



Material Approval Form

APPROVAL SHEET

Project Name:	WR100				
Part Number / P/N:	QK1027200483				
Supplier Name:	Shenzhen Kaipushen Communication Technology Co., Ltd.				
Material Name:	095.WR100.21111				
Material Description:	External 5G Glue Stick Antenna				
Sample Submission Date:	2025/11/11				
Environmental Certification:	ROHS ☒ Reach ☒ POPs ☐ Other Certifications:				
Main Performance ☐	Drawing ☒	Measurement Report ☒	Key Material ☐	Reliability Report ☒	Packaging Information ☒
Audit	R&D Department	Project Department	Purchasing Department	Quality Department	

Shenzhen Kaipushen Communication Technology Co., Ltd.

Sample Approval Form

Customer Name: Queclink

Project Name: WR100

Sample Name: External 5G Glue Stick Antenna

Color/Version: Black

Sample Sign-off Date: 2025/11/11

Supplier Confirmation	Production	R&D	Structure	Quality
	Xie Linfen			

Customer Confirmation	Project	Appearance	Structure	Quality

Conclusion	☐ Mass Production Approval (MPA) ☐ Limited Use () K
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☐ ROHS

Supplier Name: Shenzhen Kaipushen Communication Technology Co., Ltd.

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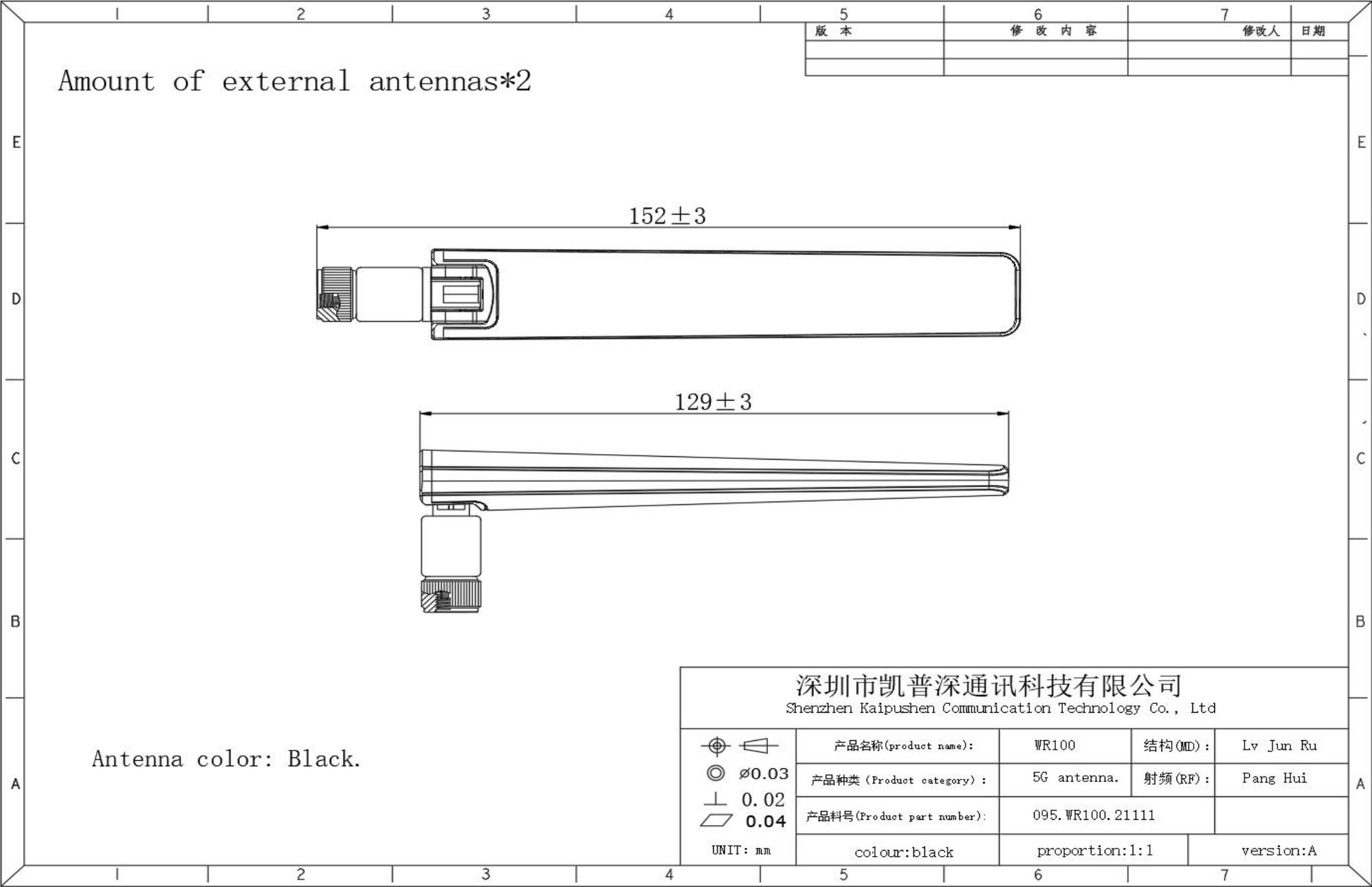
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3.1: Antenna Structure Drawing



