



Antenna Datasheet

FPC Antenna

Model:

BW2.4FND35-10B1L110

Description:

2.4G/5.8G FPC Antenna

Features:

2400-2500MHz

5150-5850MHz

Structure: 360° Omnidirectional Radiation

Cable Type: RG1.13

Cable Length: 110mm

Dimensions: 35.2mm x 9.6mm

Compliant with RoHS & REACH



Content

1. Description	3
2. Specifications	4
3. Dimensions	5
4. Mechanical Drawing	6
5. Test Equipment	7-8
6. Performance Data	9-10
6.1 VSWR	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

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BW2.4FND35-10B1L110

Part Number Explanation

BW	Company	Bat Wireless
2.4	Frequency	2400-2500MHz, 5150-5850MHz
F	Name	FPC Antenna
N	Type	Internal
D	Constant	D
35-10	Dimensions	35-10mm
B1	Connector	IPEX-1
L	Wire Length	Wire Length
110	Length	110

Selection Table

Connector	IPEX-1	IPEX-2	IPEX-3	IPEX-4	IPEX-5	SMA	Customization
Cable Length	100	150	200	250	300	500	Customization
Cable Type	RG0.81	RG1.13	RG1.37	RG178	RG316		Customization

1. Description

The Bat Wireless BW2.4FND35-10B1L110 is widely used in wireless communication. Adopting flexible substrate, it features bendability and foldability, suitable for installation on curved surfaces and narrow spaces.

Flexible substrates such as polyimide enable circuits to adapt to complex spatial layouts, ideal for wearable devices and foldable smartphones. With a typical thickness of 0.1~0.3mm, it reduces device weight and enhances portability.

Boasting outstanding high-frequency performance, flexibility and high integration, it serves as a core component for miniaturization and high-performance upgrading of wireless devices.

Typical Applications:

Consumer electronics: Bluetooth headsets, smart watches, drone remote controls

Industrial: RFID tags, wireless sensors

Automotive electronics: tire pressure monitoring, vehicle antennas

Bat Wireless offers customized solutions to optimize your devices. Our experienced R&D team enables rapid response to meet your specific requirements. For any inquiries, please contact our sales team and Field Application Engineers (FAEs).



2. Specification

Parameters	Typ.	Unites	Notes
Electrical Characteristics			
Antenna Type	FPC Antenna		
Frequency Range	2400-2500, 5150-5850	MHz	
Input Impedence	50	Ω	
V.S.W.R	<2		
Gain	4.69	dBi	
Polarization Type	Vertical		
Power Capacity	50	W	
Lightning Protection	-		
DC Voltage	-	V	
Radiator	-		
Mechanical Characteristics			
Dimensions	35.2 x 9.6	mm	
Connector Type	IPEX-1 (Customizable)		
Cable Type	RG1.13 (Customizable)		
Cable Length	110 (Customizable)	mm	
Mount way	Press-fit Buckle		
Color	Black		
Material	FPC		
Weight	-	g	
Environmental Characteristics			
Waterproof Rating	-		
ROHS Complaint	Compliant		
Operating Temperature	-45~ +85	$^{\circ}\text{C}$	
Storage Temperature	-45~ +85	$^{\circ}\text{C}$	



