



Shenzhen Yunding Communication Electronics Co., Ltd.

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E-mail:wht0809@163.com

## Antenna specification

: WANG YU SHI TONG

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DESCRIPTION: **P6-WIFI-FPC-1.13black-L150MM-IPEX1**

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PART NO.:

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CUS PART NO.:

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D A T E: 2023-11-17

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### Yunding signature

ENGINEERING DEPARTMENT	Q C DEPARTMENT	SALES DEPARTMENT

### Customer signature

ENGINEERING DEPARTMENT	Q C DEPARTMENT	PURCHASING DEPARTMENT

Tel: 0755 23073599

⌘ The letter of acknowledgement is in duplicate, with your company's approval and seal

⌘ Approval in duplicate, please signed by your company.



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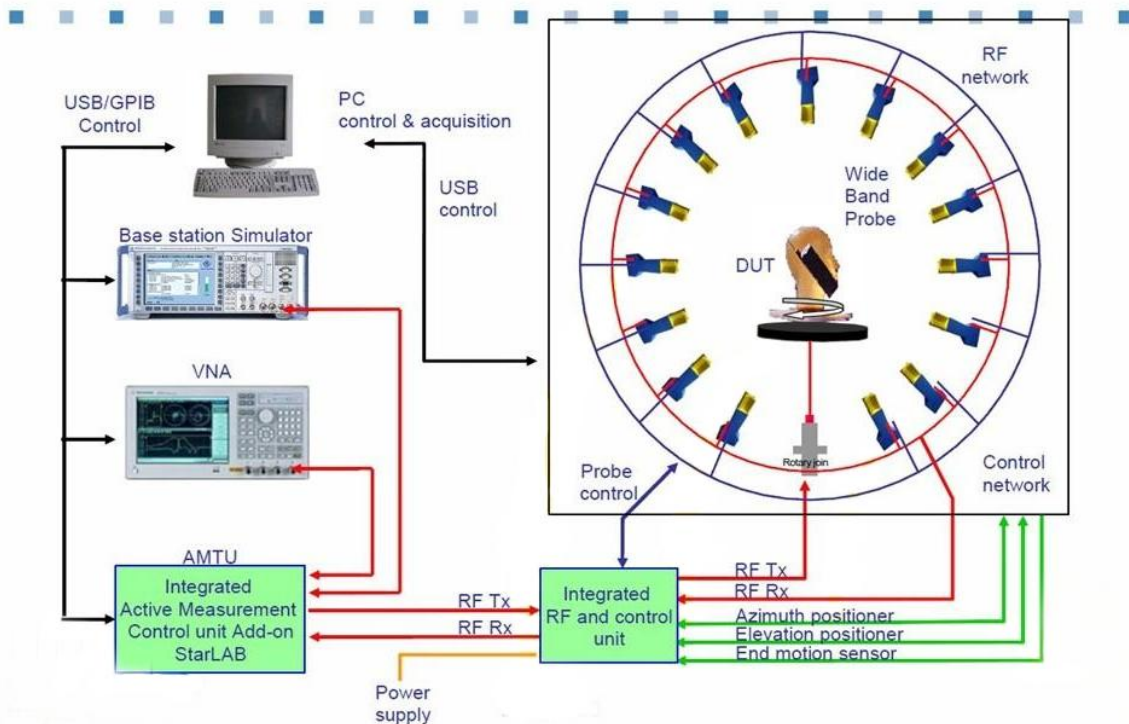
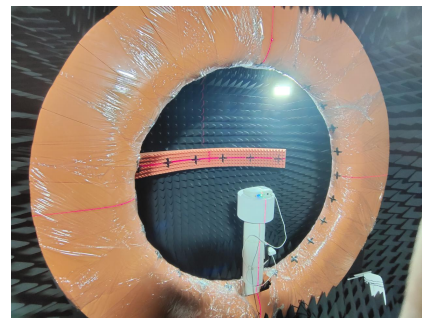
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### Test items and equipment

