Shanghai Shangyuan Communication Technology Co., LTD

Antenna admission book

Customer name: Yunjia	Project name: VDT700
Working frequency band: Bluetooth/WIFI; 2400-2500MHz, 5000-6000MHz	
Hardware version：PAD01_PX30_MB_V2.1 20230819&PD_VCI__V0.2_20231027	
Shangyuan material specifications	

specifications and models	Shang Yuan material number	Customer material number
WIFI1 ant	SZ224087IB74	2.1.09.12.009801

Change the resume

Preparation / change date	Change the content	Change the person	edition
2024/03/08	A new release	Xu Wei	A

Shang Yuan will sign the column

research and development	structure:	examine and verify:	Quality Engineer:	ratify:
	radio frequency:	examine and verify:		

The customer will sign the column

electronic engineer	project manager	construction engineer	Quality engineer

Catalogue

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1、item information

1.1、Prototype diagram

2、Antenna matching circuit

No change in matching circuit

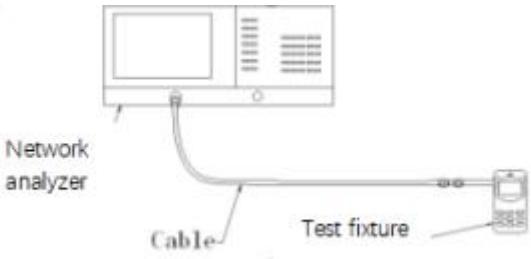
3、Overall test data

3.1 S11 Test Method Description

Test Equipment: Network Analyzer (Agilent E5071C)

Test method: Export a 50 Ohm CABLE cable from the instrument test port, connect the SMA connector of the test device after the calibrator, and record the echo loss and standing wave ratio corresponding to the relevant frequency point.

The test schematic diagram is as follows:



Schematic diagram of the test

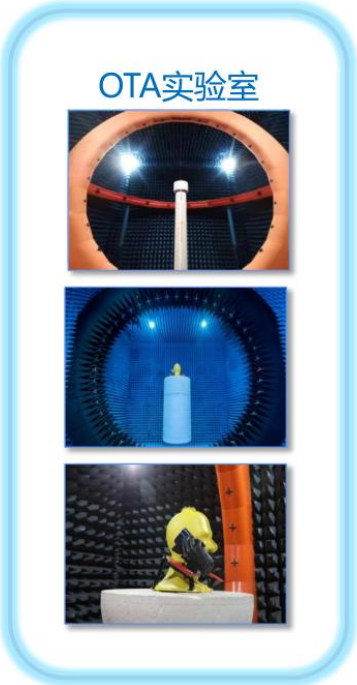
3.2 Testing Environment

Test System: MPS 6450 Multi-sensor OTA Measurement System (XH-IoT)

Test environment: temperature 22℃± 3℃, humidity 50% ± 15%

Test equipment: Use the network analyzer R & S ZND / Agilent E5071C when testing the passive data

When testing active data, use the comprehensive meter Agilent 8960 / CMW500 / S P9500E / SP 8315



