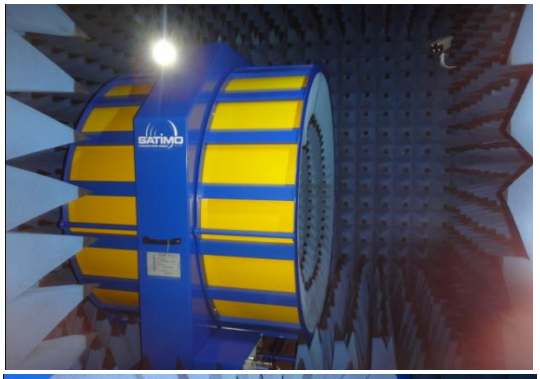
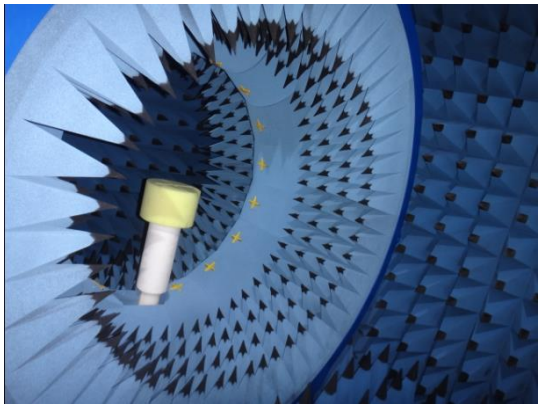
Antenna specification

Customer Name	Small cool	Project Name	K17
Commissioning frequency band	GSM4P/WCDMA1/2/4/5/8, LTE:1/2/3/4/5/7/8/12/13/17/25/26/28/38/40/41/71	Structure mode	FPC
RF Engineer	Cheng shi yang	Structural Engineer	Du Qiang
Antenna Type	LOOP	Date	2025/2/14





The original imported French SATIMO StarLab 3D laboratory can accurately and quickly test the TRP, TIS, efficiency, gain, Apple diagram, directional diagram and other parameter data of communication terminal products such as mobile phones, tablet computers and notebooks.

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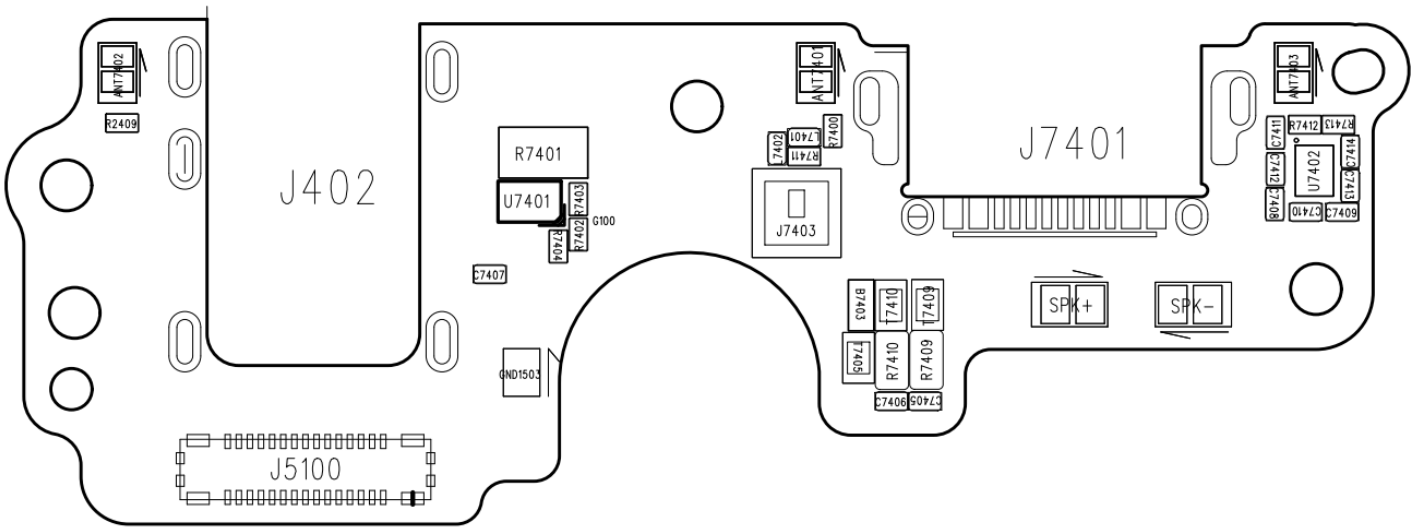
Antenna report version summary