1.1. Product Appearance

Dimensions	152*129	Fixed method	SMA interface
Weight	19.24g	Connector model	SMA connector
Shell color	black	cable	/

1.2. Antenna performance parameters

Project	Characteristic	Unit
Frequency range	700~960	MHz
	1710~2700	
Output impedance	50	Ω
Standing wave	700-960 $\leq$ 3.3 1700-2170 $\leq$ 2.1 2300-2700 $\leq$ 2.0	--
Gain	700-960 $\leq$ 1.14 1700-2170 $\leq$ 2.08 2300-2700 $\leq$ 2.33	dBi
Return Loss	>-22	db
Vertical Beam Width	74	/
Maximum input power	5	W
Working temperature	-40~+70	℃
Storage temperature	-45~+70	

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4.1 Antenna Performance

4.1-1 Specifications and Standards

The main antenna resonates in the operating frequency bands of 700M - 960M and 1710M - 2690M.

4.1-2 Antenna Matching Circuit

Main Antenna: The matching circuit is as follows:

1. Main and Diversity Antenna Matching Parameters and Switching Logic:

Main Path Matching	
	Unchanged

4.2 VSWR Test

4.2-1 VSWR Test Setup

The components of the VSWR test setup are connected in sequence as follows: E571B Network Analyzer → 50 Ω coaxial cable →

150mm-long copper tube → test fixture.

Processing of the test fixture: An SMA-J connector is led out from the 50 Ω test point of the antenna on the machine's PCB with a rigid cable.

and connected to the copper tube with a choke coil sleeved on it, then connect the other components in sequence.



4.2-5 Active test data of the complete machine



Antenna Test Data

FS	Channel	TRP	TIS		Channel	TRP	TIS
LTE-1	L	20.1		LTE-20	L	19.5	
	M	20.0			M	19.0	
	H	19.2	-96.3		H	18.8	-92.2
LTE-3	L	20.2		LTE-28	L	18.8	
	M	20.5			M	19.0	
	H	20.7	-95.8		H	19.1	-93.1
LTE-5	L	18.7		LTE-38	L	18.9	
	M	19.2			M	20.3	
	H	18.9	-90.0		H	20.1	-94.6
LTE-7	L	18.7		LTE-38	L	20.3	
	M	18.3			M	20.4	
	H	18.2	-94.6		H	20.0	-92.6
LTE-8	L	19.1		LTE-41	L	18.2	
	M	19.2			M	19.9	
	H	18.9	-93.2		H	18.7	-94.7

