

# SPECIFICATION

Shenzhen Guandetong Electronic Limited



*Shenzhen Guandetong Electronic Co., Ltd.*

4G white antenna L=250MM with IPEX connector (waterproof ring wire diameter

1.0MM)

## Product Specification

<b>connection</b>		<b>frequency range</b>	690-960MHz 1710-2690MHz
<b>Frequency band</b>		<b>edition</b>	A1
Customer part number		<i>Guandetong part number</i>	
<b>Guandetong No</b>			
R F design	肖彬	<b>RF Manager</b>	刘亮
Structural design	王栋	<b>Structure Manager</b>	王华
<b>Technical Director</b>	叶定坤	<b>Date</b>	2025-3-26

Customer confirmation:

Does the assembly meet your company's requirements:  OK  NG

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## **catalogue**

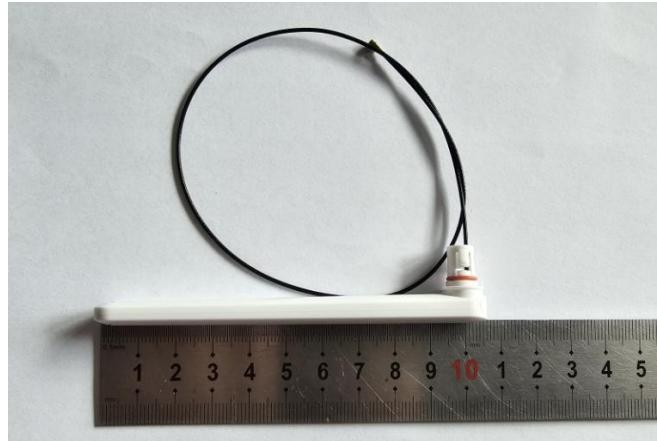
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## 一、 Product pictures



## 二、 Product parameters

Product testing parameters			
Product name	4G antenna	(Model Type)	
(Electrical Specifications)			
(Frequency Range)	690–960MHz 1710–2690MHz	(Polarization)	perpendicular
(Impedance)	50Ω	Radiation	QXCOMM
(VSWR)	≤ 3.0	(Power)	50W
(Gain)	3dBi	(Bandwidth)	136/980MHz
(Mechanical Specifications)			
(Dimensions)	104.7*12.8+-0.3mm	(Chassis Color)	White
(Connector)	IPEX	(Cable Length)	250±3MM
(Chassis Material)	ABS	Wire color	1.13 Black
(Working Temperature)	-40°C-+85°C	(Limit Temperature)	-40°C-+85°C

