SPECIFICATION

Daxian Communication Technology Limited

Shenzhen Daxian Technology Co., Ltd.

Unimax Q6505 BT/WIFI/GPS Antenna

Product specification

Guest households	Unimax	frequency band	BT/WIFI/GPS
Project name	Q6505	version	V11
Material No.	3Q-6505X-016	color	Black
R F design	Qiang.Wang	structure design	Yezhi.Bi
Quality Manager	Ziyin.Hu	R & D director	Lei.Zhang
Date	2023-05-31		

client confirmation：

Whether the assembly meets your requirements：☐OK ☐NG

Shenzhen Topant Technology Co., Ltd.

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Change resume

version number	Change content	Reason for change	Initiate change Party	date	Modifier
V1.0	create			2023.5.31	

Confidential requirement
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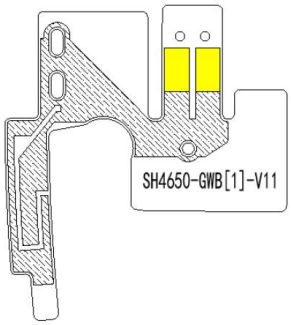
一 Project description

Customer name:	Unimax
Whole machine type:	mobile phone
Antenna band:	BT/WIFI/GPS
Antenna form:	FPC
Feed form:	welding
Number of feed feet:	2 left and right ears
Hardware version:	motherboard:

一、BT/WIFI/GPS Antenna

This report provides a variety of measurements of the electrical performance of the Q6505 antenna. Figure 1 shows the antenna designed by the display.



Whole machine appearance chart **antenna appearing diagram**

Figure 1

1.1 Electrical specification standard

The frequency range of the antenna is 2400MHz~2500MHz,5150MHz~5850MHz, GPS: 1575MHz. The following table indicates the electrical performance specifications of the antenna. The antenna is designed and manufactured by a large display.

Frequency Range	Frequency (MHz)	VSWR
BT	**2400 ~ 2500**	**≤ 3**
WIFI	**2400 ~ 2500, 5150~ 5850**	**≤ 3**
GPS	**1575MHz**	**≤ 2**

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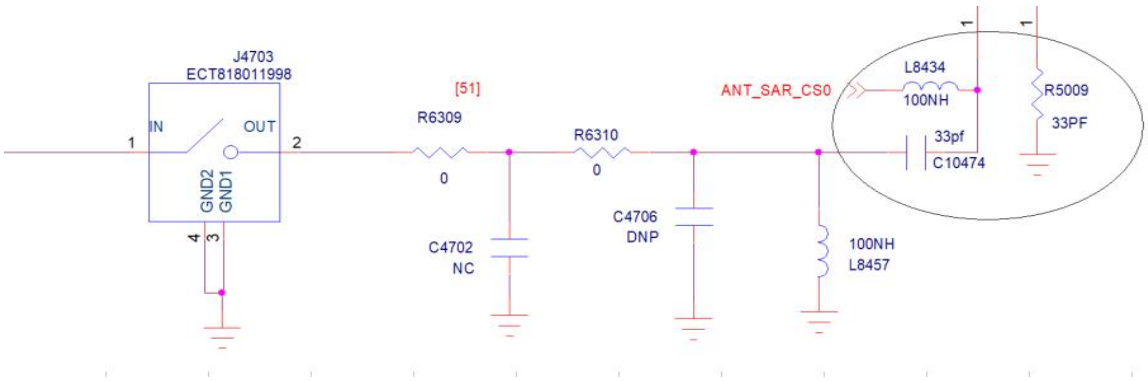
1.2 antenna matching



The three in one matching circuit has not been changed

1.3 Antenna composition

The antenna is mainly composed of FPC.

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2、 The Equipment of Active Test

Satimo 3D Chamber　6×4×4(m)

Agilent 8960 E5515c

Network analyzer-R&S ZVL

Figure 2

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3 test

3.1 The Test of standing Wave (VSWR)

3.1.1 The Test of standing Wave (VSWR)： In turn, the connection of the VSWR testing device is as follows: RES ZVL Network Analyzer / testing Line / testing tool

Actual measurement (with diagram)

3.2 Measurement of Efficiency, Power (TRP) and Sensitivity (TIS)

3.2.1 Test site：

Large-scale microwave darkroom. The test frequency range is 400MHz / 6GHz, the static range is 50cm circumferential and the reflectivity is less than-50 dB..

3.2.2 Test instrument：

Rs ZVL Network Analyzer, Agilent8960 E5515C, Standard Horn Antenna, French SATIMO-SG24SYSTEM system, Printer, etc.

3.2.3 test data ：In microwave anechoic chambers, the power and sensitivity values measured are shown in the following table:

OTA Active Test-WIFI:

WIFI free space				
CH		1	6	11
2.4G WIFI B-mode	TRP	13.37	13.94	14.15
	TIS	-83.52	-84.73	-83.71
CH		40	56	157
5.8G WIFI A-mode	TRP	7.43	6.38	7.57
	TIS	-86.56	-86.53	-86.07

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OTA Passive Efficiency&Gain Test:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1575	40.28	-3.95	1.24

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	36.41	-4.39	-0.52
2410	39.81	-4	-0.16
2420	44.26	-3.54	0.36
2430	46.14	-3.36	0.96
2440	47.02	-3.28	0.97
2450	45.97	-3.38	1.07
2460	43.8	-3.59	1.12
2470	40.97	-3.88	0.99
2480	38.28	-4.17	1.04
2490	34.87	-4.58	0.51
2500	31.57	-5.01	0.33

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)
5150	50.47	-2.97	1.82	-0.33
5200	45.28	-3.44	1.48	-0.67
5250	46.52	-3.32	1.8	-0.35
5300	48.64	-3.13	2	-0.15
5350	50.36	-2.98	2.18	0.03
5400	53.67	-2.7	2.09	-0.06
5450	57.39	-2.41	2.33	0.18
5500	56.84	-2.45	2.82	0.67
5550	55.23	-2.58	2.95	0.8
5600	51.42	-2.89	2.32	0.17
5650	53.48	-2.72	2.24	0.09
5700	50.42	-2.97	2.05	-0.1
5750	48.13	-3.18	2.31	0.16
5800	44.09	-3.56	2.05	-0.1
5850	44.41	-3.52	2.09	-0.06

GPS measurement:

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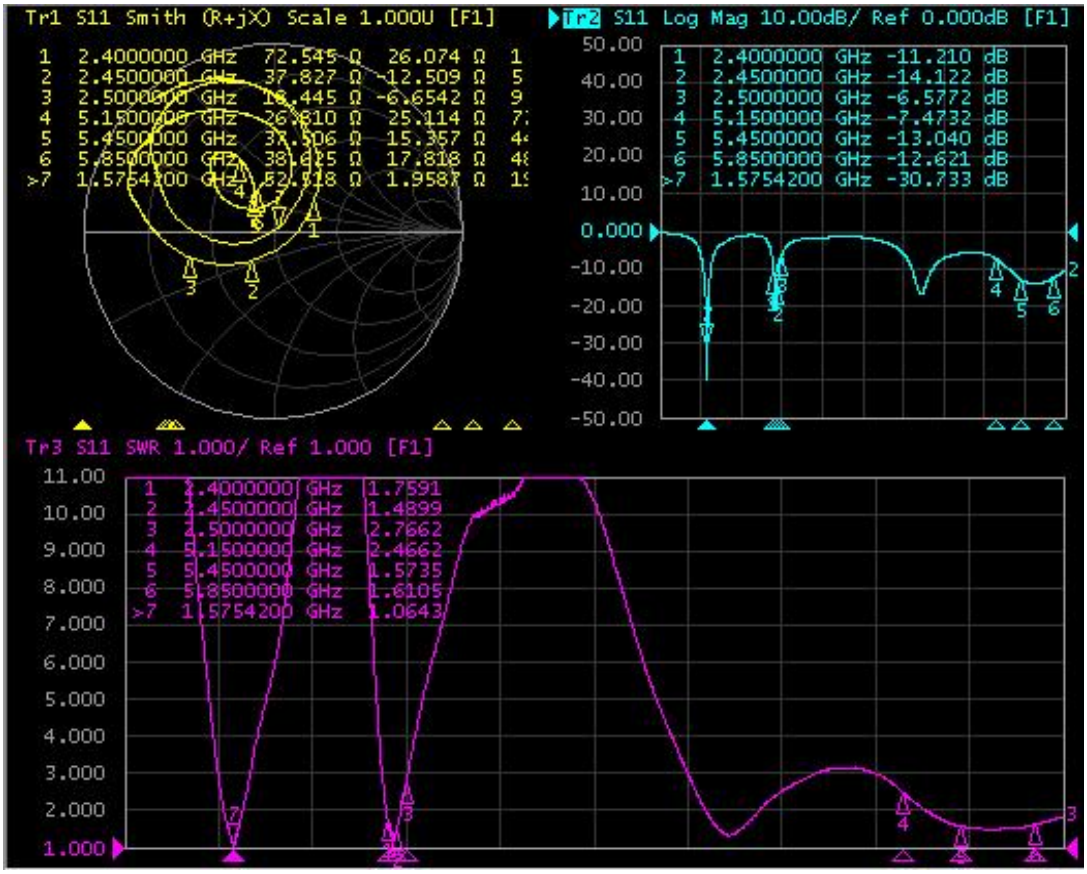
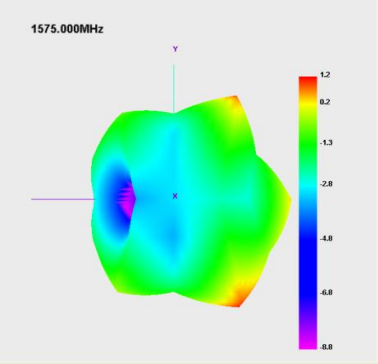
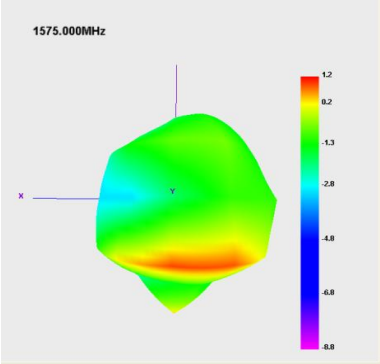
4、Attachment chart

