



天线规格书

Antenna Datasheet

Spring Antenna

Model:

BW433SNX39-6W5

Description:

433MHz Spring Antenna

Features:

433MHz ± 10 MHz Frequency

Structure: 360°

Omnidirectional Radiation

Dimensions: 38.6mm x 5.5mm
x 5mm

RoHS & REACH Compliant

目 录

1. 1. Product Description	3
2. 2. Product Specifications	4
3. 3. Product Photos	5
4. 4. Dimensional Drawing	6
5. 5. Test Equipment	7-8
6. 6. Performance Data	9-10
7. 6.1 VSWR 6.2 Return Loss	9
8. 6.3 Gain	9
9. 6.4 Efficiency	10
10. 6.5 Antenna Gain and Efficiency	10
11. 7. Radiation Patterns	10
12. 7.1 2D Radiation Patterns 7.2 3D	11-12
Radiation Patterns	11
	12

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BW433SNX39-6W5

零件编号说明

BW	公司 / Company	蝙蝠无线 / Bat Wireless
433	频段 / Frequency	433MHz / 433MHz
S	名称 / Name	弹簧天线 / Spring Antenna
N	类型 / Type	内置 / Internal
X	常数 / Constant	X / X
39-6	大概尺寸 / Dimensions	39-6mm / 39-6mm
W	特点 / Feature	弯脚 / Bent
5	脚长 / Length	5 / 5

1. 产品描述 / Description

The Bat Wireless BW433SNX39-6W5 is a compact antenna designed for 433 MHz wireless communication. Featuring a helical spring structure, it combines mechanical flexibility with excellent electrical performance; it is resistant to vibration and bending, making it ideal for vehicle-mounted or mobile devices. Its small size and light weight, along with support for PCB soldering, facilitate easy integration into smart home devices and wireless modules. The helical design helps reduce multipath interference and enhances signal stability in complex environments.

Typical application scenarios:

Wireless remote control: garage door remote controls, car keys, smart home devices. Security and alarm systems: wireless door sensors, infrared detectors, smoke alarms.

IoT: Smart Water Meters/Electricity Meters

Bat Wireless offers customized services to optimize your devices; backed by a mature R&D team, we can respond rapidly to meet your needs. Please contact our sales and FAE teams if you have any requirements.

