红心天线

Certified to ISO9001 Quality Management System
Certification Number: 76323Q10139R0S

Shenzhen Hongxin Technology Electronics Co., Ltd.

SPECIFICATION FOR APPROVAL

Company Name:

Product Name: 2.4G Rubber Antenna

Material Number: HX-AP24-16018-D1

Customer Material Number:

Specifications: Refer to the specification sheet for details

Date: 2024-10-09

Customer's Signature:

Engineering Department	Quality Department	Approval

Shenzhen Hongxin Technology Electronics Co., Ltd.

Engineering Department	Quality Department	Table Maker
Zhuang weifeng	Zhang huan	Zou Jiayao

1.Antenna Parameters

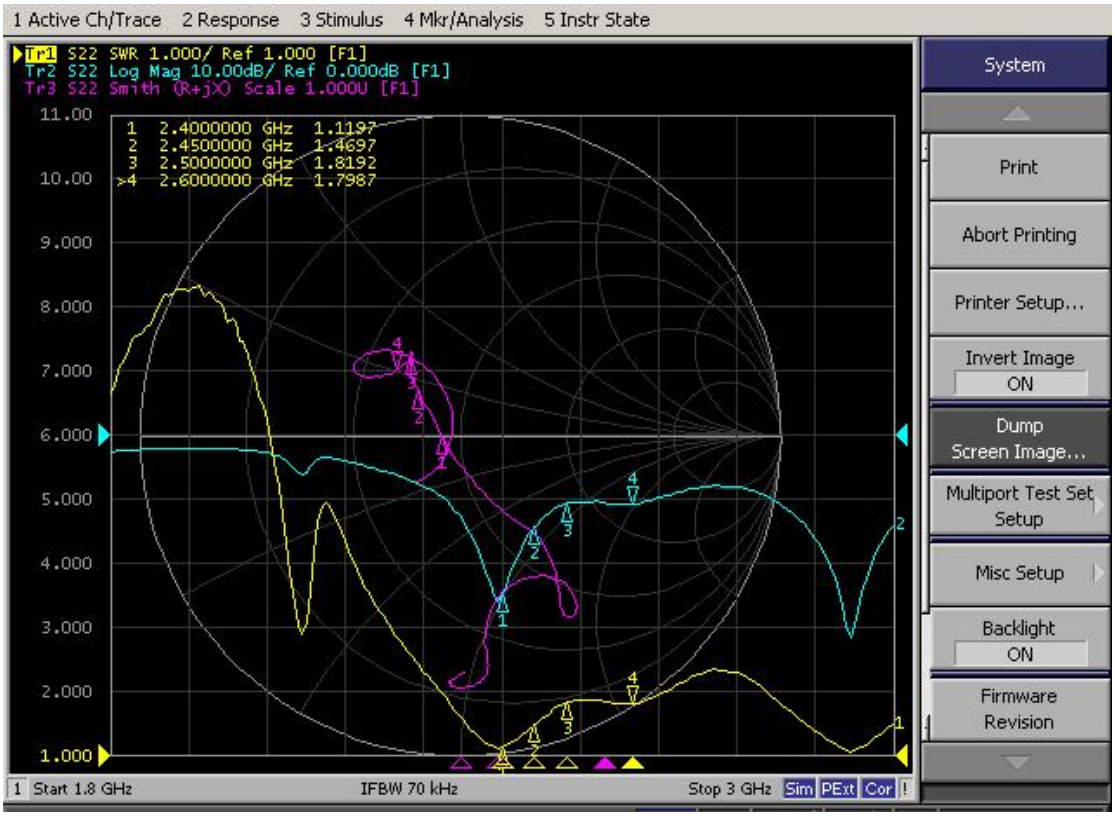
Design Specifications	Typical	Units
Antenna Type	Rubber Antenna	
Working Frequency	2400-2500	MHZ
Gain	<3	DBi
Antenna efficiency	35~80	%
VSWR	<1.8	
Ploriaztion	Vertical Polarization	
Radiation pattern	Omnidirectional	
impedance	50	ohm
Power handling	33	dbm
Interface	SMA Female-Female Connector	
Overal dimensions	16018	mm
Weight	Not required	
Operatin Temp	-30-70	℃
Storing Temp	-30-70	℃

2.Antenna Physical Diagram

Notes: 1. The antenna parameters are tested in a simulated environment, and there may be performance deviations for different products.

2. The antenna function is relatively sensitive. Please notify us for evaluation if there are any changes to the structure around the main body.