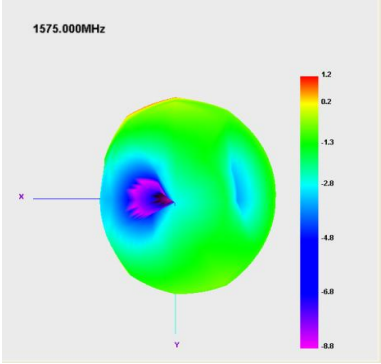
4.1 VSWR parameter diagram



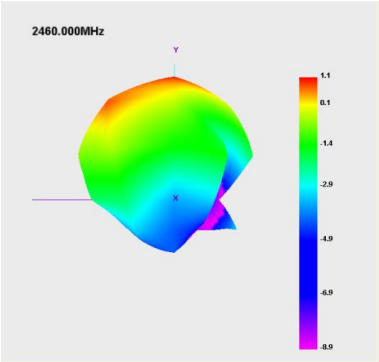
5、Passive field pattern diagram--GPS

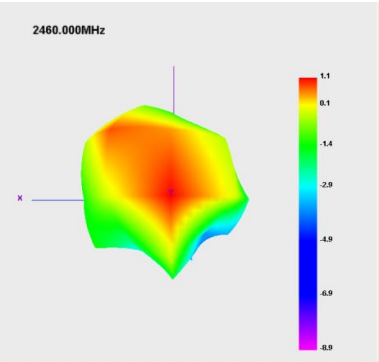


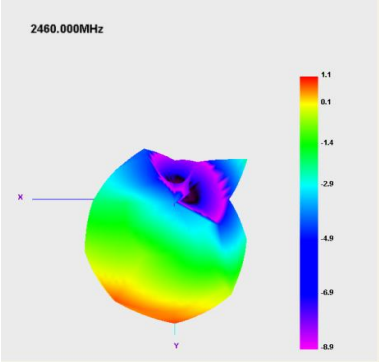




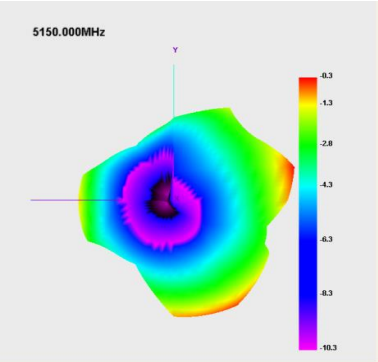
5.1、Passive field pattern diagram--2.4G

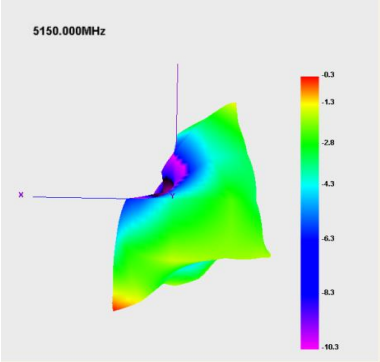


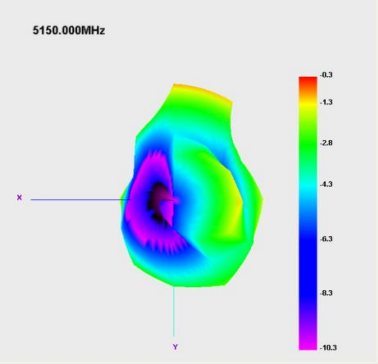




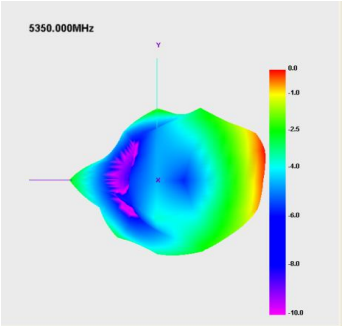
5.1、Passive field pattern diagram--5150MHz

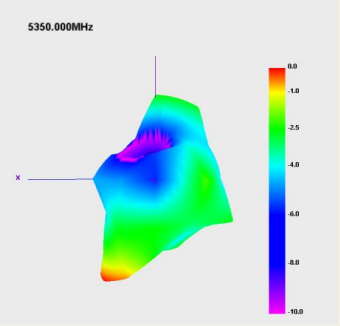


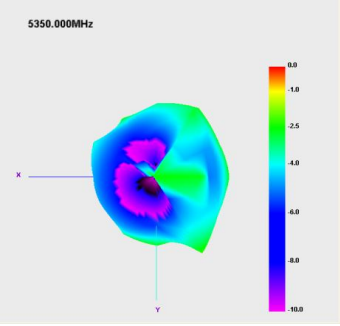




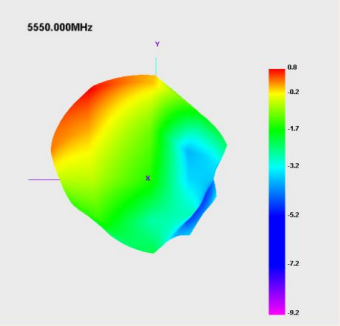
5.2、Passive field pattern diagram--5350MHz

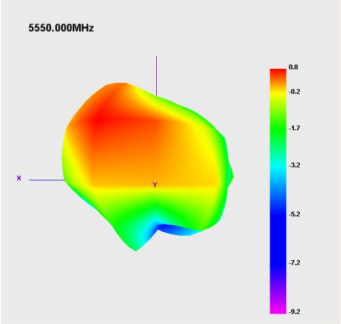


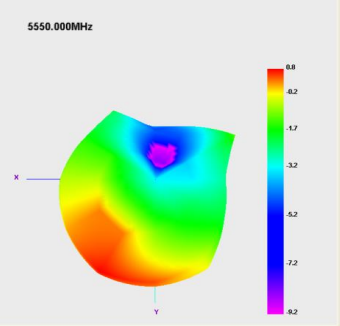




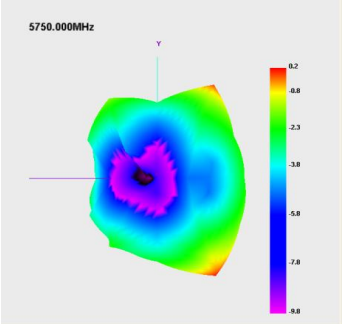
5.3、Passive field pattern diagram--5550MHz