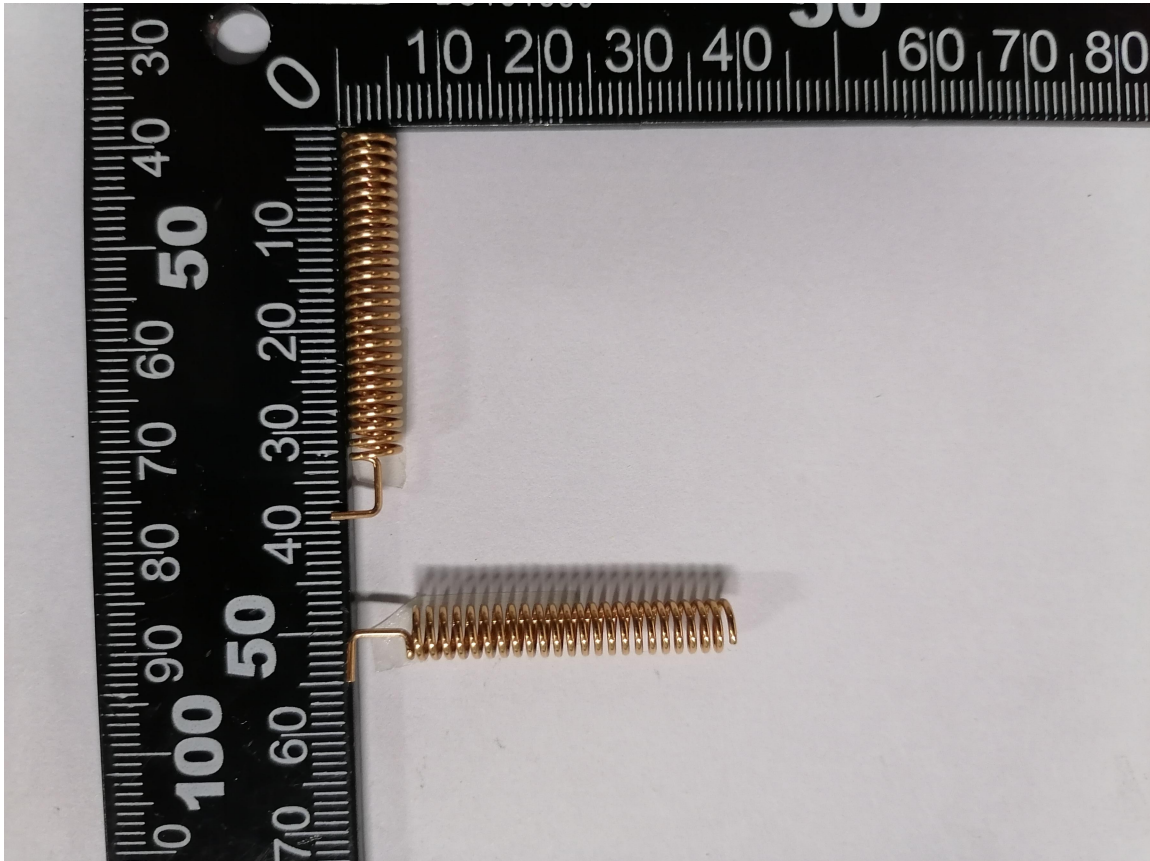


2. 产品规格 / Specification

参数 / Parameters	典型值 / Typ.	单位 / Unites	备注 / Notes
电气特性 / Electrical Characteristics			
类型 / Antenna Type	弹簧天线 / Spring Antenna		
频率 / Frequency Range	433±10	MHz	
输入阻抗 / Input Impendence	50	Ω	
驻波比 / V.S.W.R	<2		
增益 / Gain	-0.83	dBi	
极化方式 / Polarization Type	垂直 / Vertical		
功率容量 / Power Capacity	50	W	
雷电保护 / Lightning Protection	-		
工作电压 / DC Voltage	-	V	
辐射体 / Radiator	-		
机械特性 / Mechanical Characteristics			
尺寸 / Dimensions	38.6 x Ø 5.5 x 5	mm	
接口形式 / Connector Type	-		
电缆型号 / Cable Type	-		
电缆长度 / Cable Length	-	mm	
安装方式 / Mount way	-		
颜色 / Color	铜色		
材料 / Material	磷铜		
重量 / Weight	-	g	
环境特性 / Environmental Characteristics			
防护等级 / Waterproof Rating	-		
ROHS标准 / ROHS Complaint	符合		
工作温度 / Operating Temperature	-45~ +85	℃	
存储温度 / Storage Temperature	-45~ +85	℃	

