

# SPECIFICATION FOR APPROVAL

**Description:** 2.4G Glue Stick Antenna

**Manufacturer model:** HX-AP24-8012-D1

**Manufacturer:** Shenzhen HX Antenna Co., Ltd.

**Customer part number:** SPZL000953

**Date:** 2023-03-14

## Revision History

Revision	Date	Description
V1.00	2023/03/14	Initial released

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# 1. Product Description

## 1.1 Antenna parameters

Design Specifications	Typical	Units
Structure	Glue Stick Antenna	
Working Frequency	2400-2500	MHz
Gain	4.24	DBi
Antenna efficiency	35~80	%
VSWR	<1.8	
Polarization	Vertical polarization	
Radiation pattern	Omnidirectional	
Impedance	50	ohm
Power handling	33	dbm
Overall dimensions	80*12	mm
Operating Temp	-30-70	°C
Storing Temp	-30-70	°C

## 1.2 VSWR/Return Loss/Smith Chart

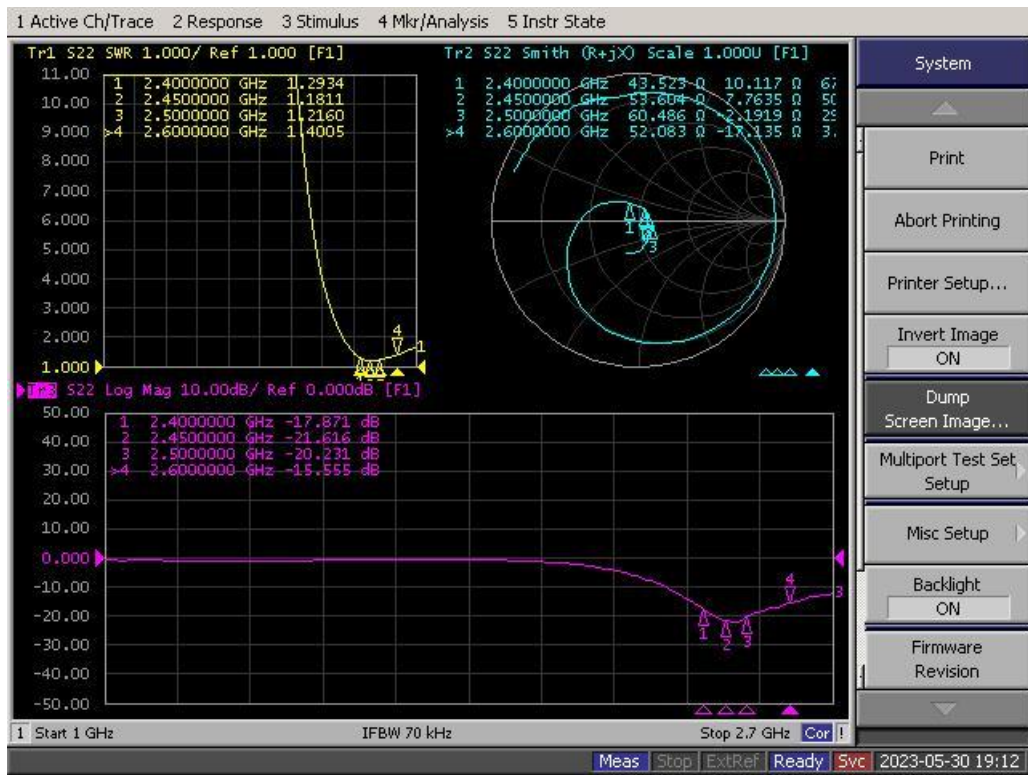


图 1 Smith Chart

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## 2. Size

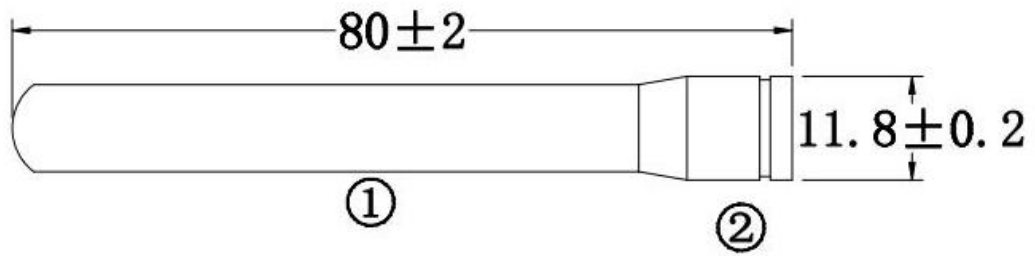



图 2 Size

### 3. Gain&Test pattern

 <b>深圳市红心电子科技有限公司</b>											
Frequency ID	31	32	33	34	35	36	37	38	39	40	41
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-2.25	-2.20	-2.21	-2.15	-2.16	-2.28	-2.28	-2.33	-2.32	-2.28	-2.26
Gain (dBi)	4.28	4.24	4.14	4.08	3.95	3.81	3.88	3.88	3.91	3.86	3.76
Efficiency (%)	59.54	60.30	60.14	60.99	60.81	59.10	59.11	58.48	58.67	59.20	59.47
Directivity (dB)	6.53	6.44	6.35	6.23	6.11	6.09	6.17	6.21	6.22	6.13	6.02
Peak Gain Position (Theta)	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	105.00
Peak Gain Position (Phi)	135.00	135.00	135.00	135.00	135.00	135.00	135.00	135.00	135.00	135.00	60.00
Efficiency ThetaPol (%)	43.47	44.39	44.38	45.21	45.15	43.94	44.06	43.75	44.01	44.45	44.59
Efficiency PhiPol (%)	16.07	15.91	15.76	15.78	15.66	15.16	15.05	14.73	14.66	14.75	14.88
Upper Hem. Efficiency (%)	19.52	19.68	19.46	19.56	19.24	18.37	18.01	17.43	17.23	17.20	17.09
Lower Hem. Efficiency (%)	40.02	40.62	40.68	41.44	41.57	40.73	41.11	41.05	41.43	42.00	42.38
T90(H)角度	10.95	12.66	14.31	15.72	15.46	15.83	16.79	15.88	13.98	12.15	10.96
Gain 15deg (dBi)											
E1(XZ)波瓣宽度	33.00	33.00	34.00	35.00	35.00	38.00	39.00	39.00	40.00	41.00	43.00
E1(XZ)前后比	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E2(YZ)波瓣宽度	64.00	64.00	64.00	64.00	64.00	65.00	65.00	64.00	64.00	64.00	65.00
E2(YZ)前后比	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
最大增益处轴比(P)	11.70	12.01	11.94	11.48	11.28	11.43	11.74	12.17	12.38	12.34	14.80
顶点(Theta=0)处轴比(P)	5.90	10.38	21.52	17.36	8.26	5.72	4.11	3.18	2.29	1.19	1.74
仰角10度最差(大)轴比(P)	49.29	57.30	51.43	53.65	52.68	63.82	62.19	54.37	58.81	48.81	67.65
Hc(XY)波瓣宽度	128.00	125.00	114.00	106.00	102.00	102.00	103.00	105.00	108.00	110.00	111.00
Hc(XY)前后比	1.39	1.66	2.10	2.10	2.09	2.03	1.89	1.76	1.65	1.57	1.54
左旋圆极化效率(%)	31.63	32.12	32.16	32.75	32.22	31.70	32.34	32.35	32.74	33.18	33.33
右旋圆极化效率(%)	27.90	28.18	27.98	28.25	28.59	27.40	26.78	26.13	25.93	26.02	26.14

