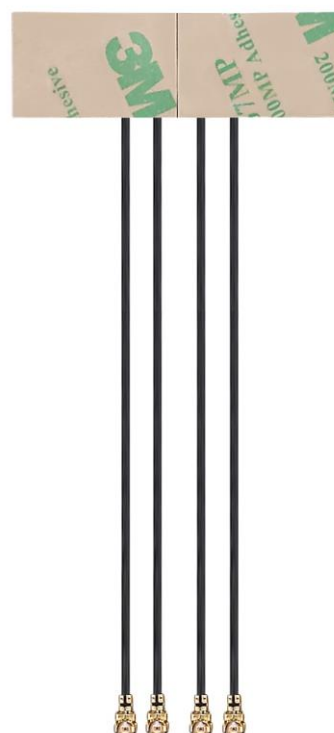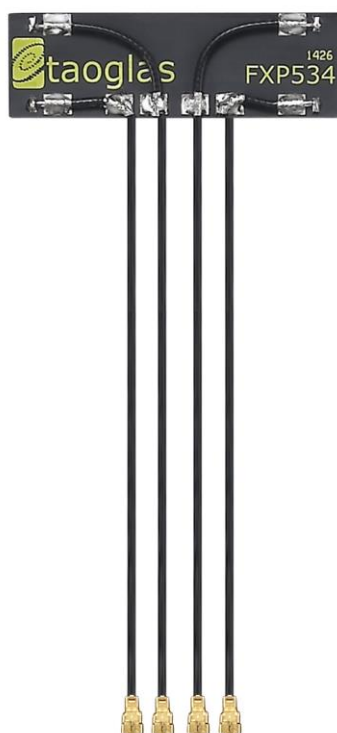# SPECIFICATION
Patent Pending

Part No. **:** **FXP534.D.07.C.001**

Product Name **:** **Venti Embedded 5.8GHz Wi-Fi 802.11ac**

      4*4 MIMO Antenna

      Venti Flex Polymer Body

Feature **:** 48mm *15mm *0.15mm

      Identical 4 ports cable routing for stability

      Ultra-thin

      100mm Φ 1.37 cable IPEX MHF HT (U.FL)

      3M adhesive tape for easy mounting

      Cable Length and Connectors customizable.

      RoHS Compliant

1. Introduction

The Venti FXP534 5.8GHz 802.11ac 4*4 MIMO antenna is an extremely compact, embedded 4-in-1 MIMO flexible polymer monopole type antenna designed specifically for 802.11ac Wi-Fi applications, that can be easily installed in your device, and takes up the minimum amount of space.

Typical Applications
- High speed real-time HD video streaming
- High capacity Wi-Fi networks for Mass Transit
- Embedded kiosk Wi-Fi Hotspots

High efficiency antennas are needed for the higher throughput requirements of these 4*4 MIMO applications, but just as important is high isolation, so they do not interfere with each other. As interference will reduce the throughput of your system.

Therefore this antenna has been designed to have good efficiency and isolation performance for 802.11ac Wi-Fi applications. The Venti FXP534 has more than 40% efficiency at 5.8 GHz channels, and the insertion loss performance in each of the two ports is under -14dB across the 5GHz bands.

Many module manufacturers specify peak gain limits for any antennas that are to be connected to that module. Those peak gain limits are based on free-space conditions. In practice, the peak gain of an antenna tested in free-space can degrade by at least 1 or 2dBi when put inside a device. So ideally you should go for a slightly higher peak gain antenna than mentioned on the module specification to compensate for this effect, giving you better performance.

Upon testing of any of our antennas with your device and a selection of appropriate layout, integration technique, or cable, Taoglas can make sure any of our antennas' peak gain will be below the peak gain limits. Taoglas can then issue a specification and/or report for the selected antenna in your device that will clearly show it complying with the peak gain limits, so you can be assured you are meeting regulatory requirements for that module.

For example, a module manufacturer may state that the antenna must have less than 2dBi peak gain, but you don't need to select an embedded antenna that has a peak gain of less than 2dBi in free-space. This will give you a less optimized solution. It is better to go for a slightly higher free-space peak gain of 3dBi or more if available. Once that antenna gets integrated into your device, performance will degrade below this 2dBi peak gain due to the effects of GND plane, surrounding components, and device housing. If you want to be absolutely sure, contact Taoglas and we will test. Choosing a Taoglas antenna with a higher peak gain than what is specified by the module manufacturer and enlisting our help will ensure you are getting the best performance possible without exceeding the peak gain limits.

