

承认书

SPECIFICATION FOR APPROVAL

客户名称
Customer:

产品名称
Product Name:

玻璃钢天线

规格描述
Description:

2.4/5G Dipole

客户料号
CUSTP/N:

硕天料号
SOANT.P/N:

PDPA2G5G6DBI20200426

发出日期

2020年04月24日

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承认书变更履历表

No.	原版	变更日期	变更内容	变更项目描述
1	A	2020-04-24	新增	-----

Specification

(规格书)

1. Electrical Properties : (电气特性)

- 1.1 Frequency Range (频率范围) 2.4~2.5&5.15~5.85GHz
- 1.2 Impedance (输入阻抗) 50Ω (50欧姆)
- 1.3 VSWR (电压驻波比) 2.0 Max (≤ 2.0)
- 1.4 Gain(peak) (最大增益) 6 ± 0.5 dBi
- 1.5 Polarization (极化方式) Linear; Vertical (线极化; 垂直极化)

2. Physical Properties : (物理特性)

- 2.1 Cable (线缆) RG-141 Cable
- 2.2 Connector (连接器) N-type PLUG
- 2.2 Antenna CAP(天线杆套)..... ABS 白色
- 2.3 Operating Temp (工作温度) $-40^{\circ}\text{C} \sim +65^{\circ}\text{C}$
- 2.4 Storage Temp (存储温度) $-40^{\circ}\text{C} \sim +75^{\circ}\text{C}$
- 2.5 Cable Temp..... $< +250^{\circ}\text{C}$

N CONNECTOR SPEC

1.0 SCOPE

This Product Specification covers SMA Connectors (Standard, Field Replaceable, and Precision)

2.1 PRODUCT DESCRIPTION

2.2 PRODUCT NAME

N-type

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

MIL-STD-348A

4.1 RATINGS

4.2 VOLTAGE

500 Vrms at Sea Level

4.3 TEMPERATURE

Rating: - 65°C TO + 165°C

4.4 FREQUENCY RATING

DC to 6 GHz (Standard)

DC to 6 GHz (Precision/Field Replaceable)

4.5 NOMINAL IMPEDANCE

50 Ohms

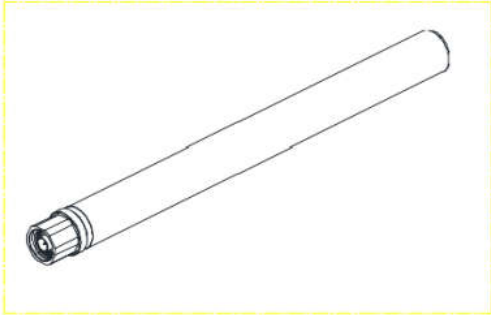
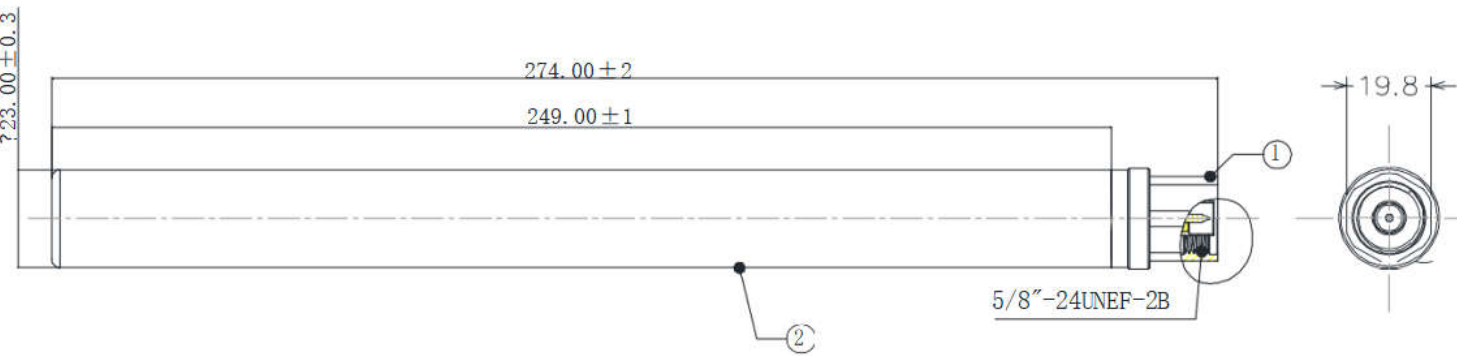
5.1 PERFORMANCE

5.2 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Insulation Resistance	MIL-PRF-39012, paragraph 3.11	≥ 5000 Megohms
2	Dielectric Withstanding Voltage	MIL-PRF-39012, paragraph 3.17	1000 Vrms
3	Contact Resistance	MIL-PRF-39012, paragraph 3.16 Center Contact Outer Contact	≤ 3 Milliohms ≤ 2 Milliohms
4	Voltage Standing Wave Ratio	MIL-PRF-39012, paragraph 3.14 Standard Precision/Field Replaceable	$1.06 + 0.001 \times f$ (GHz) $1.04 + .001f$ (GHz)
5	RF Leakage	MIL-PRF-39012, paragraph 3.26	-100dB
6	RF Insertion Loss	MIL-PRF-39012, paragraph 3.27 Standard Precision/Field Replaceable	$0.04 \times \sqrt{f}$ (GHz) D $0.03 \times \sqrt{f}$ (GHz) Db

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
7	RF High Potential Withstanding	MIL-PRF-39012, paragraph 3.23	750V @ 5-7.5 MHz
8	Material/Finish	MIL-PRF-39012, paragraph 3.3	See Sales Drawing
9	Design	MIL-PRF-39012, paragraph 3.4	See Sales Drawing
10	Panel Nut Torque	N/A	5.30 in-lb (if applicable)
11	Recommended Mating Torque	MIL-PRF-39012	7-10 inch-pounds (steel part) 4-5 inch-pounds (brass part)
12	Force to Engage and Disengage	MIL-PRF-39012, paragraph 3.5.1 Axial Force Radial Force	N/A 2 in-lb
13	Coupling Proof Torque	MIL-PRF-39012, paragraph 3.6	15 inch-pounds
14	Coupling Nut Retention Force	MIL-PRF-39012, paragraph 3.25	60 pounds
15	Mating Characteristics	MIL-PRF-39012, paragraph 3.7	N/A
16	Connector Durability	MIL-PRF-39012, paragraph 3.15	500 Cycles
17	Center Contact Retention	MIL-PRF-39012, paragraph 3.12 Axial Force Radial Torque	6.0 lbs N/A
18	Cable Retention	MIL-PRF-39012, paragraph 3.24 Axial Force	Per Cable Specification
19	Hermetic Seal	MIL-PRF-39012, paragraph 3.9 Helium Tracer Gas	Per sales drawing
20	Vibration	MIL-PRF-39012, paragraph 3.18 Per MIL-STD-202, Method 204	Test Condition D
21	Shock	MIL-PRF-39012, paragraph 3.19 Per MIL-STD-202, Method 213	Test Condition I
22	Shock (Thermal)	MIL-PRF-39012, paragraph 3.2 Per MIL-STD-202, Method 107	Test Condition B (165 ° C)
23	Corrosion (Salt Spray)	MIL-PRF-39012, paragraph 3.13 Per MIL-STD-202, Method 101	Test Condition B
24	Moisture Resistance	MIL-PRF-39012, paragraph 3.21 Per MIL-STD-202, Method 106	DWV 1000 Vrms (after drying)

