

# Antenna Datasheet

## 4G Magnetic Mount Antenna

Model:

BW4GXWX285-10L1000J

Description:

4G Magnetic Mount Antenna with SMA Straight Male RG174 1000mm Length

Features:

700-2700MHz Frequency Range

SMA Straight Male

360° Omnidirectional Radiation

Cable Type: RG174

Cable Length: 1000mm

Dimensions: 315mm x 30mm

Compliant with RoHS & REACH Regulations

# Contents

1.	Description	3
2.	Specifications	4
3.	Product Picture	5
4.	Mechanical Drawing	6
5.	Testing Equipment	7-8
6.	Performance Data	9-10
6.1	V.S.W.R	9
6.2	Return Loss	9
6.3	Gain	10
6.4	Efficiency	10
6.5	Antenna Gain and Efficiency	10
7.	Radiation Patterns	11-12
7.1	2D Radiation Patterns	11
7.2	3D Radiation Patterns	12



## BW4GXWX285-10L1000J

### Part Number Explanation

BW	Company	Bat Wireless
4G	Frequency	700-2700MHz
X	Name	Magnetic Mount Antenna
W	Type	External
X	Constant	X
285-10	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

The BatWireless **BW4GXWX285-10L1000J** is a high-performance, omnidirectional external suction cup antenna designed for the 4GHz band. It combines strong penetration, omnidirectional coverage, and lightweight deployment. The antenna's radiator is constructed from high-quality steel-carbon material, ensuring excellent signal transmission and reception performance and long-term use in complex environments. Its magnetic base provides flexible and stable installation, enabling quick deployment. Its compact and lightweight design meets the needs of automotive, industrial, and outdoor applications, providing stable, low-loss connectivity for outdoor CPE, security surveillance, and industrial IoT devices.

#### Typical Application Scenarios:

**Outdoor CPE/Router:** Addressing 4G signal weakness in homes and businesses

**Industrial Internet of Things (IIoT):** Smart meters, remote monitoring, and automated guided vehicle (AGV) communications

**In-Vehicle Communications:** Deploying 4G/Wi-Fi hotspots in logistics vehicles and buses

**Security Monitoring:** Wireless data transmission for 4G cameras and emergency communication equipment

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	700-2700	MHz	
Input Impedence	50	$\Omega$	
V.S.W.R	<2		
Gain	3.3	dBi	
Polarization Type	Vertical		
Power Capacity	50	W	
Lightning Protection	-		
DC Voltage	-	V	
Radiator	-		
<b>Mechanical Characteristics</b>			
Dimensions	315 x 30	mm	
Connector Type	SMA Straight Male (Customizable)		
Cable Type	RG174		
Cable Length	1000	mm	
Mount way	Screw-on		
Color	Black		
Meterial	Material		
Weight	35	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

