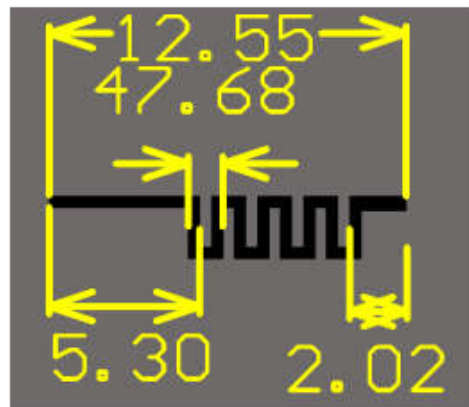


# Antenna Specification

## 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 $\Omega$	
Antenna Length	3.12cm	

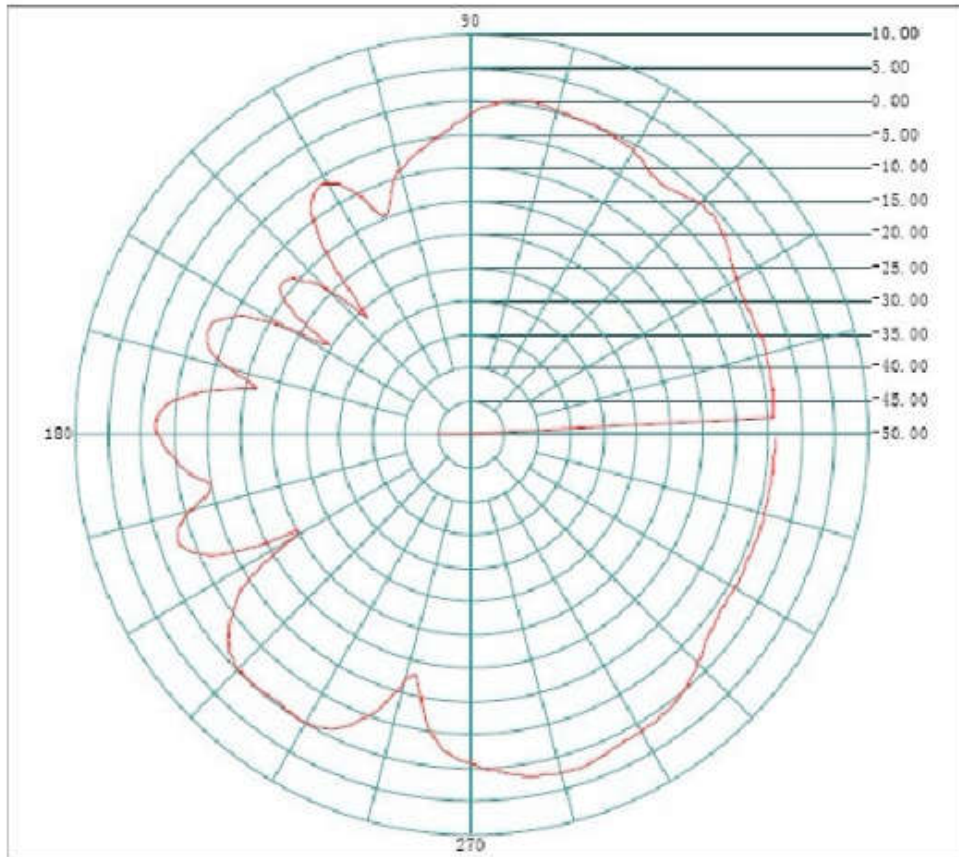
Antenna Photo & Length (mm)



