

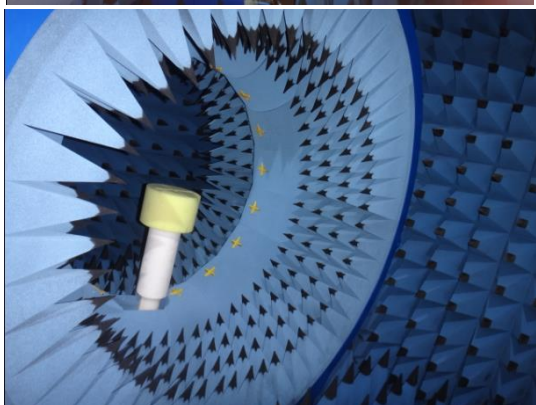
Antenna specification



Customer Name	Small cool	Project Name	K16
Commissioning frequency band	GSM4P/WCDMA1/2/4/5/8, LTE:1/2/3/4/5/7/8/12/13/17/2 5/26/28/38/40/41/66/71	Structure mode	FPC
RF Engineer	Cheng shi yang	Structural Engineer	Du Qiang
Antenna Type	PIFA	Date	2025/1/15



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.

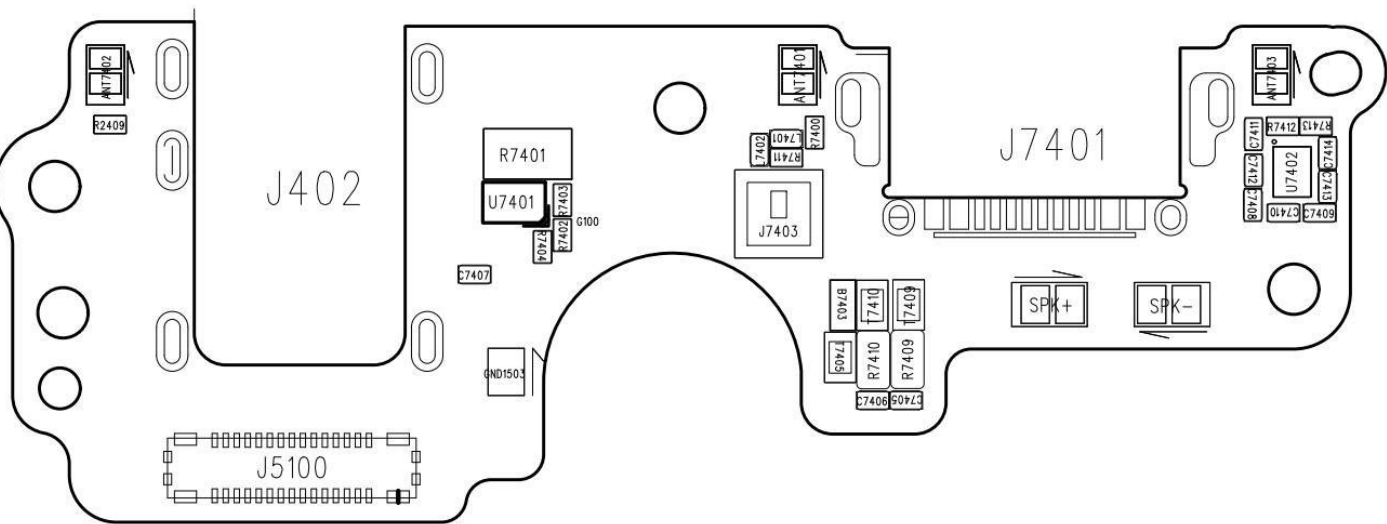




Antenna report version summary

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 Ω	R7400	0 Ω
L7401	1.0PF	R7411	2.7NH	L7402	6.8NH
R7412	0 Ω	C7411	0 Ω	C7412	2.7NH
C7413	12NH	C7414	8.2NH	R7413	NC

K1 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

[illegible]

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

The bottom half of the PCB layout includes the following components and features:

