

Ante Micro Intelligent Communication (Shenzhen) Co., Ltd

Antenna Data Sheet

Standard sample Limit sample Limited sample
 Customized samples

Customer Name: Guilin Feiyu Technology Co., Ltd

Product Name: VCAM3S Antenna

Antenna model: VCAM3S

Antenna Type: FPC Antenna

Antenna Frequency: 2400MHz-2490MHz

undertake	<u>Ante Micro Intelligent Communication (Shenzhen) Co., Ltd</u>		
	Engineering	Quality	Approval
	Zhang Xiajuan	Yang Meizhen	Chen Jiajia
recognize	Guilin Feiyu Technology Co., Ltd		
	RD	SQE	PM



Manufacturer's Name: Ante Micro Intelligent Communication (Shenzhen) Co., Ltd

Address: 1st Floor, Building 55, Dayun Software Town, No. 8288 Longgang Avenue, Longgang District, Shenzhen

Telephone: 0755-89584890

Directory

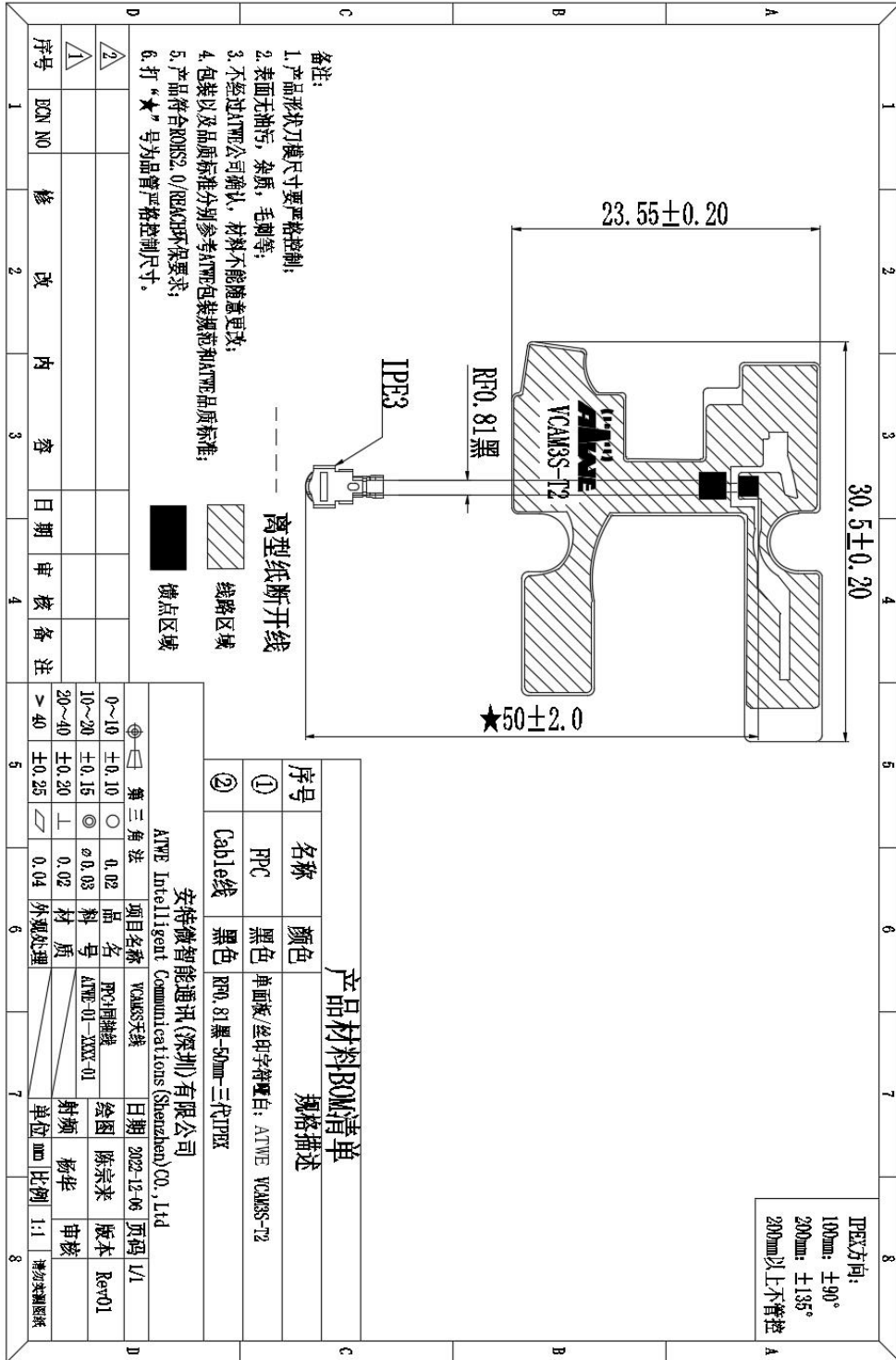
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Revision history

