

# Antenna Datasheet

## 2.4G Magnetic Mount Antenna

Model:

BW2.4XWX195-8L1500J

Description:

2.4G Magnetic Mount Antenna with SMA Straight Male RG174 1500mm Length

Features:

2400-2500MHz Frequency Range

SMA Straight Male Jack (Inner Thread, Inner Pin)

360° Omnidirectional Radiation

Cable Type: RG174

Cable Length: 1500mm

Dimensions: 224mm x 30mm

Compliant with RoHS & REACH Regulations

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## BW2.4XWX195-8L1500J

### Part Number Explanation

BW	Company	Bat Wireless
2.4	Frequency	2400-2500MHz
X	Name	Magnetic Mount Antenna
W	Type	External
X	Constant	X
195-8	Dimensions	195-8mm
L	Length	Length
1500	Cable Length	1500mm
J	Connector	SMA Straight Male

### Selection Table

Connector	SMA	N	TNC	BNC	SMB	MCX	Customizable
Cable Length	1000	1500	2000	2500	3000	5000	Customizable
Cable Type	RG174	RG178	RG316	RG58			Customizable

## 1. Description

Bat Wireless **BW2.4XWX195-8L1500J** is a high-performance omnidirectional suction cup antenna specially designed for the 2.4GHz frequency band, integrating strong penetration, omnidirectional coverage and easy deployment. The antenna radiator is made of high-quality steel-carbon material, which ensures excellent signal transmitting and receiving performance and is suitable for long-term use in complex environments; the suction cup base supports magnetic attachment mode, enabling flexible and stable installation and quick deployment. Its compact and lightweight design can further meet the needs of vehicle-mounted, industrial, outdoor and other scenarios, providing stable and low-loss connections for WiFi routers, security monitoring and Internet of Things (IoT) devices.

#### Typical Application Scenarios:

**Wireless Network:** WiFi routers/repeaters, signal enhancement for IoT devices

**Vehicle-Mounted Scenarios:** Mobile hotspots, data transmission for monitoring equipment

**Industrial Security:** Remote monitoring, sensor network coverage

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 and FAE.



