

Shenzhen Kaipu Shen Communication Technology
Co., Ltd

Sample Confirmation Letter

Customer Name: Ruikuo Technology

entry name: S10+

Sample Name: Bluetooth antenna

Color/Version: black/A

Date of signature: 2024-01-19

Supplier confirmation	make	research and development	structure	quality
Customer confirmation	project	appearance	Structure	quality
conclusion	☐ Batch use MP ☐ Limited use () K			

☐ ROHS

Supplier Name: Shenzhen Kaipu Shen Communication Technology Co., Ltd

Supplier Address: 2nd Floor, Yulong Office Building, Longcheng Industrial Zone, No. 440 Longguan Avenue, Longhua New District, Shenzhen

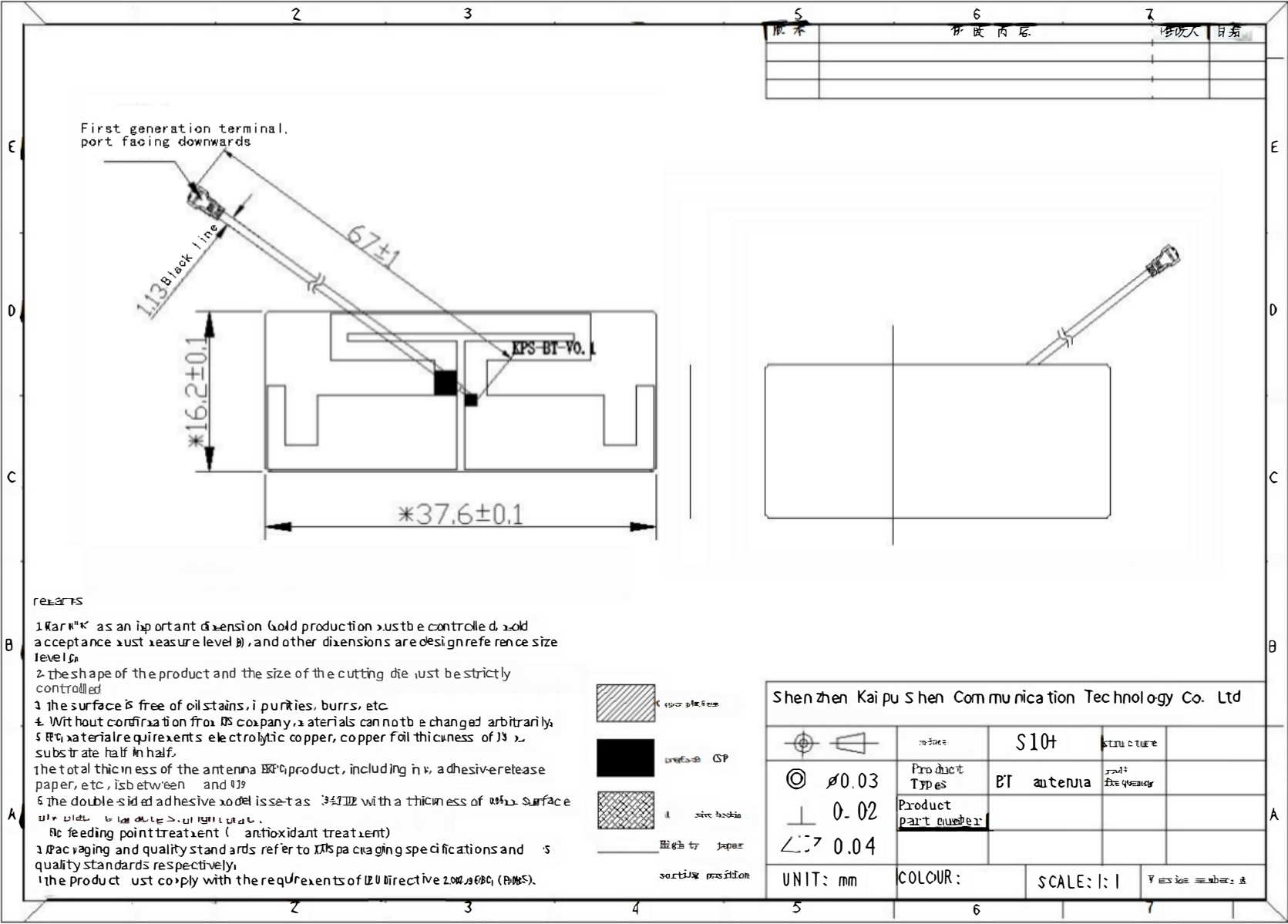
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Catalogue

