

# PLF0302Pa

2.4/5.0 GHz ISM MIMO Adhesive Mount  
Flexible Polymer Embedded Antenna

## Key Features

### Cable 1 - 2: 2.4/5.0 GHz ISM

- 2410-2490 MHz

- 4920-5925 MHz

Self-Adhesive

Flexible Material

Compact Size

Embedded Antenna

Ground Plane Independent

High Performance

Customizable Cable and Connector

Dimensions: 22.4 x 20.6 x 0.2 mm



---

## 1. Antenna Description

### **PLF0302Pa**

One of the smallest ISM MIMO flexible self-adhesive embedded antennas on the market, the *PLF0302P*, is ready to support any sensitivity, speed and reliability demanding ISM application. At the 2.4GHz-5.0GHz frequency band, the *PLF0302P* does not fall short of the high efficiency and performance with its 2 antennas along the side packed on one PCB of the size of a coin.

*PLF0302P*'s ultra-thin and compact flexible PCB, with the self-adhesive peel-and-stick back side, aids uncomplicated installation in any, even very space challenged, design.

#### **Compatibility Standards**

##### **2.4/5.0 Cables**

- WiFi, Bluetooth, BLE, ISM
- DSRC, V2V, V2X
- Sigfox, LoRa, ZigBee, RPMA, LPWAN

#### **Typical applications**

- Infotainment systems
- WiFi hotspot
- HD video transmission
- Dash cameras
- Connected cars
- Self-driving cars
- Fleet management
- Gateways
- Routers
- Public transportation
- Logistics
- And others

#### **Standout Features**

- Flexible ultra-small and thin PCB for convenient integration
- Self-Adhesive back side aiding easy installation
- Eco-friendly in Size
- High Efficiency MIMO Embedded Antenna
- Ground Plane Independent
- Customisable Cable and Connector

## 2. Antenna and electrical specifications

Cable 1

Parameters	2.4/5.0 GHz ISM Antenna	
<b>Standards</b>	WiFi, BT, ZigBee, ISM	
<b>Band (MHz)</b>	2.4 GHz	5.0 GHz
<b>Frequency (MHz)</b>	2410-2490	4920-5925
<b>Return Loss (dB)</b>	~-8.3	~-12.6
<b>VSWR</b>	~2.4:1	~2.2:1
<b>Efficiency (%)</b>	~53	~64
<b>Peak Gain (dBi)</b>	~3.2	~5.0
<b>Average Gain (dB)</b>	~-2.8	~-1.9
<b>Impedance (Ohm)</b>	50	
<b>Polarisation</b>	Linear	
<b>Radiation Pattern</b>	Omni-Directional	
<b>Max. Input Power (W)</b>	10	
<b>Connector Type</b>	U.FL Standard (Other Connectors Available)	
<b>Cable Length</b>	100mm Standard (Any Cable Length Available)	
<b>Cable Type</b>	1.37mm Mini-Coax Standard (Other Cables Available)	

Cable 2

Parameters	2.4/5.0 GHz ISM Antenna	
<b>Standards</b>	WiFi, BT, ZigBee, ISM	
<b>Band (MHz)</b>	2.4 GHz	5.0 GHz
<b>Frequency (MHz)</b>	2410-2490	4920-5925
<b>Return Loss (dB)</b>	~-8.4	~-12.5
<b>VSWR</b>	~2.4:1	~2.2:1
<b>Efficiency (%)</b>	~55	~63
<b>Peak Gain (dBi)</b>	~3.0	~4.9
<b>Average Gain (dB)</b>	~-2.8	~-1.9
<b>Impedance (Ohm)</b>	50	
<b>Polarisation</b>	Linear	
<b>Radiation Pattern</b>	Omni-Directional	
<b>Max. Input Power (W)</b>	10	
<b>Connector Type</b>	U.FL Standard (Other Connectors Available)	
<b>Cable Length</b>	100mm Standard (Any Cable Length Available)	
<b>Cable Type</b>	1.37mm Mini-Coax Standard (Other Cables Available)	

**Antenna Measurement Conditions:**

Mounted on 30 x 30 x 0.25 cm ABS Plate  
 100 mm of 1.37 mm Mini-Coax Cable  
 Measured in Certified CTIA 3D Anechoic Chamber