	Test items	Equipment
1. S11-parameter	1. Return Loss 2. VSWR	network analyzer: Agilent E5071B  HP 8753D
2.Active test	1. Transmitting power 2. Receiving sensitivity	1. Darkroom: ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2.general-purpose tester : Agilent 8960 E5515B ×2  StarPoint SP6011 Cmw500
3.Passive test	1.Gain 2.Efficiency	1. Darkroom: ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. network analyzer: Agilent E5071B  HP 8753D

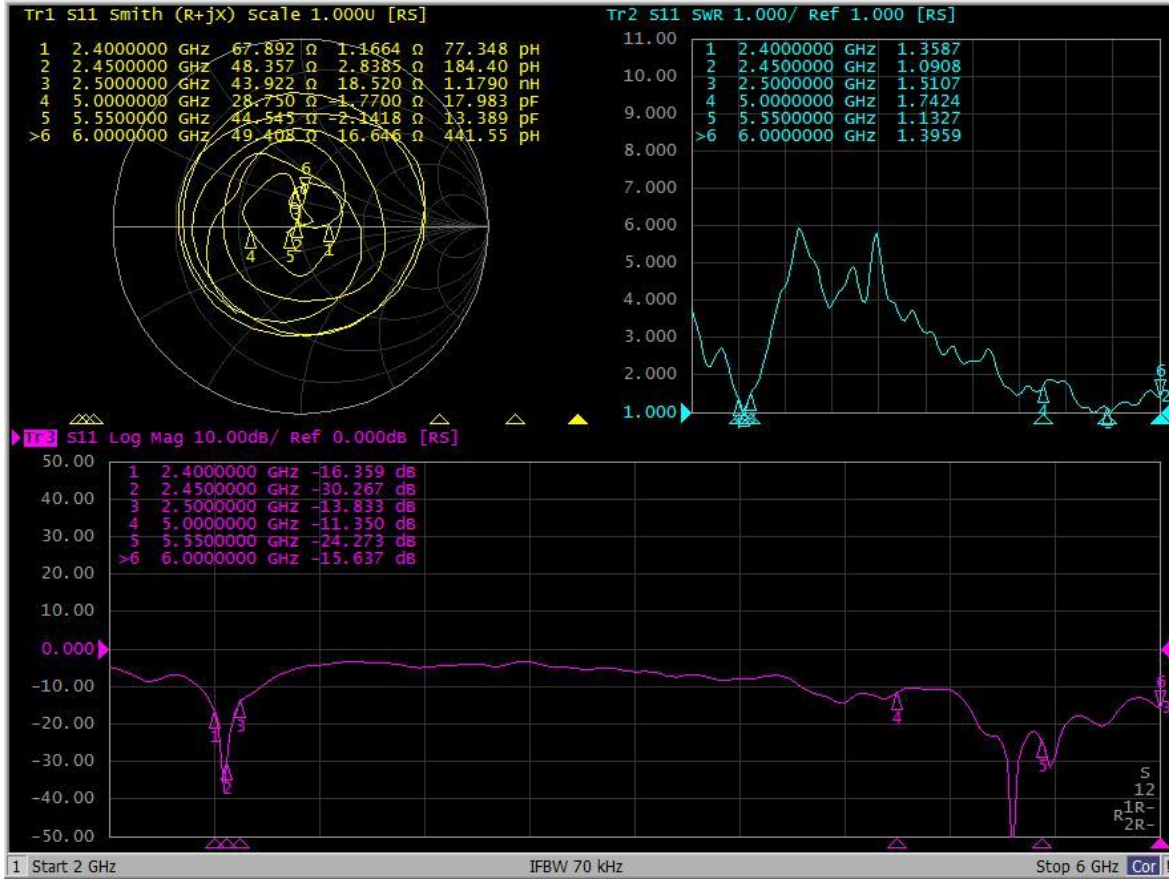




# WiFi-1 S11

E5071C Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State



Freq/GHz	2400	2450	2500	5000	5500	5850
VSWR	1.3	1.0	1.5	1.7	1.2	1.3



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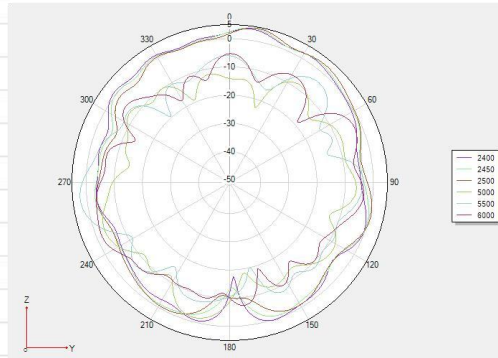
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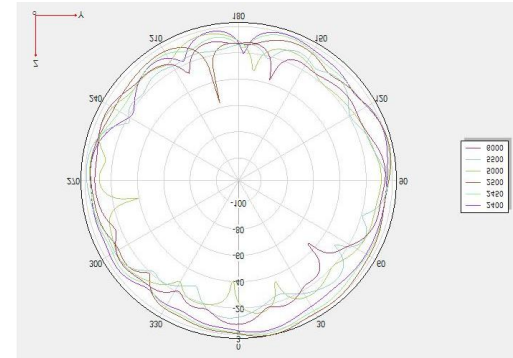
### 3DPattern@2400-2500MHz 5150-5850MHz

Frequency	MaxEphi/dE	Efficiency / %
2400	3.3	60.67
2410	3.39	60.12
2420	3.21	60.39
2430	3.04	58.48
2440	2.65	56.62
2450	2.59	55.85
2460	2.52	58.61
2470	2.6	58.34
2480	2.42	56.13
2490	2.64	57.15
2500	2.8	59.43
5000	3.2	53.46
5100	3.07	55.46
5200	3.22	54.95
5300	3.19	51.64
5400	3.23	55.21
5500	3.12	54.24
5600	3.33	52.84
5700	3.36	53.21
5800	3.45	53.09
5900	3.17	50.93
6000	3.09	50.66

