



# ANTENNA DATASHEET

## NB FPC Antenna

**Model No:**

BWNBFX35-15B1L45

**Description:**

NB FPC Antenna IPEX-1 Connector with RG1.13 Cable & 45mm Length

**Features:**

700-2200MHz

IPEX-1 connector

Structure: 360° Omnidirectional Radiation

Cable Type : RG1.13

Cable Length: 45mm

Dimension:35mm x 15mm

**RoHS & REACH Complaint**



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## BWNBFX35-15B1L45

### Part Number Description

BW	Company	Bat Wireless
NB	Frequency	700-2200MHz
F	Name	FPC Antenna
N	Type	Internal
X	Constant	X
35-15	Approximate Dimensions	35-15mm
B1	Connector	IPEX1
L	Length	Length
45	Wire Length	45mm

### Selection table

Connector	IPEX-1	IPEX-2	IPEX-3	IPEX-4	IPEX-5	SMA	Customizable
Cable Length	100	150	200	250	300	500	Customizable
Cable Type	RG1.13	RG1.13	RG0.81	RG0.81	RG0.81	RG316	Customizable

## 1. Description

Bat Wireless BWNBFX35-15B1L45 is a widely used wireless communication device that employs flexible substrates, enabling it to be bent, folded, and adapted for installation on curved surfaces or in confined spaces. The flexible substrate (such as polyimide) enables the circuit to adapt to complex spatial layouts, making it suitable for wearable devices, foldable smartphones, and more. The thickness typically ranges from 0.1 to 0.3 mm, reducing device weight and enhancing portability. Flexibility and high integration are its core advantages, making it a key component for the miniaturisation and high performance of wireless devices.

Classic application scenarios:

Consumer electronics: smartphones, tablets, laptops

IoT devices: in-vehicle T-Boxes, smart meters, drones

Industrial field: routers, surveillance equipment, industrial control terminals

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
<b>Electrical Characteristics</b>			
Antenna Type	FPC Antenna		
Frequency Range	700-2200	MHz	
Input Impedence	50	$\Omega$	
V.S.W.R	<4.3		
Gain	2	dBi	
Polarization Type	Vertical		
Power Capacity	50	W	
Lightning Protection	-		
DC Voltage	-	V	
Radiator	-		
<b>Mechanical Characteristics</b>			
Dimensions	35 x 15	mm	
Connector Type	IPEX-1 ( Customizable )		
Cable Type	RG1.13 ( Customizable )		
Cable Length	45 ( Customizable )	mm	
Mount way	Crimp Connection		
Color	Yellow		
Material	FPC		
Weight	0.17	g	
<b>Environmental Characteristics</b>			
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.





