

Customer: Duoke

Project: DK106

ME: Xiao Xiang-13316888409

RF: RiXin Huang - 13682667404

Date: May 15, 2025

Report Type:

Version No.: V1.0

Status: T0

Frequency band:

GSM:B2/B3/B5/B8

WCDMA:B1/B2/B5/B8

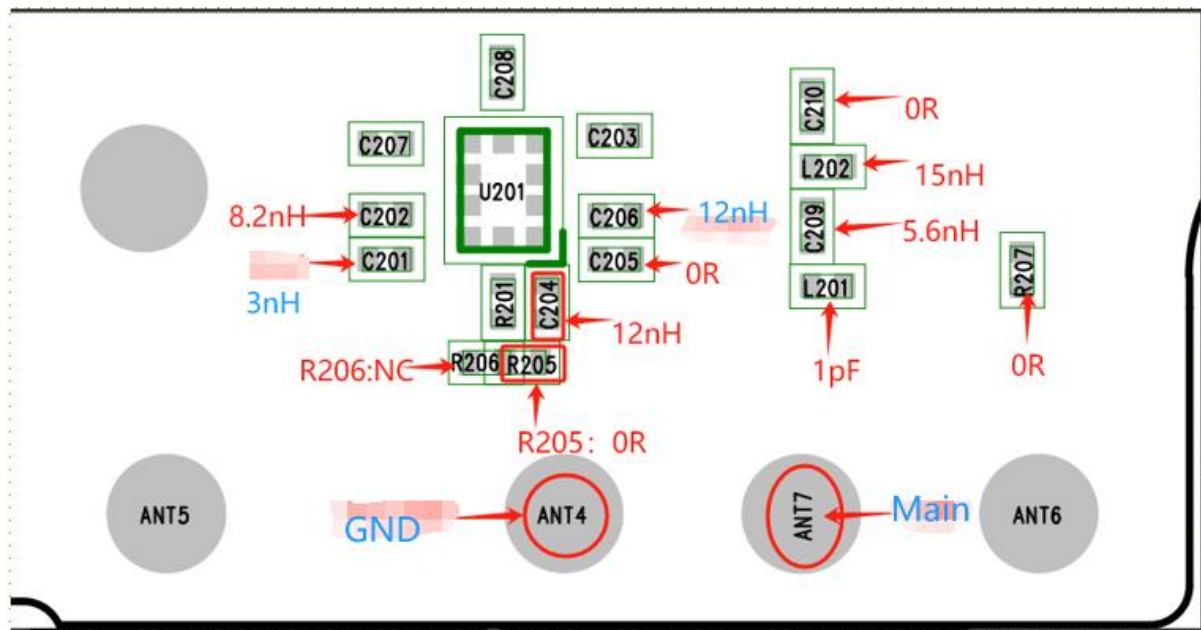
FDD-LTE: B1/B2/B3/B4/B5/B7/B8/B12/B13/B17/B19/B20/B26/B28A/B28B/B66

