

# 深圳市欧皇通讯科技有限公司

*Shenzhen Ouhuang Communication Technology Co., Ltd.*

## *Product specification*

Customer: 三马

Material NO.:

Product: 防水式双铜管天线（型号：SM300）

Gauge lattice: The antenna length is 300.00mm, the copper tube size is  $\phi 5.20 \times 22.00$ mm, the coaxial line length is 270mm, with the first generation terminal,  $\Phi 1.37$ mm, black, the copper tube is all covered with rubber heat shrink sleeve, and the two ends are sealed waterproof design.

Date: 2023-08-16

Customer confirmation/date

Add: 1001 Pingtaichang Science Park, Yongnan Industrial Zone, Gongming Street, Guangming District, Shenzhen

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## 1. Overview of Specifications

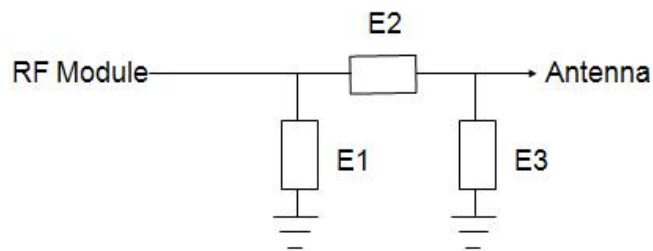
The admission describes the WIFI antenna condition of Sanma double copper tube antenna, its frequency band is 2.4G/5GHz, the manufacturer is Shenzhen Ouhuang Communication Technology Co., LTD.

## 2. Electrical property

### 2.1 Antenna band

Transmit/Receive (Hz)	WIFI	
	2.4G~2.5G	5.1G~5.9G

### 2.2 Matching circuit



Element	Value
<b>E1(0402)</b>	<b>Original match</b>
<b>E2(0402)</b>	<b>Original match</b>
<b>E3(0402)</b>	<b>Original match</b>

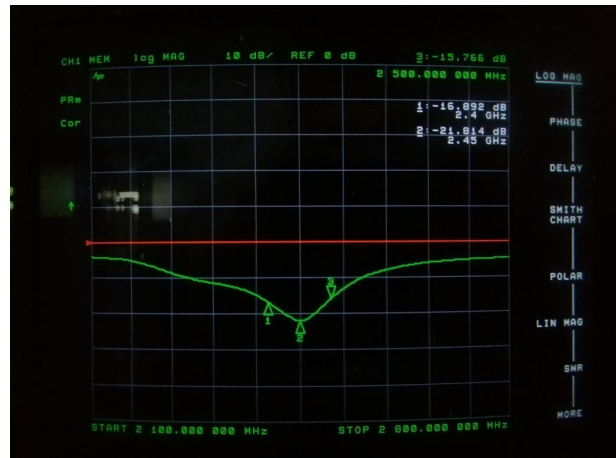
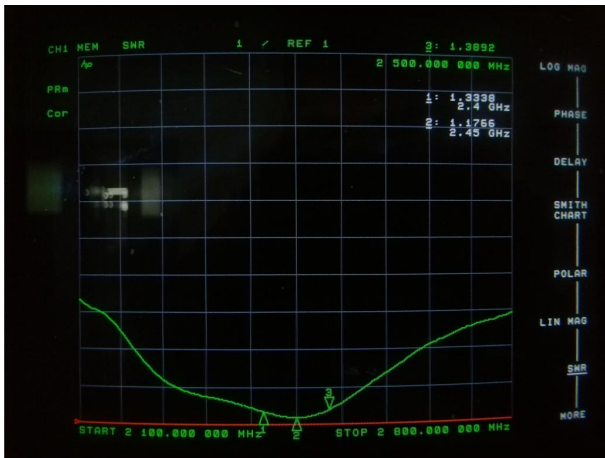
### 2.3 Impedance requirement

