



Antenna Specifications

Antenna Datasheet

433MHzShort rubber stick antenna

model:

BW433JWX50-10ZJ

describe:

433MHzGlue stick antennaSMAInternal screw and internal needle interface

characteristic:

433MHzFrequency range

SMAInternal screw and internal needle interface

Structure: Straight head

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!



BW433JWX50-10ZJ

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
Z	Features /Feature	Straight /Straight
J	Interface /Connector	SMAInternal screw and internal needle /SMA Male Jack

1. Product Description/Description



Bat WirelessBW433JWX50-10ZJThis high-performance omnidirectional antenna offers exceptional penetration, ultra-long communication range, and strong environmental adaptability. Its compact size and light weight make it a favorite among designers. Made of high-quality plastic with a straight, non-foldable head, it boasts 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	<2.5		
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 /Meterial	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			
图号	产品料号	图面时间	订装数量	交期时间			
A0							

NO	Code	Name	Description	Q'ty	Part NO
1	1.004.8006	SMA	6.0直公头公针 镀金普金	1	
2	1.006.0107	塑胶杆	小辣椒 黑色	1	
3	1.006.1012	弹簧	40*Ø5.5*Ø0.8*Ø5.5MM 23圈 磷铜	1	

公差
GENERAL TOLERANCE

100~200 : ± 3.00
50~100 : ± 2.00
25~50 : ± 0.20
10~25 : ± 0.15
1~10 : ± 0.1

业务
PMC

仓库
生产

品质
采购

产品料号
单位 (UNIT)
页数 (PAGE)
I OF 1
比例 (SIZE)
幅面 (FORMAT)
A4

产品名称 (PRODUCT NAME)
胶棒-小辣椒-433MHz-SMA直公头公针-L=50MM

额定电压: AC 60V
1. 线材外被无破损, 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。
特性阻抗: 50 Ohm
工作频率 (Frequency Range)
阻抗
增益
电压驻波比 (VSWR)
极化方式 (Polarization)
带宽 (Bandwidth)
433MHz
-3db
对比波形
垂直
50 OHM



5. Test equipment/Test Equipment



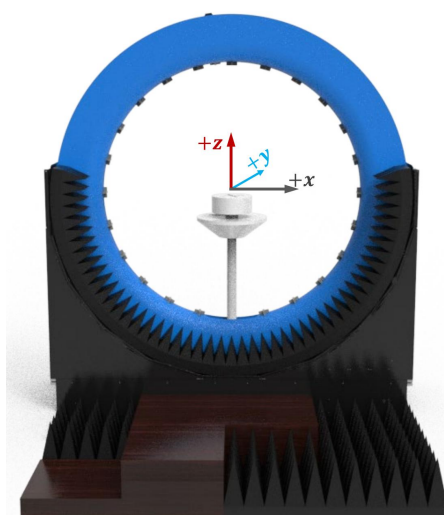
Keysight/E5071C Network Analyzer



R&S/CMW500 Comprehensive tester



R&S/SMBV100B Signal Source



DT-3500 Datasheet / System Specifications

Specification:	Description
Test Frequency /Test frequency domain:	400MHz-8.5GHz
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

