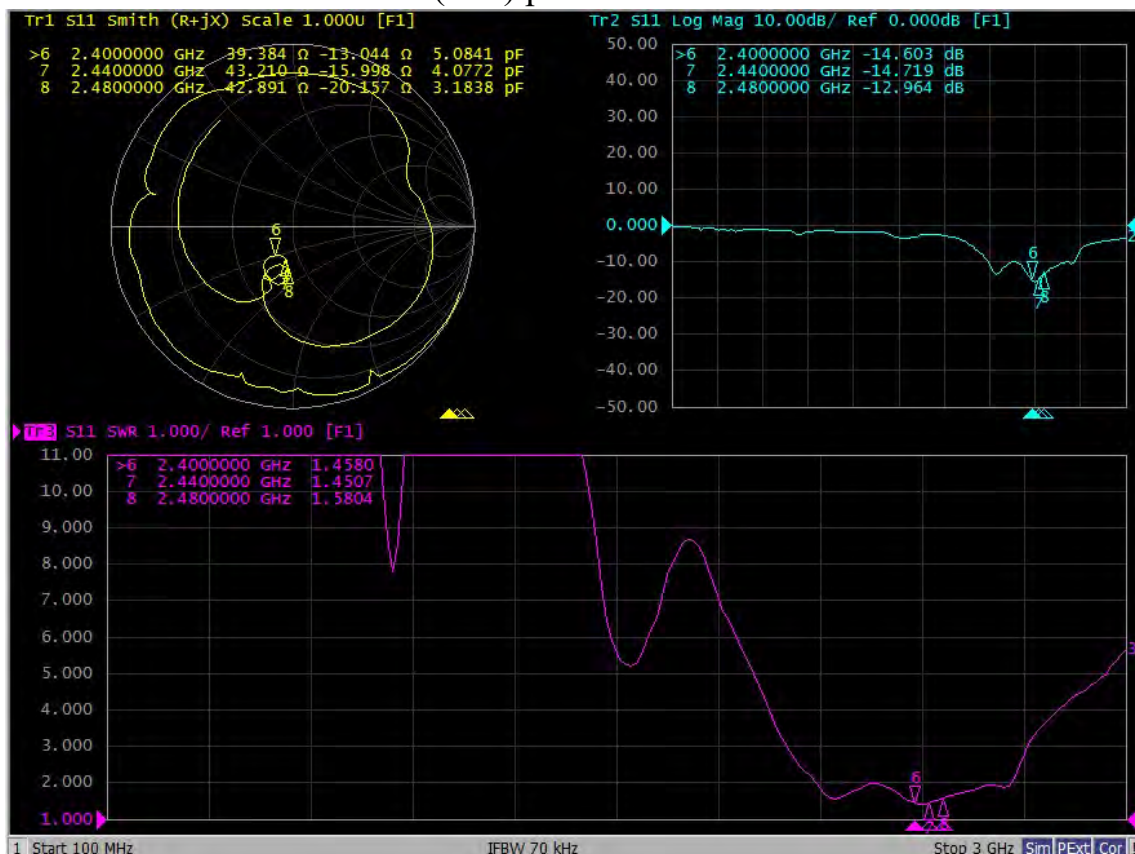




ANT3 MIC Antenna VSWR(S11) parameter:

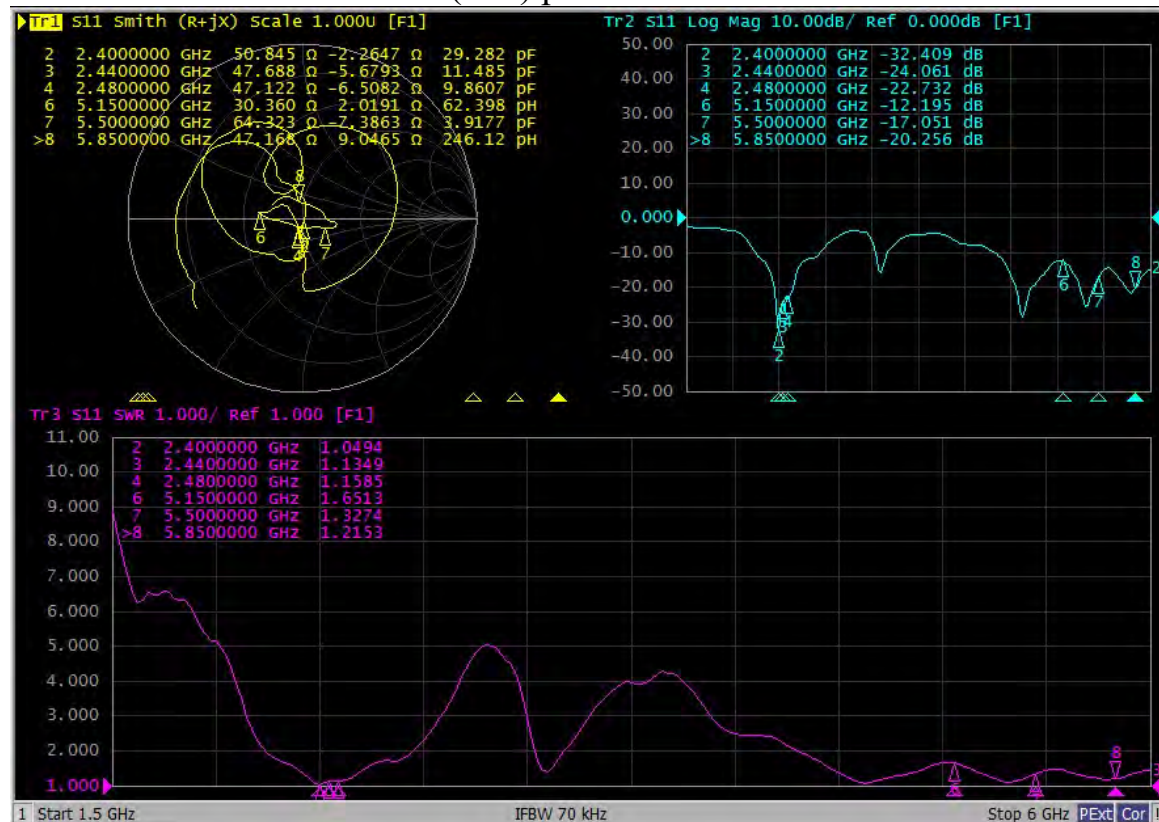


ANT4 MIC Antenna VSWR(S11) parameter:





ANT2 WIFI Antenna VSWR(S11) parameter:





