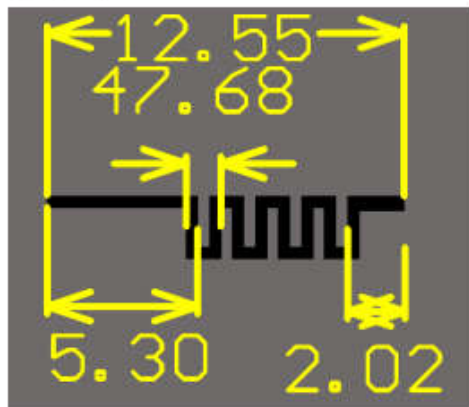


Antenna Specification

Specifications Summary

ITEM	SPEC.	
Model Name	IBM 2.4 GHz	
Center Frequency	2403 MHz	-2.20 dBi
	2441 MHz	-2.34 dBi
	2480 MHz	-4.24 dBi
MAX. GAIN	-2.20 dBi	
Polarization	Horizontal	
Azimuth Beam Pattern	Omni-directional	
Impedance	50 Ω	
Antenna Length	3.12cm	

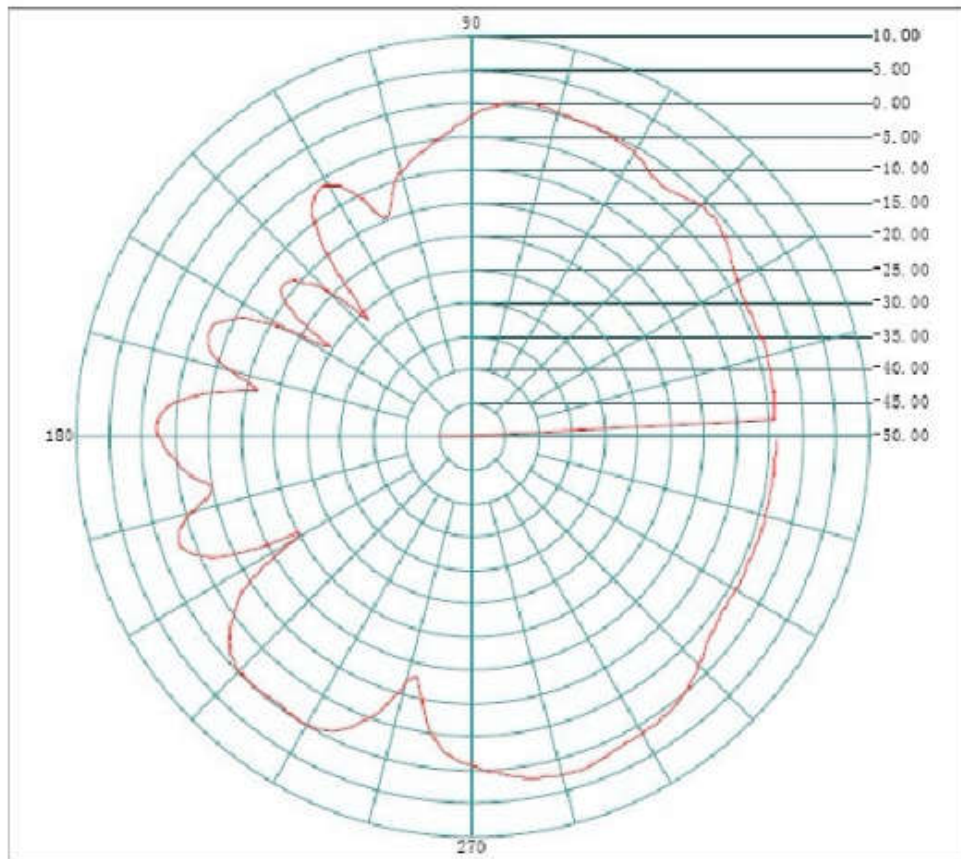
Antenna Photo & Length (mm)



Manufacturer	DongGuan Qiaohe Electronics CO.,LTD
Test Address	Dongguan Enterprise Shi Zhen dongxing (private) industrial park
Test Date	2023-03-16

