



深圳市睿德通讯科技有限公司

Shenzhen Etheta Communication Technology Co., LTD.

供应商名称: 深圳市睿德通讯科技有限公司
Supplier Name : Shenzhen Etheta Communication Technology Co., LTD.

产 品 承 认 书

Specificationfor Approval

客户名称

Client Name:

百富计算机技术（深圳）有限公司
PAX Computer Technology (Shenzhen) Co., Ltd.

品 牌

Brand Name:

ETHETA

原厂料号

Part No:

RD052303NB87-2

物料规格

Part Description:

L1600B-2.4G/5.8G-MIMO2-V01

产品制造商:

Manufacturer:

深圳市睿德通讯科技有限公司
Shenzhen Etheta Communication Technology Co.,LTD

百富物料类别

PAX Part Name:

FPC +Cable

百富物料编号

PAX Materiel No.:

200212000000311

百富物料描述

PAX Description:

L1600B-2.4G/5.8G-MIMO2-V01

供应商地址

Supplier address:

深圳市南山区沙河西路 3011 号白沙科技产业园 1 栋 3 楼 B 区和 D 区
Area B and D, 3rd Floor, Building 1, Baisha Science
and Technology Industrial Park, No. 3011 Shahe West
Road, Nanshan District, Shenzhen

供 应 商 签 章		日期	客 户 签 章
结构	刘飞明	2023/10/26	承 认: 确 认:
射频	关 伟	2023/10/26	
确 认	马 超	2023/10/26	



深圳市睿德通讯科技有限公司

Shenzhen Etheta Communication Technology Co., LTD.

Contents

1、	Table Contents
2、	Contents
3、	Antenna Structure
4、	Test &Item Equipment
5、	Matching Circuit
6、	S11 Parameter Test
7、	Active Test
8、	Drawings



深圳市睿德通讯科技有限公司

Shenzhen Etheta Communication Technology Co., LTD.

Antenna Specification

Sample Photo

please refer to the antenna photo.

1. Electrical Characteristics

Frequency	2400-2500MHZ/5150-5850MHZ
Return Loss	<-5
Polarization	Linear
Impedance	50 Ohm

2. Material & Mechanical Characteristics

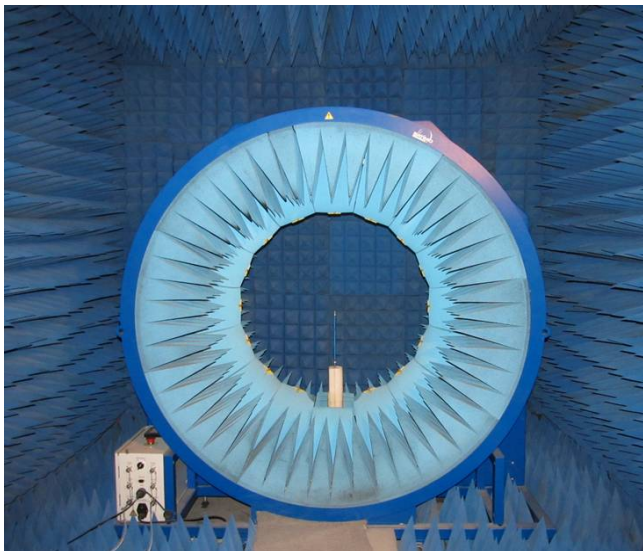
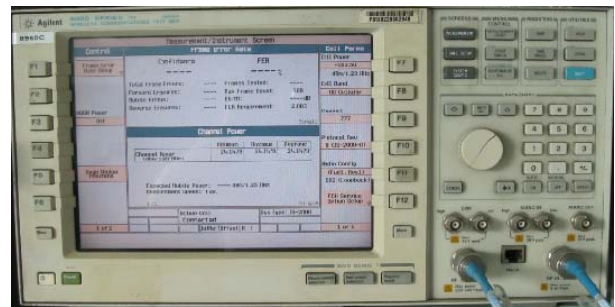
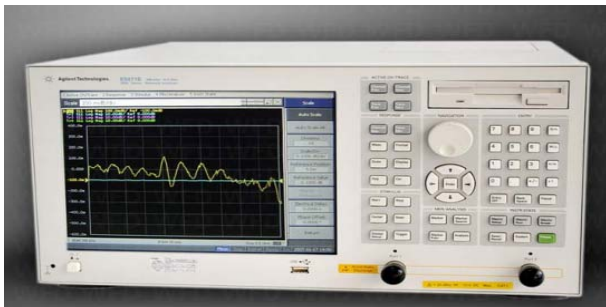
Material of antenna	FPC+cable
Connector Type	IPEX