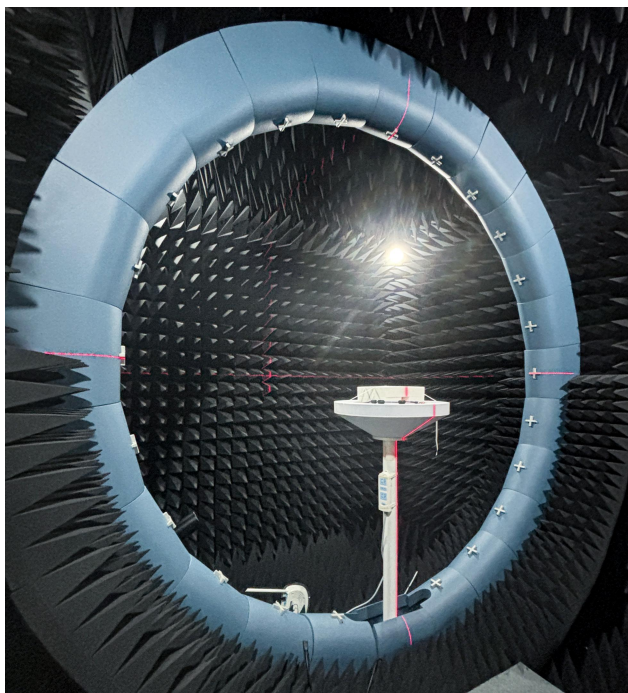
Active testing

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

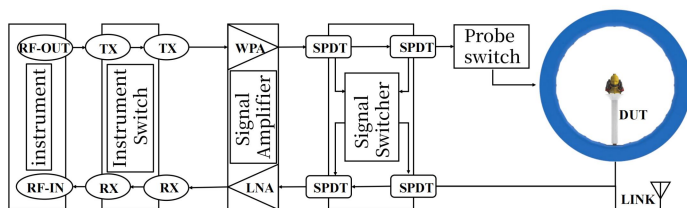
Test category /Test Type:Gain、Efficiency、2D pattern、3D pattern、Pattern roundness、Axial Ratio、ECC、Phase center,. etc
Polarization /
Polarization:Circular polarization, linear polarization, elliptical polarization



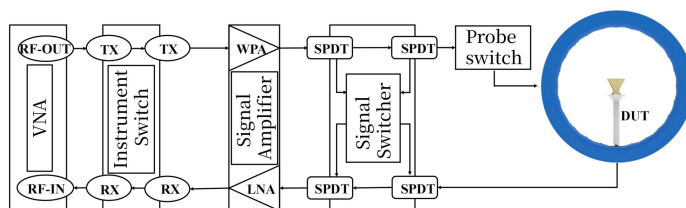
RF Link diagram of multi probe spherical near-field testing system

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

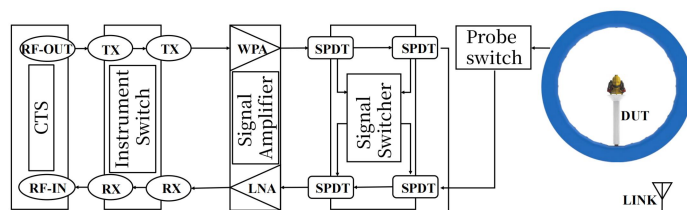
RF Link Overview
Total RF chain diagram



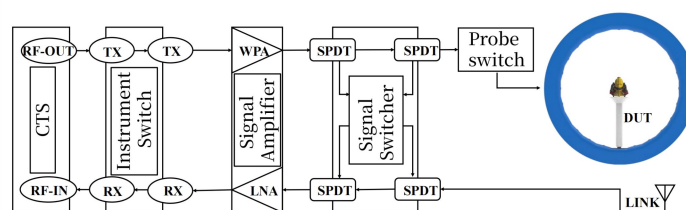
RF Link Overview
Passive test link diagram