3.VSWR/Return Loss/Smith Chart



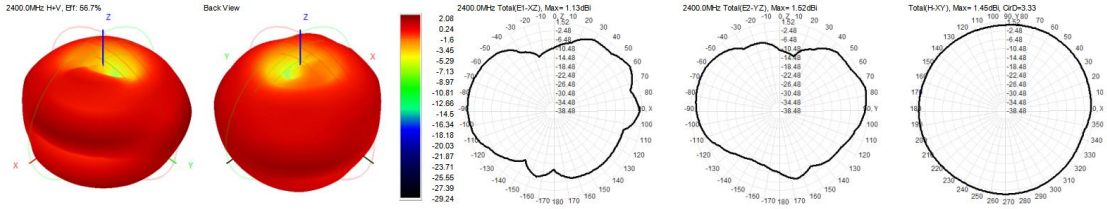
4. Gain, efficiency and radiation pattern

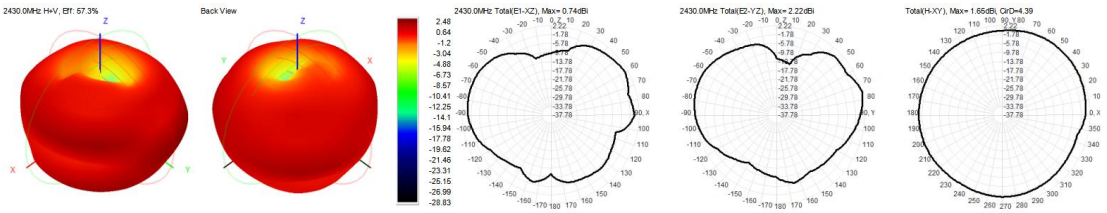
Gain and efficiency

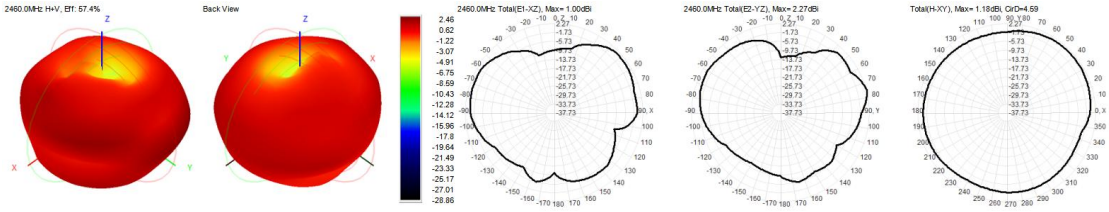
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Efficiency (dBi)	-2.47	-2.42	-2.39	-2.42	-2.47	-2.41	-2.41	-2.49	-2.59	-2.54	-2.60
Gain (dBi)	2.08	2.36	2.49	2.48	2.42	2.46	2.46	2.45	2.37	2.46	2.32
Efficiency (%)	56.68	57.31	57.63	57.33	56.60	57.39	57.44	56.34	55.14	55.67	54.90
Directivity (dB)	4.55	4.78	4.88	4.90	4.89	4.88	4.87	4.94	4.96	5.00	4.93
Peak Gain Position (Theta)	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00
Peak Gain Position (Phi)	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
Efficiency ThetaPol (%)	53.04	53.67	53.94	53.45	52.61	53.09	52.94	51.66	50.48	50.89	50.34
Efficiency PhiPol (%)	3.64	3.64	3.69	3.88	3.99	4.30	4.50	4.68	4.65	4.77	4.56
Upper Hem. Efficiency (%)	38.65	39.57	40.40	40.80	40.90	42.03	42.54	42.10	41.57	42.45	42.49
Lower Hem. Efficiency (%)	18.03	17.73	17.23	16.53	15.70	15.36	14.90	14.24	13.57	13.21	12.41

