



深圳市昱晟通讯设备有限公司

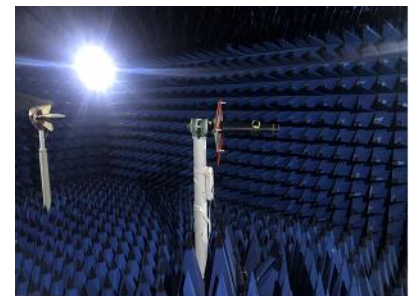
Yusheng Communications-equipment Co.,LTD

Euroclide T1030 Test Report

RF: He Lei

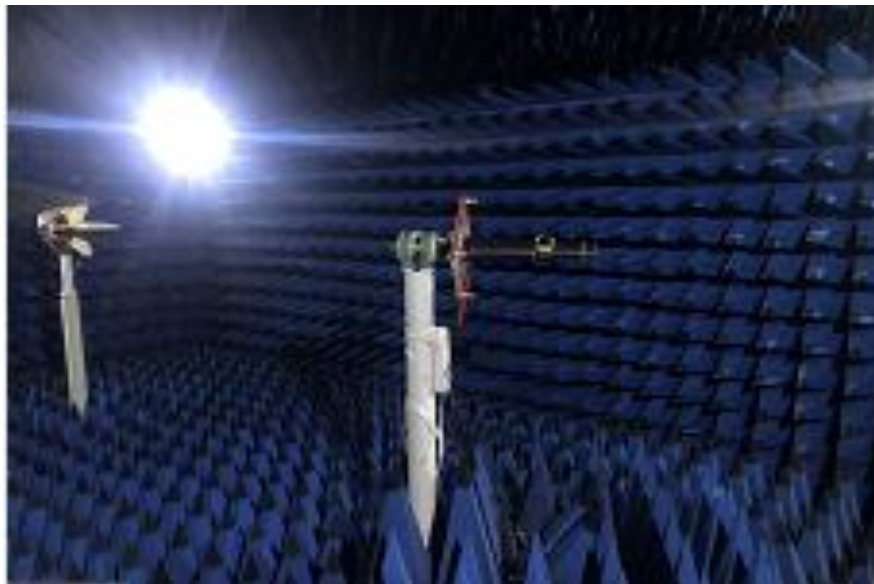
Date: 2024-7-12

Contact: 15767667652



Project development environment

We are moving from the Internet era to the era of intelligence, and the country is building a digital society and smart city. There will be great potential for development in both the consumer electronics market and the Internet of Things market in the next 5-10 years. The field of wireless communication is very diversified. In the future, Yusheng relies on the advantages of the main customer platform of the antenna industry and its own comprehensive strength to provide customers with market-competitive professional product solutions.



Yusheng Communication's products cover antenna applications of almost all wireless terminal equipment, including automotive antennas, high-precision measurement and mapping antennas, drone ground and satellite data navigation, high-precision positioning antennas, wireless transmission of medical equipment, consumer antennas (mobile phone antennas, PAD, laptop antennas), base station/indoor distribution antennas, smart wear antennas (smart watches, TWS headphones), security home antennas, and a variety of wireless data transmission and wireless control smart device antennas.

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Introduction to project debugging

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Antenna passive parameters

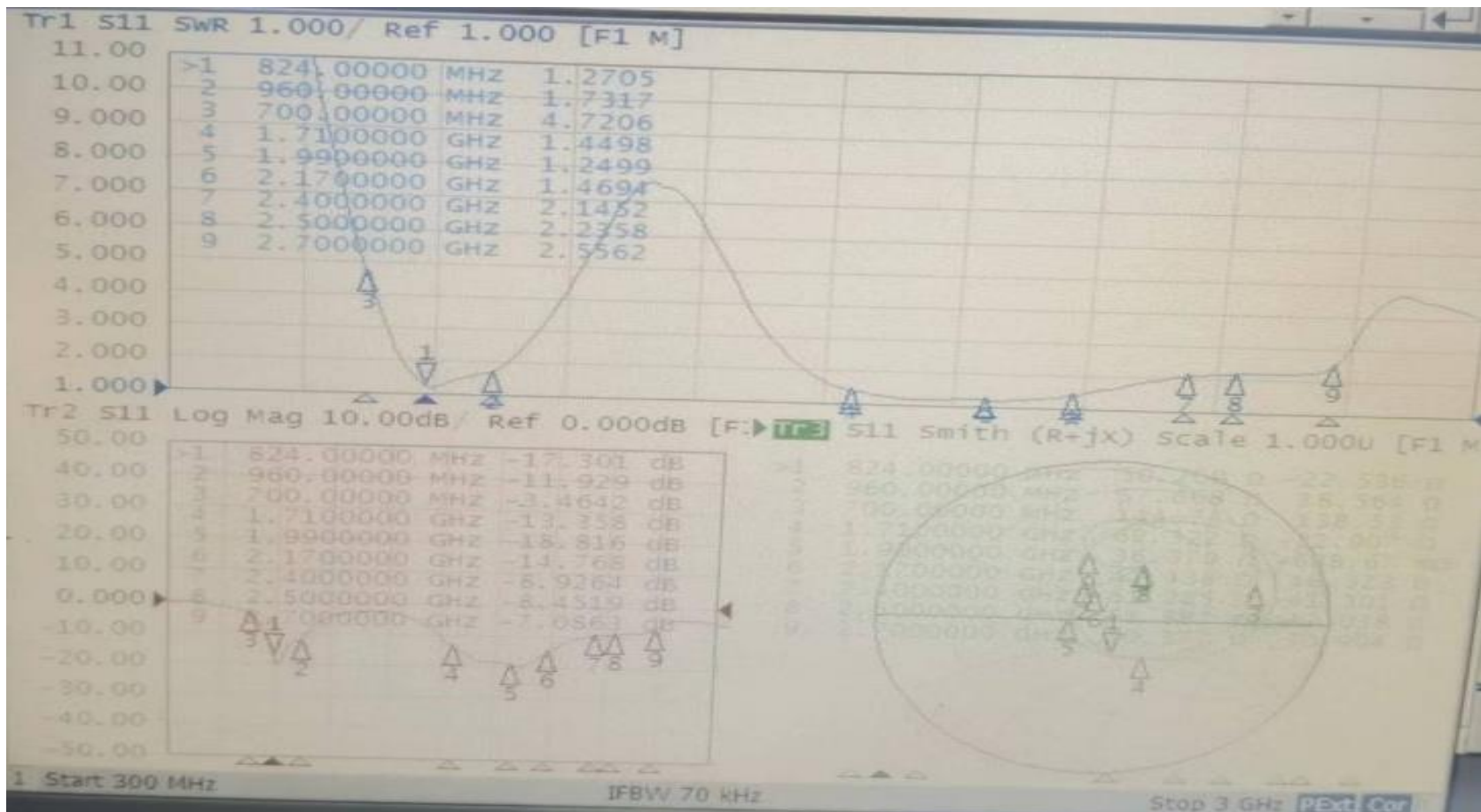
5

Antenna environment treatment and improvement

6

Summary & Additional Notes

TRX passive standing wave ratio



TRX Passive Efficiency

LTE											
Freq	Effi	Gain	Freq	Effi	Gain	Freq	Effi	Gain	Freq	Effi	Gain
(MHz)	(%)	(dBi)	(MHz)	(%)	(dBi)	(MHz)	(%)	(dBi)	(MHz)	(%)	(dBi)
700	22%	0.35	1850	36%	0.52	2170	37%	0.58	2490	40%	1.04
740	24%	0.44	1870	35%	0.44	2190	40%	0.77	2510	38%	0.98
780	25%	0.48	1890	37%	0.47	2210	41%	0.86	2530	37%	0.75
820	26%	0.56	1910	34%	0.53	2230	38%	0.81	2550	37%	0.64
860	26%	0.62	1930	35%	0.46	2250	38%	0.76	2570	36%	0.45
900	27%	0.59	1950	35%	0.32	2270	37%	0.72	2590	37%	0.57
920	27%	0.61	1970	36%	0.47	2290	36%	0.64	2610	38%	0.42
940	25%	0.53	1990	37%	0.38	2310	36%	0.47	2630	39%	0.39
960	24%	0.49	2010	36%	0.63	2330	38%	0.49	2650	37%	0.66
1710	32%	0.26	2030	35%	0.57	2350	36%	0.54	2670	37%	0.32
1730	34%	0.29	2050	37%	0.63	2370	35%	0.52	2690	35%	0.41
1750	35%	0.37	2070	39%	0.68	2390	37%	0.39			
1770	35%	0.42	2090	35%	0.52	2410	38%	0.44			
1790	38%	0.46	2110	36%	0.41	2430	39%	0.46			
1810	37%	0.58	2130	35%	0.33	2450	42%	0.55			
1830	35%	0.41	2150	36%	0.38	2470	41%	0.58			

Active parameters of the
main antenna

Test	GSM 850			EGSM 900		
Channel	128	190	251	1	62	124
TRP (dBm)	26.45	26.51	26.92	27.11	26.54	26.11
TIS (dBm)			-102.32			-100.49

Test	DCS 1800			PCS 1900		
Channel	512	698	885	512	661	810
TRP (dBm)	24.51	24.66	24.84	25.35	24.96	24.48
TIS (dBm)			-102.18			-102.27

Active parameters of
the main antenna

Test	WCDMA_I			WCDMA_II		
Channel	10562	10700	10838	9662	9800	9938
TRP (dBm)	17.13	17.25	17.09	17.36	17.51	17.23
TIS (dBm)			-102.34			-102.48

Test	WCDMA_V			WCDMA_V III		
Channel	4357	4408	4458	2937	3013	3088
TRP (dBm)	16.54	16.88	17.25	17.31	16.57	16.28
TIS (dBm)			-102.38			-100.52

Active parameters of the main antenna

Test	FDD B1			FDD B2		
Channel	18050	18300	18550	18650	18900	19150
TRP (dBm)	17.33	17.23	17.13	17.09	17.26	17.39
TIS (dBm)			-93.28			-92.45

Test	FDD B3			FDD B5		
Channel	19250	19575	19900	20450	20525	20600
TRP (dBm)	16.78	16.89	17.03	16.68	17.04	16.92
TIS (dBm)			-92.11			-90.27

Test	FDD B7			FDD B8		
Channel	20800	21100	21400	21500	21650	21750
TRP (dBm)	16.23	16.52	16.39	17.21	16.89	16.41
TIS (dBm)			-91.38			-90.19