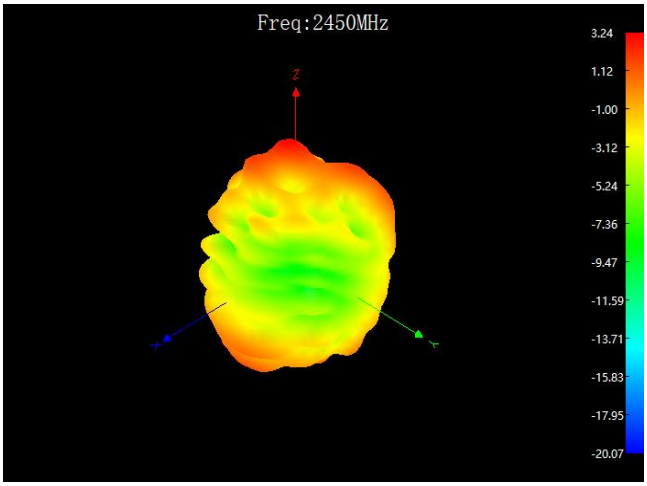
3.3 Passive testing parameters

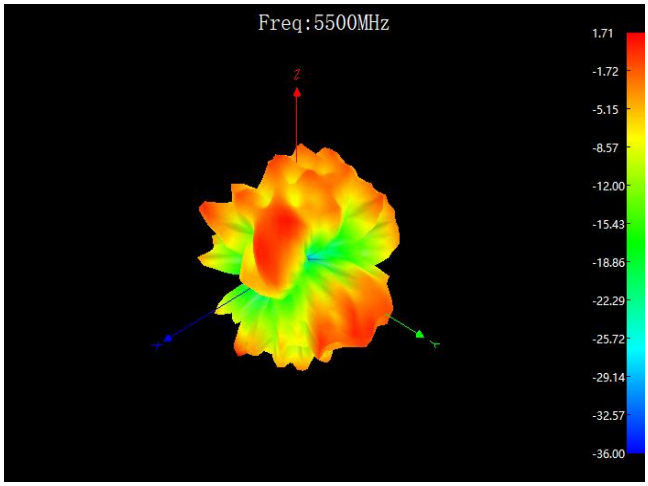
VSWR

Passive efficiency and Max Gain

Frequency/ Mhz	Efficiency / %	MaxGain/ dBi	Frequency/ Mhz	Efficiency / %	MaxGain/ dBi
2400	42.46	2.91	5150	36.48	0.98
2410	42.17	3.05	5200	35.73	1.1
2420	41.3	3.01	5250	34.12	0.92
2430	42.46	3.17	5300	33.11	1.13
2440	43.75	3.27	5350	33.11	0.93
2450	43.25	3.24	5400	33.11	1.31
2460	42.07	3.11	5450	33.57	1.29
2470	42.66	3.18	5500	33.96	1.71
2480	42.56	3.19	5550	33.34	1.5
2490	41.02	3.11	5600	33.05	1.09
2500	40.08	3.08	5650	32.58	0.69
			5700	32.11	0.58
			5750	30.72	0.79
			5800	30.19	1.61
			5850	29.83	2.24

