



ANTENNA DATASHEET

2.4G WiFi Rubber Antenna

Model No:

BW2.4JWX195-13KJ

Description:

2.4G Rubber Antenna with SMA Male Connector

Features:

2400-2500MHz

SMA Male connector

Foldable

Structure: 360° Omnidirectional Radiation

Connector Type : SMA Male (Customizable)

Dimension:195mm x 13mm

RoHS & REACH Complaint



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BW2.4JWX195-13KJ

Part Number Description

BW	Company	Bat Wireless
2.4	Frequency	2400-2500MHz
J	Name	Rubber Antenna
W	Type	External
X	Constant	X
195-13	Approximate Dimensions	195-13mm
K	Feature	Foldable
J	Connector	SMA Male

1. Description

Bat Wireless BW2.4JWX195-13KJ is a high-performance omnidirectional antenna. This antenna combines high performance with portability and is designed for devices that require frequent movement or temporary networking. It features a high-quality plastic shell, is foldable, and has excellent signal reception and transmission capabilities, providing stable and reliable support for device connections. Its compact and lightweight rod design makes it easy to install and transport.

Classic application scenarios:

Industry 4.0: Real-time monitoring of CNC machine tools

Smart healthcare: Surgical robot control

Smart transportation: Rail contact network monitoring

Energy IOT: Substation inspection robots

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



2. Specification

Parameters	Typ.	Unites	Notes
Electrical Characteristics			
Antenna Type	Rubber Antenna		
Frequency Range	2400-2500	MHz	
Input Impedence	50	Ω	
V.S.W.R	<2		
Gain	3.5	dBi	
Polarization Type	Vertical		
Power Capacity	50	W	
Lightning Protection	-		
DC Voltage	-	V	
Radiator	-		
Mechanical Characteristics			
Dimensions	195 x 13	mm	
Connector Type	SMA Male (Customizable)		
Cable Type	/		
Cable Length	/	mm	
Mount way	SMA Connection		
Color	Black		
Material	ABS		
Weight	16	g	
Environmental Characteristics			
Waterproof Rating	-		
ROHS Compliant	Conform		
Operating Temperature	-45~ +85	$^{\circ}\text{C}$	
Storage Temperature	-45~ +85	$^{\circ}\text{C}$	

*Note: The above data is for reference only. Since the antenna function is relatively sensitive, please inform us for evaluation if there are any changes to the structural components around the main body of the antenna.



3. Product Picture



* Product images are for reference only.



4. Mechanical Drawing

PARTS DRAWING
ROHS Compliant

REV	PRODUCT NO.	DATE	NAME	DESCRIPTION

①RG178 Brown **Brass Tube, Element**

②Male **⑧**Element

Screen Printing WIFI

Dimensions: 62±2MM, 1.5MM, 4.5MM, 1.5MM, 4.0MM, 1.5MM, 25MM, 195±2MM, 154±2MM, Ø13MM, 90°, 77.5±0.5MM, 13.8MM, 0.9MM, 3.9MM, 14.7MM, 4.3MM, 9MM, 0.7N, 23, Ø6.8, Ø1.5

Requirements:

1. The wire jacket shall be free from cuts or damage.
2. 100% continuity testing shall be performed, and all products must pass.
3. 100% full inspection is required, and all products must meet specifications.
4. Eco-friendly manufacturing processes shall be adopted, and finished products must comply with ROHS requirements.
5. Unless otherwise specified, general tolerances shall apply.