TDD-LTE: B40/41

GPS

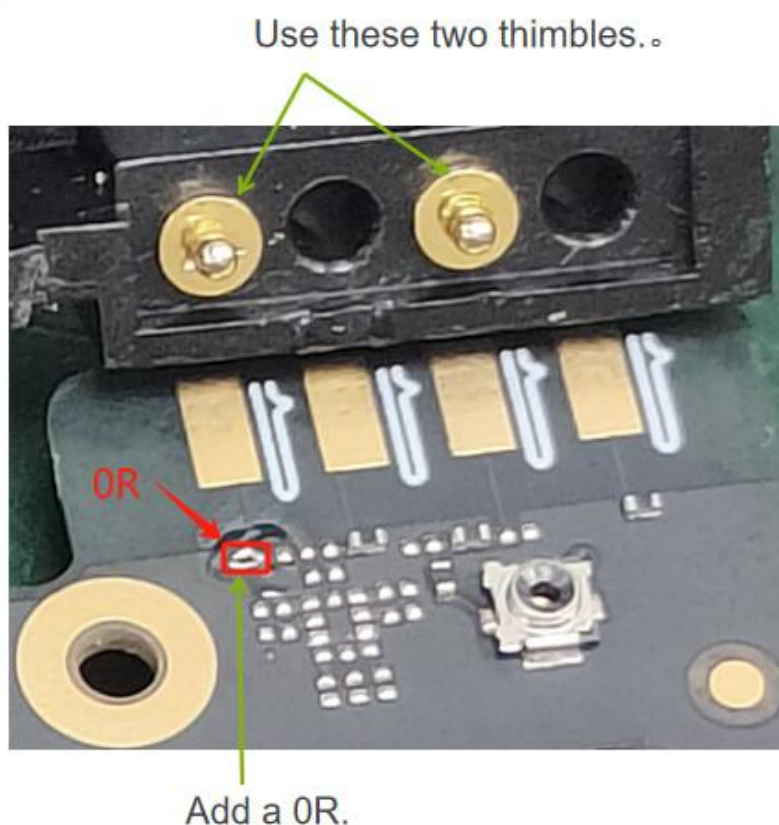
2.4G/5G WIFI/BT

Antenna matching circuit:



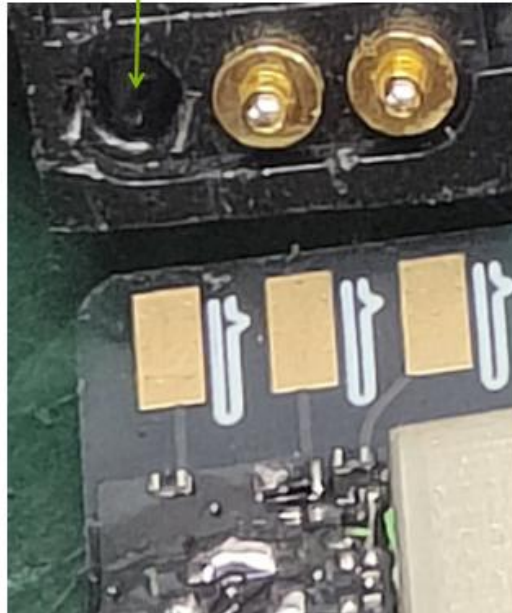
DK106 The small board master gathers the antenna switch logic.		
RF1	0 Ω (NO. C205)	GSM:900/1900 LTE-FDD:B1/B2/B7/B8 LTE_TDD:B40/B41 WCDMA:B1/B2/B8
RF2	12nH (NO. C206)	FDD-LTE:B28A/28B/B12/B17
RF3	3nH (NO. C201)	LTE- FDD:/B3/B4/B5/B19/B20/B26/B66 GSM:850/1800 WCDMA:B4/B5
RF4	8.2nH (NO. C202)	LTE-FDD:B13

Divided antenna:

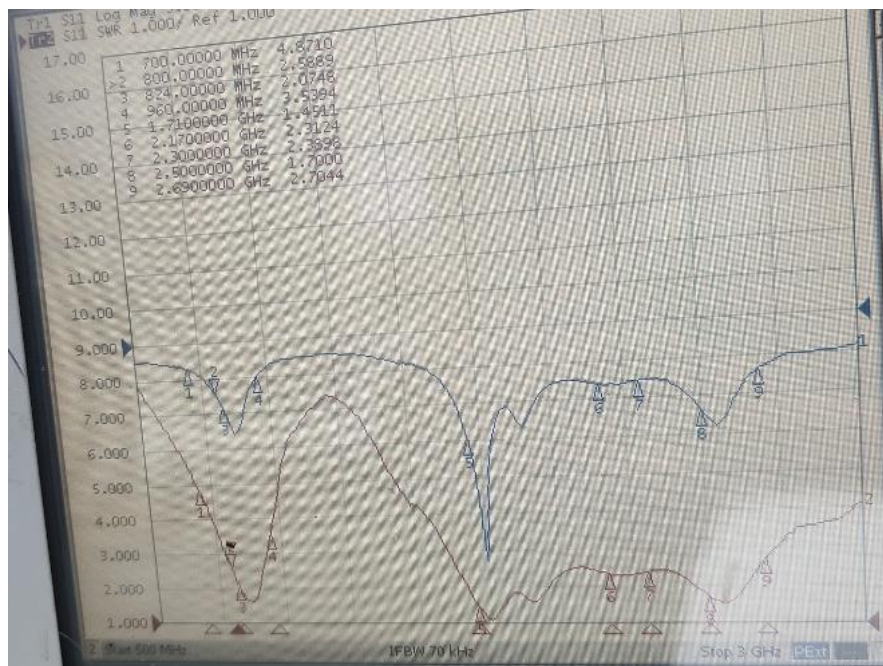


W&B&G:

Removing this thimble does not change the matching.

