



Antenna Specifications

Antenna Datasheet

433MHzShort rubber stick antenna

model:

BW433JWX50-10WJ

describe:

433MHzGlue stick antennaSMAInternal screw and internal needle interface

characteristic:

433MHzFrequency range

SMAInternal screw and internal needle interface

Structure: Elbow

360°Omnidirectional radiation

size:50mm xø10mm conform to

RoHS & REACHRegulation



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In the spirit of providing the best service to our users, Shenzhen Bat Wireless Technology Co., Ltd. (hereinafter referred to as "Bat Wireless") strives to provide users with detailed and accurate product information in this manual. However, due to the timeliness of the content in this manual, Bat Wireless cannot guarantee its currency and applicability at all times. Bat Wireless reserves the right to update the content of this manual without prior notice. To obtain the latest version of this information, please regularly visit the Bat Wireless official website or contact Bat Wireless staff. Thank you for your understanding and support!



BW433JWX50-10WJ

Part Number Description

BW	company /Company	Bat Wireless /Bat Wireless
433	Frequency band /Frequency	433MHz / 433MHz
J	Name /Name	glue stick /Rubber Antenna
W	type /Type	External /External
X	constant /Constant	X / X
50-10	size /Dimensions	50x10mm / 50x10mm
W	Features /Feature	elbow /Angled
J	Interface /Connector	SMAInternal screw and internal needle /SMA Male Jack

1. Product Description/Description



Bat WirelessBW433JWX50-10WJThis high-performance omnidirectional antenna offers exceptional penetration, ultra-long communication range, and strong environmental adaptability. Its compact size and light weight, along with its high-quality plastic housing and non-foldable elbow, provide excellent signal reception and transmission capabilities, providing stable and reliable support for device connections. Its compact and lightweight rubber-stick design makes it easy to install and transport.

Classic application scenarios:

Industry4.0: Real-time monitoring of CNC machine tools

Smart Healthcare: Surgical Robot Control

Intelligent Transportation: Rail Contact Network Monitoring

Energy Internet of Things: Substation Inspection Robot

Bat Wireless provides customized services to optimize your equipment. We have a mature R&D team that can respond quickly to meet your needs. If you have any requirements, please contact our sales andFAE.



2. Product Specifications/Specification

Parameters /Parameters	Typical value /Typ.	Unit /Unites	Remark /Notes
Electrical characteristics /Electrical Characteristics			
type /Antenna Type	Glue stick antenna /Rubber Antenna		
Frequency /Frequency Range	433	MHz	
Input impedance /Input Impendence	50	Ω	
Standing wave ratio /VSWR	<2		
Gain /Gain	- 3	dBi	
Polarization mode /Polarization Type	vertical /Vertical		
Power capacity /Power Capacity	50	W	
Lightning protection /Lightning Protection	-		
Working voltage /DC Voltage	-	V	
Radiator /Radiator	-		
Mechanical properties /Mechanical Characteristics			
size /Dimensions	50 x ϕ 10	mm	
Interface type /Connector Type	SMAInternal screw and internal needle /SMA-J Male		
Cable Model /Cable Type	-		
Cable length /Cable Length	-	mm	
Installation method /Mount way	Twist		
color /Color	black		
Material /Material	ABS		
weight /Weight	6.86	g	
Environmental characteristics /Environmental Characteristics			
Protection level /Waterproof Rating	-		
ROHSstandard /ROHS Complaint	conform to		
Operating temperature /Operating Temperature	-45~+85	$^{\circ}\text{C}$	
Storage temperature /Storage Temperature	-45~+85	$^{\circ}\text{C}$	



3. Actual picture/Dimensions



PARTS DRAWING 零件图		ROHS Compliant		
BOM	产品料号	更新时间	订单数量	交期时间
A0				

50MM	49MM	36MM	18MM	17MM
④				

42.9MM	16.52MM	13.48MM	7.9MM	①
②黑色杆套				

48MM	44MM	4MM	3.3MM	50.5N	③	0.5MM

NO	Code	Name	Description	Q'ty
4	1. 010. 0109	热缩管	3.5*18MM 黑色环保热缩套管	1
3	1. 008. 1061	弹簧	4Φ*3.3MM 磷铜	1
2	1. 006. 0107	塑胶杆	小辣椒 黑色杆套	1
1	1. 004. 8022	SMA	6.0弯公头公针 镀金/24小时	1