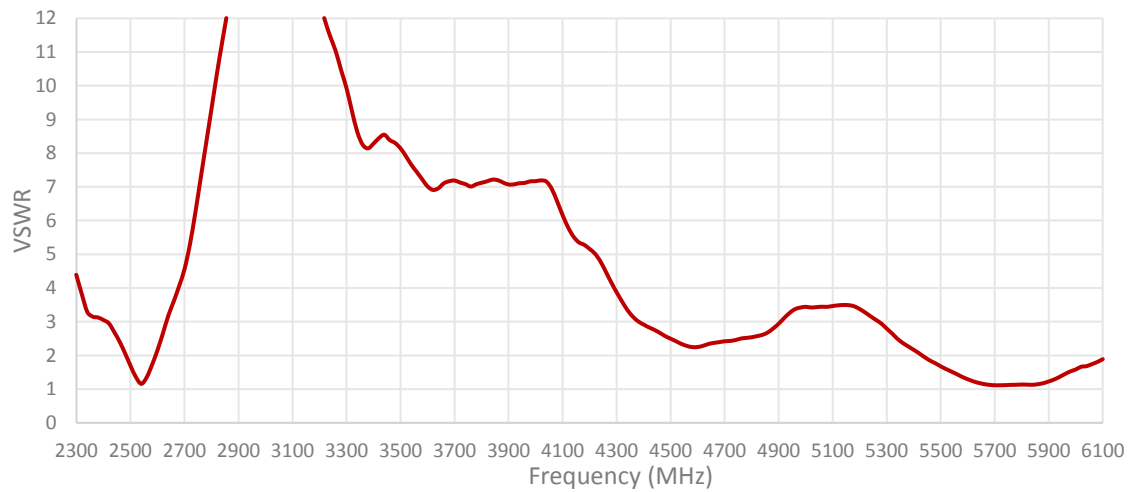
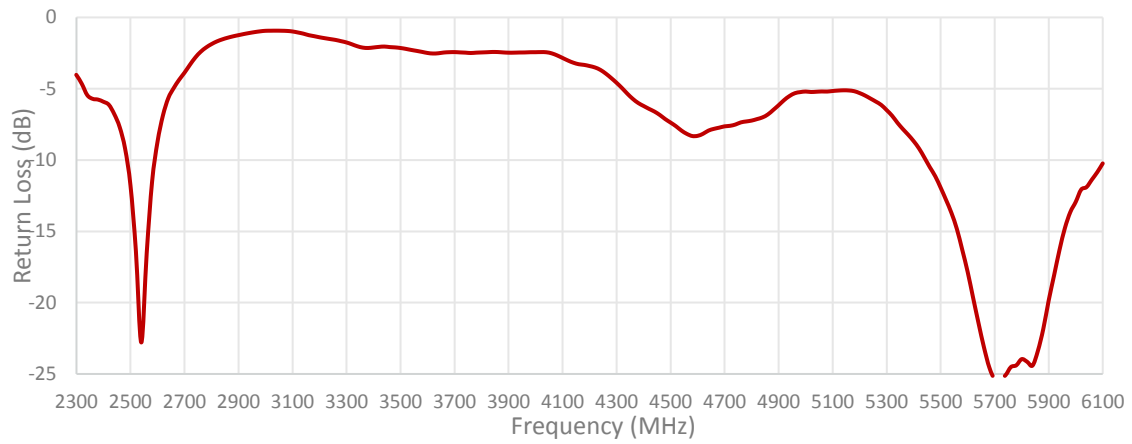
---