## 5. Test Equipment



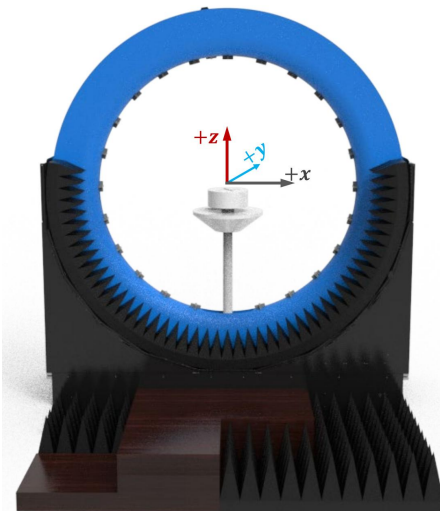
Keysight/E5071C Network Analyzer



R&amp;S/CMW500 Comprehensive test equipment



R&amp;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

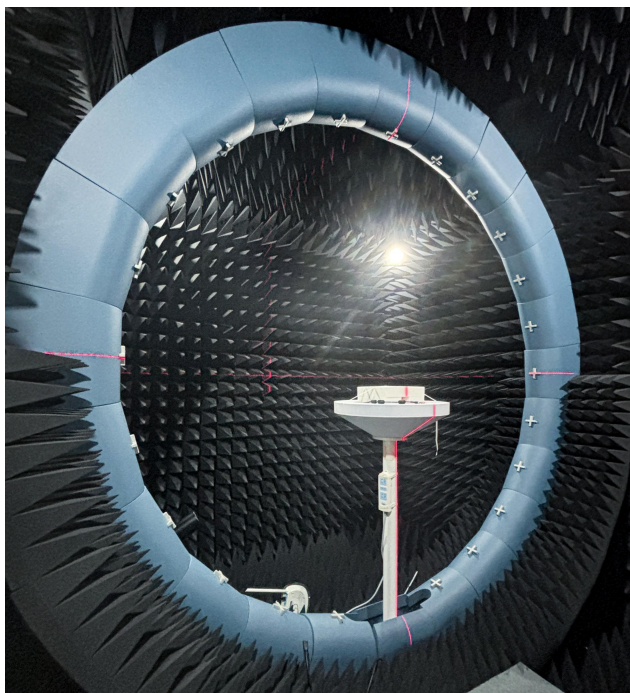
#### Description

##### Active measurement

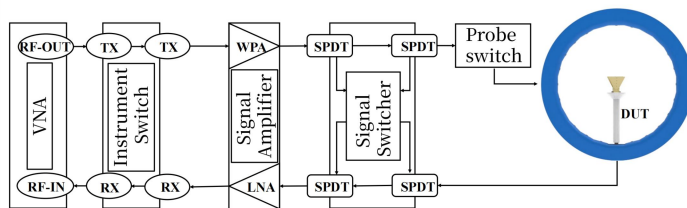
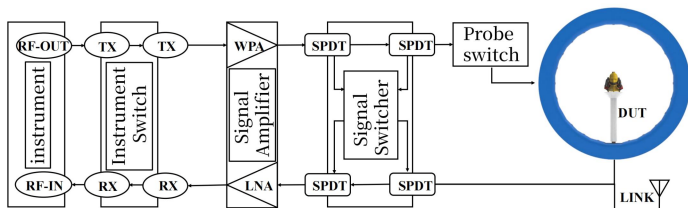
**Capability** : TRP、TIS、EIRP、EIS,. etc  
**Mode** : 2G/3G/4G/5G、Wi-Fi b/g/n/a/ac/ax、BT、NB-IOT、Cat-M (eMTC)、GPS/BEIDOU/GLONASS、ZigBee、LoRa(Non-Signaling),.etc

##### Passive measurement

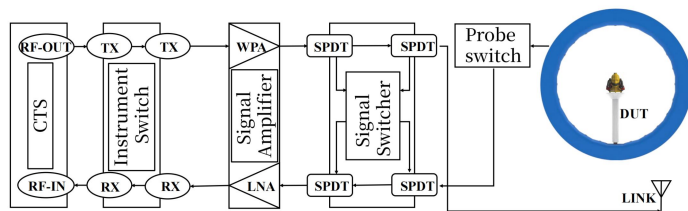
**Test category** : Gain、Efficiency、2D pattern、3D pattern、Pattern roundness、Axial Ratio、ECC,Phase center,. etc  
**Polarization** : Circular polarization, linear polarization, elliptical polarization



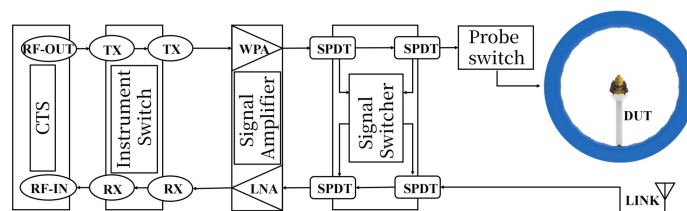
## RF Link diaram of multi probe spherical near-field testing system