NO	Code	Name	Description	Qty
8		Element	22*25MM Termination Alloy	1
7		Brass Tube	23*6.8*1.5MM Brass	1
6		Spring	77.5*12MM 7N	1
5		Rubber Small	15*13MM Black	1
4		Up Base	18*13MM Black	1
3		Down Base	14.5*13MM Black	1
2		SMA	Male Black Termination Alloy	1
1		Wire	RG178 Double-Shield Wire Brown-4.5MM	1

Frequency	2400-2500MHz
Gain	3.5DBi
VSWR	<2
Polarization	Vertical
Impedance	50Ω
Operating Temperature	-45°C~85°C
Storage Temperature	-45°C~85°C

ANGLE PROJECTION	
	Rubber Antenna-2400-2500MHz-SMA Male-L=195MM
GENERAL TOLERANCE	PRODUCT NAME
100~200: ± 3.00	UNIT
50~100: ± 2.00	MM
25~50: ± 0.20	PAGE
10~25: ± 0.15	1 OF 1
1~10: ± 0.10	FORNMT
	A4



5. Test Equipment



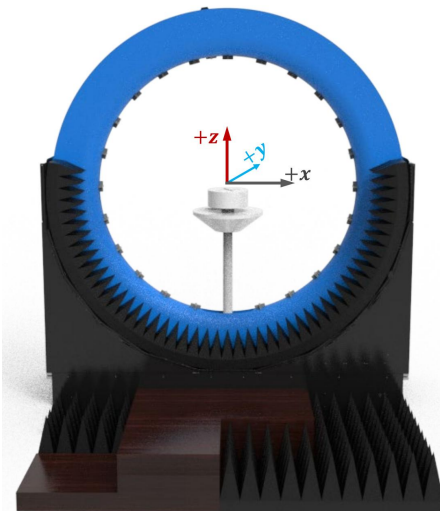
Keysight/E5071C Network Analyzer



R&S/CMW500 Comprehensive test equipment



R&S/SMBV100B Signal Source



DT-3500 Datasheet

Specification:

Specification:	Description
Test Frequency	400MHz-8.5GHz
System Size	L*W*H=4*3.5*3.5m
Number of Probes	23 (Probe) + 1 (link)
Interval Angle	15°
Sampling Diameter	2200mm
Carring Capacity	≤40kg

Testing Capability

Description

Active measurement

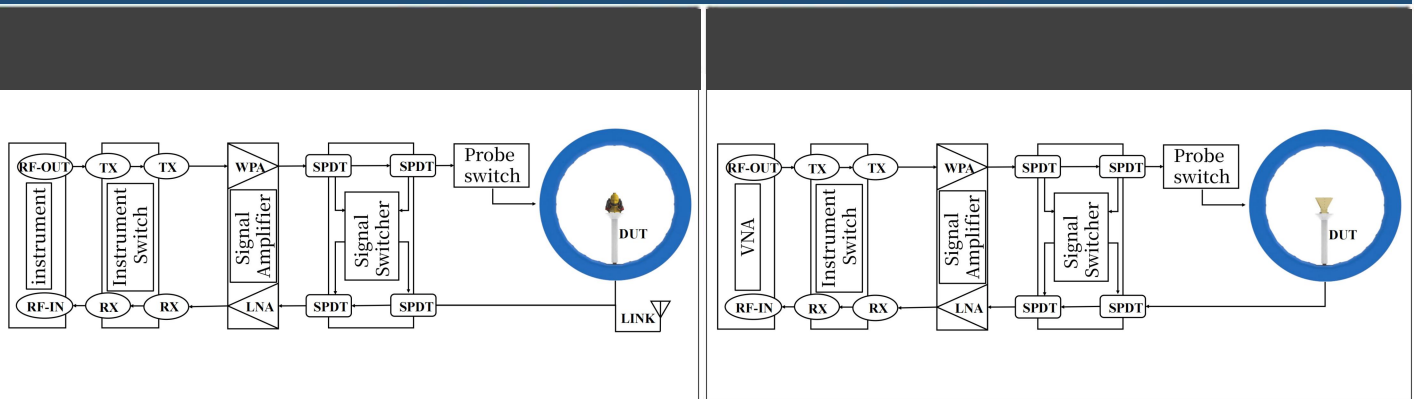
Capability : TRP、TIS、EIRP、EIS,. etc
Mode : 2G/3G/4G/5G、Wi-Fi b/g/n/a/ac/ax、BT、NB-IOT、Cat-M (eMTC)、GPS/BEIDOU/GLONASS、ZigBee、LoRa(Non-Signaling),.etc