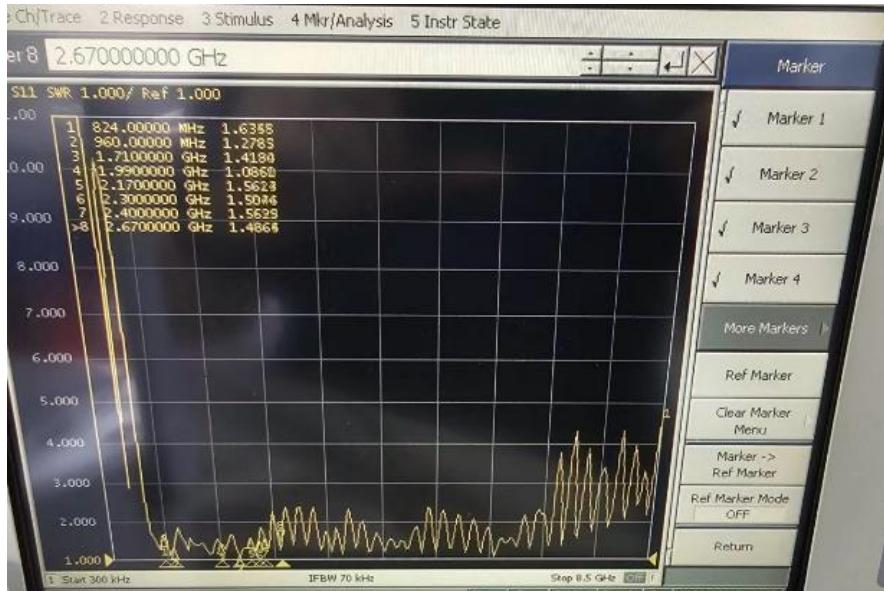
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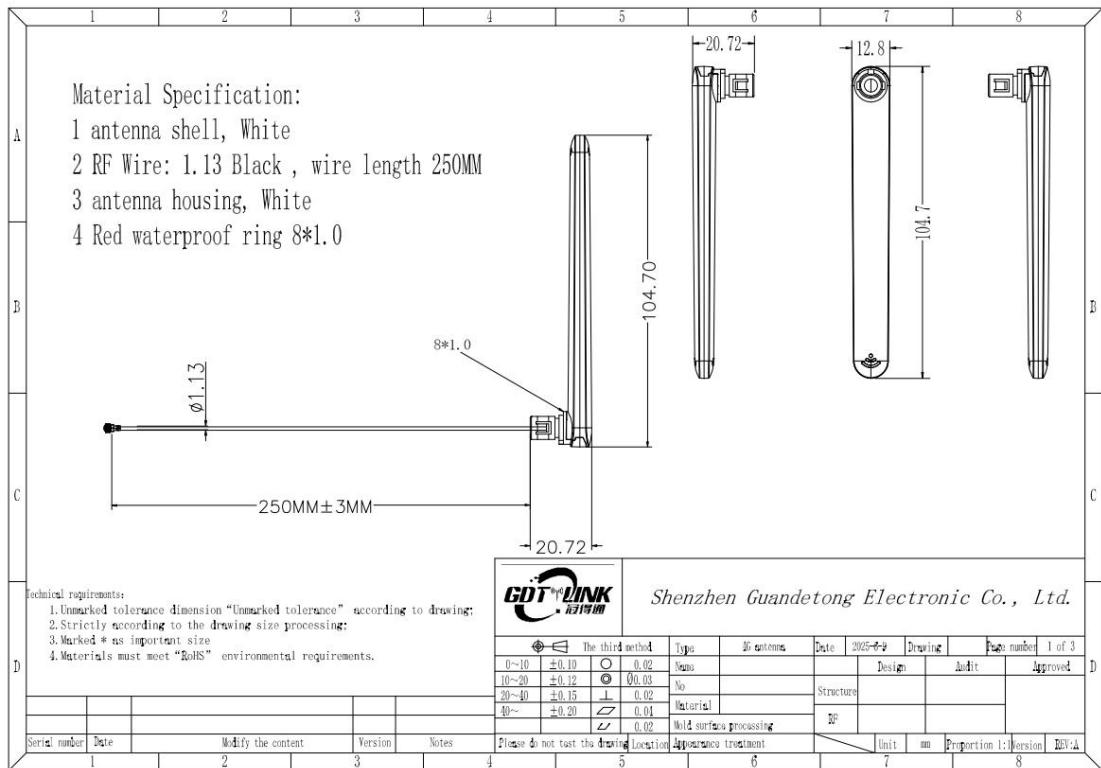
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### 三、S11(VSWR、Return、Smith)



### 四、Structural drawings



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## 五、Antenna gain and efficiency