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

## 1. Main antenna : 2403 MHz

### 1.1 Horizontal



Frequency(MHZ): **2403**

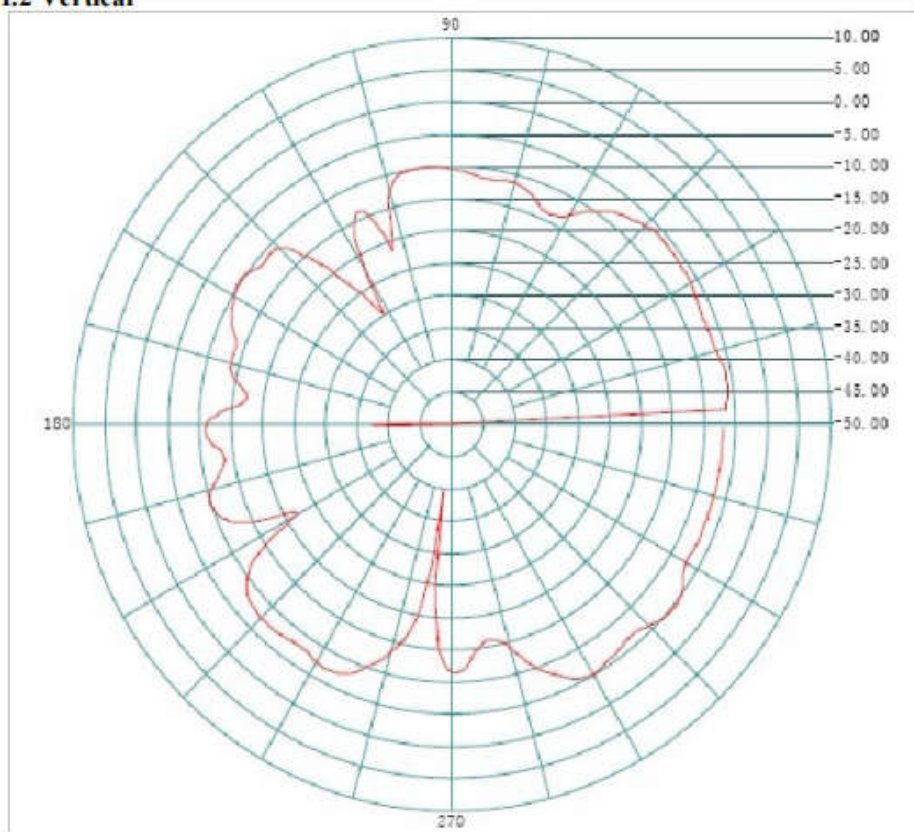
Antenna Polarity: **Horizontal**

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

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

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

## 1.2 Vertical



Frequency(MHZ): **2403**

Antenna Polarity: **Vertical**

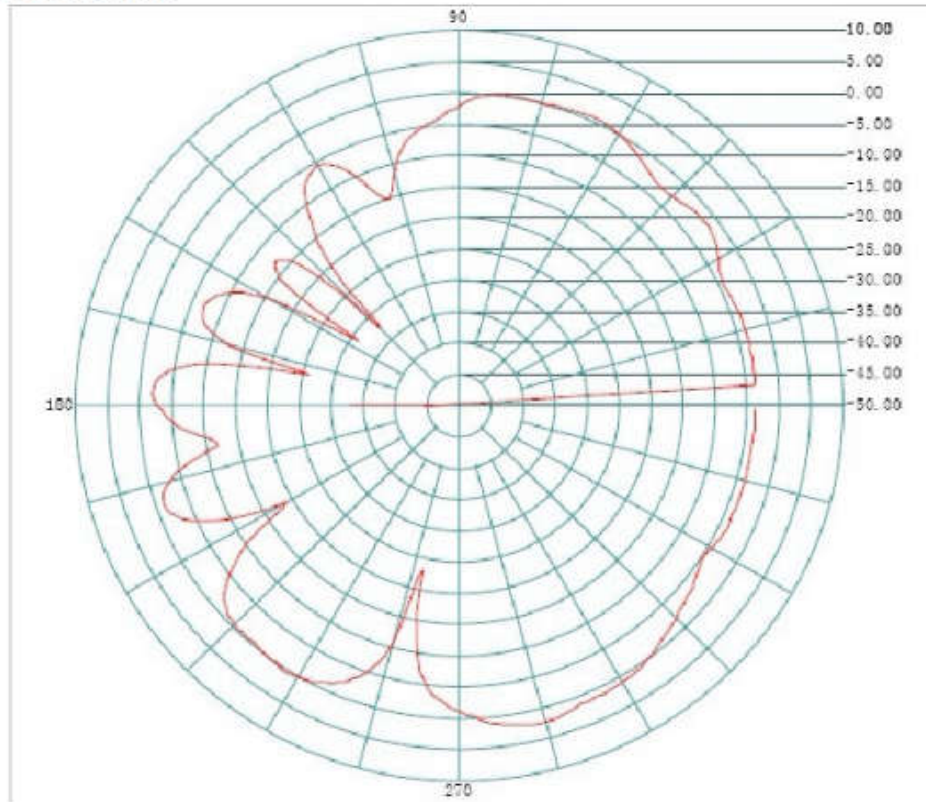
Maximum Value(dBi): **-4.51**

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