RF Link Overview
Total RF chain diagram



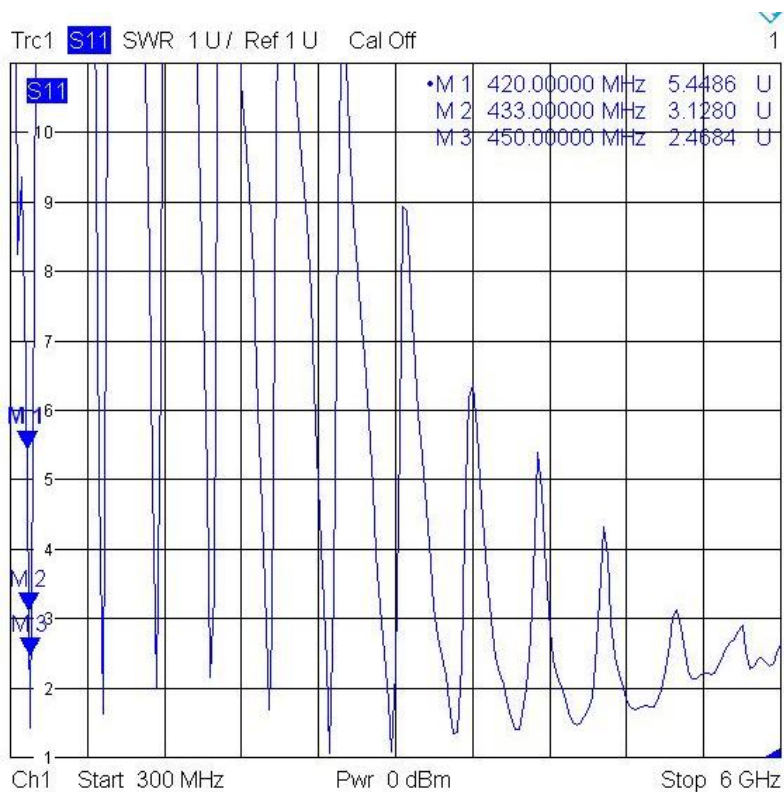
RF Link of Passive Measurement
Passive test link diagram