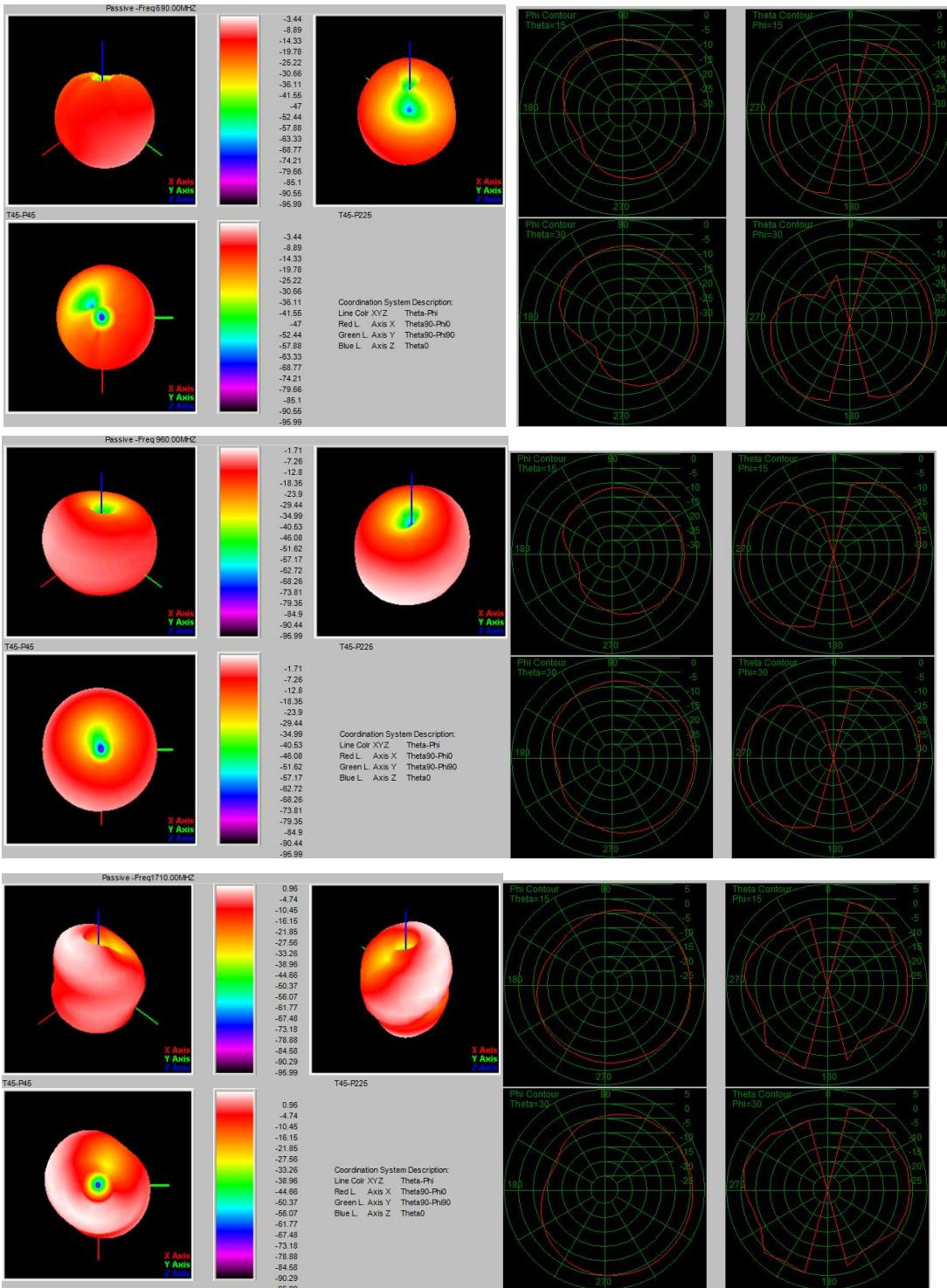
Test Point ID	Freq. (MHz)	TRP (dBm)	Gain (dBi)	Directivity (dBi)	Efficiency (%)	Efficiency (dB)	Max (dBm)	Theta of Max	Phi of Max	Min (dBm)	Theta of Min	Phi of Min	Avg (dBm)	Max/Min (dB)	Max/Avg (dB)	Min/Avg (dB)
1	690.0	690.00	-3.44	5.87	11.7%	-9.32	-3.44	150	135	-95.99	0	0	-8.13	92.54	4.69	-87.86
2	720.0	720.00	-4.29	4.57	13.0%	-8.87	-4.29	150	120	-95.99	0	0	-8.45	91.70	4.15	-87.54
3	740.0	740.00	-5.24	4.20	11.4%	-9.43	-5.24	135	135	-95.99	0	0	-8.90	90.75	3.67	-87.09
4	760.0	760.00	-5.29	4.09	11.5%	-9.37	-5.29	105	180	-95.99	0	0	-9.26	90.70	3.97	-86.73
5	780.0	780.00	-4.86	3.79	13.7%	-8.65	-4.86	105	180	-95.99	0	0	-9.20	91.13	4.34	-86.79
6	800.0	800.00	-3.40	4.06	18.0%	-7.46	-3.40	105	180	-95.99	0	0	-7.98	92.59	4.58	-88.01
7	820.0	820.00	-2.38	4.10	22.5%	-6.48	-2.38	105	180	-95.99	0	0	-6.91	93.61	4.53	-89.08
8	840.0	840.00	-1.89	4.17	24.8%	-6.06	-1.89	105	180	-95.99	0	0	-6.68	94.10	4.80	-89.31
9	860.0	860.00	-1.78	3.91	26.9%	-5.70	-1.78	105	180	-95.99	0	0	-6.45	94.21	4.67	-89.54
10	880.0	880.00	-1.55	3.54	31.0%	-5.09	-1.55	105	180	-95.99	0	0	-6.26	94.44	4.71	-89.73
11	900.0	900.00	-1.08	3.91	31.7%	-5.00	-1.08	105	180	-95.99	0	0	-5.85	94.91	4.77	-90.14
12	920.0	920.00	-1.32	3.89	30.1%	-5.21	-1.32	105	180	-95.99	0	0	-5.88	94.67	4.56	-90.11
13	940.0	940.00	-1.44	3.99	28.7%	-5.42	-1.44	105	180	-95.99	0	0	-5.92	94.55	4.49	-90.07
14	960.0	960.00	-1.71	4.19	25.7%	-5.90	-1.71	105	195	-95.99	0	0	-6.36	94.28	4.64	-89.63
15	1710.0	1710.00	0.96	4.35	45.8%	-3.39	0.96	135	225	-95.99	0	0	-2.96	96.95	3.91	-93.03
16	1730.0	1730.00	1.27	4.45	48.0%	-3.18	1.27	135	225	-95.99	0	0	-2.71	97.25	3.97	-93.28
17	1750.0	1750.00	1.14	4.28	48.5%	-3.14	1.14	30	345	-95.99	0	0	-2.95	97.13	4.09	-93.03
18	1770.0	1770.00	2.07	4.94	51.6%	-2.87	2.07	30	345	-95.99	0	0	-2.44	98.06	4.51	-93.55
19	1790.0	1790.00	2.77	5.43	54.2%	-2.66	2.77	30	345	-95.99	0	0	-1.99	98.76	4.77	-93.99
