

Shenzhen Yunding Communication Electronics Co., LTD

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APPROVAL

Applicant name **Shenzhen Xunlong Software Co., LTD**

DESCRIPTION: **OPI 3B Double copper tube antenna-WIFI antenna**

PART NO.:

CUS PART NO.:

D A T E: 2023. 11. 15

Yunding signature

ENGINEERING DEPARTMENT	Q C DEPARTMENT	SALES DEPARTMENT
Wu Shuyi	Liu li	Wang Hongtao

Customer signature

ENGINEERING DEPARTMENT	Q C DEPARTMENT	PURCHASING DEPARTMENT

TEL: 0755-23073599 150 1794 1162

※ Admitted that book in triplicate, please signed by your company.

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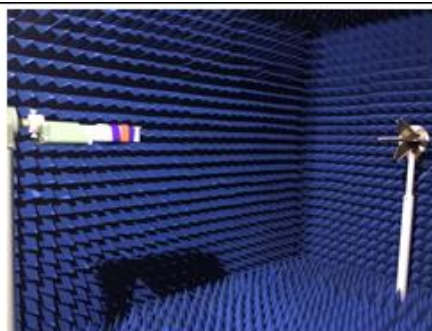
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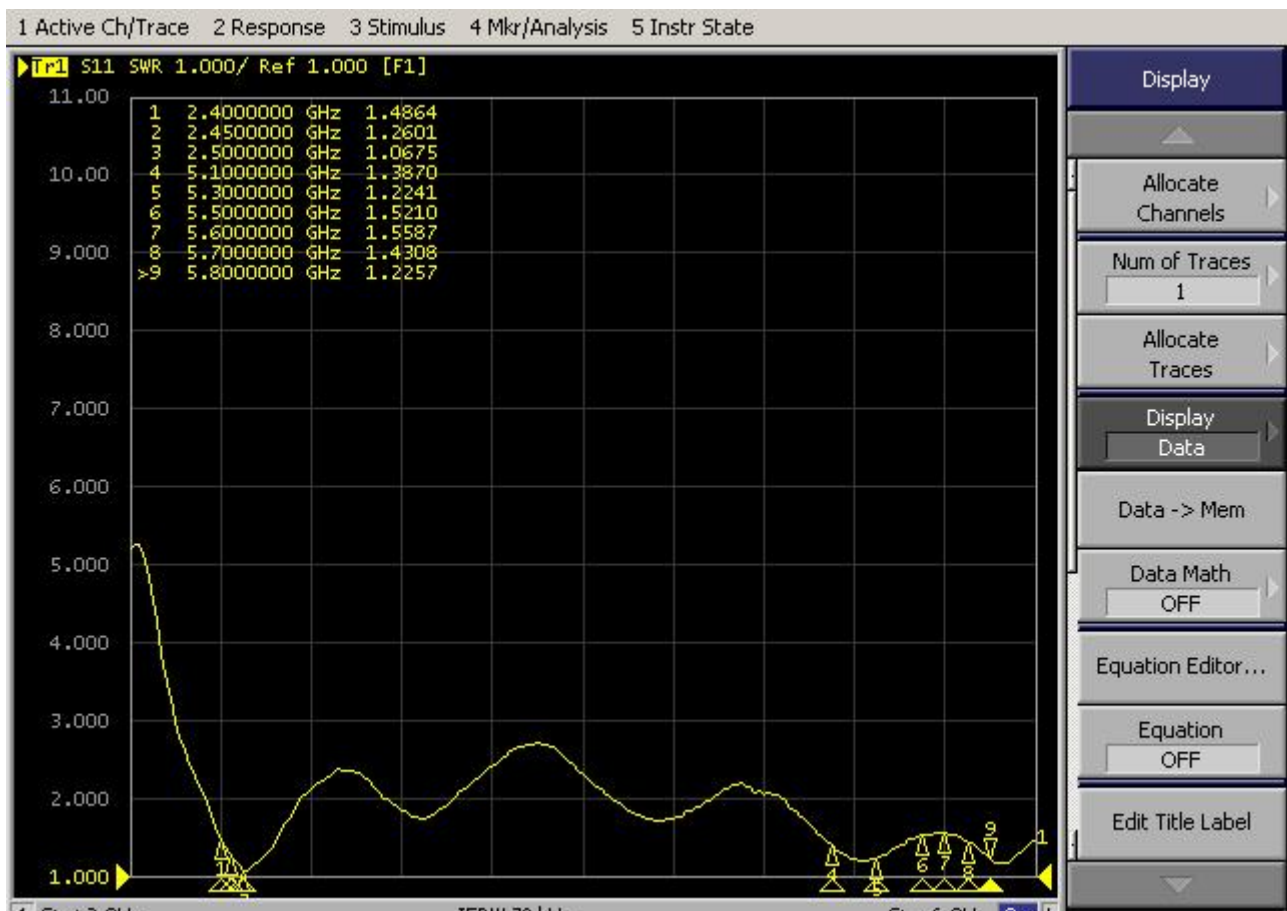
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1.Test items and equipment