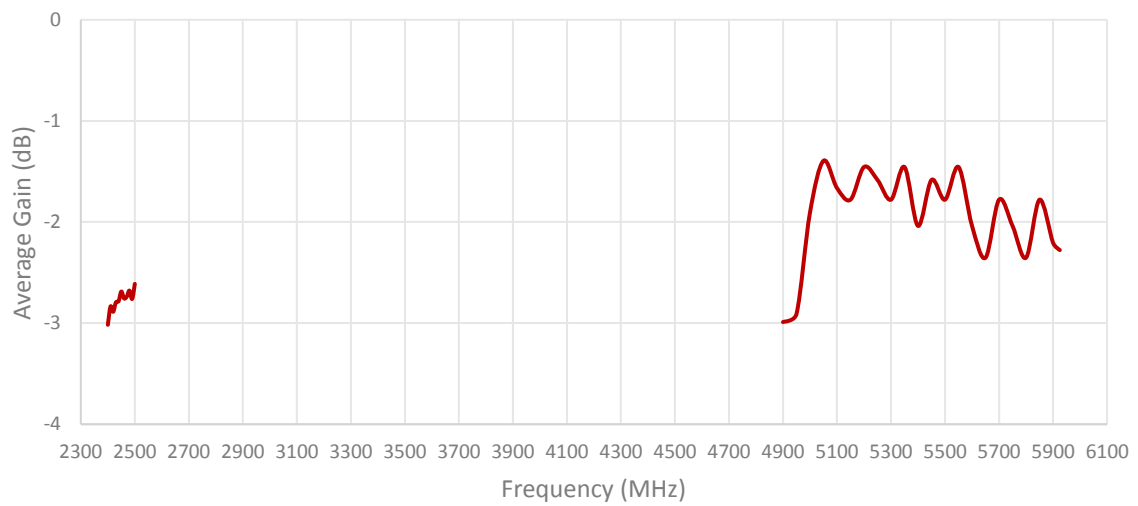
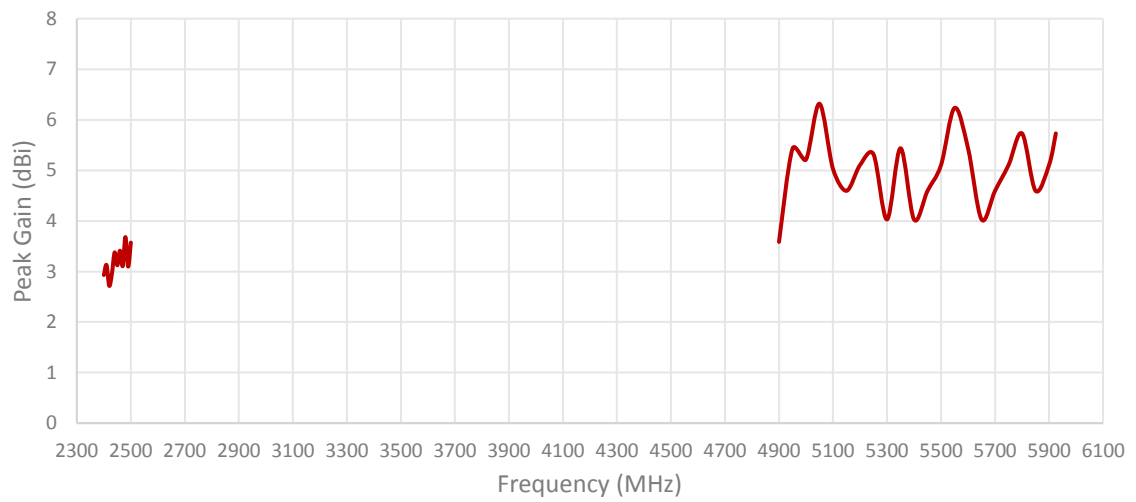
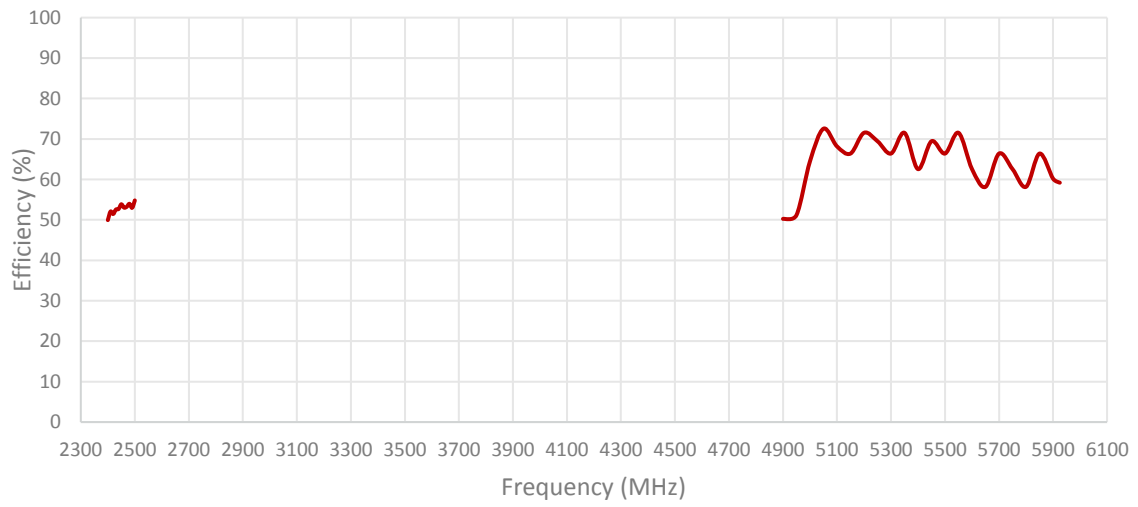
### 3. Mechanical and environmental specifications

Specifications	<i>PLF0302Pa</i>
<b>Mounting Type</b>	Self-Adhesive
<b>Dimensions (mm)</b>	<u>22.4 x 20.6 x 0.2</u>
<b>Adhesive Type</b>	3M 467
<b>Material</b>	Flexible Polymer
<b>Operating Temperature (C)</b>	-40 to +85
<b>Storage Temperature (C)</b>	-40 to +85
<b>Substance Compliance</b>	RoHS