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

## 2. Main antenna : 2441 MHz

### 2.1 Horizontal



Frequency(MHZ): **2441**

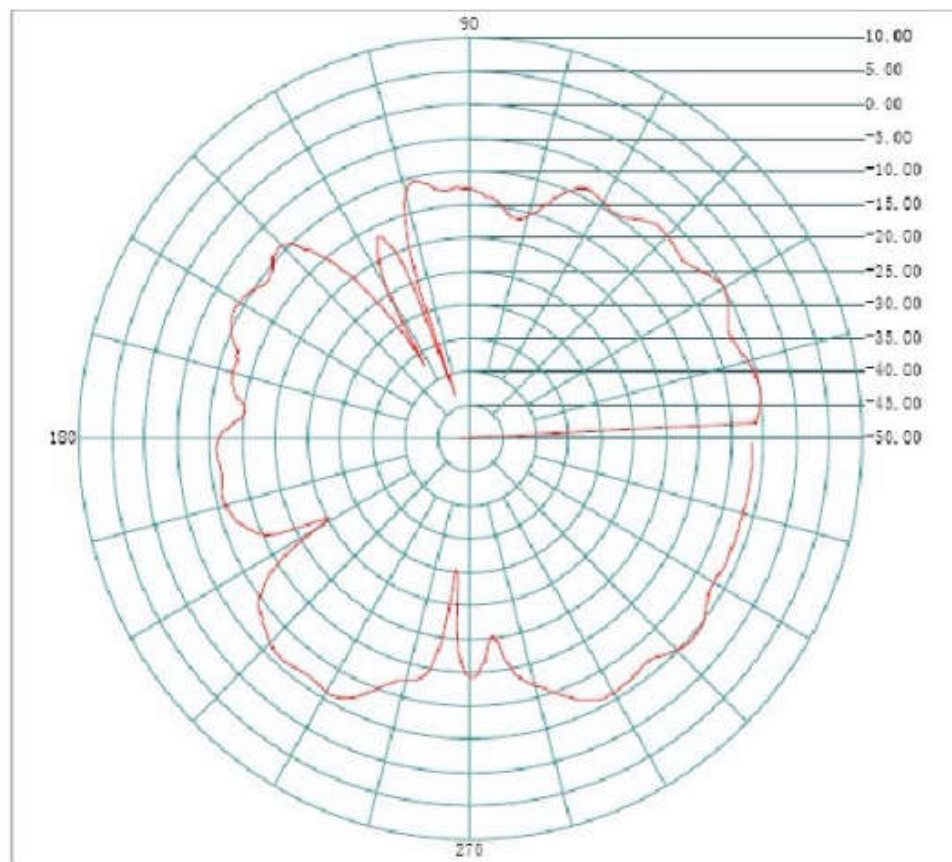
Antenna Polarity: **Horizontal**

Maximum Value(dBi): **2.20**

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

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

## 2.2 Vertical



Frequency(MHZ): **2441**

Antenna Polarity: **Vertical**

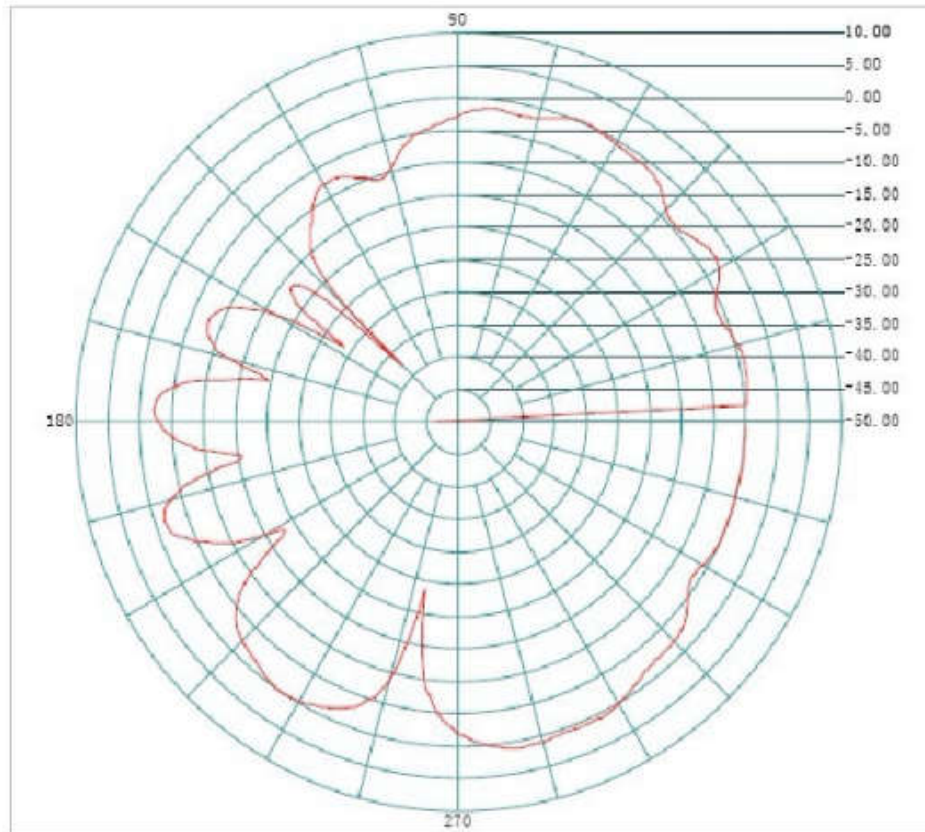
Maximum Value(dBi): **-4.29**

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