4.2-5 Passive Test Data

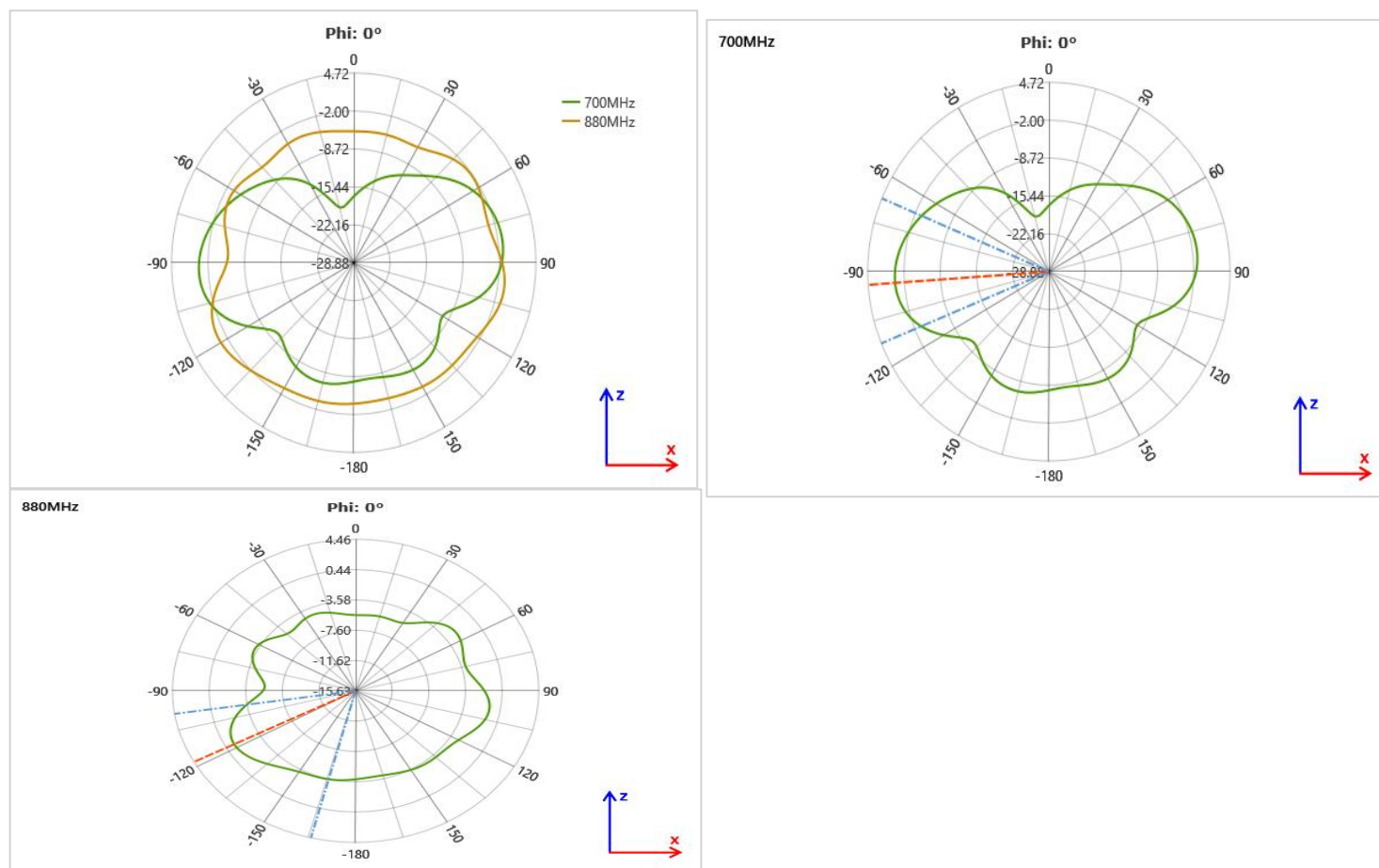
Frequency(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)	Frequency(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)
700	0.6	-4	39.79	1700	2.07	-1.61	69.02
710	0.78	-3.86	41.14	1720	2.04	-1.68	67.9
720	0.97	-3.71	42.6	1740	1.97	-1.66	68.17
730	1.03	-3.79	41.79	1760	1.65	-1.68	67.97
740	0.97	-3.82	41.51	1780	1.63	-1.67	68.11
750	1.14	-3.76	42.05	1800	1.91	-1.62	68.92
760	1.06	-3.78	41.92	1820	1.93	-1.64	68.61
770	0.64	-3.78	41.84	1840	1.97	-1.61	69.09
780	0.67	-3.69	42.71	1860	2.08	-1.55	69.95
790	0.72	-3.68	42.86	1880	2.08	-1.65	68.45
800	0.42	-3.76	42.11	1900	1.93	-1.68	67.88
810	0.42	-3.75	42.14	1920	2.03	-1.62	68.87
820	0.03	-3.77	41.95	1940	1.93	-1.67	68.14
830	-0.15	-3.73	42.34	1960	1.8	-1.76	66.67
840	0	-3.62	43.44	1980	1.73	-1.75	66.82
850	-0.04	-3.61	43.54	2000	1.75	-1.8	66.1
860	-0.2	-3.63	43.39	2020	1.87	-1.81	65.87
870	-0.34	-3.61	43.6	2040	1.97	-1.82	65.84
880	-0.09	-3.46	45.09	2060	1.8	-1.95	63.88
890	-0.36	-3.5	44.7	2080	1.73	-1.9	64.6
900	-0.4	-3.59	43.79	2100	2.01	-1.85	65.26