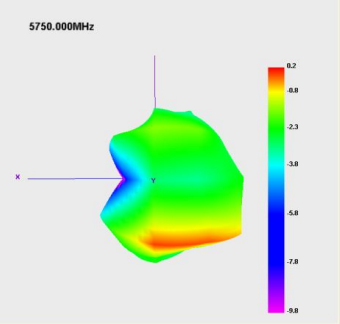


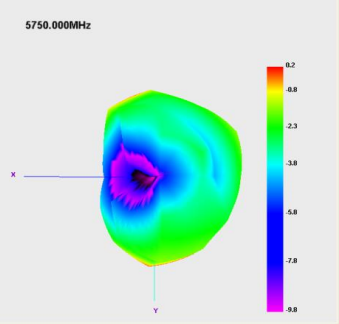




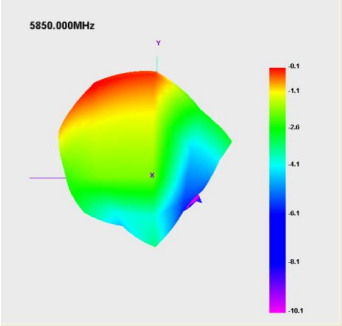
5.4、Passive field pattern diagram--5750MHz

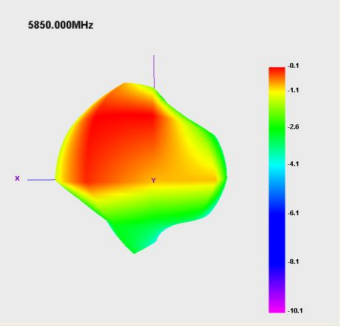


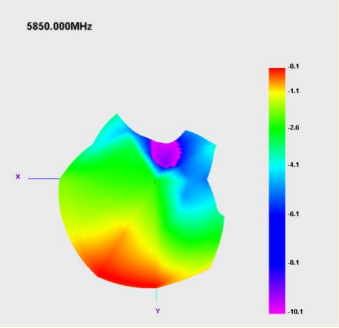




5.5、Passive field pattern diagram--5850MHz







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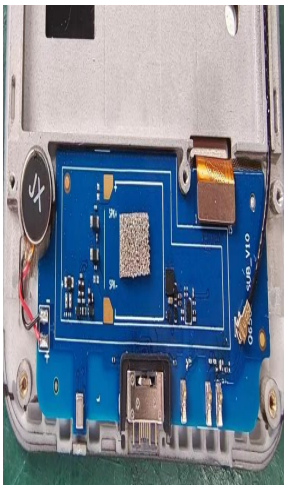
6、environmental treatment

The screen cable should be shielded with conductive cloth and grounded to the screen metal shell. Conductive sponges should be pasted on both sides of the metal shell to ground the screen to the middle frame.

Stick double-sided conductive cloth on the back of the small board to ground the middle frame, and stick double-sided conductive cloth on the motor to ground the middle frame.

Main board with conductive sponge and middle frame grounding.

Double sided conductive cloth pasted on the middle frame and grounding of the screen cable.



Small board with conductive sponge and speaker grounding.

7、conclusion：

This antenna is designed on the basis of the prototype provided by the customer, electrical parameters and structural performance have reached the technical requirements, please confirm!

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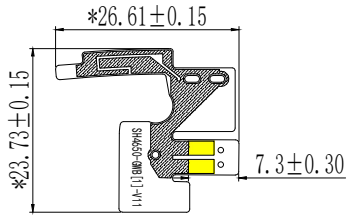
	0~10	10~30	30~50	50~	角度	○	◎	⊥	▱
	0.05	0.10	0.15	0.20	1°	0.02	0.02	0.03	0.05



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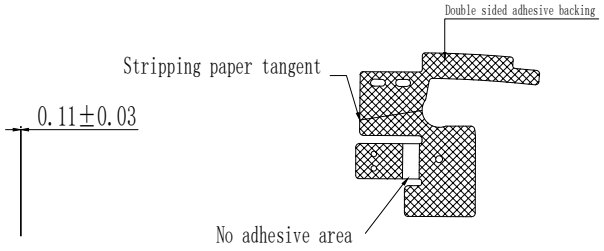
Black characters

TOP



Micro mucosal delivery

BOT

technical requirement:

1. "*" is the key dimension;
2. Please refer to the drawing for unspecified dimensions;
3. Meet RoHS requirements.

A	Initial Issue	2023.05.20	
edition	describe	date	Note

TOPANT

Shenzhen Topant Technology Co., Ltd.

Machine model	Q6505	Product Color	black			date	2023/05/20
Project Code	BQ-6505X-016	Mold surface treatment	NA			MD	BI YE ZHI
Part Name	3IN1 antenna	unit	mm	scale	1:1	RF	WANG QIANG
Part Number	3Q-6505X-016-1	Third perspective				check	ZHOU KANG
material	Electrolytic copper PI					ratify	ZHANG LEI
Save Path						current version	A

SPECIFICATION

Daxian Communication Technology Limited

Shenzhen Daxian Technology Co., Ltd.

Unimax Q6505 Main

Product specification

Guest households	Unimax	frequency band	W2/4/5 LTE B2/4/5/12/66
Project name	Q6505	version	V11
Material No.	1Q-6505X-016	color	Black
R F design	Qiang.Wang	structure design	Yezhi.Bi
Quality Manager	Ziyin.Hu	R & D director	Lei.Zhang
Date	2023-05-31		

client confirmation：

Whether the assembly meets your requirements：☐OK ☐NG

Shenzhen Topant Technology Co., Ltd.

Shangshuijing Village, No. 513, ihua Road, BujiTown, Longgang District, Shenzhen (opposite to theNational Defense Training Base)reached the 7thfloor of the Industrial Park Complex
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TEL:021-61630552
FAX:755-84276383

Change resume

version number	Change content	Reason for change	Initiate change Party	date	Modifier
V1.0	create			2023.5.31	

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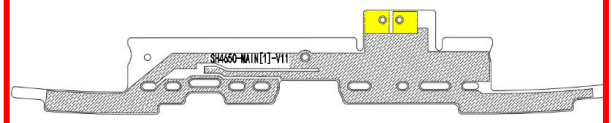
一 Project description

Customer name:	Unimax
Whole machine type:	mobile phone
Antenna band:	W2/4/5，LTE B2/4/5/12/66
Antenna form:	FPC
Feed form:	welding
Number of feed feet:	2 left and right ears
Hardware version:	motherboard:

一、Main

This report provides a variety of measurements of the electrical performance of the Q6505 antenna. Figure 1 shows the antenna designed by the display.



Whole machine appearance chart **antenna appearing diagram**

Figure 1

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1.1 Electrical specification standard

The frequency range of the antenna is 1850MHz~1990MHz,1710MHz~2155MHz,824MHz~894MHz,699MHz~746MHz,1710MHz~2200MHz,1852MHz~1987MHz,1710MHz~1880MHz,826MHz~891MHz**. The following table indicates the electrical performance specifications of the antenna. The antenna is designed and manufactured by a large display.**

LTE -band B2				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmit TX		**The receiving end RX**	
LTE -B 2	1850~1910	≤4	1930~1990	≤4
LTE -band B4				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmit TX		**The receiving end RX**	
LTE -B 4	1710~1755	≤4	2110~2155	≤4
LTE -band B5				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmitter TX		**The receiving end RX**	
LTE -B 5	824~849	≤4	869~894	≤4
LTE -band B12				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmitter TX		**The receiving end RX**	
LTE -B 12	699~716	≤4	729~746	≤4
LTE -band B66				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmitter TX		**The receiving end RX**	
LTE -B 66	1710~1780	≤4	2110~2200	≤4
WCDMA-band 2				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmitter TX		**The receiving end RX**	
W-B2	1852~1907	≤4	1932~1987	≤4
WCDMA-band 4				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmitter TX		**The receiving end RX**	
W-B4	1710~1785	≤4	1805~1880	≤4
WCDMA-band 5				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmitter TX		**The receiving end RX**	
W-B5	826~846	≤4	871~891	≤4

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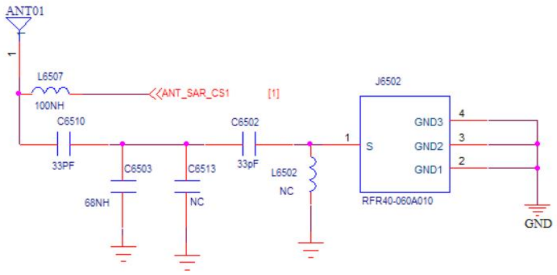
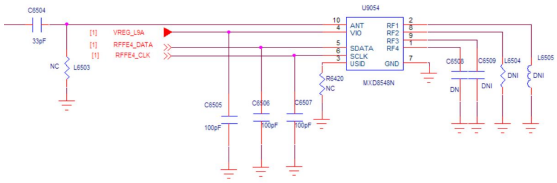
1.2 antenna matching





L6507: Unchanged
C6510: Unchanged
C6503: 10NH
C6513: 2PF
C6502: 3NH
L6502: NC

Main switch

C6504: Unchanged
L6505: 0Ω
L6504: 22NH

Main antenna switch logic:

RF1: W2/4/5 B2/4/5/66
RF2: B12
RF3: NC
RF4: NC

RF1: 0Ω
RF2: 22NH
RF3: NC
RF4: NC

1.3 Antenna composition

The antenna is mainly composed of FPC.