Product name	VCAM3S Antenna	Product part number	ATWE-01-0389- 010	Material quality	FPC
Revision date	2023-01-06	Drawing No	/	version	RevA
Preparation	Zhang Xiajuan	Review	Yang Hua	Ratify	Chen Jiajia

version	Change description	Date	Change department	Changed by
RevA	First edition	2023-01-06	Engineering department	Zhang Xiajuan

Product drawings



- 备注:
1. 产品形状刀模尺寸要严格控制;
 2. 表面无油污, 杂质, 毛刺等;
 3. 不经过ATWE公司确认, 材料不能随意更改;
 4. 包装以及品质标准分别参考ATWE包装规范和ATWE品质标准;
 5. 产品符合ROHS2.0/REACH环保要求;
 6. 打“★”号为品管严格控制尺寸。

离型纸断开线
线路区域
触点区域

产品材料BOM清单

序号	名称	颜色	规格描述
①	PPC	黑色	单面版/丝印字符覆白: ATWE VCAMS-T2
②	Cable线	黑色	RFO.81黑-50mm-三代IPEX

安特微智能通讯(深圳)有限公司
ATWE Intelligent Communications (Shenzhen) CO., Ltd

第三角法	项目名称	日期	页码
0~10	VCAMS天线	2022-12-06	1/1
10~20	PPC铜导线		
20~40	ATWE-01-XXX-01		
> 40	外观处理		

绘图: 陈宗来 版本: Rev01
审核: 杨华
单位: mm 比例: 1:1 请勿实图照读

序号	ECN NO	修改	内容	日期	审核	备注
1		2	内 容			



安特微智能通讯(深圳)有限公司

ATWE Intelligent Communications (Shenzhen) Co., Ltd.

Finished product confirmation report

Page: 1/1

Product Model	VCAM3SAntenna	Customer	Guilin Feiyu	Number of detections(pcs)	4PCS	Date	2023-01-06							
Testing tools	1.Vernier caliper													
Dimensional measurement (Unit: mm)	Number	Standard Size	public errand range	Upper limit value	Lower limit value	Measured data				detect ion tool	Number of defects	Judgment		
						1	2	3	4			OK	NG	
	1	30.5	±0.2	30.7	30.3	30.54	30.55	30.61	30.57	①		√		
	2	23.55	±0.2	23.75	23.35	23.65	23.58	23.61	23.63	①		√		
	3	50	±0.2	50.20	49.80	50.12	50.09	50.11	50.13	①		√		

Comprehensive judgment	OK	remarks	The product size meets the requirements		
Approval	Chen Jiajia	Inspection and verification	Chen Liangwen	Formulation unit	Engineering department

Form Number: ATWE-GC-0019 A/0

Full size test report

Material quality Proof (seal)



铜箔基板品質檢驗報告
Fccl Quality Test Report

日期 (DATE): 2021/08/25

品名 (Product Name)	XH-FSR252018JCL60
PI 厚 (PI film Thickness) μm	25
PI 膜供应商 (PI Film Supplier)	骏友
接著劑厚 (Adhesive Thickness) μm	20
铜箔厚度 (copper Thickness) μm	18
铜箔供应商 (Copper Foil Supplier)	灵宝
幅宽 (Width) $\text{mm} \pm 0.5$	250

工廠地址: 中國抚州市高新产业开发区
TEL: 0794-8339560
Factory Address Fuzhou high-tech industrial development zone, Jiangxi province, China.