公差	
GENERAL TOLERANCE	
10~300 :	± 3.00
50~100 :	± 2.00
25~50 :	± 0.20
10~25 :	± 0.15
1~10 :	± 0.1
业务	采购
仓库	品质
生产	

产品名称 (PRODUCT NAME)			
散棒-433MHz-弯公头公针散棒 L=50MM			
工作频段 (Frequency Range)	433MHz		
阻抗 (Impedance)	-3db		
电压驻波比 (VSWR)	对比波形		
极化方式 (Polarization)	垂直		
特性阻抗 (Impedance)	50 OHM		

1. 线材外被无破皮、损伤。 2. 成品须100%测试导通 OK。 3. 成品须100%全检OK。 4. 采用环保制程, 成品符合ROHS要求。			
额定电压: AC 60V 接触阻抗: 20~01m 耐压: AC200V 绝缘阻抗: 500m~01m 特性阻抗: 50 Ohm			

深圳市瑞福无线技术有限公司



5. Test equipment/Test Equipment



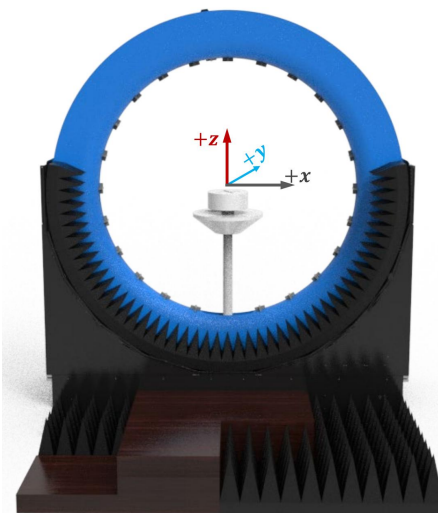
Keysight/E5071C Network Analyzer



R&S/CMW500 Comprehensive tester



R&S/SMBV100B Signal Source



DT-3500 Datasheet / System Specifications

Specification:	Description
Test Frequency /Test frequency domain:	400MHz-8.5GMHz
System Size /System size:	L*W*H=4*3.5*3.5m
Number of Probes /Number of probes:	23 (Probe) + 1 (link)
Interval Angle /Sampling clamp:	15°
Sampling Diameter /Sampling diameter:	2200mm
Carring Capacity /Carrying capacity:	≤40kg

Testing CapabilityTesting capabilities

Description /Ability Description

Active measurement

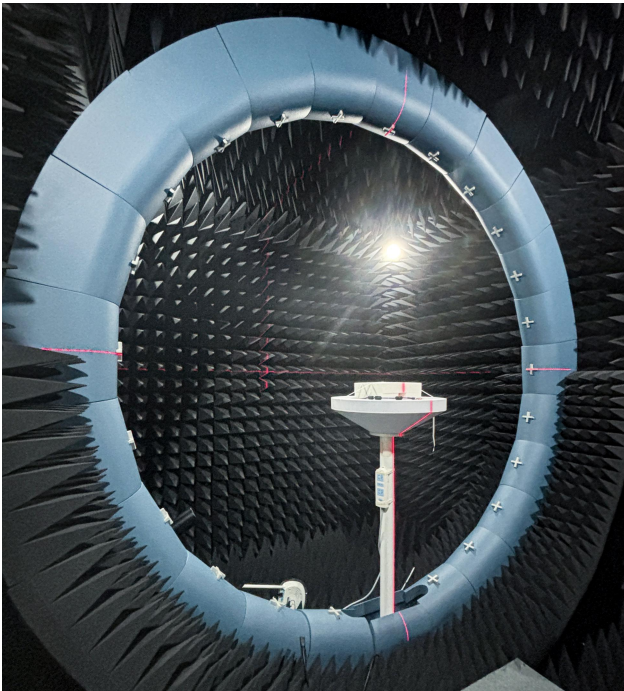
Active testing

Capability /Test indicators:TRP、TIS、EIRP、EIS, etc
Mode /Test format: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