50 ohm

2.4 Passive test data:  
2.4G data:

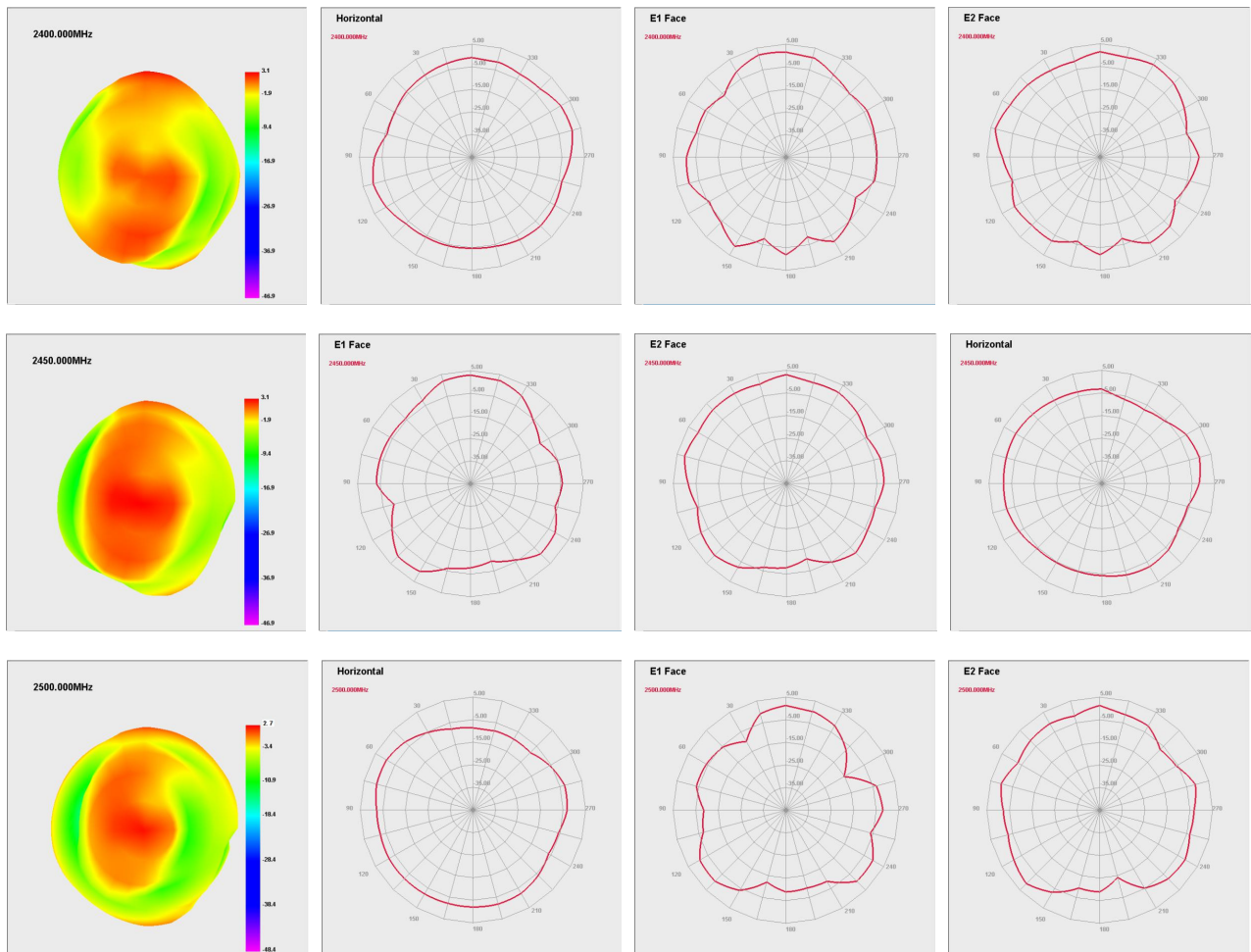
<b>Electrical Properties</b>	
Frequency	2.4GHz-2.5GHz
Impedance	50 ohm Nominal
V. S. W. R	1: 1.17 Max
Return Loss	-21.81dB Max
Radiation	Omni-directional
Polarization	Linear, Vertical

VSWR&Return Loss&Smith Chart:



Efficiency, gain, directivity:

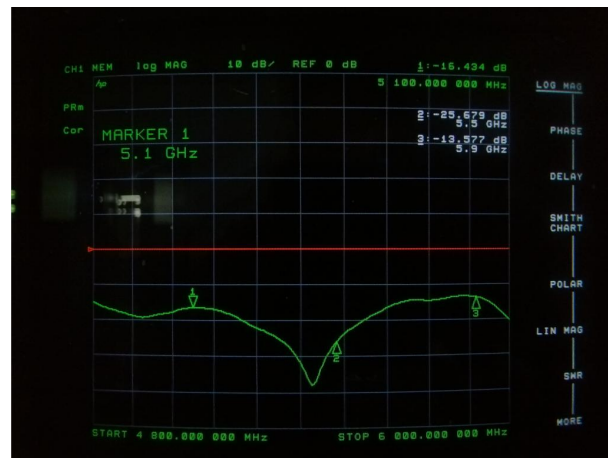
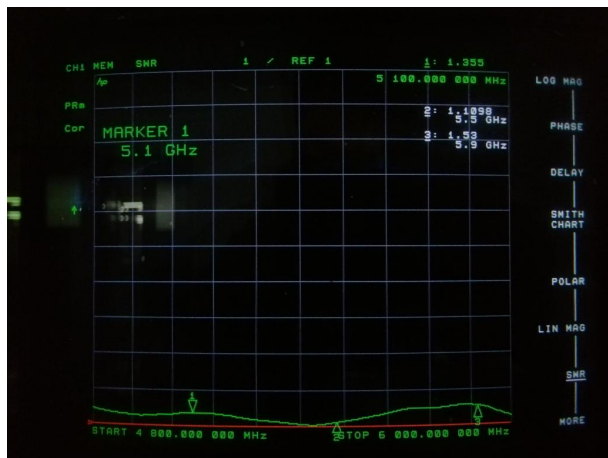
Passive Test For 2.4G-WIFI							
Freq	Effi	Gain	Gain	UHS	DHIS	Max	Min
(MHz)	(%)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)
2400	60.4	3.08	0.93	30.032	27.372	3.08	-21.13
2450	64.23	3.05	0.9	33.726	25.503	3.05	-15.95
2500	59.59	2.74	0.49	27.418	28.169	2.74	-17.83