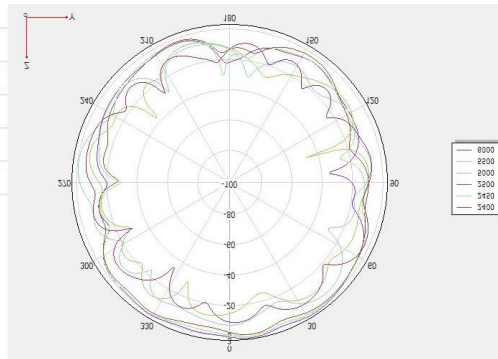
XOZ



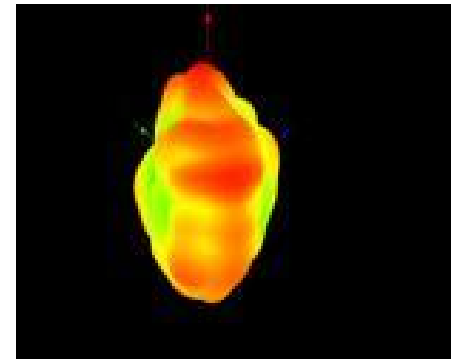
XOY



YOZ



3D

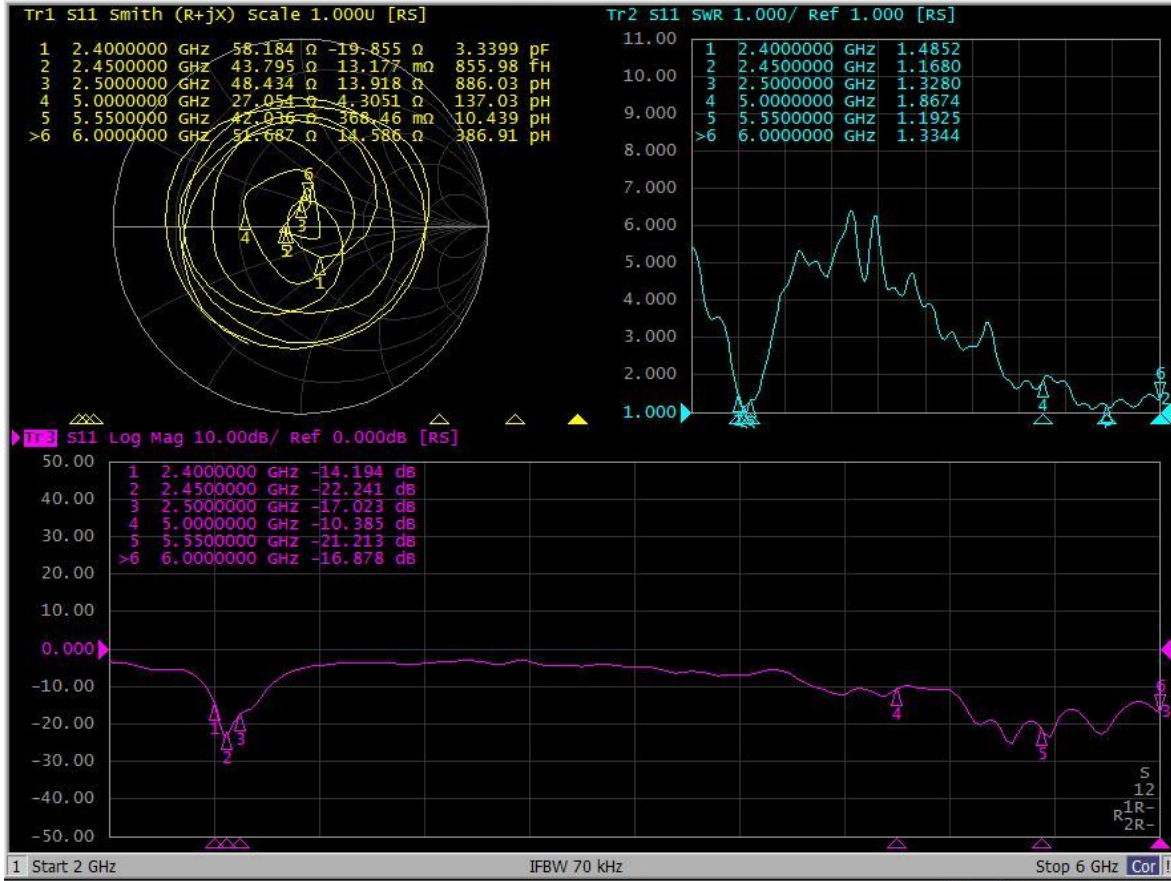




# WiFi-2 S11

E5071C Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State



Freq/GHz	2400	2450	2500	5000	5500	5850
