

SPECIFICATION FOR APPROVAL

CUSTOMER: _____

CUS PARTNO: _____

PARTNAME: _____ Built-in antenna

TPTPART NO: _____ WWXL6012999

VERSION: _____ 1.0

CUS STAMP:

DATE:

Purchasing Dept	Engineering Dept	Approval

WWXL:

Date: November 29, 2025

Engineering Dept	Sales Dept	Approval
Dai Hongbo		Tong Xiaoyan



Shenzhen all things connected Communication Co.,Ltd
All things connected Communication Xiangyang Co.,Ltd.

Please return one specification or one copy of it with your chop and signature of approval and retain the others for your record. In the event of an order being placed for this part number before the chop and signed with specification (or copy) is returned and without special explanation, it will be assumed that full approval have been given.

Shenzhen all things connected Communication Co.,Ltd.

All things connected Communications Xiangyang Limited

Add: Room 1101-1112,Building 4,Fangdacheng,No2,Longxhu 4 th Road, Nanshan District, Shenzhen City

Add: Hubei Xiangyang Gucheng County 1-3 Shuang Yang Road Taoyuan Street, All things connected industrial park,

Cell phone: 136 6268 4409

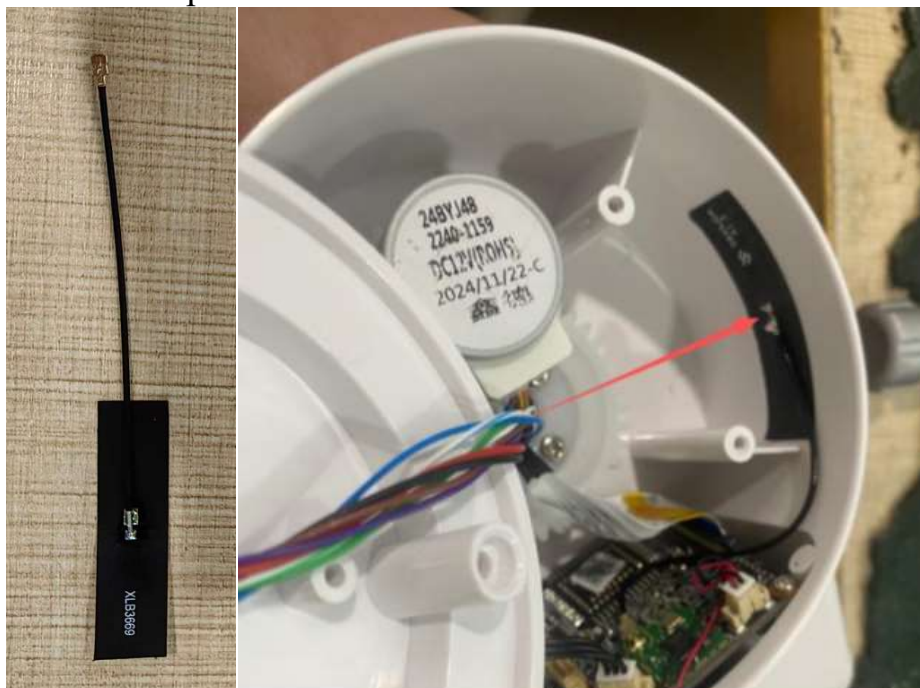
URL: www.wwxltx.cn

INDEX 目录

cover	1
Index	2
一、Product pictures	3
二、Test parameters	3
三、Antenna Passive Parameters.....	4
1、VSWR.....	4
2、Gain and Efficiency	4
3、2D/3D directional diagram 2D/3D.....	5
4、Active data:.....	6
四、Product features.....	6
五、Drawing	7
六、Reliability testing.....	8
1、Environmental experiment	8
2、Salt spray test	9
七、Packing instruction	10