	Test items	Equipment
1. S11-parameter	1. Return Loss 2. VSWR	Network analyzer: Agilent E5071B HP 8753D
2. Active test	1. Transmitting powerTRP 2. Receiving sensitivityTIS	1. Darkroom: ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2.Comprehensive tester: Agilent 8960 E5515B ×2 StarPoint SP6011
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



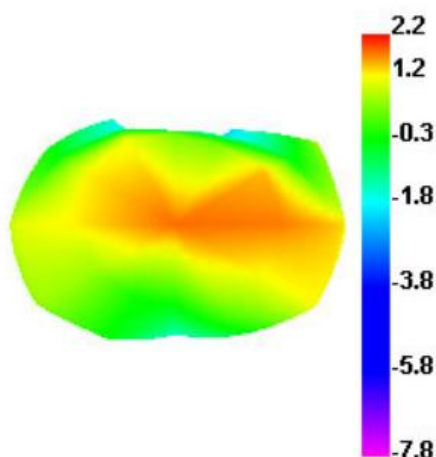
2. Antenna performance-SWR



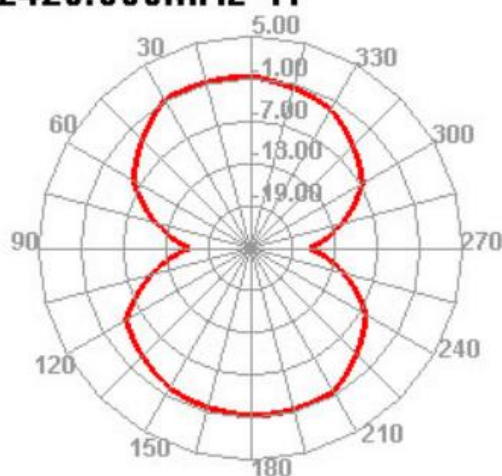
3. OTA -Passive data:

Passive Test For WIFI										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
2400	54.51	-2.64	1.93	-1.22	27.374	27.137	1.93	-15.24	48.42	48.27
2410	53.12	-2.75	1.97	-1.18	26.984	26.137	1.97	-15.25	48.62	48.42
2420	54.92	-2.6	2.22	-0.93	28.175	26.746	2.22	-15.05	48.87	48.69
2430	53.16	-2.74	2.04	-1.11	27.347	25.813	2.04	-15.2	48.84	48.66
2440	52.85	-2.77	1.9	-1.25	27.092	25.756	1.9	-15.14	48.95	48.73
2450	54.93	-2.6	1.95	-1.2	27.939	26.992	1.95	-15.43	49.07	48.77
2460	56.27	-2.5	1.99	-1.16	28.379	27.893	1.99	-15.88	49.11	48.76
2470	56.58	-2.47	2.06	-1.09	28.364	28.212	2.06	-16.95	49.11	48.73
2480	60.33	-2.19	1.44	-0.71	30.169	30.16	1.44	-17.48	49.41	48.96
2490	65.91	-1.81	1.97	-0.18	32.97	32.943	1.97	-17.48	49.76	49.29
2500	63.79	-1.95	1.9	-0.25	32.048	31.746	1.9	-17.49	49.65	49.12