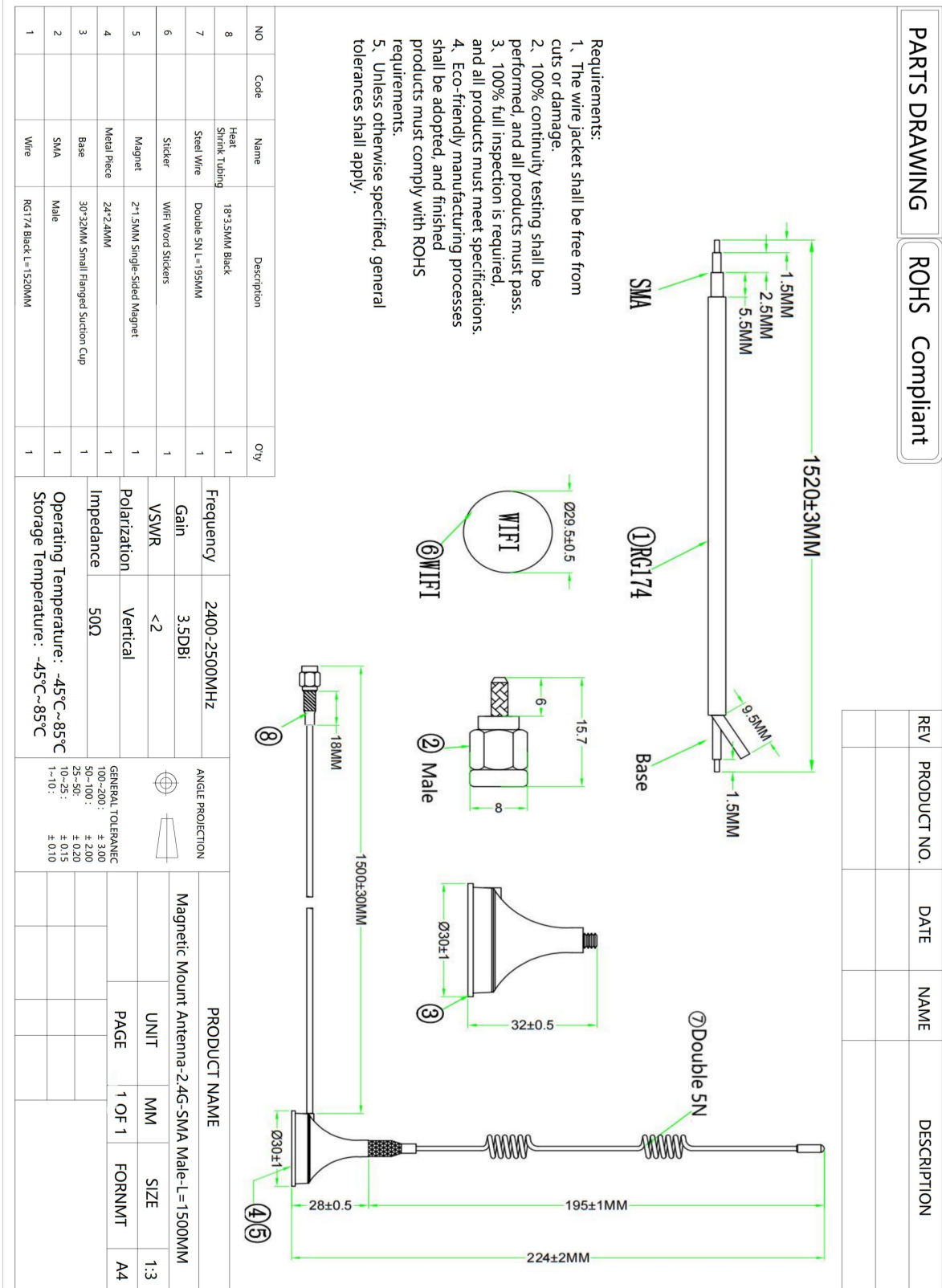
## 2. Specification

Parameters	Typ.	Unites	Notes
<b>Electrical Characteristics</b>			
Antenna Type	Magnetic Mount Antenna		
Frequency Range	2400-2500	MHz	
Input Impedence	50	$\Omega$	
V.S.W.R	<2		
Gain	3.5	dBi	
Polarization Type	Vertical		
Power Capacity	50	W	
Lightning Protection	-		
DC Voltage	-	V	
Radiator	-		
<b>Mechanical Characteristics</b>			
Dimensions	224 x 30	mm	
Connector Type	SMA Straight Male (Customizable)		
Cable Type	RG174		
Cable Length	1500	mm	
Mount way	Screw-on		
Color	Black		
Meterial	Material		
Weight	33	g	
<b>Environmental Characteristics</b>			
Waterproof Rating	-		
ROHS Complaint	Compliant		
Operating Temperature	-45~ +85	$^{\circ}\text{C}$	
Storage Temperature	-45~ +85	$^{\circ}\text{C}$	