20	1810.0	1810.00	2.55	4.86	58.7%	-2.31	2.55	30	345	-95.99	0	0	-2.16	98.54	4.71	-93.83
21	1830.0	1830.00	2.19	4.78	55.1%	-2.59	2.19	30	345	-95.99	0	0	-2.54	98.18	4.73	-93.45
22	1850.0	1850.00	2.23	4.86	54.5%	-2.63	2.23	30	0	-95.99	0	0	-2.52	98.22	4.75	-93.47
23	1870.0	1870.00	2.58	5.25	54.1%	-2.67	2.58	30	0	-95.99	0	0	-2.17	98.57	4.75	-93.82
24	1890.0	1890.00	2.33	5.03	53.6%	-2.71	2.33	30	345	-95.99	0	0	-2.30	98.32	4.63	-93.69
25	1910.0	1910.00	2.07	4.75	54.0%	-2.68	2.07	30	15	-95.99	0	0	-2.29	98.06	4.36	-93.70
26	1930.0	1930.00	2.30	4.87	55.3%	-2.57	2.30	60	255	-95.99	0	0	-2.26	98.29	4.56	-93.73
27	1950.0	1950.00	2.02	4.72	53.7%	-2.70	2.02	60	255	-95.99	0	0	-2.48	98.01	4.51	-93.51
28	1970.0	1970.00	1.87	4.79	51.1%	-2.92	1.87	30	345	-95.99	0	0	-2.58	97.86	4.45	-93.41
29	1990.0	1990.00	2.12	4.79	54.0%	-2.68	2.12	30	345	-95.99	0	0	-2.27	98.11	4.38	-93.72
30	2010.0	2010.00	1.40	4.55	48.5%	-3.14	1.40	60	255	-95.99	0	0	-2.88	97.39	4.29	-93.11
31	2030.0	2030.00	0.85	4.44	43.7%	-3.59	0.85	60	255	-95.99	0	0	-3.64	96.84	4.49	-92.35
32	2050.0	2050.00	0.60	4.60	39.8%	-4.00	0.60	60	255	-95.99	0	0	-3.80	96.59	4.40	-92.19
33	2070.0	2070.00	1.11	4.80	42.8%	-3.69	1.11	60	240	-95.99	0	0	-3.21	97.10	4.32	-92.78
34	2090.0	2090.00	1.03	4.71	42.9%	-3.67	1.03	60	240	-95.99	0	0	-3.43	97.02	4.47	-92.55
35	2110.0	2110.00	0.75	4.28	44.4%	-3.53	0.75	60	240	-95.99	0	0	-3.64	96.74	4.39	-92.35
36	2130.0	2130.00	0.79	4.28	44.8%	-3.49	0.79	60	240	-95.99	0	0	-3.55	96.78	4.34	-92.44
37	2150.0	2150.00	1.18	4.55	46.1%	-3.36	1.18	60	240	-95.99	0	0	-3.32	97.17	4.51	-92.66
38	2170.0	2170.00	1.15	4.52	46.0%	-3.37	1.15	60	240	-95.99	0	0	-3.53	97.14	4.68	-92.46
39	2190.0	2190.00	1.09	4.44	46.2%	-3.35	1.09	60	240	-95.99	0	0	-3.59	97.08	4.68	-92.40
40	2210.0	2210.00	1.14	4.65	44.6%	-3.51	1.14	60	240	-95.99	0	0	-3.47	97.13	4.61	-92.52
41	2230.0	2230.00	0.92	4.76	41.4%	-3.83	0.92	60	240	-95.99	0	0	-3.68	96.91	4.60	-92.31
42	2250.0	2250.00	0.00	4.51	35.4%	-4.51	0.00	60	255	-95.99	0	0	-4.56	95.99	4.56	-91.43