Efficiency:

ANT1 BT Antenna				
Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency	Maximum gain
2400	7.33	-1.81	65.94	7.87
2410	7.61	-1.75	66.82	
2420	7.79	-1.71	67.51	
2430	7.74	-1.89	64.65	
2440	7.69	-2.09	61.80	
2450	7.87	-2.00	63.09	
2460	7.77	-2.12	61.43	
2470	7.86	-1.94	63.98	
2480	7.85	-1.77	66.51	
Average value	7.72	-1.90	64.64	

ANT3 MIC Antenna				
Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency	Maximum gain
2400	7.79	-2.65	54.38	7.87
2410	7.80	-2.59	55.09	
2420	7.75	-2.53	55.86	
2430	7.51	-2.64	54.49	
2440	7.22	-2.78	52.78	
2450	7.18	-2.67	54.08	
2460	7.85	-2.76	52.92	
2470	7.87	-2.50	56.27	
2480	7.04	-2.29	59.07	
Average value	7.34	-2.60	54.99	



ANT4 MIC Antenna				
Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency	Maximum gain
2400	7.01	-1.70	67.56	7.87
2410	7.14	-1.66	68.27	
2420	7.41	-1.59	69.31	
2430	7.40	-1.73	67.21	
2440	7.32	-1.91	64.45	
2450	7.58	-1.84	65.47	
2460	7.56	-1.98	63.46	
2470	7.87	-1.74	67.00	
2480	7.11	-1.52	70.41	
Average value	7.49	-1.74	67.01	

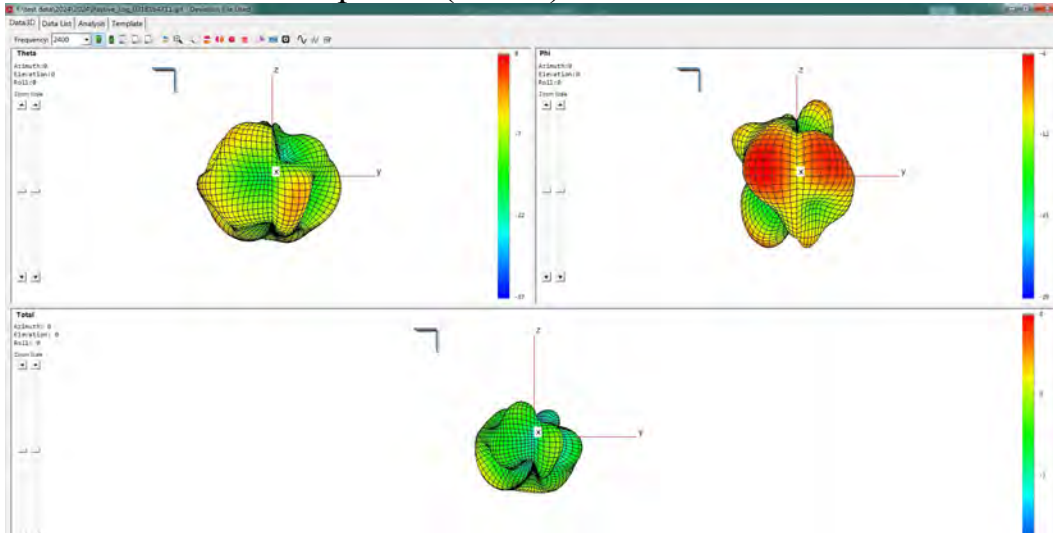
ANT2 2.4G WIFI Antenna				
Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency	Maximum gain
2400	5.26	-2.15	60.95	5.26
2410	5.13	-2.14	61.04	
2420	4.92	-2.16	60.82	
2430	4.69	-2.29	59.06	
2440	4.41	-2.44	56.96	
2450	4.29	-2.37	57.88	
2460	4.05	-2.47	56.62	
2470	4.15	-2.19	60.35	
2480	4.28	-1.99	63.20	
Average value	4.58	-2.25	59.65	



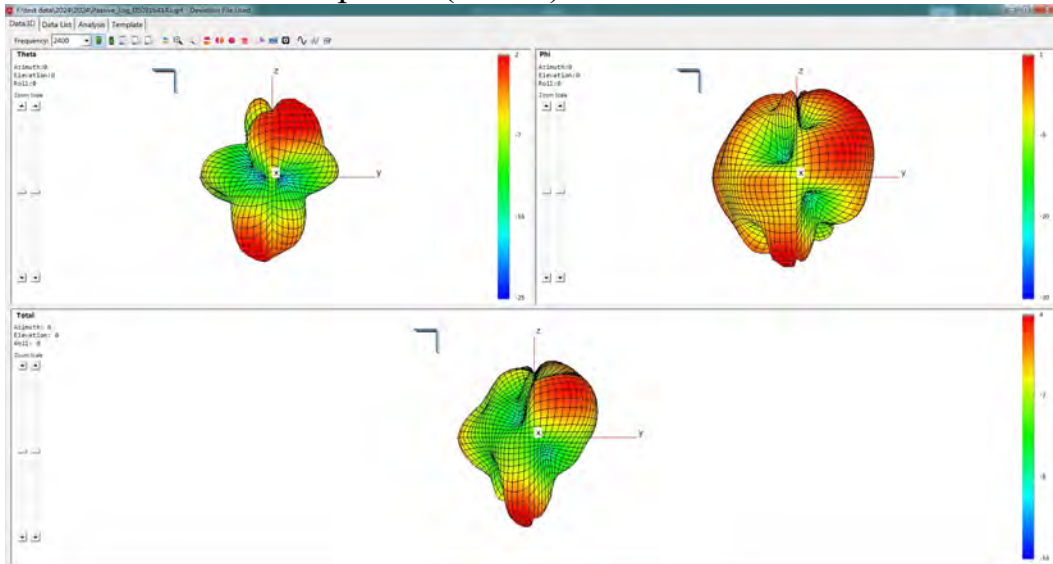
ANT2 5G WIFI Antenna				
Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency	Maximum gain
5150	3.01	-2.77	52.86	5.33
5200	2.46	-2.98	50.35	
5250	2.93	-2.93	50.98	
5300	2.97	-2.70	53.69	
5350	2.46	-2.96	50.64	
5400	2.58	-3.18	48.13	
5450	2.95	-3.17	48.18	
5500	4.20	-2.30	58.89	
5550	4.39	-1.96	63.73	
5600	4.42	-1.65	68.43	
5650	4.58	-1.49	70.91	
5700	4.36	-1.20	75.93	
5750	4.54	-0.78	83.56	
5800	4.64	-1.02	79.13	
5850	5.33	-0.80	83.19	
Average	3.72	-2.12	62.57	