- U3015**: A large rectangular component at the bottom center.
- U4015**: A large rectangular component in the center, with a small circle and arrow pointing to its bottom-right corner.
- Antennas**: Three antennas labeled **ANT6501**, **ANT6502**, and **ANT6503** are located at the top. They are flanked by cyan-colored labels **GND** and **G/M/B**.
- Passive Components**:
 - Resistors**: R1601, R1603, C1603, C1650, R4022, R4021, C4093, R6508, R6501, R6509, C6501, L6501, C6502, C7303, R7302, R7303.
 - Capacitors**: C4092, C7303.
 - Inductor**: L6501.
- Other Features**: A green circular pad labeled **FD9104** is on the left. A grey L-shaped feature is on the right. A small circle is at the bottom center.

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	24.7		DCS1800	L	24.5	
	M	24.9			M	25.5	
	H	24.2	-100.5		H	25.2	-102.3
GSM850	L	24.0		PCS1900	L	24.1	
	M	24.5			M	24.0	
	H	25.5	-99.0		H	24.0	-102.7
W850	L	15.5		W900	L	15.0	
	M	15.1			M	15.0	
	H	15.2	-103.5		H	15.5	-102.0
W1700	L	18.5		W1900	L	16.0	
	M	18.8			M	16.2	
	H	18.5	-102.1		H	17.2	-104.2
W2100	L	18.0		LTE-B1 (10MHZ)	L	17.5	
	M	18.2			M	18.2	
	H	17.5	-102.2		H	17.7	-92.5
LTE-B2 (10MHZ)	L	17.5		LTE-B3 (10MHZ)	L	17.5	
	M	17.7			M	18.2	
	H	17.7	-94.1		H	17.7	-92.0
LTE-B4 (10MHZ)	L	17.4		LTE-B5 (10MHZ)	L	16.5	
	M	18.0			M	16.5	
	H	17.8	-92.8		H	16.0	-91.7
LTE-B7 (10MHZ)	L	17.1		LTE-B8 (10MHZ)	L	15.9	
	M	16.7			M	15.8	
	H	16.5	-94.1		H	15.7	-88.5
LTE-B12 (10MHZ)	L	14.4		LTE-B13 (10MHZ)	L		
	M	16.2			M	15.1	-91.5
	H	16.2	-91.2		H		
LTE-B17 (10MHZ)	L	15.5		LTE-B25 (10MHZ)	L	17.0	
	M	16.0			M	16.5	
	H	16.2	-91.5		H	17.1	-93.5



深圳市无限智联科技有限公司

Shenzhen wiselink technology co.,ltd

Band	Channel	TRP (dBm)	TIS (dBm)	Band	Channel	TRP (dBm)	TIS (dBm)
LTE-B26 (10MHZ)	L	16.5		LTE-B28 (10MHZ)	L	16.0	
	M	16.0			M	16.8	
	H	15.5	-91.5		H	17.0	-90.8
LTE-B38 (20MHZ)	L	16.6		LTE-B40 (20MHZ)	L	17.1	
	M	16.4			M	17.0	
	H	15.9	-90.2		H	18.1	-89.9
LTE-B41 (20MHZ)	L	16.1		LTE-B66 (10MHZ)	L	17.2	
	M	16.5			M	17.7	
	H	15.5	-90.2		H	17.5	-91.2
LTE-B71 (10MHZ)	L	15.5					
	M	15.3					
	H	14.2	-87.1				

WIFI

OTA

Band	Channel	TRP(dBm)	TIS(dBm)	Band	Channel	TRP(dBm)	TIS(dBm)
2. 4G (B mode 11M)	L	7.0	-79.0	5G (A mode 54M)	L	8.4	-71.8
	M	6.1	-76.0		M	10.3	-72.5
	H	7.2	-79.6		H	9.0	-71.7

