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EmP323-B Antenna Specifications

compile:	覃东昱	日期:	2022-05-09
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approve:	黄焕彬	日期:	2022-05-09

修订记录

date	Version	Modify the description	author
2022-05-09	A0	1. new release	覃东昱
2022-05-10	A1	1. Add gain table 2. Add 2D pattern	覃东昱

一、Applicable Antenna Models

天线型号	天线料号	线缆型号
EmP323-B	800000004348	RF113
EmP323h-B	800000004356	RF113

二、Specifications

1、Electrical Specifications

设计标准	IEEE802.11a/ac/ax
频率范围 (Frequency Range)	2.4~2.5GHz / 5.15~5.85GHz
阻抗 (Impedance)	50 ±10 Ω
电压驻波比 (VSWR)	1.92: 1
回波损耗 (Return Loss)	-10dB or Less
辐射方式 (Radiation)	Omni-directional
增益 (Gain)	3±0.5dBi
极化 (Polarization)	Linear polarization
承载功率 (Admitted Power)	30dBm
线缆 (Cable)	RF113

2、Physical Specifications

本体 Body	FR4 单面板 (40*8*1mm)
基座 Base	N/A
内芯	N/A
底塞	N/A
Cable	N/A
Operating Temp	-40°C ~+70°C
Storage Temp	-40°C ~+70°C
Color	黑色

三、 Measured results of electrical performance

1、 Return loss

Frequency (GHz)	Return loss (dB)
2.4~2.5	<-10dB
5.15~5.85	<-10dB

Test environment:

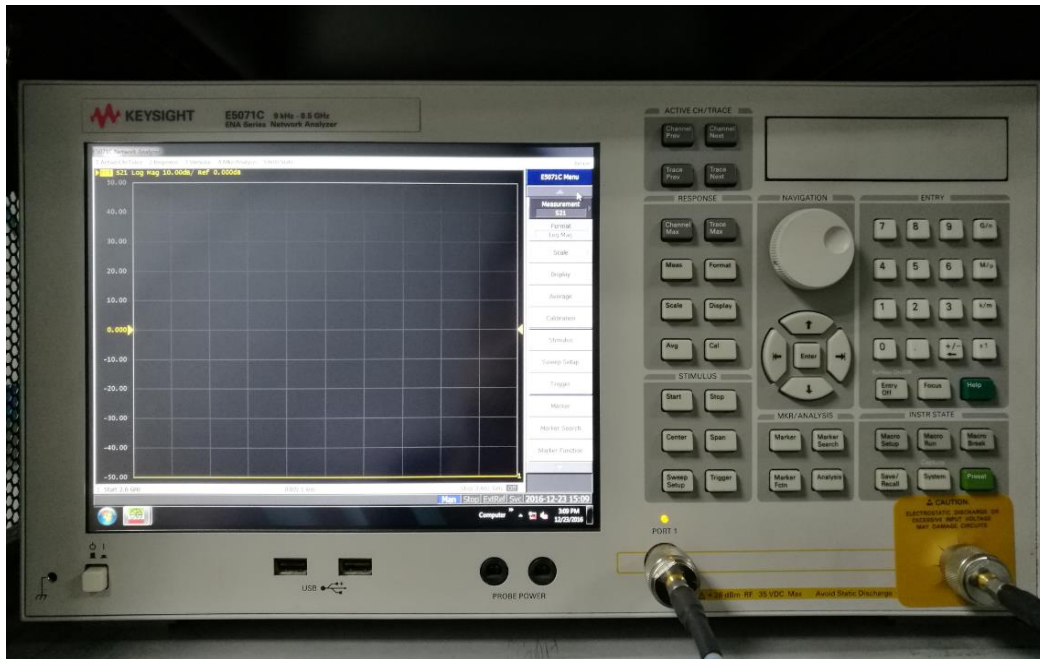


Figure 1、 Network Analyzer

Test Results:

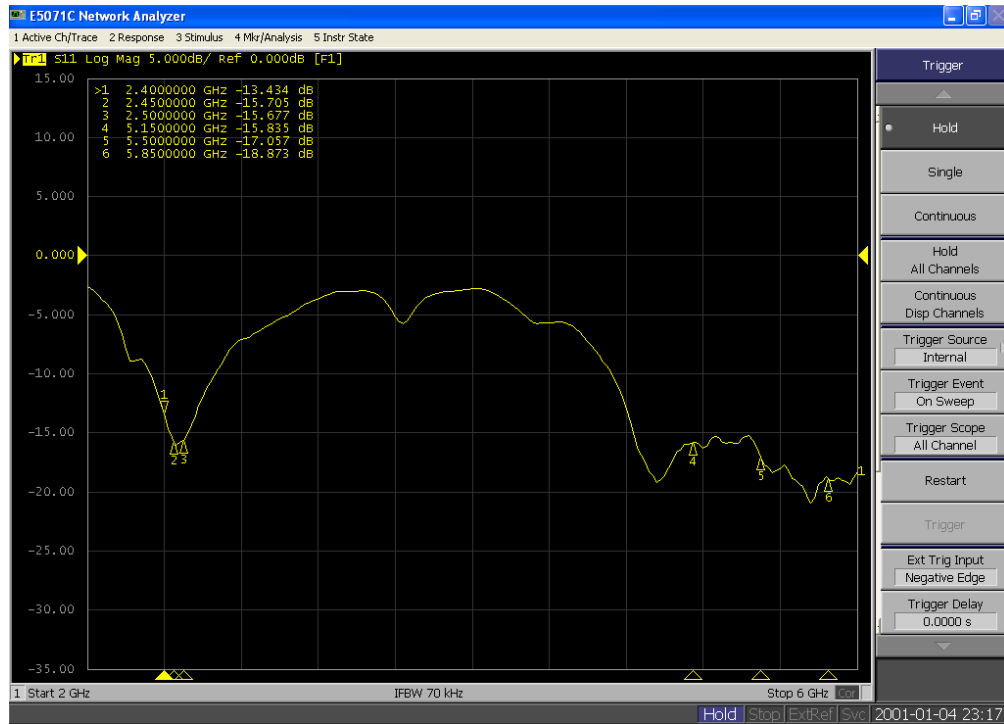


Figure 2、回波损耗截图

2、OTA Test (Radiation)

Φ 1.13 cable (200mm)		
Frequency (GHz)	Gain (dbi)	Efficiency
2.4~2.5	3.0 ± 0.5	>65%
5.15~5.85	3.0 ± 0.5	>65%

Test environment:



Figure 3、chamber

3D radiation pattern:

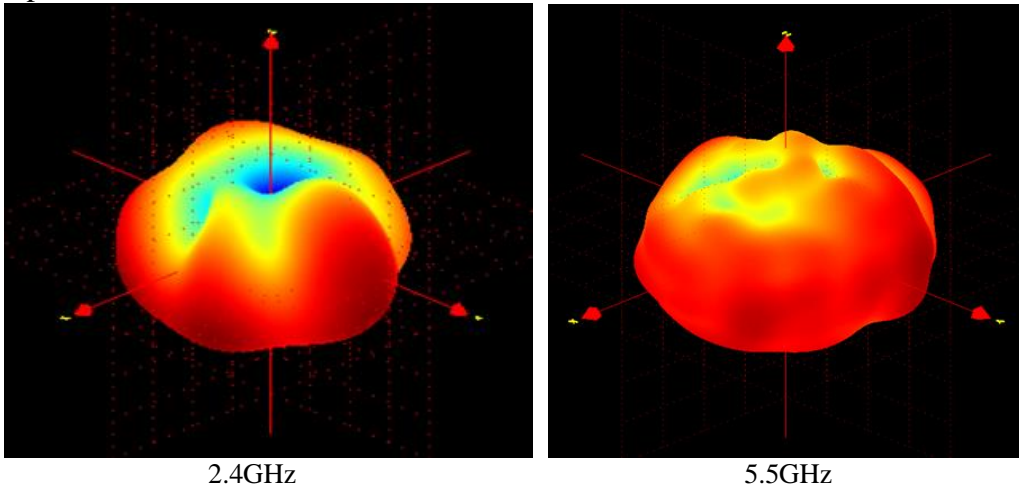
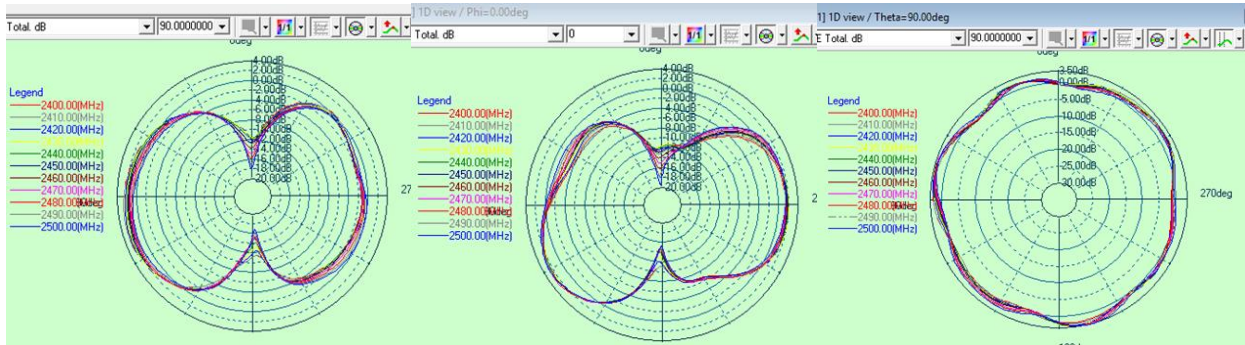