Version	Date	Content Overview
V1.0	2025/01/07	Debugging antenna test report
V2.0		
V3.0		

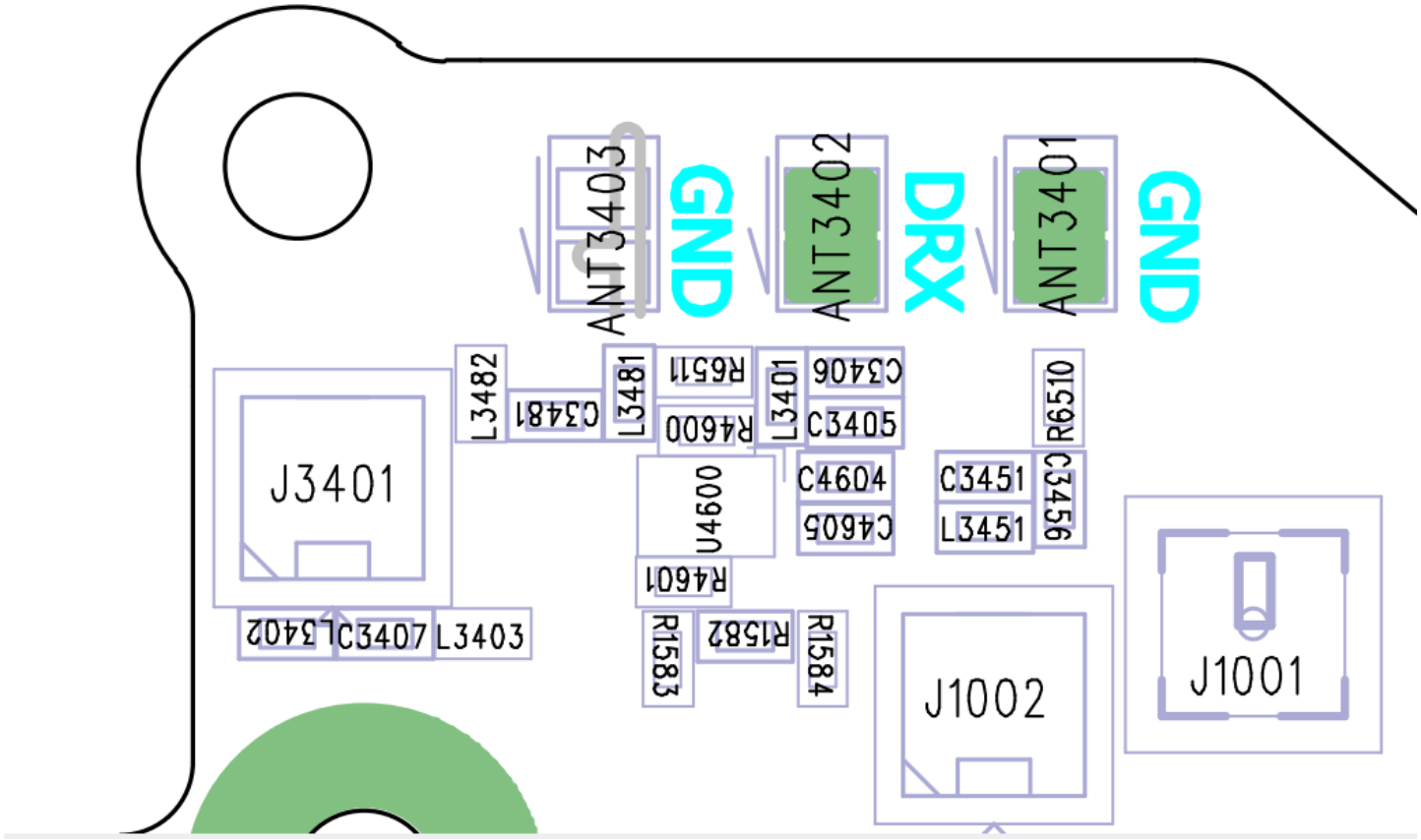
main antenna matching circuit------ Changes have been made