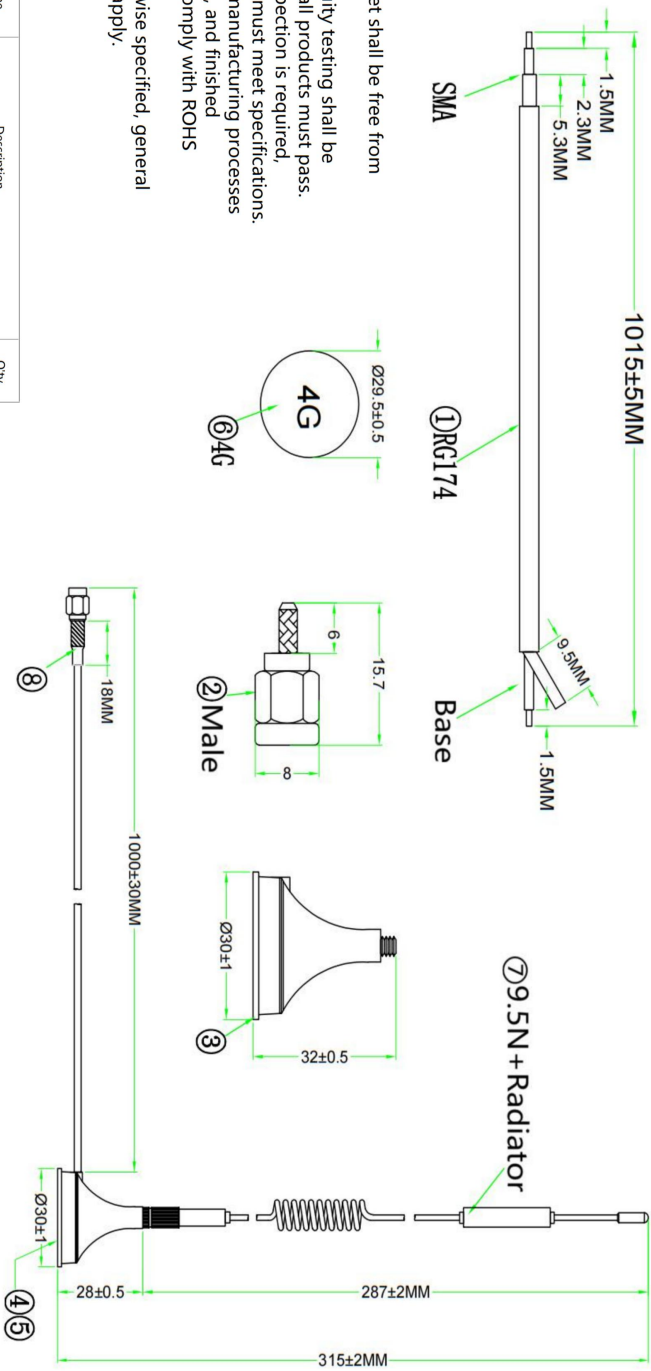


# 4. Mechanical Drawing

PARTS DRAWING ROHS Compliant

REV	PRODUCT NO.	DATE	NAME	DESCRIPTION

- 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		Heat Shrink Tubing	18*3.5MM Black	1
7		Steel Wire	9.5N + Radiator L=287MM	1
6		Sticker	29.5*0.25MM 4G Word Stickers	1
5		Magnet	2*1.5MM Single-Sided Magnet	1
4		Metal Piece	2*2.4MM	1
3		Base	30*32MM Small Flanged Suction Cup	1
2		SMA	Male	1
1		Wire	RG174 Black L=1015MM	1

Frequency	700-2700MHz
Gain	3.3DBI
VSWR	<2
Polarization	Vertical
Impedance	50Ω
Operating Temperature:	-45°C~85°C
Storage Temperature:	-45°C~85°C

ANGLE PROJECTION	
GENERAL TOLERANCE	
100-200 :	± 3.00
50-100 :	± 2.00
25-50 :	± 0.20
10-25 :	± 0.15
1-10 :	± 0.10

PRODUCT NAME			
Magnetic Mount Antenna-4G-SMA Male-L=1000MM			
UNIT	MM	SIZE	1:3
PAGE	1 OF 1	FORNMT	A4