測試項目 Item	品質標準 (Spec)	測試結果 (Result)			測試方法 (Test Method)
		批号			
		T2210822A12P1	***		
厚度 Thickness (μm)	$\pm 10\%$	63	***		XH Spec
剝離強度 Peel Strength (kgf/cm)	≥ 0.7	1.007	***		IPC-TM-650 2.4.9
尺寸安定性 Dimensional Stability (%)	$\leq \pm 0.15$	MD	0.0716	Nothing	IPC-TM-650 2.2.4
		TD	0.0680	Follows	
焊錫耐熱性 Solder Resistance	300°C/10sec 無分層氣泡	Pass	***		IPC-TM-650 2.4.13
介電常數 Dielectric Constant (1GHZ)	≤ 4.0	< 3.4	***		IPC-TM-650 2.5.5.3
損耗因子 Dissipation Factor (1GHZ)	≤ 0.04	< 0.032	***		
外觀 Appearance	無氣泡、破損、異物	OK	***		XH Spec

注: (1) 保存條件: 常溫常濕保存一年 (deadline of reserve is 1 year in normal condition)

(2) 以上測試項目僅供參考 (Above test for reference only)。


江西省信合新材料科技有限公司
品保部
 审核: 游庆辉 经办: 胡晨

Shipping inspection standards

类别	NO	项目	规格值	判定标准			检验工具
				C R	M A	M I	
F P C 天 线 类	1	尺寸、材质、颜色不符合要求	不允许		▲		图纸注明, 游标卡尺, 样品
	2	产品变形	不允许		▲		目视、实配
	3	表面刮花/压印/擦伤	有明显凸凹感, 不允许		▲		目视、手感
	4	产品少孔/漏孔	不允许		▲		目视
	5	馈点(金手指)生锈/氧化	不允许		▲		目视
	6	油墨氧化、变色	不允许		▲		目视
	7	线路菲林断裂/缺料/开路/短路	不允许		▲		目视
	8	字符丝印少印、缺损	不允许		▲		目视
	9	产品断裂、缺料	不允许		▲		测试
	10	产品规格标签不符	不允许		▲		目视
	11	离型纸未切断	不允许		▲		目视
	12	外形冲偏/未冲断	不允许		▲		目视


Shipping Inspection Report (Seal)
安特微智能通讯(深圳)有限公司

ATWE Intelligent Communications (Shenzhen) Co., Ltd.

Finished Product Delivery Inspection Report

Form Number: ATW-PZ-006 A/1

Inspection Date: January 6th, 2023

Custom	Guilin Feiyu	Model/Product Name	VCAM3SAntenna
product Specification/Model	VCAM3S	Total production	/
Sampling level	MIL-STD-105E(II)	Sampling quantity	/

Inspection records

SN	Inspection items	Inspection records	Judgment criteria		notes
			OK	NG	
1	appearance	No appearance defects such as deformation, burrs, dirt, discoloration, etc	OK		
2	Printing	Clear silk screen characters and correct content	OK		
3	length	18.2±0.15mm	OK		
4	width	12.34±0.15mm	OK		

notes:

Quality department supervisor	inspector	Overall judgment	
Yang Meizhen	Wei Jiangrui	qualified	unqualified
		√	

Reliability Test Report



安特微智能通讯(深圳)有限公司
 ATWE Intelligent Communications (Shenzhen) Co., Ltd.

Constant temperature and humidity, ink adhesion test report

Custom	Guilin Feiyu	Date	2023-01-06	specifications	FPC
Product name	VCAM3SAntenna	number	2PCS	Test time	280min

Test purpose: To test the reliability of the product and the adhesion of the coating, as well as the oxidation and corrosion resistance of the coating.

Equipment name: High and low temperature test box

Testing Parameters

temperature	high temperature	70℃	low temperature		Temperature tolerance	1℃		
time	constant temperature	high temperature	24h	High temperature rise	10min	notes		
		low temperature		Low temperature cooling				
Number of cycles	0	other	relative humidity	95%	±1%			
Visual inspection	lamination	ACC	fold	ACC	bubble	ACC	Ink detachment	ACC

The judgment result ACC is passed and NG is unqualified.

Local diaphaneity Test

Tools:	Baige knife, 3M600 tape	Conclusion:	Perform three 90 ° tensile tests on the 100 grid area using 3M600, and the ink shedding area is less than 5%, which
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meets the testing requirements.