### RF Link Overview



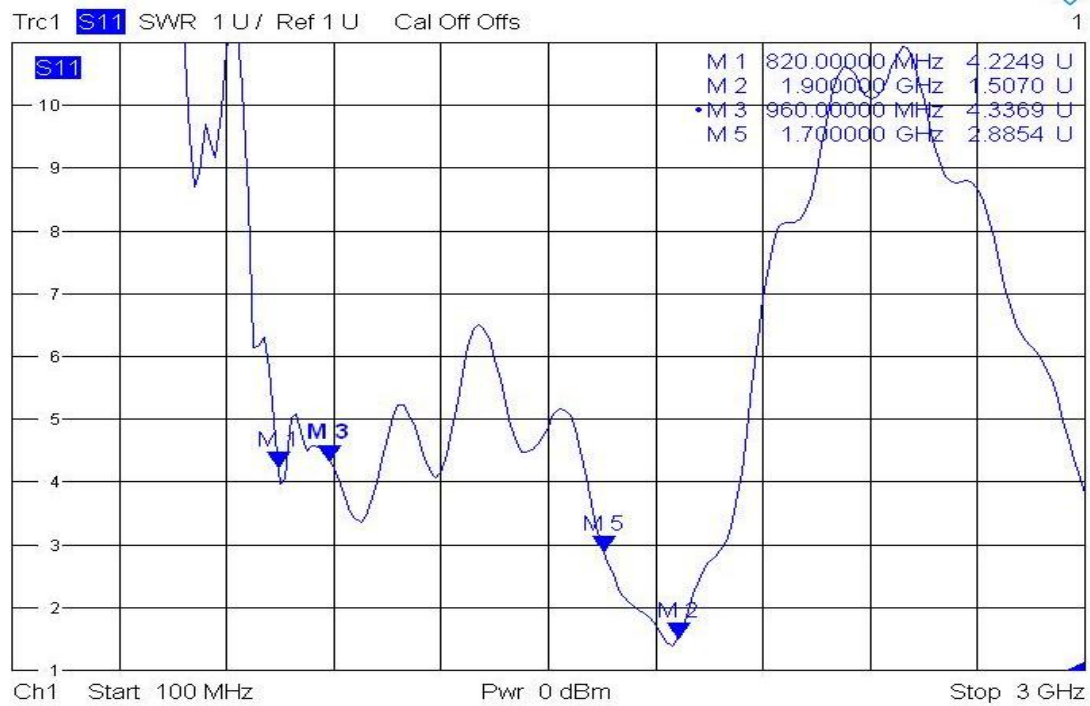
### RF Link of Passive measurement



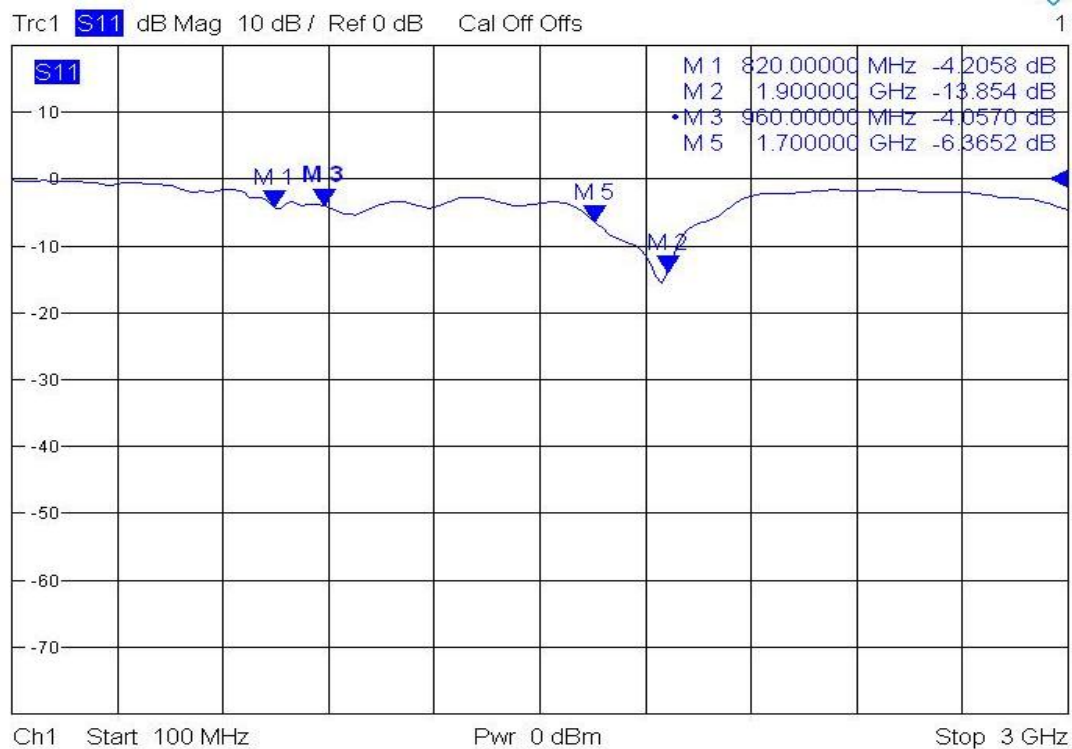