## 5. Test Equipment



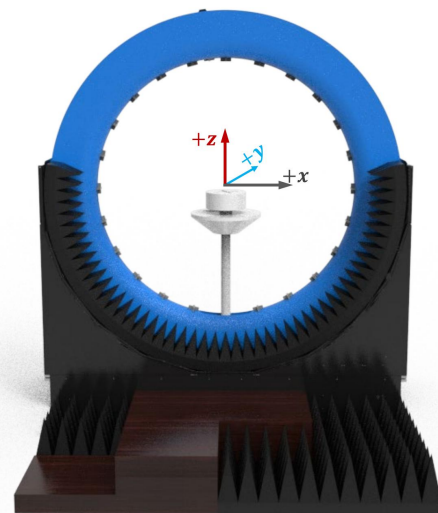
Keysight/E5071C Network Analyzer



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

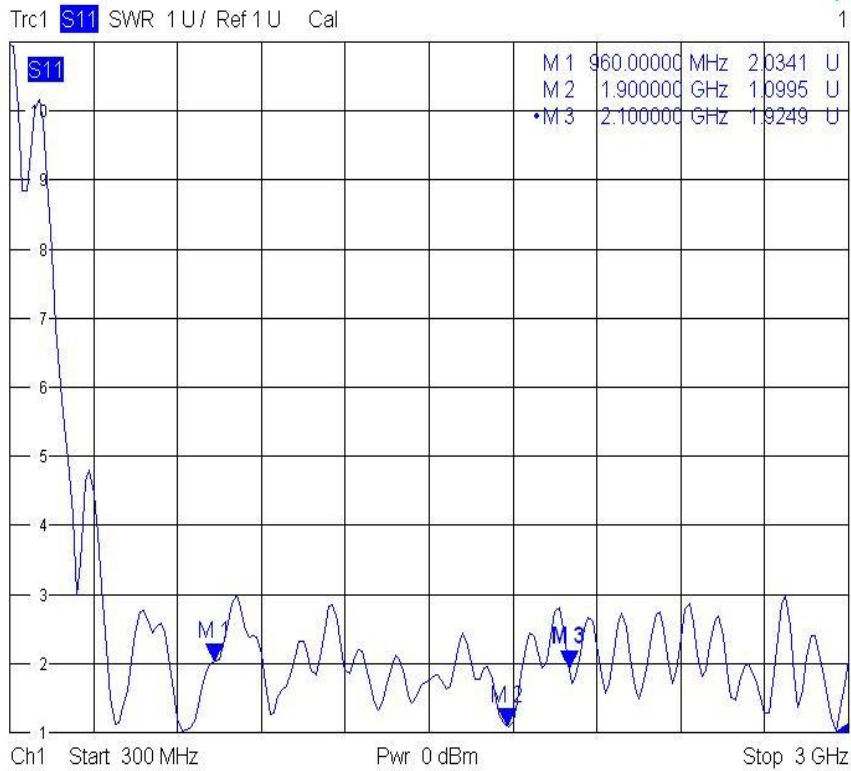


RF Link of Passive measurement