5G date:

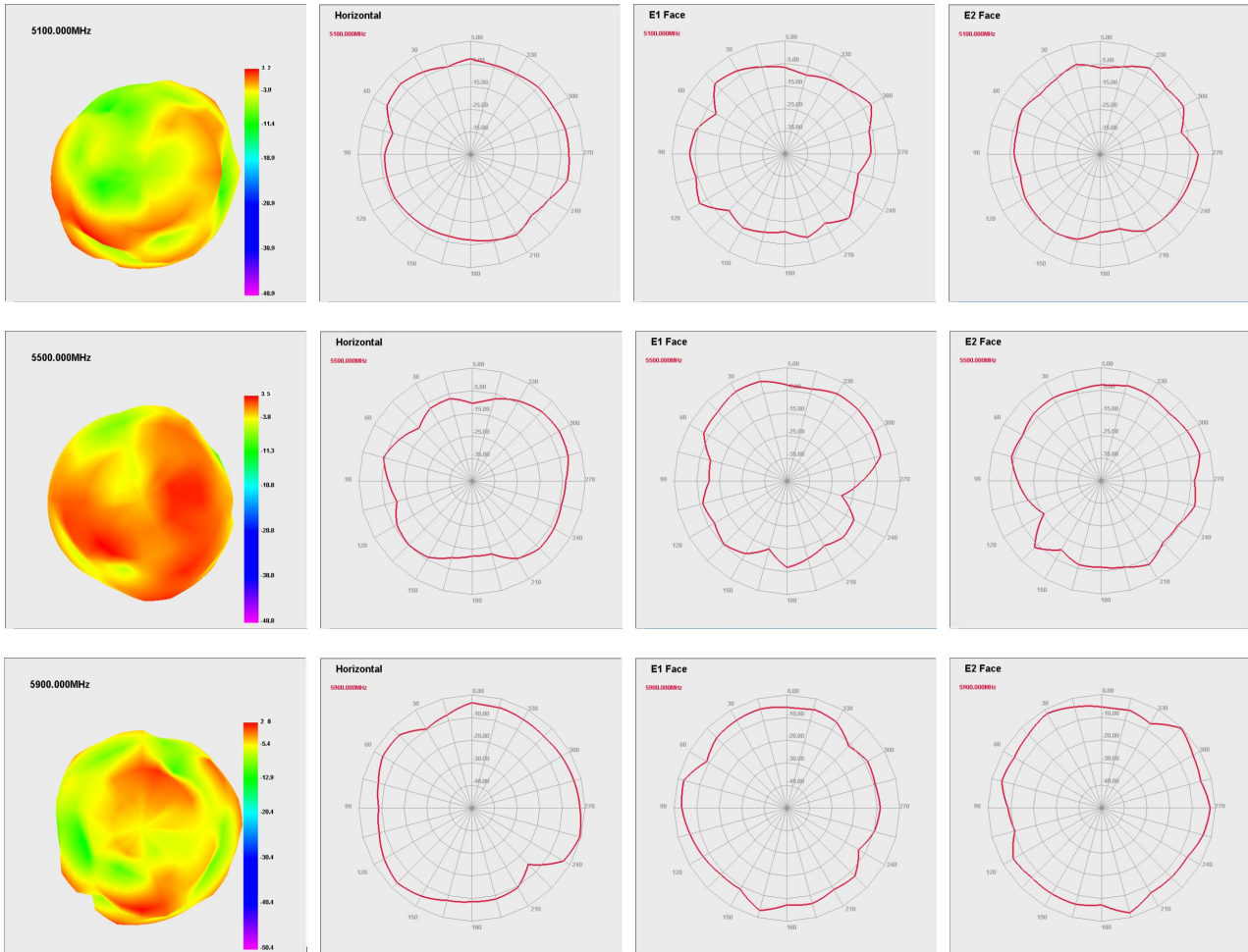
Electrical Properties	
Frequency	5.1GHz-5.9GHz
Impedance	50 ohm Nominal
V. S. W. R	1: 1.10 Max
Return Loss	-25.67dB Max
Radiation	Omni-directional
Polarization	Linear, Vertical

VSWR&Return Loss&Smith Chart:



Efficiency, gain, directivity:

Passive Test For 5G-WIFI							
Freq	Effi	Gain	Gain	UHS	DHIS	Max	Min
(MHz)	(%)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)
5100	61.08	3.24	1.09	20.371	14.71	3.24	-21.17
5500	64.35	3.53	1.38	25.047	12.299	3.53	-16.21
5900	59.61	2.84	0.69	17.675	11.938	0.84	-21.5



### 3. Antenna structure diagram