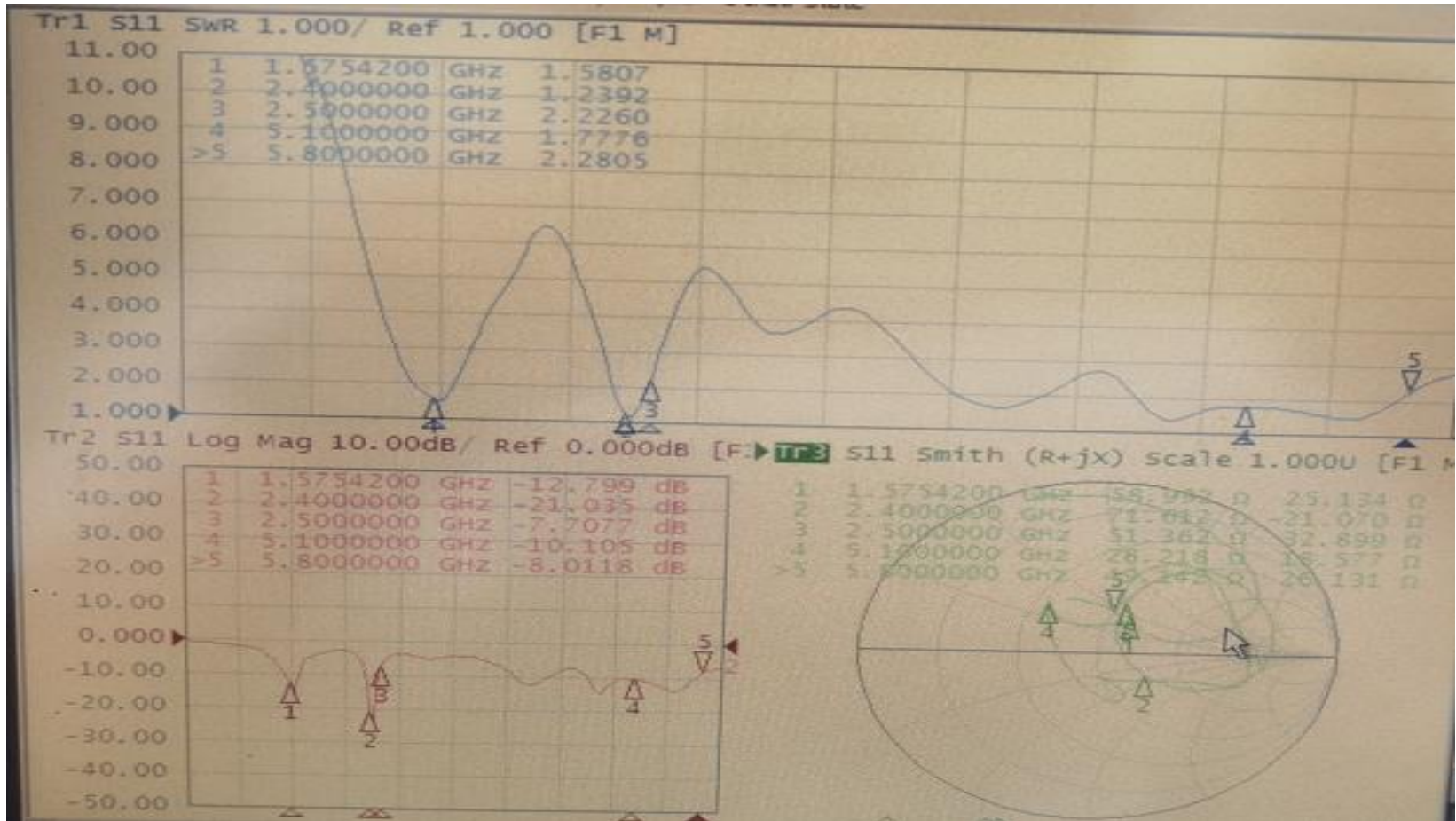
Test	FDD B20		
Channel	24200	24300	24400
TRP (dBm)	16.55	16.72	17.03
TIS (dBm)			-90.38

Active parameters of the
main antenna

Test	FDD B28A			TDD B38		
Channel	27260	27360	27460	37850	38000	38150
TRP (dBm)	15. 23	15. 47	16. 02	16. 35	16. 41	16. 95
TIS (dBm)			-90. 23			-90. 47

Test	TDD B40			FDD B41		
Channel	38750	39150	39550		40620	
TRP (dBm)	16. 61	16. 88	16. 73		16. 74	
TIS (dBm)			-90. 38		-90. 29	

GWB passive standing wave ratio



GPS/WIFI/BT/5.8G WIFI Passive Efficiency

Global Positioning System					WIFI/BT					5.8Gwifi				
Freq					Freq					Freq				
Freq	Effi	Gain			Freq	Effi	Gain			Freq	Effi	Gain		
(MHz)	(%)	(dBi)			(MHz)	(%)	(dBi)			(MHz)	(%)	(dBi)		
1515	31%	0.65			2400	38%	0.53			5100.0	36%	0.88		
1525	30%	0.72			2410	39%	0.74			5150.0	37%	0.94		
1535	33%	0.79			2420	42%	0.86			5200.0	39%	1.01		
1545	34%	0.85			2430	43%	0.91			5250.0	41%	1.05		
1555	32%	0.92			2440	44%	0.94			5300.0	43%	1.12		
1565	36%	0.98			2450	45%	1.05			5350.0	42%	1.09		
1575	35%	1.13			2460	42%	0.79			5400.0	40%	0.98		
1585	33%	0.87			2470	41%	0.75			5450.0	39%	0.86		
1595	30%	0.72			2480	41%	0.72			5500.0	37%	0.81		
					2490	40%	0.81			5550.0	38%	0.92		
					2500	39%	0.75			5600.0	35%	0.71		
										5650.0	37%	0.92		
										5700.0	37%	0.94		
										5750.0	39%	0.85		
										5800.0	40%	0.89		

WIFI active parameters

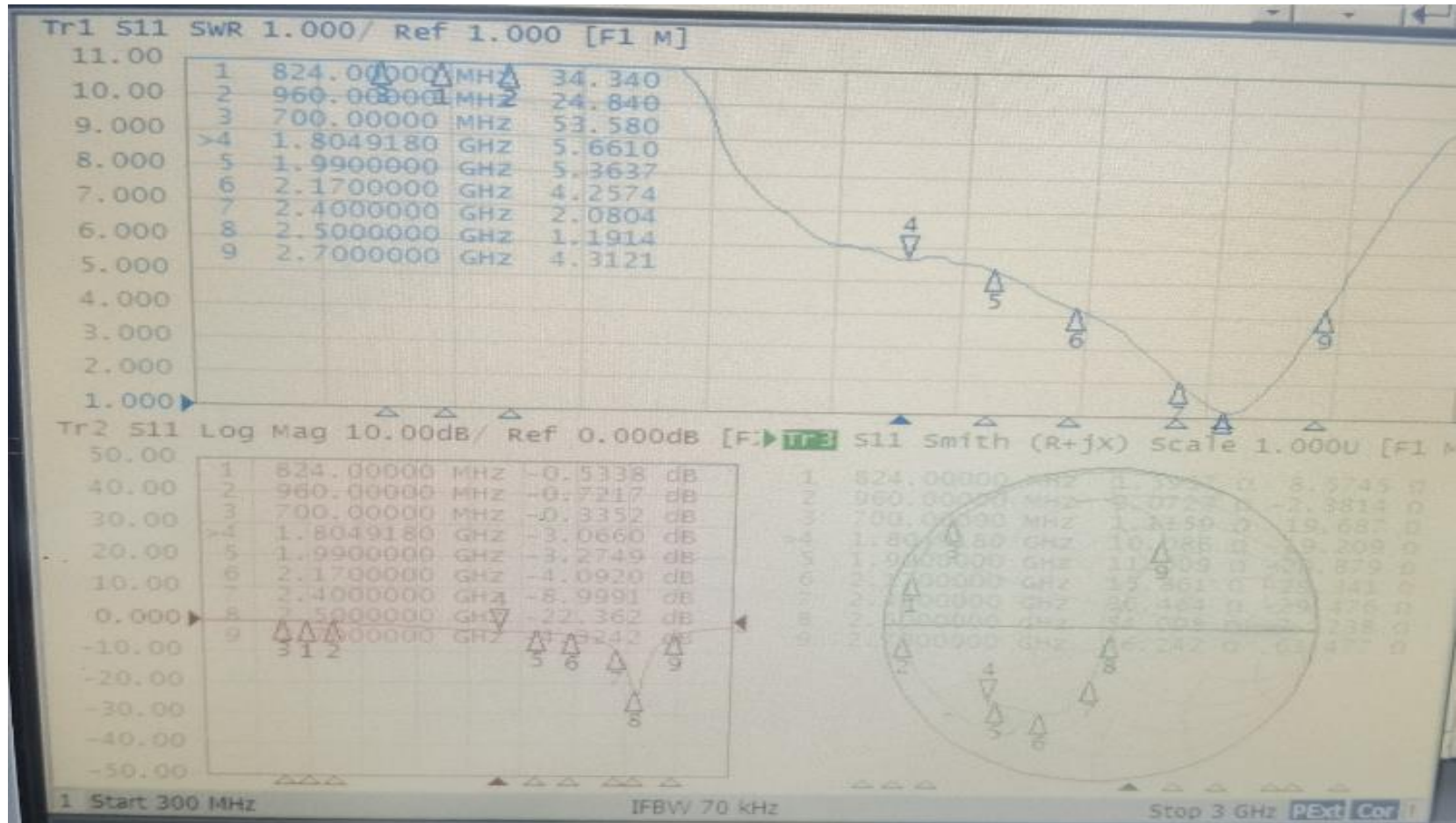
Test	2.4 WIFI-B			2.4 WIFI-G		
Channel	1	6	11	1	6	11
TRP (dBm)	13.36	13.67	13.59	12.47	12.49	12.36
TIS (dBm)			-83.44			-69.22

Test	2.4 WIFI-N			5GWIFI-A		
Channel	1	7	13	1	6	11
TRP (dBm)	11.28	11.15	11.33	9.52	9.36	9.67
TIS (dBm)			-66.69			-69.52