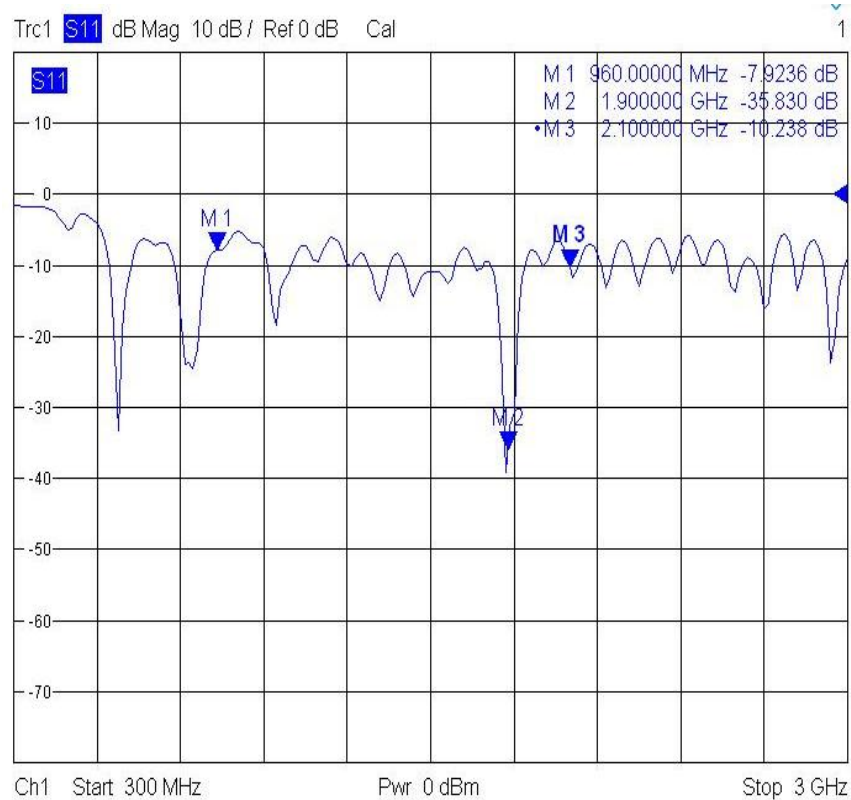


## 6. Performance Data

### 6.1 VSWR

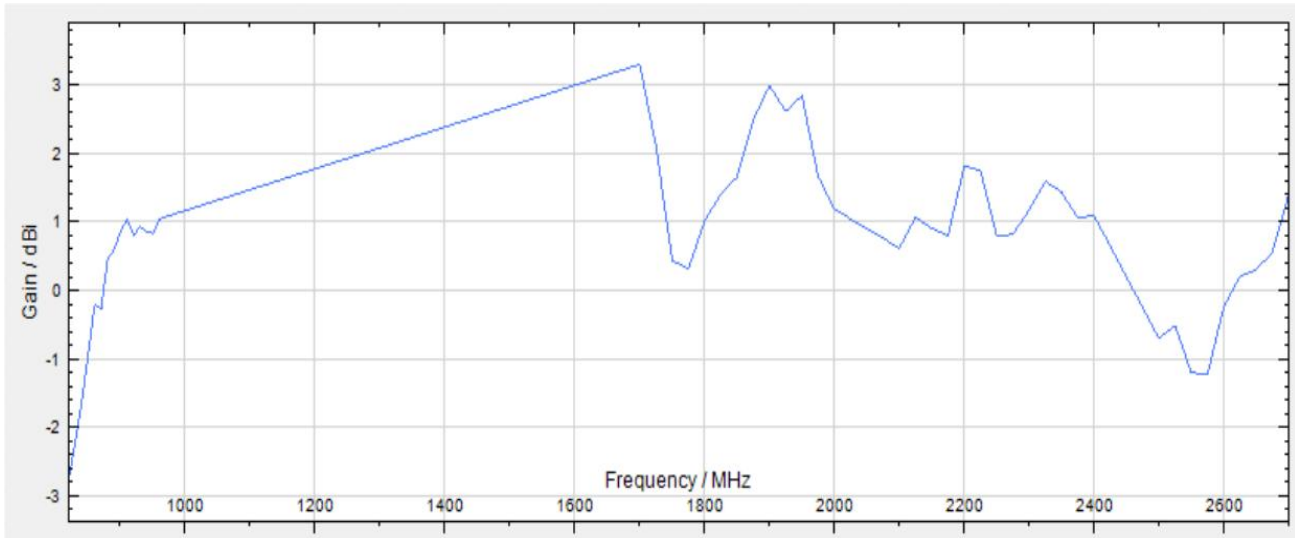


### 6.2 Return Loss

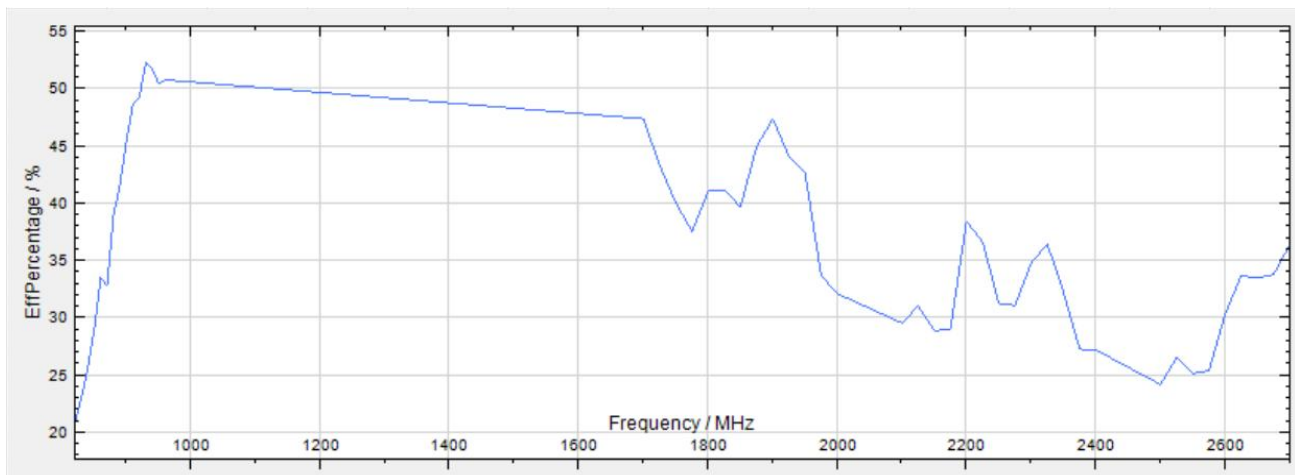