Passive measurement

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

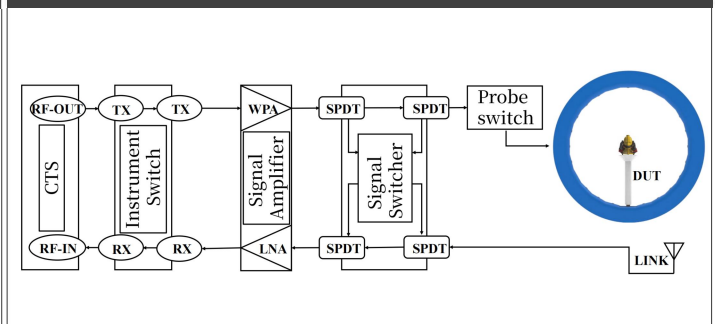
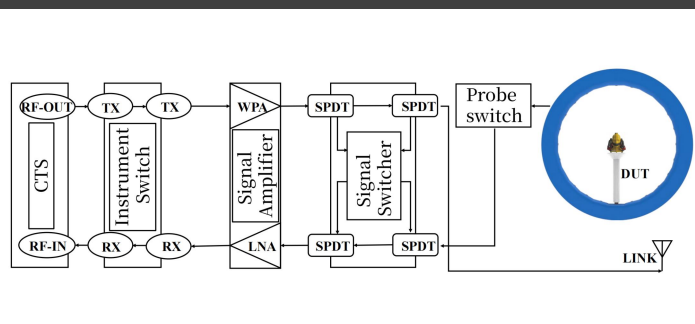