Passive testing

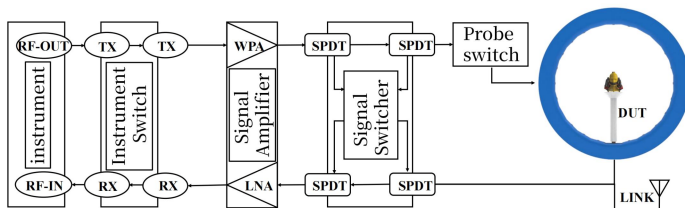
Test category /Test Type:Gain、Efficiency、2D pattern、3D pattern、Pattern roundness、Axial Ratio、ECC、Phase center,. etc
Polarization / Polarization:Circular polarization, linear polarization, elliptical polarization



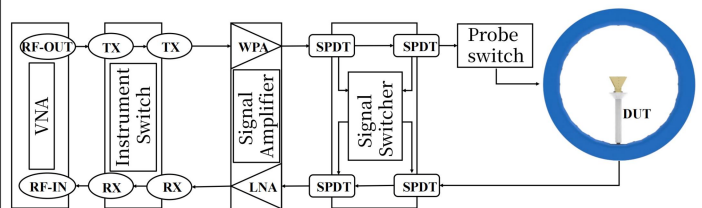
RF Link diagram of multi probe spherical near-field testing system

RF link diagram of multi-probe spherical near-field test system

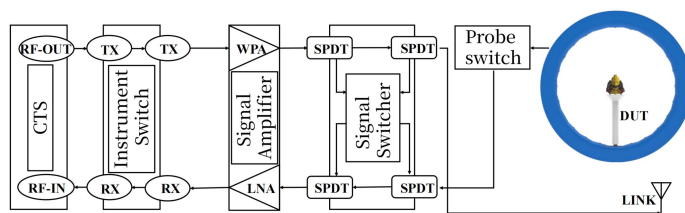
RF Link Overview
Total RF chain diagram



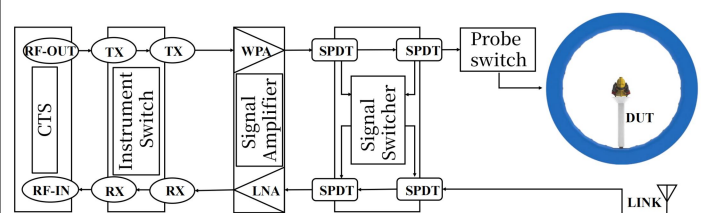
RF Link Overview
Passive test link diagram



RF Link Overview
Total RF chain diagram



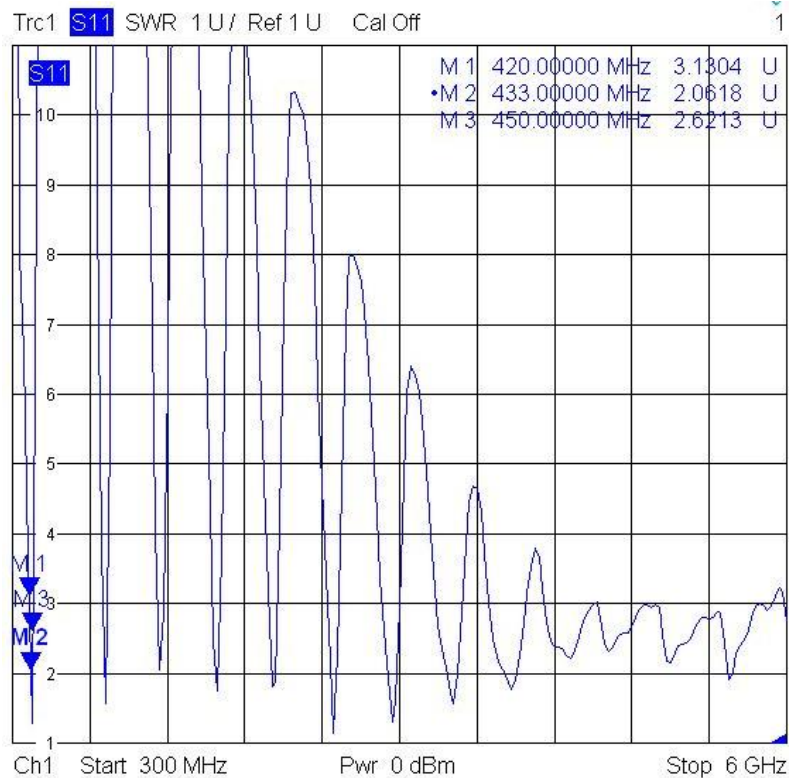
RF Link of Passive Measurement
Passive test link diagram