Tested by: Wei Jiangrui

Review: Chen Liangwen

QC Engineering Drawing&Manufacturing Flow Chart



工艺流程图



Packaging specifications

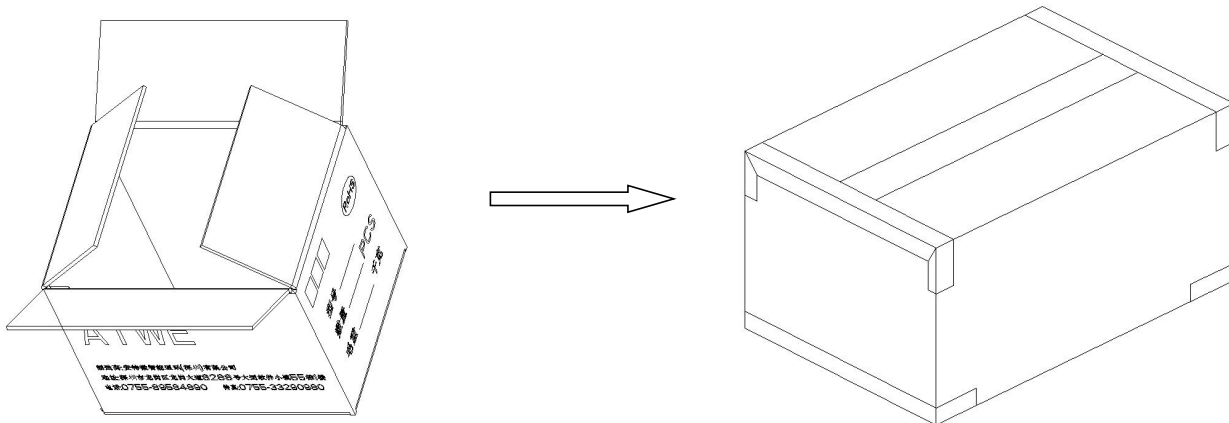
ATWE product Packaging specifications			
Development department		:	Engineering department
formulate Date: January 6, 2023			
Product name	VCAM3SAntenna	Customer Name	Guilin Feiyu
Specification and model	30.5*23.55mm Single panel FPC	Product part number	ATWE-01-0389-010

一、 PE self sealing bag, 100PCS/bag。



(Refer to the diagram)

2、 Load a large box. (The quantity is based on the actual order and packaging quantity) III. Seal the box, and attach our production label and ROHS label to the outer box



Note: The above packaging methods are for reference. After formal mass production, the specific packaging quantity may vary depending on the product form. If you have any objections to the above packaging methods, please raise them before our company receives the first order, so that our company can comply with your packaging requirements and avoid product quality issues caused by insufficient communication.

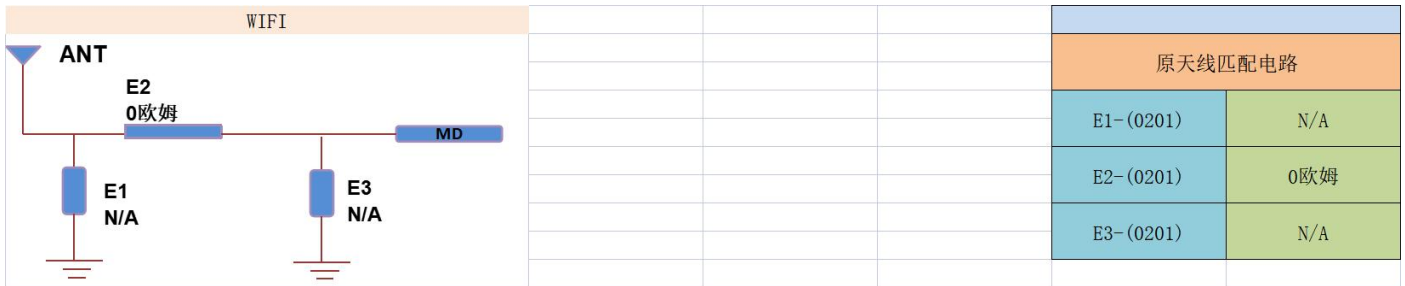
Tabulation	Zhang Xiajuan	Approval	Chen Liangwen
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Form Number: ATWE-GC-0031