RF Link diaram of multi probe spherical near-field testing system



RF Link Overview

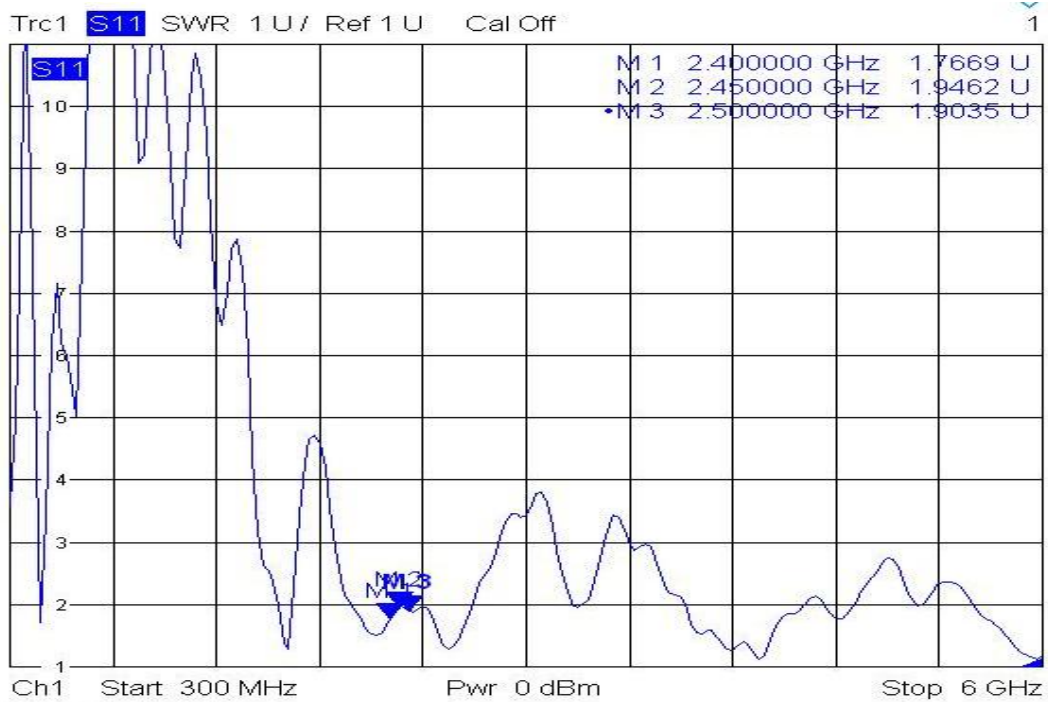
RF Link of Passive measurement



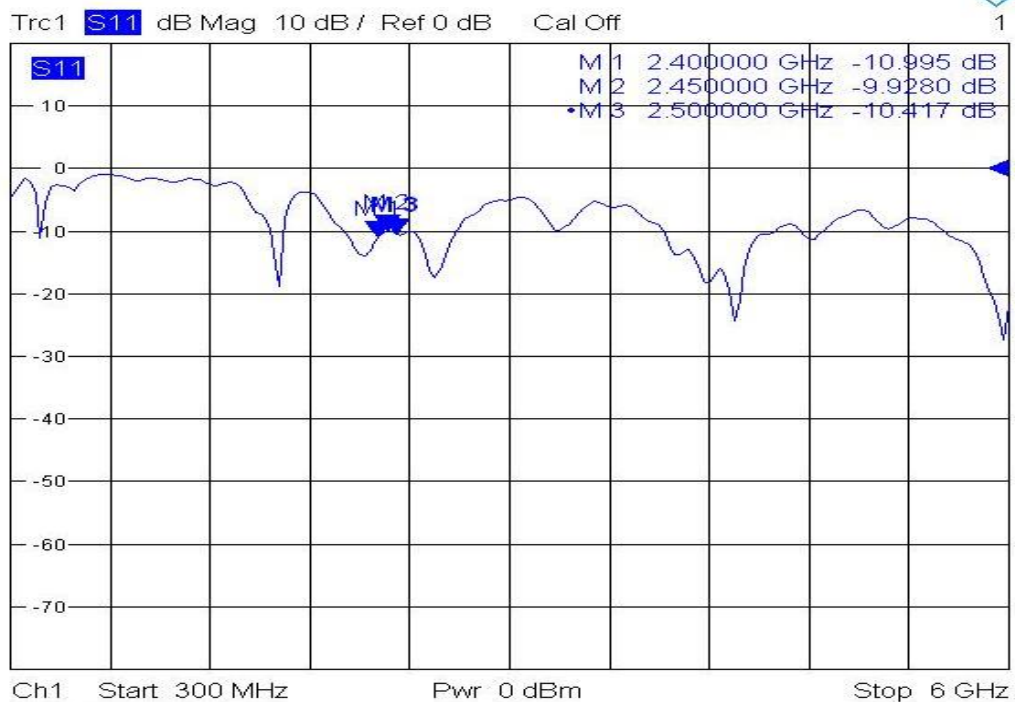


6. Performance Data