VSWR	1.4	1.1	1.3	1.8	1.1	1.3





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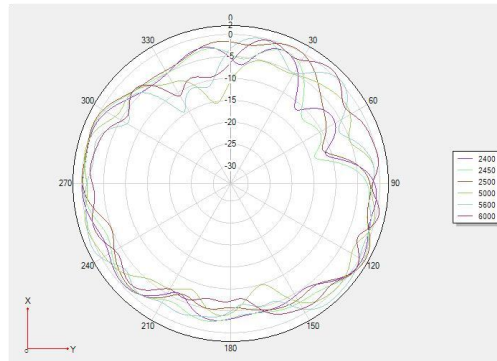
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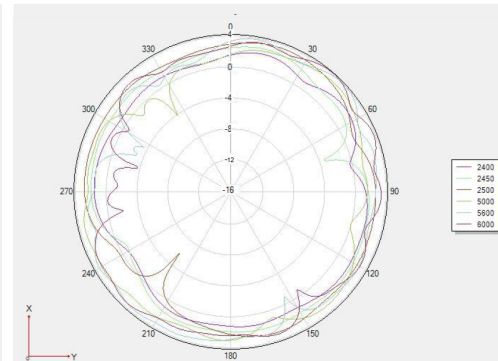
### 3DPattern@2400-2500MHz 5150-5850MHz