Specification for Antenna

一、Product pictures

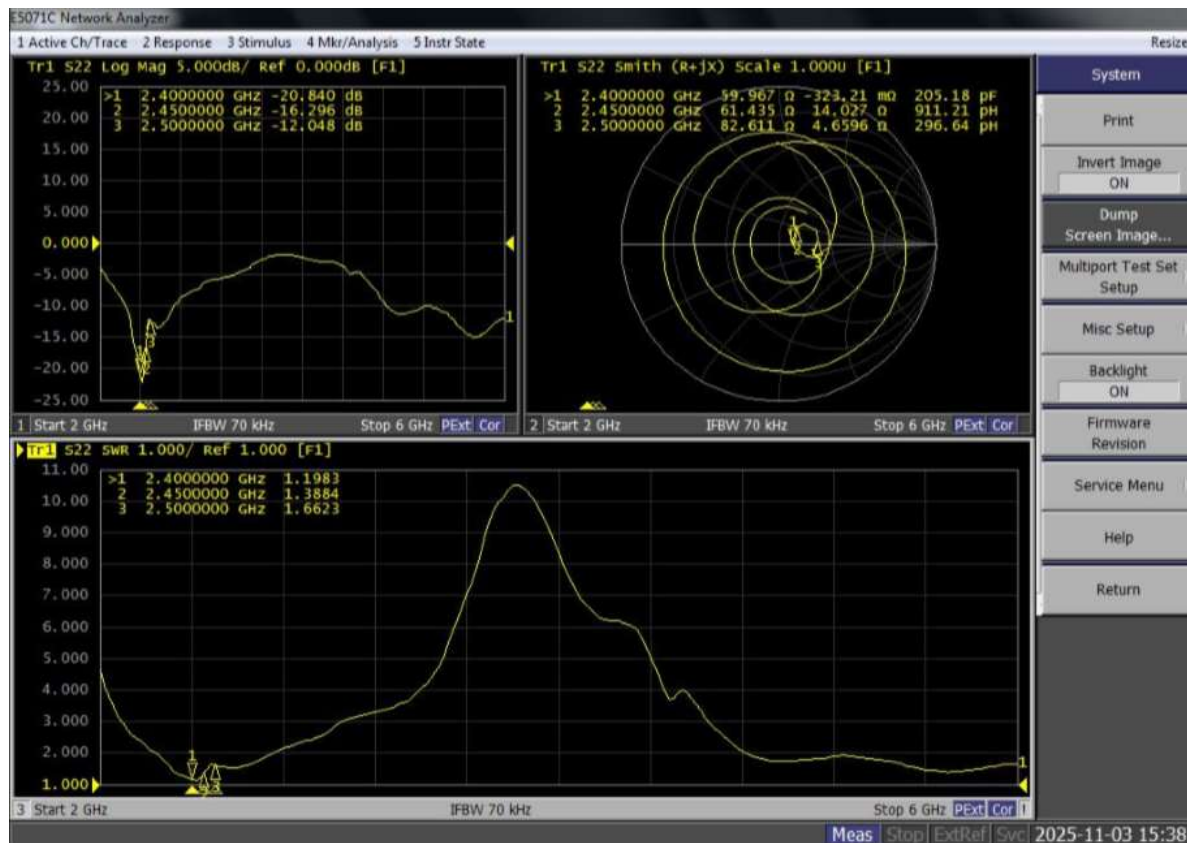


二、Test parameters

Name: WIFI antenna (WWXL6012999)		ModelType	
ELECTRICAL SPECTFICATIONS		MECHANICAL SPECTFICATIONS	
FrequencyRange 2400-2500MHZ		Dimensions	43. 5*12*0. 2mm
Impedance	50 Ω	Connector	IPEX
VSWR	$\leq 2. 5$	Coaxial-cable	RG1.13 black L=80 $\pm$ 2mm
Gain	3.64dBi	WorkingTemperature	-45 $^{\circ}$ C - +85 $^{\circ}$ C
Polarization	linear Vertical	Limit Temperature	-45 $^{\circ}$ C-+85 $^{\circ}$ C
Radiation	Omnidirectional		

三、Antenna Passive Parameters:

1. VSWR



2、Gain and Efficiency:

Gain&Efficiency&PhaseCenter								
frequency (MHz)	gain (dBi)	efficiency (%)	frequency (MHz)	Gain (dBi)	Efficiency (%)	frequency (MHz)	Gain (dBi)	efficiency (%)
2400	4.22	62.52						
2410	3.88	63.97						
2420	3.67	65.16						
2430	4.1	65.16						
2440	4.63	65.77						
2450	4.8	64.71						
2460	4.08	62.66						
2470	3.16	59.43						
2480	2.44	56.62						
2490	2.22	55.46						
2500	2.79	55.98						

Shenzhen all things connected Communication Co.,Ltd.