## 6. Performance Data

### 6.3 Gain



### 6.4 Efficiency



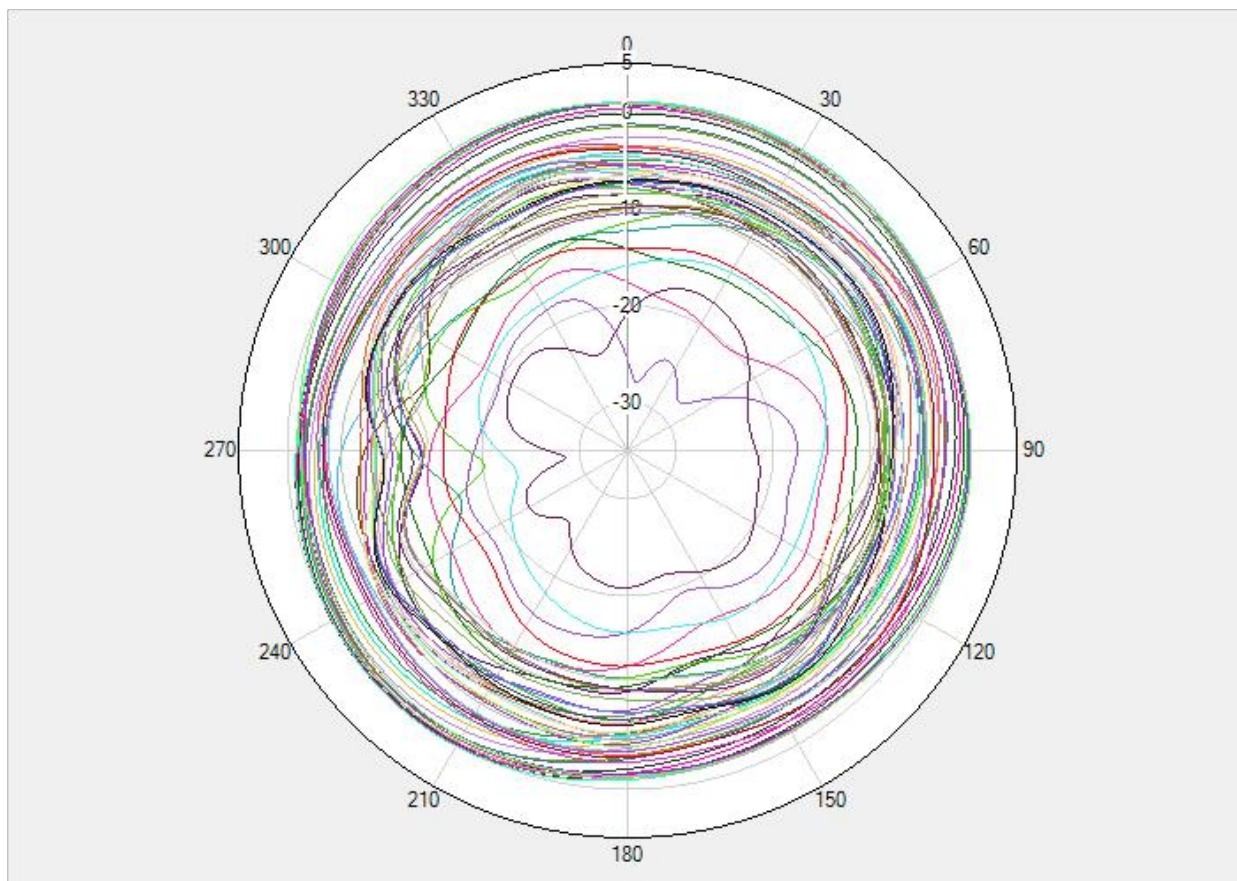
### 6.5 Gain and Efficiency

Frequency (MHz)	824-960	1710-2170	2300-2400	2500-2700
Gain (dBi)	1.06	3.32	1.83	1.41
Efficiency (%)	50.82	47.42	38.46	36.39