43	2270.0	2270.00	0.17	4.78	34.6%	-4.61	0.17	60	255	-95.99	0	0	-4.43	96.16	4.59	-91.56
44	2290.0	2290.00	-0.26	4.27	35.2%	-4.53	-0.26	60	255	-95.99	0	0	-4.97	95.73	4.72	-91.02
45	2310.0	2310.00	-0.85	4.26	30.9%	-5.10	-0.85	60	255	-95.99	0	0	-5.77	95.14	4.92	-90.22
46	2330.0	2330.00	0.03	4.80	33.3%	-4.77	0.03	60	255	-95.99	0	0	-5.19	96.02	5.22	-90.80
47	2350.0	2350.00	1.01	5.41	36.3%	-4.40	1.01	60	255	-95.99	0	0	-4.52	97.00	5.53	-91.47
48	2370.0	2370.00	0.93	5.35	36.2%	-4.42	0.93	60	255	-95.99	0	0	-4.72	96.92	5.66	-91.26
49	2390.0	2390.00	1.03	5.51	35.7%	-4.48	1.03	60	255	-95.99	0	0	-4.61	97.02	5.64	-91.38
50	2410.0	2410.00	1.64	5.87	37.7%	-4.23	1.64	60	255	-95.99	0	0	-3.91	97.63	5.55	-92.08
51	2430.0	2430.00	2.46	6.18	42.4%	-3.72	2.46	60	240	-95.99	0	0	-2.96	98.45	5.42	-93.03
52	2450.0	2450.00	2.11	5.89	41.9%	-3.78	2.11	60	240	-95.99	0	0	-3.08	98.10	5.19	-92.91
53	2470.0	2470.00	1.97	5.38	45.5%	-3.42	1.97	60	240	-95.99	0	0	-2.94	97.96	4.91	-93.05
54	2490.0	2490.00	1.41	4.71	46.7%	-3.30	1.41	60	240	-95.99	0	0	-3.28	97.40	4.69	-92.71
55	2510.0	2510.00	1.71	4.59	51.5%	-2.88	1.71	30	315	-95.99	0	0	-2.84	97.70	4.55	-93.15
56	2530.0	2530.00	2.17	5.04	51.6%	-2.87	2.17	30	300	-95.99	0	0	-2.55	98.16	4.72	-93.44
57	2550.0	2550.00	2.84	5.46	54.7%	-2.62	2.84	30	300	-95.99	0	0	-2.08	98.83	4.92	-93.91
58	2570.0	2570.00	2.67	5.53	51.8%	-2.86	2.67	30	300	-95.99	0	0	-2.33	98.66	5.00	-93.66
59	2590.0	2590.00	1.87	4.78	51.2%	-2.91	1.87	30	300	-95.99	0	0	-3.07	97.86	4.94	-92.92
60	2610.0	2610.00	2.15	5.13	50.3%	-2.98	2.15	30	285	-95.99	0	0	-2.72	98.14	4.87	-93.27
61	2630.0	2630.00	1.45	4.92	45.0%	-3.46	1.45	30	285	-95.99	0	0	-3.46	97.44	4.91	-92.53
62	2650.0	2650.00	1.12	4.89	41.9%	-3.77	1.12	30	285	-95.99	0	0	-3.72	97.11	4.84	-92.27
63	2670.0	2670.00	0.98	4.77	41.8%	-3.79	0.98	30	300	-95.99	0	0	-3.84	96.97	4.82	-92.15
64	2690.0	2690.00	1.05	4.64	43.8%	-3.59	1.05	30	285	-95.99	0	0	-3.76	97.04	4.82	-92.23