1. Main antenna : 2403 MHz

1.1 Horizontal



Frequency(MHZ): **2403**

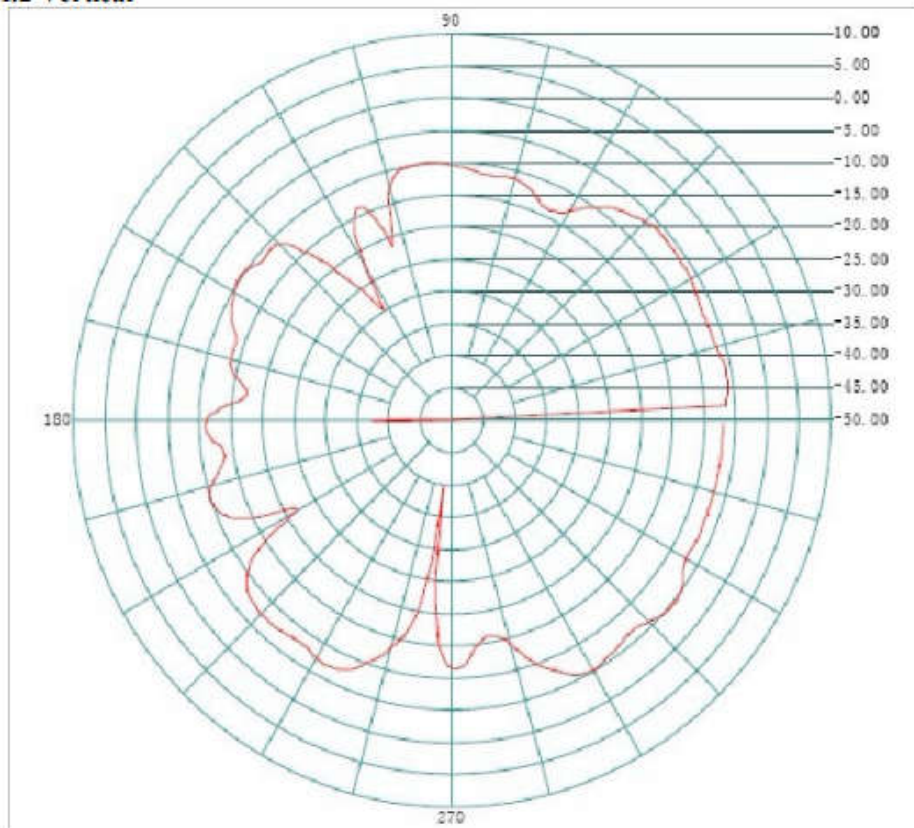
Antenna Polarity: **Horizontal**

Maximum Value(dBi): **-4.50**

Average Gain(dBi) : **-2.20**

Minimum Gain(dBi): **-55.18**

1.2 Vertical



Frequency(MHZ): **2403**

Antenna Polarity: **Vertical**

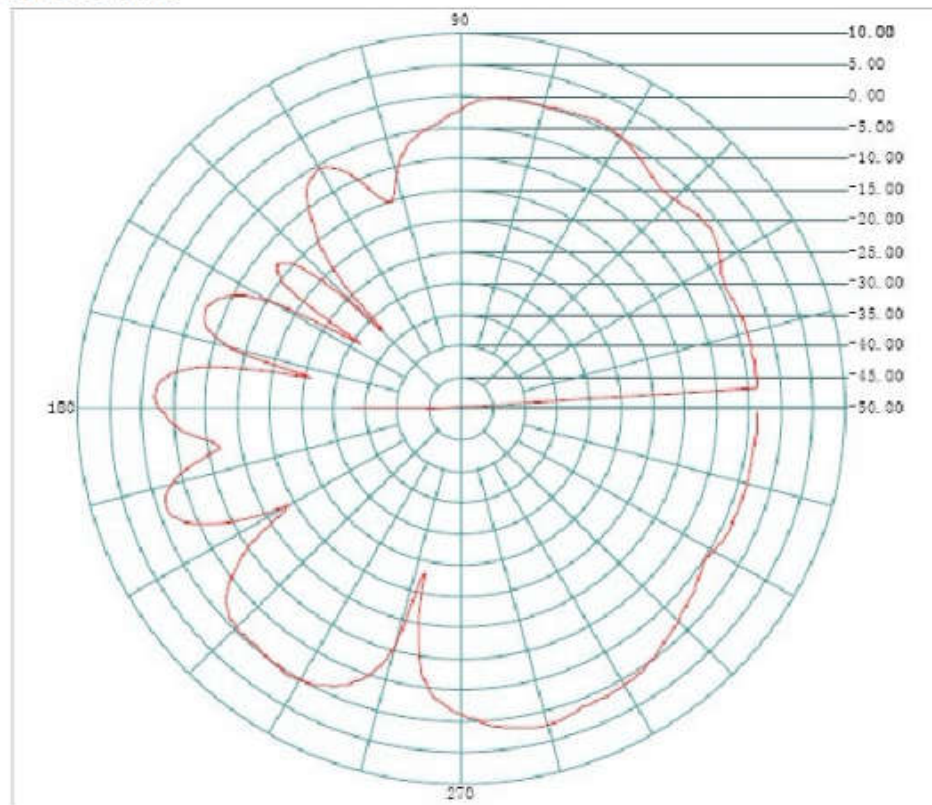
Maximum Value(dBi): **-4.51**

Average Gain(dBi) : **-8.98**

Minimum Gain(dBi): **-62.3**