## 6. Performance Data

### 6.1 VSWR



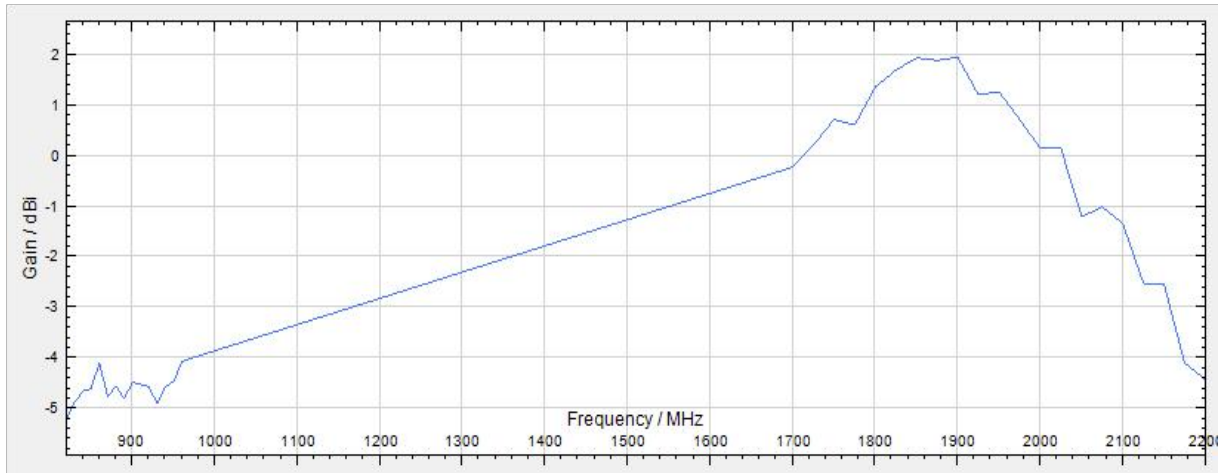
### 6.2 Return Loss



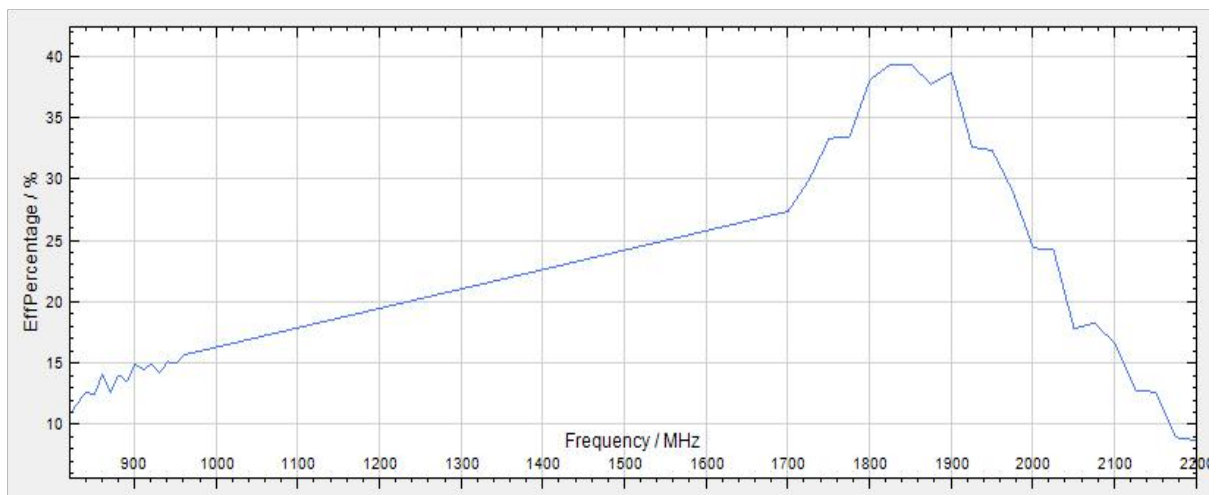


## 6. Performance Data

### 6.3 