**BT active
parameters**

Test	BT		
Channel	0	39	78
TRP (dBm)	1.46	2.11	1.57
TIS (dBm)			-88.34

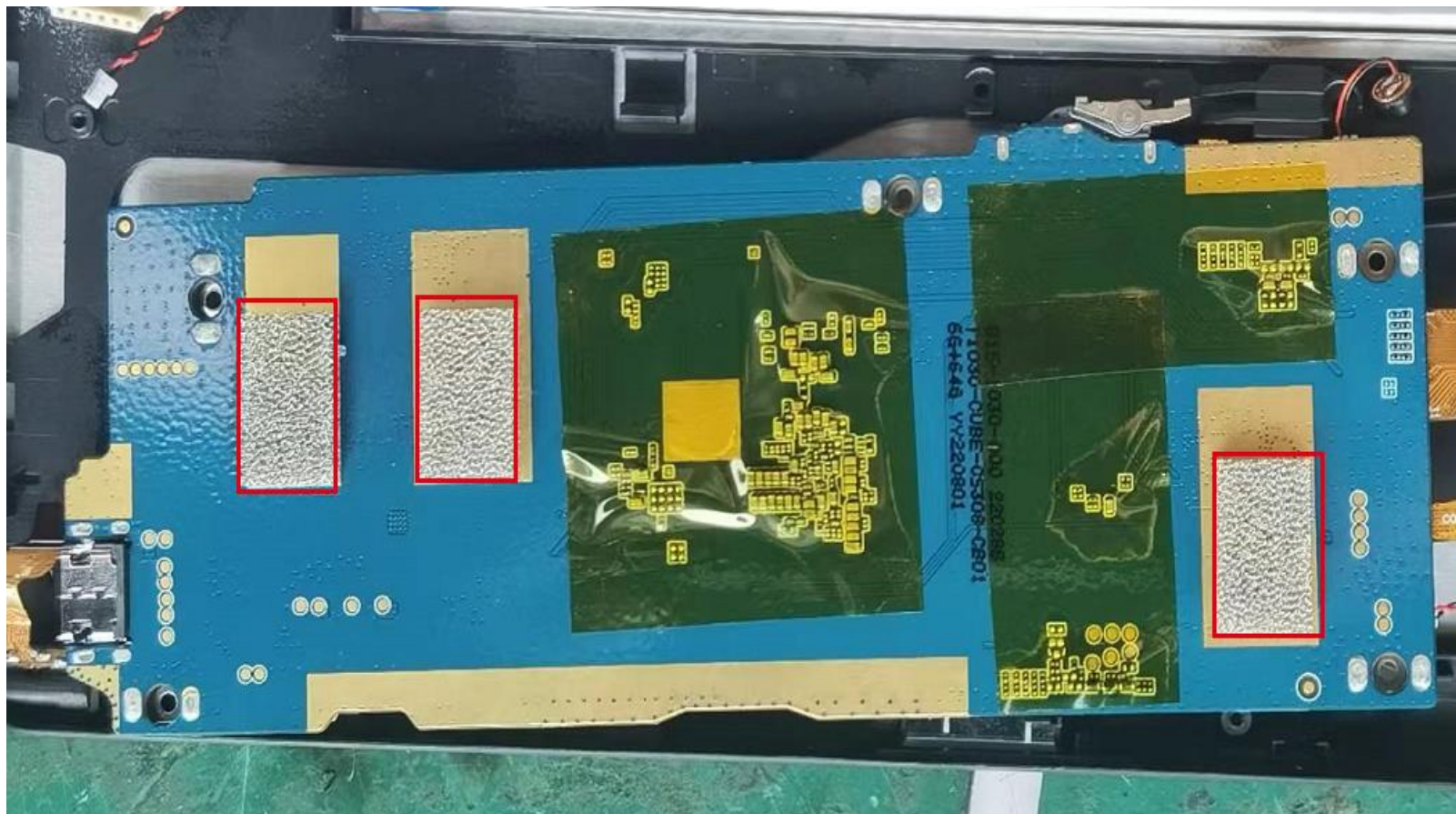
DRX passive standing wave ratio



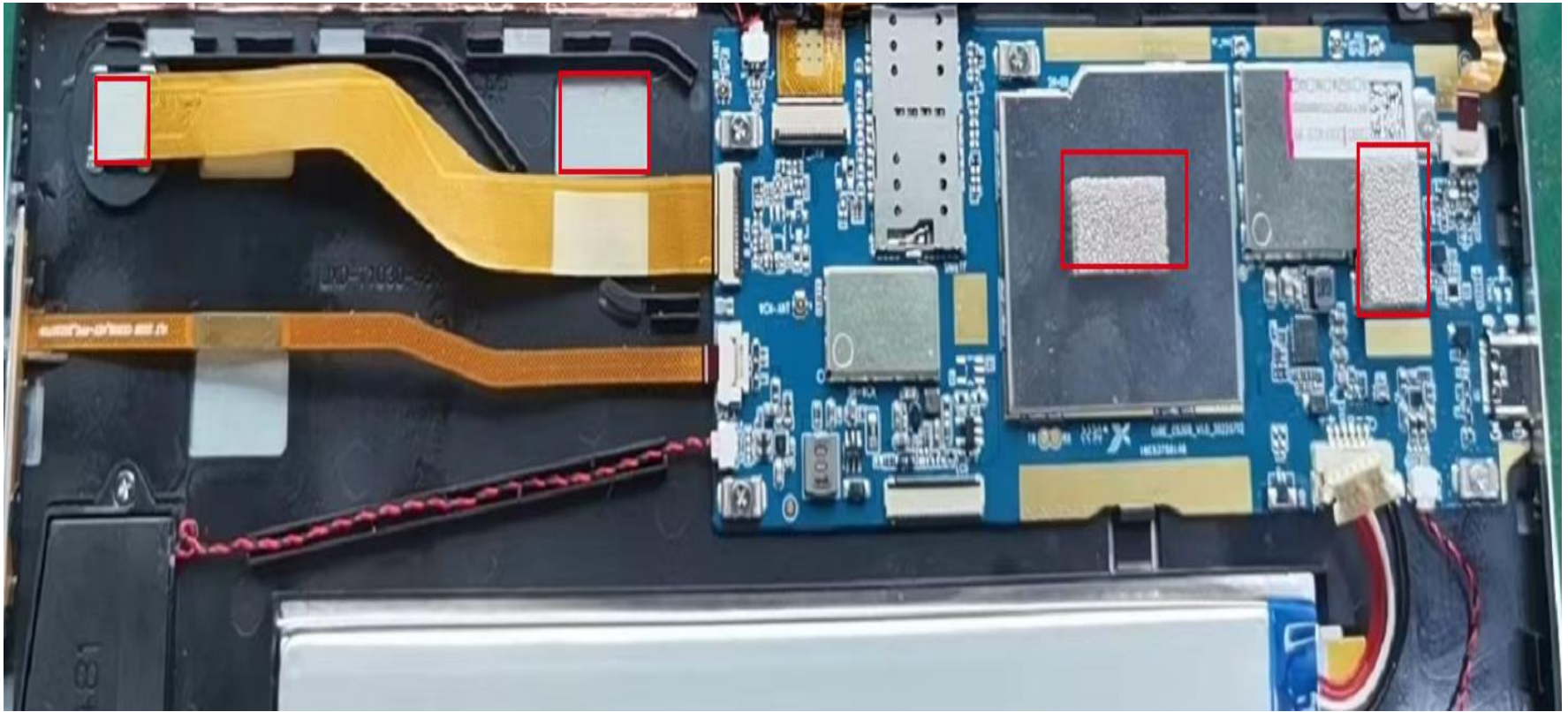
DRX Passive Efficiency

DRX				
Freq	Effi	Gain		
(MHz)	(%)	(dBi)		
1710	47%	0. 67		
1810	47%	0. 75		
1910	47%	0. 83		
2010	49%	0. 89		
2110	51%	1. 12		
2210	52%	1. 23		
2310	53%	1. 27		
2410	47%	0. 88		
2510	46%	0. 64		
2610	46%	0. 61		
2700	45%	0. 49		

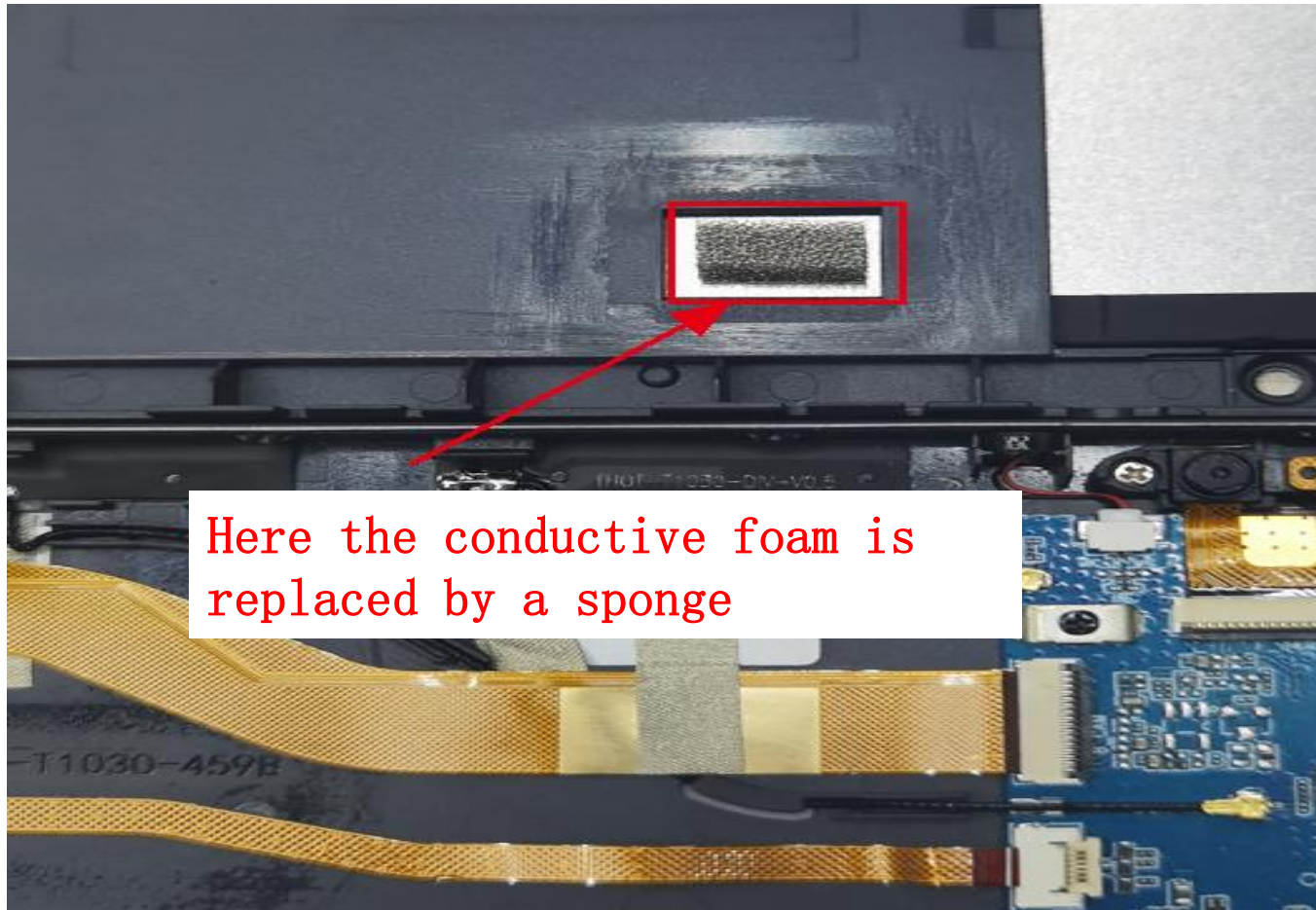
Antenna environment
treatment and improvement



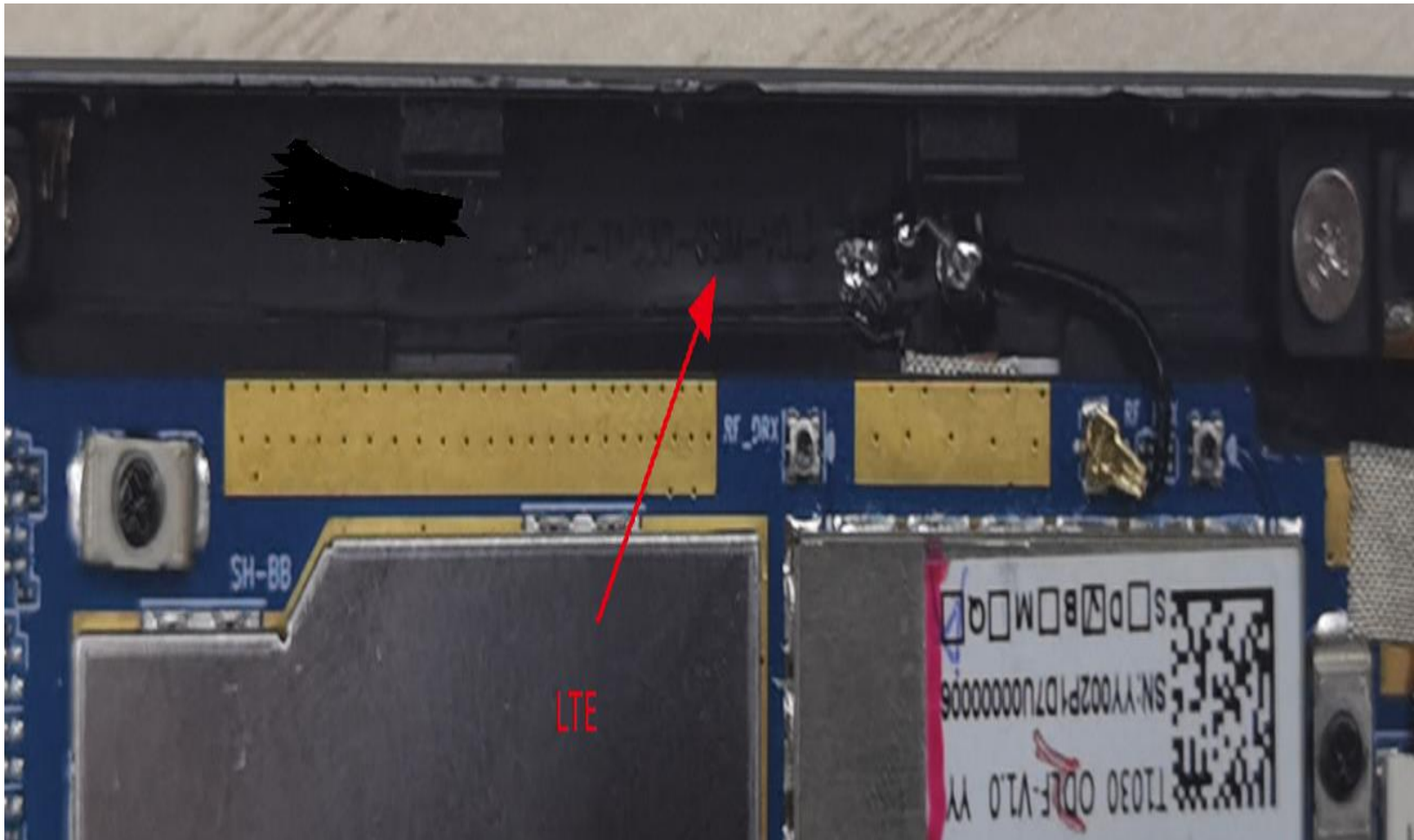
Antenna environment treatment and improvement