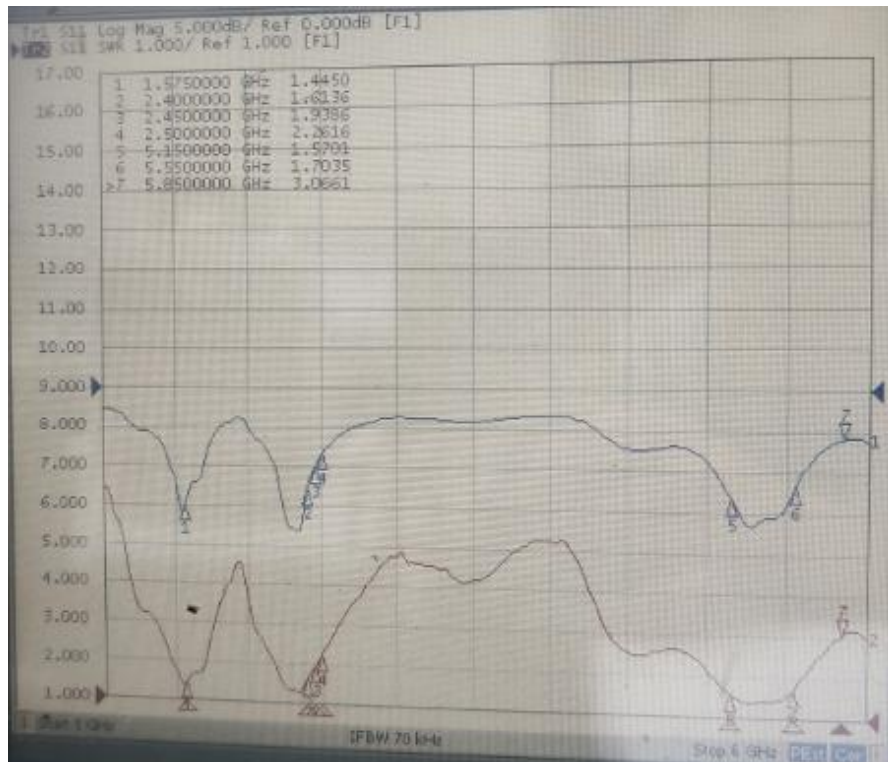


Passive main antenna :



Passive GPS/Wifi/BT antenna :

Shenzhen Xinbinuo Communication Technology Co., Ltd



Passive Diversity antenna :



Shenzhen Xinbinuo Communication Technology Co., Ltd

Antenna gain:

Frequency (MHZ)	Gain(dBi)	Frequency (MHZ)	Gain(dBi)
GSM850	-3.8	LTE B12	-4.3
GSM900	-3.2	LTE B13	-4.5
DCS1800	1.5	LTE B17	-4.4
PCS1900	1.8	LTE B19	-3.8
WCDMA B1	1.8	LTE B20	-3.7
WCDMA B2	1.7	LTE B26	-3.8
WCDMA B4	1.3	LTE B28	-4.6
WCDMA B5	-3.7	LTE B66	1.9
WCDMA B8	-3.4	LTE B40	1.5
LTE B1	2.2	LTE B41	1.4
LTE B2	2.1	GPS	1.7
LTE B3	1.6	WIFI 2.4G/BT	1.3
LTE B4	1.7	WIFI 5.8G	1.8
LTE B5	-3.9		
LTE B7	1.4		
LTE B8	-3.2		

Main antenna OTA:

Band	Channel	TRP	TIS
GSM 850	128	24.2	
	190	24.1	
	251	23.8	-100.8
EGSM900	1	25.1	
	62	25.6	
	124	26.0	-101.3
DCS1800	512	23.0	
	698	22.4	
	885	22.7	-103.1
PCS1900	512	24.3	
	661	24.6	
	810	24.5	-104.5
WCDMA Band 1	10562	17.2	
	10700	17.1	

		10838	16.3	-105.7
WCDMA Band 2		9662	16.5	
		9800	16.3	
		9938	16.2	-105.2
WCDMA Band 4		1538	15.7	
		1675	16.1	
		1736	16.5	-103.5
WCDMA Band 5		4357	15.2	
		4400	15.7	
		4458	15.1	-103.6
WCDMA Band 8		2937	15.7	
		3013	16.3	
		3088	15.6	-102.4