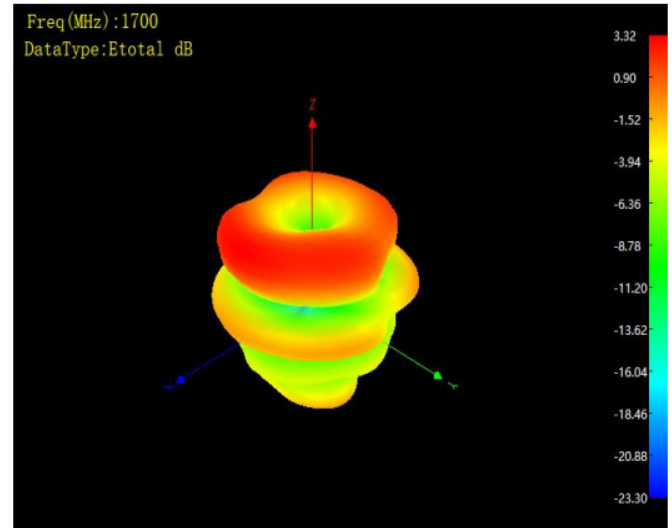
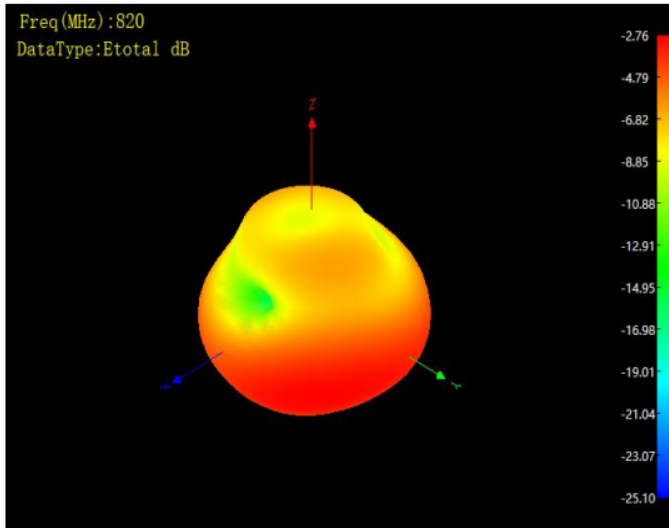
## 7. Radiation Patterns

### 7.1 2 D Radiation Patterns

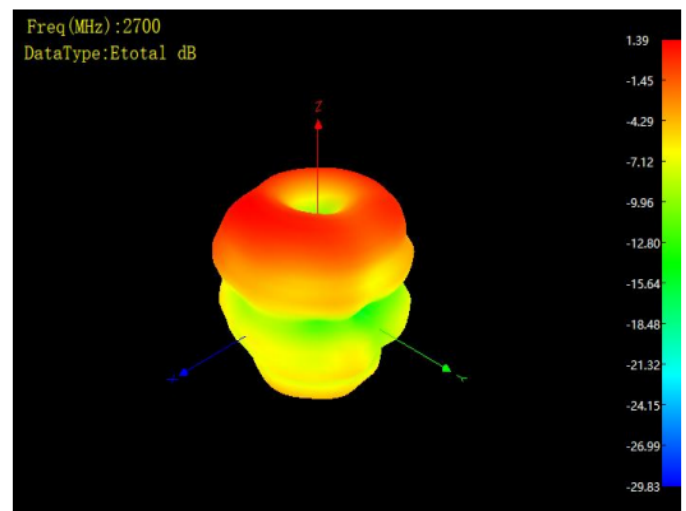
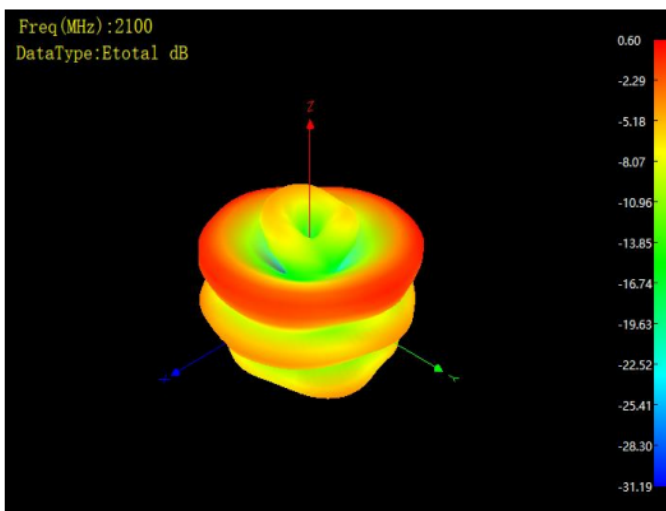




## 7.2 3D Radiation Patterns—820MHz、1700Mhz



## 7.2 3D Radiation Patterns—2100Mhz、2700MHz





## DECLARATION:

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