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

## 2. Main antenna : 2480 MHz

### 2.1 Horizontal



Frequency(MHZ): **2480**

Antenna Polarity: **Horizontal**

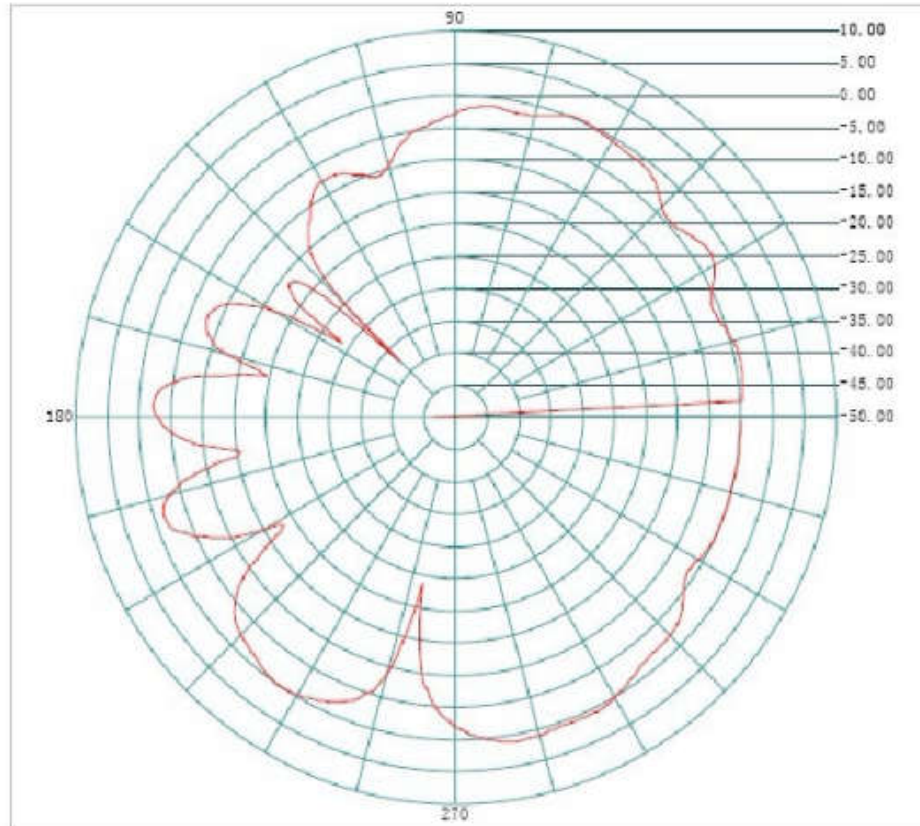
Maximum Value(dBi): **-4.24**

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

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

## 2. Main antenna : 2480 MHz

### 2.1 Horizontal



Frequency(MHZ): **2480**

Antenna Polarity: **Horizontal**

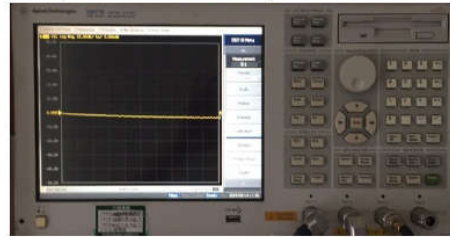
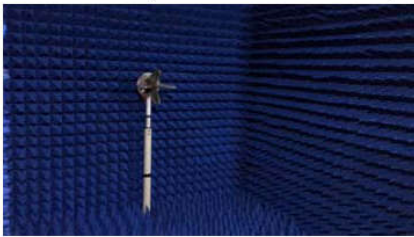
Maximum Value(dBi): **-4.24**