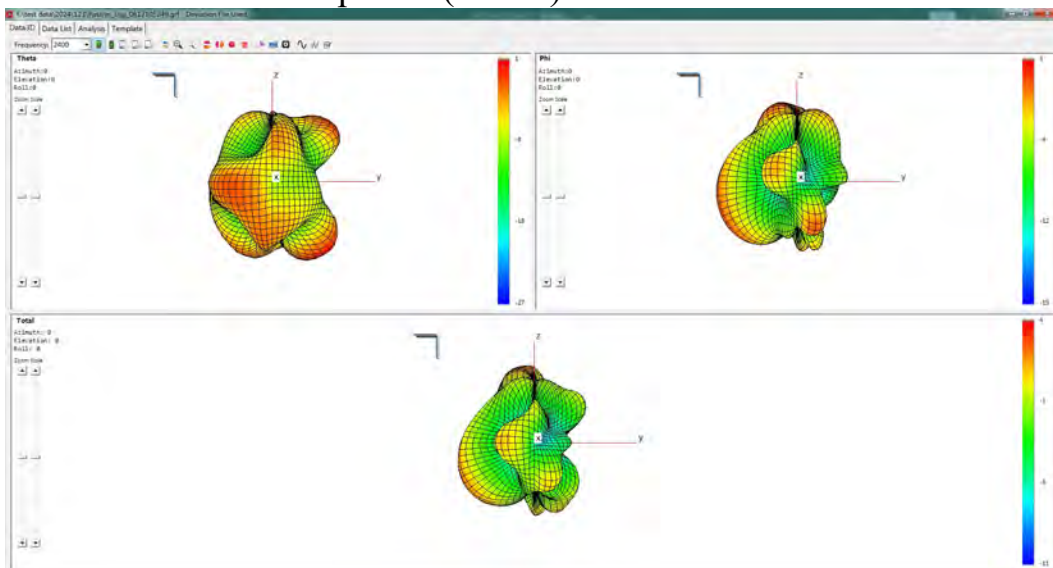
3D Antenna radiation pattern(ANT1):



3D Antenna radiation pattern(ANT3):

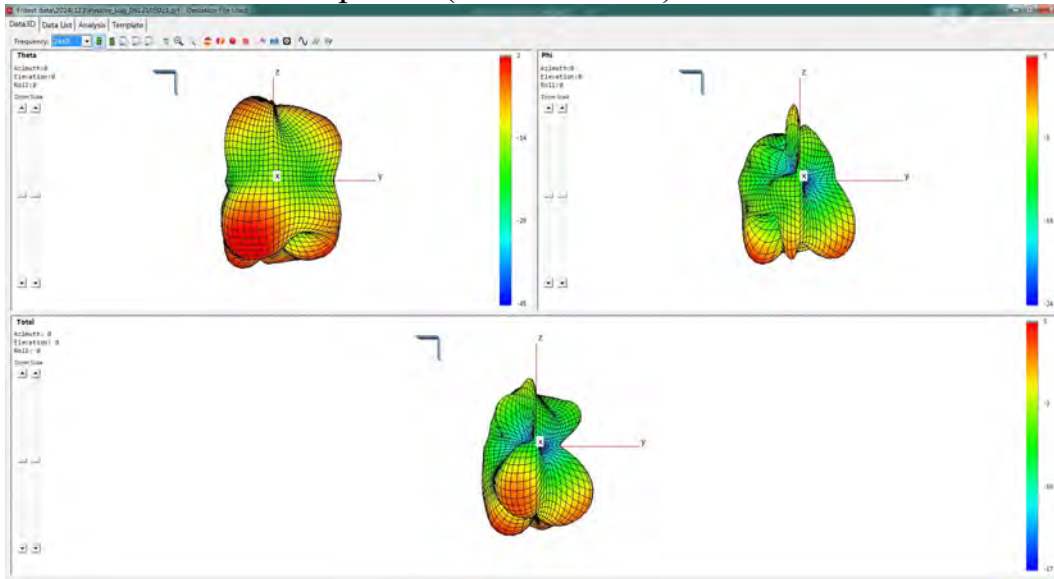


3D Antenna radiation pattern(ANT4):

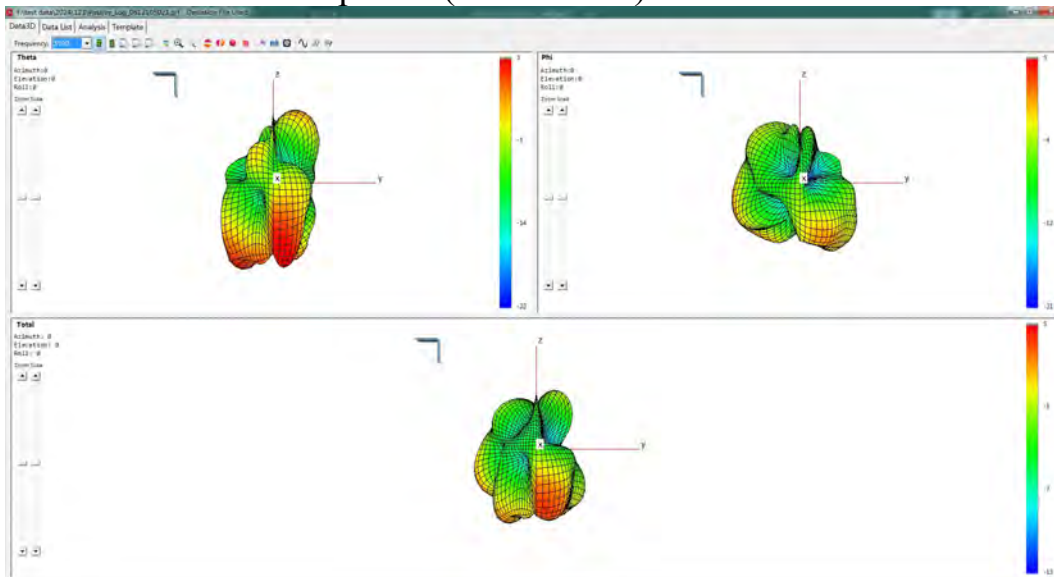




3D Antenna radiation pattern(ANT2: 2.4G):