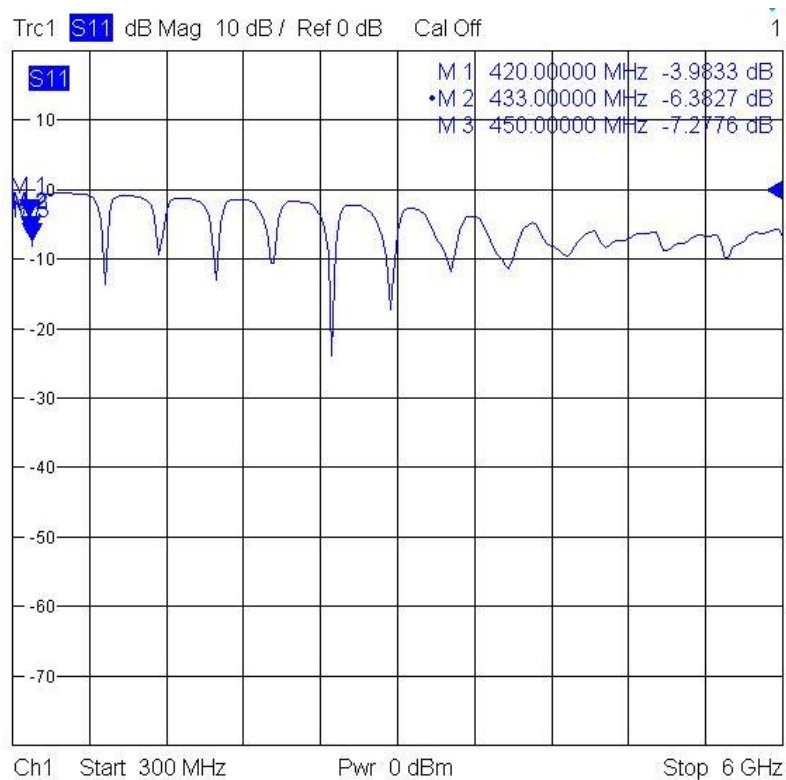


6. Performance data/Performance Data

6.1 VSWR/VSWR



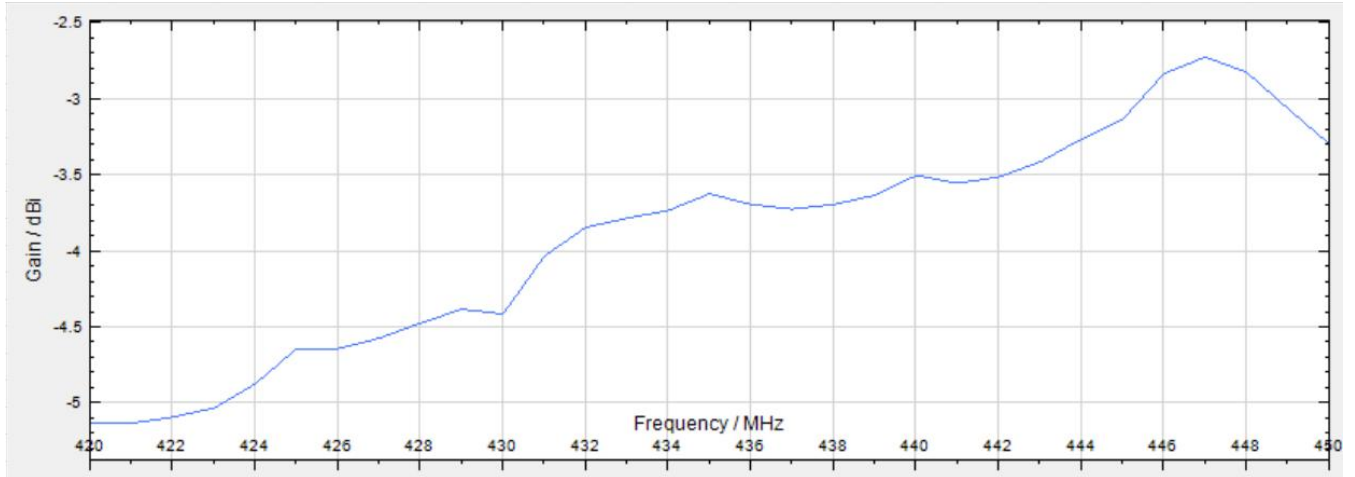
6.2 Return loss/Return Loss