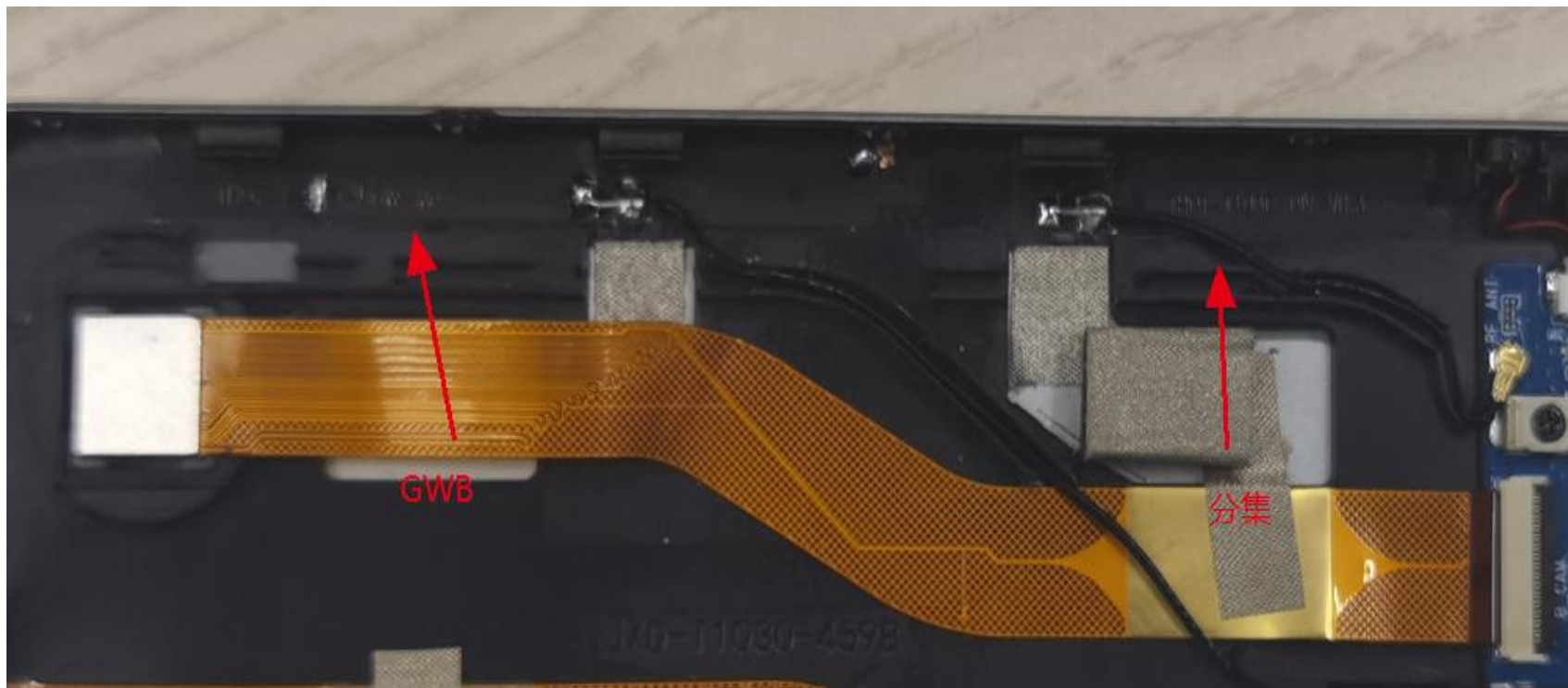
Antenna environment treatment and improvement



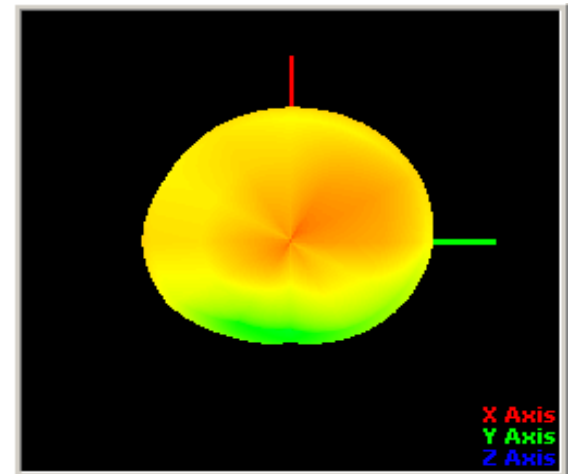
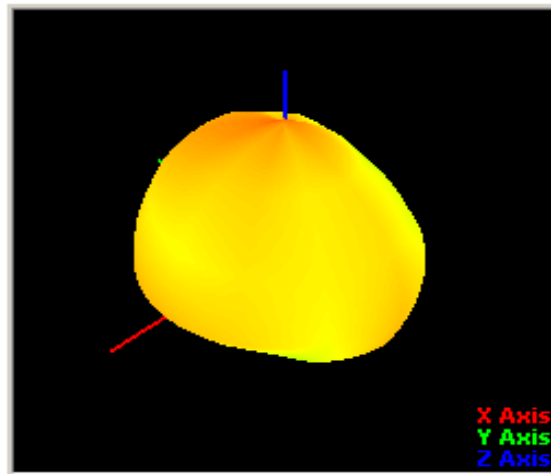
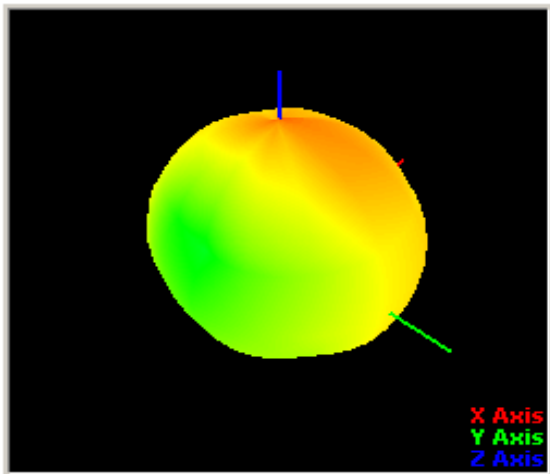
Antenna layout:



Antenna layout:



WIFI/BT Passive
Apple Diagram

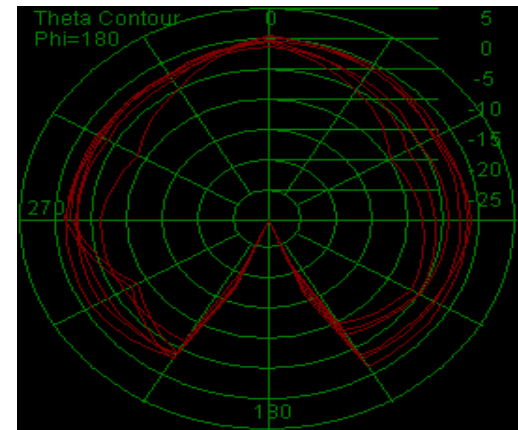
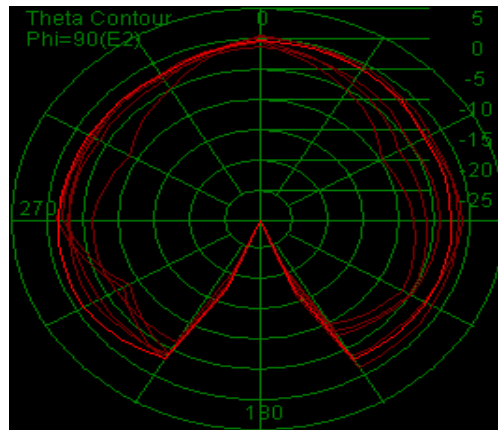
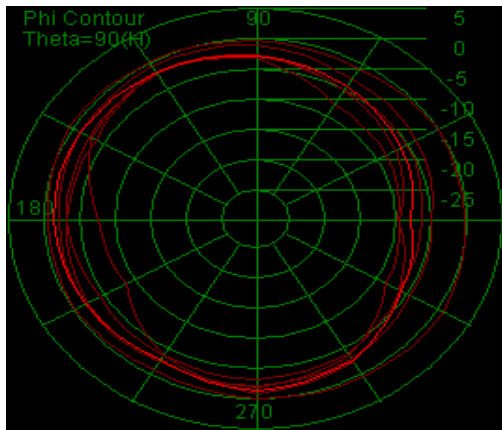


WIFI/BT passive field diagram

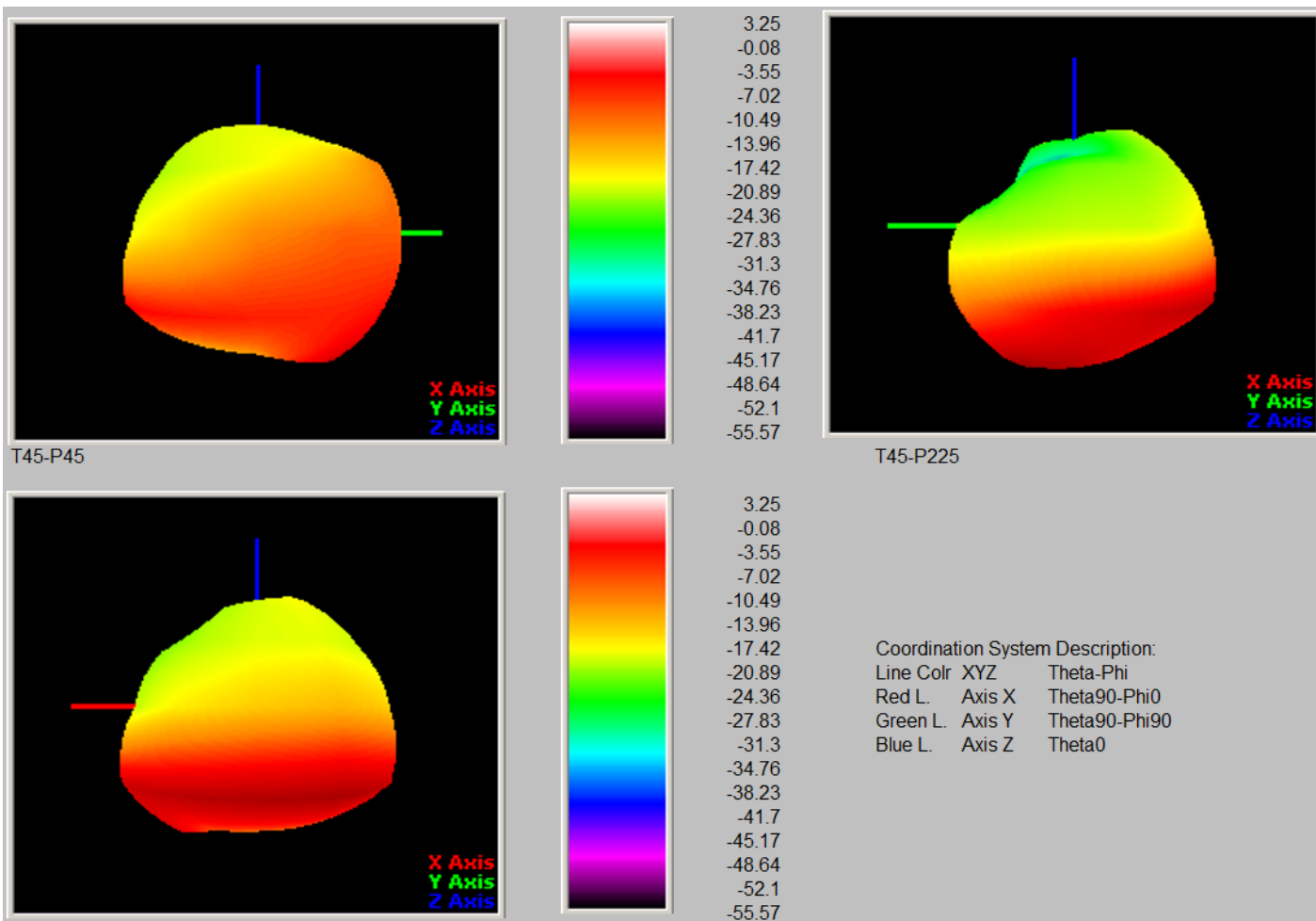
Thete=90 (Phi=270° is directly in front)