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

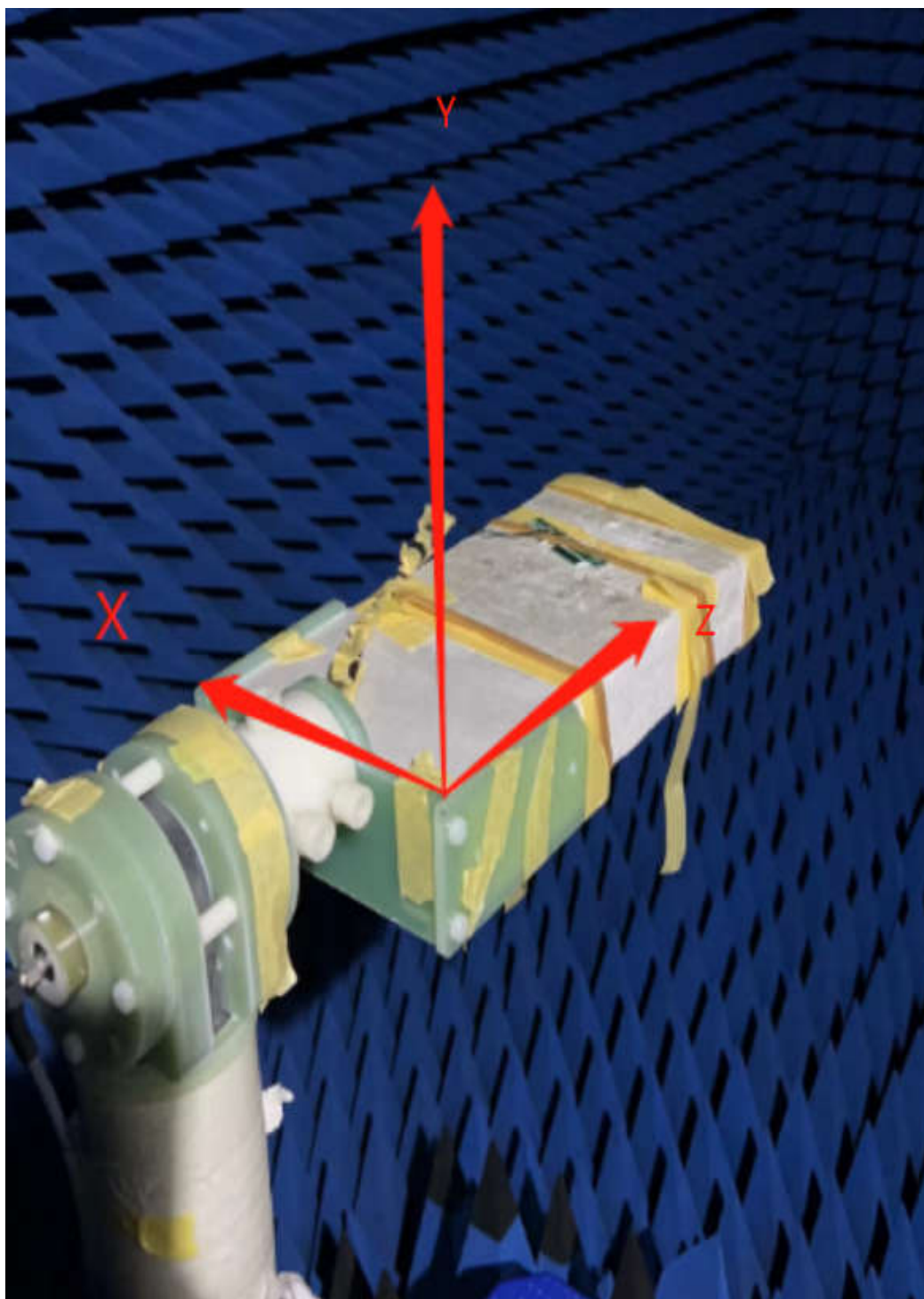
Minimum Gain(dBi): **-53.4**

### 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	规格	参数
腔室尺寸	L*W*H=5*3*3 m	探头与测试物距离	2.5 m
屏蔽效能	≥ 100 dB	探头测试角度	15度
测量频率	700 MHz - 6 GHz	被测物最大尺寸	≤ 1 m
探头	双极化	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/HSDPA/CDMA2000/CDMA2000 1X/EVDO/TD-SCDMA/LTE_TDD/LTE_FDD/NB-IoT/eMTC/WLAN/BT/GPS/BIDOU/GNSS/LTE等网		支持参数
测量参数	TRP, TIS, 方向图, 吞吐量, 实时测量, 互扰测量, 信道平坦度测量		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



暗室

操作间

机柜设备

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。

百感智能科技有限公司（东莞）有限公司