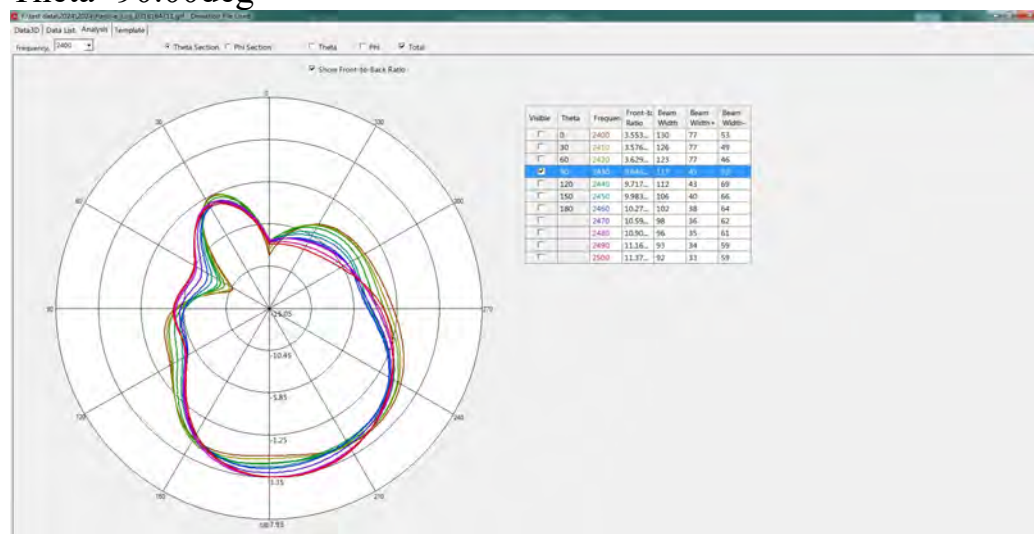
3D Antenna radiation pattern(ANT2: 5G):



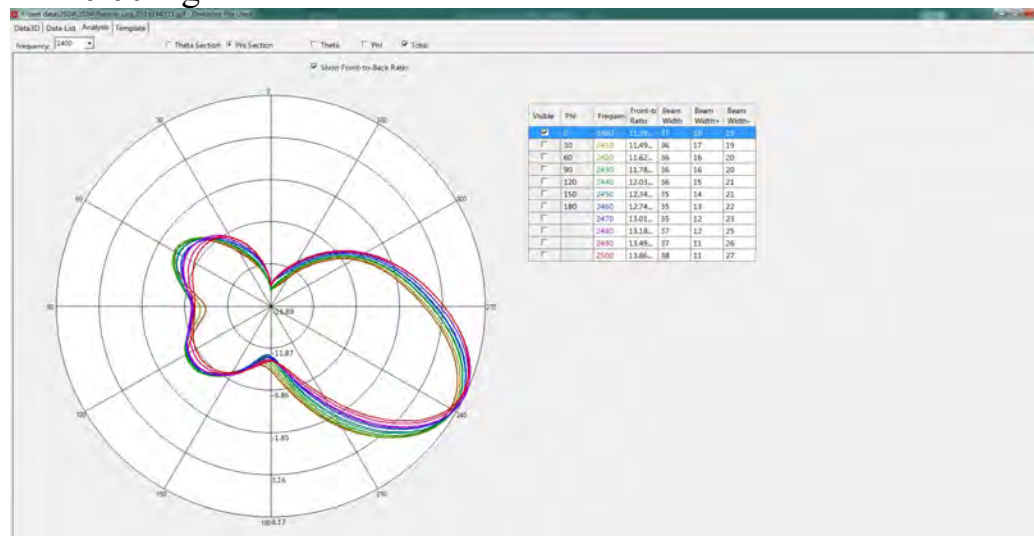


Antenna radiation pattern(ANT1):

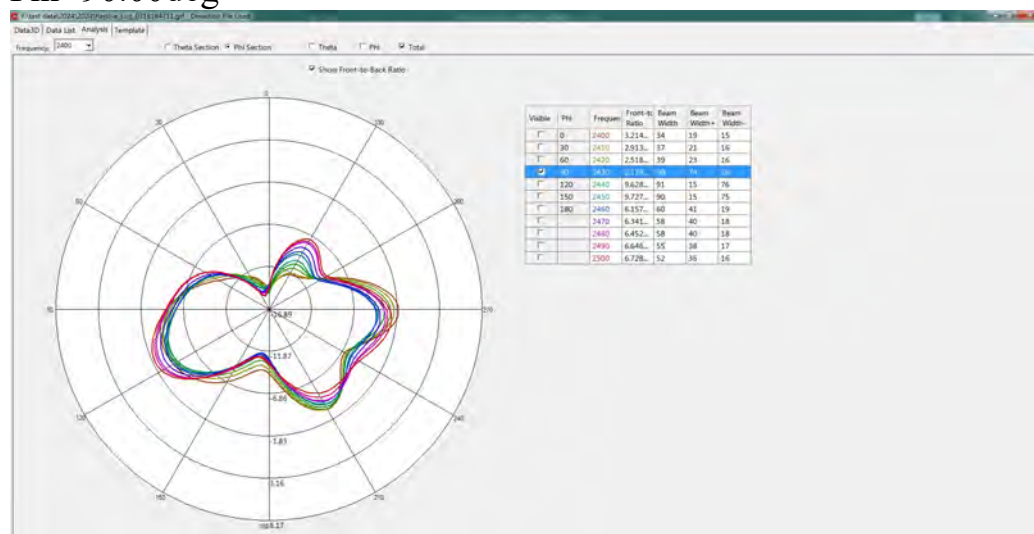
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Phi=0.00deg