Band		Channel	TRP	TIS
FDD-LTE (10M)	B1	50	17.5	

		300	17.8	
		550	17.1	-94.4
	B2	650	18.3	
		900	19.1	
		1150	17.5	-94.7
	B3	1250	18.7	
		1575	17.4	
		1900	17.2	-93.4
	B4	2000	18.1	
		2175	18.1	
		2350	18.0	-94.9
	B5	2450	15.6	
		2525	16.3	
		2600	16.7	-93.2
	B7	2800	16.9	
		3100	17.8	
		3400	18.2	-92.8

	B8	3500	16.3	
		3625	17.5	
		3750	17.0	-90.8
	B12	5060	14.8	
		5095	15.9	
		5130	15.7	-92.2
	B13	5230	16.2	-91.4
	B17	5780	15.3	
		5790	16.1	
		5800	16.2	-91.3
FDD-LTE (10M)	B19	6050	15.3	
		6075	15.5	
		6100	15.9	-92.9
	B20	6200	15.7	
		6300	16.8	
		6400	16.3	-92.2
	B26	8740	15.5	

		8865	16.3	
		8990	17.0	-92.3
	B28A	9310	15.8	
		9360	15.3	
		9460	15.0	-91.6
	B28B	9410	15.3	
		9510	15.0	
		9560	15.8	-91.4
	B66	66486	17.6	
		66886	17.8	
		67286	17.9	-93.8
TDD-LET (20M)	B40	38750	18.6	
		39150	18.5	
		39550	17.7	-90.3
	B41	40620	17.6	-90.4

WIFI OTA:

WIFI OTA				
	Band	Channel	TRP	TIS
2.4G	b (11M)	1	11.3	
		6	11.5	
		13	14.7	-82.4
	g (54M)	1	10.5	
		6	10.6	
		13	13.4	-72.0
	n (MCS7)	1	11.0	
		6	11.2	
		13	13.5	-66.1
	a (54M)	36	10.0	
		56	12.7	

5G		165	12.0	-70.1
	n (MCS7)	36	9.5	
		56	12.2	
		165	12.1	-65.0
	AC (MCS7)	36	9.8	
		56	12.1	
		165	12.3	-64.8

GPS Test:

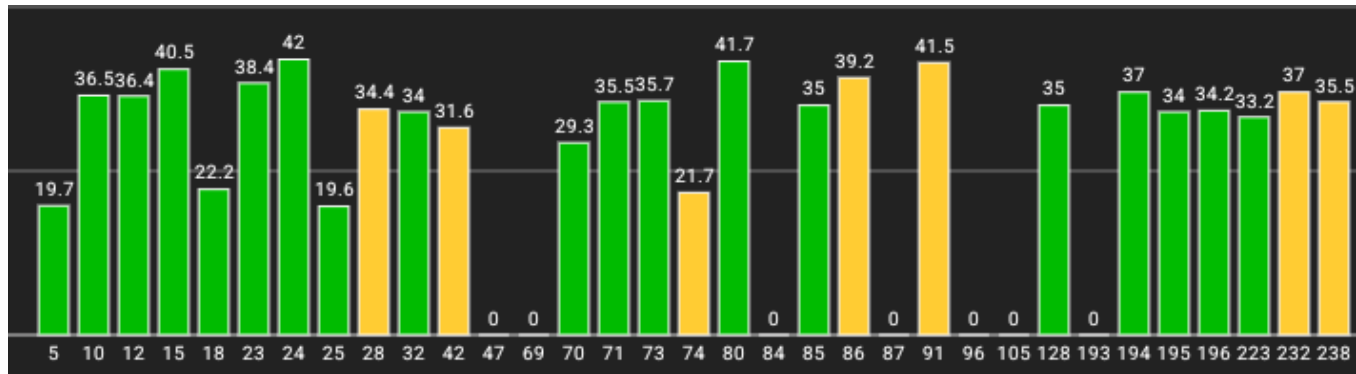
Measured site:Ping'an Rd

Weather:Sunny

Max S/N :42

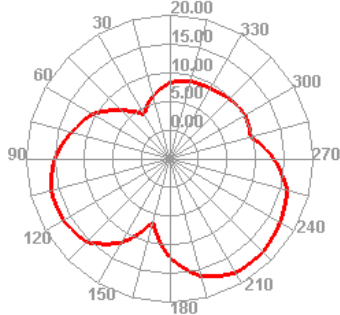
Stars:26

Positioning time:45s

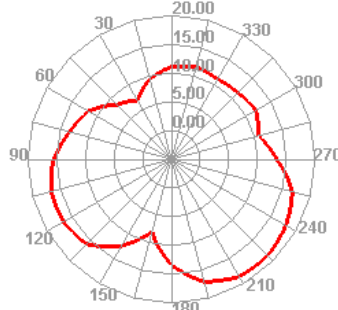


3D Pattern

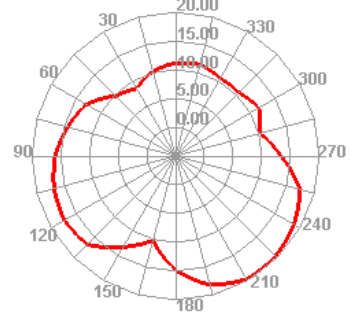
LTE5 20450 TRP Phi=45



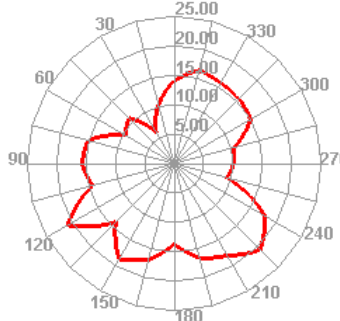
LTE5 20525 TRP Phi=45



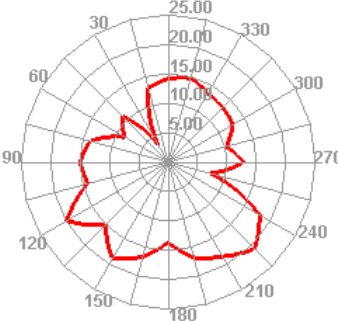
LTE5 20600 TRP Phi=45



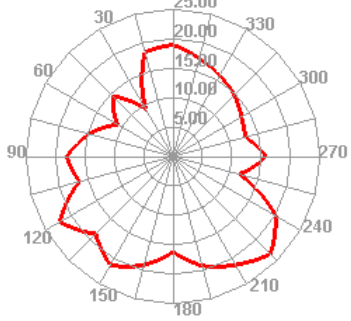
LTE7 20800 TRP Phi=45



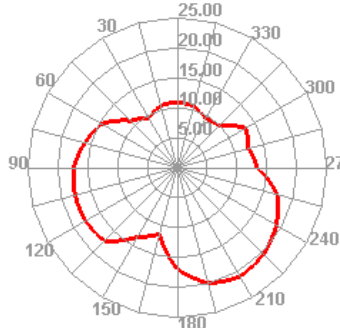
LTE7 21100 TRP Phi=45



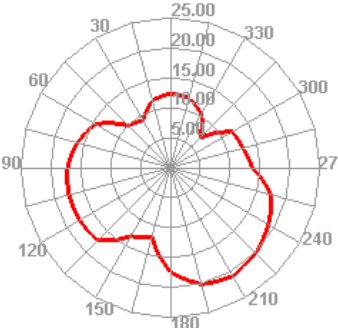
LTE7 21400 TRP Phi=45



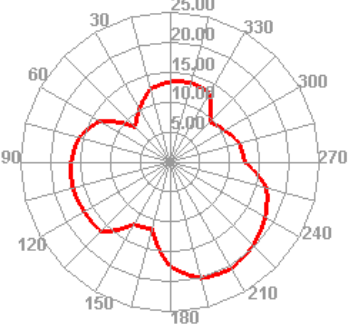
LTE8 21500 TRP Phi=45



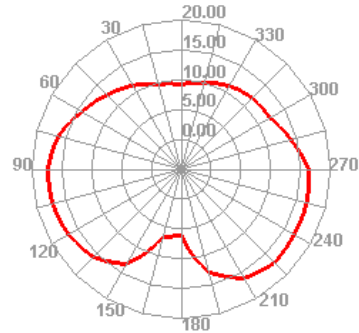
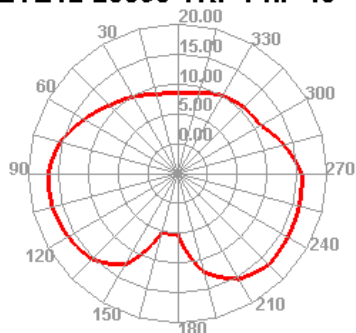
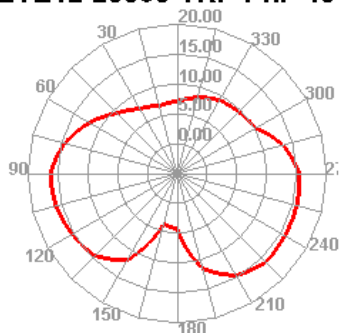
LTE8 21625 TRP Phi=45