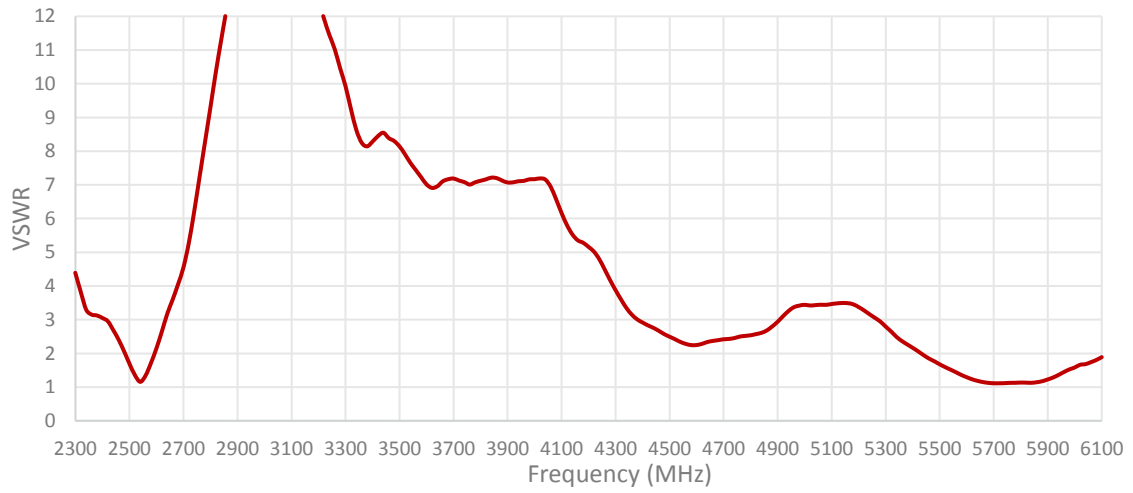
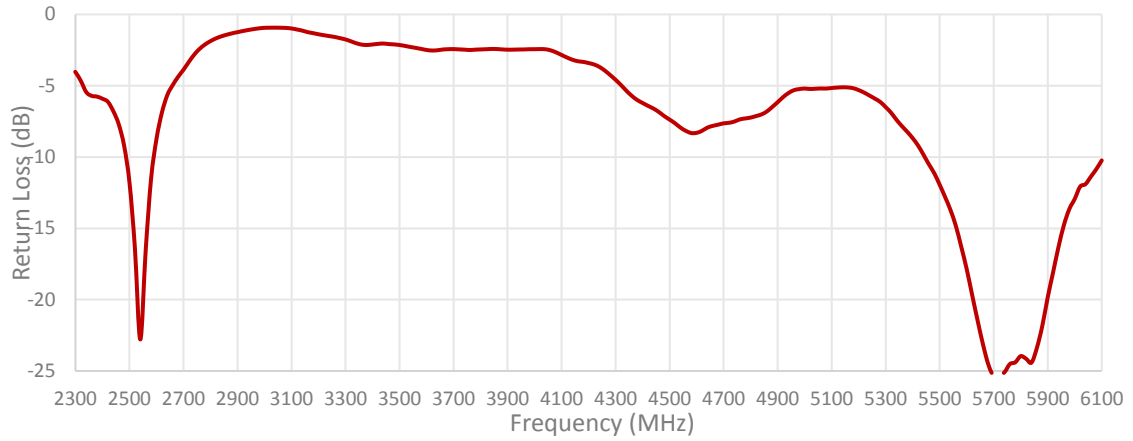
## 4. Antenna parameters