3. Dimensions

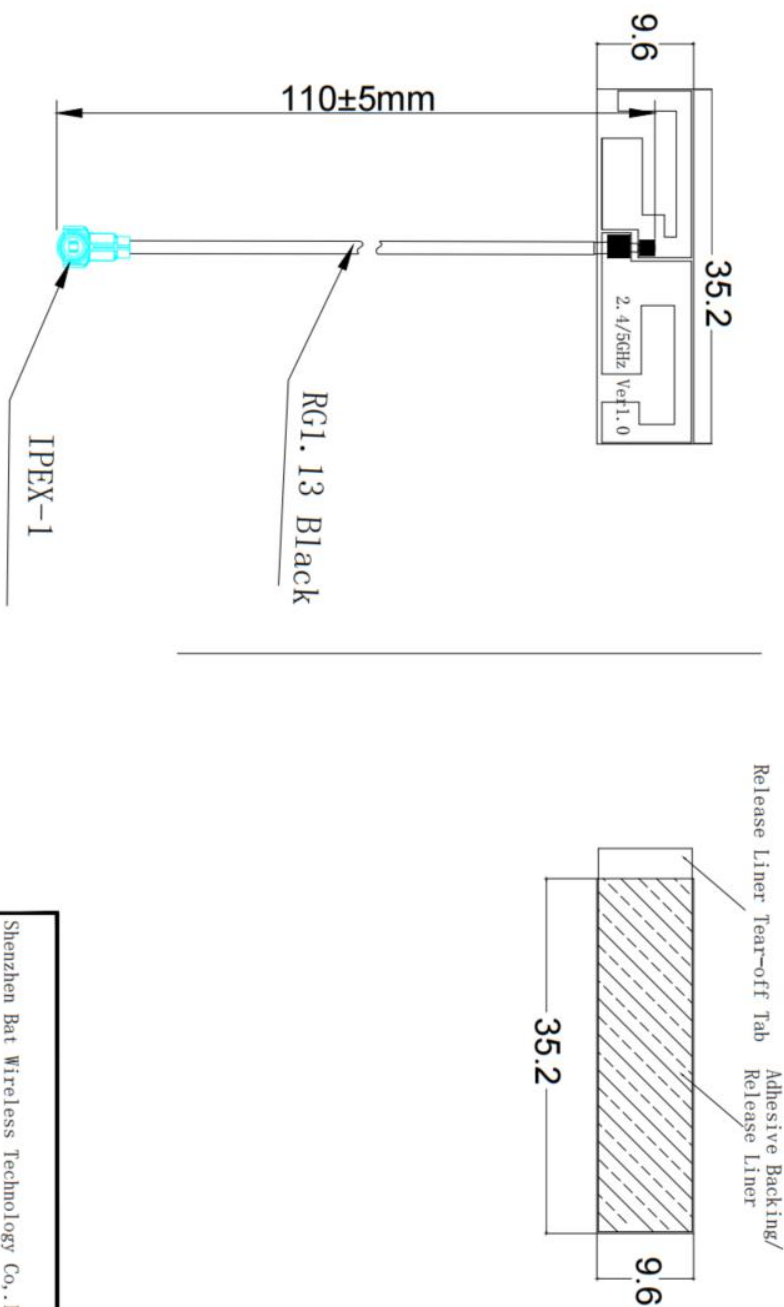


Photographs are for illustrative purposes only. Please refer to the actual product.



4. Mechanical Drawing

BOM					
ITEM	COMPONENT	DESCRIPTION	QTY	P/N	VENDOR
1	CABLE	RF1.13 Black L=110MM	1PCS		
2	Connector	CM-113-BU	1PCS		
3	FPC	35.2*9.6mm (Silk screen: 2.4/5GHz Ver1.0) white characters	1PCS		



		TITLE: 2. 4/5G Antenna	
		PART NO. BW2.4FDN35-10B1L110	
		CUS. P/N	
		DRAWING NO.	
SCALE		UNIT	mm
		A4	
ECN(DCN) NO.	REV	DESCRIPTION	CHANGE APPRO.
		Angle $\pm 1^\circ$	DRAW
		101 $\sim$ ± 3.0	DESIGN
		31 $\sim$ 100 ± 2.0	CHECK
	A0	$\sim$ 30 ± 1.5	APPRO.
		GENERAL TOLERANCE UNLESS OTHERWISE NOTED	