ANT7401/7402/7403	unchanged	R2409	0&Omeg	R7400	0&Omeg
L7401	1.0PF	R7411	2.7NH	L7402	6.8NH
R7412	0&Omeg	C7411	0&Omeg	C7412	2.7NH
C7413	12NH	C7414	8.2NH	R7413	NC

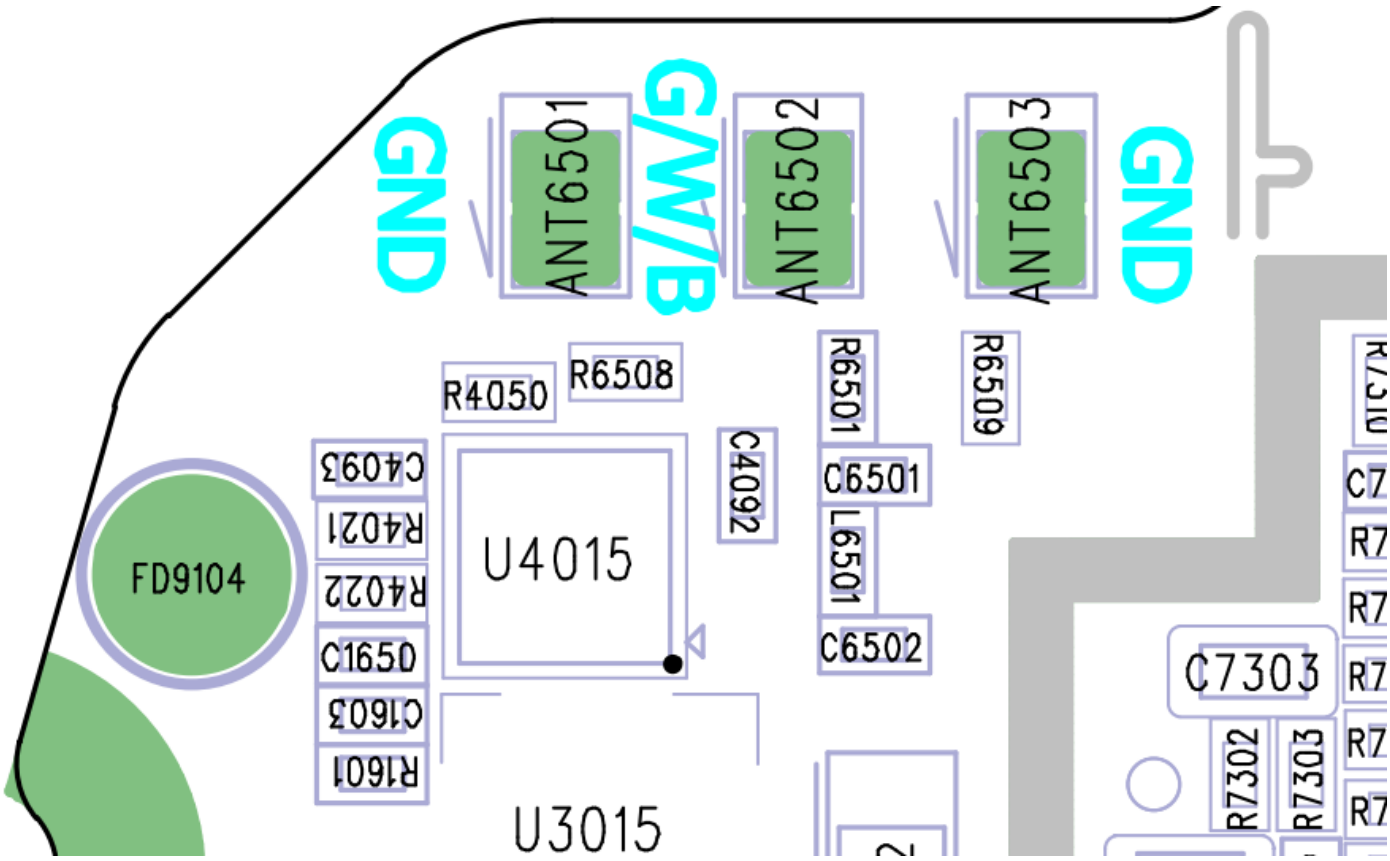
K17 Latin American main antenna switching logic		
RFmouth	matching	frequency band
RF1		GSM900/1800/1900,W1/2/4/8,LTE:1/2/3/4/7/8/25/38/40/41/66
RF2		GSM850,W5,LTE:5/26
RF3		LTE:12/13/17/28
RF4		LTE:71