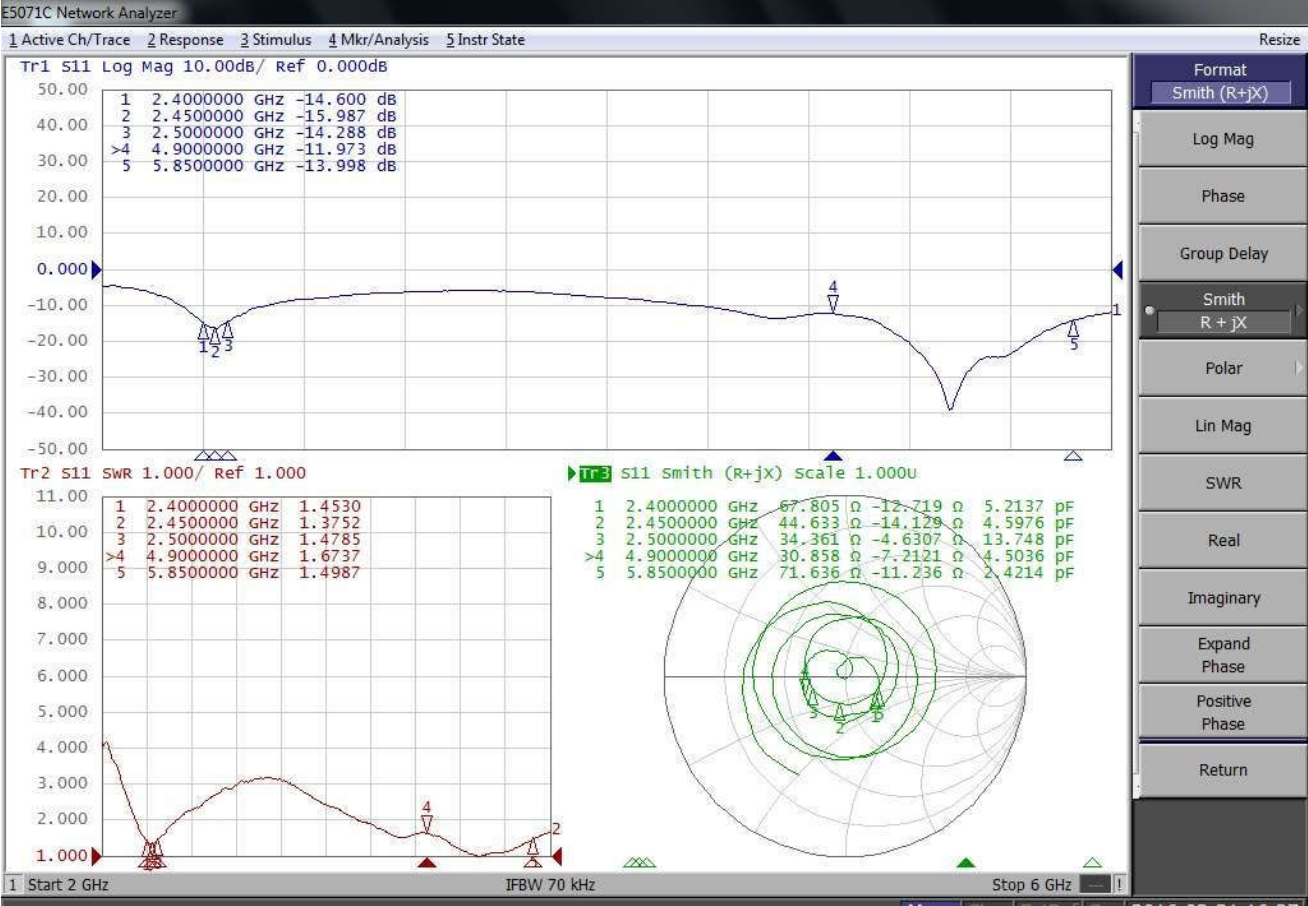
工程图:



- SPECIFICATION
- 1. Frequency Range: 2.4~2.5GHz
5.15~5.85GHz
 - 2. Impedance: 50Ω
 - 3. VSWR: ≤ 2.0
 - 4. Polarization: Vertical
 - 5. Radiation: Omni
 - 6. Gain: 7.0dBi