5. Test Equipment



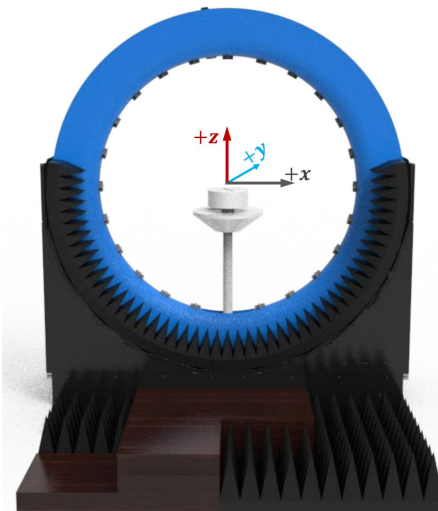
Keysight/E5071C Network Analyzer



R&S/CMW500 Radio Communication Tester



R&S/SMBV100B Vector 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	≤40 kg

Testing Capability

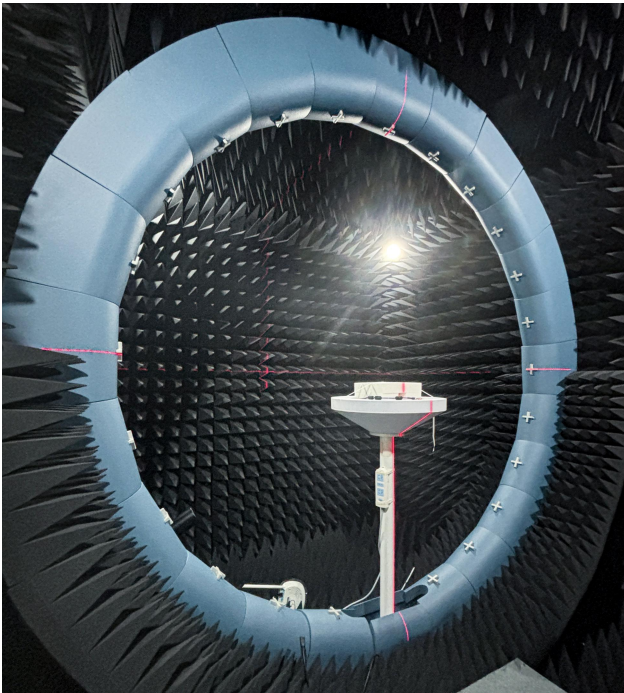
Description