The antennas has been designed to 'tune in' on most common plastic housings used in devices today, so in most cases you don't suffer from detuning. All four cables route in the same direction, allowing for easy routing to your module in your device, without crossing over, thus avoiding self-interference. Like all embedded Wi-Fi antennas a minimum of 10mm clearance should be kept from the antenna to surrounding metal for best performance. Cable length, type and connector are customizable.

If you require a dual-band Wi-Fi antenna, this version is the FXP524.D.07.A.001.

Contact your regional Taoglas office for support.

2. Specification

ELECTRICAL				
	Port 1	Port 2	Port 3	Port 4
Frequency (MHz)	5150-5850	5150-5850	5150-5850	5150-5850
Peak Gain (dBi)	3.01	5.74	2.76	4.25
Average Gain (dBi)	-3.56	-2.73	-4.01	-3.11
Efficiency (%)	44.37	54.26	40.45	49.16
Impedance	50Ω			
Polarization	Linear			
Radiation Pattern	Omni-directional			
Input Power	2W Max.			
MECHANICAL				

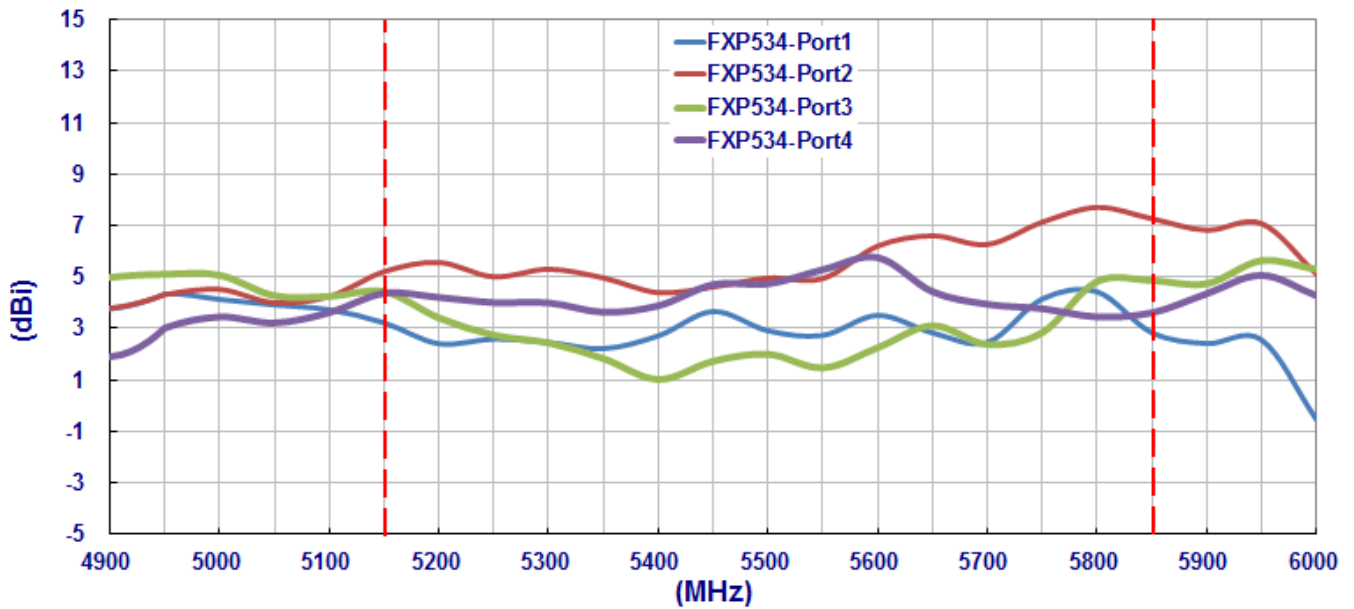| Dimensions	48mm X 15mm X 0.15mm
Antenna Body Material	Polymer
Cable	4* Black Φ1.37 Coaxial Cable
Cable Length	4* 100mm
Connector	IPEX MHFHT
Weight	12g
ENVIRONMENTAL	
Temperature Range	-40°C to 85°C
Humidity	Non-condensing 65°C 95% RH