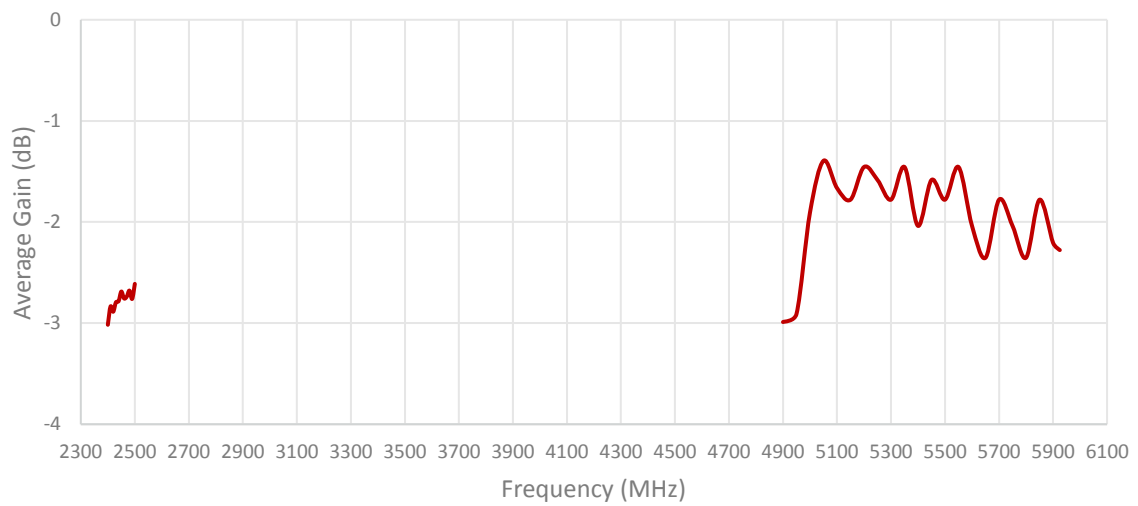
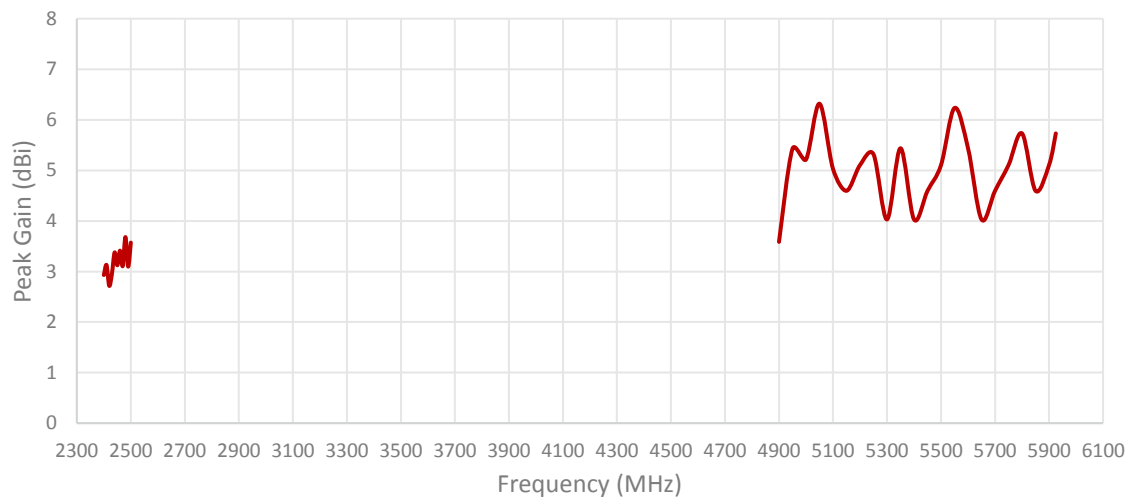
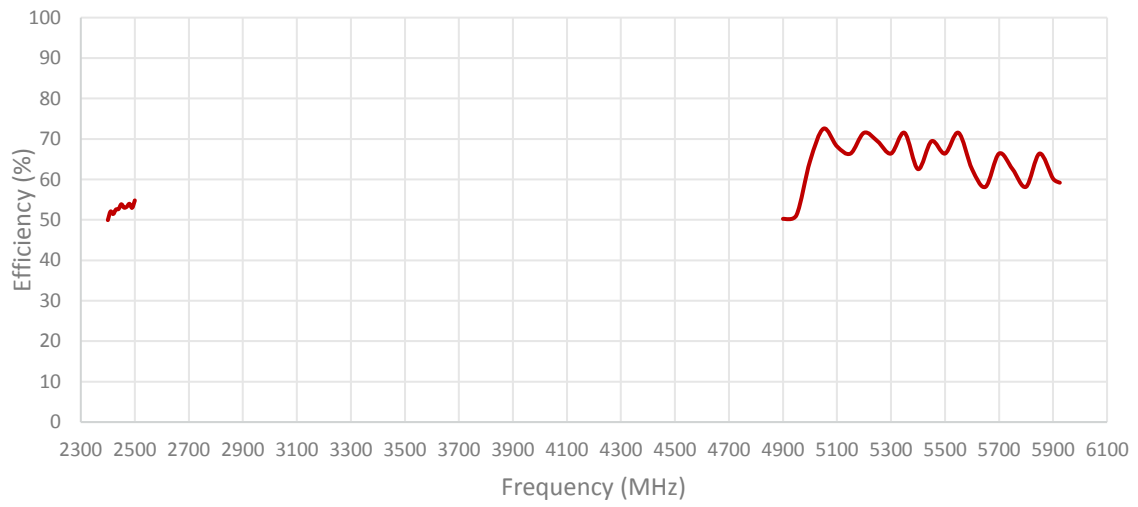
Cable 1: 2.4/5.0 GHz ISM