Diversity antenna matching circuit----Changes have been made



ANT3402/3403	unchanged	ANT3401	NC	C3406	NC
C3405	8.2PF	L3401	NC		

Three-in-one antenna matching circuit------ Changes have been made



ANT6503	NC	ANT6501/6502	paste
R6509	NC	R6501/R6508	0 欧
C6501/C6502	NC	L6501	0 欧

Free Space OTA

Band	Channel	TRP (dBm)	TIS (dBm)	Band	Channel	TRP (dBm)	TIS (dBm)
GSM900	L	24.3		DCS1800	L	23.4	
	M	24.2			M	24.7	
	H	24.6	-100.1		H	25.8	-103.5
GSM850	L	23.7		PCS1900	L	25.8	
	M	24.5			M	25.4	
	H	24.9	-100.2		H	24.7	-103.1
W850	L	15.6		W900	L	15.0	
	M	15.2			M	15.0	
	H	15.1	-102.3		H	15.7	-101.1
W1700	L	17.1		W1900	L	18.6	
	M	17.9			M	18.5	
	H	19.0	-102.0		H	18.9	-104.8
W2100	L	18.2					
	M	19.0					
	H	19.7	-102.1				
LTE-B1 (10MHZ)	L	19.0		LTE-B2 (10MHZ)	L	19.1	
	M	19.7			M	18.8	
	H	20.1	-92.1		H	18.4	-93.2
LTE-B3 (10MHZ)	L	17.4		LTE-B4 (10MHZ)	L	16.4	
	M	18.7			M	17.4	
	H	19.2	-93.0		H	18.4	-92.1
LTE-B5 (10MHZ)	L	17.0		LTE-B7 (10MHZ)	L	17.5	
	M	17.0			M	16.7	
	H	16.0	-90.1		H	16.1	-93.0
LTE-B8 (10MHZ)	L	16.0		LTE-B12 (10MHZ)	L	14.2	
	M	15.8			M	15.3	
	H	15.8	-87.9		H	15.4	-92.6
LTE-B13 (10MHZ)	L			LTE-B17 (10MHZ)	L	14.9	
	M	15.6	-91.5		M	15.1	
	H				H	15.4	-91.3
LTE-B25 (10MHZ)	L	18.8		LTE-B26 (10MHZ)	L	17.4	
	M	18.3			M	16.8	
	H	18.2	-92.6		H	15.8	-91.8