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

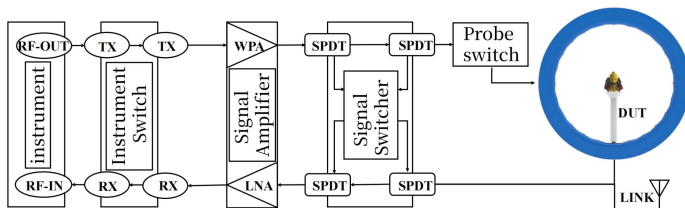
Passive measurement

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

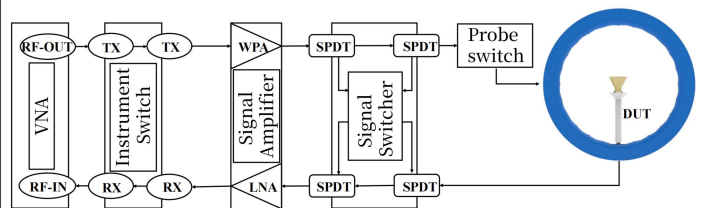


RF Link diagram of multi probe spherical near-field testing system

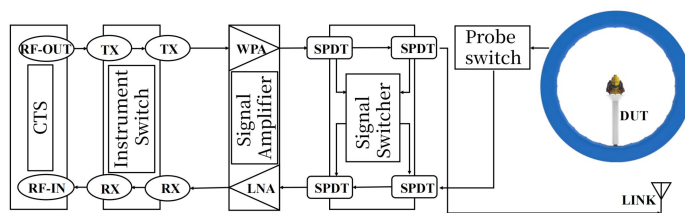