2. Main antenna : 2441 MHz

2.1 Horizontal



Frequency(MHZ): **2441**

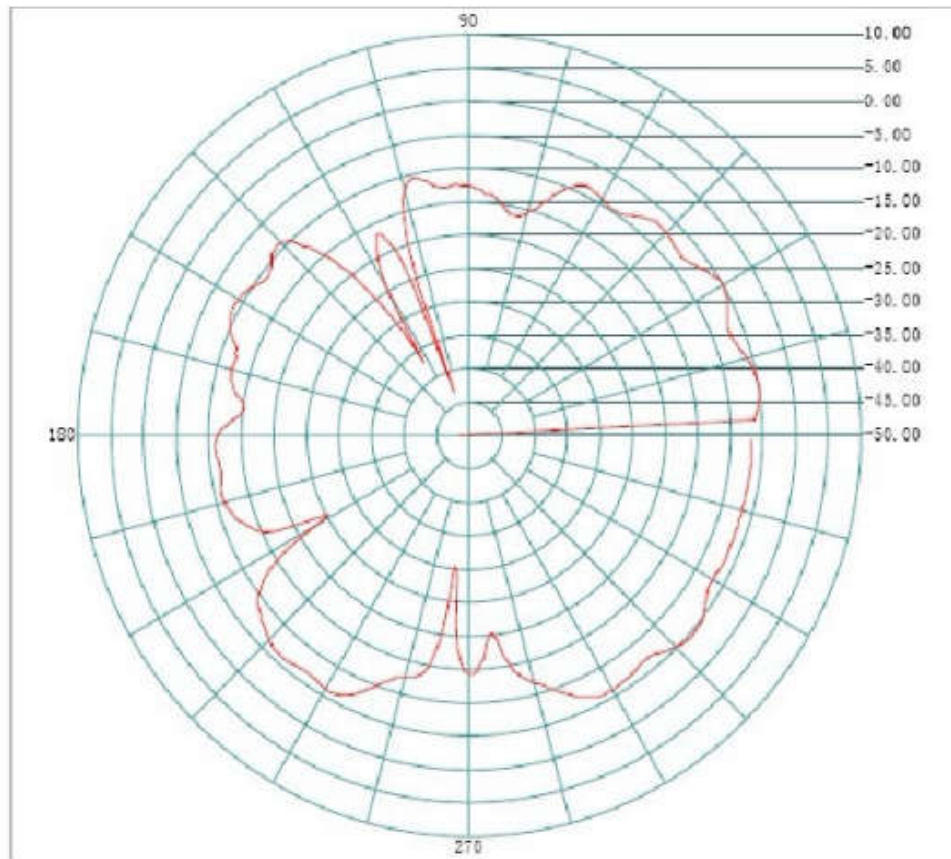
Antenna Polarity: **Horizontal**

Maximum Value(dBi): **2.20**

Average Gain(dBi) : **-2.34**

Minimum Gain(dBi): **-66.98**

2.2 Vertical



Frequency(MHZ): **2441**

Antenna Polarity: **Vertical**

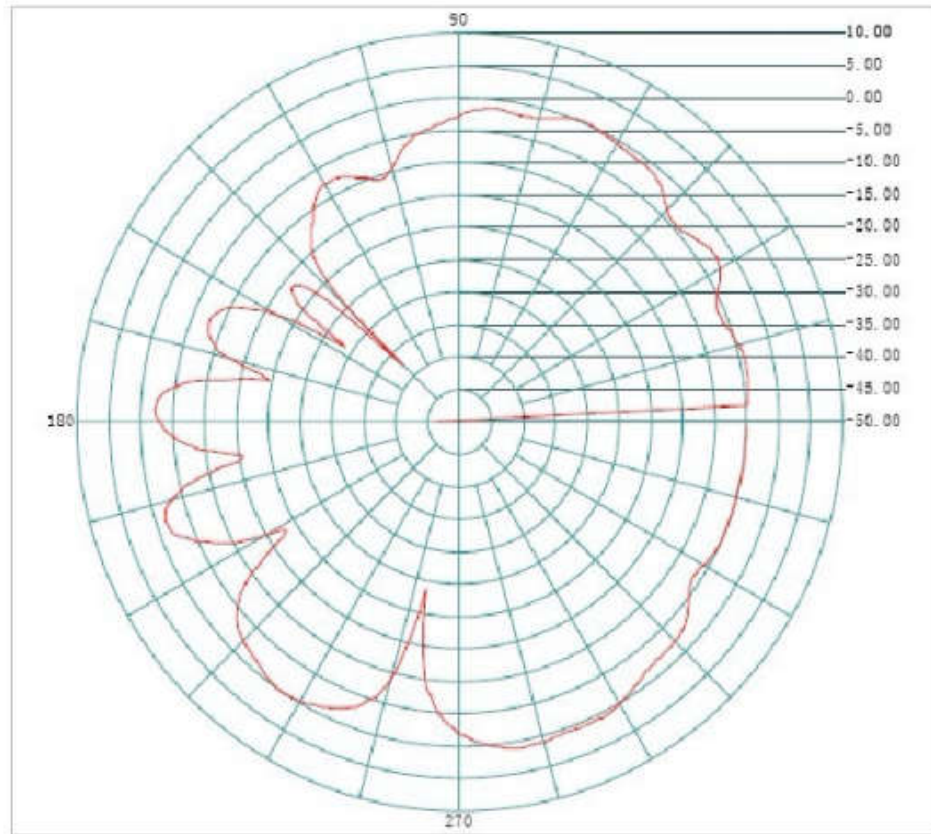
Maximum Value(dBi): **-4.29**

Average Gain(dBi) : **-8.81**

Minimum Gain(dBi): **-51.4**