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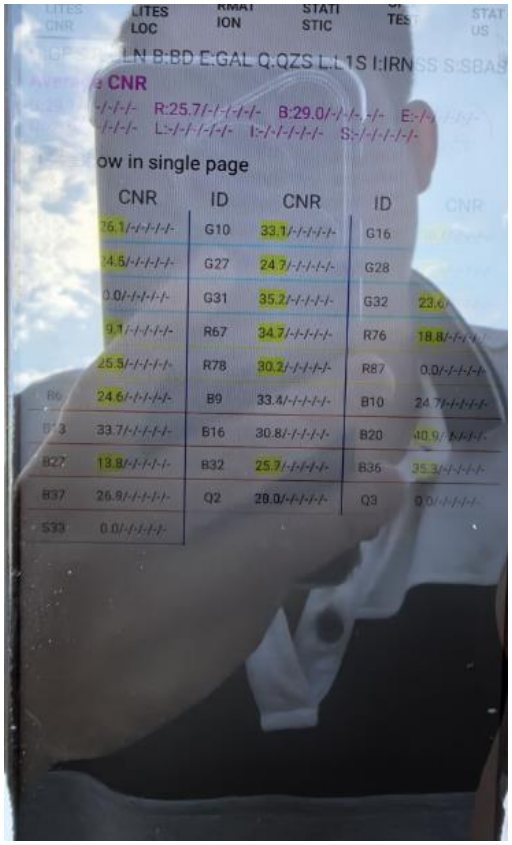
LTE-B28（10MHZ）	L	15.0		LTE-B38（20MHZ）	L	15.7	
	M	16.2			M	15.7	
	H	17.1	-91.4		H	15.6	-89.2
LTE-B40（20MHZ）	L	19.2		LTE-B41（20MHZ）	L	16.1	
	M	18.5			M	15.6	
	H	18.7	-91.0		H	15.0	-89.5
LTE-B66（10MHZ）	L	16.6		LTE-B71（10MHZ）	L	15.8	
	M	17.9			M	15.4	
	H	18.8	-91.7		H	14.2	-87.3

WIFI OTA

Band	Channel	TRP(dBm)	TIS(dBm)	Band	Channel	TRP(dBm)	TIS(dBm)
2.4G（B mode 11M）	L	11.1		5G（A mode 54M）	L	9.3	
	M	11.0			M	10.2	
	H	9.8	-82.6		H	9.8	-72.1

GPS measurement



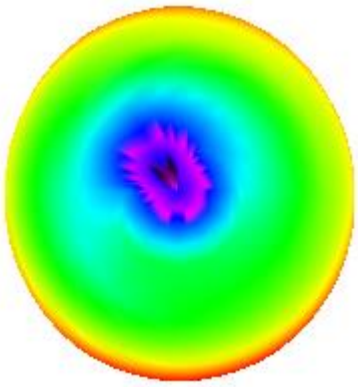
(Company roof test, GPS search star results as shown in the figure above.).

Antenna gain (Antenna Gain)

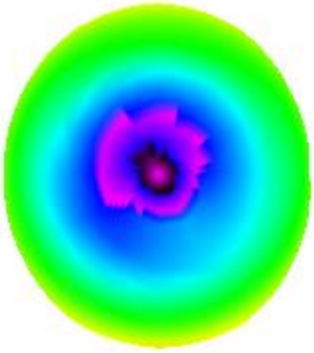
Standard	Band	Frequency(MHZ)	Gain(dbi)
LTE	FDD-B2	1920-2170	-0.58
	FDD-B3	1710-1880	-0.24
	FDD-B5	824-890	-5.01
	FDD-B7	2520-2680	-3.5
	FDD-B8	880-960	-4.69
	FDD-B12	703-741	-5.39
	FDD-B28	710-810	-5.39
	FDD-B13	751-782	-5.4
	FDD-B17	709-741	-5.3
	FDD-B25	1855-1990	-1.54
	FDD-B26	816-892	-5.01
	FDD-B66	1715-2175	-0.24
	FDD-B71	617-698	-5.5
	FDD-B4	1715-2150	-0.24
	FDD-B1	1920-2170	-0.45
	TDD-B40	2300-2400	-1.39
	TDD-B41	2500-2690	-1.4
	TDD-B38	2550-2650	-2.49
WCDMA	WCDMA-B1	1920-2170	-0.45
	WCDMA-B2	1850-1990	-0.58
	WCDMA-B4	17112.4-2152.6	-1.1
	WCDMA-B5	824-890	-5.01
	WCDMA-B8	880-960	-4.69
GSM	GSM 850	824-890	-5.01
	GSM 900	880-960	-4.69
	DCS 1800	1710-1880	-0.24
	PCS 1900	1850-1990	-0.58
GPS		1575	0.88
2.4G WiFi/BT		2400-2480	3.7
5.8G WiFi		5250-5570	-0.08