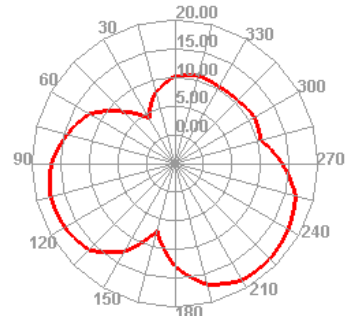
LTE8 21750 TRP Phi=45



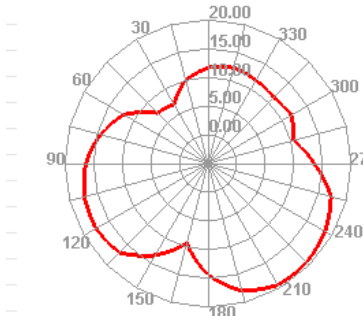
LTE12 23060 TRP Phi=45 LTE12 23095 TRP Phi=45 LTE12 23130 TRP Phi=45



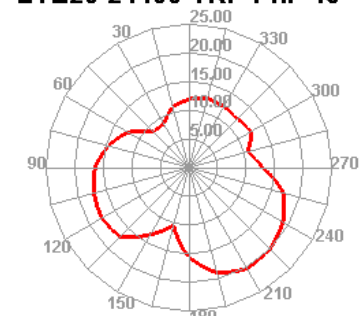
LTE20 24200 TRP Phi=45



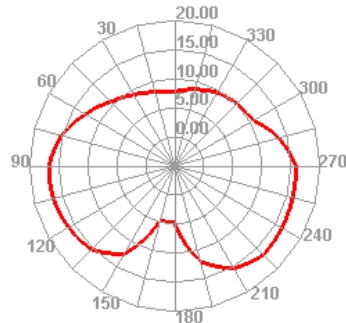
LTE20 24300 TRP Phi=45



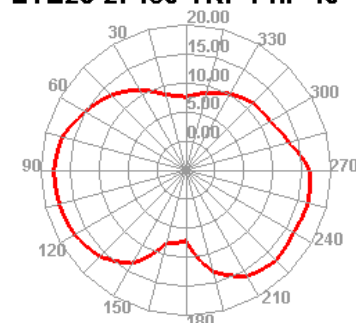
LTE20 24400 TRP Phi=45



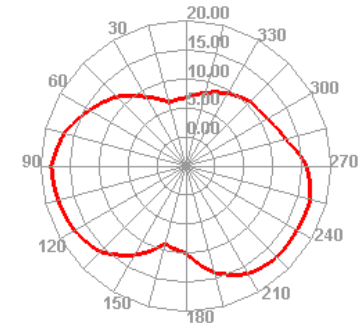
LTE28 27260 TRP Phi=45



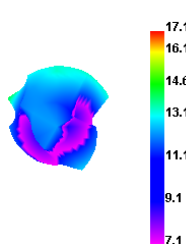
LTE28 27435 TRP Phi=45



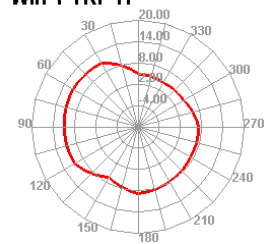
LTE28 27610 TRP Phi=45



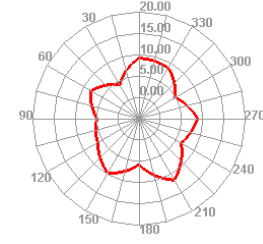
Wifi 1 TRP



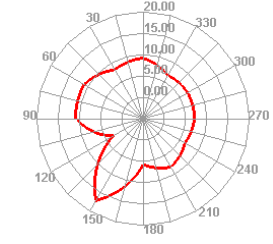
Wifi 1 TRP H



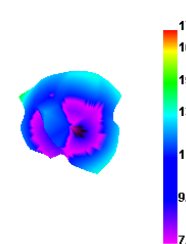
Wifi 1 TRP E1



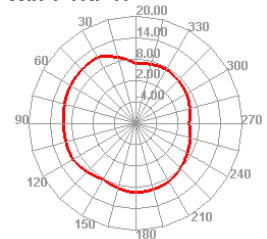
Wifi 1 TRP E2



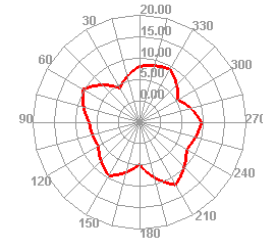
Wifi 6 TRP



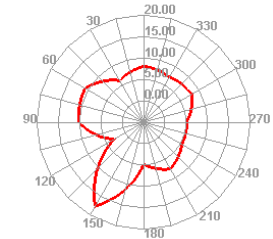
Wifi 6 TRP H