2. Main antenna : 2480 MHz

2.1 Horizontal



Frequency(MHZ): **2480**

Antenna Polarity: **Horizontal**

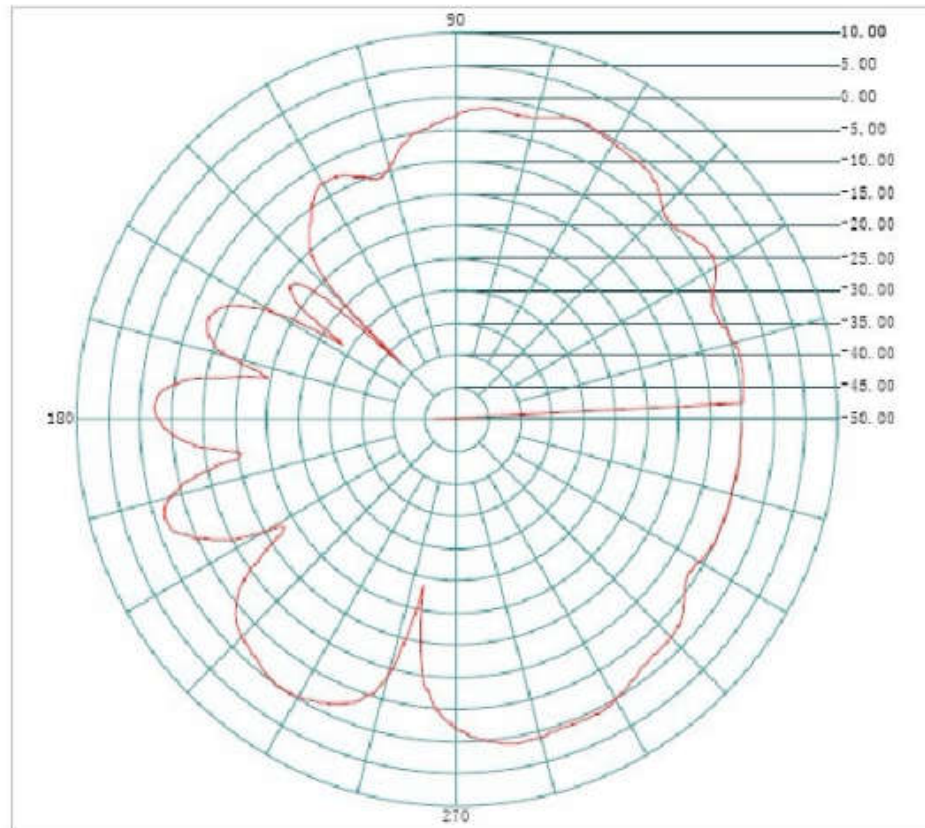
Maximum Value(dBi): **-4.24**

Average Gain(dBi) : **-3.34**

Minimum Gain(dBi): **-53.4**

2. Main antenna : 2480 MHz

2.1 Horizontal



Frequency(MHZ): **2480** Antenna Polarity: **Horizontal**

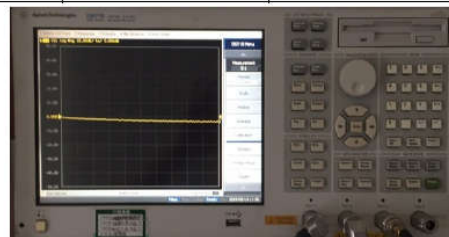
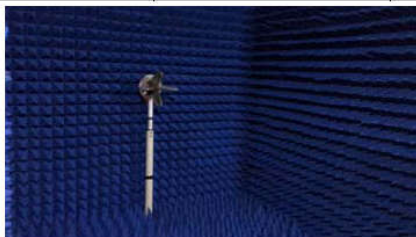
Maximum Value(dBi): **-4.24**