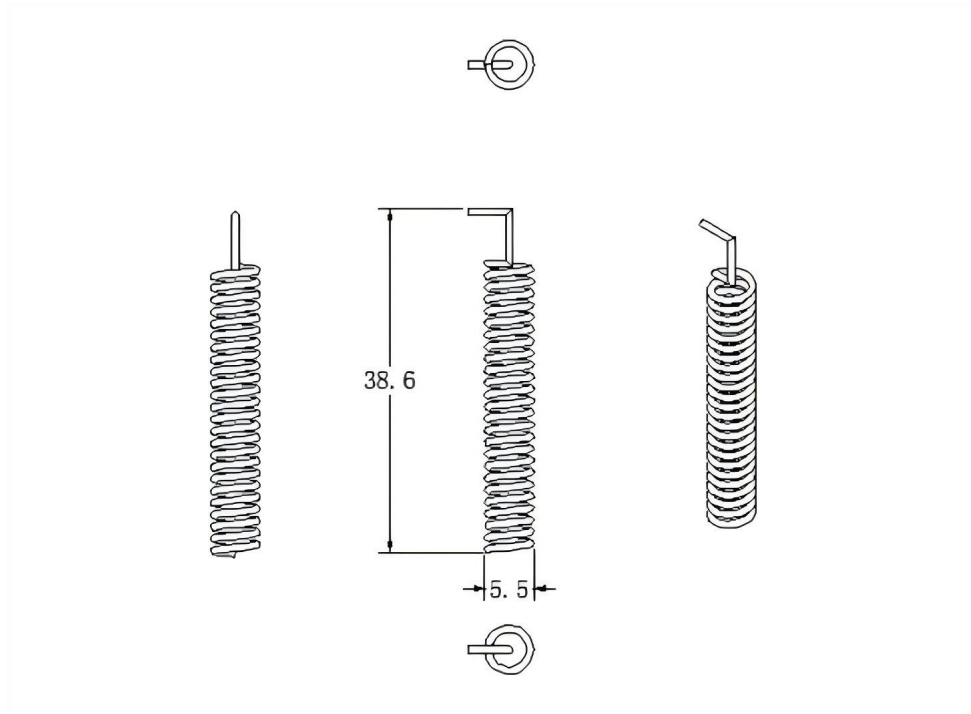


3. 实物图 / Dimensions



图片仅供参考，以实物为准。

4. 尺寸图 / Mechanical Drawing



5. 测试设备 / Test Equipment



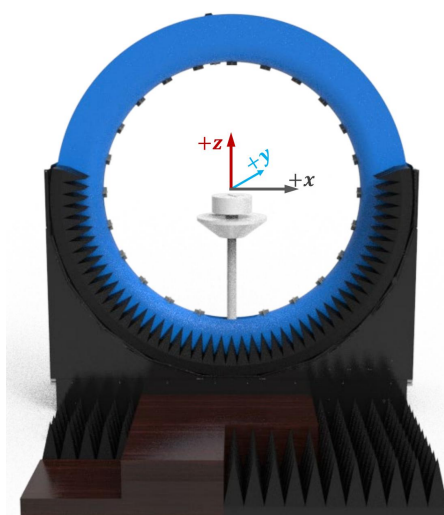
Keysight/E5071C 网络分析仪



R&S/CMW500 综测仪



R&S/SMBV100B 信号源



DT-3500 Datasheet / 系统规格

Specification:	Description
Test Frequency /测试频域:	400MHz-8.5GHz
System Size /系统尺寸:	L*W*H=4*3.5*3.5m
Number of Probes /探头数目:	23 (Probe) + 1 (link)
Interval Angle /采样夹脚:	15°
Sampling Diameter /采样直径:	2200mm
Carring Capacity /承载能力:	≤40kg

Testing Capability / 测试能力

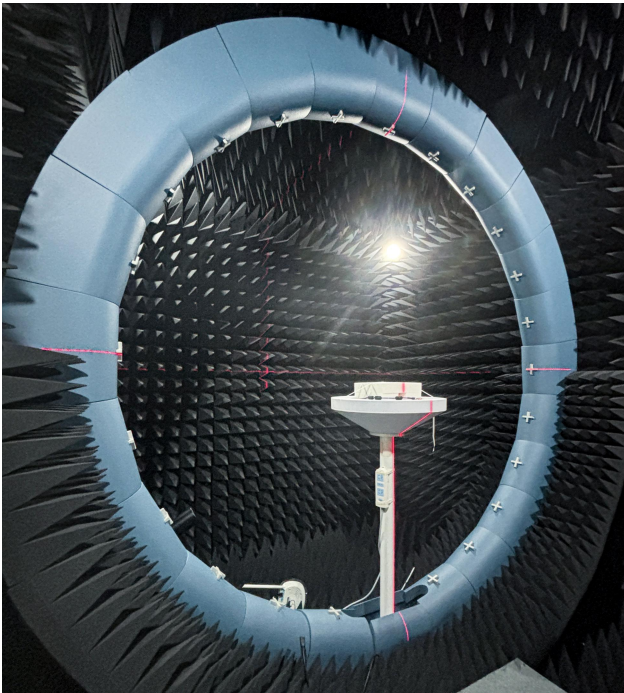
Description / 能力描述

Active measurement
有源测试

Capability /测试指标: TRP、TIS、EIRP、EIS,. etc
Mode /测试制式: 2G/3G/4G/5G、Wi-Fi b/g/n/a/ac/ax、BT、NB-IOT、Cat-M(eMTC)、GPS/BEIDOU/GLONASS、ZigBee、LoRa(Non-Signaling),.etc