Phi=90°

Phi=180°



5.8G wifi passive
Apple Diagram

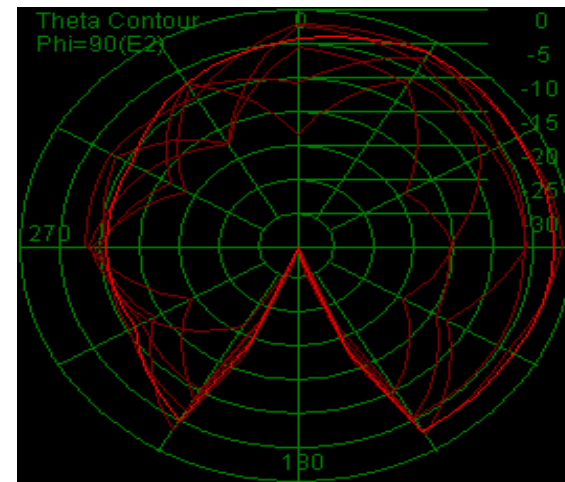
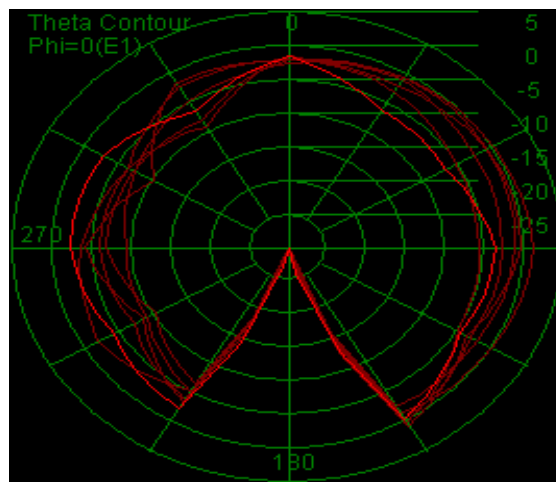
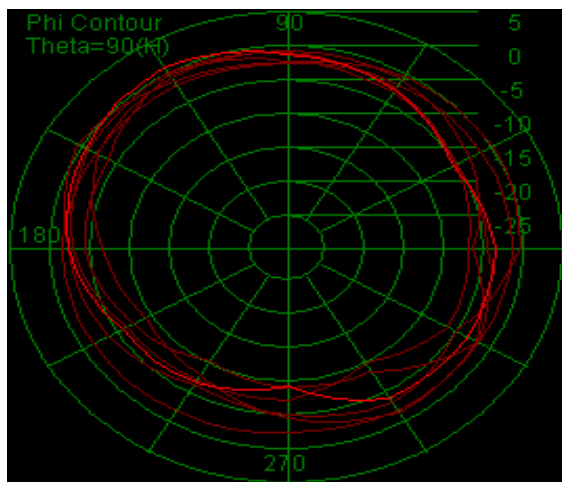


5.8G wifi passive
Apple Diagram

Theta=90 (Phi=270° is directly in front)