3. Product Picture



## 4. Mechanical Drawing



## 5. Test Equipment



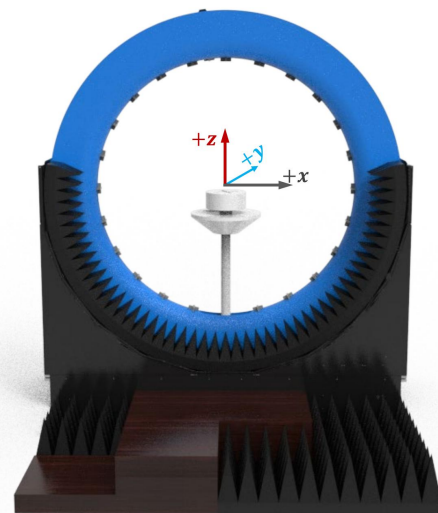
Keysight/E5071C Network Analyzer



R&amp;S/CMW500 Comprehensive Tester



R&amp;S/SMBV100B Signal Generator



### 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



RF Link Overview

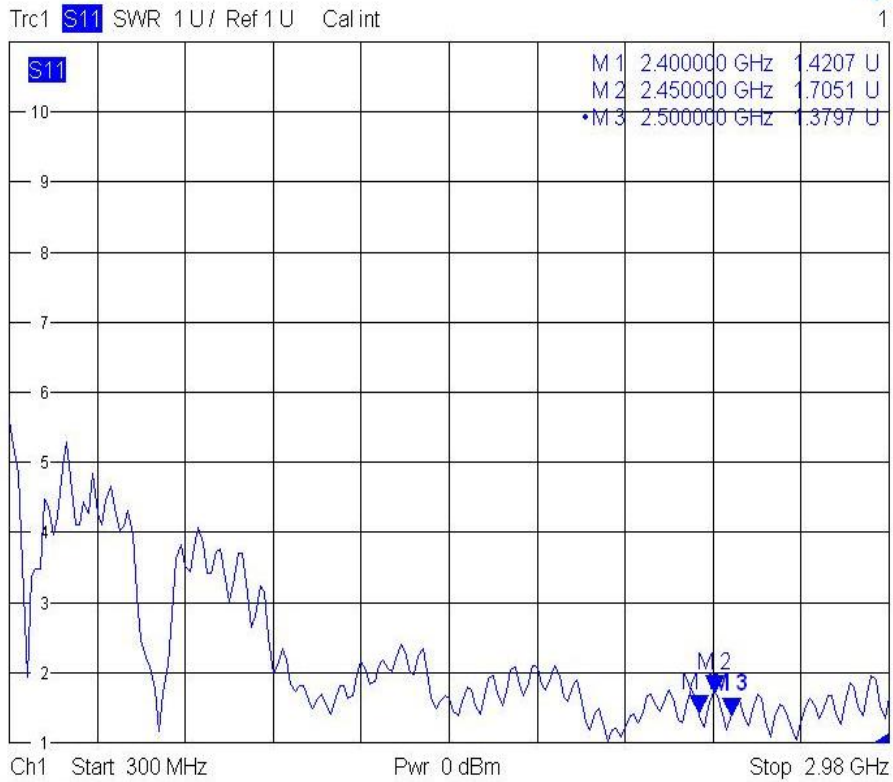


RF Link of Passive measurement

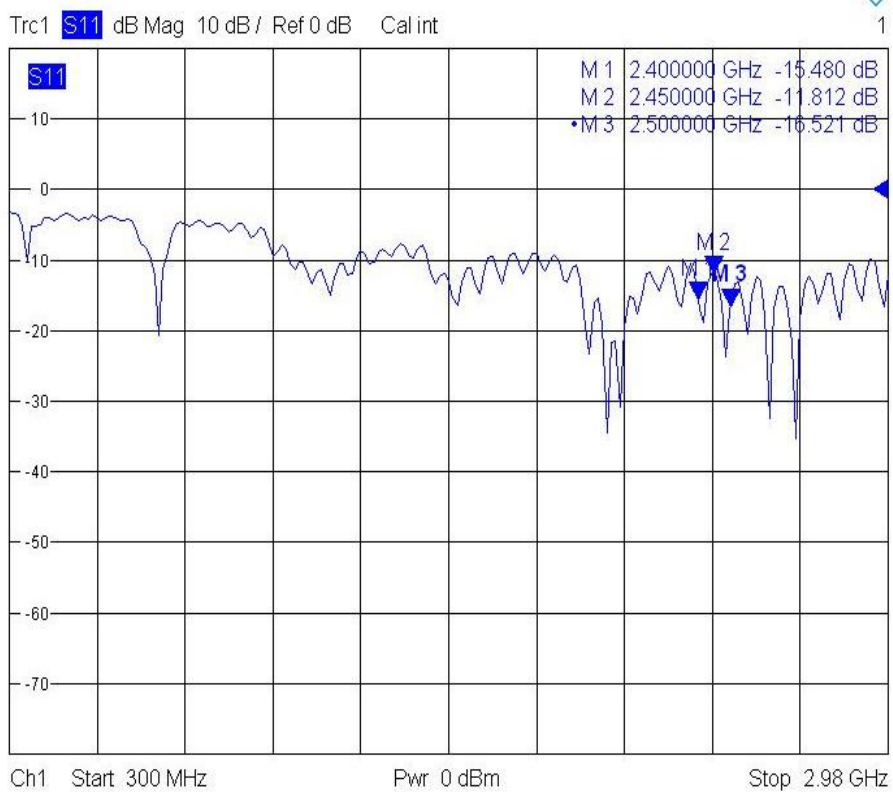


## 6. Performance Data

### 6.1 VSWR

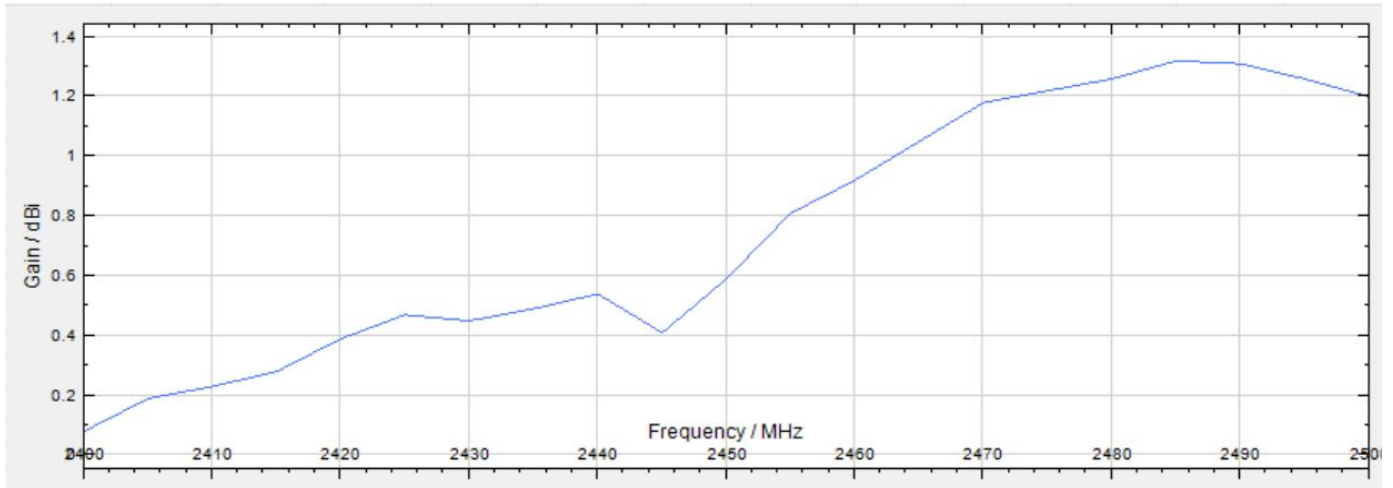