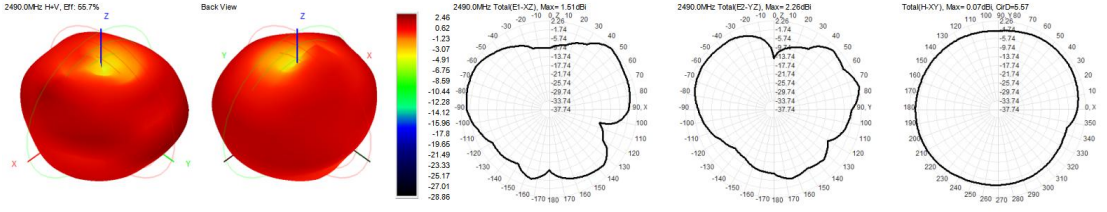
T90(H)Roundness	3.33	3.73	4.16	4.39	4.51	4.47	4.59	4.86	5.24	5.57	5.85
Gain 15deg(dBi)											
E1(XZ)Beamwidth	28.00	44.00	68.00	67.00	67.00	66.00	63.00	61.00	59.00	53.00	50.00
E1(XZ) F/B Ratio	7.65	7.28	6.92	6.62	6.27	5.89	5.71	5.47	5.24	5.17	5.31
E2(YZ)Beamwidth	54.00	54.00	37.00	35.00	31.00	28.00	27.00	27.00	26.00	26.00	27.00
E2(YZ) F/B Ratio	8.60	8.71	8.81	8.72	8.57	8.41	8.12	7.97	7.89	7.77	7.63
Axial ratio(P) at maximum gain	31.80	32.16	30.02	29.40	32.36	42.65	33.92	26.59	22.09	19.26	17.63
Axial ratio(P) at the vertex(Theta=0)	50.90	31.40	26.17	25.85	24.69	23.49	19.02	17.23	15.71	13.62	12.89
Maximum axial ratio (P) at 10° elevation	65.31	73.11	65.35	66.98	63.37	58.67	72.86	73.69	56.88	57.06	70.34
Hc(XY)Beamwidth	330.00	311.00	234.00	225.00	223.00	225.00	230.00	237.00	244.00	252.00	258.00
Hc(XY) F/B Ratio	2.58	2.54	2.73	2.89	2.98	3.05	3.20	3.44	3.28	2.72	2.35
LHCP efficiency(%)	29.56	29.66	29.16	29.08	28.85	29.70	30.06	29.69	29.45	30.06	29.71
RHCP efficiency(%)	27.12	27.65	28.47	28.26	27.75	27.69	27.39	26.65	25.69	25.60	25.19

Radiation pattern



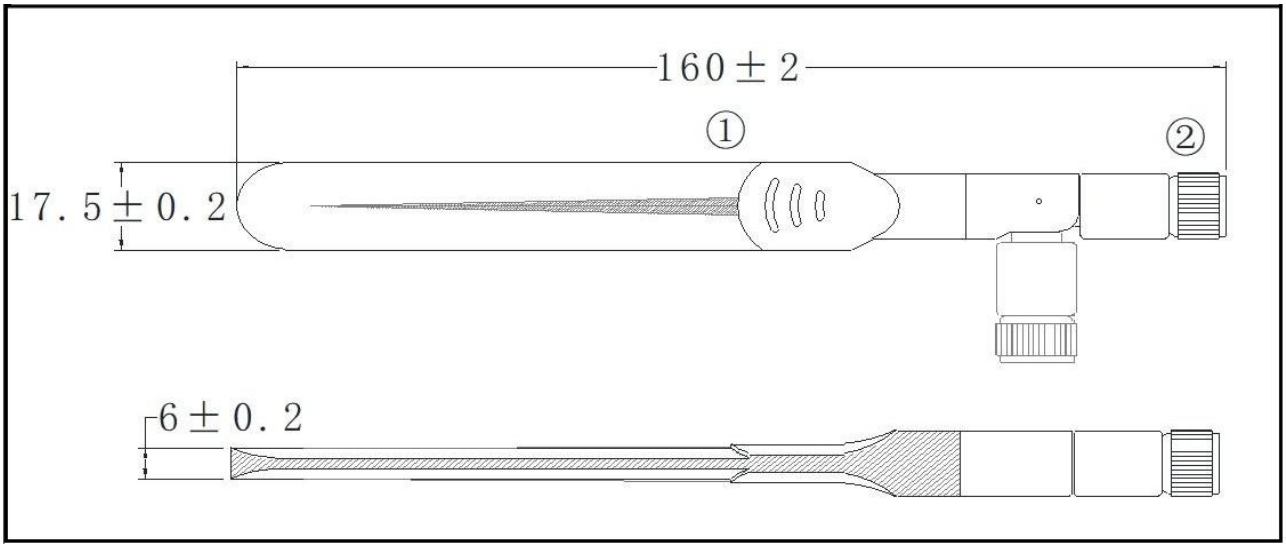






5.Size specifications

Number	Name	Specification/Color
①	Rubber - rod Outer Shell	Plastic Material/Black
②	SMA Straight - head Female - Female Connector	D1/Black



6. Cautions

1. Do not apply excessive mechanical stress to the product components. Do not attempt to bend, disassemble, or reassemble the product, as this may cause damage to the product components or parts.
2. Do not expose the product directly to an open flame.
3. This specification sheet is only applicable to the functions of the HX - AP24 - 16018 - D1 product as a single unit.