6.1 VSWR



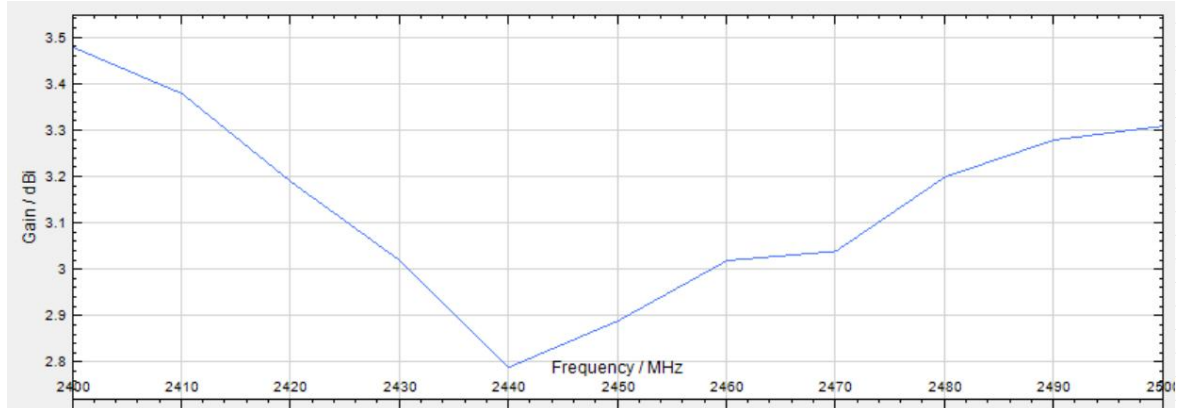
6.2 Return Loss



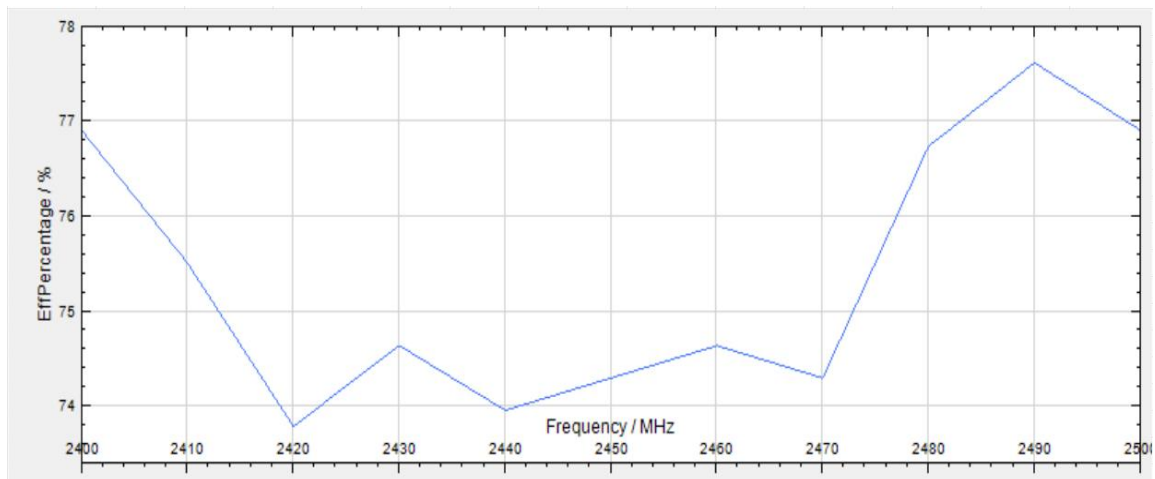


6. Performance Data

6.3 Gain



6.4 Efficiency



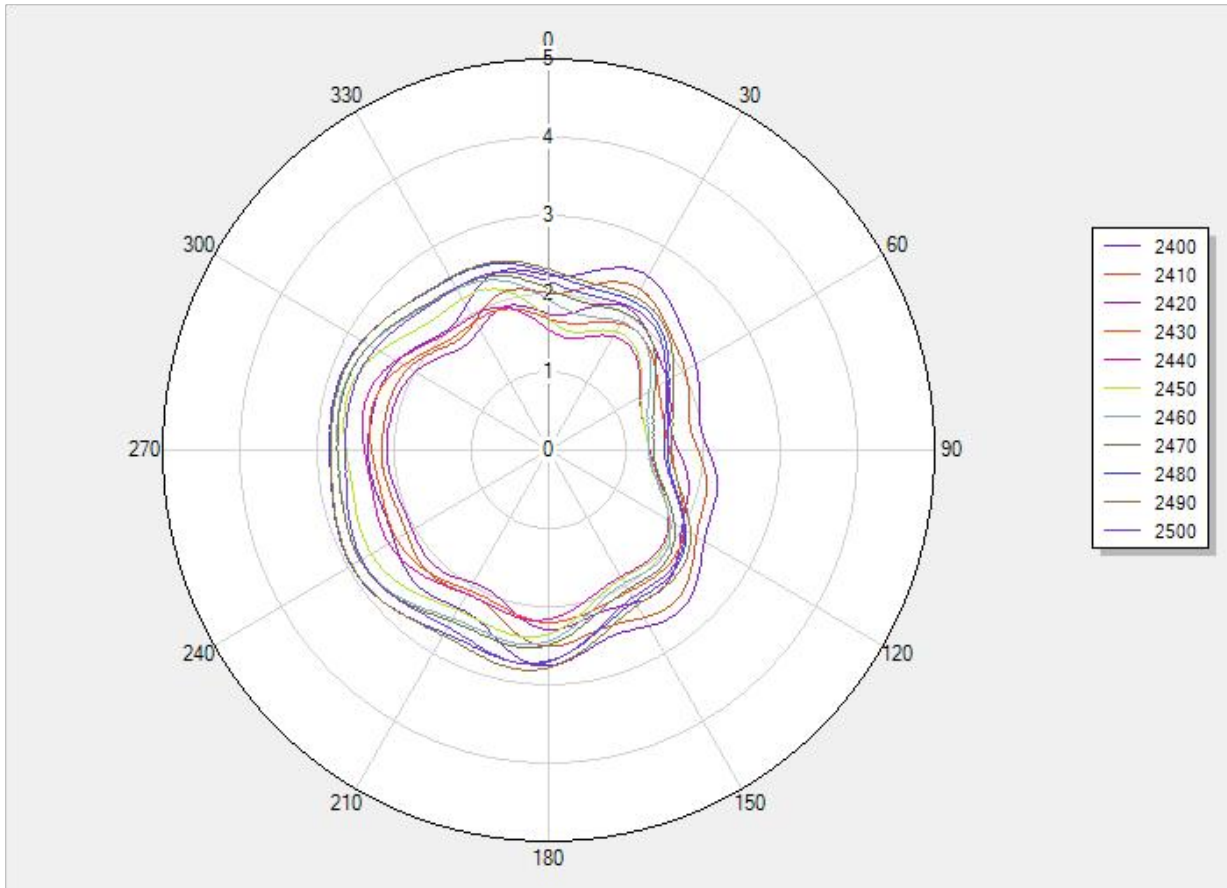