### 6.2 Return Loss

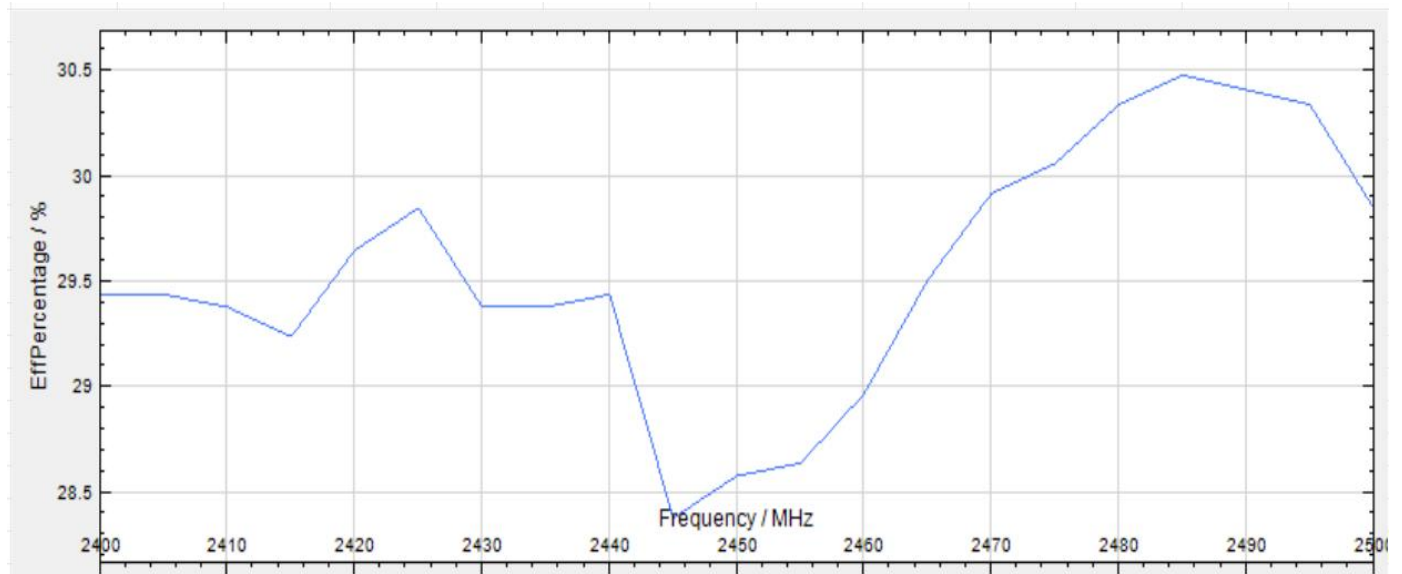


## 6. Performance Data

### 6.3 Gain



### 6.4 Efficiency

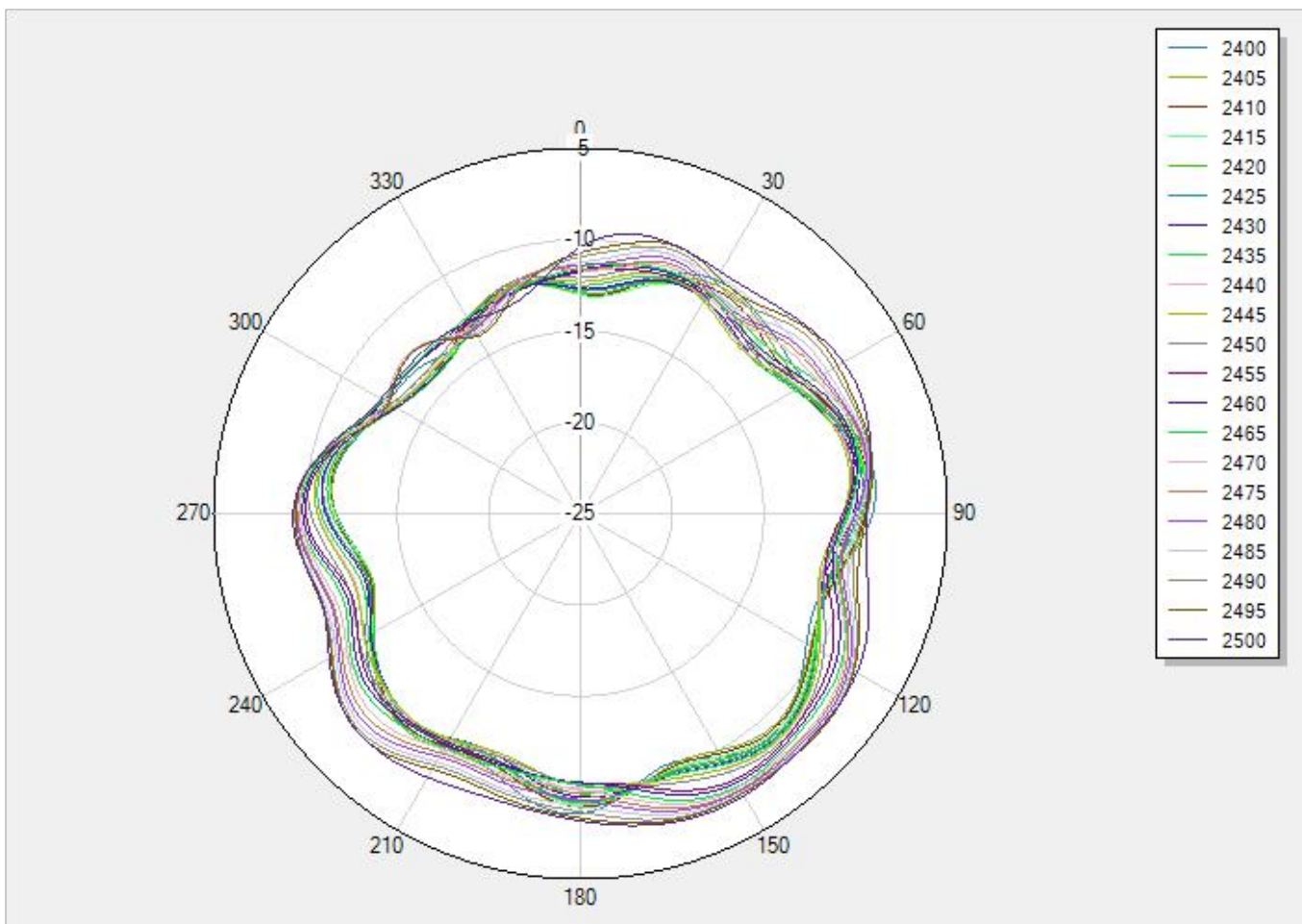


### 6.5 Gain and Efficiency

Frequency (MHz)	2400	2450	2500
Gain (dBi)	0.08	0.59	1.2
Efficiency (%)	29.44	28.58	29.85