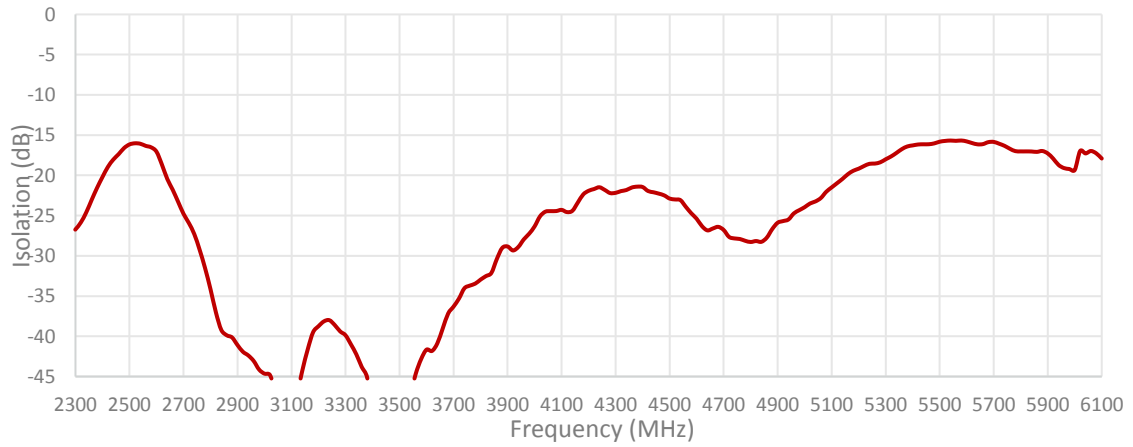


**Cable 2: 2.4/5.0 GHz ISM**

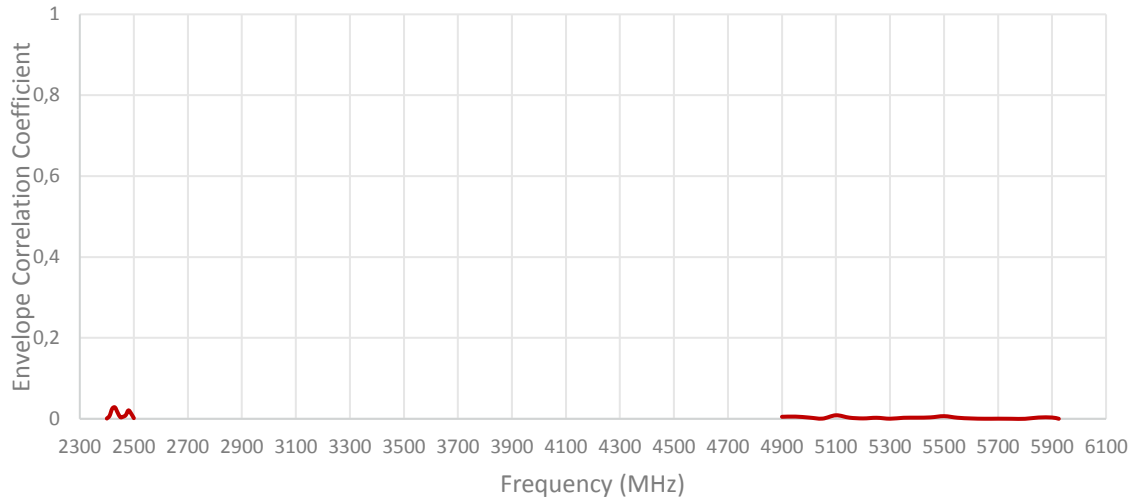


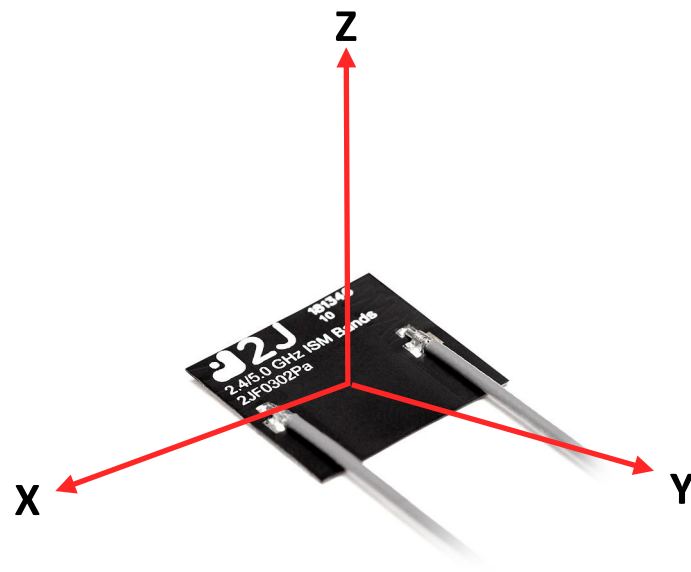


**ISOLATION FOR CABLES 1 AND 2**