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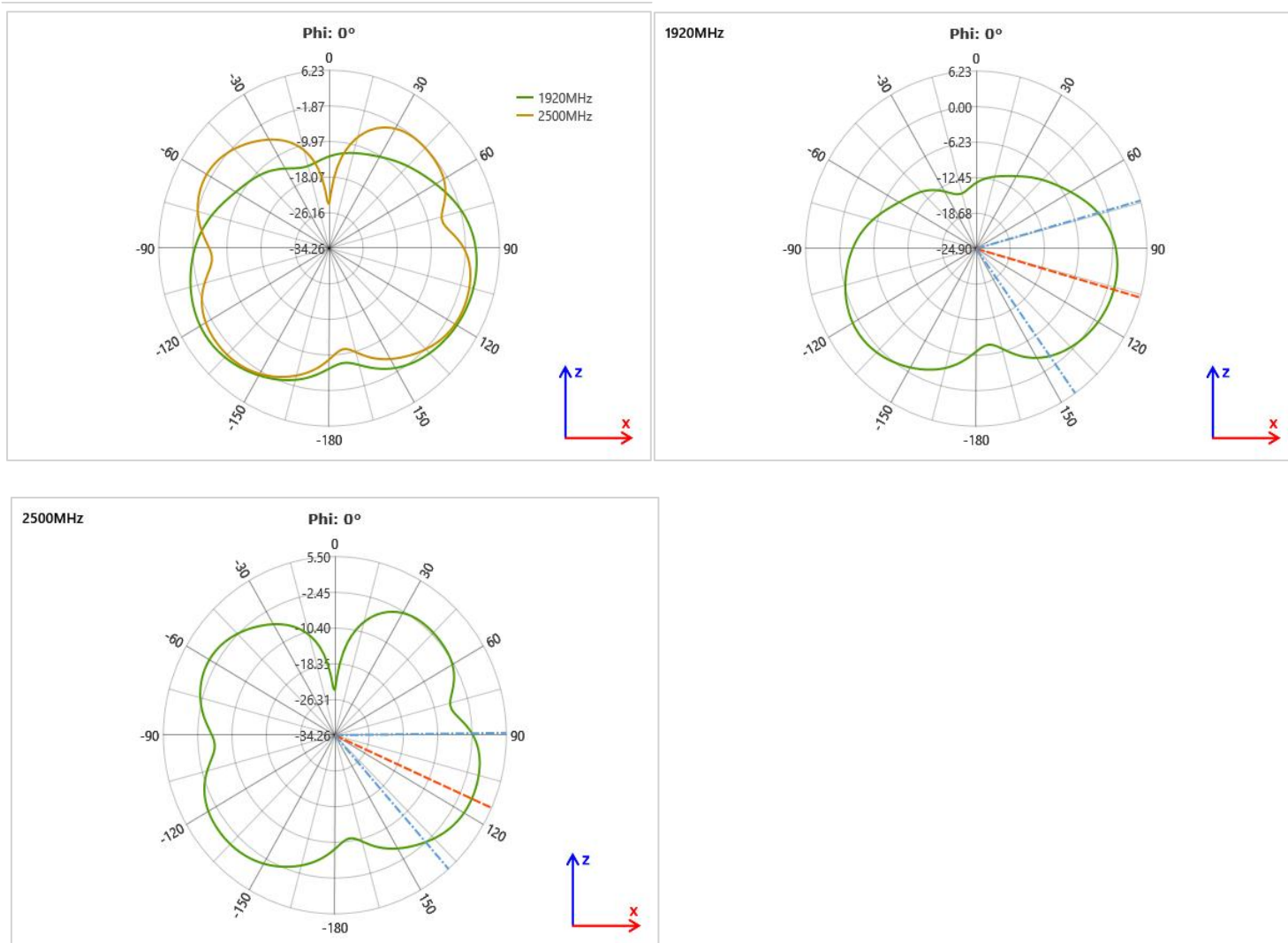
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910	-0.2	-3.54	44.28	2120	1.95	-1.91	64.34
920	-0.34	-3.67	42.95	2140	1.73	-2.01	63.01
930	-0.38	-3.74	42.23	2160	1.63	-2.09	61.81
940	-0.42	-3.68	42.82	2300	2.33	-1.56	69.82
950	-0.38	-3.61	43.54	2320	2.18	-1.54	70.09
960	-0.5	-3.63	43.31	2340	2.01	-1.53	70.23
				2360	2.11	-1.45	71.56
				2380	1.82	-1.55	70.04
				2400	1.49	-1.57	69.65
				2420	1.37	-1.6	69.22
				2440	1.2	-1.7	67.65
				2460	0.93	-1.82	65.82
				2480	0.57	-1.9	64.54
				2500	0.4	-2.02	62.81
				2520	0.42	-2.13	61.27
				2540	0.53	-2.22	59.96
				2560	0.48	-2.32	58.64
				2580	0.55	-2.42	57.3
				2600	0.51	-2.47	56.61
				2620	0.48	-2.56	55.41
				2640	0.41	-2.7	53.67
				2660	0.39	-2.75	53.15
				2680	0.38	-2.77	52.9
				2700	0.34	-2.91	51.22