RF Link Overview



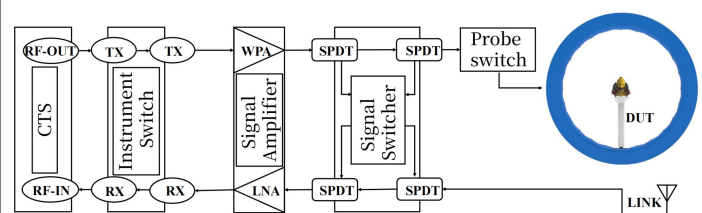
RF Link of Passive measurement



RF Link Overview



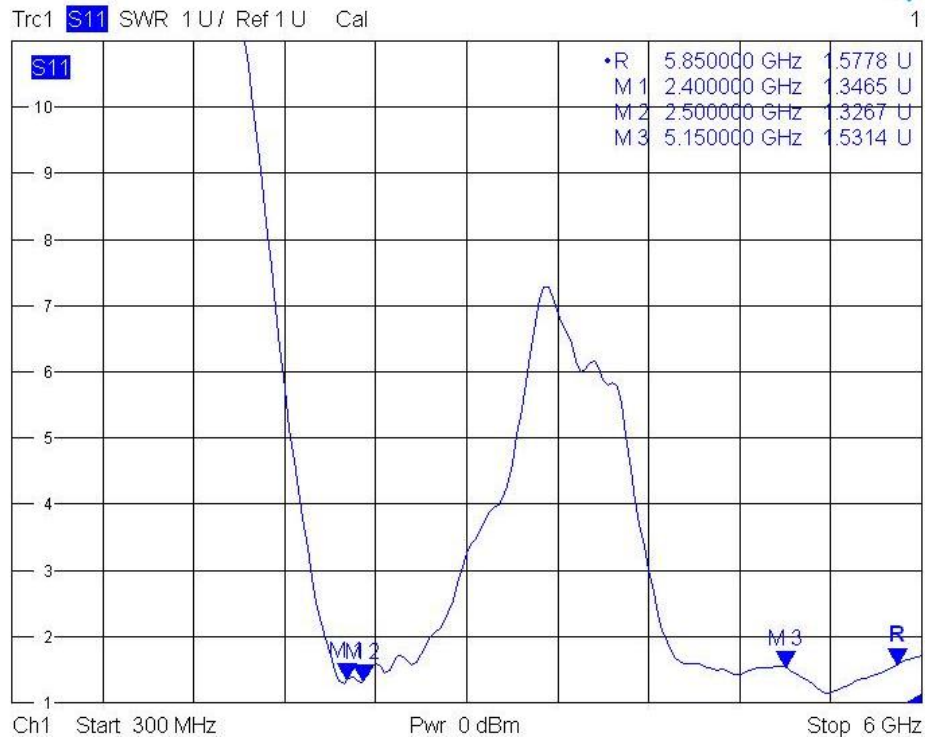
RF Link of Passive measurement



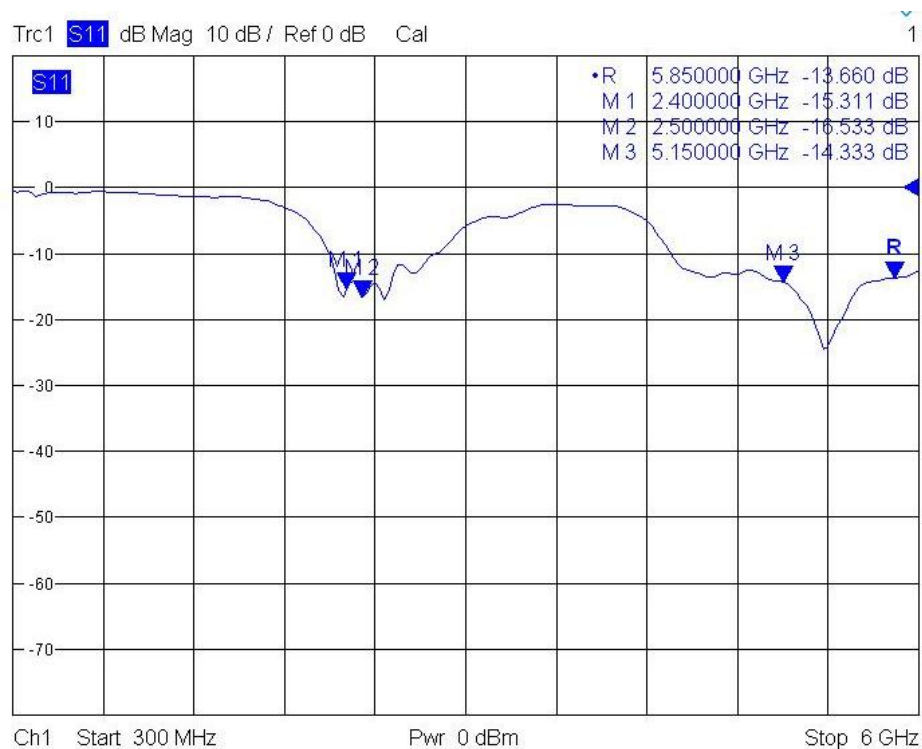


6. Performance Data

6.1 VSWR



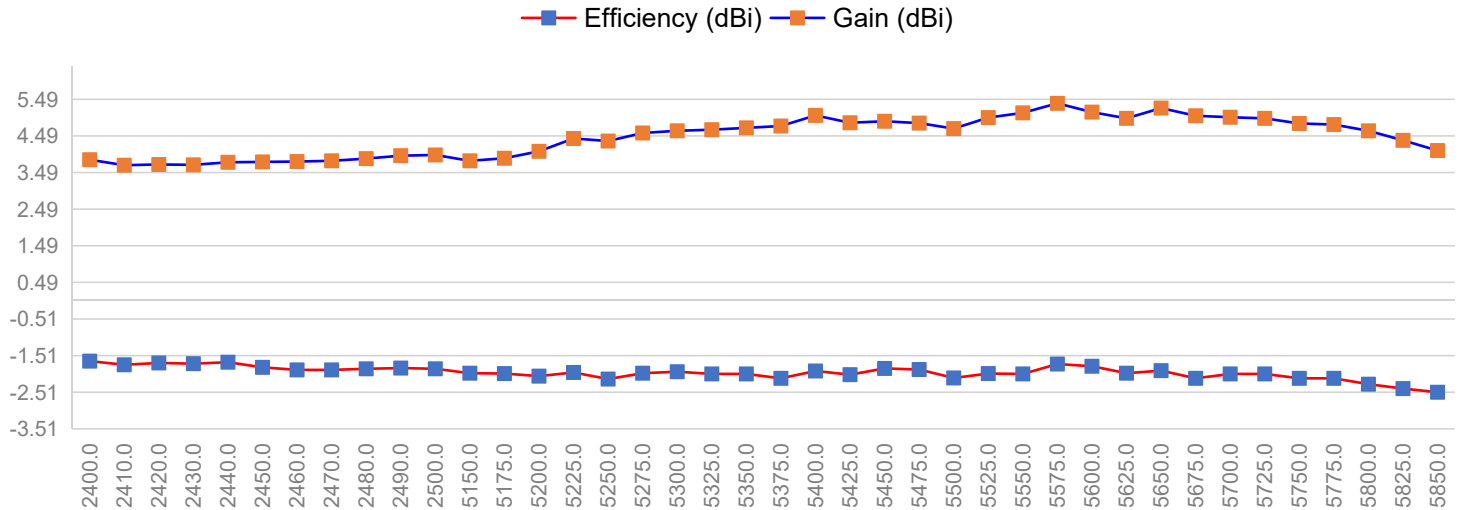