Gain



### 6.4 Efficiency



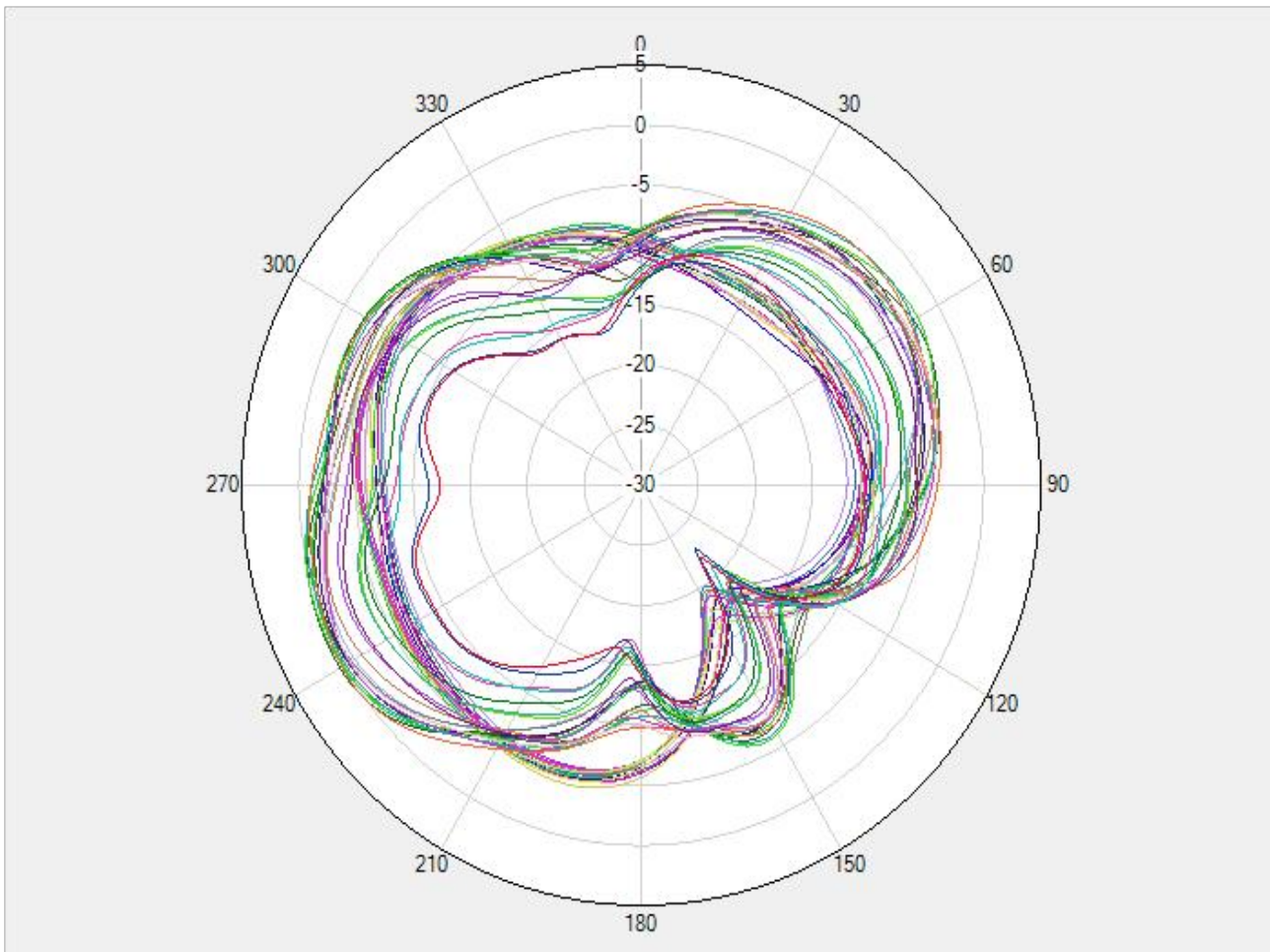
### 6.5 Antenna Gain & Efficiency

Frequency ( MHz )	820-960	1700-2100	2100-2200