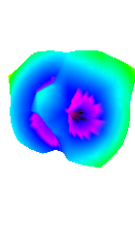
Wifi 6 TRP E1



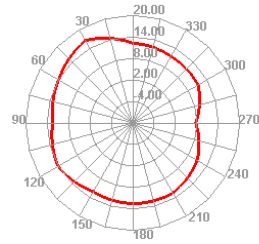
Wifi 6 TRP E2



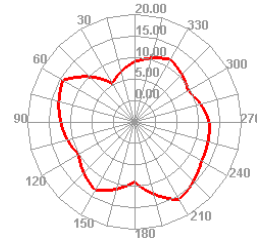
Wifi 13 TRP



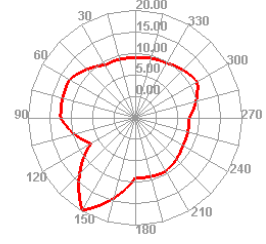
Wifi 13 TRP H



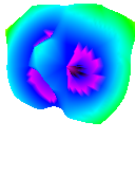
Wifi 13 TRP E1



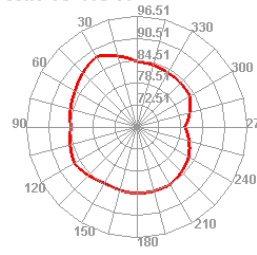
Wifi 13 TRP E2



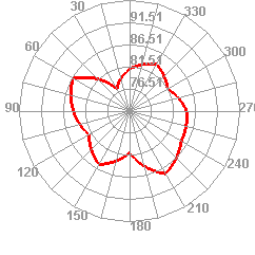
Wifi 13 TIS



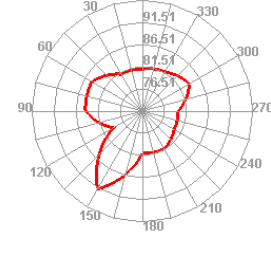
Wifi 13 TIS H



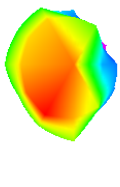
Wifi 13 TIS E1



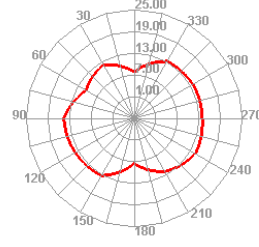
Wifi 13 TIS E2



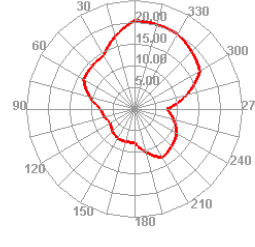
Wifi 36 TRP



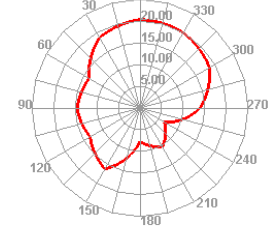
Wifi 36 TRP H



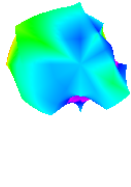
Wifi 36 TRP E1



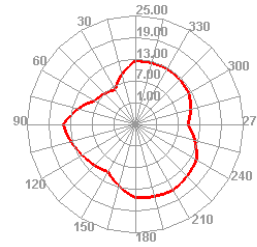
Wifi 36 TRP E2



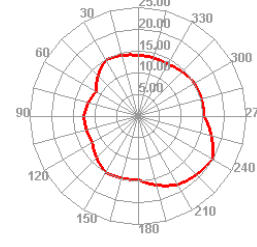
Wifi 149 TRP



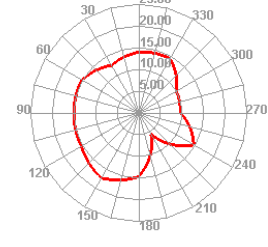