6.2 Return Loss



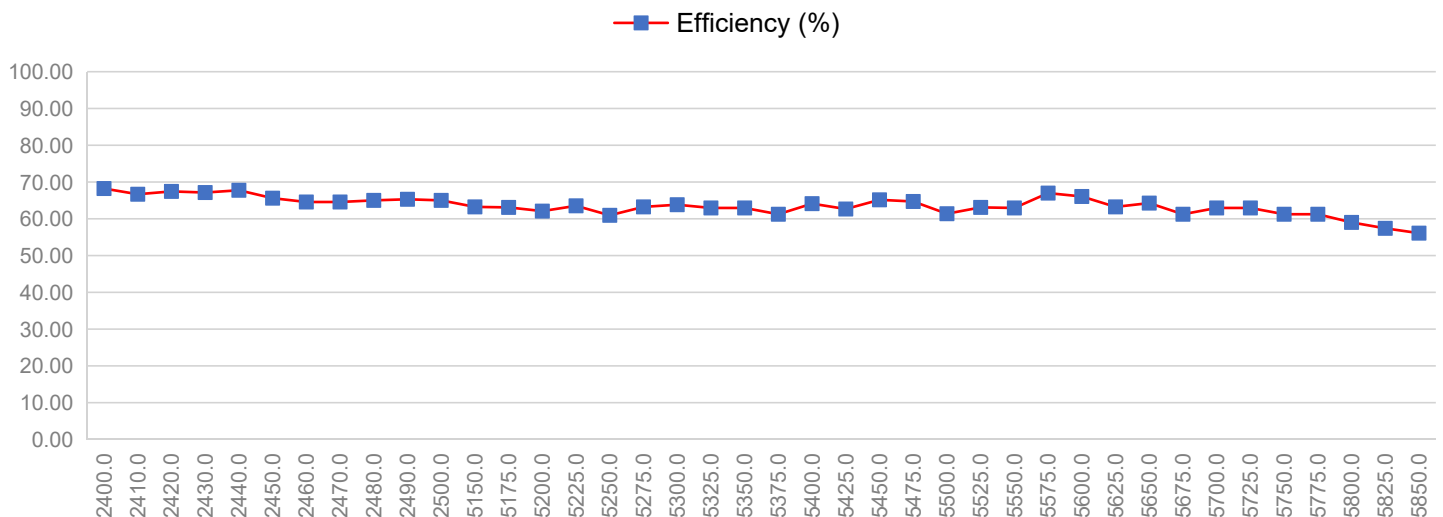


6. Performance Data

6.3 Gain



6.4 Efficiency



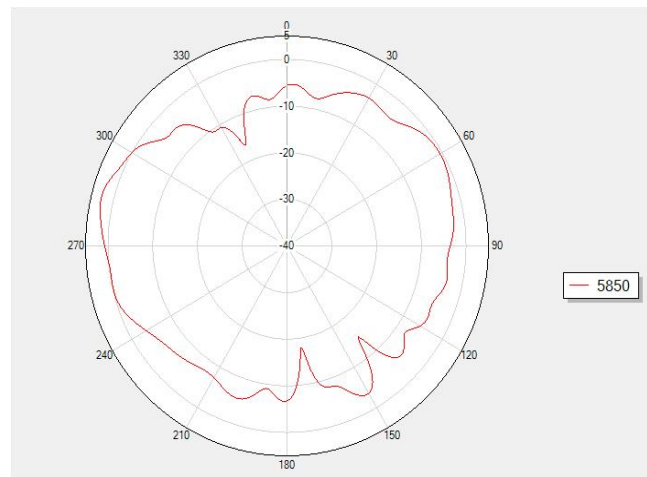
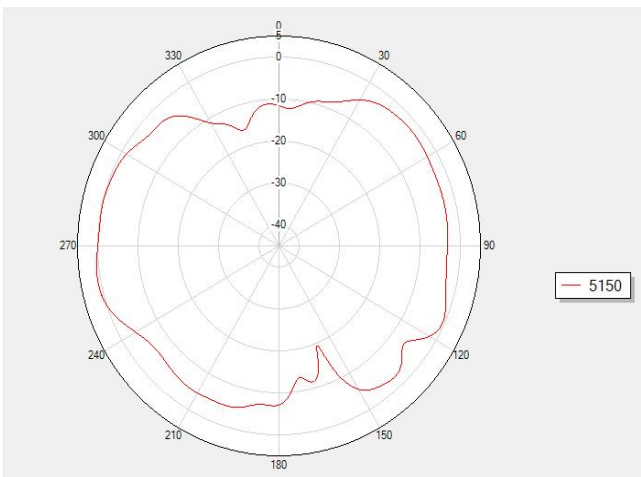
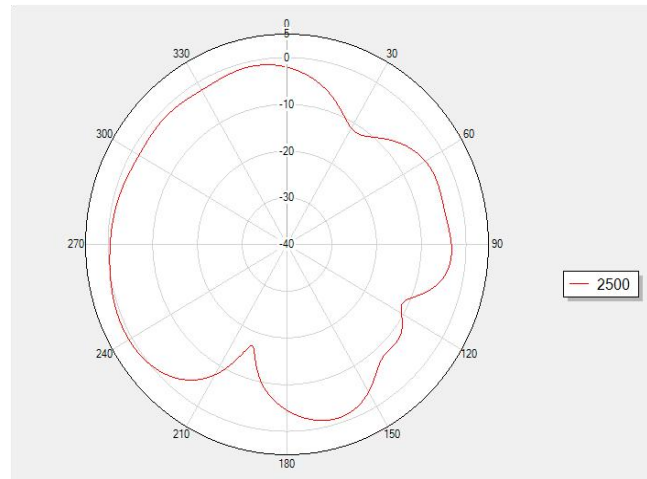
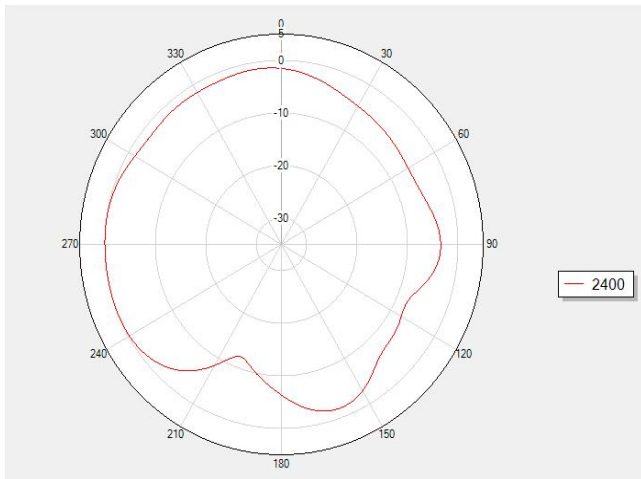
6.5 Antenna Gain and Efficiency