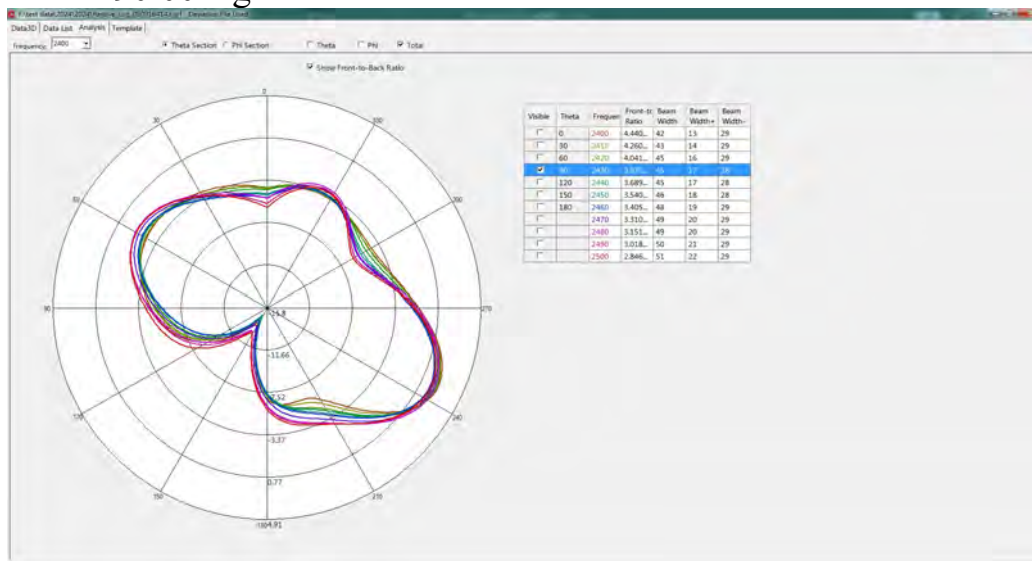
Phi=90.00deg



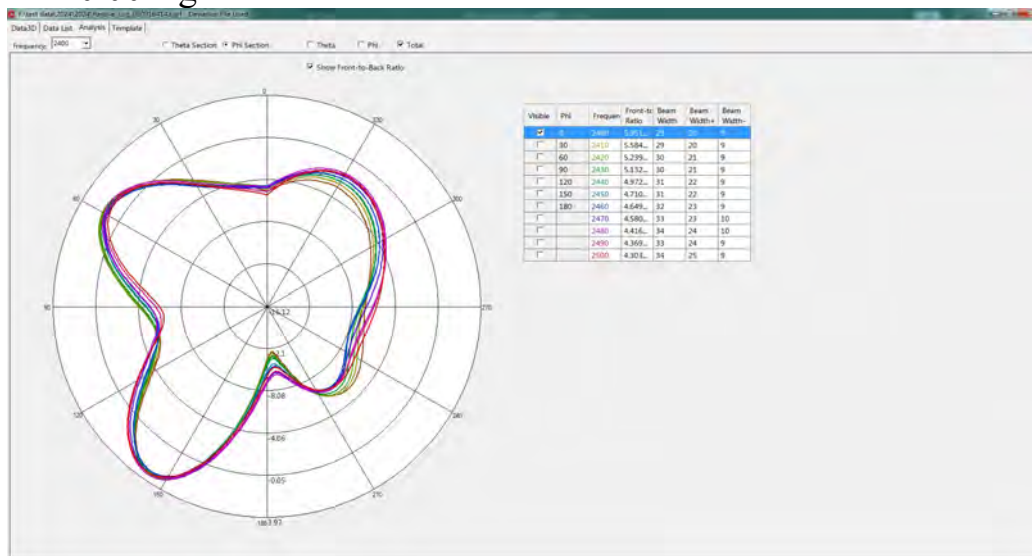


Antenna radiation pattern(ANT3):