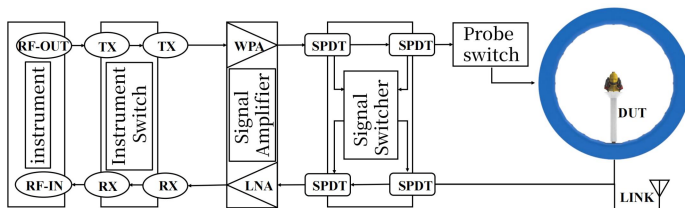
Passive measurement
无源测试

Test category /测试类型: Gain、Efficiency、2D pattern、3D pattern、Pattern roundness、Axial Ratio、ECC、Phase center,. etc
Polarization /极化方式: Circular polarization, linear polarization, elliptical polarization

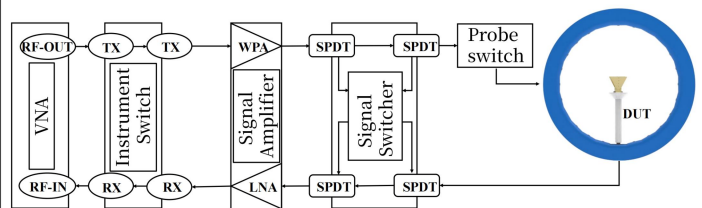


RF Link diagram of multi probe spherical near-field testing system 多探头球面近场测试系统射频链路图