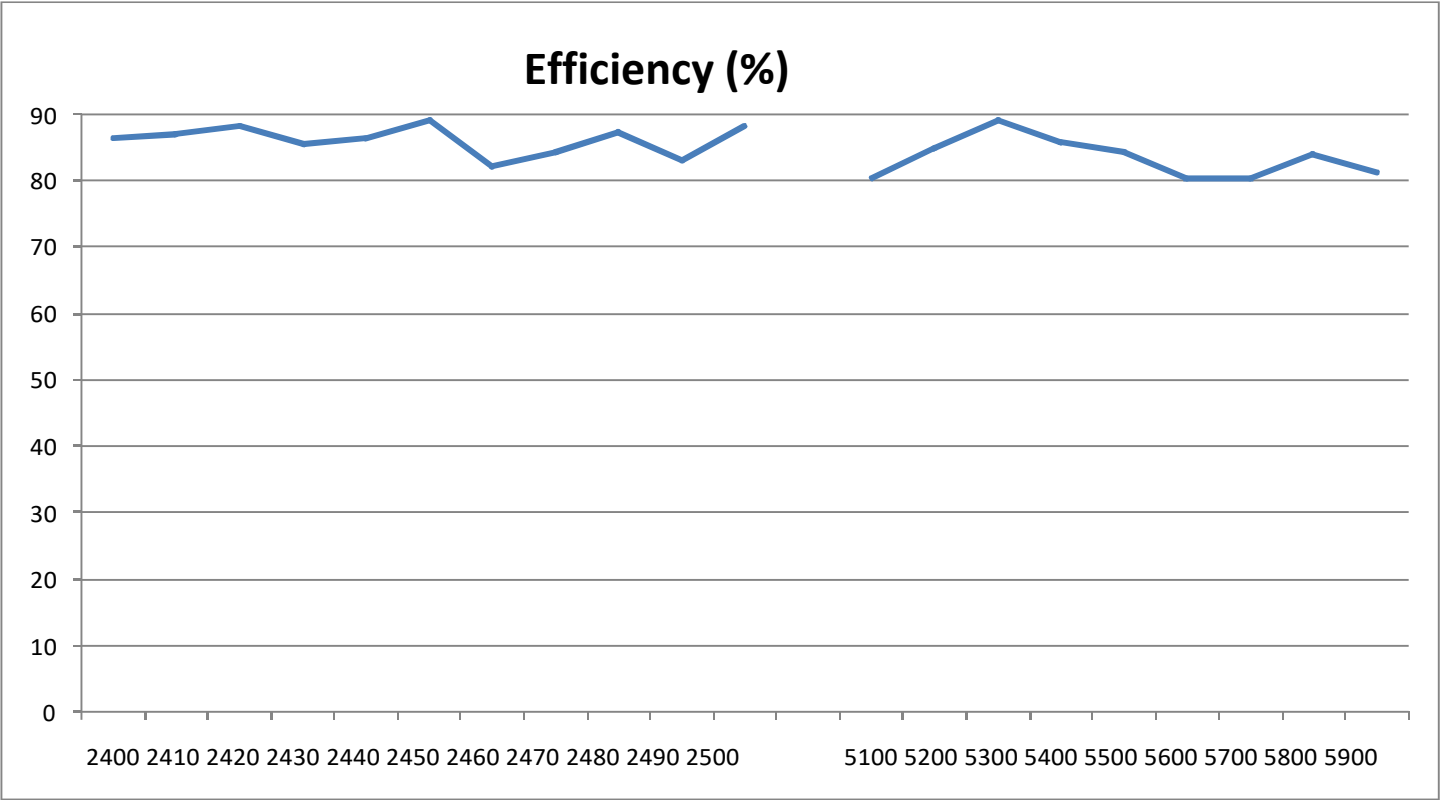
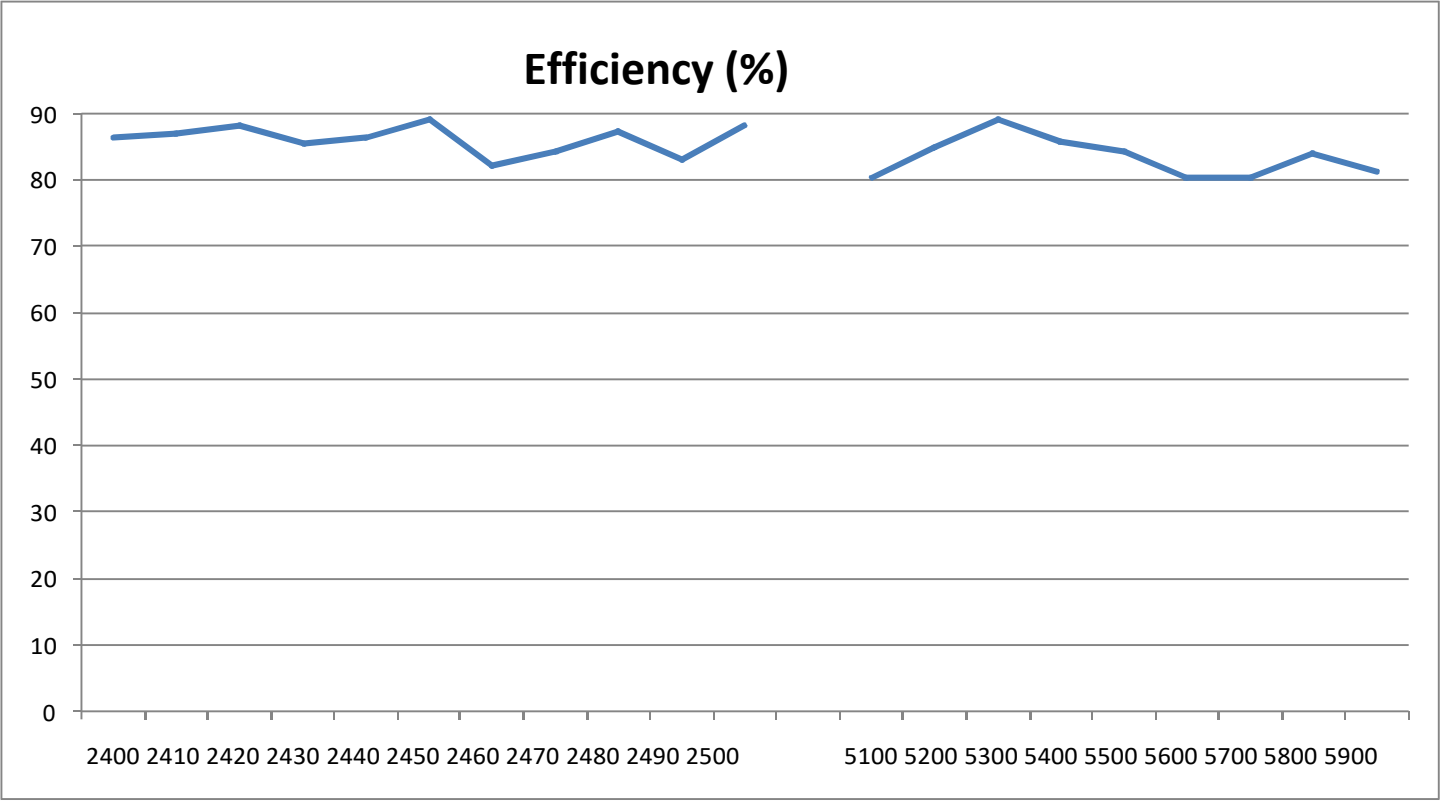
测试报告