6.5 Antenna Gain & Efficiency

Frequency (MHz)	2400	2450	2500
Gain (dBi)	3.48	2.89	3.31
Efficiency (%)	76.91	74.3	76.91



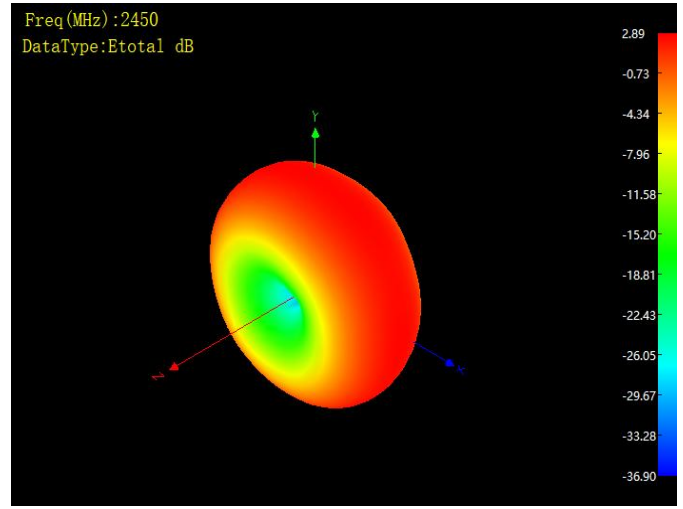
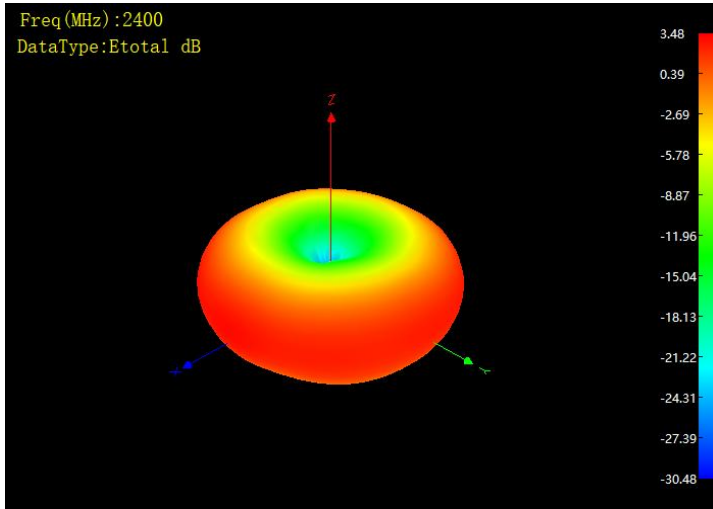
7. Radiation Patterns