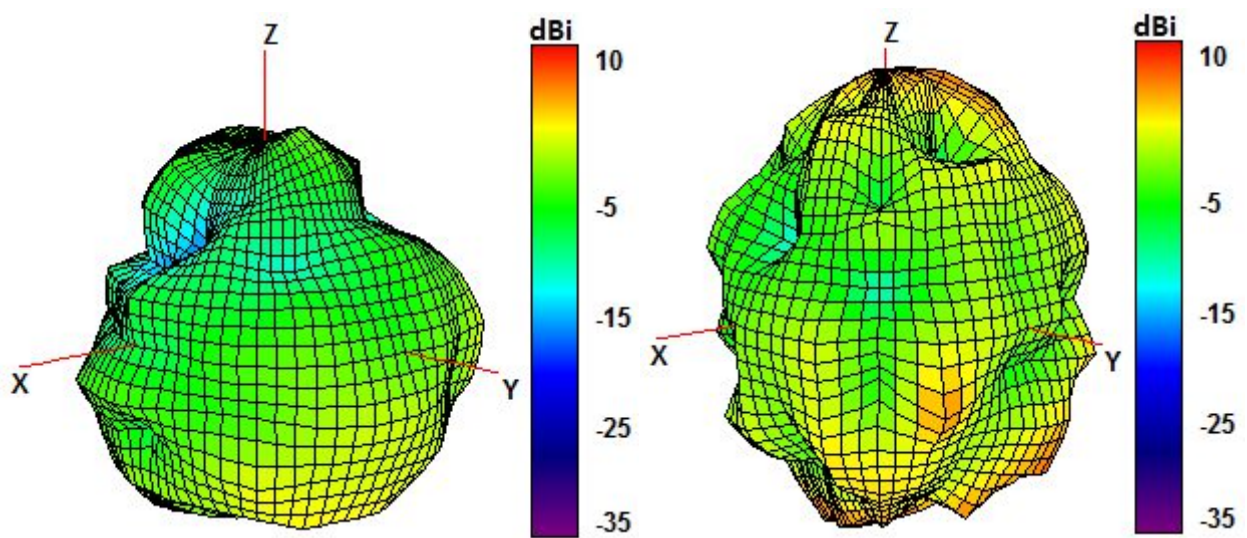
**ENVELOPE CORRELATION COEFFICIENT FOR CABLES 1 AND 2**





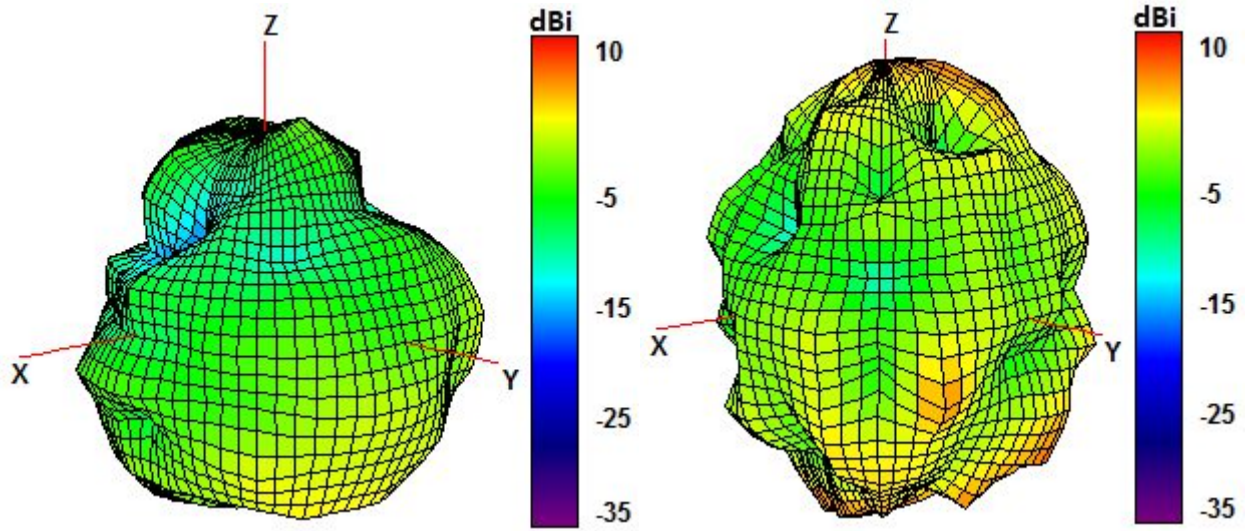
Radiation pattern reference

Cable 1: 2.4/5.0 GHz ISM