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2、 The Equipment of Active Test

Satimo 3D Chamber　6×4×4(m)

Agilent 8960 E5515c

Network analyzer-R&S ZVL

Figure 2

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3 test

3.1 The Test of standing Wave (VSWR)

3.1.1 The Test of standing Wave (VSWR)： In turn, the connection of the VSWR testing device is as follows: RES ZVL Network Analyzer / testing Line / testing tool

Actual measurement (with diagram)

3.2 Measurement of Efficiency, Power (TRP) and Sensitivity (TIS)

3.2.1 Test site：

Large-scale microwave darkroom. The test frequency range is 400MHz / 6GHz, the static range is 50cm circumferential and the reflectivity is less than-50 dB..

3.2.2 Test instrument：

Rs ZVL Network Analyzer, Agilent8960 E5515C, Standard Horn Antenna, French SATIMO-SG24SYSTEM system, Printer, etc.

3.2.3 test data ：In microwave anechoic chambers, the power and sensitivity values measured are shown in the following table:

OTA Active Test:

Test mode: LOW			Test mode: High			Test mode: High			Test mode: High			Test mode: High		
free space			the left hand			the right hand			Left hand			Right hand		
2	21.04		2	18.87		2	19.1		2	16.54		2	16.04	
	20.91			19.2			19.16			16.52			15.85	
	20.12	-95.33		18.53	-91.69		18.87	-96.02		15.95	-90.15		15.4	-94.09
4	20.19		4	15.63		4	16.61		4	13.96		4	13.25	
	20.39			16.62			17.78			15.12			14.15	
	20.6	-95.81		17.68	-91.16		18.72	-95.74		16.06	-89.22		15.02	-93.82
5	20		5	15.98		5	16.08		5	11.03		5	11.12	
	20.11			15.88			16.09			10.39			10.57	
	19.69	-91.15		14.92	-90.24		15.32	-90.06		10.27	-86.22		10.12	-85.9
12	19.52		12	15.72		12	15.08		12	10.11		12	11.03	
	18.72			16.34			15.7			10.75			11.37	
	19.94	-96.82		16.7	-92.41		16.25	-96.47		11.04	-93.09		11.7	-93.28
66	20.66		66	16.64		66	17		66	15.1		66	14.35	
	21.06			17.85			18.17			16.3			15.35	
	21.23	-95.68		18.11	-91.31		18.35	-94.39		16.61	-89.23		15.5	-93.29
W2	20.89		W2	14.47		W2	19.31		W2	12.35		W2	18.31	
	20.69			14.17			19.28			12.05			18.03	
	20.16	-106.79		14.08	-100.56		18.83	-105.06		11.68	-102.06		17.61	-103.16
W4	20		W4	15.56		W4	18.73		W4	13.69		W4	17.05	
	20.28			15.26			18.58			13.49			17.02	
	20.31	-107.31		15.91	-101.51		19.13	-104.86		14.32	-98.68		17.89	-104.61
W5	20.66		W5	17.59		W5	14.47		W5	13.25		W5	12.48	
	20.44			17.17			14.37			13.4			11.78	
	19.95	-104.07		16.71	-98.56		14.08	-98.39		12.79	-94.66		11.56	-94.73

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OTA Passive Efficiency&Gain Test:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
820	39.3	-4.06	-0.3
830	43	-3.67	0.39
840	43.23	-3.64	0.6
850	38.81	-4.11	0.23
860	35.36	-4.51	0.35
870	33.65	-4.73	-1.34
880	30.35	-5.18	-0.81
890	29.29	-5.33	-2.25

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
690	43.51	-3.61	-0.17
700	47.17	-3.26	0.42
710	44.96	-3.47	-0.14
720	41.39	-3.83	-1.17
730	38.17	-4.18	-1.14
740	38.06	-4.19	-1.14
750	35.73	-4.47	-1
760	29.62	-5.28	-2.81

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1700	41.03	-3.87	2.13
1710	42.23	-3.74	2.41
1720	40.84	-3.89	2.01
1730	42.64	-3.7	2.34
1740	43.99	-3.57	2.36
1750	41.72	-3.8	2.09
1760	39.76	-4.01	1.85
1770	38.72	-4.12	1.76
1780	40.42	-3.93	1.92
1790	40.03	-3.98	1.78
1800	39.39	-4.05	1.63
1810	38.03	-4.2	1.55
1820	38.48	-4.15	1.56
1830	39.34	-4.05	1.73
1840	38.11	-4.19	1.52
1850	41.14	-3.86	2.17
1860	41.83	-3.78	2.08
1870	43.27	-3.64	2.07
1880	42.76	-3.69	1.97
1890	43.33	-3.63	1.91
1900	42.65	-3.7	1.82
1910	43.37	-3.63	1.72
1920	44.57	-3.51	1.74
1930	45.39	-3.43	1.78
1940	49.01	-3.1	2.12

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1950	50.14	-3	2.24
1960	52.49	-2.8	2.25
1970	56.03	-2.52	2.32
1980	59.29	-2.27	2.42
1990	59.21	-2.28	2.47
2000	59.91	-2.22	2.73
2010	58.29	-2.34	2.67
2020	55.82	-2.53	2.33
2030	53.47	-2.72	2.03
2040	50.53	-2.96	1.77
2050	50.92	-2.93	1.93
2060	47.68	-3.22	1.77
2070	44.72	-3.5	1.57
2080	42.74	-3.69	1.38
2090	41.87	-3.78	1.17
2100	41.85	-3.78	0.94
2110	41.15	-3.86	0.72
2120	42.3	-3.74	0.82
2130	44.7	-3.5	1.02
2140	46.69	-3.31	1.29
2150	47.67	-3.22	1.33
2160	49.13	-3.09	1.52
2170	48.45	-3.15	1.62
2180	47.02	-3.28	1.7