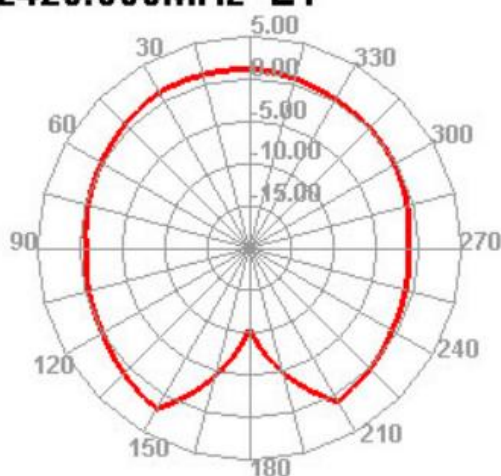
2420.000MHz



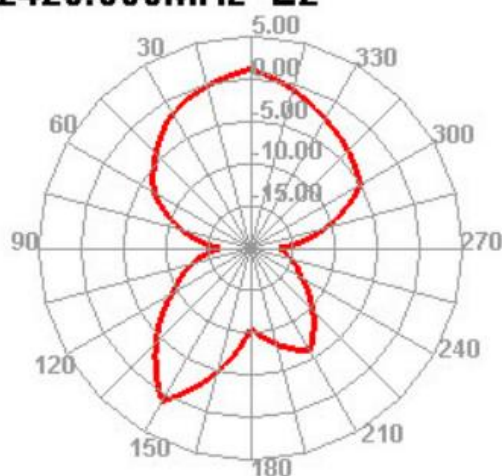
2420.000MHz H



2420.000MHz E1



2420.000MHz E2



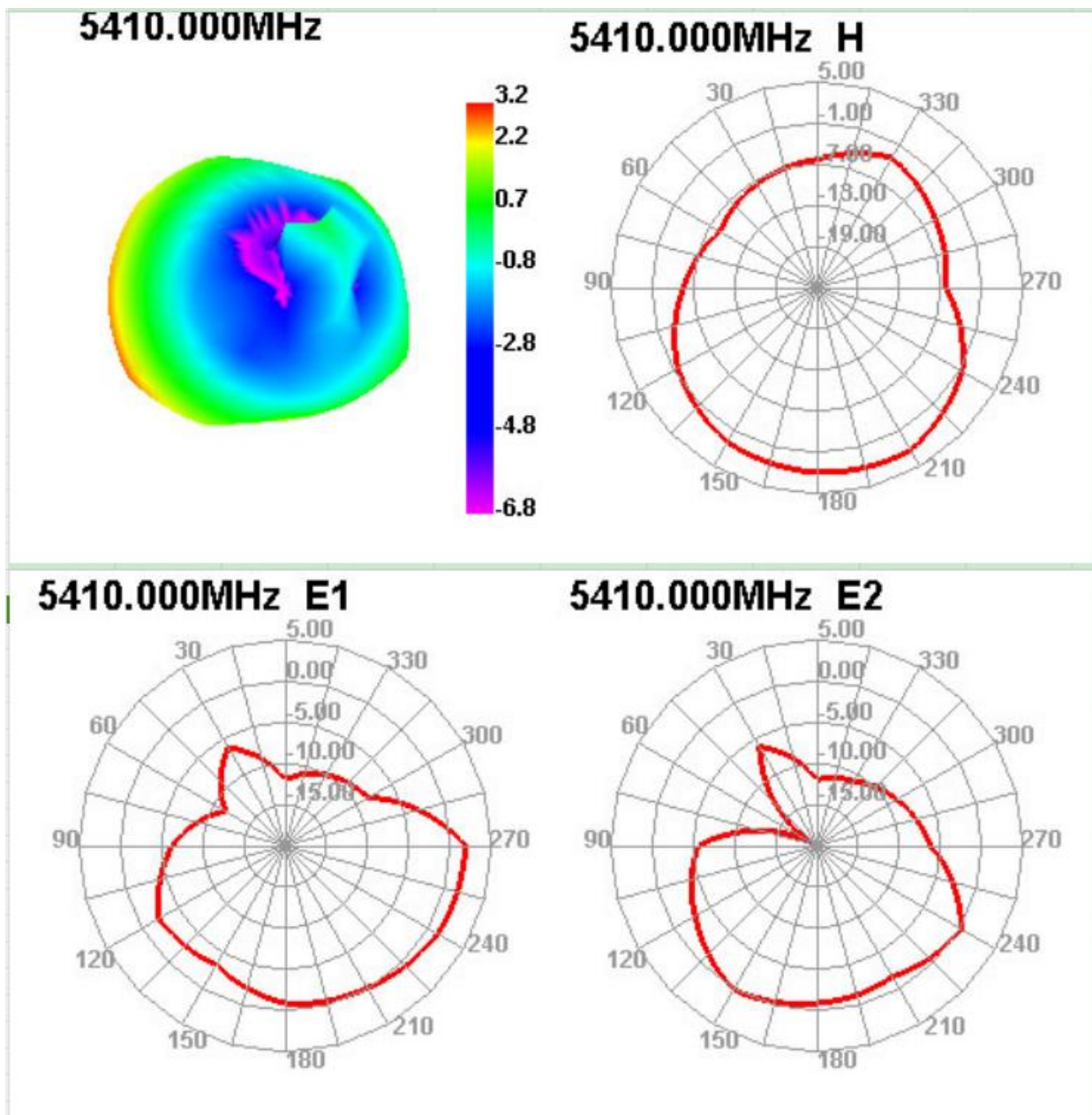
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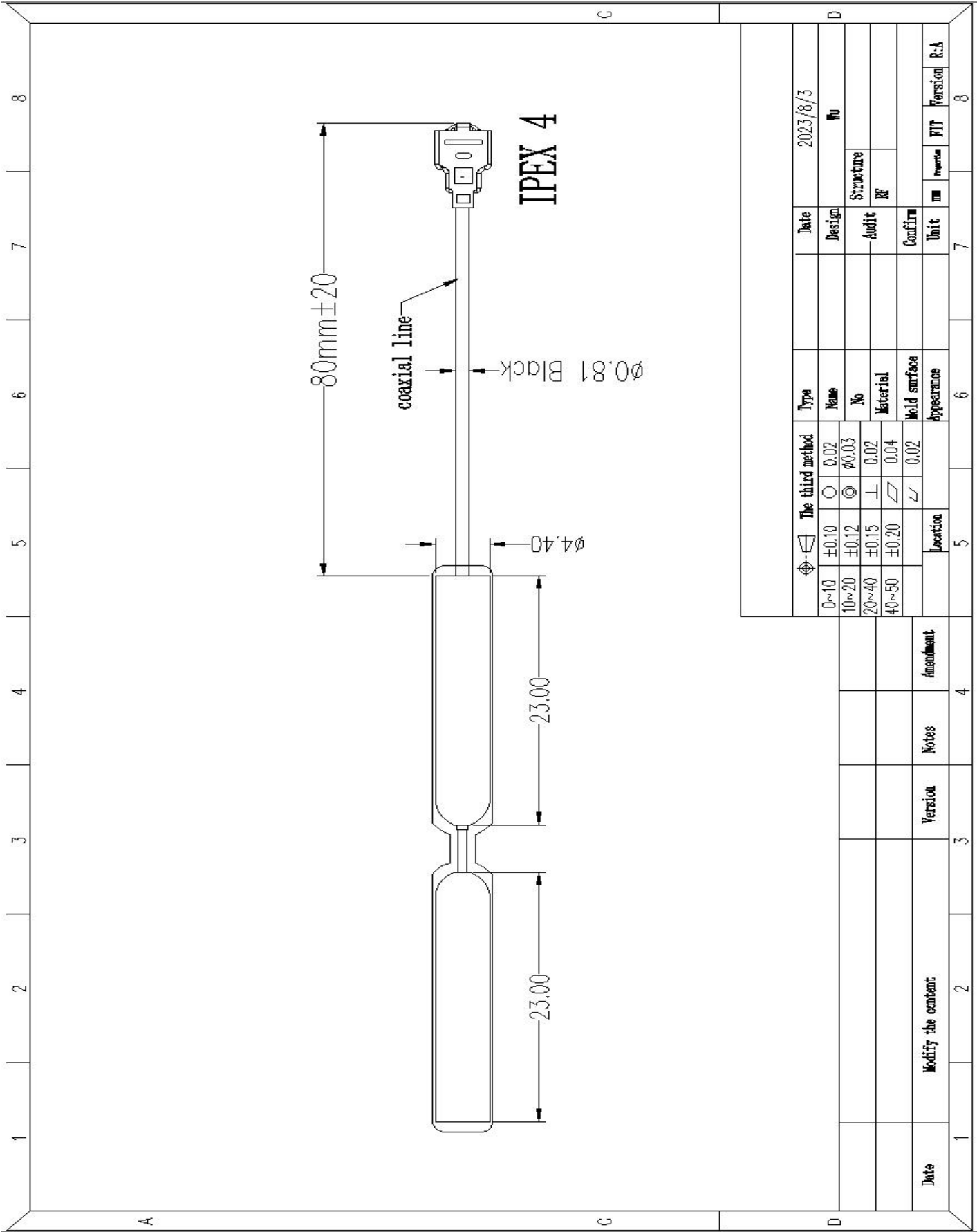
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Passive Test For WIFI-5G										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
5100	54.37	-2.65	2.49	0.34	32.126	22.242	2.49	-17.98	57.95	57.06
5200	48.33	-3.16	2.6	0.45	28.013	20.318	2.6	-17.2	57.55	56.83
5300	45.95	-3.38	1.69	-0.46	25.207	20.746	1.69	-17.05	57.16	56.32
5400	60.66	-2.17	2.9	0.75	32.797	27.861	2.9	-17.21	58.32	57.48
5410	62.79	-2.02	3.16	1.01	33.98	28.81	3.16	-16.9	58.2	57.29
5500	66.08	-1.8	2.87	0.72	34.985	31.09	2.87	-13.91	58.91	57.66
5600	62.71	-2.03	2.4	0.25	33.019	29.692	2.4	-21.63	59.51	58.82
5700	66.41	-1.78	2.58	0.43	35.524	30.89	2.58	-18.59	60.54	59.93
5800	69.71	-1.57	3.02	0.87	36.378	33.332	3.02	-16.22	61.14	60.57