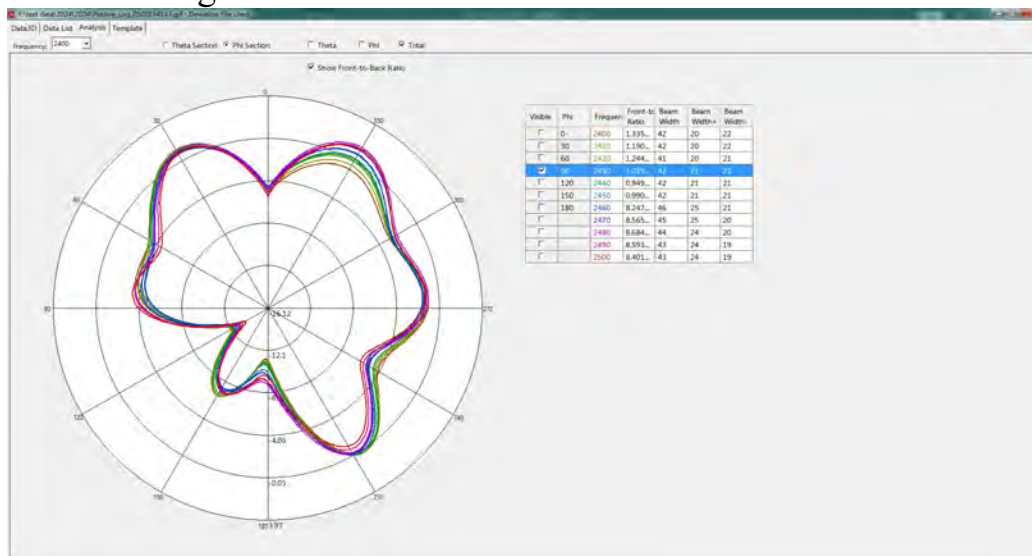
Theta=90.00deg



Phi=0.00deg



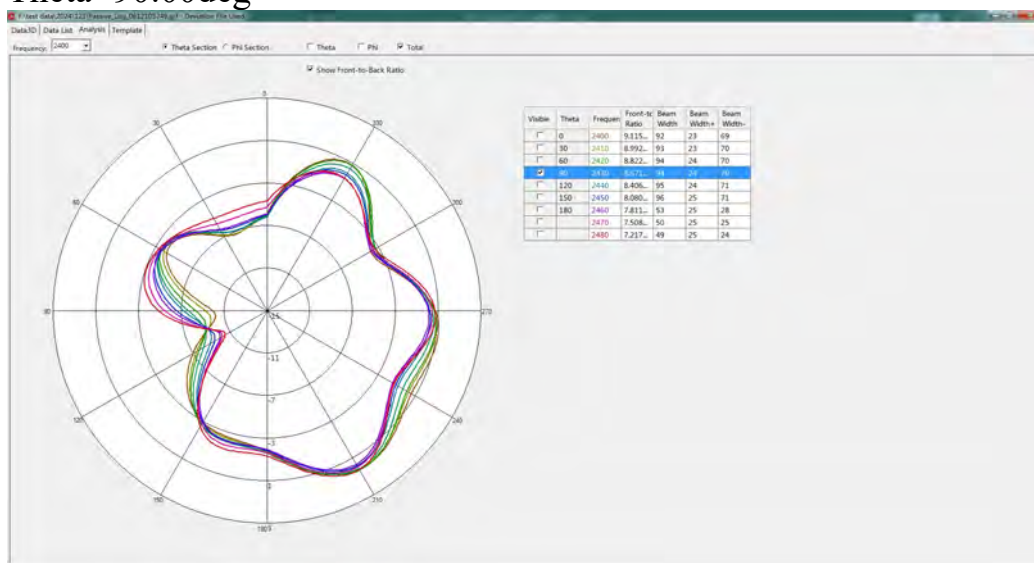
Phi=90.00deg



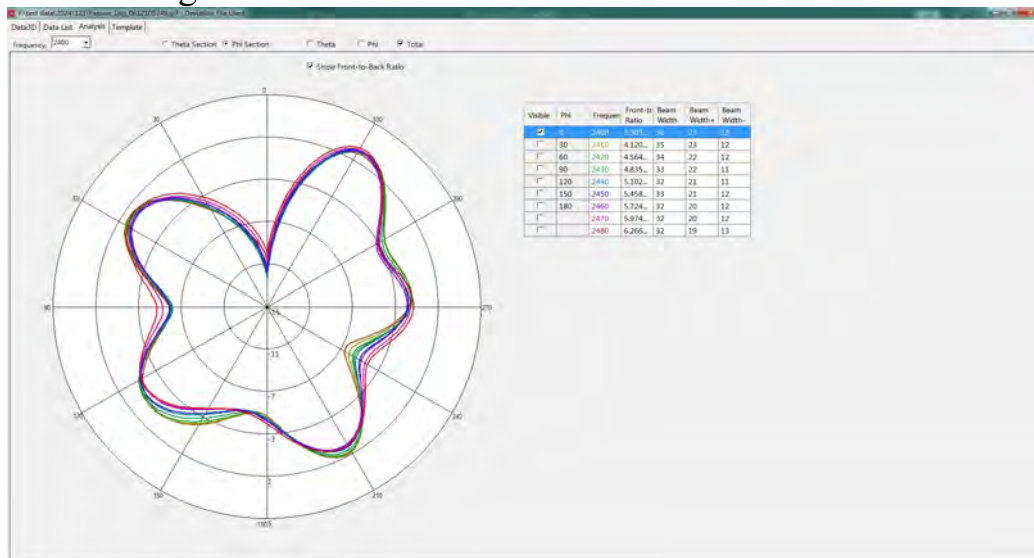


Antenna radiation pattern(ANT4):