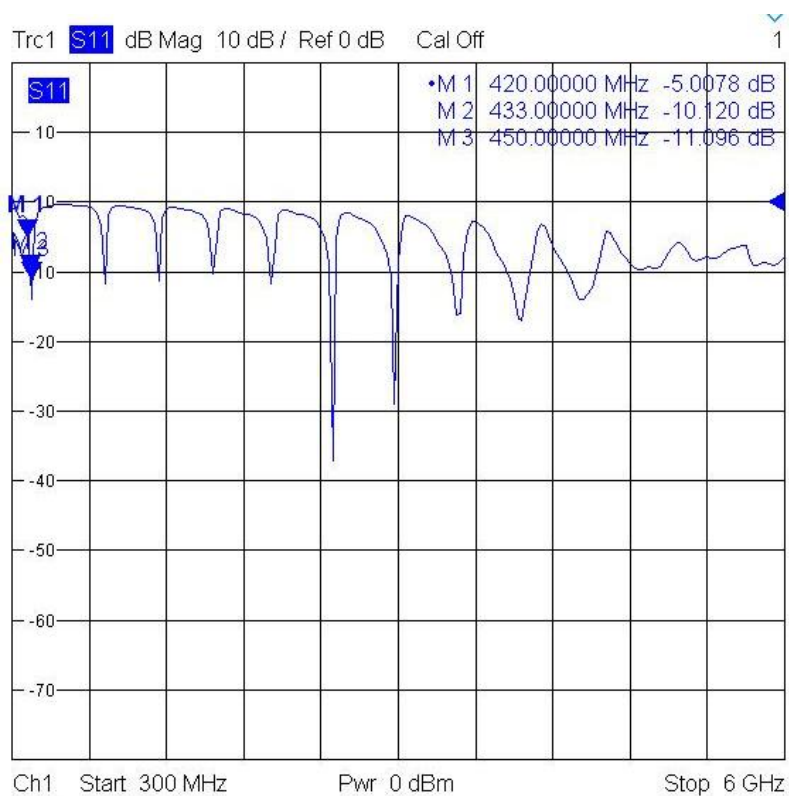


6. Performance data/Performance Data

6.1 VSWR/VSWR



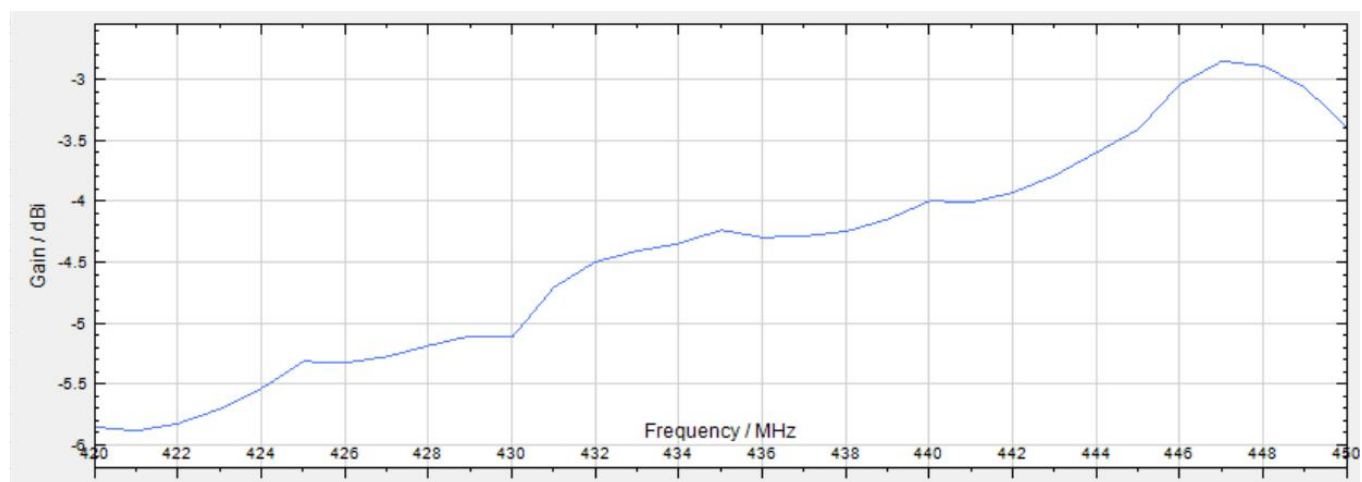
6.2 Return loss/Return Loss



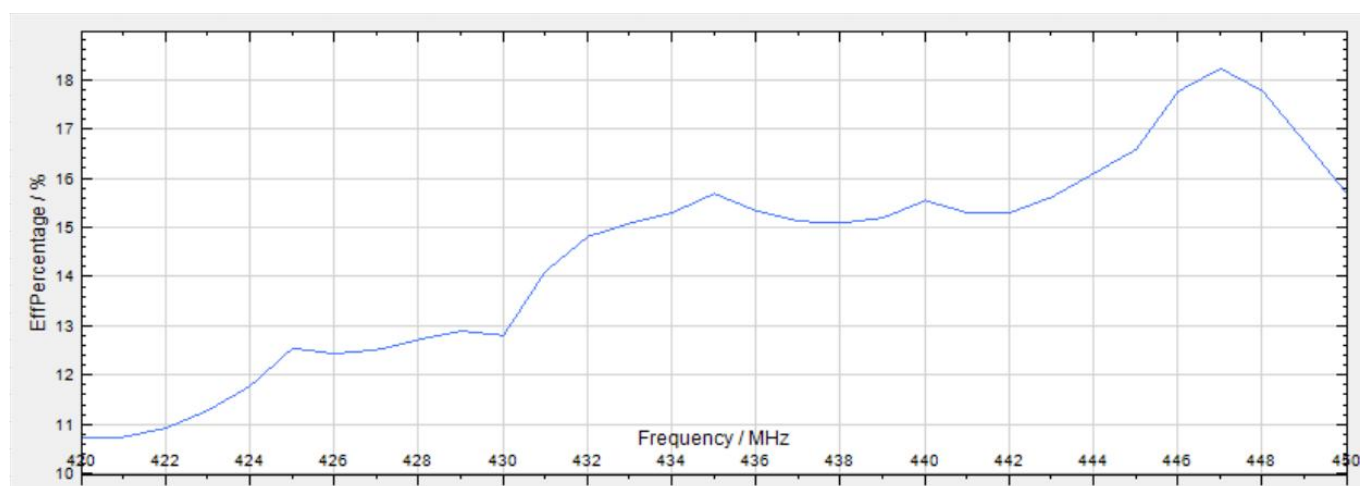


6. Performance data/Performance Data