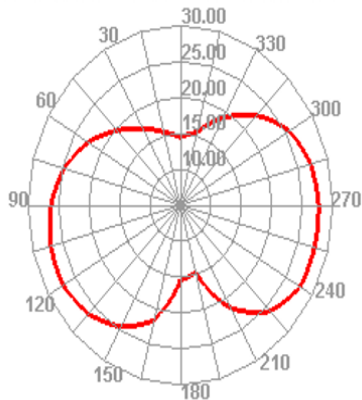
Phi=90°

Phi=180°

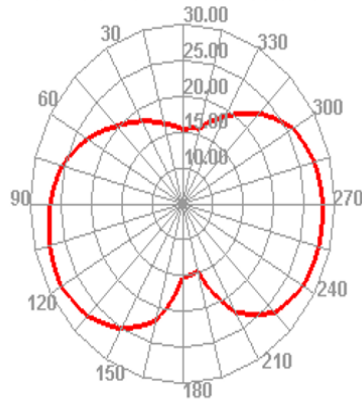


TRX, Apple chart

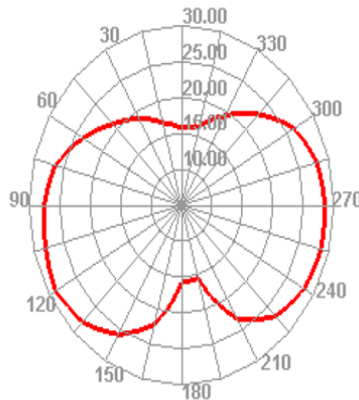
GSM850 128 TRP Phi=45



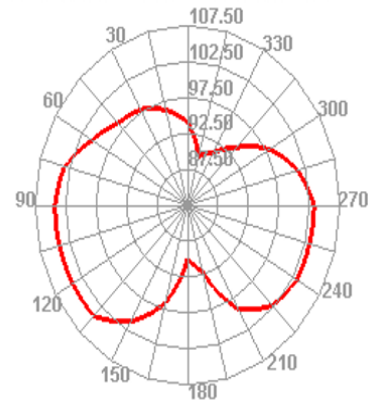
GSM850 190 TRP Phi=45



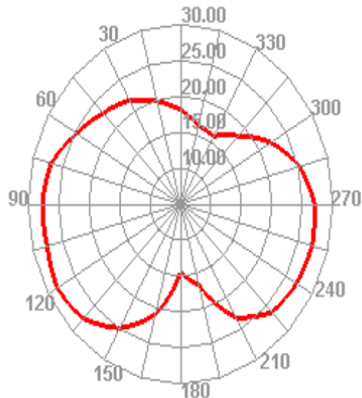
GSM850 251 TRP Phi=45



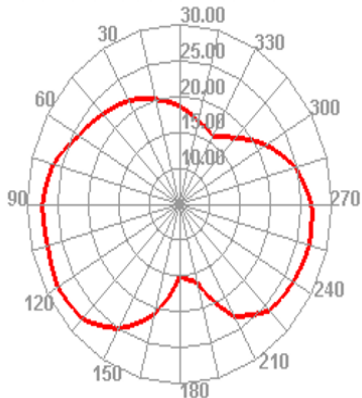
GSM850 251 TIS Phi=45



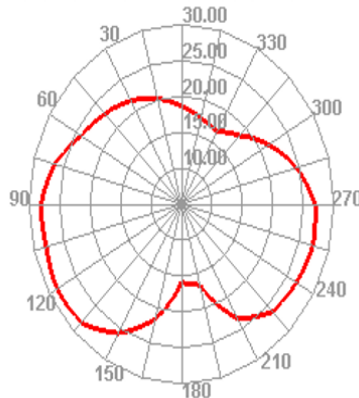
EGSM 1 TRP Phi=45



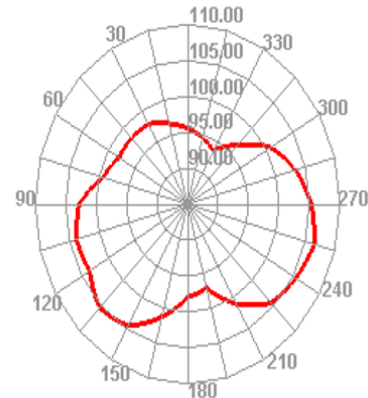
EGSM 62 TRP Phi=45



EGSM 124 TRP Phi=45

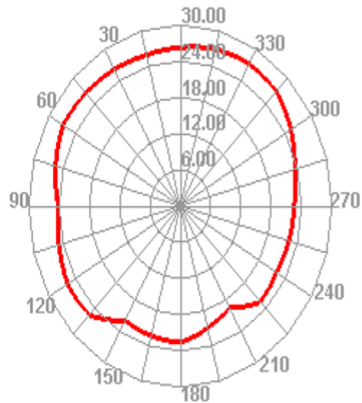


EGSM 124 TIS Phi=45

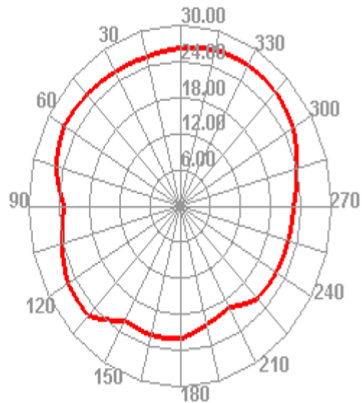


TRX, Apple chart

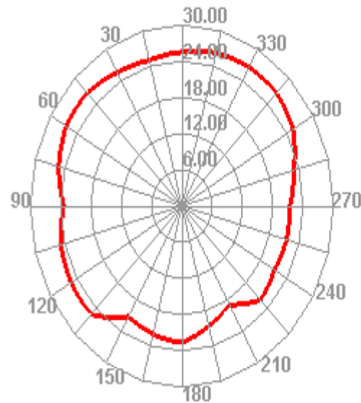
DCS 512 TRP Phi=45



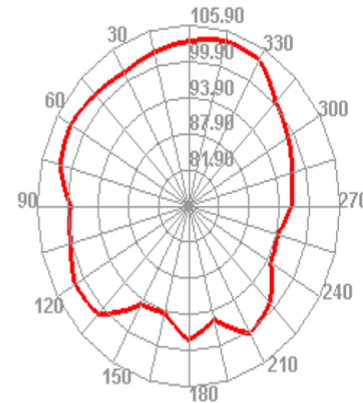
DCS 698 TRP Phi=45



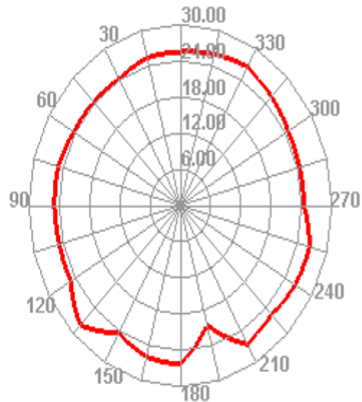
DCS 885 TRP Phi=45



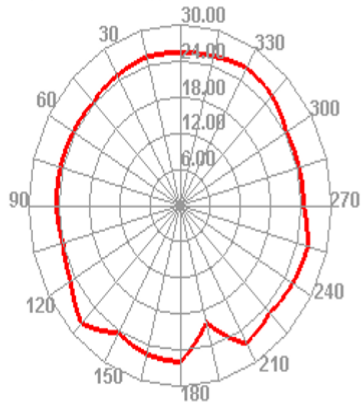
DCS 885 TIS Phi=45



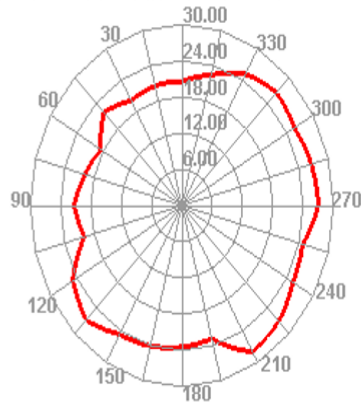
PCS 512 TRP Phi=45



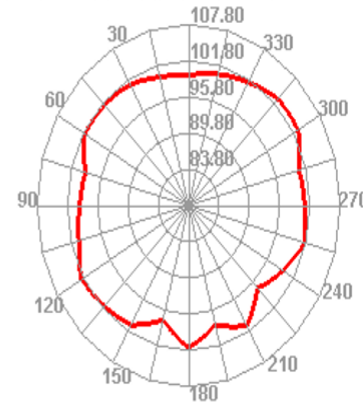
PCS 661 TRP Phi=45



PCS 810 TRP Phi=45

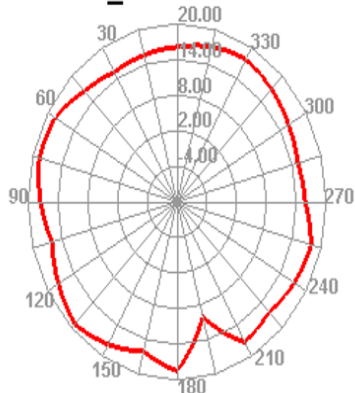


PCS 810 TIS Phi=45

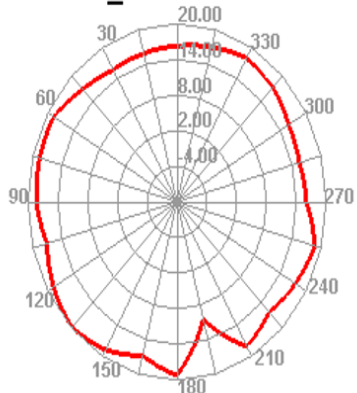


TRX, Apple chart

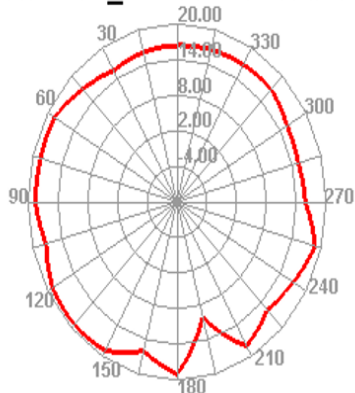
WCDMA_I 9612 TRP Phi=45



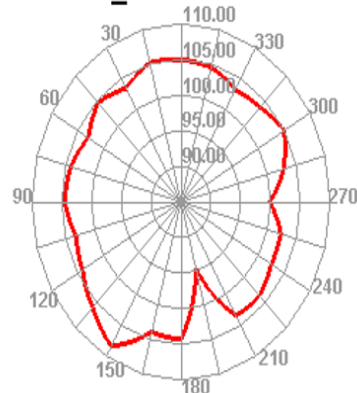
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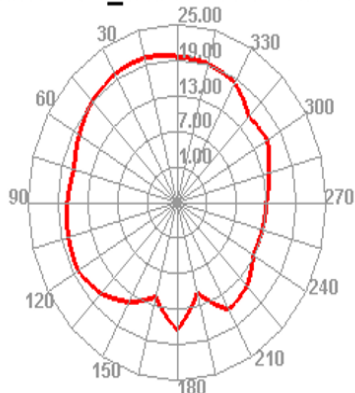
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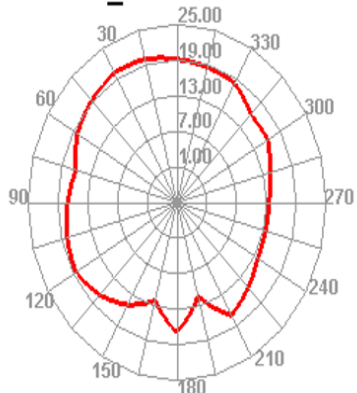
WCDMA_I 10838 TIS Phi=45



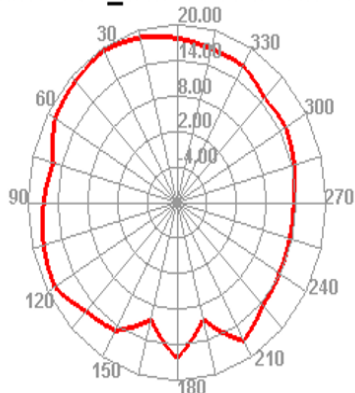
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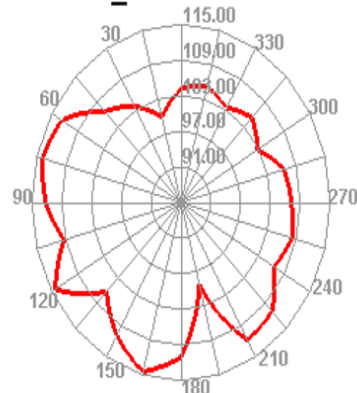
WCDMA_II 9400 TRP Phi=45



WCDMA_II 9538 TRP Phi=45

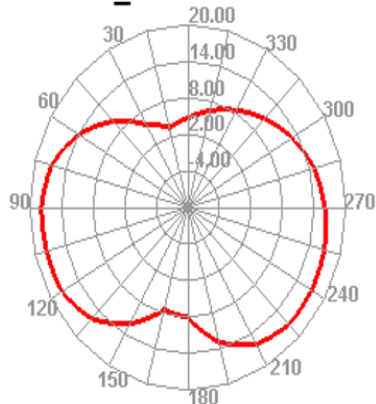


WCDMA_II 9938 TIS Phi=45

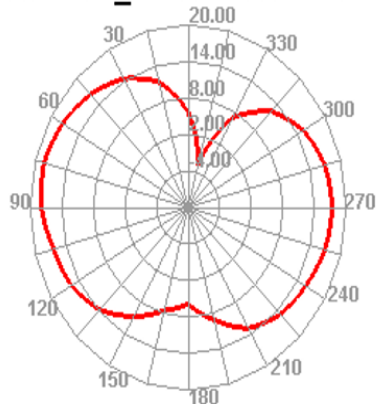


TRX, Apple chart

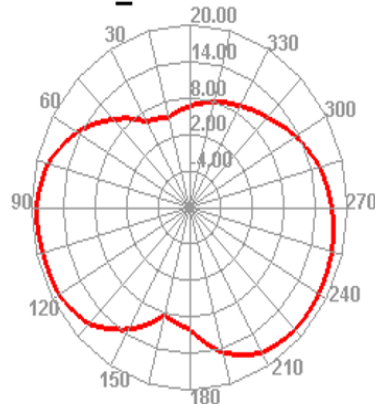
WCDMA_V 4132 TRP Phi=45



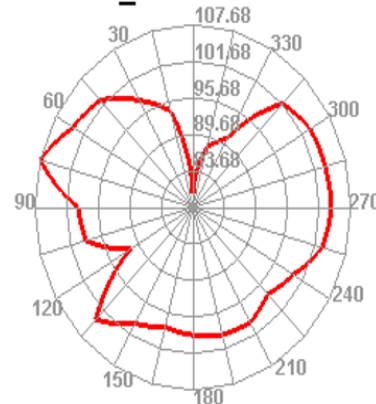
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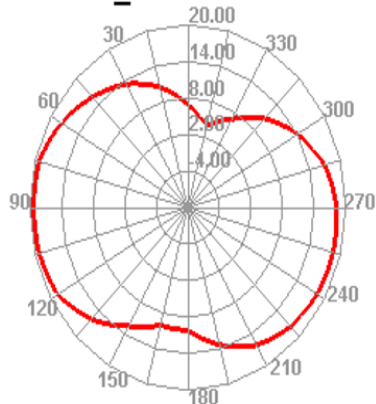
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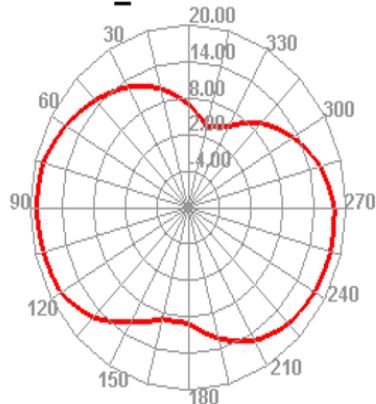
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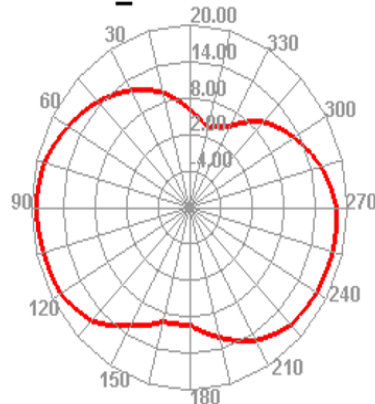
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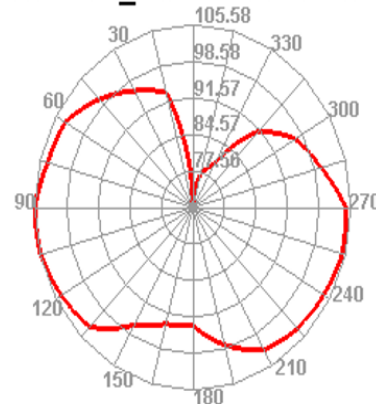
WCDMA_VIII 2788 TRP Phi=45