4. Antenna structure diagram:



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Technical parameters of electrical apparatus

Electrical Specifications

Frequency Range	2400~2500/4900~5850MHz
VSWR	≤ 2.0
Gain	3 DBI
Input Impedance	50 Ω
Maximum Input Power	50W

Mechanical Specifications

Antenna Color	Black
Input connector	IPEX 4
Cable length	80mm
Working Temperature	-40℃~+85℃
Working Humidity	20~80%

RF0.81 specification**1. Scope**

This specification covers the construction and the electrical properties of wire.

RF Coaxial Cable

36AWG*1C+Braid OD0.81±0.05

2. Construction

Unit: mm

	Item	Unit	Details
Conductor	Material	-	Silverplated copper
	Composition	(No. /mm)	1/0.15±0.003
	OD.	mm	0.15
	Orientation	-	-
Insulation	Material	-	FEP
	Insulation color	-	Clarity
	OD.	-	0.41±0.02
Braid	Material	-	Tinned copper
	Construction	(No. /mm)	16/3/0.05±0.005
	Coverage ratio	%	90±5
	OD.	mm	0.61±0.03
Jacket	Material	-	FEP
	Color	-	black
	NOM. O. D	mm	0.81±0.05

3. Electrical Properties (at 20°C)

Item	Unit	Details
Conductor Resistance	Ohm/KM	1361.02 Ohm/KM
Dielectric Strength(AC)	V/ 1 Min	1000
Impedance	ohm	50±2(at 1ns@TDR)
Standing wave ratio	/	≤1.3@0-6GHz
Attenuation	Frequency	Standard vaalue Unit: dB/m
	1GHz	≤3.1
	2GHz	≤4.7
	3GHz	≤5.8
	4GHz	≤6.9
	5GHz	≤7.8
	6GHz	≤8.5

4. tructure drawing