7.1 2D Radiation Patterns

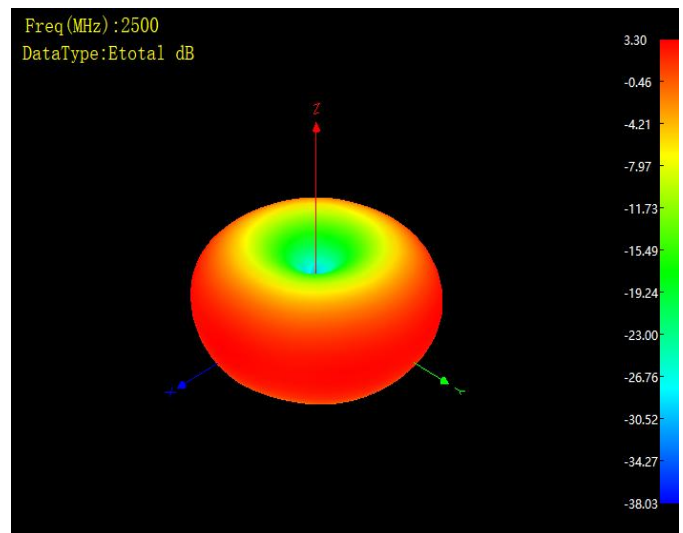
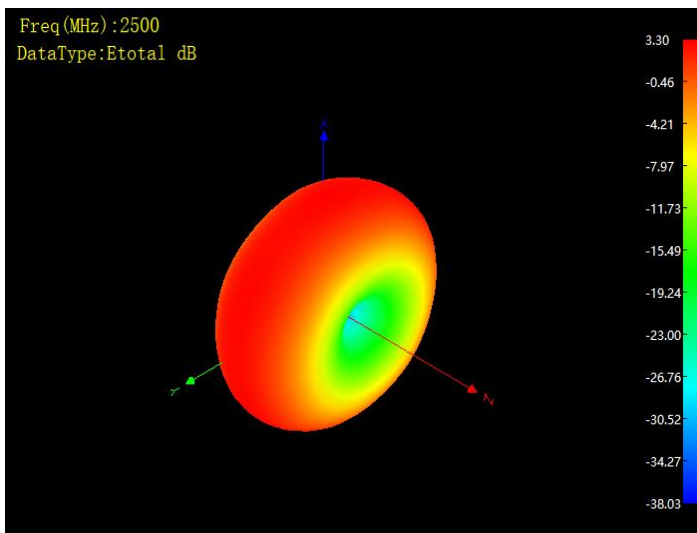




7.2 3D Radiation Patterns—2400MHz、 2450MHz



7.2 3D Radiation Patterns—2500MHz





DECLARATION:

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Shenzhen Bat Wireless Technology Co.,Ltd

Office Add: Room 1301, 13th Floor, No. 8 Langhua Road, Xinshi Community, Dalang Street, Longhua District, Shenzhen

Email: marketing@batwireless.com

Tel: 0755-21031236



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Author:	Carly

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