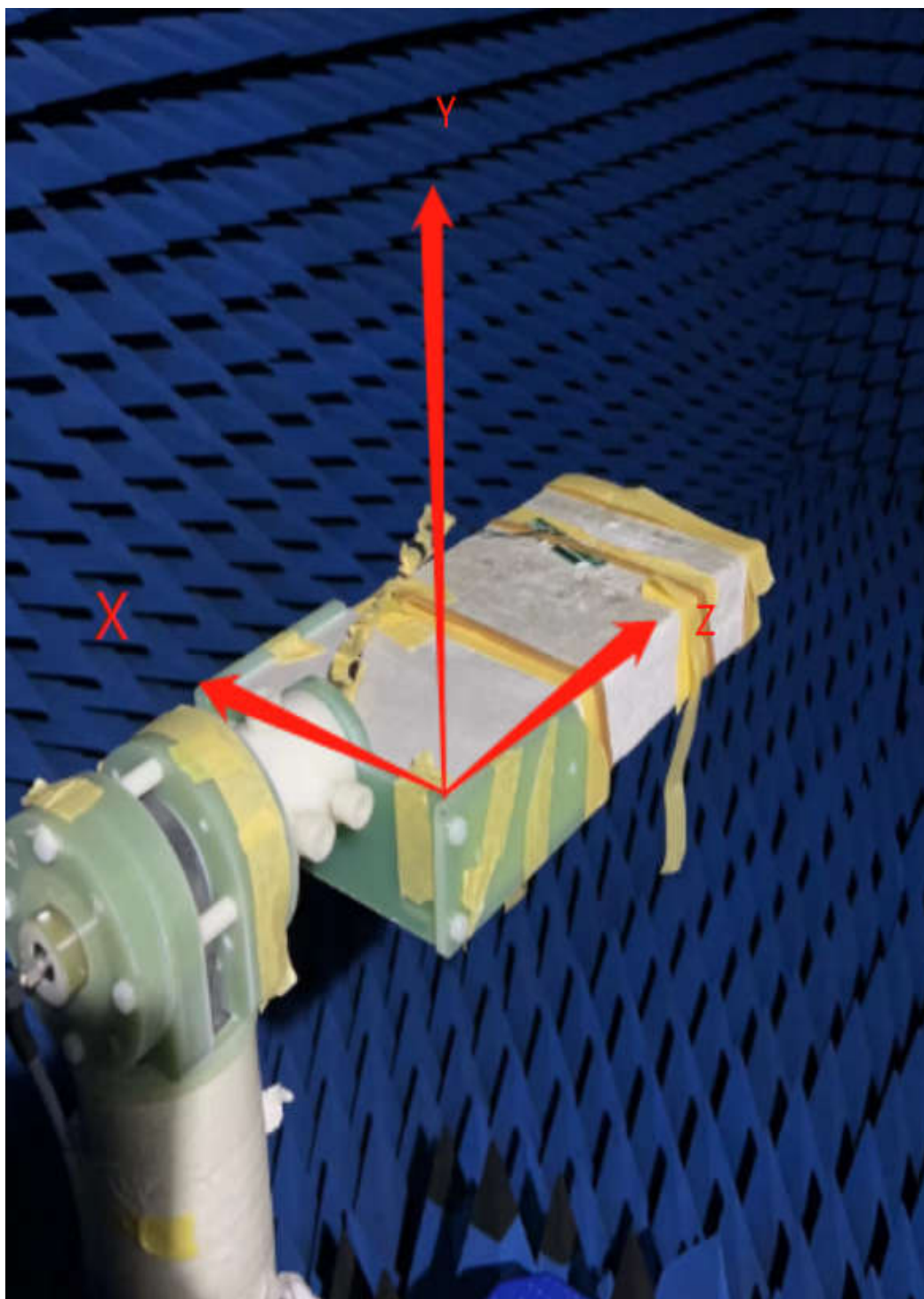
Average Gain(dBi) : **-3.34**

Minimum Gain(dBi): **-53.4**

3. Test environment

/	Test items	Equipment		
		Equipment	Model No	Manufacturers
S11	1. Return loss 2.VSWR	Analyzers	E5071B	Agilent
		Coaxial Cable	RG316	YiRui
		OTA	ETS 5*3*3(3D)	Guang Ping
Testing	1. 2D、3DRaditation Pattern	Analyzers	E5071B	Agilent
		PC Console	Win 7	ASUS
	2. Antenna gain 3. Antenna efficiency	OTA	ETS;Far Field probe	Guang Ping
		3D turntable	$\phi 1*1*1.5(3D)$	Guang Ping





Equipment, 5071B,

Soft: Guang Ping,

- Laboratory specification: 7*3*3

Test date: 2023.6.10

Tester: 邓志颖

- Testing company: Dongguan Baishun intelligent technology Co., LTD
- Test setup photos and description of measurement methods:

系统概况

系统简介

快速精准稳定