S 参数



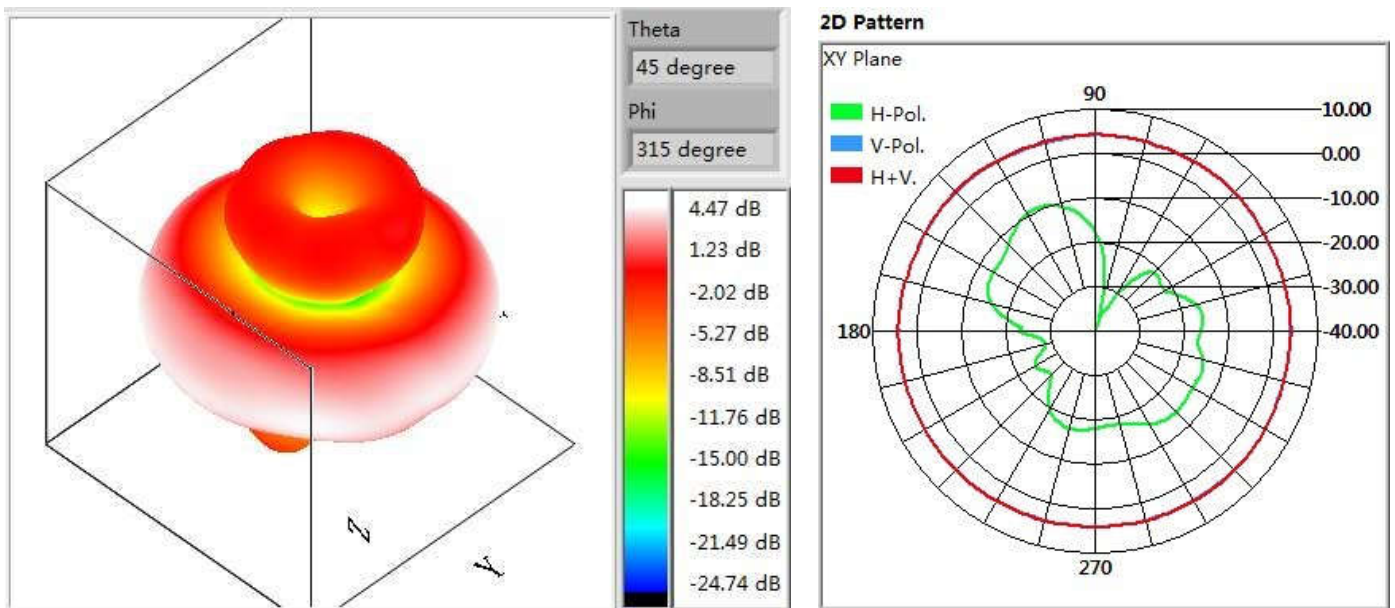
3D Total

Frequency (MHz)	Upper Hem. PRP (dBm)	Lower HEM. PRP (dBm)	Efficiency (dB)	Efficiency (%)	Gain (dBi)	Tot. Rad. Pwr. (dBm)
2400	-3.129458	-4.251141	-0.643886	86.220663	4.471544	-0.643886
2410	-3.13835	-4.181443	-0.618355	86.72903	4.4417	-0.618355
2420	-3.09049	-4.085357	-0.549198	88.121154	4.556699	-0.549198
2430	-3.207566	-4.249067	-0.68687	85.371508	4.380896	-0.68687
2440	-3.176381	-4.181245	-0.639515	86.307498	4.290843	-0.639515
2450	-3.073955	-4.012972	-0.507834	88.964467	4.520273	-0.507834
2460	-3.451161	-4.325418	-0.856028	82.110221	4.079396	-0.856028
2470	-3.371243	-4.170296	-0.742119	84.292344	4.252589	-0.742119
2480	-3.217334	-4.032169	-0.595369	87.189276	4.597268	-0.595369
2490	-3.395895	-4.276291	-0.803522	83.108948	4.457306	-0.803522
2500	-3.126717	-4.051638	-0.554302	88.017665	4.914237	-0.554302
5100	-4.265707	-3.671267	-0.948025	80.389169	5.782536	-0.948025
5200	-3.49044	-3.993502	-0.724391	84.637117	4.210215	-0.724391
5300	-2.958735	-4.157494	-0.506585	88.990069	4.45031	-0.506585
5400	-3.024599	-4.446765	-0.667427	85.75458	4.527231	-0.667427
5500	-3.310343	-4.243324	-0.741528	84.303808	5.33034	-0.741528
5600	-3.943042	-3.99097	-0.95664	80.229852	4.838382	-0.95664
5700	-4.519718	-3.485039	-0.961338	80.143116	5.308219	-0.961338
5800	-4.581882	-3.097837	-0.766476	83.820925	6.019781	-0.766476
5900	-4.840625	-3.164391	-0.911833	81.061879	6.130537	-0.911833

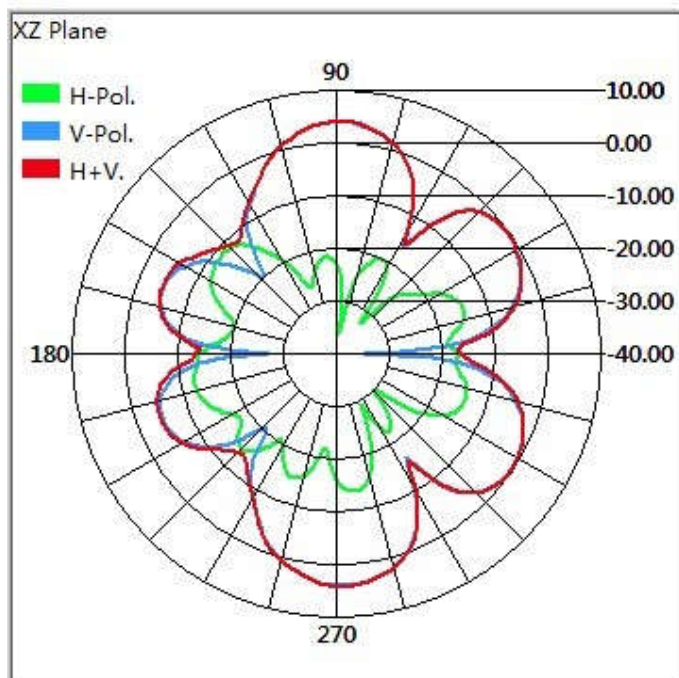


- **Gain (dBi)**
Frequency = 2400 MHz

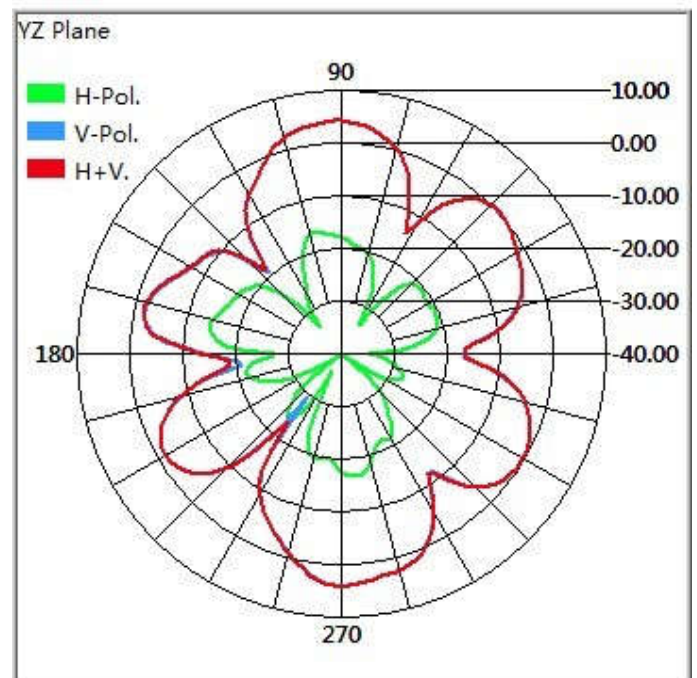
dBi	XY Plane	XZ Plane	YZ Plane
H-Pol. (Max.)	-9.377	-11.384	-14.698
V-Pol. (Max.)	4.38	4.153	4.161
H+V. (Max.)	4.472	4.161	4.189
H-Pol. (Min.)	-40.605	-36.216	-48.804
V-Pol. (Min.)	3.808	-34.798	-29.377
H+V. (Min.)	3.845	-17.217	-23.479
H-Pol. (Avg.)	-17.277	-17.61	-22.248
V-Pol. (Avg.)	4.106	-3.567	-2.925
H+V. (Avg.)	4.148	-3.189	-2.85