3. Environmental

Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C
Antenna Color Storage life	< 0.5year

4、Test &Item Equipment

List	Test Item	Equipment	
1.S11 Parameter	VSWR, Return Loss	Agilent VNA	
2.Active Test	TRP, TIS	Agilent 8960	Satimo Starlab
3.Passive Test	Gain, Efficiency, Pattern	Agilent VNA	



暗室测试参数

A darkroom test parameters

测试系统 The test system:

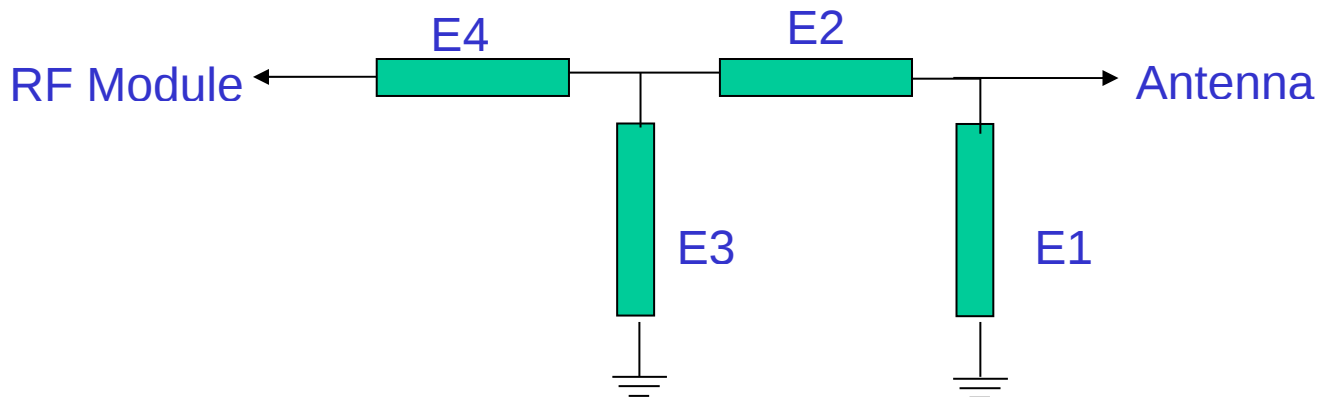
SATIMO-SG24

测试环境: 温度 $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 湿度 $50\% \pm 15\%$

Test environment: temperature $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$, humidity of 50% plus or minus 15%