GPS measurement

SAT EL LITES CNR	SAT EL LITES LOC	INFO R MAT ION	TIME STATI STIC	GPS TEST	MPE STAT US
G:GPS R:GLN B:BD E:GAL Q:QZS L:L1S I:IRNSS S:SBAS					
Average CNR					
G:34.8/-/-/-/-/- R:34.4/-/-/-/-/- B:29.9/-/-/-/-/- E:34.3/-/-/-/-/-					
Q:28.5/-/-/-/-/- L:-/-/-/-/-/- I:-/-/-/-/-/- S:-/-/-/-/-/-					
☒ Show in single page					
ID	CNR	ID	CNR	ID	CNR
G3	38.4/-/-/-/-/-	G10	35.1/-/-/-/-/-	G16	26.7/-/-/-/-/-
G25	31.8/-/-/-/-/-	G26	30.4/-/-/-/-/-	G27	35.3/-/-/-/-/-
G28	41.1/-/-/-/-/-	G29	37.7/-/-/-/-/-	G31	40.6/-/-/-/-/-
G32	31.3/-/-/-/-/-	R65	24.8/-/-/-/-/-	R66	35.0/-/-/-/-/-
R67	38.2/-/-/-/-/-	R68	37.3/-/-/-/-/-	R76	35.0/-/-/-/-/-
R77	34.5/-/-/-/-/-	R78	35.8/-/-/-/-/-	B1	30.3/-/-/-/-/-
B2	0.0/-/-/-/-/-	B9	21.1/-/-/-/-/-	B13	29.3/-/-/-/-/-
B16	34.6/-/-/-/-/-	B19	33.1/-/-/-/-/-	B20	34.9/-/-/-/-/-
B30	31.6/-/-/-/-/-	B36	24.3/-/-/-/-/-	E25	28.8/-/-/-/-/-
E31	39.8/-/-/-/-/-	Q2	32.0/-/-/-/-/-	Q4	25.0/-/-/-/-/-
Q7	0.0/-/-/-/-/-	S41	0.0/-/-/-/-/-		

SAT EL LITES CNR	SAT EL LITES LOC	INFO R MAT ION	TIME STATI STIC	GPS TEST	MPE STAT US
Provider: gps enabled					
Status: SPS Fix					
TTFF: 27319 ms					
Date: GMT+08:00 2025/01/07					
Time: 10:22:34					
First Latitude: 22.69355333333333					
First Longitude: 113.97864					

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

Antenna gain (Antenna Gain)

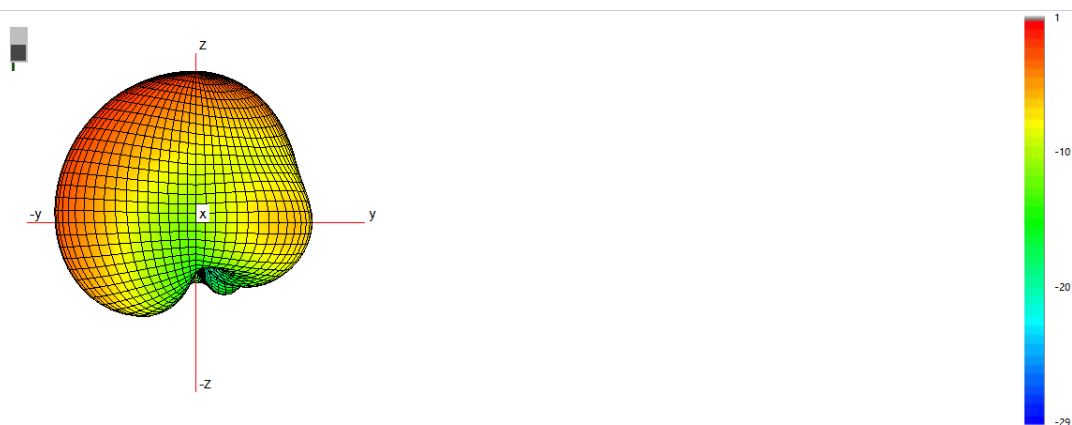
Standard	Band	Frequency(MHZ)	Gain(dbi)
LTE	FDD-B2	1920-2170	-2.4
	FDD-B3	1710-1880	0.2
	FDD-B5	824-890	-5.1
	FDD-B7	2520-2680	-0.6
	FDD-B8	880-960	-5.4
	FDD-B12	703-741	-4.9
	FDD-B28	710-810	-4.9
	FDD-B13	751-782	-5.4
	FDD-B17	709-741	-4.9
	FDD-B25	1855-1990	-2.4
	FDD-B26	816-892	-5.1
	FDD-B66	1715-2175	0.2
	FDD-B71	617-698	-5.4
	FDD-B4	1715-2150	0.2
	FDD-B1	1920-2170	-0.8
	TDD-B40	2300-2400	-2.4
	TDD-B41	2500-2690	0.6
	TDD-B38	2550-2650	0.6
WCDMA	WCDMA-B1	1920-2170	-0.8
	WCDMA-B2	1850-1990	-2.4
	WCDMA-B4	17112.4-2152.6	0.2
	WCDMA-B5	824-890	-5.1
	WCDMA-B8	880-960	-5.4
GSM	GSM 850	824-890	-5.1
	GSM 900	880-960	-5.4
	DCS 1800	1710-1880	0.2
	PCS 1900	1850-1990	-2.4
GPS		1575	-2.1
2.4G WiFi/BT		2400-2480	1.0
5.8G WiFi		5250-5570	0.8