All things connected Communications Xiangyang Limited

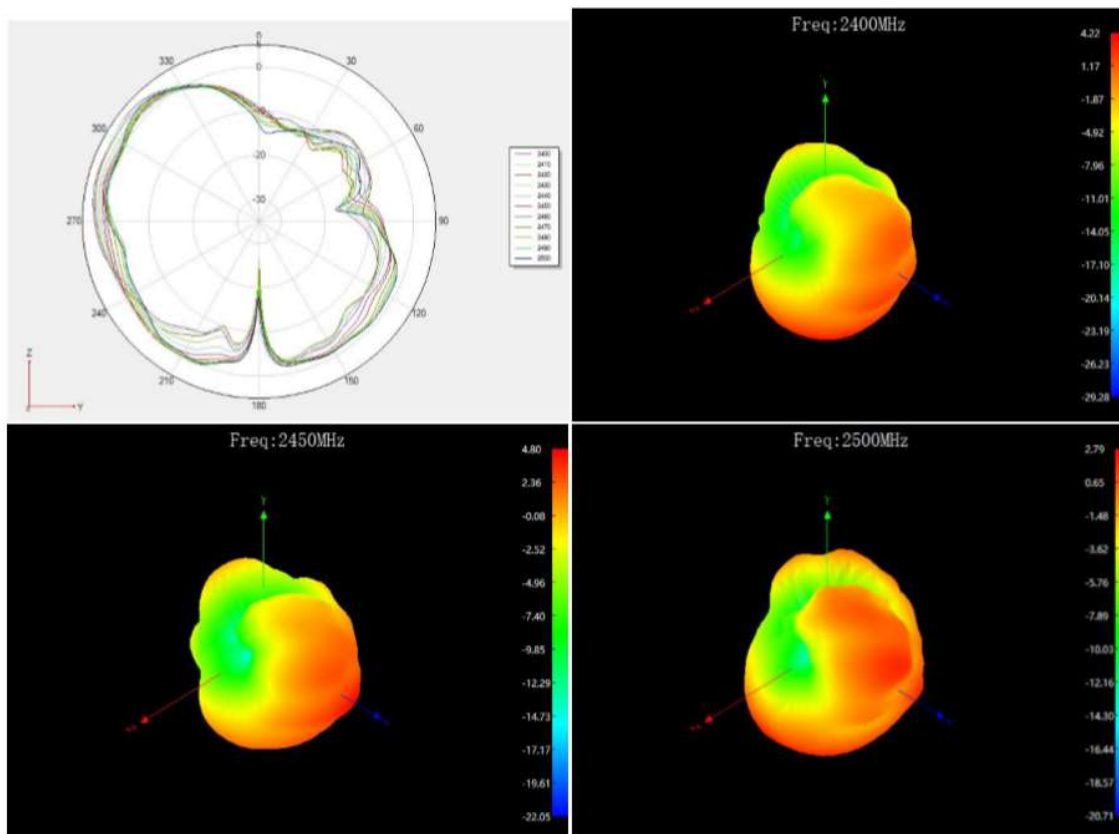
Add: Room 1101-1112,Building 4,Fangdacheng,No2,longxhu 4 th Road, Nanshan District, Shenzhen City

Add: Hubei Xiangyang Gucheng County 1-3 Shuang Yang Road Taoyuan Street, All things connected industrial park,