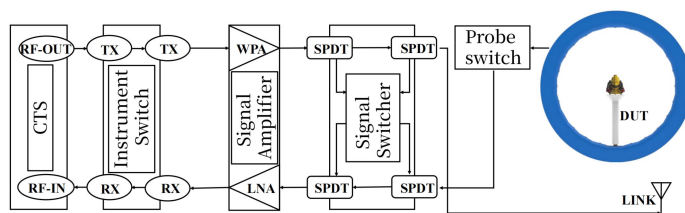
RF Link Overview
总射频链路图



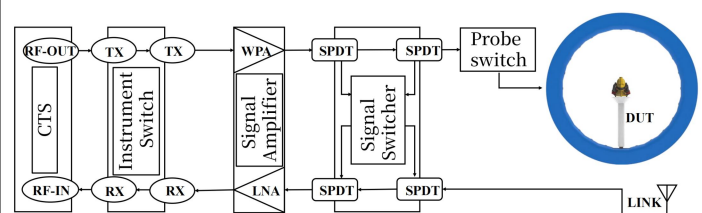
RF Link of Passive measurement
无源测试链路图



RF Link Overview
总射频链路图



RF Link of Passive measurement
无源测试链路图



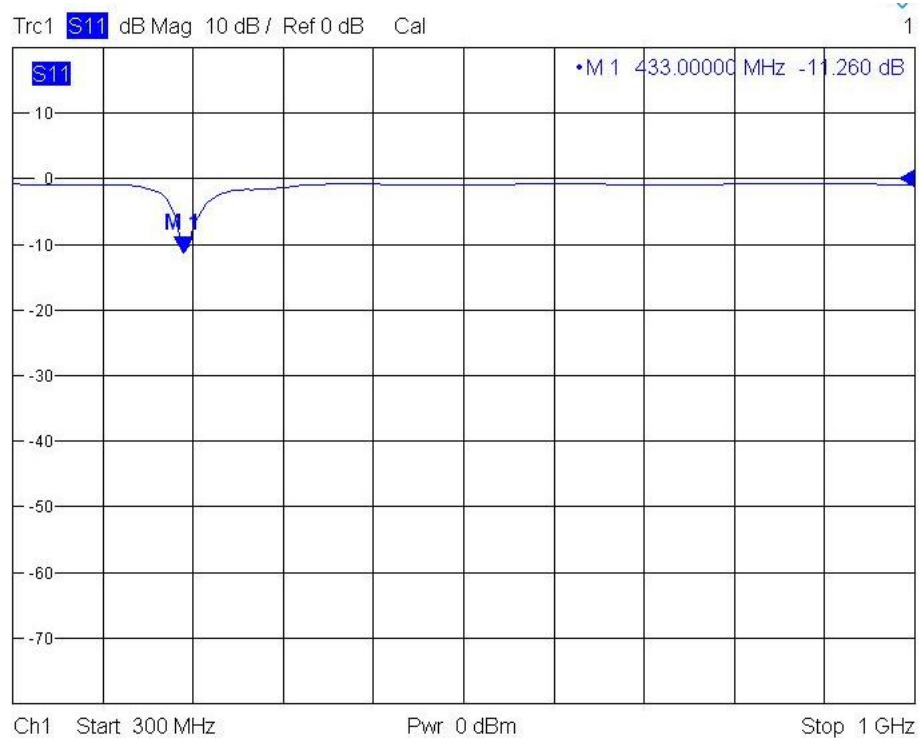


6. 性能数据 / Performance Data

6.1 电压驻波比 / VSWR