Vertical VSWR Wide Beam



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Full-Scale Measurement Report

	Customer	Queclink		Project Name		WR100					Material	External Glue Stick
	Supplier	KPS		Measuring Tool		2D Measuring Instrument		Measuring Unit		MM	Measurement Date	2025/11/10
NO.	Dimension	Upper Limit	+ TOL.	- TOL.	Lower Limit	Actual 1	Actual2	Actual3	Actual4	Actual5	UPPER≦100%	LOWER≦100%
1	152.00	155.00	3.00	3.00	149.00	152.30	152.10	152.20	151.60	152.70	23%	13%
2	129.00	132.00	3.00	3.00	126.00	129.35	129.10	128.70	128.80	129.30	12%	10%
3												
4												
5												
6												
7												
8												

Prepared by: Lv Junru

Reviewed by: Wu Xingtu

Salt Spray Test Report

Date: November 10, 2025

Project	WR100	Customer Name	Queclink
Supplier	KPS	National Test Standard	GB/T 2423.2-2008
Sample Condition	Number of Samples: 5 PCS		
	Measurement Date		
Test Time.	Total: 24 H		
Test Type:	☒ NSS	☐ ASS	☐ CASS
Test Conditions:	Salt Solution: 5%		PH:7.0
	Temperature Inside Chamber: 35° C		Relative Humidity: 85%
	Spraying Method: ☒ Continuous ☐ Intermittent		Compressed Air Pressure: 1kg/cm²
	Salt Spray Deposition Rate: 1-2ml/80cm2/h		Fog Solution Collection: 1.4ml/80cm2/h
	Test Cycle: 1 Cycle		Spraying Time: 24 h
Test Result:	Post-Test Appearance: Intact in appearance with no obvious changes.		
	Coating: No peeling, no rusting		
	Surface spraying & silk screen printing: No peeling, no blistering.		
Notes: The operation standard for the salt spray test is implemented in accordance with the National Standard of the People's Republic of China GB/T 2423.17-2008. The result evaluation standard for the test pieces is implemented in accordance with the National Standard of the People's Republic of China GB/T 6461-2002.			

High/Low Temperature Test Record

Product Name	WR100		Customer Name	Queclink	
Test Quantity	5 pcs		Test Date	2025年11月10日	
Cycle Number	1		Time	24H	
Test Conditions:					
High temperature: +65℃, Humidity: 90% RH					
Low temperature: -20℃					
Test duration: High temperature: 24 h, Low temperature: 24 h					
Test Item	Non-cyclic Test			Cyclic Test	
Serial No.	After High Temperature	After Low Temperature	After High Temperature	After Low Temperature	
1	OK	OK			
2	OK	OK			
3	OK	OK			
4	OK	OK			
5	OK	OK			
6	OK	OK			
Test Defects:					
Reason Analysis:					
Improvement Measures:					
Test Result: ☒ Qualified ☐ Unqualified					

Packing Method

Customer Name:	Queclink	Material Name:	WR100
Packing Quantity:	1 Carton	Material Name:	Carton
Packing Quantity per Carton:		Packing Method:	Sealed bag packaging



Figure 1: Individual Packaging



Figure 2: Carton Packing Method



Figure 3: Carton View (Front, Side, Top)



Figure 4: Outer Carton Label

Prepared by: Li Minghui

Reviewed by: Wu Xingtuo