- 1、 Cover
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- 6、 Salt spray test report
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3.1: Antenna ICD diagram



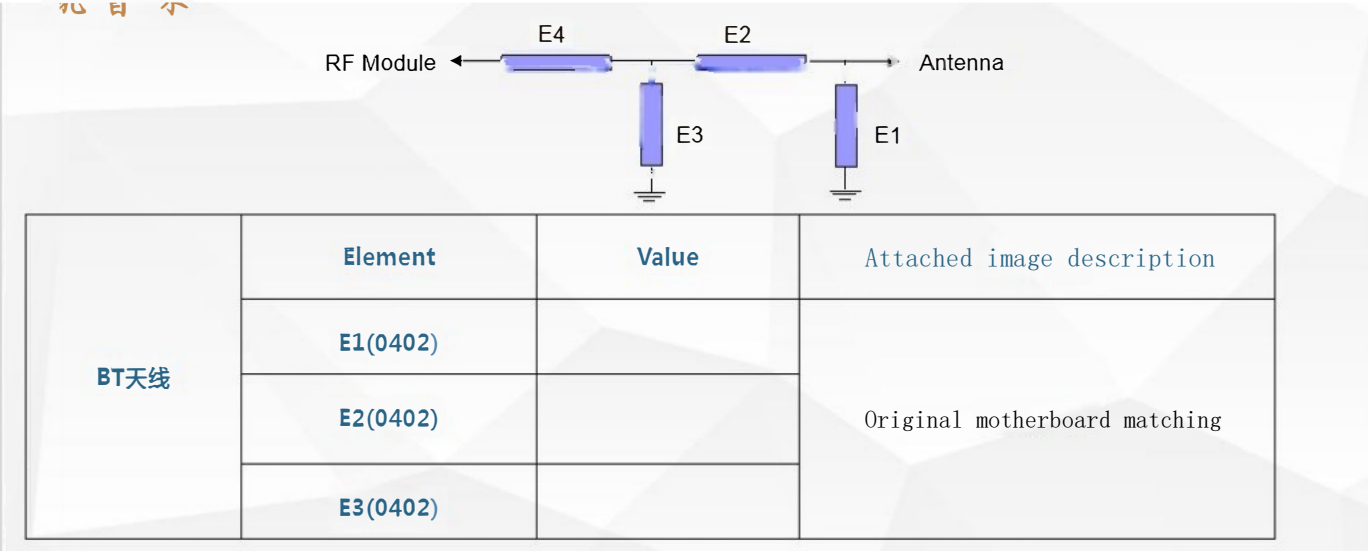
4.1

4.1-1 Specification Standards

The S10 antenna resonates in the operating frequency range of 2400M-2480.

4.1-2 Matching circuit of antenna

;Bluetooth antenna: The matching circuit is as follows:



4.2 Standing Wave Ratio (VSWR) Test

4.2-1 Test Settings

The standing wave ratio (VSWR) testing device is sequentially connected as follows: E571B network analyzer → 50 ohm coaxial cable → 150mm long copper tube → testing fixture.

Processing of test fixture: Use a hard cable to lead out the SMA-J connector from the 50 ohm test point of the antenna on the PCB of the tested object