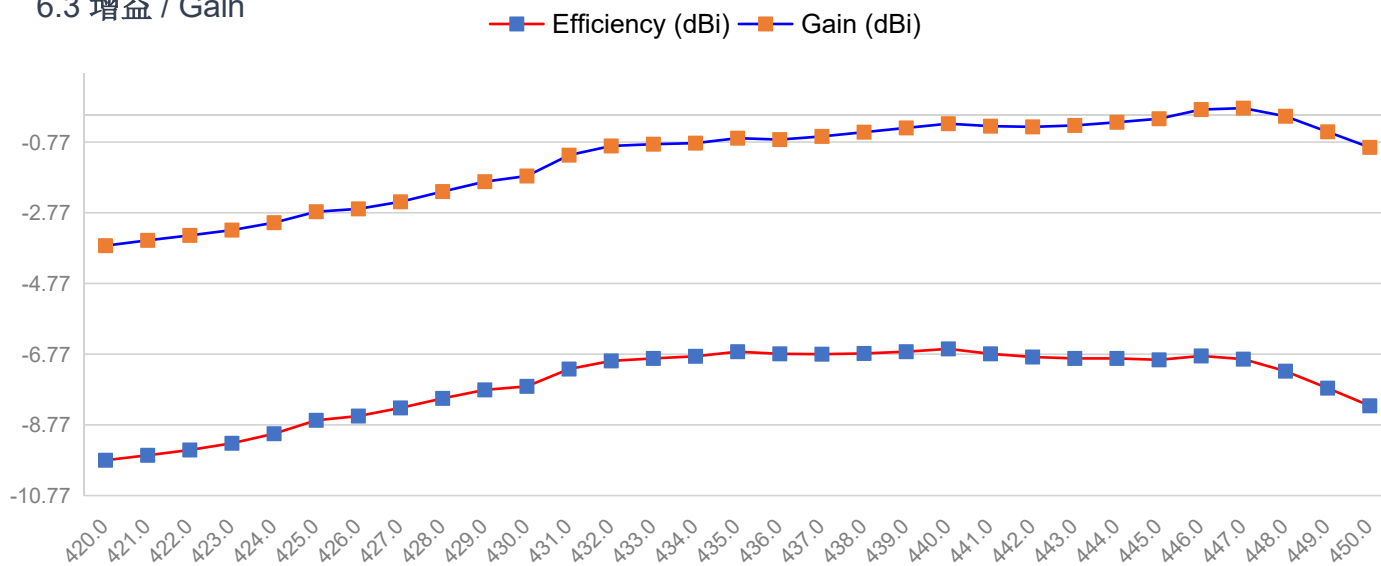
6.2 回波损耗 / Return Loss



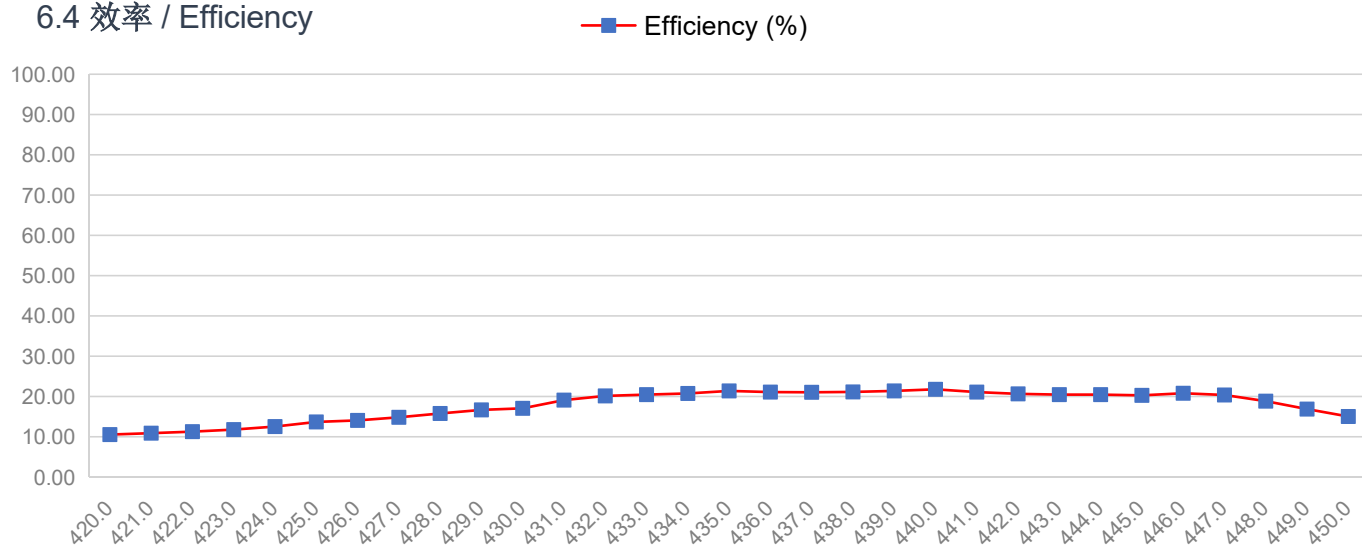


6. 性能数据 / Performance Data

6.3 增益 / Gain



6.4 效率 / Efficiency

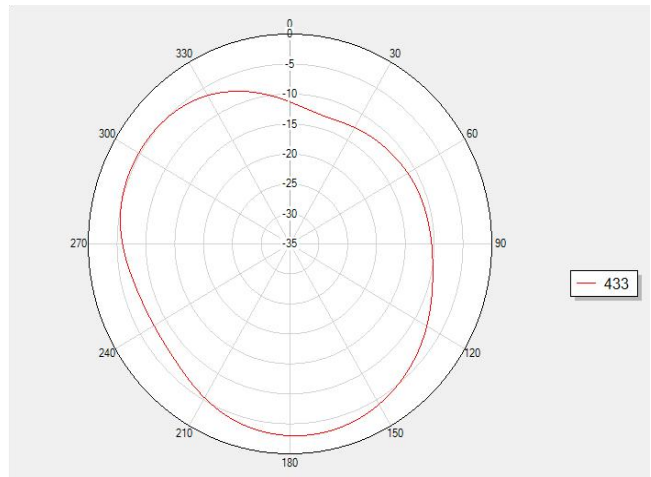
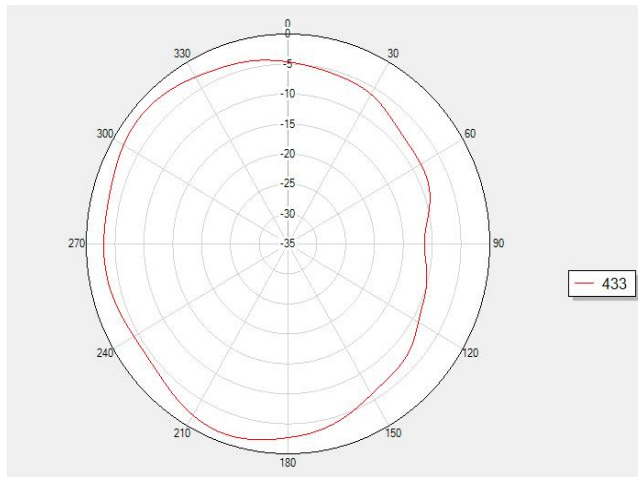
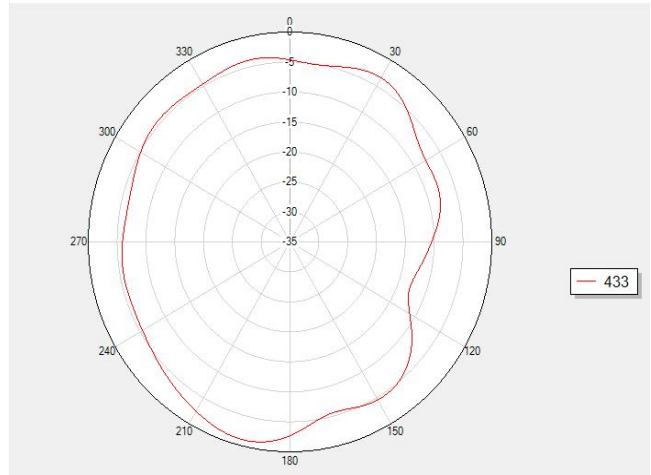
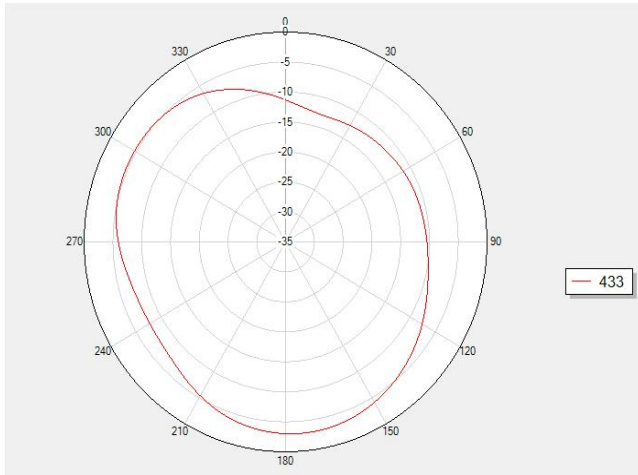