Passive direction diagram

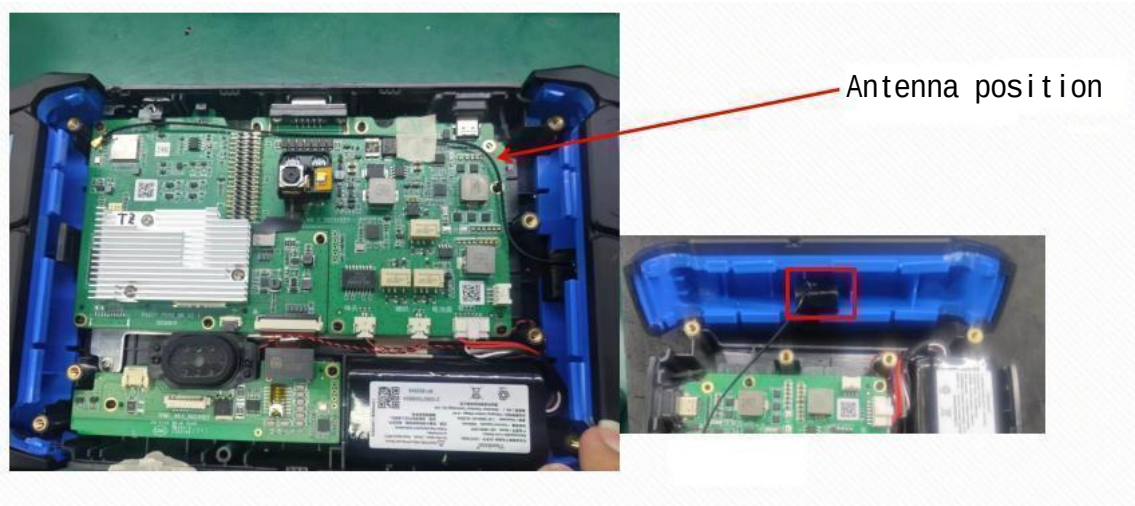




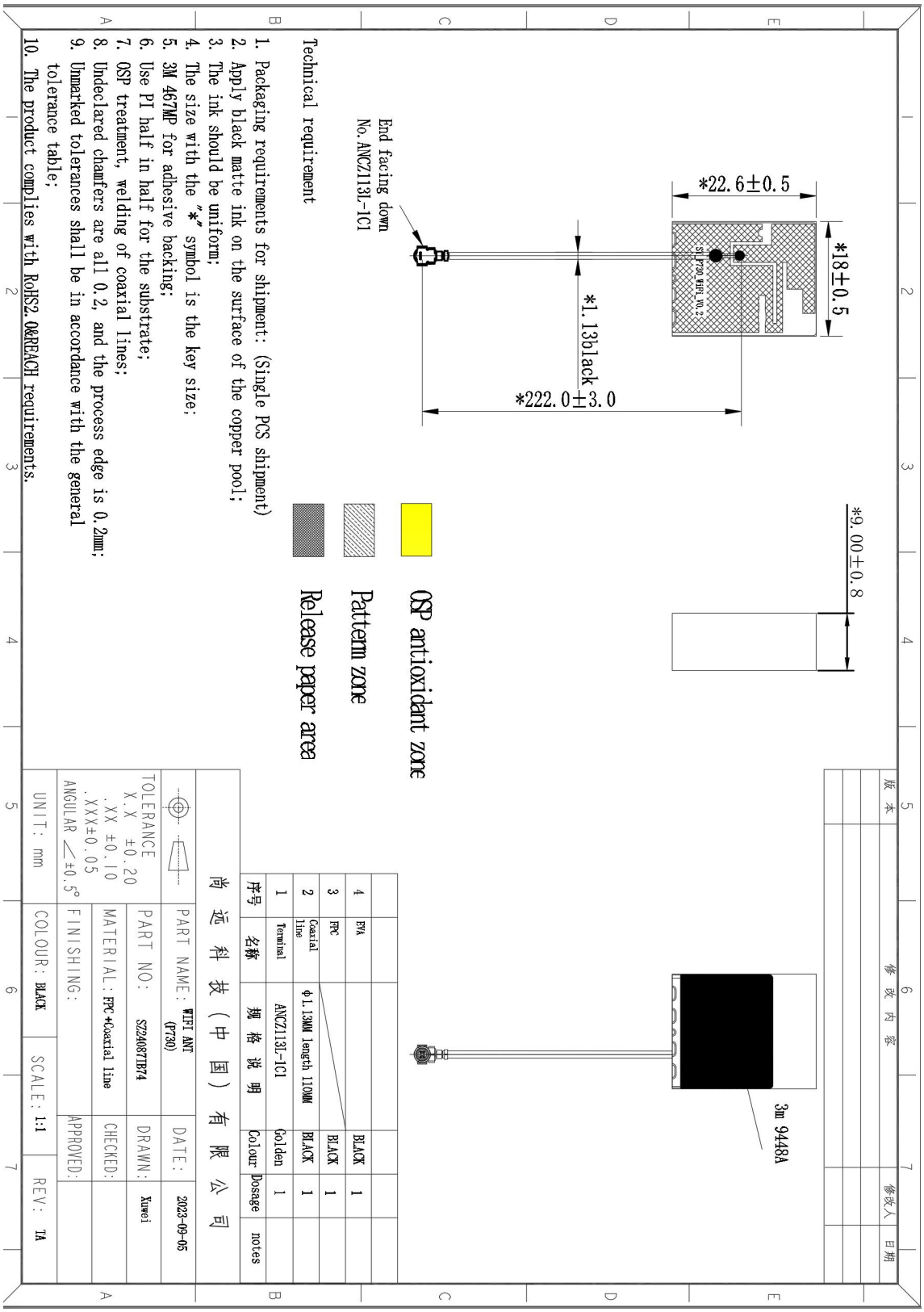
3.4 Active test data

Measurement	Band	Channel	Total
TRP	WIFI_B (11M)	1	13.95
TRP	WIFI_B (11M)	6	14.18
TRP	WIFI_B (11M)	11	13.89
TIS(EIRP)	WIFI_B (11M)	11	-81.03
TRP	WIFI_G (54M)	1	13.08
TRP	WIFI_G (54M)	6	13.15
TRP	WIFI_G (54M)	11	13.29
TIS(EIRP)	WIFI_G (54M)	11	-70.27
TRP	WIFI_N_ISM (65M)	1	12.95
TRP	WIFI_N_ISM (65M)	6	12.46
TRP	WIFI_N_ISM (65M)	11	12.08
TIS(EIRP)	WIFI_N_ISM (65M)	11	-70.14
TRP	WIFI_A (54M)	36	13.3
TRP	WIFI_A (54M)	149	12.63
TRP	WIFI_A (54M)	165	12.65
TIS(EIRP)	WIFI_A (54M)	165	-67.47

4、Prototype environment processing method



5、Antenna installation position

The antenna is assembled as shown in the following figure

6、Engineering Drawing