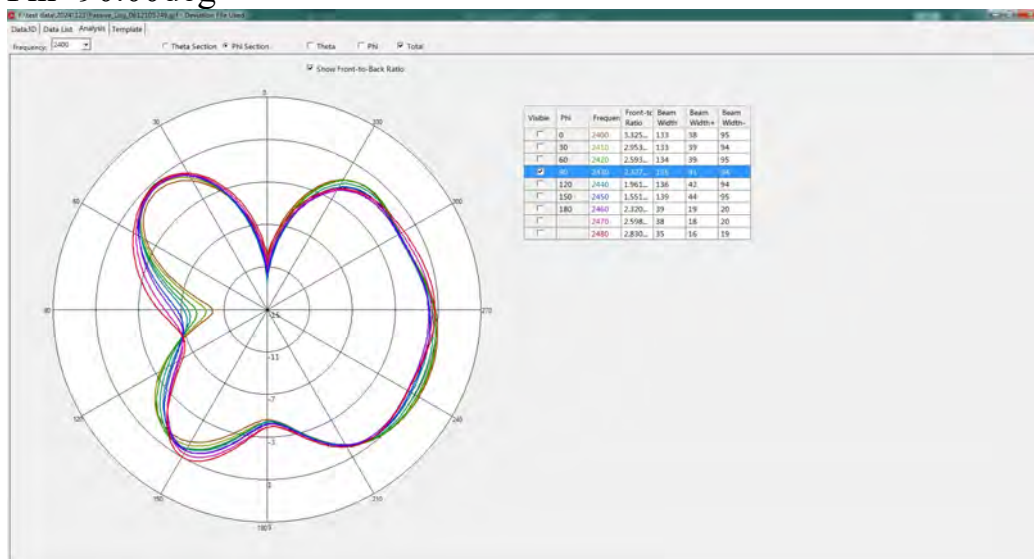
Theta=90.00deg



Phi=0.00deg

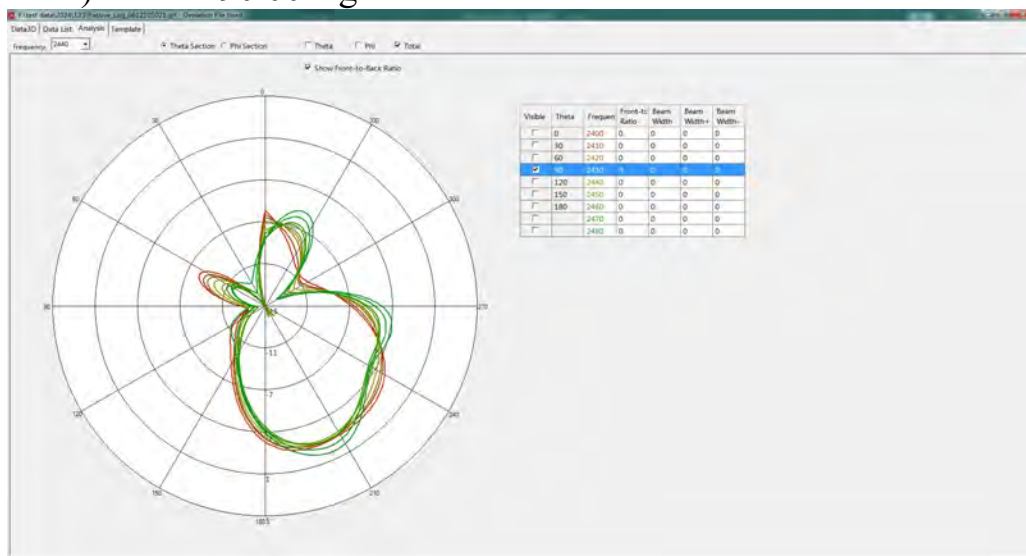


Phi=90.00deg

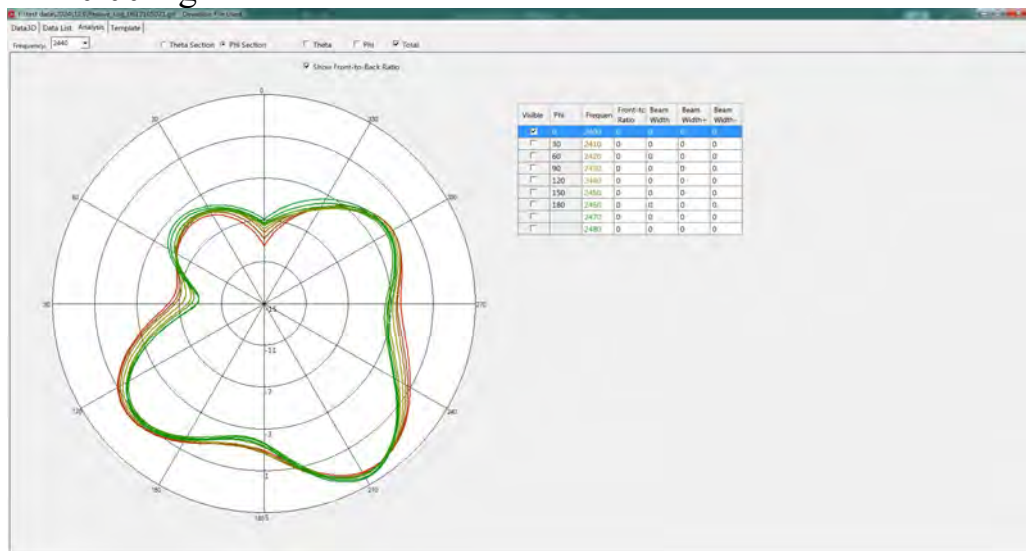




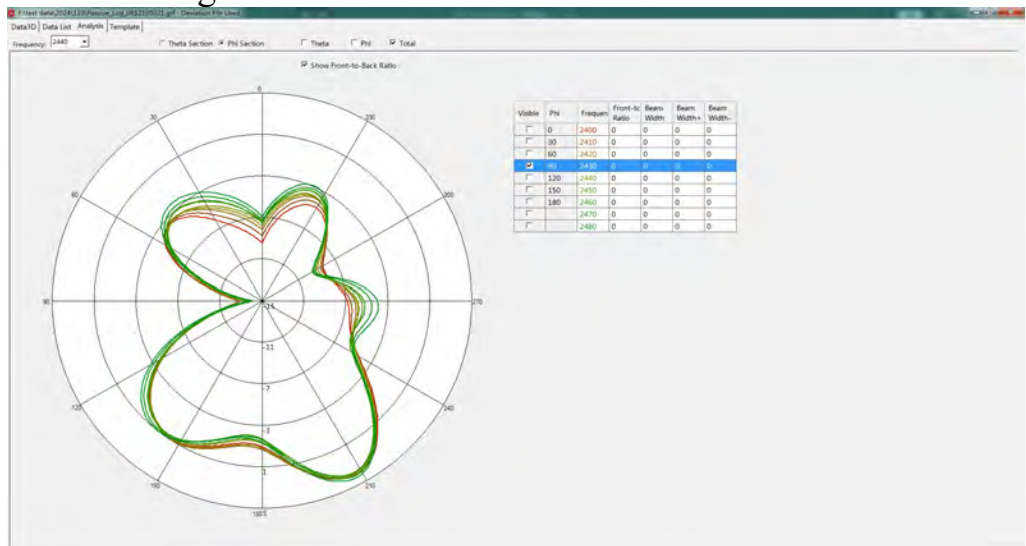
Antenna radiation pattern(ANT2: 2.4G): Theta=90.00deg