Apple Chart

2.4G WIFI/BT



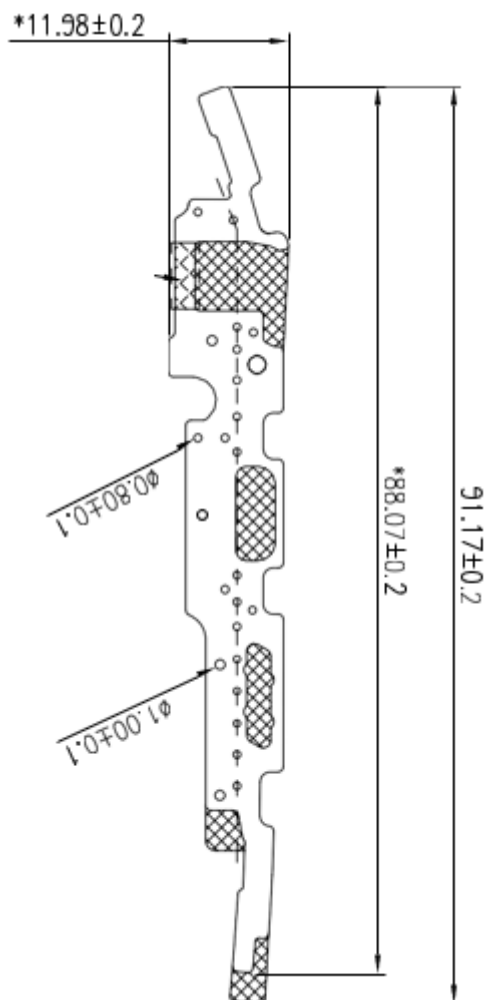
5.8G WIFI



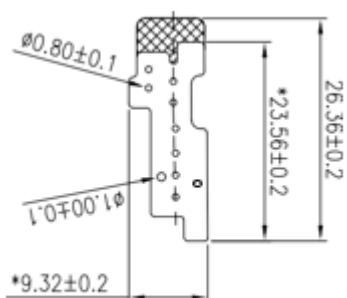
Antenna size:

Unit: mm

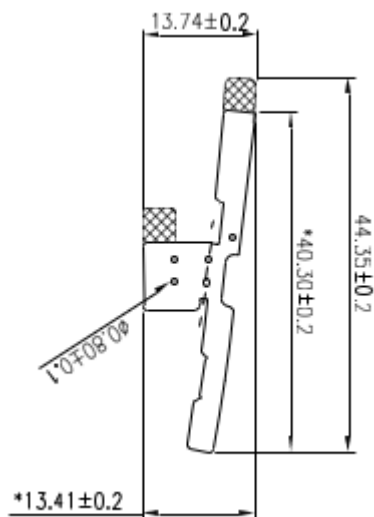
Main antenna:



Three-in-one antenna:



Diversity antenna:



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!