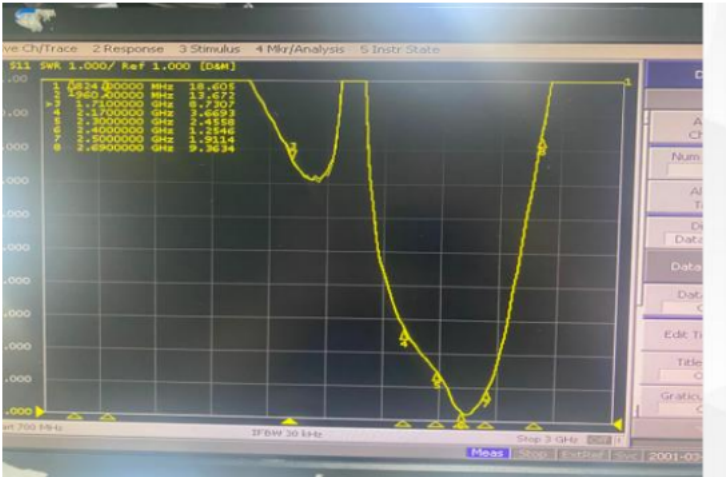
Connect the copper tube with a choke coil, and then connect other devices in sequence.

4.2-2 Voltage Standing Wave Ratio Test:

The following table shows the standing wave ratio of the edge frequency points of the BT antenna operating frequency band:

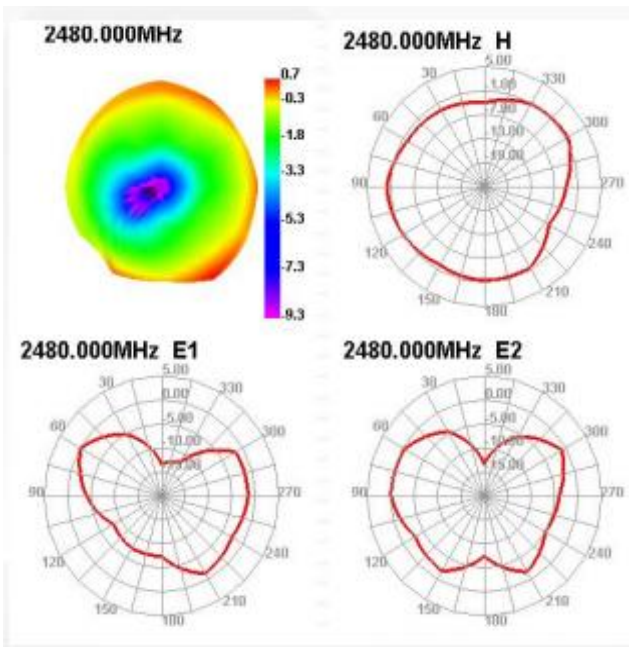
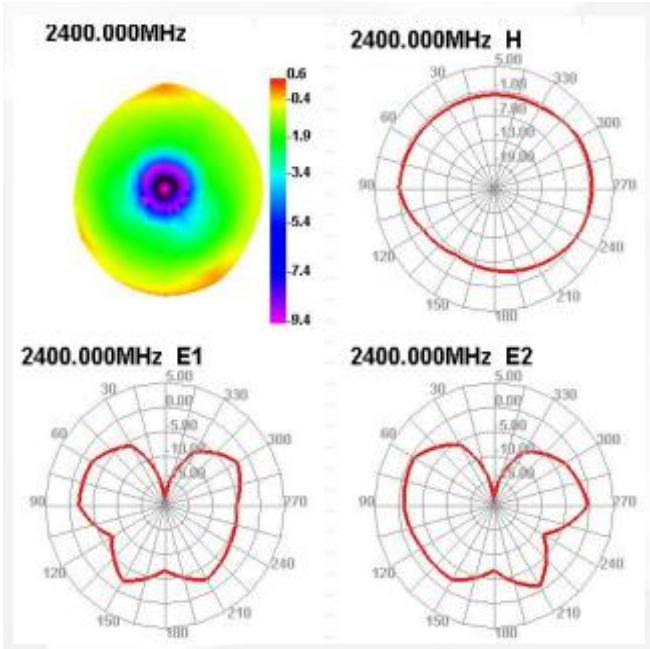
Fre (MHZ)	2400	2500			
VSWR	2.1	1.8			