Frequency (MHz)	2400	2450	2500	5150	5500	5850
Gain (dBi)	3.84	3.78	3.97	3.81	4.69	4.09
Efficiency (%)	68.23	65.61	65.01	63.24	61.38	56.1



7. Radiation Patterns

7.1 2D Radiation Patterns

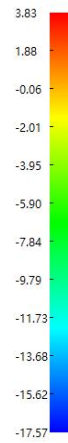
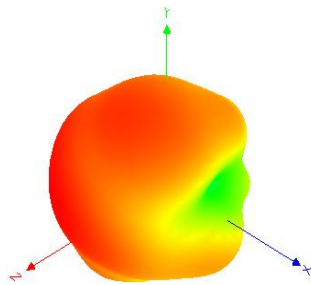




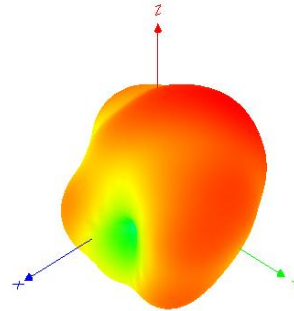
7. Radiation Patterns

7.2 3D Radiation Patterns

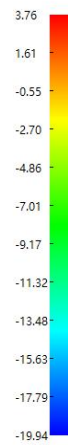
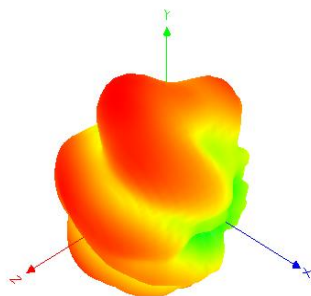
Frequency(MHz) : 2400



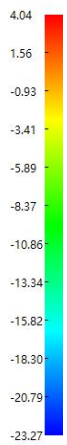
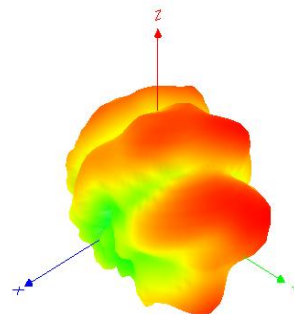
Frequency(MHz) : 2500



Frequency(MHz) : 5150



Frequency(MHz) : 5850





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