WCDMA_VIII 2863 TRP Phi=45

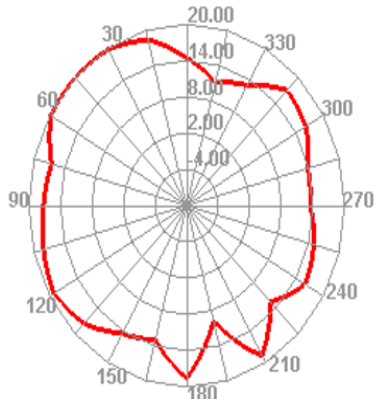


WCDMA_VIII 3088 TIS Phi=45

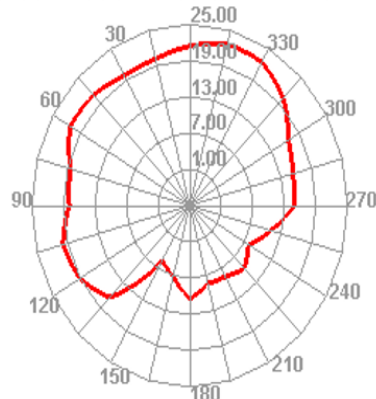


TRX, Apple chart

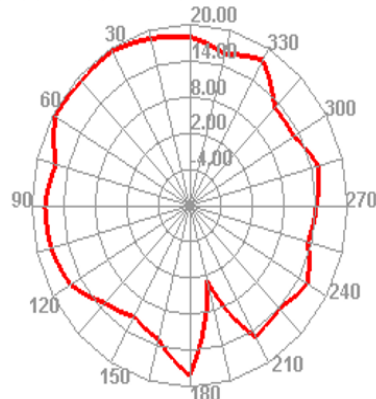
LTE1 18050 TRP Phi=45



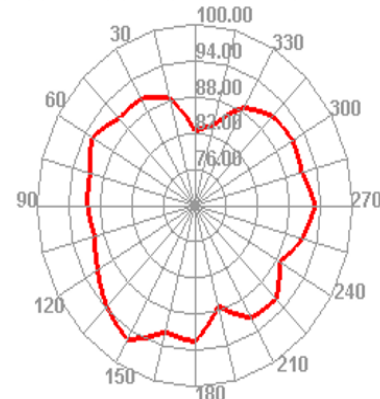
LTE1 18300 TRP Phi=45



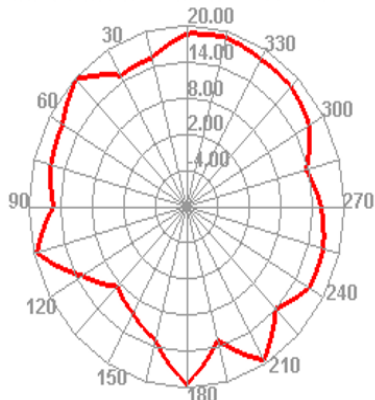
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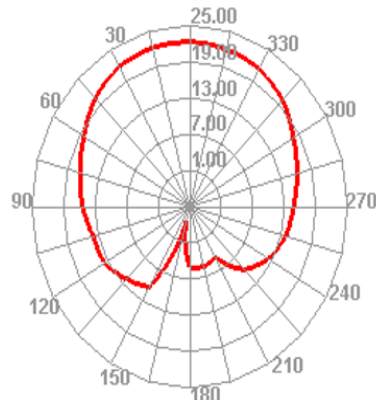
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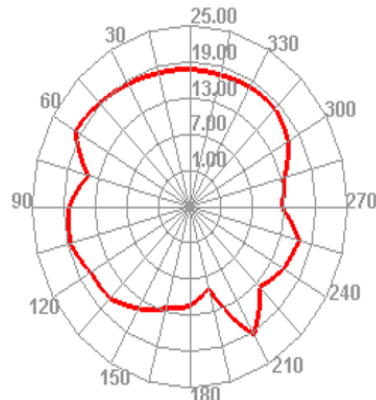
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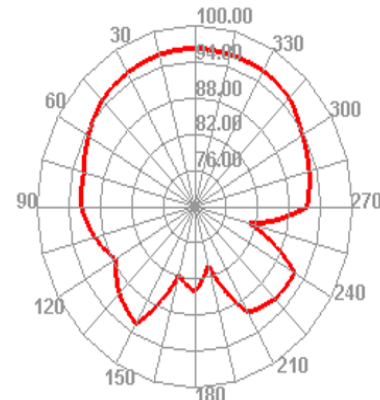
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LTE2 19150 TRP Phi=45

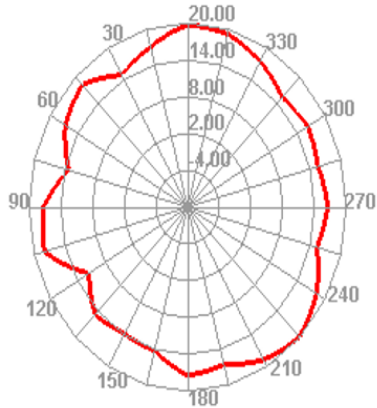


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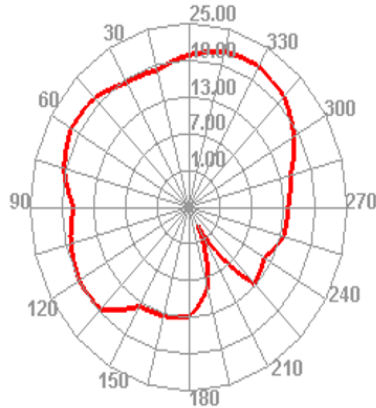


TRX, Apple chart

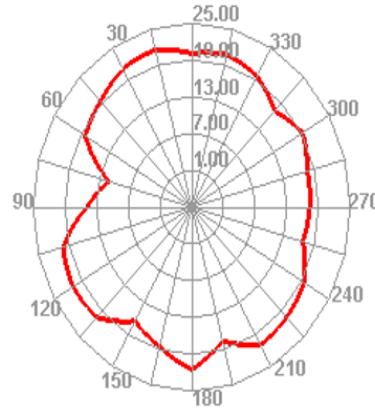
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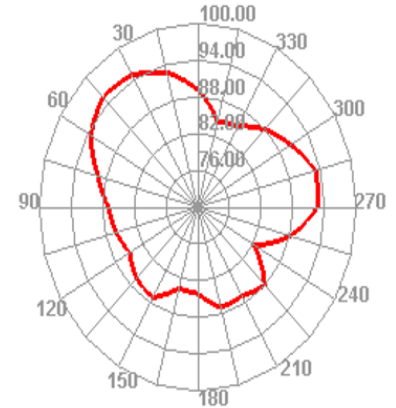
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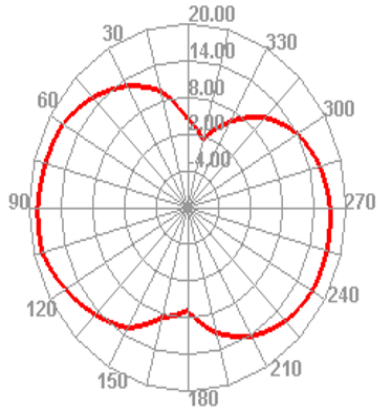
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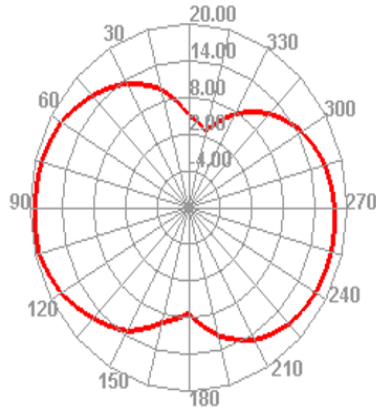
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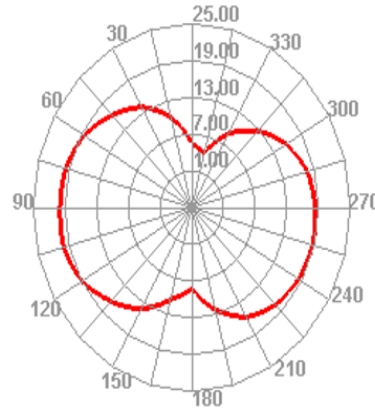
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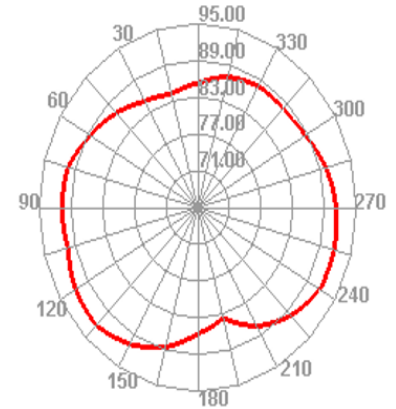
LTE5 20525 TRP Phi=45



LTE5 20600 TRP Phi=45

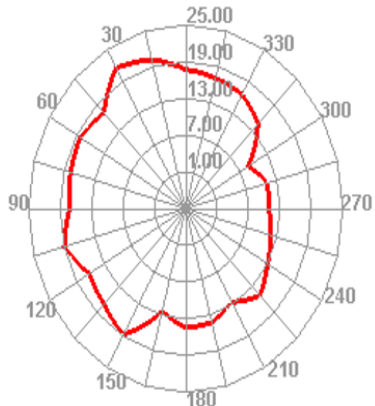


LTE5 2600 TIS Phi=45

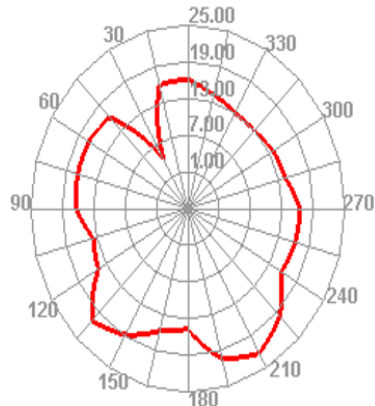


TRX, Apple chart

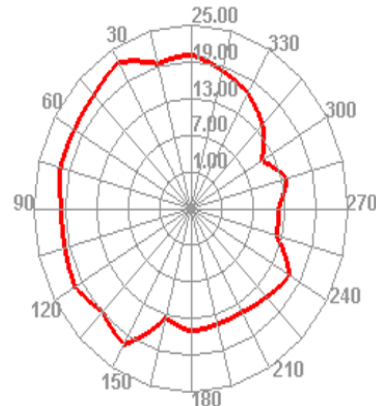
LTE7 20800 TRP Phi=45



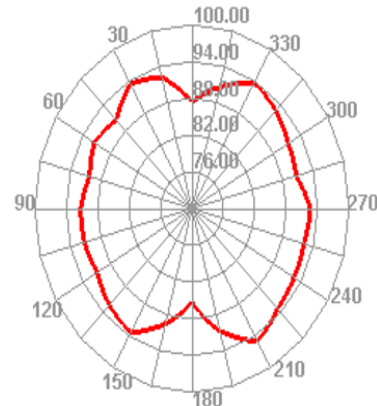
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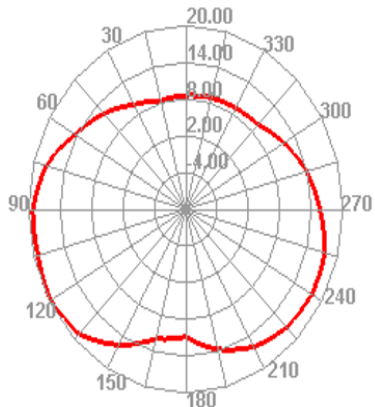
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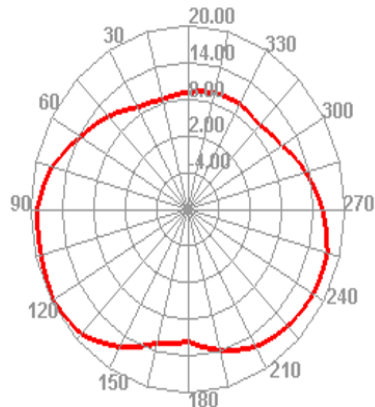
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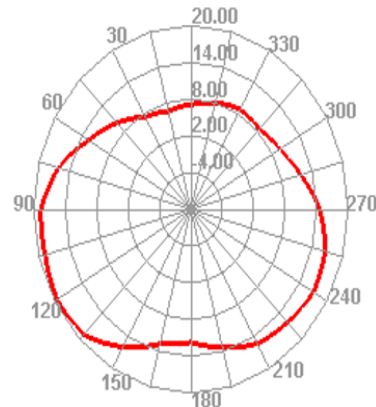
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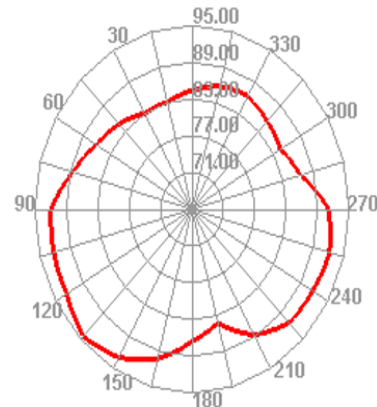
LTE8 21625 TRP Phi=45