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## 六、2D&3D images

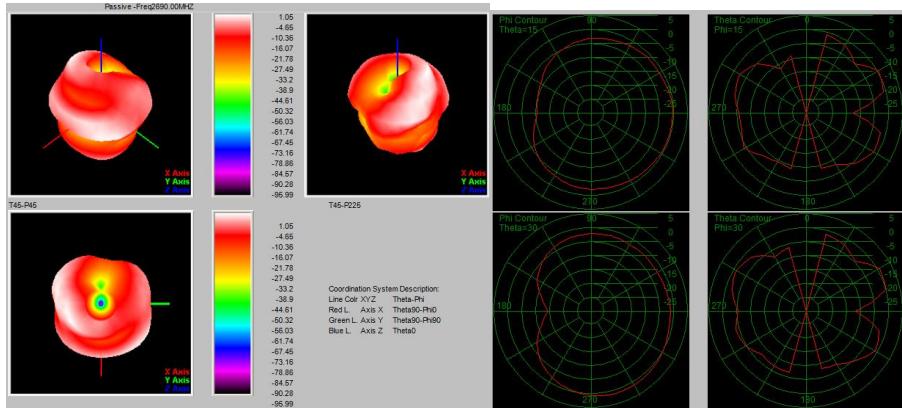


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## 七、 Environmental performance test

project	Project test conditions	Specifications
Storage environment	<p>The test temperature, humidity and air pressure are as follows when there is no specific condition:</p> <ol style="list-style-type: none"> <li>1. The temperature is <math>-30^{\circ}\text{C} \sim +80^{\circ}\text{C}</math></li> <li>2. Relative humidity: 45% - 85%</li> <li>3. The air pressure is 86kpa-106kpa</li> </ol>	Normal electrical and mechanical performance
High and low temperature test	5 cycles between $70^{\circ}\text{C}$ and $40^{\circ}\text{C}$ , then under normal conditions 1-2H, check the appearance quality.	The size shall meet the requirements and Mechanical and electrical performance
Constant damp heat resistance test	<p>Relative humidity: <math>95 \pm 3\%</math>, test temperature: <math>40^{\circ}\text{C}</math>. After lasting for 2h,</p> <p>The electrical performance shall be measured within 5 minutes after the test object is taken out, and the test object shall be within the normal range</p> <p>Part 1-2H, check the appearance quality</p>	The size shall meet the requirements and Mechanical and electrical performance
vibration test	Vibration frequency range: 10-55HZ, displacement amplitude: 0.35MM, acceleration amplitude: 50.0M/s, frequency sweep cycles: 30 times	Normal electrical and mechanical performance
Drop test	Free fall for 3 times in the direction of mutually perpendicular axes at a height of 1M	Normal electrical and mechanical performance

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