Frequency	MaxEphi/d	Efficiency / %
2400	3.22	63.18
2410	3.29	64.14
2420	3.13	66.7
2430	3.17	65.7
2440	3.34	65.31
2450	3.64	65.31
2460	3.25	67.7
2470	3.97	67.1
2480	3.34	65.31
2490	3.15	65.7
2500	3.12	66.9
5000	3.23	55.51
5100	3.42	59.33
5200	3.26	58.72
5300	3.34	54.92
5400	3.6	58.51
5500	3.24	55.53
5600	3.97	53.95
5700	3.03	54.92
5800	3.15	54.33
5900	3.91	58.16
6000	3.5	58.55

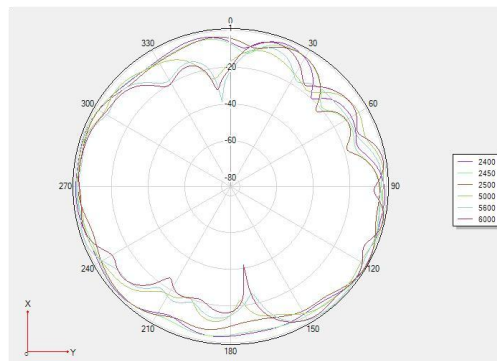
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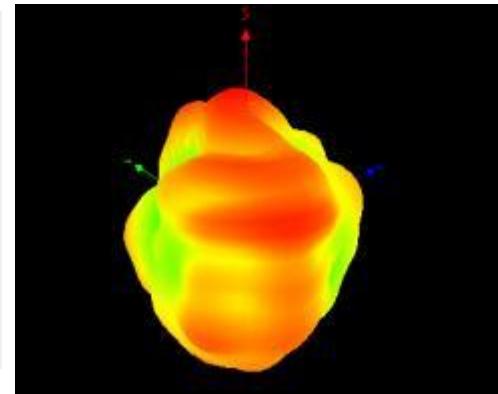
XOY



YOZ



3D





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### Antenna -OTA test data

AdditionalInfor	802.11b : 11Mbps
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Test	Wifi 2G TRP		
Result	1	6	11
Frequency (MHz)	2412	2437	2462
Txp Ave(dBm)	17.68	18.3	17.65

Test	Wifi 2G TIS		
Result	1	6	11
Frequency (MHz)	2412	2437	2462
Sens Ave(dBm)	-85.78	-84.81	-85.07

AdditionalInfor	802.11a : 54Mbps
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Test	Wifi 5G TRP		
Result	36	64	161
Frequency (MHz)	5180	5320	5805
Txp Ave(dBm)	15.67	14.9	16.04

Test	Wifi 5G TIS		
Result	36	64	161
Frequency (MHz)	5180	5320	5805
Sens Ave(dBm)	-72.73	-72.4	-70.35