LTE8 21750 TRP Phi=45

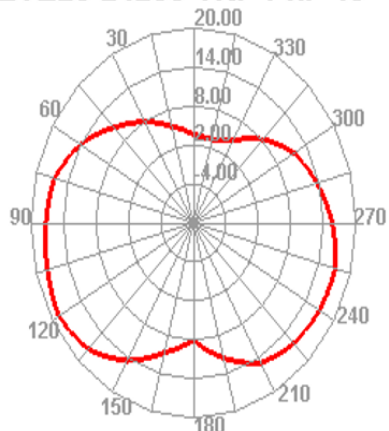


LTE8 3750 TIS Phi=45

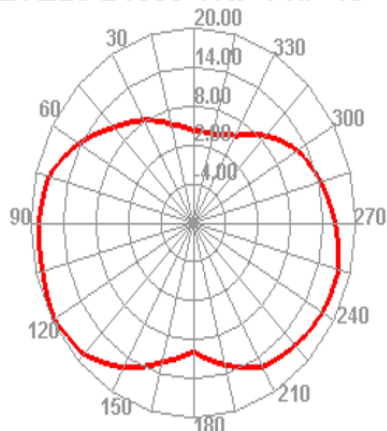


TRX, Apple chart

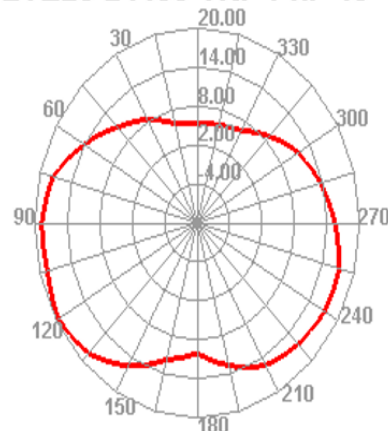
LTE20 24200 TRP Phi=45



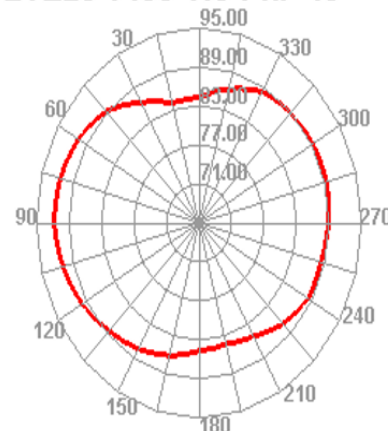
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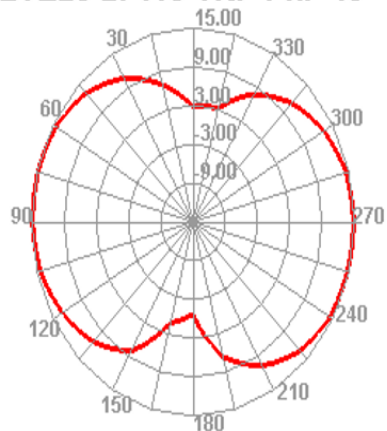
LTE20 24400 TRP Phi=45



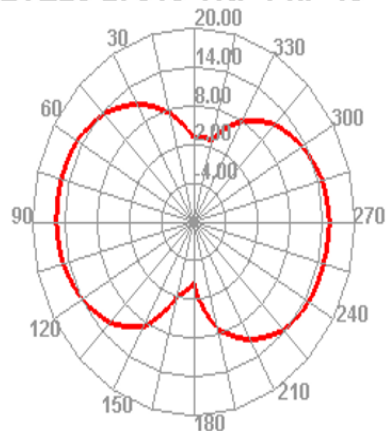
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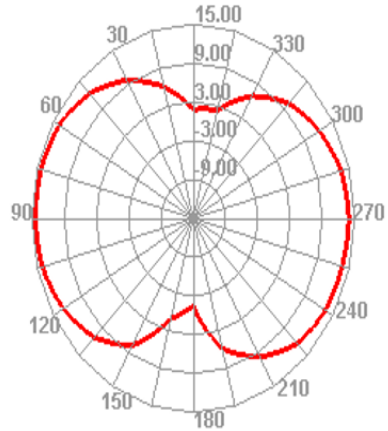
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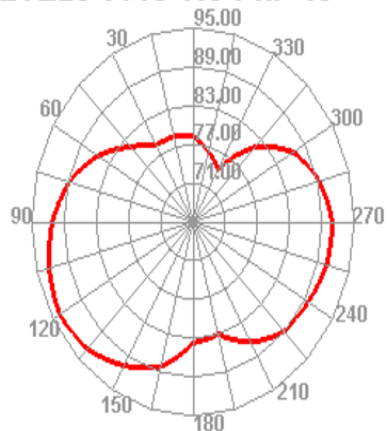
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LTE28 27610 TRP Phi=45

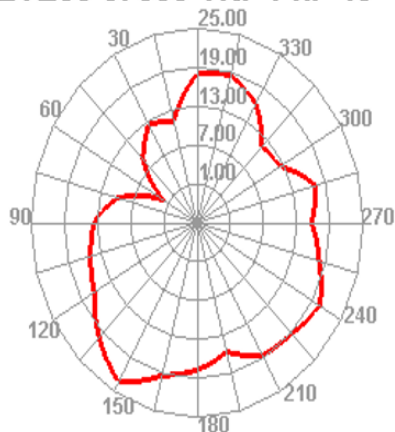


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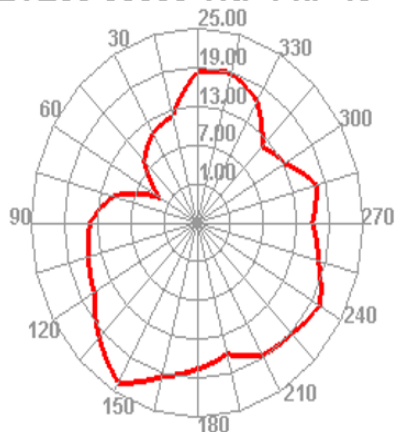


TRX, Apple chart

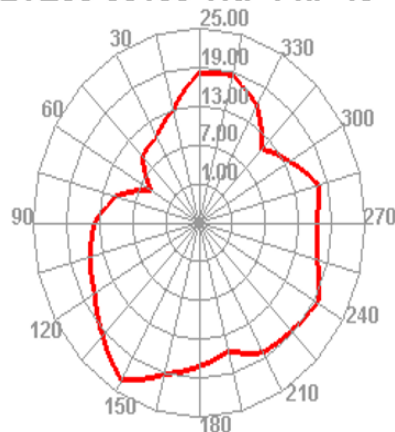
LTE38 37850 TRP Phi=45



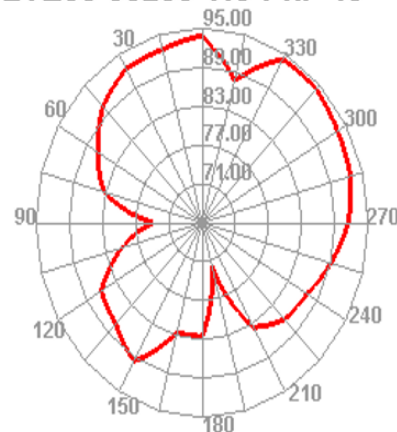
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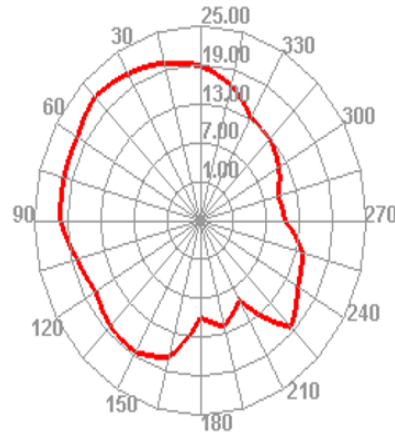
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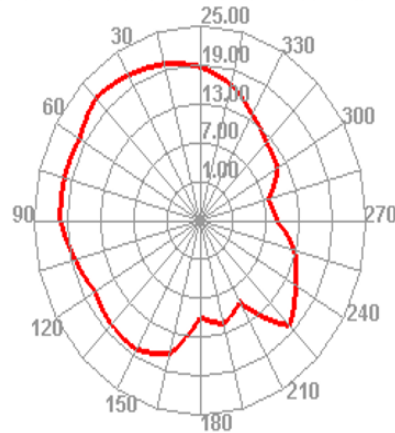
LTE38 38200 TIS Phi=45



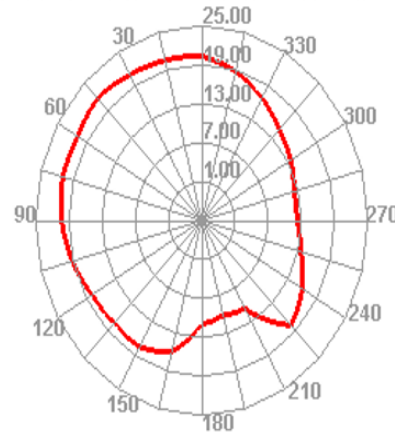
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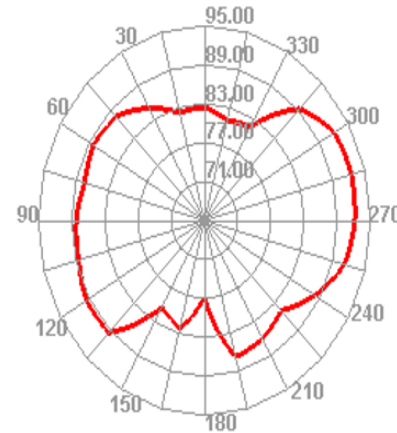
LTE40 38950 TRP Phi=45



LTE40 39550 TRP Phi=45

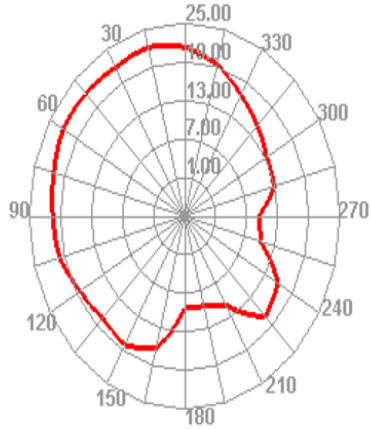


LTE40 39550 TIS Phi=45

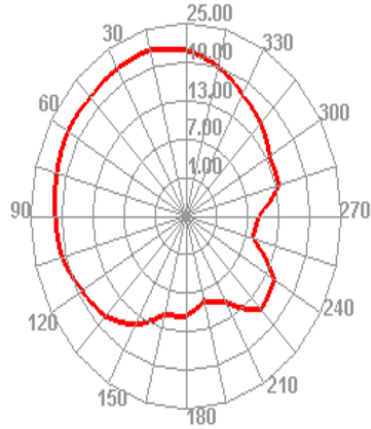


TRX, Apple chart

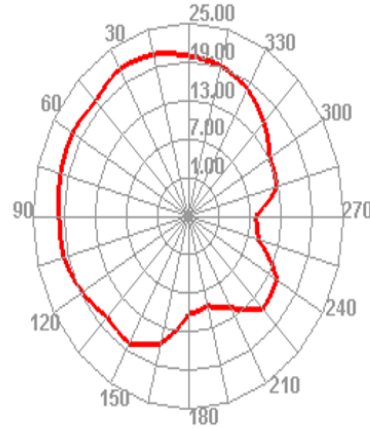
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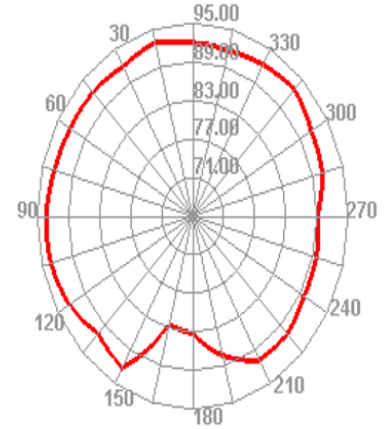
LTE41 40620 TRP Phi=45



LTE41 41240 TRP Phi=45



LTE41 40620 TIS Phi=45



Thank you!



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