Phi=0.00deg

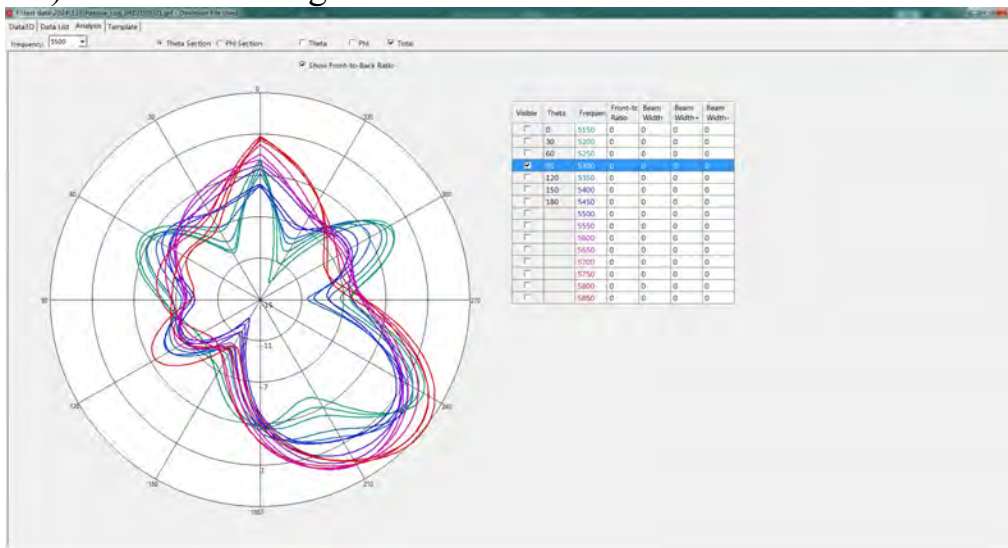


Phi=90.00deg

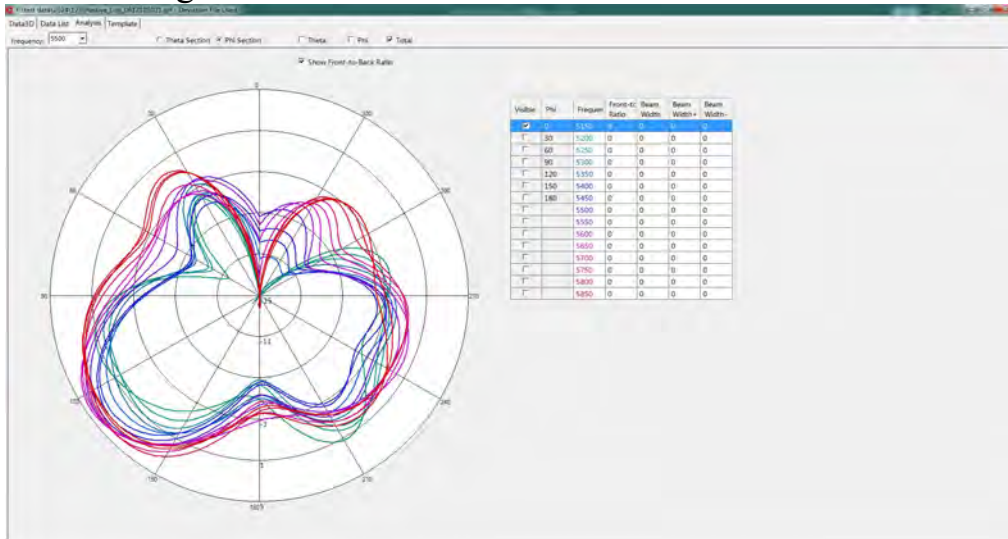




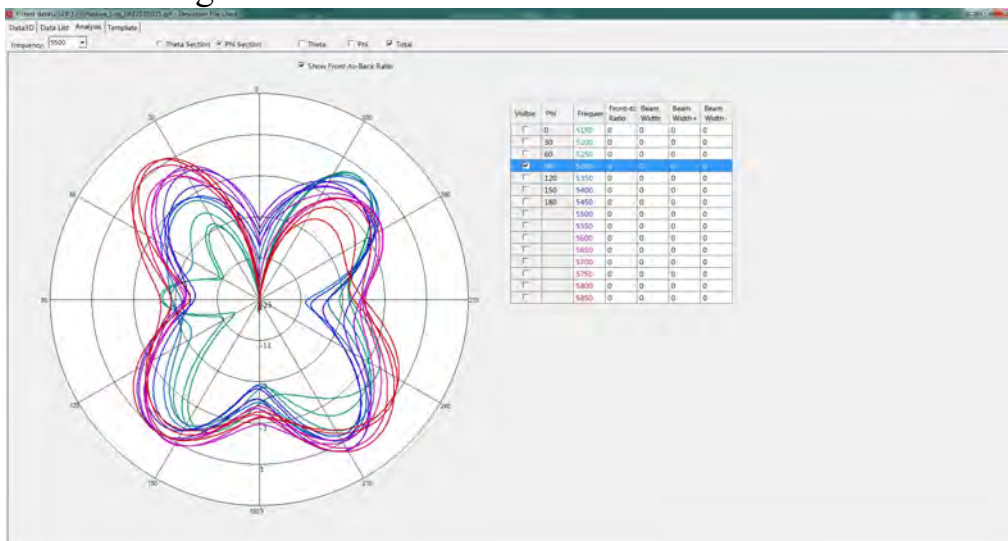
Antenna radiation pattern(ANT2: 5G): Theta=90.00deg



Phi=0.00deg



Phi=90.00deg





II: 3D Active test report of antenna

11Mbps	Channel	TRP (dBm)	TIS (dBm)
WIFI B	CH 1	12.8	-85.9
	CH 7	12.3	-84.9
	CH 13	11.5	-85.2

54Mbps	Channel	TRP (dBm)	TIS (dBm)
WIFI A	CH 36	14.9	-71.4
	CH 100	14.0	-71.5
	CH 165	14.4	-70.6

54Mbps	Channel	TRP (dBm)	TIS (dBm)
WIFI G	CH 1	9.1	-72.5
	CH 7	8.5	-70.0
	CH 13	8.6	-71.7

Free Space	Channel	TRP (dBm)	TIS (dBm)
BT	CH 0	7.3	-93.6
	CH 39	6.9	-93.6
	CH 78	6.3	-93.9

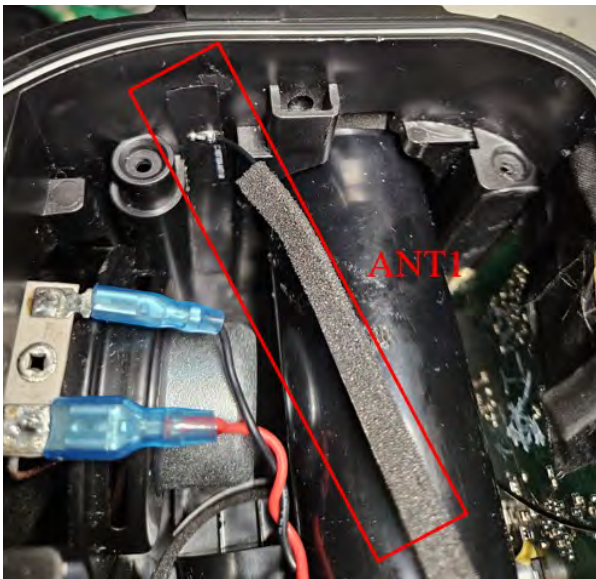


OTA Standard Chambe

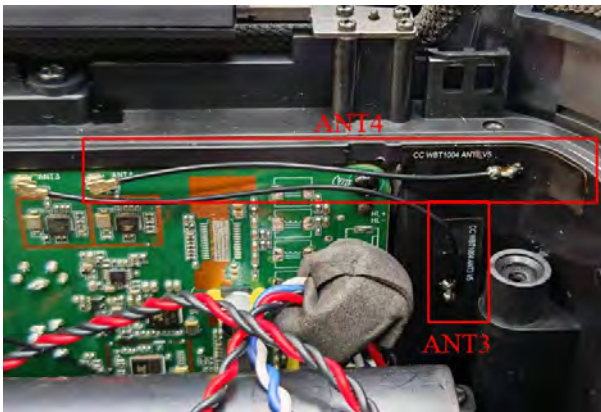


III: Antenna Position Close-up

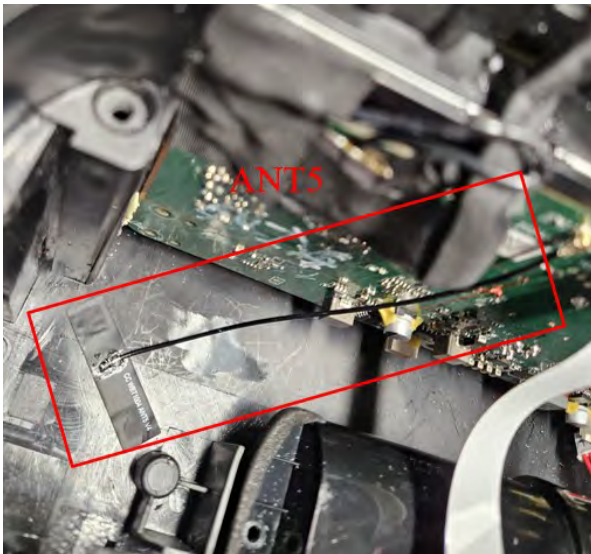
ANT1:



ANT3/ANT4:



ANT2:



IV: Structure file