2D Pattern

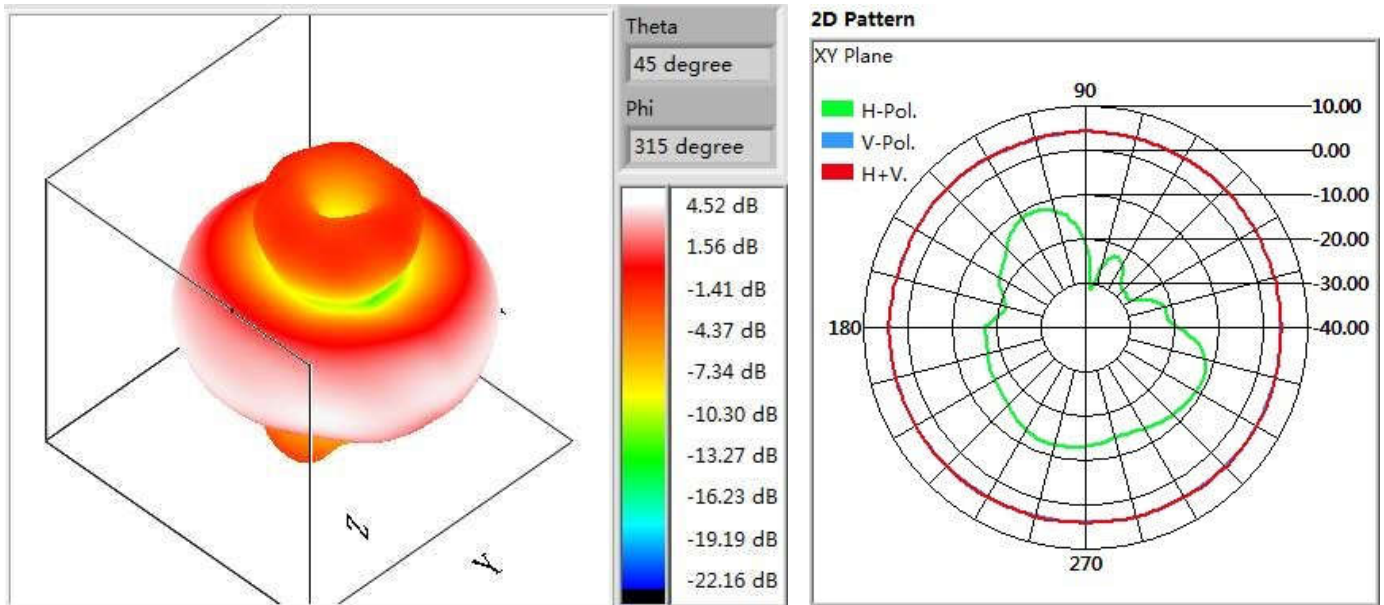


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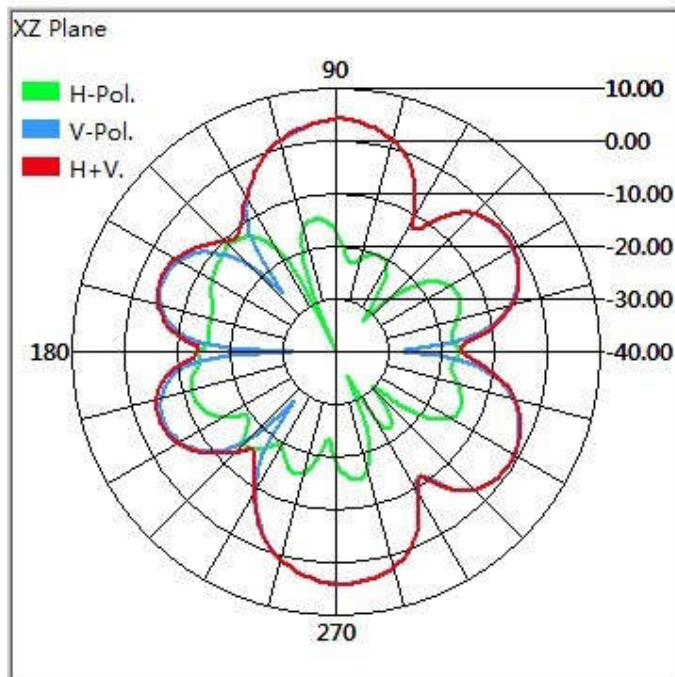


➤ **Gain (dBi)**
Frequency = 2450 MHz

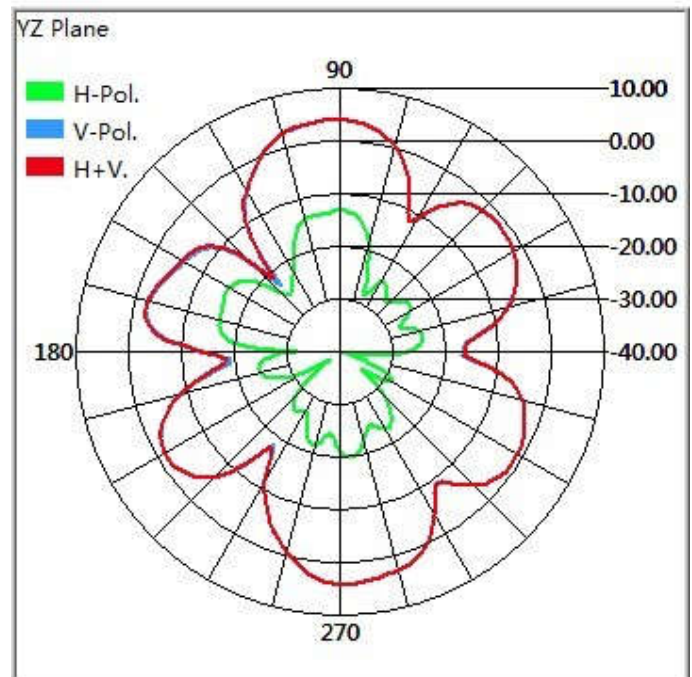
dBi	XY Plane	XZ Plane	YZ Plane
H-Pol. (Max.)	-11.115	-11.373	-13.109
V-Pol. (Max.)	4.412	4.154	4.175
H+V. (Max.)	4.52	4.186	4.187
H-Pol. (Min.)	-31.469	-44.127	-40.532
V-Pol. (Min.)	3.886	-31.328	-23.209
H+V. (Min.)	3.904	-16.418	-21.171
H-Pol. (Avg.)	-16.037	-16.863	-22.342
V-Pol. (Avg.)	4.134	-3.457	-2.943
H+V. (Avg.)	4.185	-3.057	-2.87