Apple Chart

GSM900/W900/LTE-B8

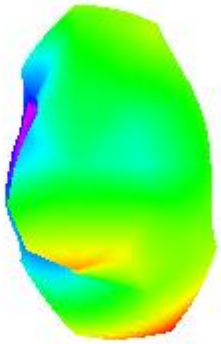


GSM850/W850/LTE-B5/26

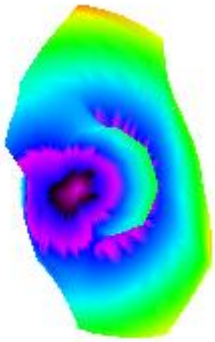


DCS1800/1700/LTE-B3/4/25/66

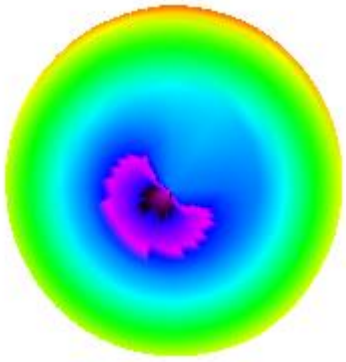
PCS1900/W1900/B2



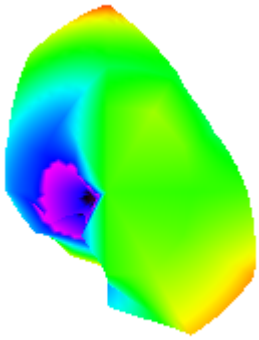
W2100/B1



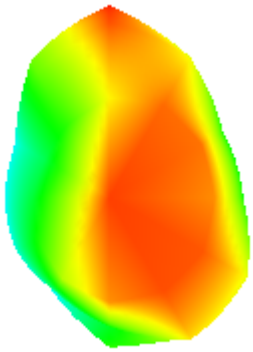
LTE-B28/12/17



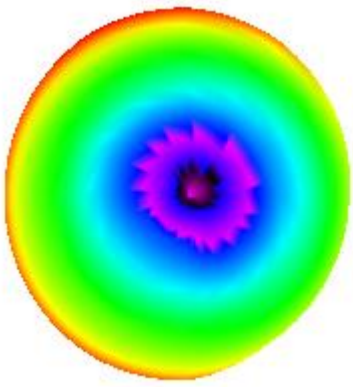
LTE-B7/38/41



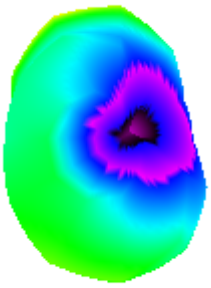
LTE-B40



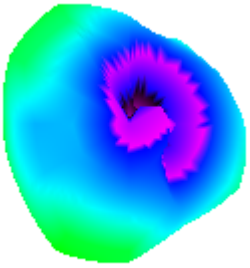
LTE-B71



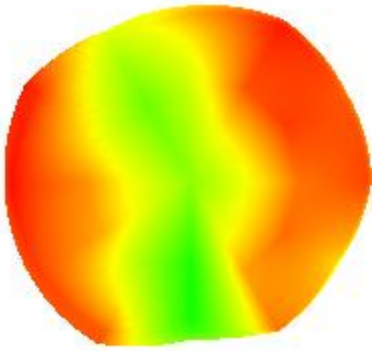
GPS



2.4G WIFI/BT

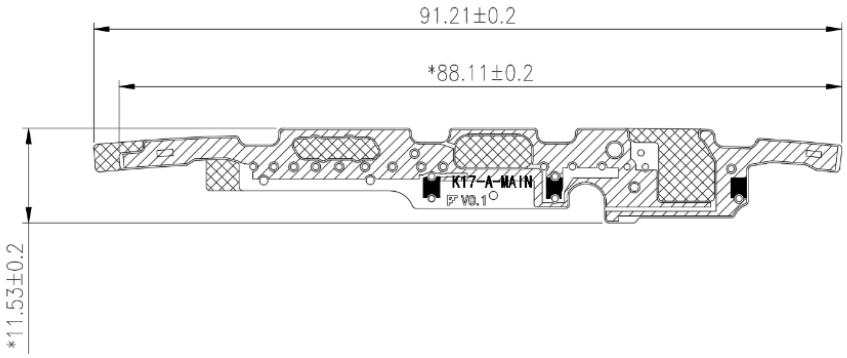


5.8G WIFI

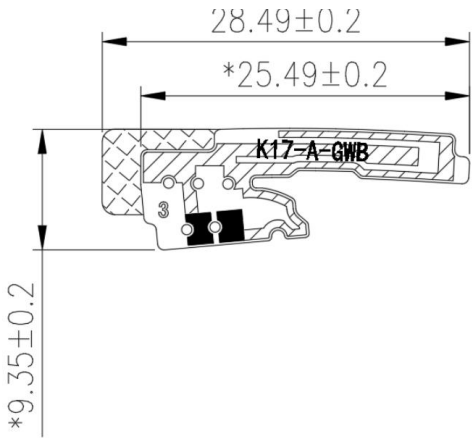