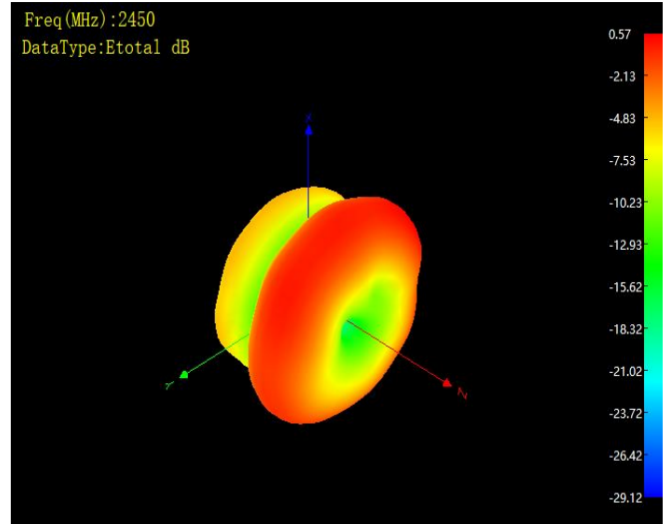
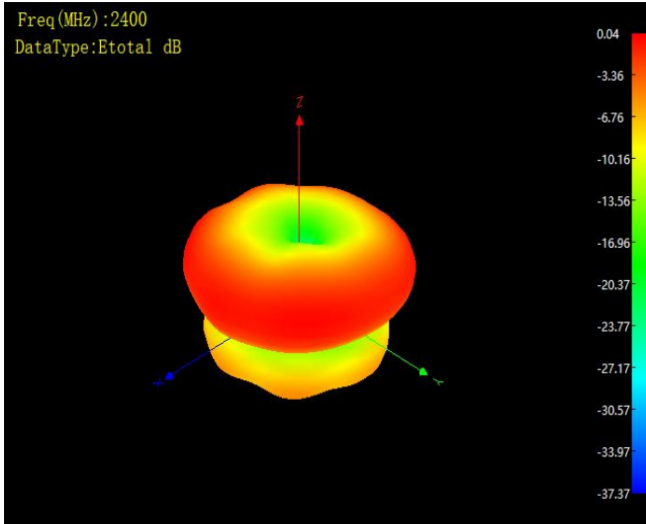
## 7. Radiation Patterns

### 7.1 2 D Radiation Patterns

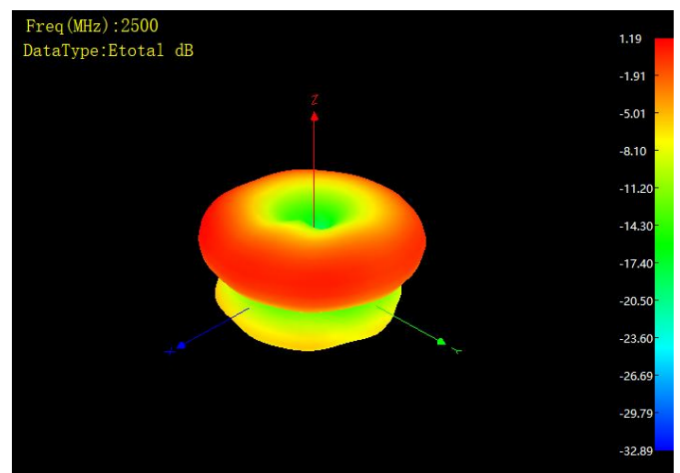
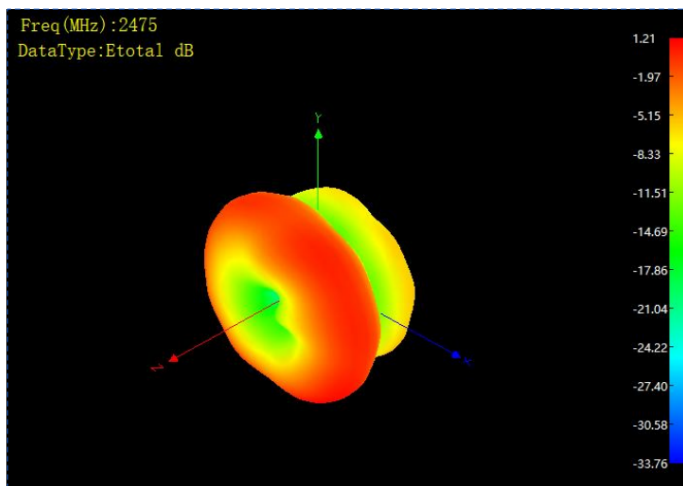




7.2 3D Radiation Patterns—2400MHz、2450Mhz



7.2 3D Radiation Patterns—2575Mhz、2500MHz





## DECLARATION:

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