2D Pattern

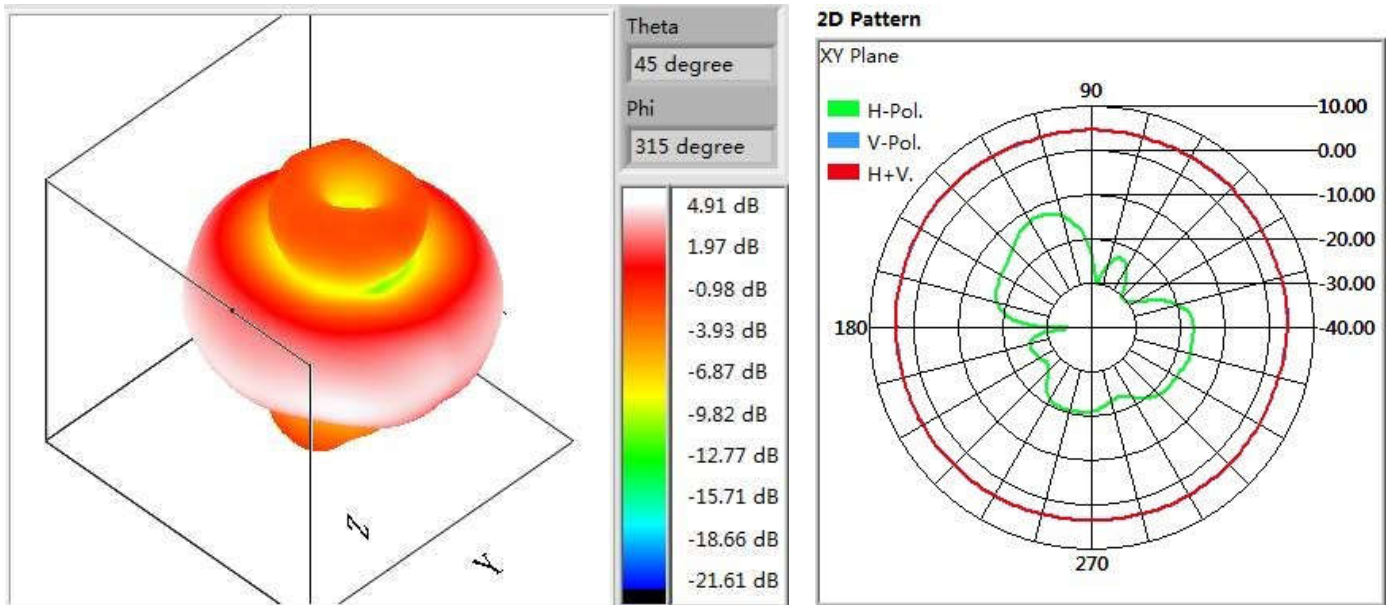


2D Pattern

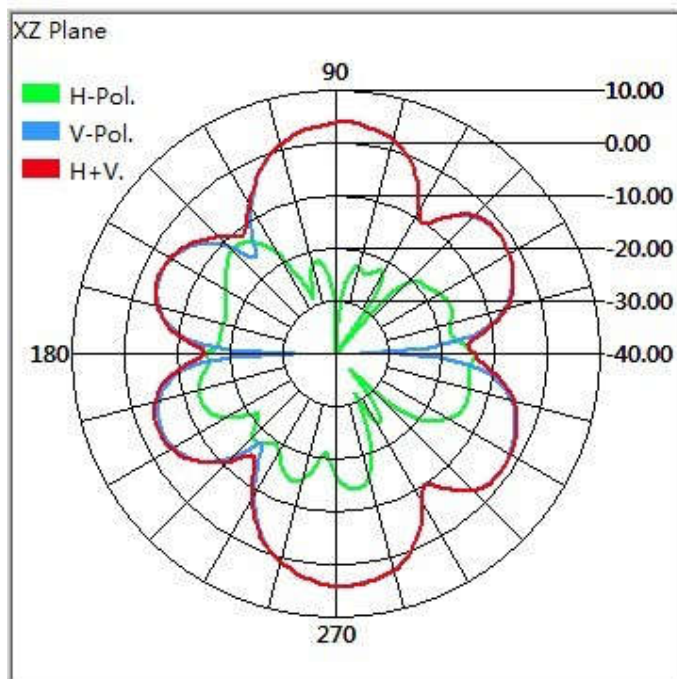


- **Gain (dBi)**
Frequency = 2500 MHz

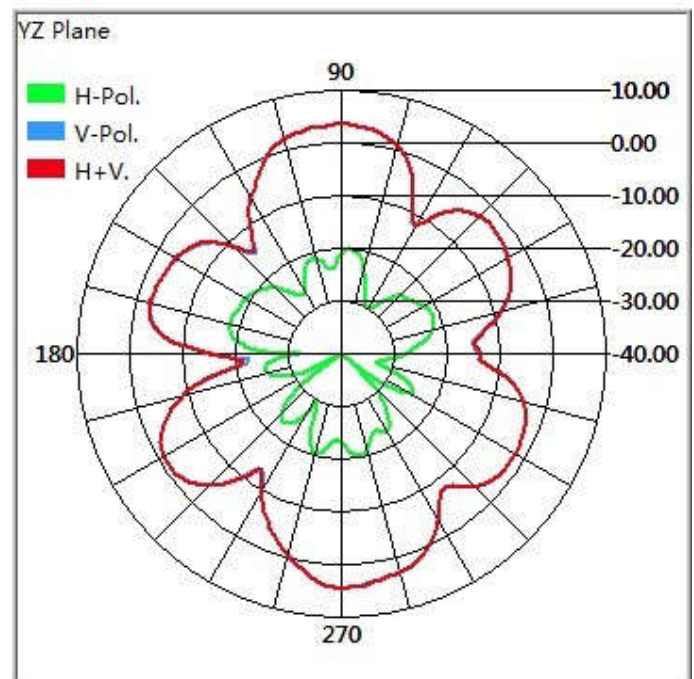
dBi	XY Plane	XZ Plane	YZ Plane
H-Pol. (Max.)	-12.228	-12.234	-18.27
V-Pol. (Max.)	4.865	4.2	4.533
H+V. (Max.)	4.914	4.245	4.541
H-Pol. (Min.)	-34.11	-43.156	-50.775
V-Pol. (Min.)	3.473	-35.363	-22.4
H+V. (Min.)	3.511	-14.995	-21.39
H-Pol. (Avg.)	-20.096	-17.836	-24.016
V-Pol. (Avg.)	4.07	-3.333	-2.969
H+V. (Avg.)	4.091	-3.016	-2.92