Cell phone: 136 6268 4409

URL: www.wwxltx.cn

3、2D/3D directional



4. Active data::

Conduction

Item	Tester	Measurement	Azimuths	Elevations	Standard	Band	Channel	Frequency	MaxValue	Total
1	Cmw500	TRP	Every30	AllProbes	WIFI_B	B_11M	1	2412	18.84	18.84
2	Cmw500	TRP	Every90	AllProbes	WIFI_B	B_11M	6	2437	18.35	18.35
3	Cmw500	TRP	Every90	AllProbes	WIFI_B	B_11M	13	2472	18.67	18.67

Original antenna

Item	Tester	Measurement	Azimuths	Elevations	Standard	Band	Channel	Frequency	MaxValue	Total
1	Cmw500	TRP	Every30	AllProbes	WIFI_B	B_11M	1	2412	16.65	11.41
2	Cmw500	TIS with EIRP	Every30	AllProbes	WIFI_B	B_11M	1	2412	-79.78	-74.27
3	Cmw500	TRP	Every90	AllProbes	WIFI_B	B_11M	6	2437	14.93	11.03
4	Cmw500	TIS with EIRP	Every30	AllProbes	WIFI_B	B_11M	6	2437	-79.71	-75.04
5	Cmw500	TRP	Every90	AllProbes	WIFI_B	B_11M	13	2472	15.92	11.46
6	Cmw500	TIS with EIRP	Every30	AllProbes	WIFI_B	B_11M	13	2472	-72.5	-67.21

Shenzhen all things connected Communication Co.,Ltd.

All things connected Communications Xiangyang Limited

Add: Room 1101-1112,Building 4,Fangdacheng,No2,longxhu 4 th Road, Nanshan District, Shenzhen City

Add: Hubei Xiangyang Gucheng County 1-3 Shuang Yang Road Taoyuan Street, All things connected industrial park,

Cell phone: 136 6268 4409

URL: www.wwxltx.cn

Active data

Item	Tester	Measurement	Azimuths	Elevations	Standard	Band	Channel	Frequency	MaxValue	Total
1	Cmw500	TRP	Every30	AllProbes	WIFI_B	B_11M	1	2412	24.72	15.65
2	Cmw500	TIS with EIRP	Every30	AllProbes	WIFI_B	B_11M	1	2412	-95.07	-86.43
3	Cmw500	TRP	Every90	AllProbes	WIFI_B	B_11M	6	2437	24.59	16.39
4	Cmw500	TIS with EIRP	Every30	AllProbes	WIFI_B	B_11M	6	2437	-95.13	-86.62
5	Cmw500	TRP	Every90	AllProbes	WIFI_B	B_11M	13	2472	24.76	16.69
6	Cmw500	TIS with EIRP	Every30	AllProbes	WIFI_B	B_11M	13	2472	-94.51	-86.98

四、Product characteristics产品特点

1. Choose high-quality FPC and radio frequency cable, self-attenuation;
2. Stable performance, long life;
3. The standing wave in frequency band is good.

Shenzhen all things connected Communication Co.,Ltd.

All things connected Communications Xiangyang Limited

Add: Room 1101-1112,Building 4,Fangdacheng,No2,longxhu 4 th Road, Nanshan District, Shenzhen City