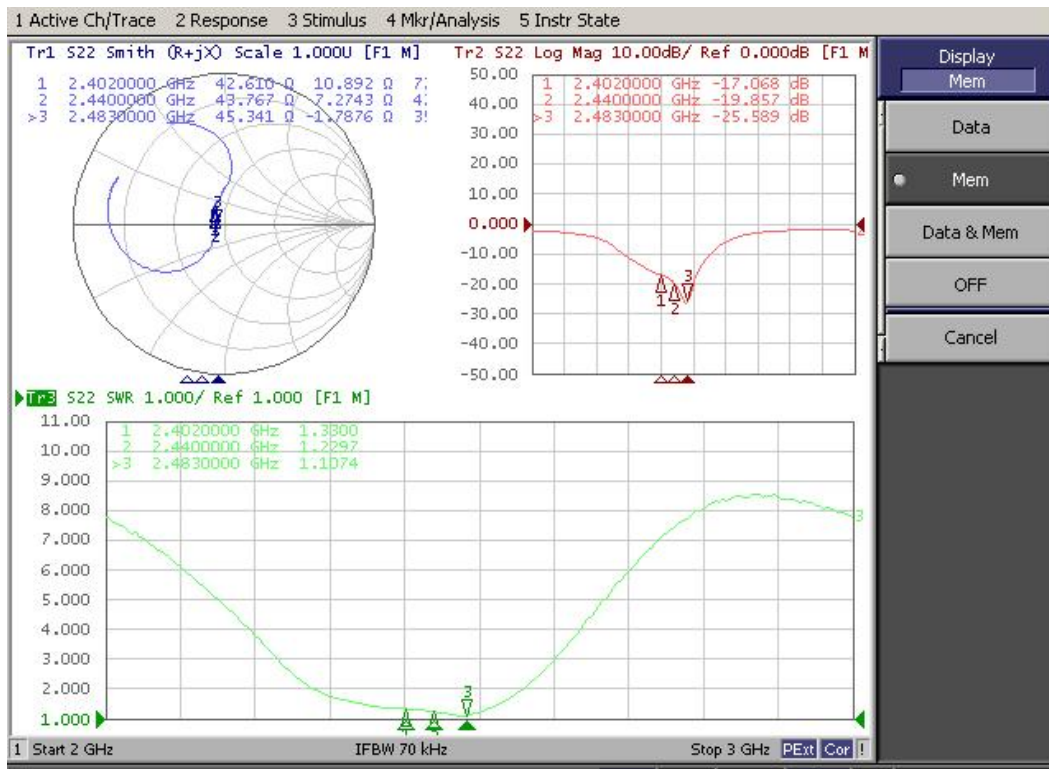
A/0

Antenna performance

Schematic diagram of Antenna matching circuit modification



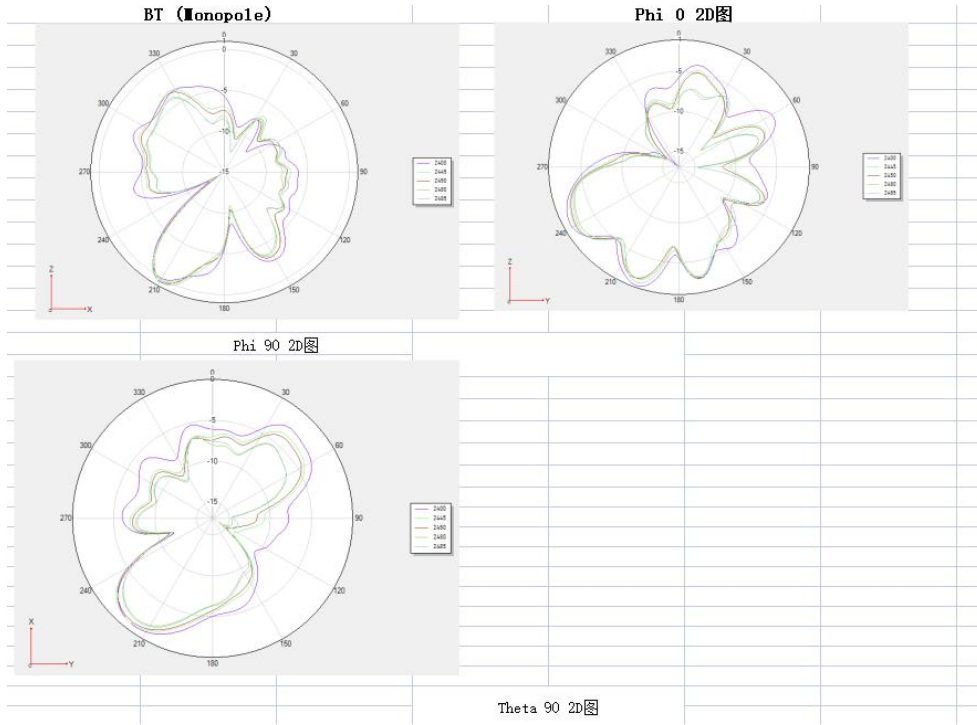
Antenna Passive Test Data



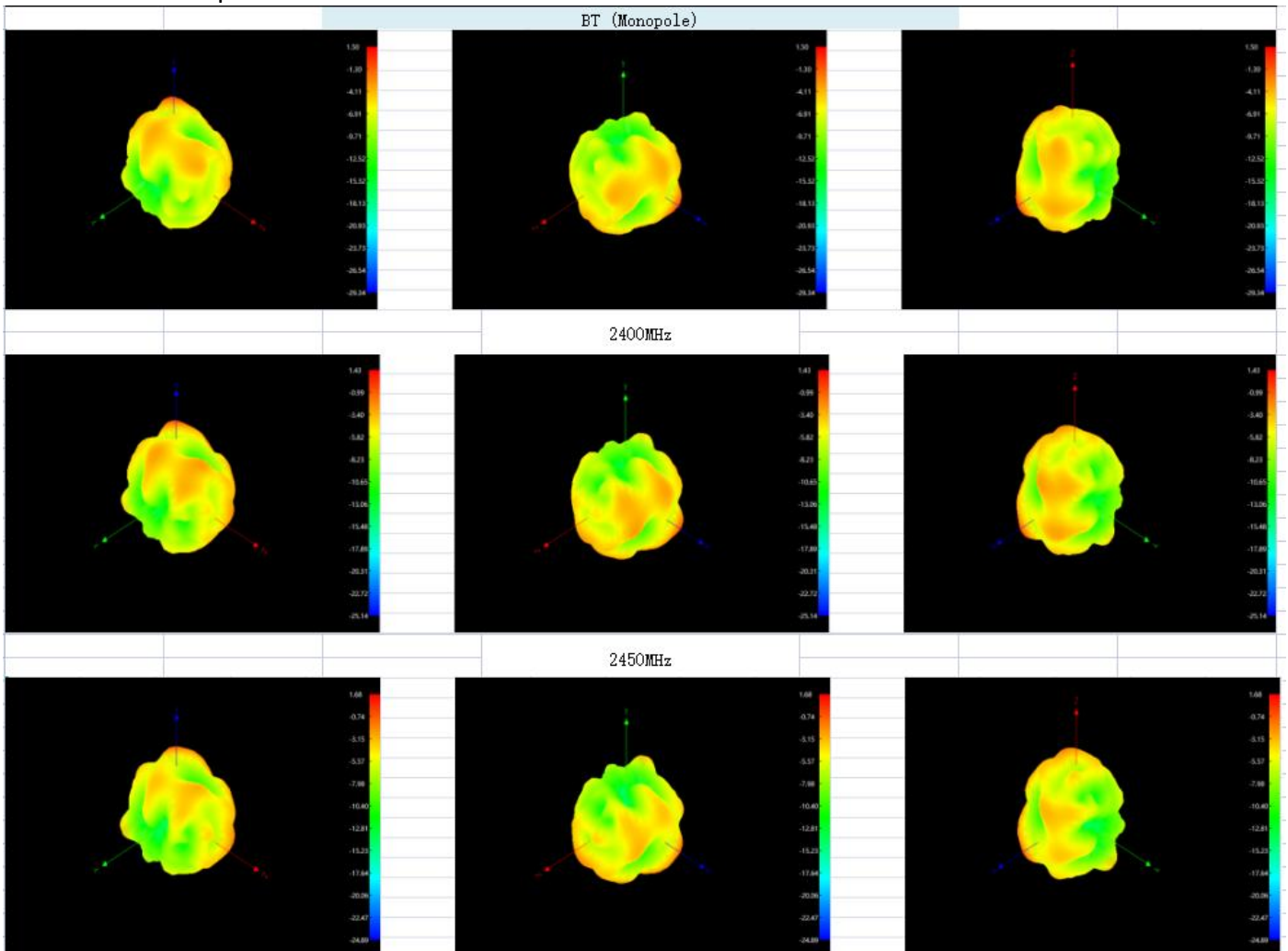
Antenna Efficiency, Gain test data

BT/WIFI			
Frequency / MHz	Efficiency / dB	Efficiency / %	Gain
2400	-4.32	36.98	0.45
2410	-4.1	38.9	0.49
2430	-3.83	41.4	1.03
2450	-3.81	41.59	0.86
2460	-3.73	42.36	1.27
2470	-3.76	42.07	1.38
2480	-3.98	39.99	0.82
2490	-3.69	42.76	0.98

2D Directional map



3D Directional map



OTA test data

2.4G	OTA		
CHAN	0	39	78
TRP (dBm)	14.19	13.04	12.58
TIS (dBm)	-91.9	-90.51	-88.41