2D Pattern

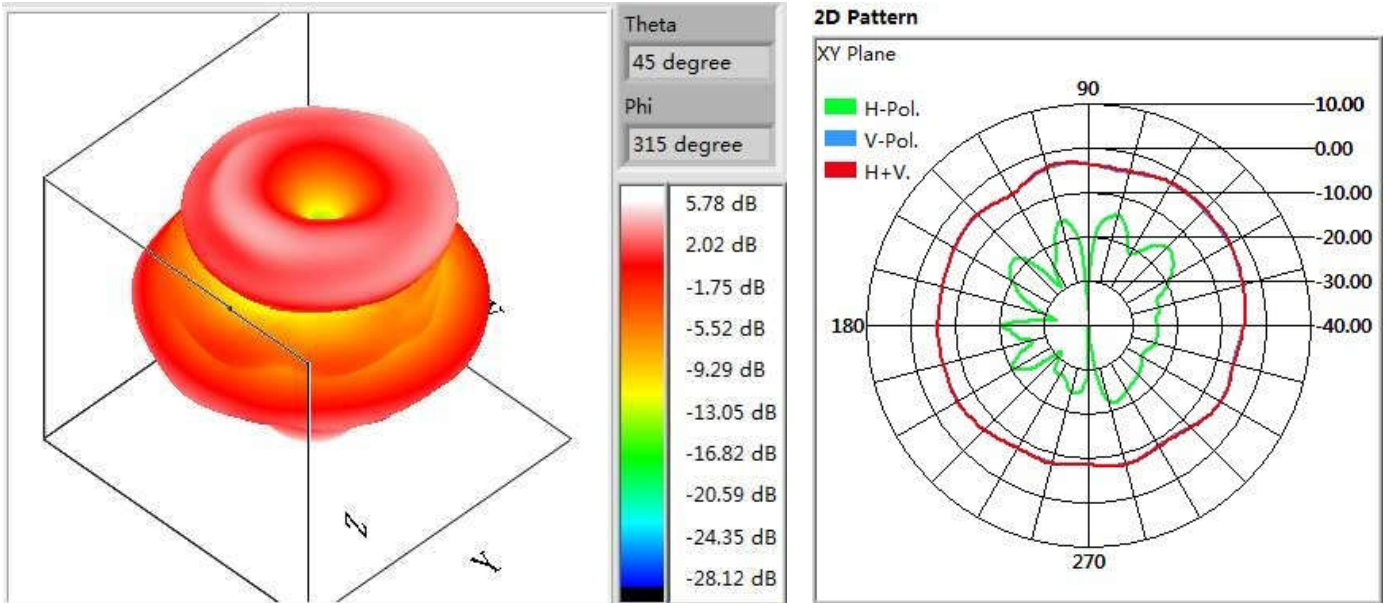


2D Pattern

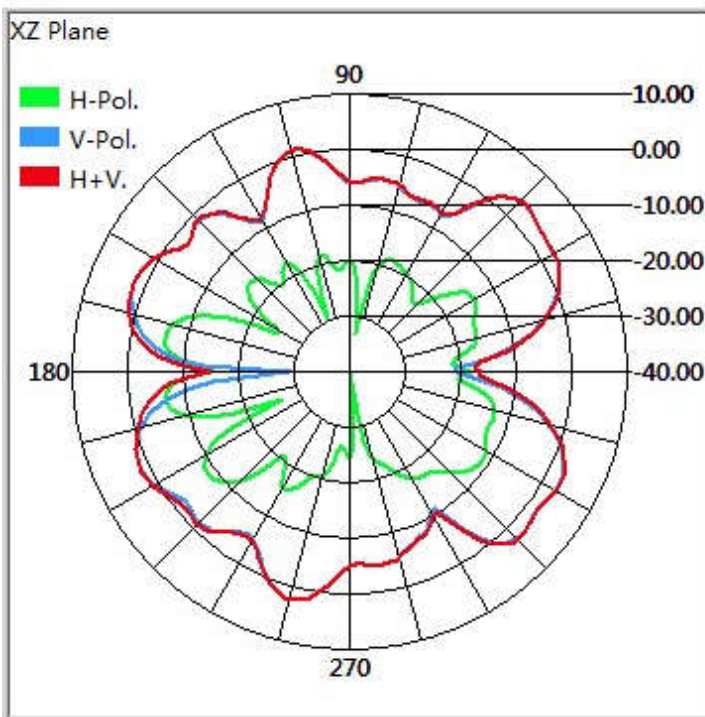


➤ **Gain (dBi)**
Frequency = 5100 MHz

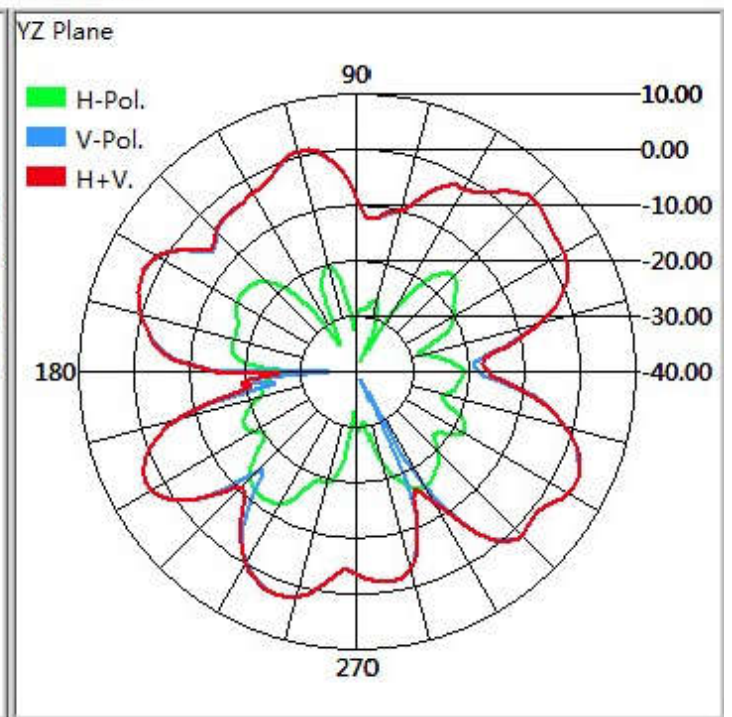
dBi	XY Plane	XZ Plane	YZ Plane
H-Pol. (Max.)	-14.418	-6.21	-11.735
V-Pol. (Max.)	-2.741	3.494	4.262
H+V. (Max.)	-2.666	3.511	4.305
H-Pol. (Min.)	-46.067	-43.386	-37.87
V-Pol. (Min.)	-8.706	-28.807	-38.536
H+V. (Min.)	-8.554	-17.352	-25.929
H-Pol. (Avg.)	-22.153	-15.824	-20.049
V-Pol. (Avg.)	-5.528	-2.097	-2.084
H+V. (Avg.)	-5.42	-1.784	-1.941