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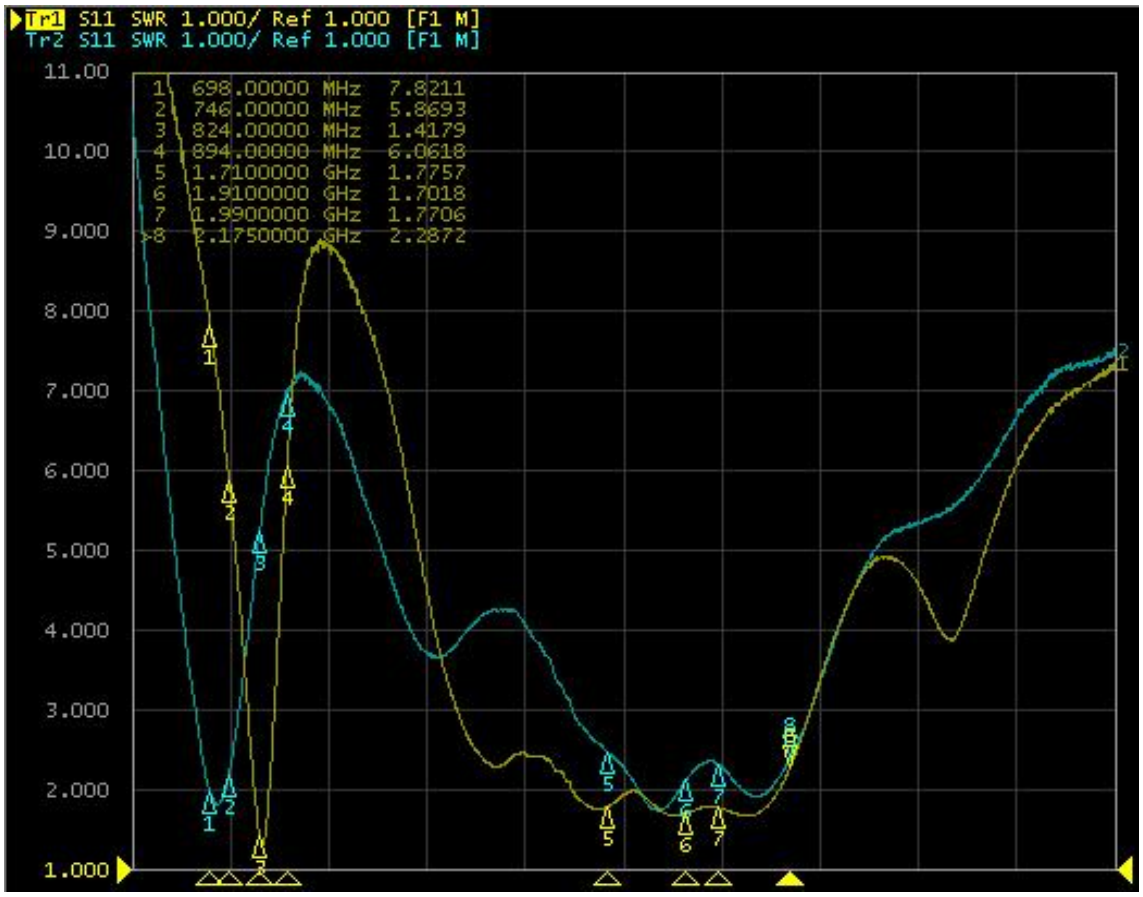
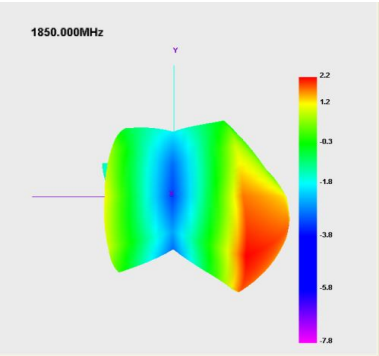
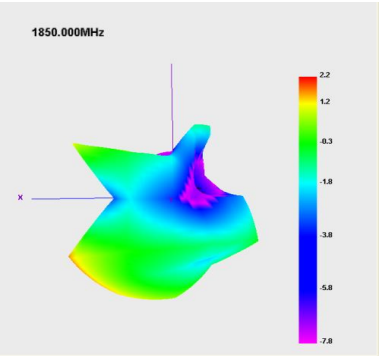
4、Attachment chart

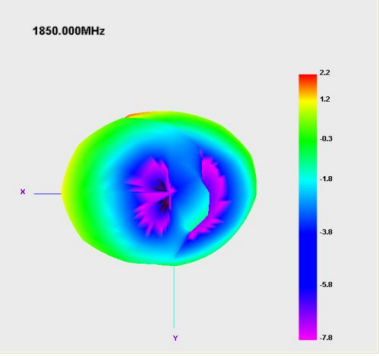
4.1 VSWR parameter diagram



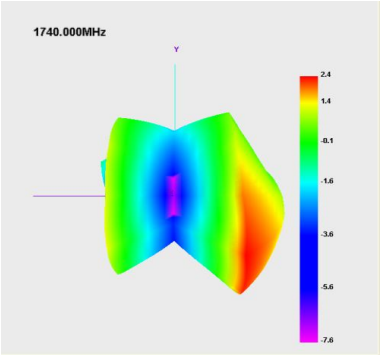
5、Passive field pattern diagram--B2

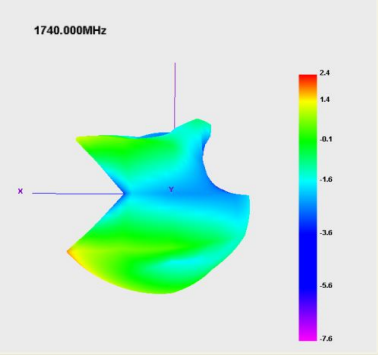


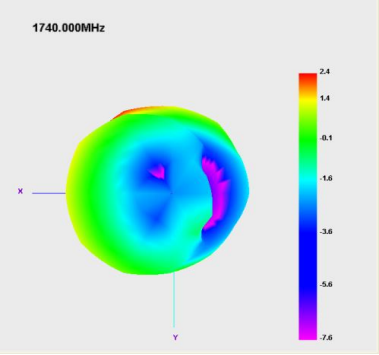




5.1、Passive field pattern diagram--B4







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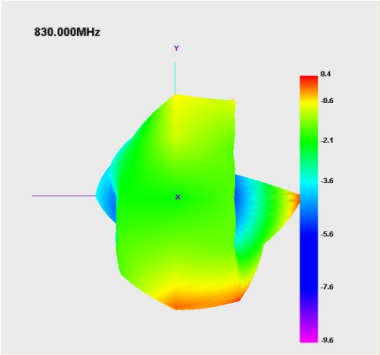
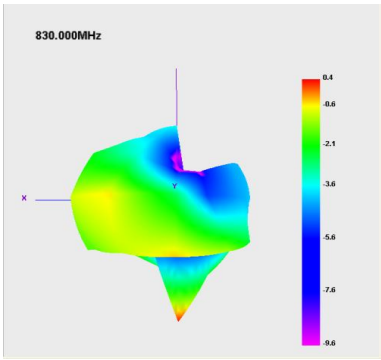
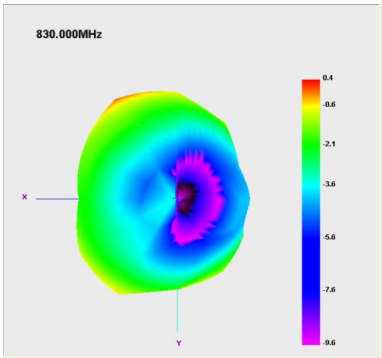
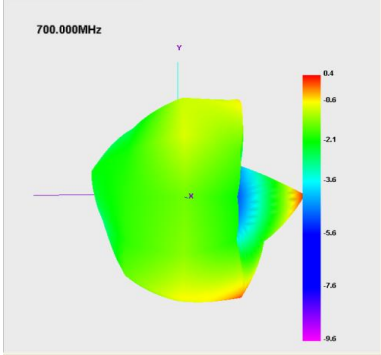
5.2、Passive field pattern diagram--B5

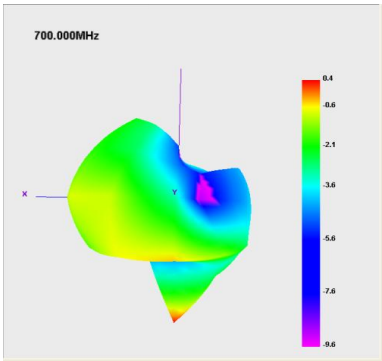


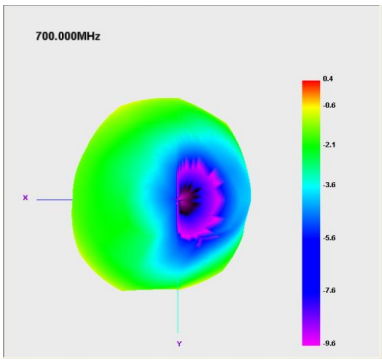




5.3、Passive field pattern diagram--B12







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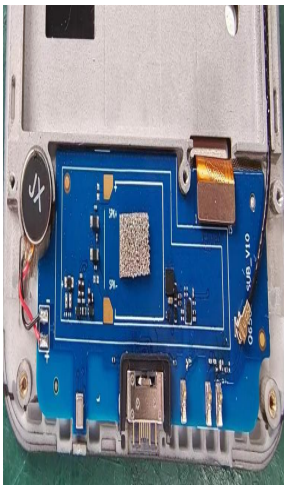
6、environmental treatment

The screen cable should be shielded with conductive cloth and grounded to the screen metal shell. Conductive sponges should be pasted on both sides of the metal shell to ground the screen to the middle frame.

Stick double-sided conductive cloth on the back of the small board to ground the middle frame, and stick double-sided conductive cloth on the motor to ground the middle frame.

Main board with conductive sponge and middle frame grounding.

Double sided conductive cloth pasted on the middle frame and grounding of the screen cable.



Small board with conductive sponge and speaker grounding.

7、conclusion：

This antenna is designed on the basis of the prototype provided by the customer, electrical parameters and structural performance have reached the technical requirements, please confirm!