测试设备: 测试有源数据时, 使用综测仪 Agilent 8960 Active test equipment, test data, from using

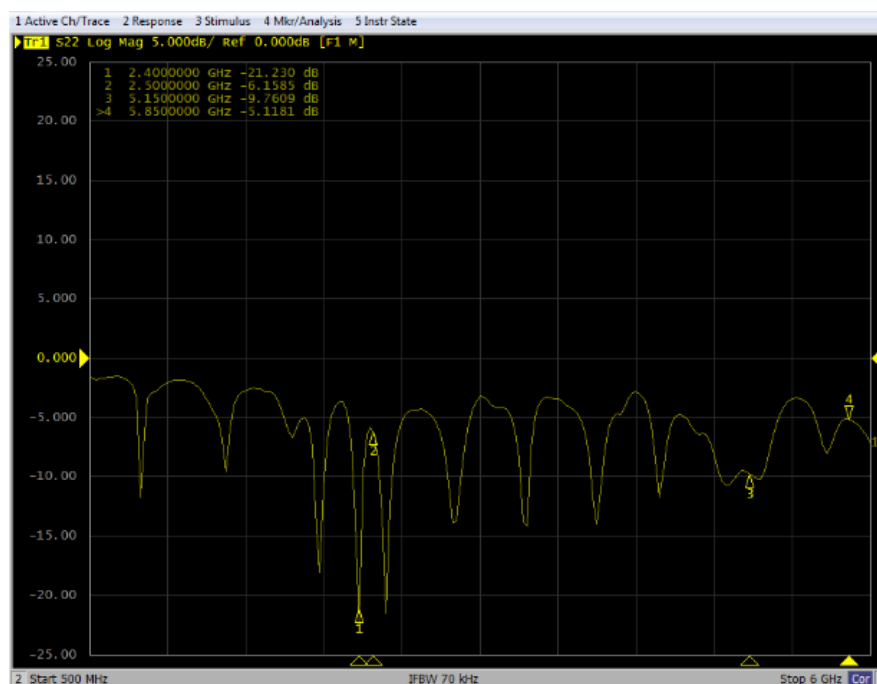
5、Matching Circuit



Element	Value
E1(0402)	NA
E2(0402)	0
E3(0402)	NA
E4(0402)	0

We have changed the original matching circuit

6、S11 Parameter Test



Shenzhen Etheta Communication Technology Co., LTD.

6.1、Test methods and specifications

测试设备：网络分析仪 (HP 8753E)

测试方法：用一根 50 欧姆 CABLE 电缆从仪器测试端口导出，使用校准件校准后连接射频治具的 SMA 接头，记录相关频点对应的回波损耗和驻波比。

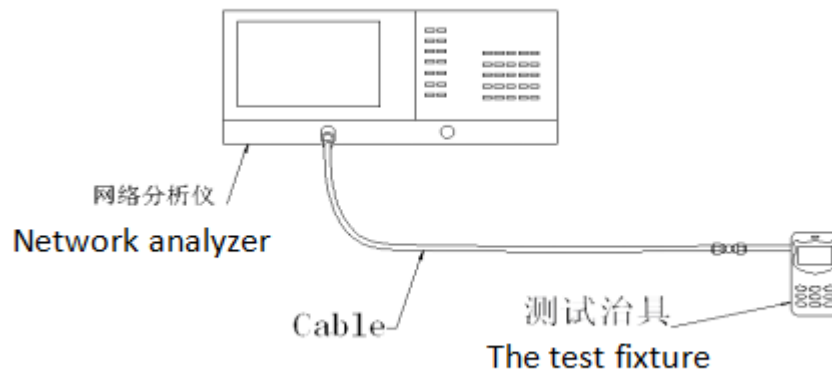
测试示意图如下：

Testing equipment: network analyzer (HP 8753 e)

Test method: with a 50 ohm CABLE CABLE from the instrument test port export, calibration using a calibration after connection

Rf fixture of the SMA connector, records related to the frequency points corresponding return loss and standing wave ratio.

Test schematic diagram is as follows:

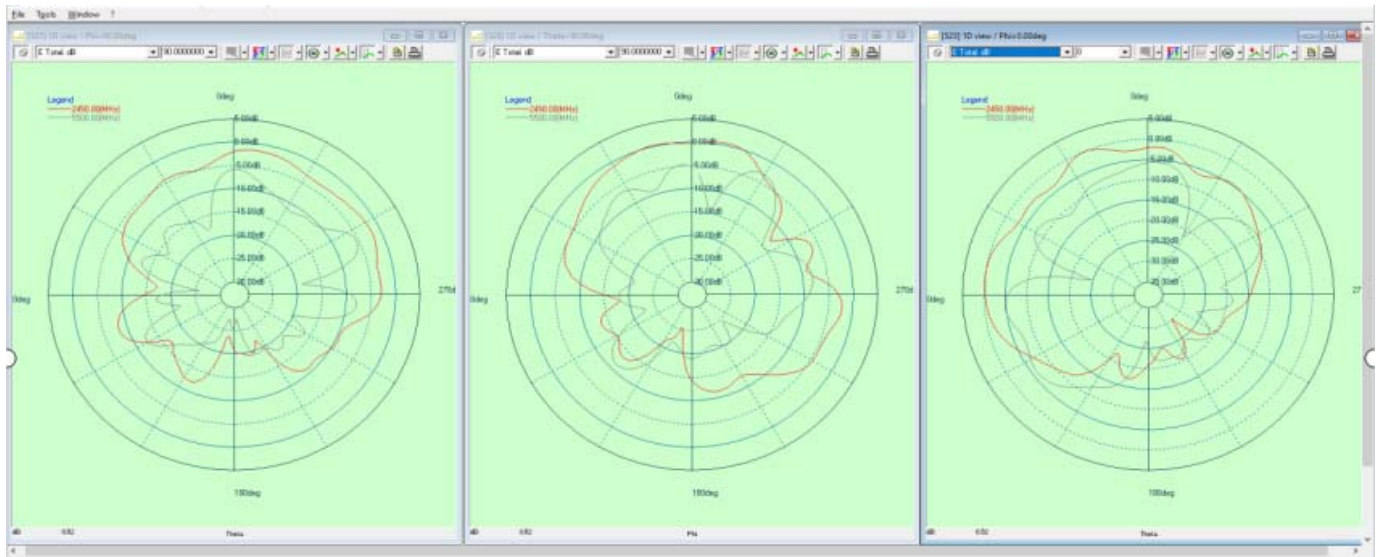


7、Active Test

无源效率和增益 Passive efficiency and gain

Fre (MHz)	Effi (%)	Effi(dB)	Peak Gain	Fre (MHz)	Effi (%)	Effi(dB)	Peak Gain
2400	32%	-4.95	1.69	5150	24%	-6.22	2.87
2410	32%	-5.01	1.29	5200	25%	-6.00	3.00
2420	30%	-5.20	0.93	5250	24%	-6.13	3.11
2430	30%	-5.29	0.82	5300	21%	-6.75	2.27
2440	29%	-5.40	0.72	5350	22%	-6.63	1.61
2450	28%	-5.54	0.73	5400	19%	-7.20	0.95
2460	28%	-5.58	0.84	5450	17%	-7.61	0.08
2470	28%	-5.50	0.86	5500	16%	-7.91	-0.24
2480	29%	-5.43	1.07	5550	17%	-7.72	-0.19
2490	30%	-5.29	1.08	5600	19%	-7.28	0.98
2500	32%	-4.93	1.27	5650	20%	-6.96	2.00
AVG	30%	-5.28	1.03	5700	21%	-6.88	2.21
				5750	20%	-6.93	2.11
				5800	17%	-7.71	0.75
				5850	15%	-8.25	-0.15
				AVG	20%	-7.08	1.42

2D 方向图 2D pattern





深圳市睿德通讯科技有限公司

Shenzhen Etheta Communication Technology Co., LTD.

有源测试数据 Active test data

测试项目		测试频段	测试信道	测试数据	测试项目		测试频段	测试信道	测试数据
WIFI_2.4G	TRP	11M_B	L	13.78	WIFI_5.8G	TRP	54M_A	L	10.9
			M	14.55				M	10.69
			H	14.69				H	11.24
			Ave	14.34				Ave	10.94
	TIS	11M_B	L	-84.21		TIS	54M_A	L	-72.58
			M	-81.93				M	-72.02
			H	-82.79				H	-72.97
			Ave	-82.98				Ave	-72.52
	TRP	65M_N-MCS7	L	12.70					
			M	13.44					
			H	14.19					
			Ave	13.49					
	TIS	65M_N-MCS7	L	-67.57					
			M	-68.13					
			H	-67.63					
			Ave	-67.78					

8. Drawings

note: please refer to the operation description.