4.2-3 Passive Test Results



Bluetooth antenna passive test data

3	(MHz)	(%)	(dB)	(dBi)	(dBd)	(%)	(%)
4	2300	48.77	-3.12	0.84	-1.31	21.526	27.1
5	2310	46.78	-3.3	0.64	-1.51	20.983	25
6	2320	49.41	-3.06	1.38	-0.77	20.902	28.5
7	2330	46.17	-3.36	0.72	-1.43	19.049	27.1
8	2340	45.53	-3.42	0.84	-1.31	18.6	26.92
9	2350	46.96	-3.28	1.18	-0.97	18.98	27.98
10	2360	47.42	-3.24	1.45	-0.7	18.637	28.78
11	2370	46.78	-3.3	1.36	-0.79	18.669	28.10
12	2380	53.64	-2.7	2.13	-0.02	21.59	32.05
13	2390	48.55	-3.14	1.75	-0.4	18.774	29.774
14	2400	47.93	-3.19	1.55	-0.6	18.422	29.506
15	2410	44.58	-3.51	1.27	-0.88	17.002	27.578
16	2420	47.41	-3.24	1.5	-0.65	17.954	29.461
17	2430	49.31	-3.07	1.86	-0.29	18.155	31.154
18	2440	55.19	-2.58	2.59	0.44	21.253	33.935
19	2450	55.09	-2.59	2.5	0.35	21.096	33.992
20	2460	53.36	-2.73	2.46	0.31	20.364	32.998
21	2470	49.52	-3.05	2.02	-0.13	18.473	31.047
22	2480	50.53	-2.96	2.08	-0.07	18.713	31.812
23	2490	52.85	-2.77	2.36	0.21	18.531	34.321
24	2500	53.9	-2.68	2.64	0.49	18.49	35.412
25	2300.00MHz - 2500.00MHz Gain						
26							



4.3 Whole machine antenna environme

Your company provides original environmental treatment for the entire machine

Full size measurement report

	customer	Ruikuo Technology		entry name		S10+						Material Science	Electrolytic copper
	supplier	Kaipu Shen		Measurement tools		pixiv		Measurement unit		MM		Measurement date	2024/1/12
NO.	size	upper limit	+ TOL.	- TOL.	lower limit	Actual testing1	Actual testing2	Actual testing3	Actual testing4	Actual testing5	Actual testing6	UPPER≤100%	LOWER≤100%
1	37.60	37.70	0.10	0.10	37.50	37.62	37.61	37.58	37.62	37.62	37.61	20%	20%
2	16.20	16.30	0.10	0.10	16.10	16.18	16.22	16.21	16.21	16.19	16.19	20%	20%
3	67.00	68.00	1.00	1.00	66.00	67.30	67.20	67.20	67.25	67.30	67.20	30%	0%
4													
5													
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11													

able: Chen Jian

Reviewed by: Wu Xingtuo

Salt spray test report

Date: January 12, 2024

project	S10+-FPC antenna	Customer Name	Ruikuo Technology
supplier	Shenzhen Kaipu Shen Communication Technology Co., Ltd	National testing standards	GB/T 2423.2-2008
Sample situation	Sample quantity: 5PCS		
Test time	共计 24 H		
Test type:	☒ NSS	☐ ASS	☐ CASS
Experimental conditions	Salt solution: 5%		PH:7.0
	Temperature inside the box: 35° C		relative humidity: 85%
	Spray mode: ☒ continuity ☐ intermission		Compressed air pressure: 1kg/cm²
	Salt spray settling rate: 1-2ml/80cm2/h		Mist collection: 1.4ml/80cm2/h
	Test cycle: __1_ cycles		Spray time: 24 h
Experimental results	Appearance after the experiment: The appearance is intact and undamaged, with no significant changes.		
	Coating: No peeling or rusting		
	Surface spraying and screen printing: no peeling or bubbles		
explain: 1. The standard for salt spray test operation shall be implemented in accordance with the national standard GB/T2423.17-2008 of the People's Republic of China 2. The judgment criteria for test piece results shall be implemented in accordance with the national standard GB/T6461-02 of the People's Republic of China			
Tester/Date: Chen Jian Reviewed/Date: Wu Xingtuo January 13, 2024			

Packaging method (Packing)

Customer Name:	Ruikuo Technology	Material name:	S10+-FPC antenna
Packaging quantity:	1box	packaging:	Cardboard box
Packing quantity:		Packaging method:	Sealed pocket packaging



Figure 1: Single piece packaging



Figure 2: Packing and



Figure 3: View of the packaging box (front, side, top)



Figure 4: Outer box label