2D Pattern

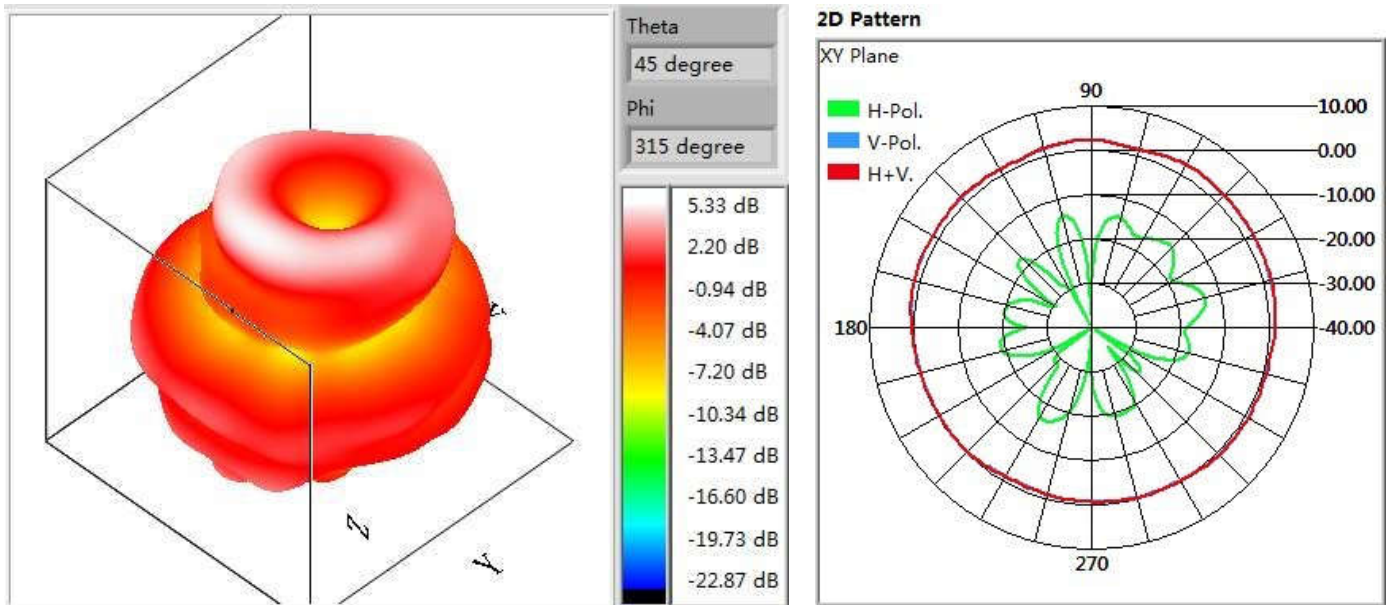


2D Pattern

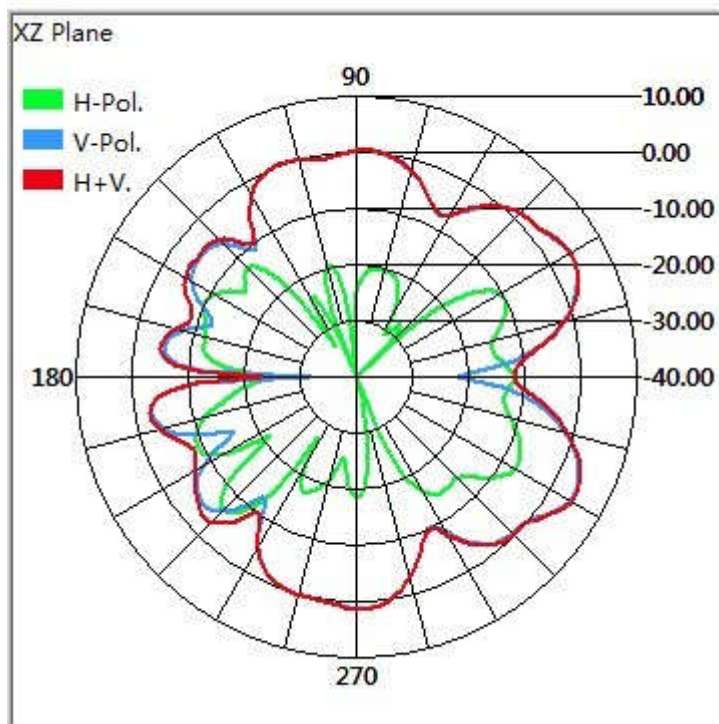


➤ **Gain (dBi)**
Frequency = 5500 MHz

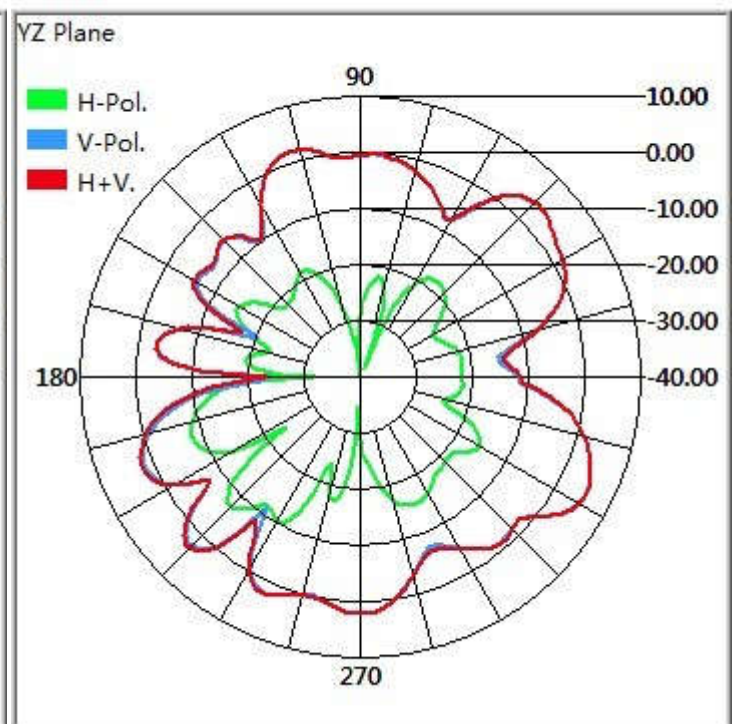
dBi	XY Plane	XZ Plane	YZ Plane
H-Pol. (Max.)	-13.626	-6.636	-7.428
V-Pol. (Max.)	2.54	4.134	5.292
H+V. (Max.)	2.6	4.439	5.327
H-Pol. (Min.)	-44.498	-48.824	-39.958
V-Pol. (Min.)	-1.394	-31.516	-23.505
H+V. (Min.)	-1.259	-22.867	-22.867
H-Pol. (Avg.)	-20.026	-15.352	-17.925
V-Pol. (Avg.)	0.835	-2.66	-1.688
H+V. (Avg.)	0.878	-2.227	-1.514



2D Pattern

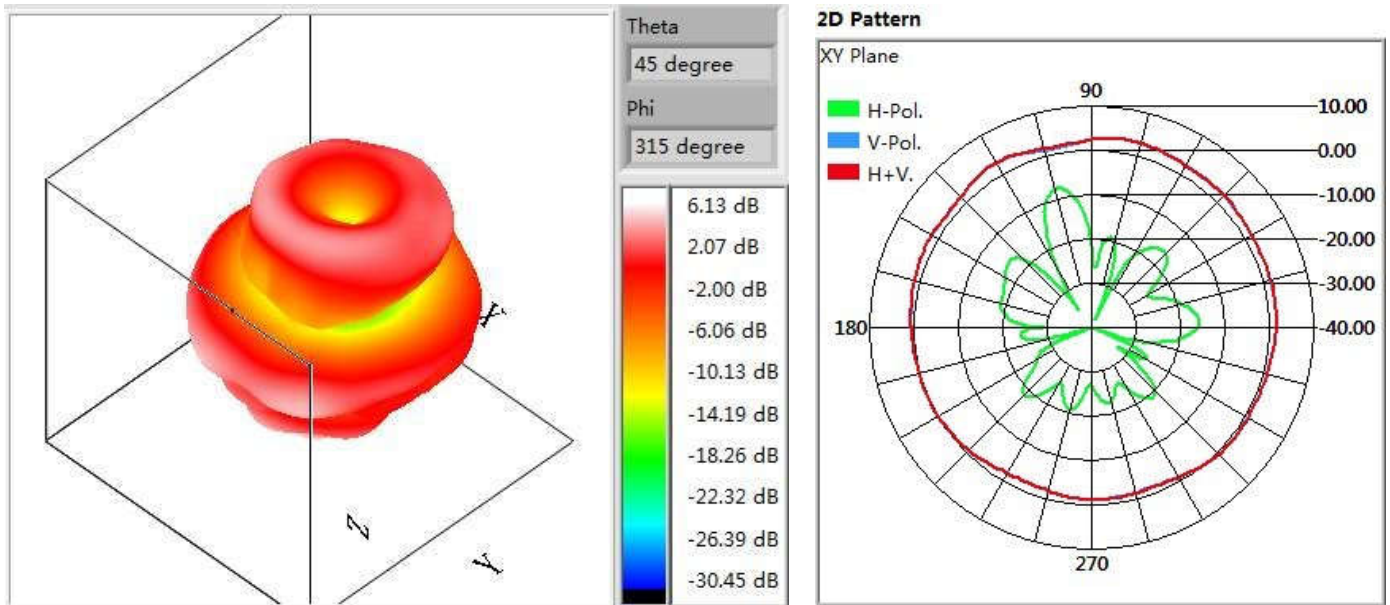


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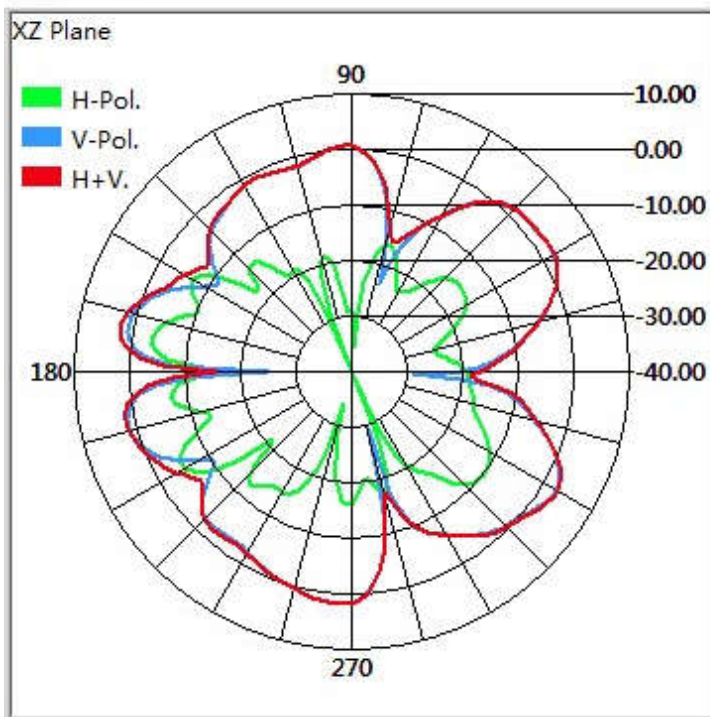


- **Gain (dBi)**
Frequency = 5900 MHz

dBi	XY Plane	XZ Plane	YZ Plane
H-Pol. (Max.)	-7.693	-3.587	-4.416
V-Pol. (Max.)	3.113	2.661	5.758
H+V. (Max.)	3.138	2.839	6.029
H-Pol. (Min.)	-40.297	-45.499	-32.888
V-Pol. (Min.)	-2.213	-29.713	-37.15
H+V. (Min.)	-2.187	-18.621	-24.059
H-Pol. (Avg.)	-20.423	-14.647	-16.496
V-Pol. (Avg.)	0.838	-2.696	-1.764
H+V. (Avg.)	0.886	-2.231	-1.518



2D Pattern



2D Pattern