Gain (dBi)	-4.06	-0.22	1.95
Efficiency (%)	15.74	27.42	38.73



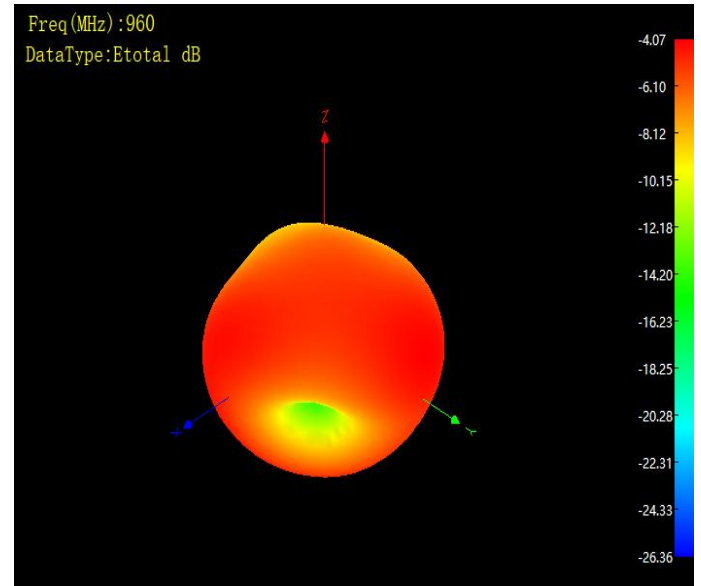
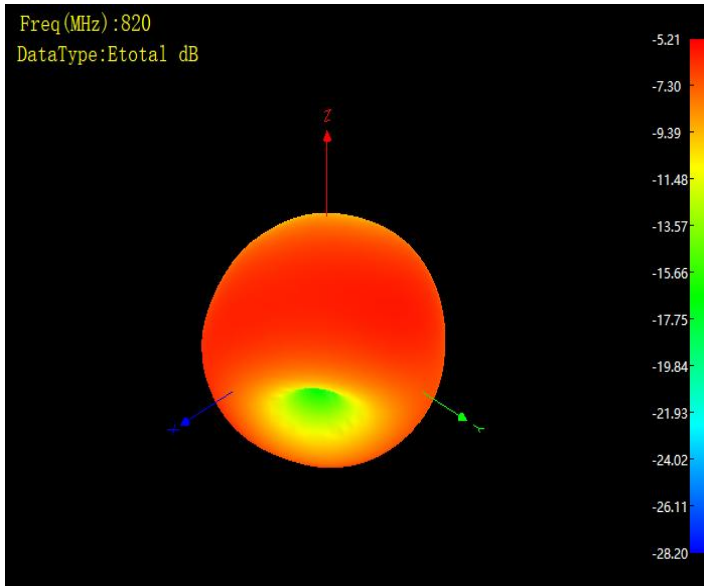
## 7. Radiation Patterns