6.3 Gain/Gain



6.4 efficiency/Efficiency



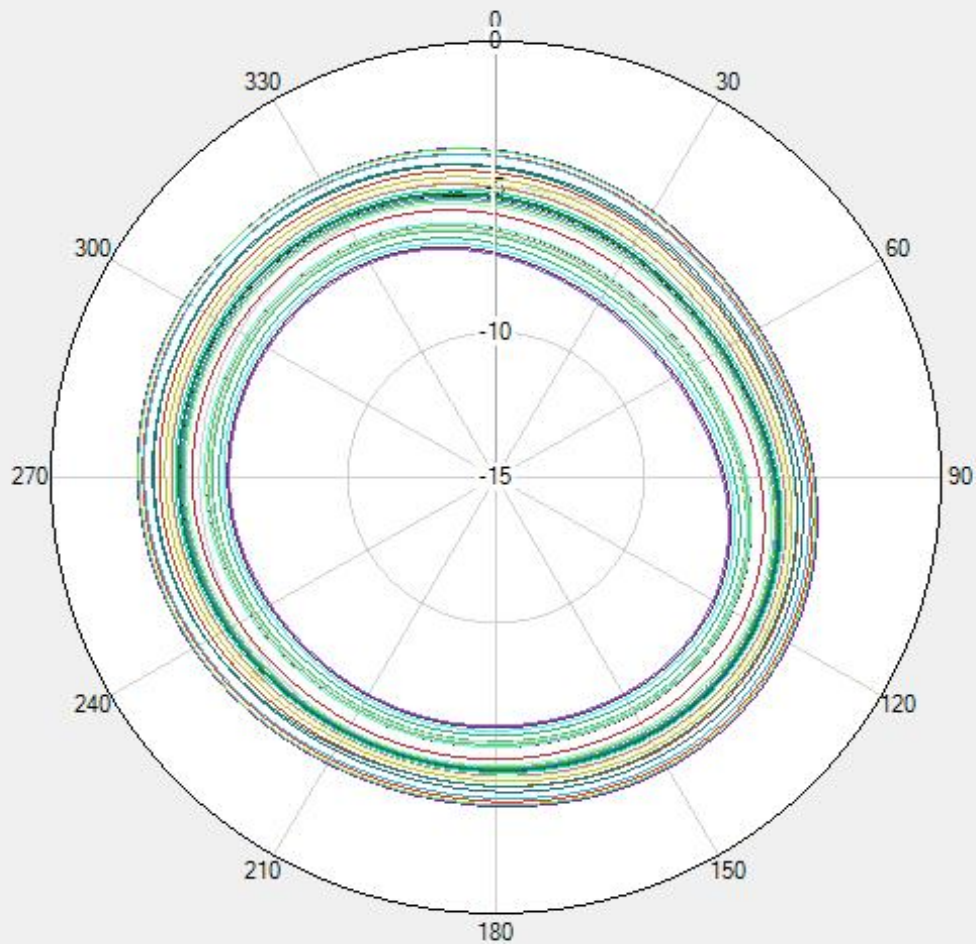
6.5 Antenna Gain and Efficiency

Frequency /Frequency (MHz)	420	433	450
Maximum gain /Gain (dBi)	- 5.85	- 4.34	- 3.39
efficiency /Efficiency (%)	10.74	15.31	15.7