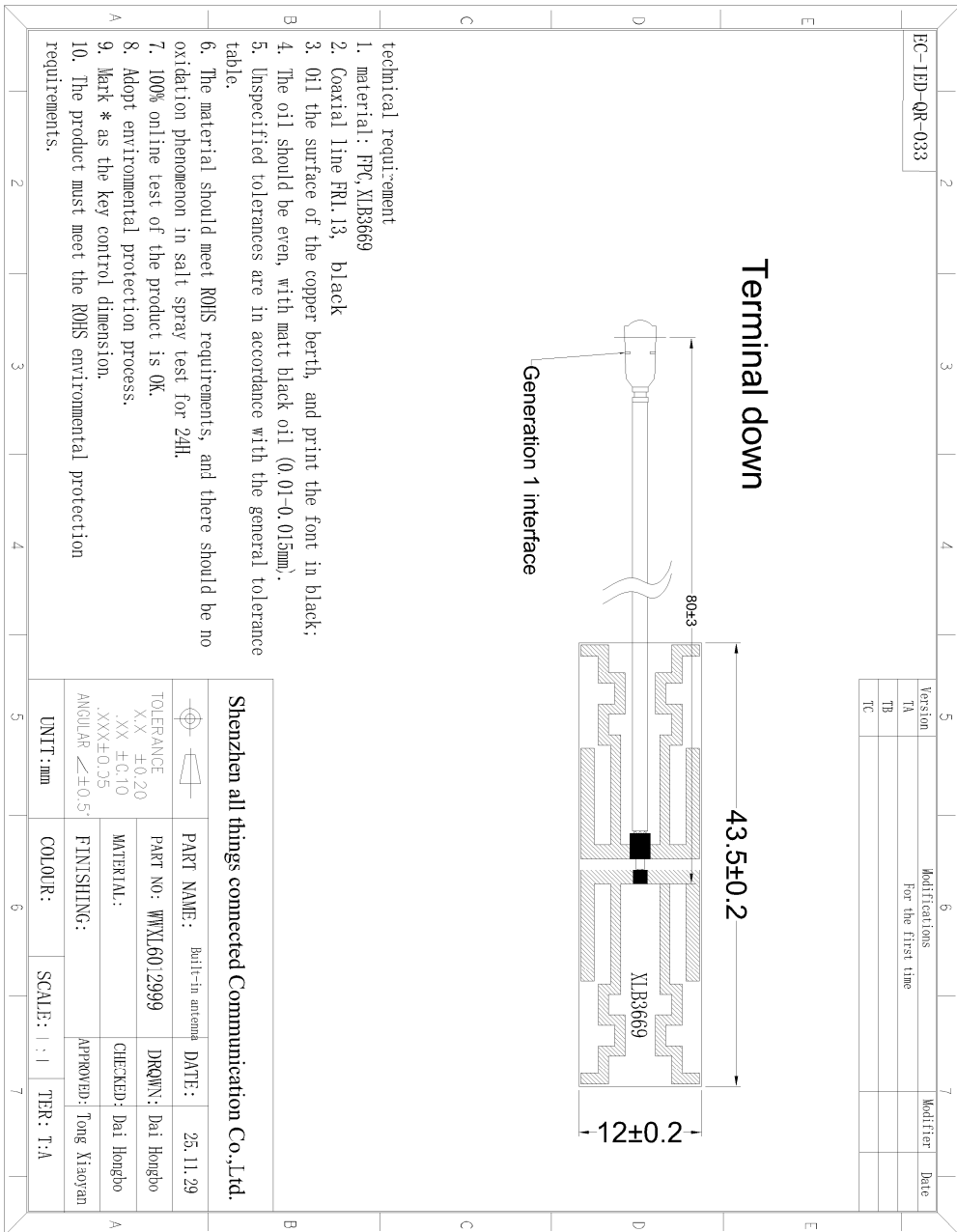
Add: Hubei Xiangyang Gucheng County 1-3 Shuang Yang Road Taoyuan Street, All things connected industrial park,

Cell phone: 136 6268 4409

URL: www.wwxltx.cn

五、Drawing

由 Autodesk 教育版产品制作



由 Autodesk 教育版产品制作

由 Autodesk 教育版产品制作

由 Autodesk 教育版产品制作

Shenzhen all things connected Communication Co.,Ltd.
All things connected Communications Xiangyang Limited
Add: Room 1101-1112,Building 4,Fangdacheng,No2,longxhu 4 th Road, Nanshan District, Shenzhen City
Add: Hubei Xiangyang Gucheng County 1-3 Shuang Yang Road Taoyuan Street, All things connected industrial park,
Cell phone: 136 6268 4409 URL: www.wwxltx.cn