6.5 天线增益与效率

频率 / Frequency (MHz)	430	433	440
最大增益 / Gain (dBi)	-1.73	-0.83	-0.25
效率 / Efficiency (%)	17.06	20.46	21.78

7. 辐射模式 / Radiation Patterns

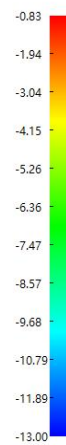
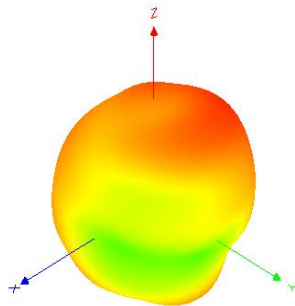
7.1 2D 辐射模式图 / Radiation Patterns



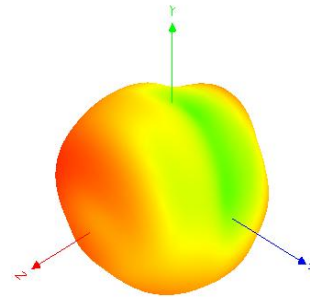
7. 辐射模式 / Radiation Patterns

7.2 3D 辐射模式图 / Radiation Patterns

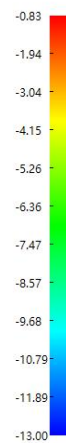
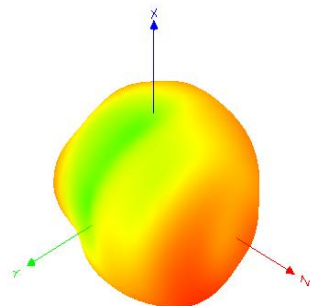
Frequency (MHz) : 433



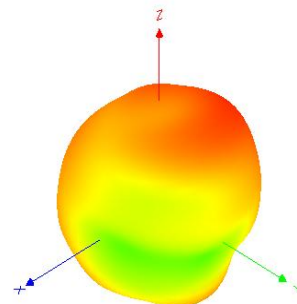
Frequency (MHz) : 433



Frequency (MHz) : 433



Frequency (MHz) : 433





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