7. Radiation pattern/Radiation Patterns

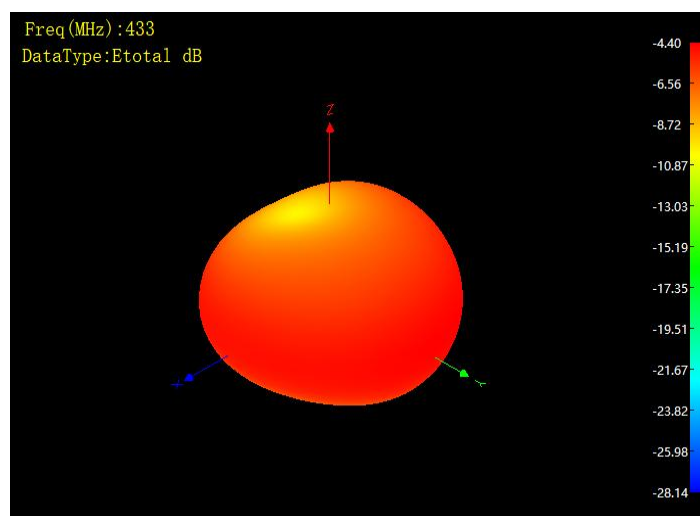
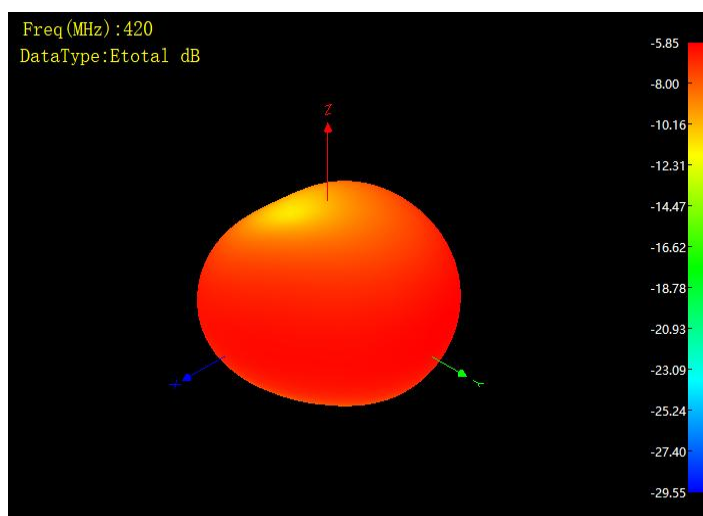
7.1 2D Radiation pattern diagram/Radiation Patterns





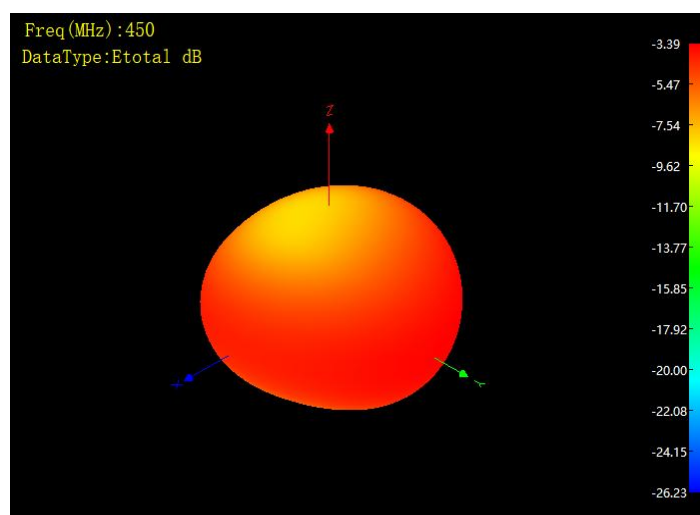
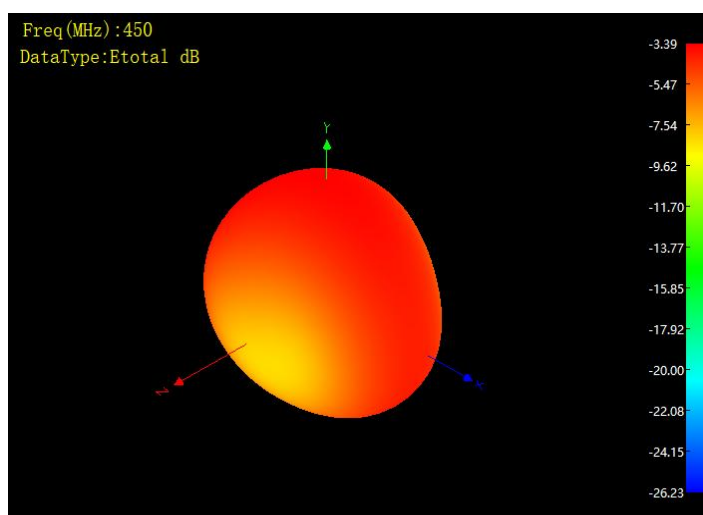
7.2

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



7.3

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





Documentation/Documentation	
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