Figure 4、Radiation pattern

2D radiation pattern

2.4G

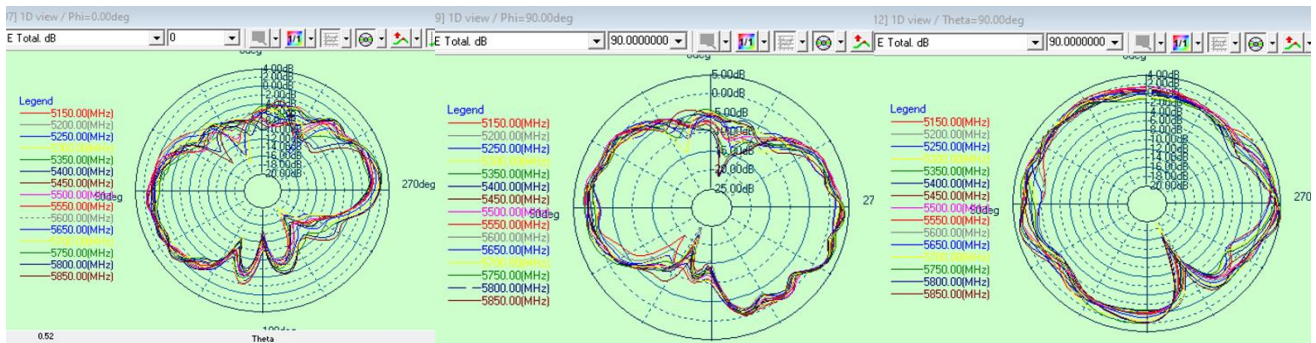


E1 (Phi=0)

E2 (Phi=90)

H (Theta=90)

5G



E1 (Phi=0)

E2 (Phi=90)

H (Theta=90)

gain table

Frequency	Gain . dB
2400000000	2.99
2410000000	3.08
2420000000	3.25
2430000000	3.21
2440000000	3.16
2450000000	3.12
2460000000	3.07
2470000000	3.06
2480000000	3.10
2490000000	3.18
2500000000	3.30

Frequency	Gain . dB
5150000000	2.83
5200000000	2.95
5250000000	3.05
5300000000	3.35
5350000000	3.41
5400000000	3.25
5450000000	3.15
5500000000	2.98
5550000000	3.13
5600000000	3.35
5650000000	3.42
5700000000	3.49
5750000000	3.45
5800000000	3.43
5850000000	3.51

四、 Appearance requirements

1. No burrs; no damage;
2. No scratches; no color discrepancies;
3. There is no inner conductor falling off, loose or abnormal sound;

五、 Assembly inspection

project	content	tool	Test Methods and Judgment Criteria	result
assemble test	Assembly effect	visual thickness gauge	When assembling the antenna with the PCB, casing, and antenna feeder, the assembly must be smooth, and there should be no loose, difficult or improper installation.	OK

六、 Packaging, transportation and storage requirements

1. Packaging Requirements:

1.1 The packing box should be marked with the manufacturer, product name, model, standard number, weight and production date or batch number, and the packing material should be kept dry, clean and non-corrosive to the product.

1.2 Packaging material carton requirements: K=A B9 reinforcement core compression>500KG; explosion resistance>12-15KG.

1.3 The overall size standard of the carton needs to be unified with the production line;

1.4 The built-in antenna needs to be packed in a special blister case;

2. Transportation requirements:

The packaged products are suitable for transportation by modern means of transportation, but the products should be protected from rain and acid-base corrosion during transportation, and should not be thrown by gravity and squeezed violently.

3. Storage requirements: temperature: $-40^{\circ}\text{C}\sim 70^{\circ}\text{C}$, relative humidity: 20%~75%.