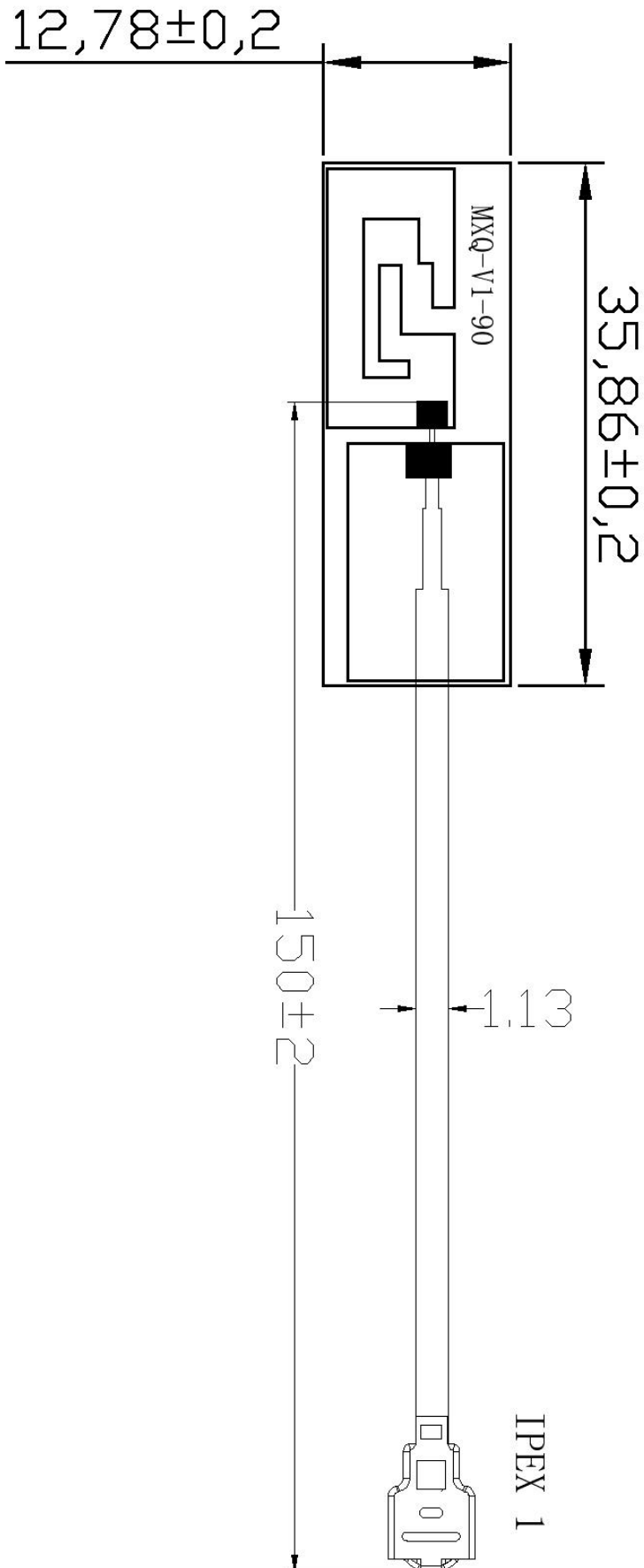
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Antenna structure diagram:







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## Electrical performance index

<b>Frequency range (MHZ) :</b>	<b>2400~2500/ 5150~5850MHz</b>
<b>Impedance :</b>	<b>50 <math>\Omega</math></b>
<b>DBI (dBi) :</b>	<b>3~4</b>
<b>VSWR :</b>	<b><math>\leq 2.0</math></b>
<b>Polarization mode:</b>	<b>perpendicularity</b>
<b>Radiation mode :</b>	<b>omnidirectional</b>

## Mechanical property index

<b>Antenna color:</b>	<b>black</b>
<b>Antenna length:</b>	<b>150 mm</b>
<b>Wire type:</b>	<b>1.13 black</b>
<b>Antenna connector:</b>	<b>IPEX 1</b>
<b>Working temperature:</b>	<b>-40°C~85°C</b>
<b>Working humidity:</b>	<b>20~80%</b>



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### Environment performance test:

Project	Test condition	Test results
Storage environment	Test temperature, humidity, pressure without stated condition as follwings:1.Temperature: $-30\text{ }^{\circ}\text{C} \sim +80\text{ }^{\circ}\text{C}$ ;2.Relative humidity: 45%-85%;3, Pressure: 86kpa-106kpa	Electrical and mechanical performance normal
High and low temperature test	Having 5 times cycle between $-40^{\circ}\text{C}$ to $70^{\circ}\text{C}$ ,Then in common condition 1-2 hours test exterior quality.	Measurement satisfied with electrical and mechanical performance normal.
Resistance constant hot and humid test	Relative humidity: $95\pm 3\%$ ,Test temperature: $40^{\circ}\text{C}$ ,last 2 hours ,put it after 5 min test the electrical function .Test products during common condition 1-2 hours ,Then test exterior quality.	Measurement satisfied with electrical and mechanical performance normal.
Vibration test	Vibrate Frequency:10-55HZ; Distance :0.35mm;Acceleration :50.0m/s;Sweep frequency cycle:30 times	Electrical and mechanical performance normal
Fall test	From 1m height fall down 3 times freely (vertical direction)	Electrical and mechanical performance normal