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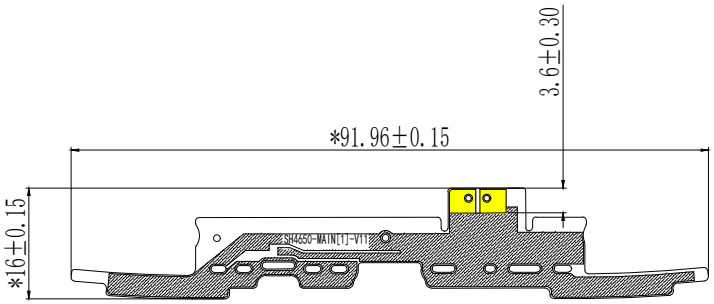
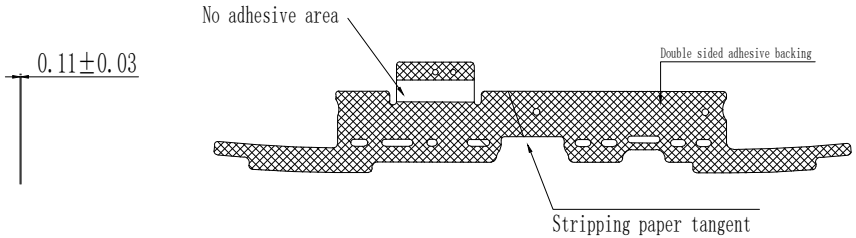
	0~10	10~30	30~50	50~	角度	○	◎	⊥	▱
	0.05	0.10	0.15	0.20	1°	0.02	0.02	0.03	0.05



Black ink
Black characters

TOP



Micro mucosal delivery

BOT

technical requirement:

1. "*" is the key dimension;
2. Please refer to the drawing for unspecified dimensions;
3. Meet RoHS requirements.

A	Initial Issue	2023.05.20	
edition	describe	date	Note

TOPANT

Shenzhen Topant Technology Co., Ltd.

Machine model	Q6505	Product Color	black			date	2023/05/20
Project Code	BQ-6505X-016	Mold surface treatment	NA			MD	BI YE ZHI
Part Name	MAIN antenna	unit	mm	scale	1:1	RF	WANG QIANG
Part Number	1Q-6505X-016-1	Third perspective				check	ZHOU KANG
material	Electrolytic copper PI					ratify	ZHANG LEI
Save Path						current version	A

SPECIFICATION

Daxian Communication Technology Limited

Shenzhen Daxian Technology Co., Ltd.

Unimax Q6505 Diversity Antenna

Product specification

Guest households	Unimax	frequency band	W2/4/5 LTE B2/4/5/12/66
Project name	Q6505	version	V11
Material No.	2Q-6505X-016	color	Black
R F design	Qiang.Wang	structure design	Yezhi.Bi
Quality Manager	Ziyin.Hu	R & D director	Lei.Zhang
Date	2023-05-31		

client confirmation：

Whether the assembly meets your requirements：☐OK ☐NG

Shenzhen Topant Technology Co., Ltd.

Shangshuijing Village, No. 513, ihua Road, BujiTown, Longgang District, Shenzhen (opposite to theNational Defense Training Base)reached the 7thfloor of the Industrial Park Complex
TEL:0755-28576002
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Shanghai Branch: Room 201, Building 8 No, 3000Longdong Avenue,Integrated Circuit IndustrialZone, Zhangjiang Hi-tech Park, Shanghai
TEL:021-61630552
FAX:755-84276383

Change resume

version number	Change content	Reason for change	Initiate change Party	date	Modifier
V1.0	create			2023.5.31	

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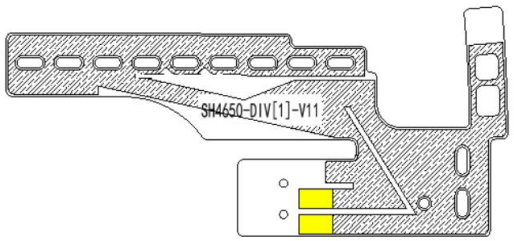
一 Project description

Customer name:	Unimax
Whole machine type:	mobile phone
Antenna band:	W2/4/5，LTE B2/4/5/12/66
Antenna form:	FPC
Feed form:	welding
Number of feed feet:	2 left and right ears
Hardware version:	motherboard:

一、Diversity Antenna

This report provides a variety of measurements of the electrical performance of the Q6505 antenna. Figure 1 shows the antenna designed by the display.



Whole machine appearance chart **antenna appearing diagram**

Figure 1

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1.1 Electrical specification standard

The frequency range of the antenna is 1850MHz~1990MHz,1710MHz~2155MHz,824MHz~894MHz,699MHz~746MHz,1710MHz~2200MHz,1852MHz~1987MHz,1710MHz~1880MHz,826MHz~891MHz**. The following table indicates the electrical performance specifications of the antenna. The antenna is designed and manufactured by a large display.**

LTE -band B2				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmit TX		**The receiving end RX**	
LTE -B 2	1850~1910	≤4	1930~1990	≤4
LTE -band B4				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmit TX		**The receiving end RX**	
LTE -B 4	1710~1755	≤4	2110~2155	≤4
LTE -band B5				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmitter TX		**The receiving end RX**	
LTE -B 5	824~849	≤4	869~894	≤4
LTE -band B12				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmitter TX		**The receiving end RX**	
LTE -B 12	699~716	≤4	729~746	≤4
LTE -band B66				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmitter TX		**The receiving end RX**	
LTE -B 66	1710~1780	≤4	2110~2200	≤4
WCDMA-band 2				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmitter TX		**The receiving end RX**	
W-B2	1852~1907	≤4	1932~1987	≤4
WCDMA-band 4				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmitter TX		**The receiving end RX**	
W-B4	1710~1785	≤4	1805~1880	≤4
WCDMA-band 5				
band	**band (MHz)**	**VSWR**	**band (MHz)**	**VSWR**
	The transmitter TX		**The receiving end RX**	
W-B5	826~846	≤4	871~891	≤4

Confidential requirement
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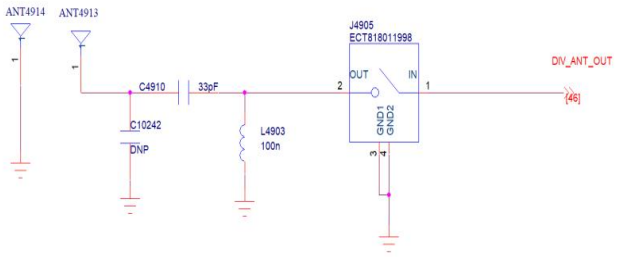
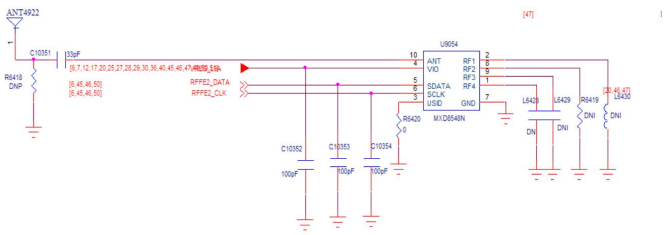
1.2 antenna matching





C10242: 18NH
C4910: Unchanged
L4930: Unchanged

diversity switch
L6430: 0Ω
R6419: 9.1NH

Diversity switch logic:

RF1: W2/4/5 B2/4/5/66
RF2: B12
RF3: NC
RF4: NC

RF1: 0Ω
RF2: 9.1NH
RF3: NC
RF4: NC

1.3 Antenna composition

The antenna is mainly composed of FPC.

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2、 The Equipment of Active Test

Satimo 3D Chamber　6×4×4(m)

Agilent 8960 E5515c

Network analyzer-R&S ZVL

Figure 2

Confidential requirement
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3 test

3.1 The Test of standing Wave (VSWR)

3.1.1 The Test of standing Wave (VSWR)： In turn, the connection of the VSWR testing device is as follows: RES ZVL Network Analyzer / testing Line / testing tool

Actual measurement (with diagram)

3.2 Measurement of Efficiency, Power (TRP) and Sensitivity (TIS)

3.2.1 Test site：

Large-scale microwave darkroom. The test frequency range is 400MHz / 6GHz, the static range is 50cm circumferential and the reflectivity is less than-50 dB..

3.2.2 Test instrument：

Rs ZVL Network Analyzer, Agilent8960 E5515C, Standard Horn Antenna, French SATIMO-SG24SYSTEM system, Printer, etc.