Antenna size：

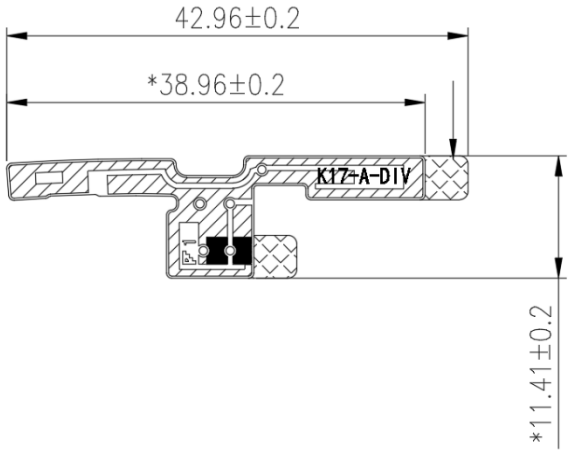
Main antenna：



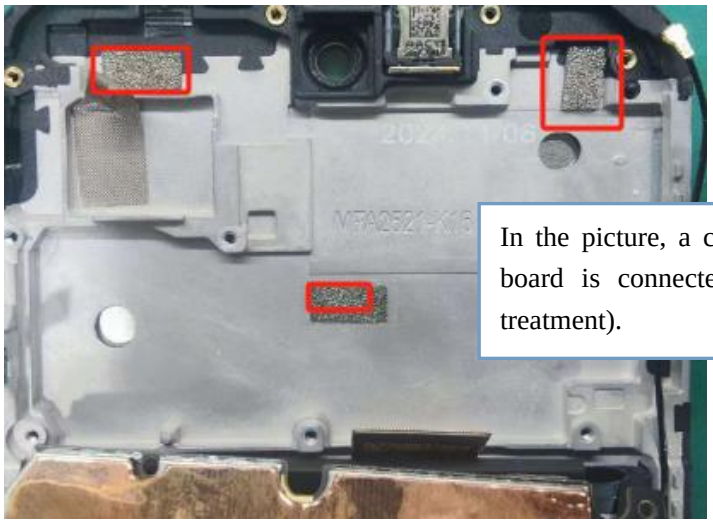
Three-in-one antenna：



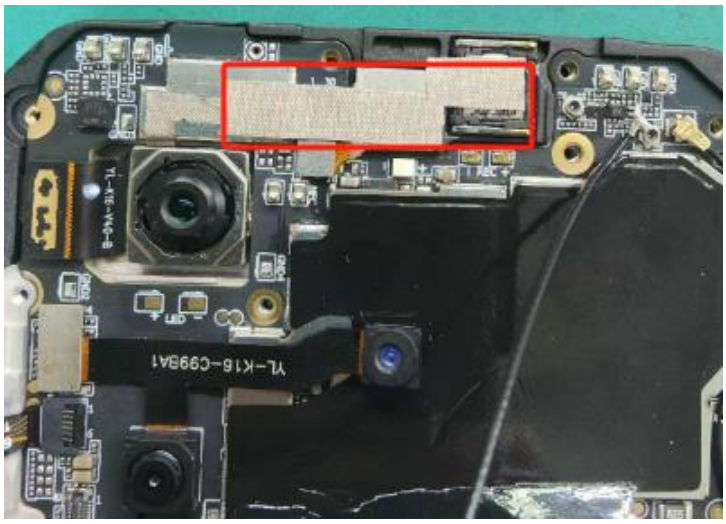
Diversity antenna：



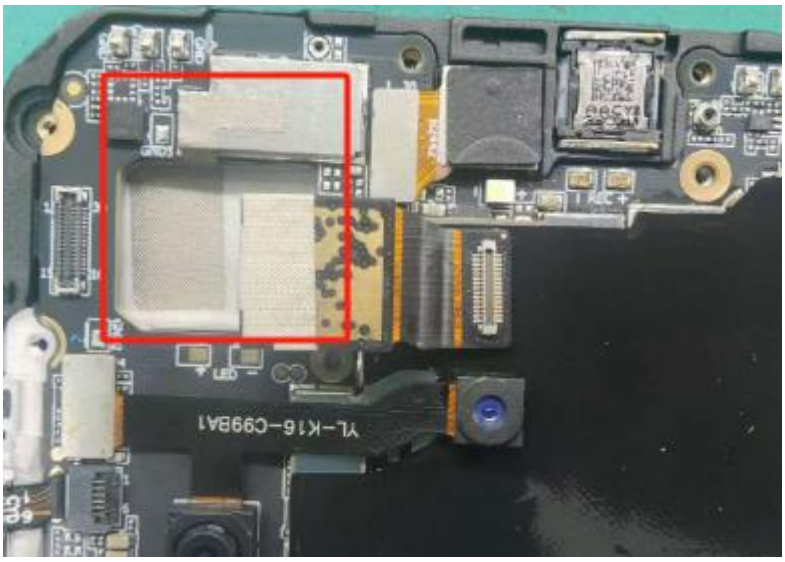
Environmental treatment



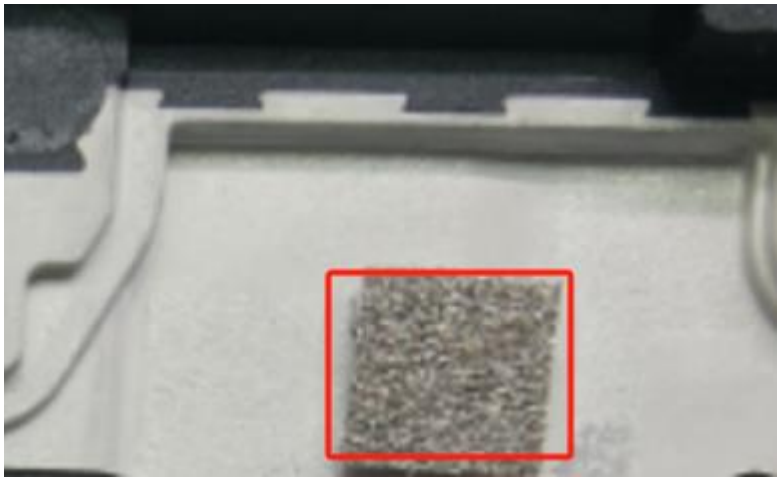
In the picture, a conductive sponge is stuck in the red box, and the main board is connected with zinc alloy, as shown in the picture (original treatment).



Here, the conductive cloth is attached to the front and the receiver is grounded, as shown in the figure (original treatment).



After shooting, do grounding treatment, as shown in the figure (original treatment).



Stick a conductive sponge here, and ground the horn, as shown in the figure.

Note:

1, this antenna is only suitable for debugging prototype, motherboard PCB or RF circuit material changes, accessories (such as camera, screen, horn, motor, battery, shell process) and other changes, must be tested and verified by our company before use.

2. If this project needs to be verified by the third party, please send the prototype to our company for retesting at least one working day in advance, and then send it to our company for testing, so as to avoid delays in the project progress after two or multiple tests!