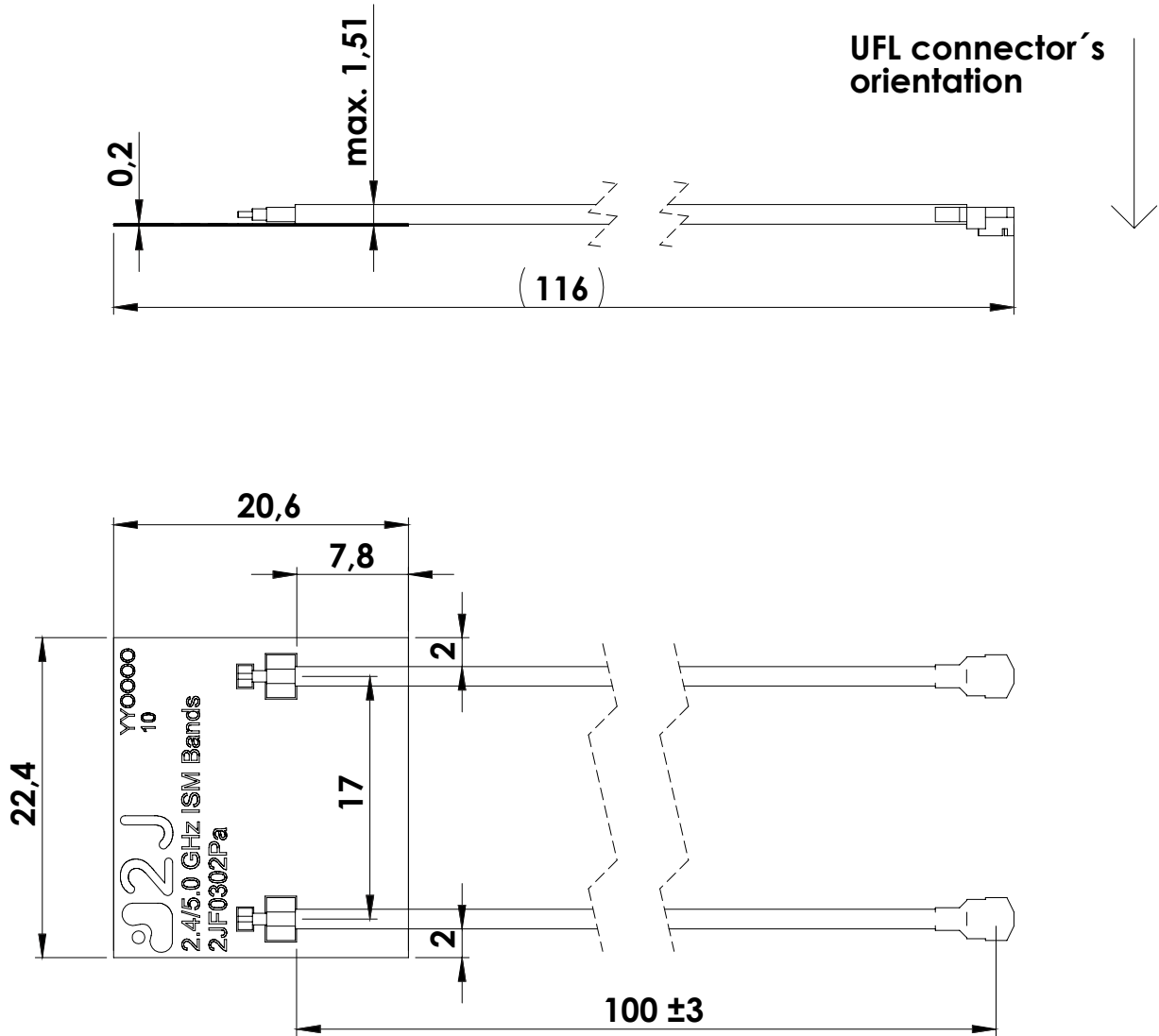
2450 and 5500 MHz Radiation pattern

Cable 2: 2.4/5.0 GHz ISM



2450 and 5500 MHz Radiation pattern

## 5. Antenna drawings



---

## 6. Antenna Images