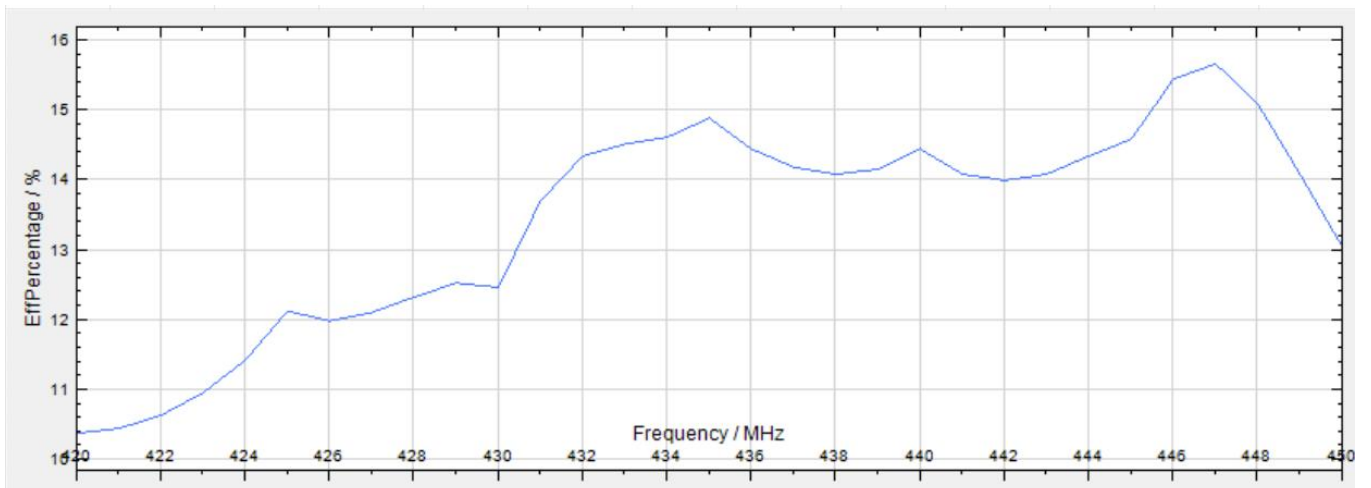


6. Performance data/Performance Data

6.3 Gain/Gain



6.4 efficiency/Efficiency



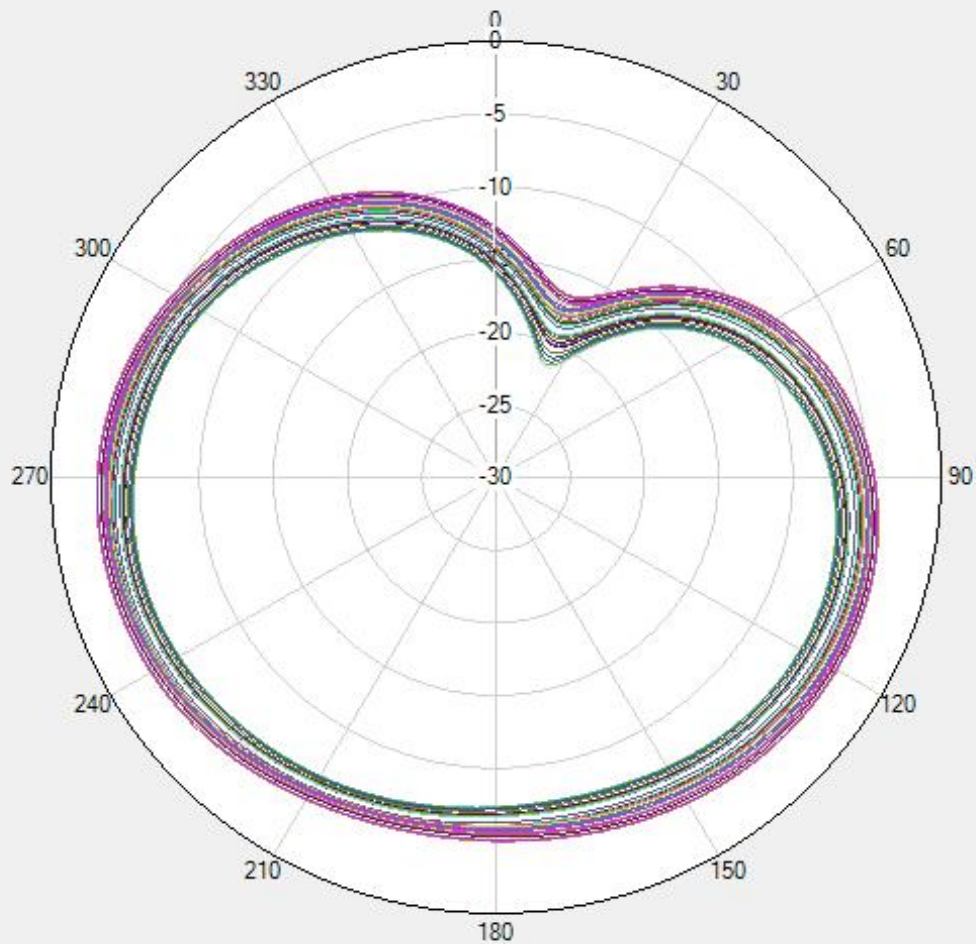
6.5 Antenna Gain and Efficiency

Frequency /Frequency (MHz)	420	433	450
Maximum gain /Gain (dBi)	- 5.13	- 3.78	- 3.29
efficiency /Efficiency (%)	10.38	14.52	13.06