3.2.3 test data ：In microwave anechoic chambers, the power and sensitivity values measured are shown in the following table:

OTA Active Test:

Test mode: LOW			Test mode: High			Test mode: High			Test mode: High			Test mode: High		
free space			the left hand			the right hand			Left hand			Right hand		
2	21.04		2	18.87		2	19.1		2	16.54		2	16.04	
	20.91			19.2			19.16			16.52			15.85	
	20.12	-95.33		18.53	-91.69		18.87	-96.02		15.95	-90.15		15.4	-94.09
4	20.19		4	15.63		4	16.61		4	13.96		4	13.25	
	20.39			16.62			17.78			15.12			14.15	
	20.6	-95.81		17.68	-91.16		18.72	-95.74		16.06	-89.22		15.02	-93.82
5	20		5	15.98		5	16.08		5	11.03		5	11.12	
	20.11			15.88			16.09			10.39			10.57	
	19.69	-91.15		14.92	-90.24		15.32	-90.06		10.27	-86.22		10.12	-85.9
12	19.52		12	15.72		12	15.08		12	10.11		12	11.03	
	18.72			16.34			15.7			10.75			11.37	
	19.94	-96.82		16.7	-92.41		16.25	-96.47		11.04	-93.09		11.7	-93.28
66	20.66		66	16.64		66	17		66	15.1		66	14.35	
	21.06			17.85			18.17			16.3			15.35	
	21.23	-95.68		18.11	-91.31		18.35	-94.39		16.61	-89.23		15.5	-93.29
W2	20.89		W2	14.47		W2	19.31		W2	12.35		W2	18.31	
	20.69			14.17			19.28			12.05			18.03	
	20.16	-106.79		14.08	-100.56		18.83	-105.06		11.68	-102.06		17.61	-103.16
W4	20		W4	15.56		W4	18.73		W4	13.69		W4	17.05	
	20.28			15.26			18.58			13.49			17.02	
	20.31	-107.31		15.91	-101.51		19.13	-104.86		14.32	-98.68		17.89	-104.61
W5	20.66		W5	17.59		W5	14.47		W5	13.25		W5	12.48	
	20.44			17.17			14.37			13.4			11.78	
	19.95	-104.07		16.71	-98.56		14.08	-98.39		12.79	-94.66		11.56	-94.73

Confidential requirement
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OTA Passive Efficiency&Gain Test:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
820	20.03	-6.98	-3.36
830	22.99	-6.38	-2.57
840	23.41	-6.31	-2.17
850	21.23	-6.73	-2.22
860	17.04	-7.69	-3.46
870	15.98	-7.96	-3.41
880	12.47	-9.04	-4.04
890	10.97	-9.6	-5.23

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
690	16.55	-7.81	-4.25
700	18.71	-7.28	-3.29
710	20.09	-6.97	-2.72
720	19.21	-7.17	-3.05
730	16.65	-7.79	-4.09
740	14.13	-8.5	-5.55
750	13.16	-8.81	-5.74
760	12.56	-9.01	-5.98

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1700	28.74	-5.42	-0.51
1710	31.09	-5.07	-0.45
1720	32.23	-4.92	-0.22
1730	32.9	-4.83	0.01
1740	34.27	-4.65	0.17
1750	34.57	-4.61	-0.01
1760	34.99	-4.56	-1.07
1770	35.04	-4.55	0.18
1780	35.19	-4.54	-1.12
1790	35.26	-4.53	-0.16
1800	35.31	-4.52	-1.22
1810	35.62	-4.48	-1.13
1820	35.67	-4.48	-0.72
1830	35.8	-4.46	-0.97
1840	36.05	-4.43	-0.88
1850	36.26	-4.41	-0.14
1860	36.81	-4.34	-0.25
1870	36.94	-4.33	-0.41
1880	37.16	-4.3	-0.87
1890	37.29	-4.28	-0.78
1900	38.48	-4.15	-0.5
1910	38.89	-4.1	0.21
1920	39.48	-4.04	0.39

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1930	39.46	-4.04	0.2
1940	41.16	-3.86	0.57
1950	43.77	-3.59	0.94
1960	45.77	-3.39	1.13
1970	50.21	-2.99	1.39
1980	51.88	-2.85	1.49
1990	53.18	-2.74	1.44
2000	54.77	-2.61	1.4
2010	54.27	-2.65	1.05
2020	53.59	-2.71	1.07
2030	51.9	-2.85	0.99
2040	51.44	-2.89	0.86
2050	52.08	-2.83	0.93
2060	51.43	-2.89	0.76

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2070	50.42	-2.97	0.59
2080	49.83	-3.03	0.33
2090	48.36	-3.15	0.21
2100	47.46	-3.24	0.12
2110	45.5	-3.42	-0.08
2120	43.93	-3.57	-0.45
2130	43.3	-3.63	-0.72
2140	41.9	-3.78	-1.01
2150	41.35	-3.84	-0.96
2160	40.28	-3.95	-0.9
2170	38.68	-4.12	-0.94
2180	38.77	-4.12	-0.72
2190	38.41	-4.16	-0.49
2200	38.1	-4.19	-0.23

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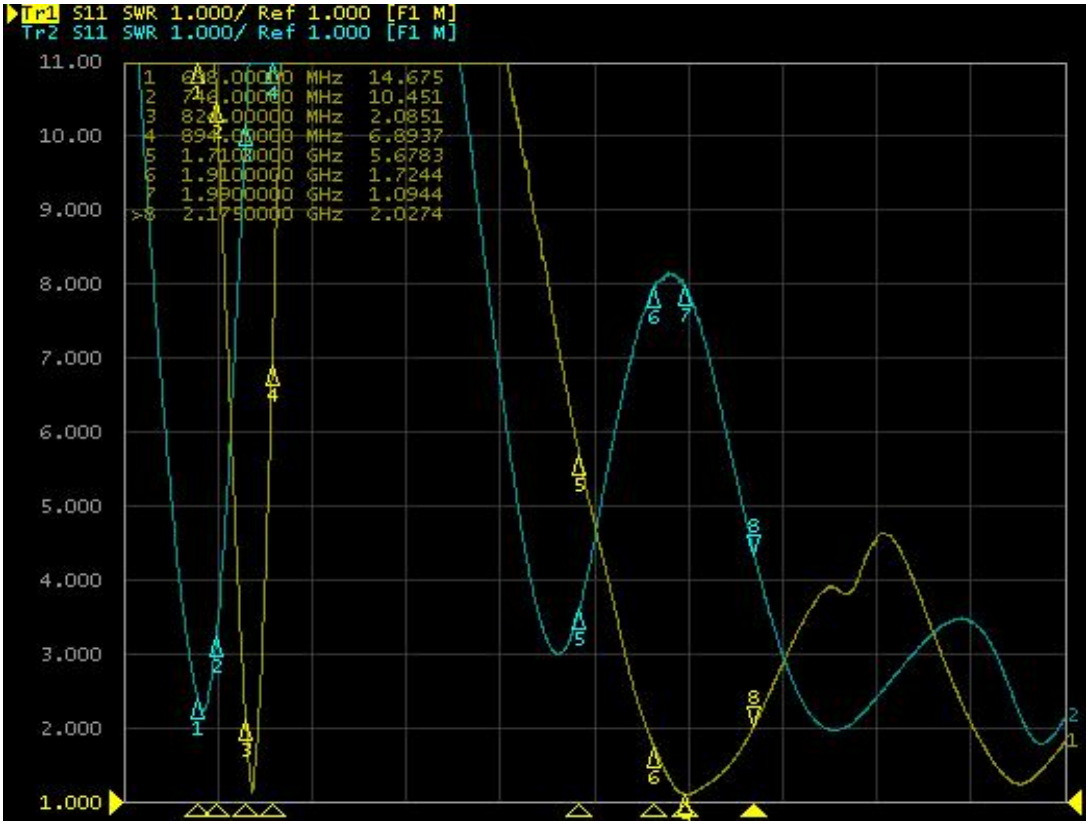
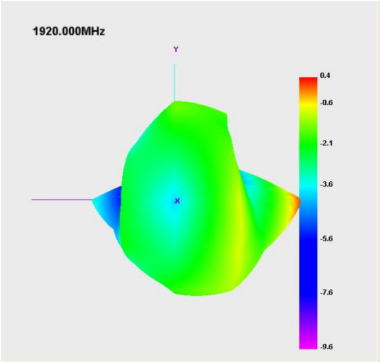
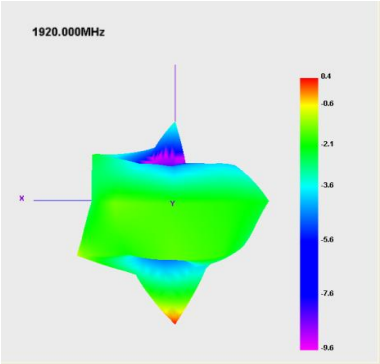
4、Attachment chart