六、Reliability testing

1、Environmental experiment

High and low temperature and humidity test report						
test project	High temperature, low temperature and constant humidity test					
name	Built-in antenna (WWXL6012999)		date		2025.11.29	
device	Constant temperature and humidity test box network analyzer		Quantity		5PCS	
Inspectin standards	1. There are no defects such as peeling off, cracks, wrinkles, etc. on the metal surface; non-metal parts must not have defects such as discoloration, cracking, deformation, degumming. 2. The electrical test meets the design requirements; the voltage standing wave ratio test is satisfactory.					
Test name		request	experiment method	Actual test data	result	
					sample	Assessm ent result
High temperature test	Temperature (°C) Test sample temperature stabilization time (H) Test duration (h) Recovery time (h)	+85±3 1 2 1	9 according to GB2423. 1-89 Method	+87 1.2 2.3 1	1	qualified
					2	qualified
					3	qualified
					4	qualified
					5	qualified
Low temperature test	Temperature (°C) Test sample temperature stabilization time (h) Test duration (h) Recovery time (h)	-45±3 1 2 1	8th in accordanc e with GB2423. 1-89 Method	-46 1.2 2.4 1.1	1	qualified
					2	qualified
					3	qualified
					4	qualified
					5	qualified
Constant Damp Heat Test	Temper ature (°C) Relative humidity (%)	+40±2 90-95 21 1	According to GB2423. 3-93 Section 5 Method	+42 92 22 1.1	1	qualified
					2	qualified
					3	qualified
					4	qualified

Shenzhen all things connected Communication Co.,Ltd.

All things connected Communications Xiangyang Limited

Add: Room 1101-1112,Building 4,Fangdacheng,No2,longxhu 4 th Road, Nanshan District, Shenzhen City

Add: Hubei Xiangyang Gucheng County 1-3 Shuang Yang Road Taoyuan Street, All things connected industrial park,

Cell phone: 136 6268 4409

URL: www.wwxltx.cn

	Test duration (h) Recovery time (h)				5	qualified
--	-------------------------------------	--	--	--	---	-----------

b. Salt spray test

Salt fog test report				
Test item	Salt spray test			
Name	Built-in antenna (WWXL6012999)		date of observation	2025.11.29
Device name	Salt spray corrosion test box		Test quantity	5 PCS
Test method	The test samples were put into the modulated salt solution test chamber and salt spray corrosion chamber for continuous spray test			
Salt solution concentration	52g/L	PH Value of Salt Solution: 6.5-7.2		Test cycle: 24h
Actual test data	55g/L	PH Value of Salt Solution: 6.8		Test cycle: 26h
Test standard	Tests were carried out according to GB/T10125 "Artificial Atmosphere Corrosion Test and Salt Spray Test"; Results According to GB/T6461-2002 "Metal and other inorganic coatings on metal substrates after corrosion test are samples and specimens"			
Test result				
NO	Corrosion resistance grade	Actual test data	Assessment result	Remarks
1	Rp/Ra=10/10vsB	Rp/Ra=10/10vsB	qualified	
2	Rp/Ra=10/10vsB	Rp/Ra=10/10vsB	qualified	
3	Rp/Ra=10/10vsB	Rp/Ra=10/10vsB	qualified	
4	Rp/Ra=10/10vsB	Rp/Ra=10/10vsB	qualified	
5	Rp/Ra=10/10vsB	Rp/Ra=10/10vsB	qualified	

Shenzhen all things connected Communication Co.,Ltd.

All things connected Communications Xiangyang Limited

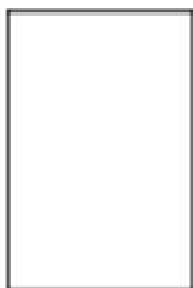
Add: Room 1101-1112,Building 4,Fangdacheng,No2,longxhu 4 th Road, Nanshan District, Shenzhen City

Add: Hubei Xiangyang Gucheng County 1-3 Shuang Yang Road Taoyuan Street, All things connected industrial park,

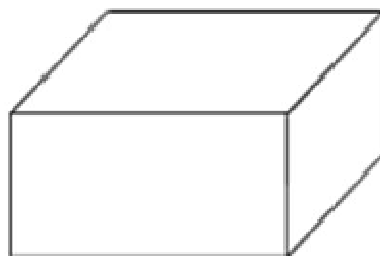
Cell phone: 136 6268 4409

URL: www.wwxltx.cn

七. Packing instructions



100PCS/Pouch



30Pouch/1Caron