Wifi 149 TRP H



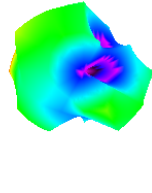
Wifi 149 TRP E1



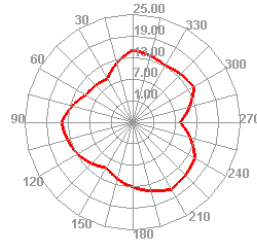
Wifi 149 TRP E2



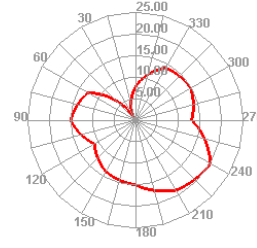
Wifi 165 TRP



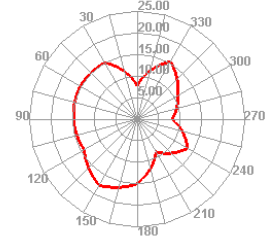
Wifi 165 TRP H



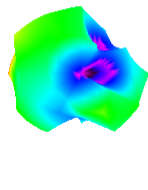
Wifi 165 TRP E1



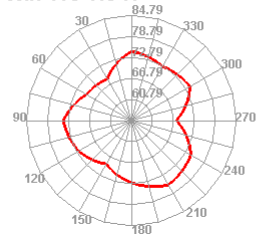
Wifi 165 TRP E2



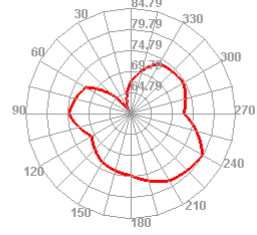
Wifi 165 TIS



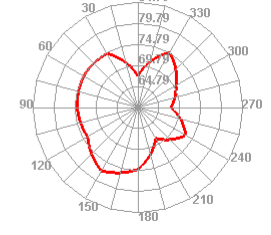
Wifi 165 TIS H



Wifi 165 TIS E1

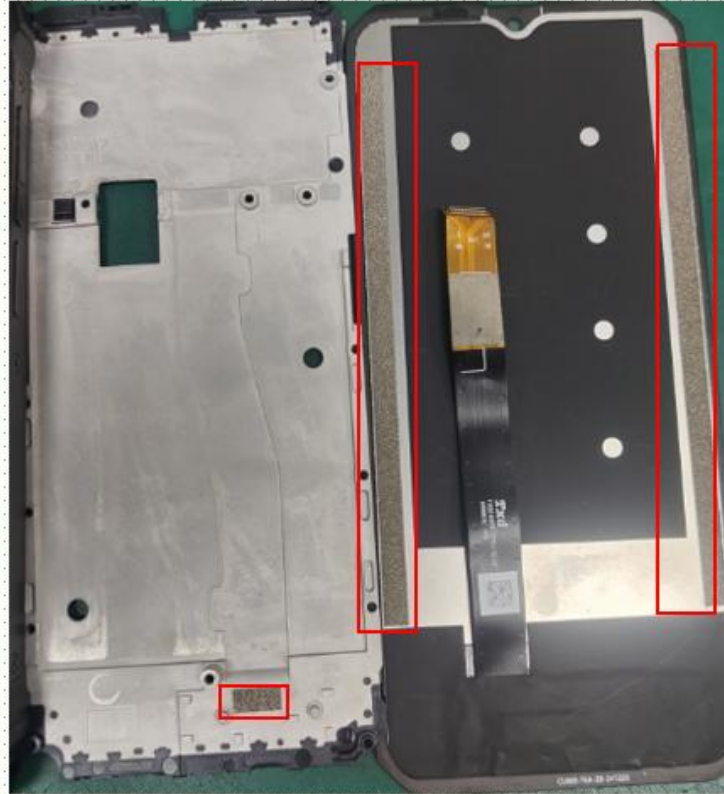


Wifi 165 TIS E2



Environmental treatment

The environmental treatment of the metal midframe and screen is as illustrated in the figure.



The conductive sponge on the motherboard is grounded to the metal chassis.

MIC wire harness attaches the conductive cloth to the ground of the small board.



The conductive foam on the speaker is grounded to the metal midframe.