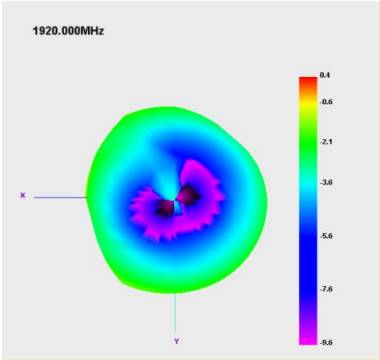
4.1 VSWR parameter diagram



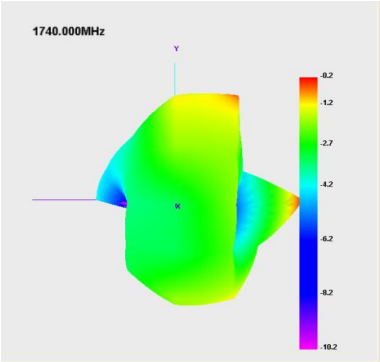
5、Passive field pattern diagram--B2

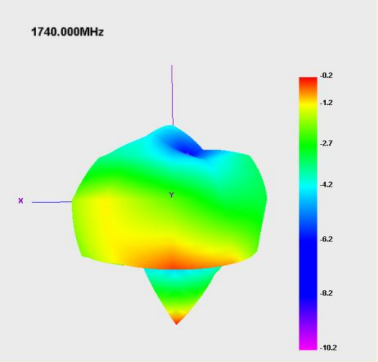


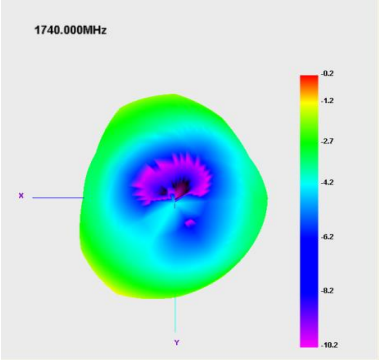




5.1、Passive field pattern diagram--B4







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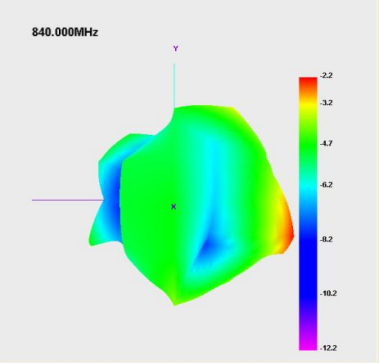
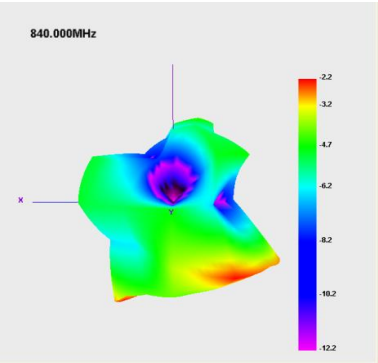
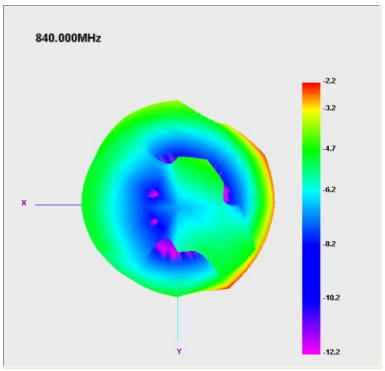
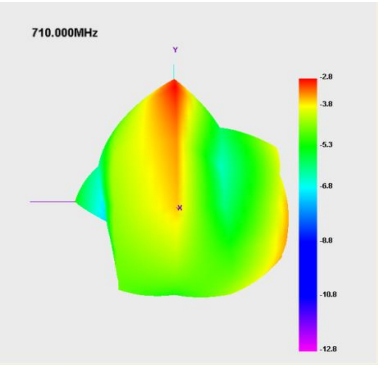
5.2、Passive field pattern diagram--B5

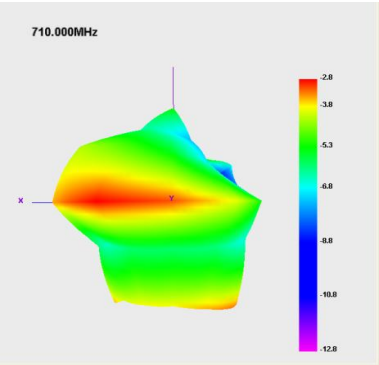


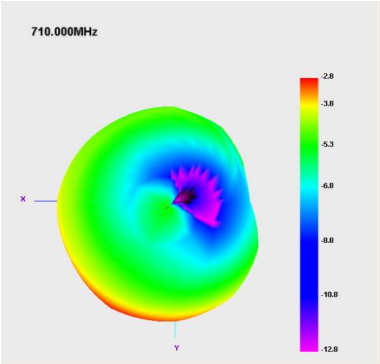




5.3、Passive field pattern diagram--B12







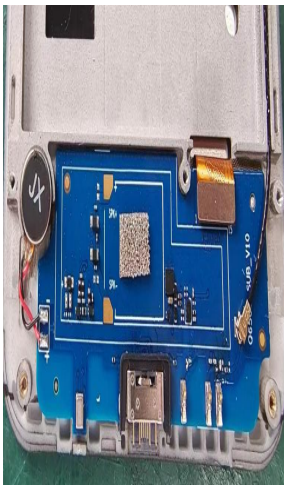
6、environmental treatment

The screen cable should be shielded with conductive cloth and grounded to the screen metal shell. Conductive sponges should be pasted on both sides of the metal shell to ground the screen to the middle frame.

Stick double-sided conductive cloth on the back of the small board to ground the middle frame, and stick double-sided conductive cloth on the motor to ground the middle frame.

Main board with conductive sponge and middle frame grounding.

Double sided conductive cloth pasted on the middle frame and grounding of the screen cable.



Small board with conductive sponge and speaker grounding.

7、conclusion：

This antenna is designed on the basis of the prototype provided by the customer, electrical parameters and structural performance have reached the technical requirements, please confirm!

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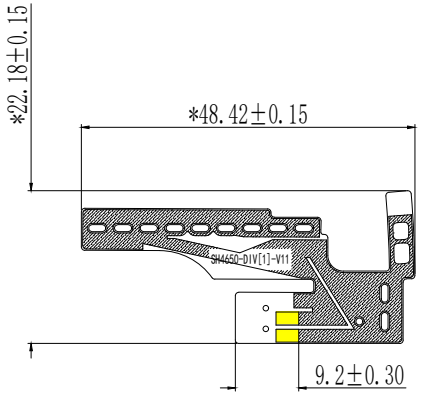
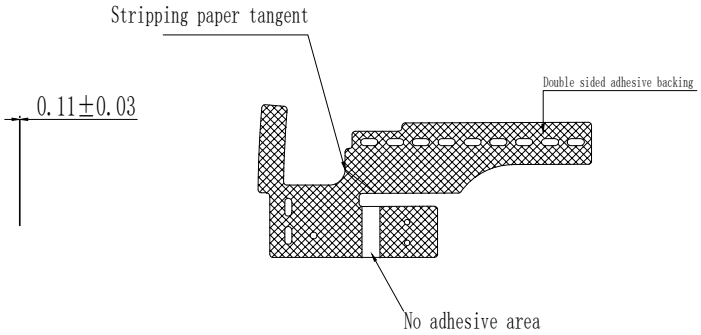
	0~10	10~30	30~50	50~	角度	○	◎	⊥	▱
	0.05	0.10	0.15	0.20	1°	0.02	0.02	0.03	0.05



Black ink
Black characters

TOP



Micro mucosal delivery

BOT

technical requirement:

1. "*" is the key dimension;
2. Please refer to the drawing for unspecified dimensions;
3. Meet RoHS requirements.

A	Initial Issue	2023.05.20	
edition	describe	date	Note

TOPANT

Shenzhen Topant Technology Co., Ltd.

Machine model	Q6505	Product Color	black			date	2023/05/20
Project Code	BQ-6505X-016	Mold surface treatment	NA			MD	BI YE ZHI
Part Name	DIV antenna	unit	mm	scale	1:1	RF	WANG QIANG
Part Number	2Q-6505X-016-1	Third perspective				check	ZHOU KANG
material	Electrolytic copper PI					ratify	ZHANG LEI
Save Path						current version	A