### 7.1 2D Radiation Patterns

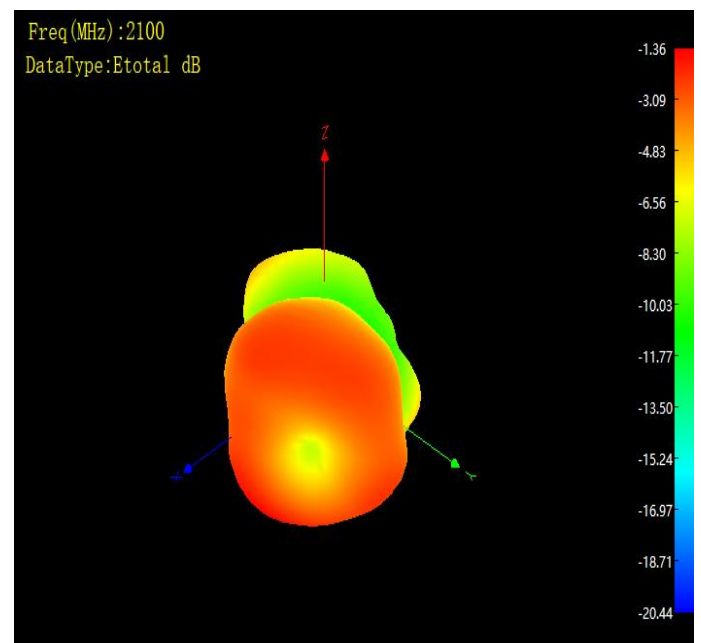
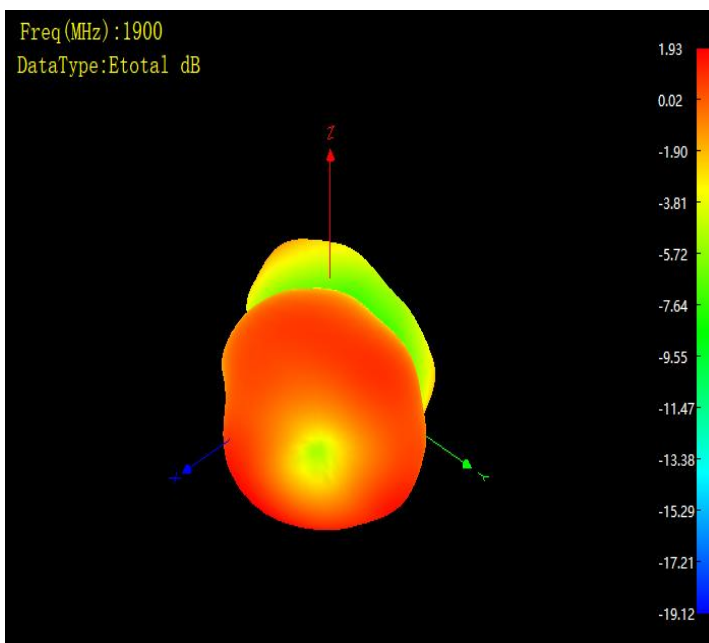




## 7.2 3D Radiation Patterns—820MHz、 960MHz



## 7.2 3D Radiation Patterns—1900MHz、 2100MHz





## DECLARATION:

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Documentation

Version:	April-14-2025-A01
Date:	2025-4-14
Remark:	First update
Author:	Carly

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