远场测量系统采用单探头双极化设计，测量时被测物只需要水平旋转180度，垂直面旋转360度即可完成3D球面扫描，测试过程方便简洁，特有一键式任务列表测量方案，报告智能化生成，测量数据快速、精准、稳定。

系统规格

标准型	
规格	参数
测量尺寸	L*W*H=5*3*3 m
屏蔽效能	≥ 100 dB
测量频率	700 MHz - 6 GHz
探头	双极化
探头与测试物距离	2.5 m
探头测试角度	15度
被测物最大尺寸	≤ 1 m
被测物最大重量	≤ 10 kg

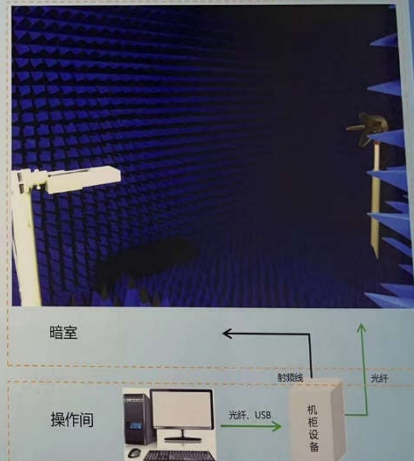
测量能力

有源&无源(700 MHz-6 GHz)

ACTIVE 有源	PASSIVE 无源
支持制式 GSM/GPRS/WCDMA/HSPA/CDMA2000/CDMA2000 1X/EVDO/TD-SCDMA/LTE_TDD/LTE_FDD/NB-IoT/eMTC/WLAN/BT/GPS/BEDOU/GNSS/LTE专网	支持参数 增益、效率、方向图、波瓣宽度、交叉极化比、圆极化方向图、轴比、前后比、不圆度、指向精度、ECC等
测量参数 TRP、TIS、方向图、吞吐量、实时测量、干扰测量、信道平坦度测量	测量时间 11频点测试时间 < 5 min (典型测量时间)
推荐仪器 Agilent8960、R&S CMW500/270 Anritsu MT8820C/8860C/8821 Agilent E4438C	推荐仪表 Keysight E5071B/C、R&S ZV88

注：系统实际测量能力根据客户需求选配

系统控制图



系统采用光纤连接进行控制，射频线缆TX&RX双端口进行信号测量，通过放大单元、信号切换单元，从而实现探头发射（TIS测量），探头接收（TRP测量）等测量功能。

百威智能科技（东莞）有限公司