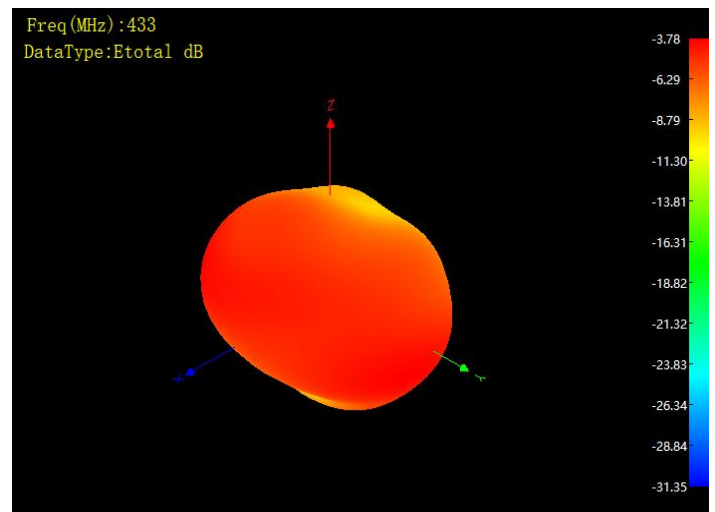
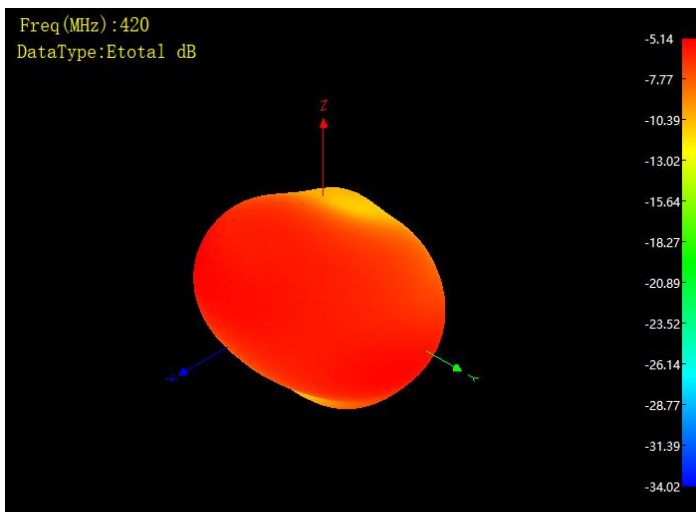
7. Radiation pattern/Radiation Patterns

7.1 2D Radiation pattern diagram/Radiation Patterns

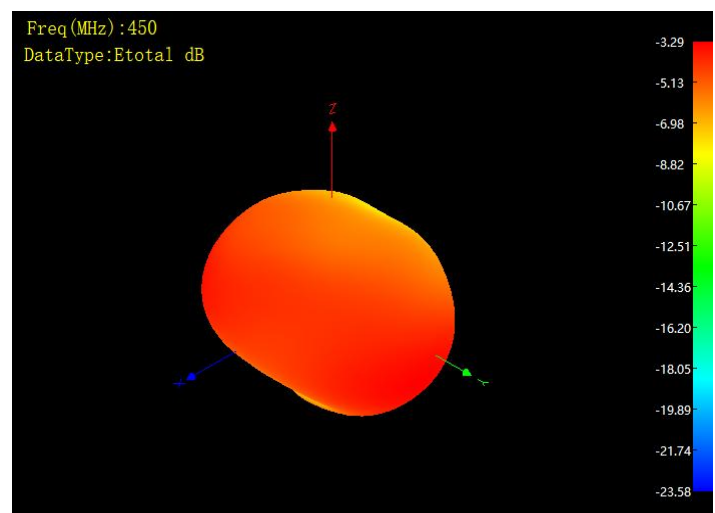
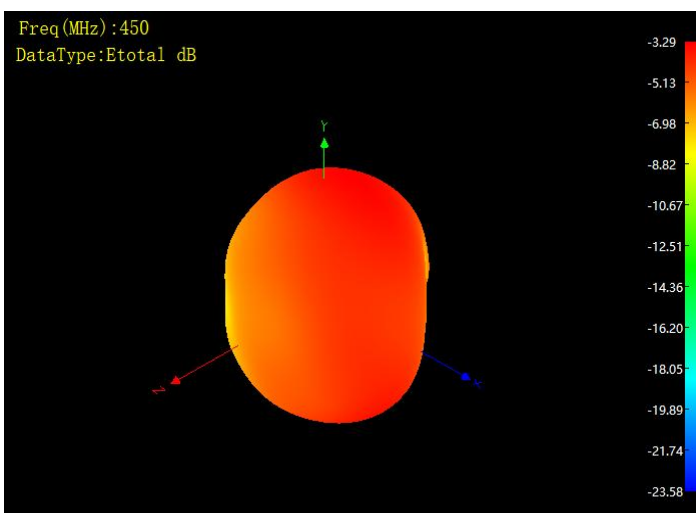




7.2 3DRadiation pattern diagram/3D Radiation Patterns—420MHz、433MHz



7.3 3DRadiation pattern diagram/3D Radiation Patterns—450MHz





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