3. Antenna Characteristics
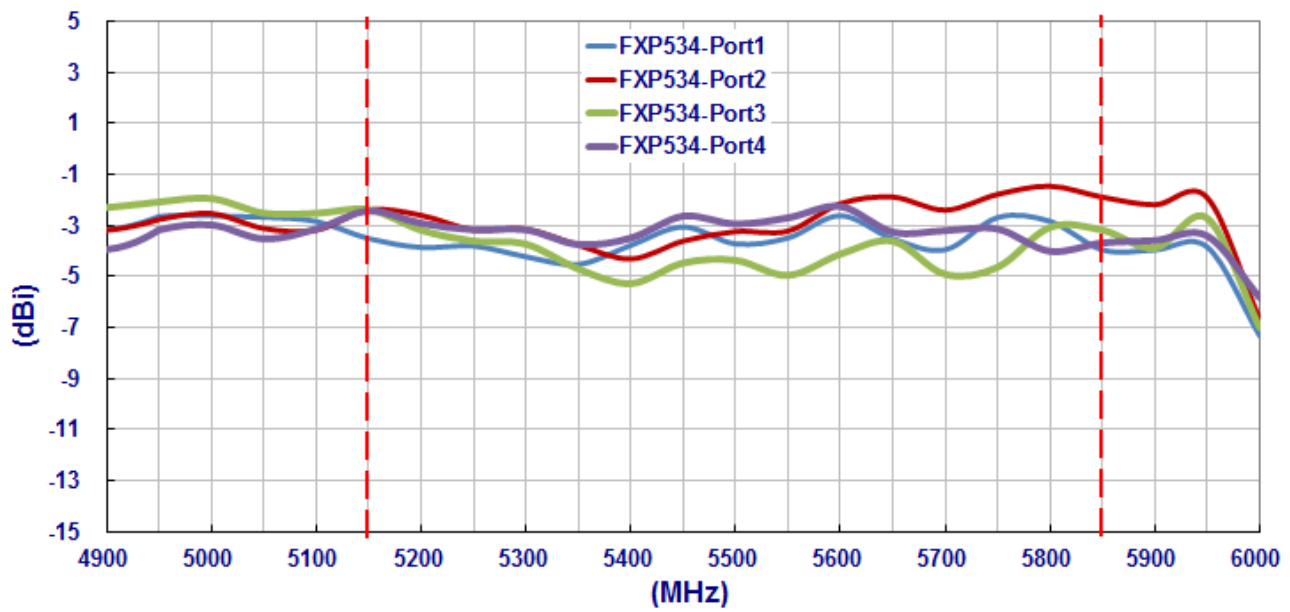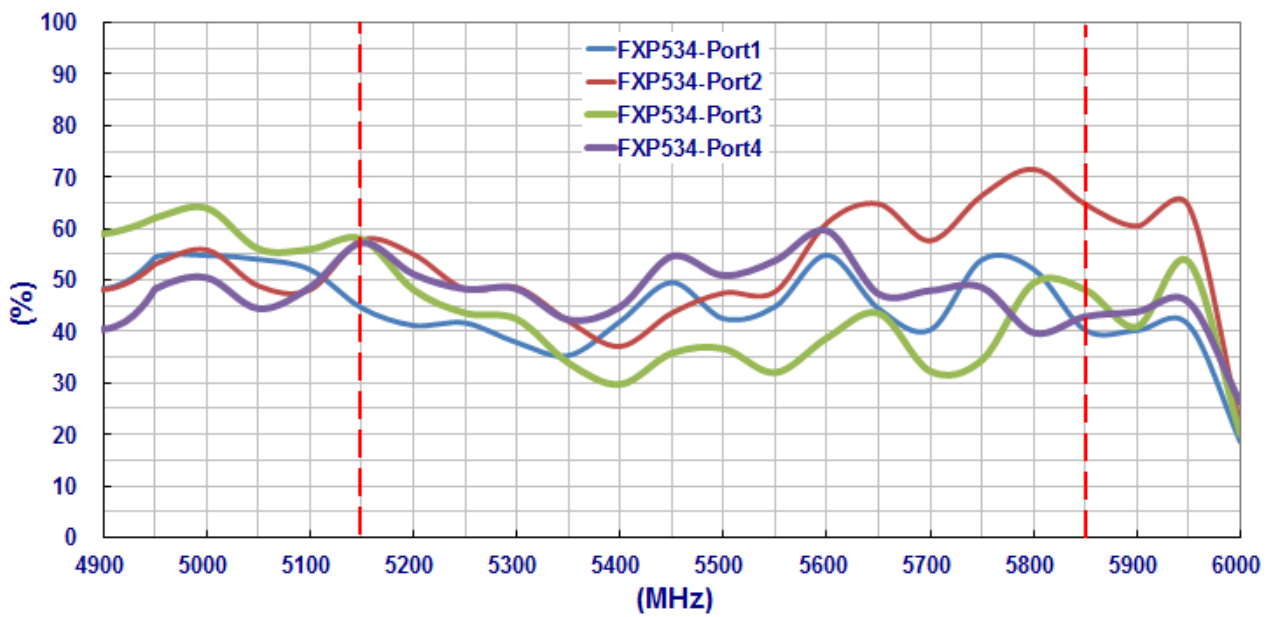
3.1 Port Definition
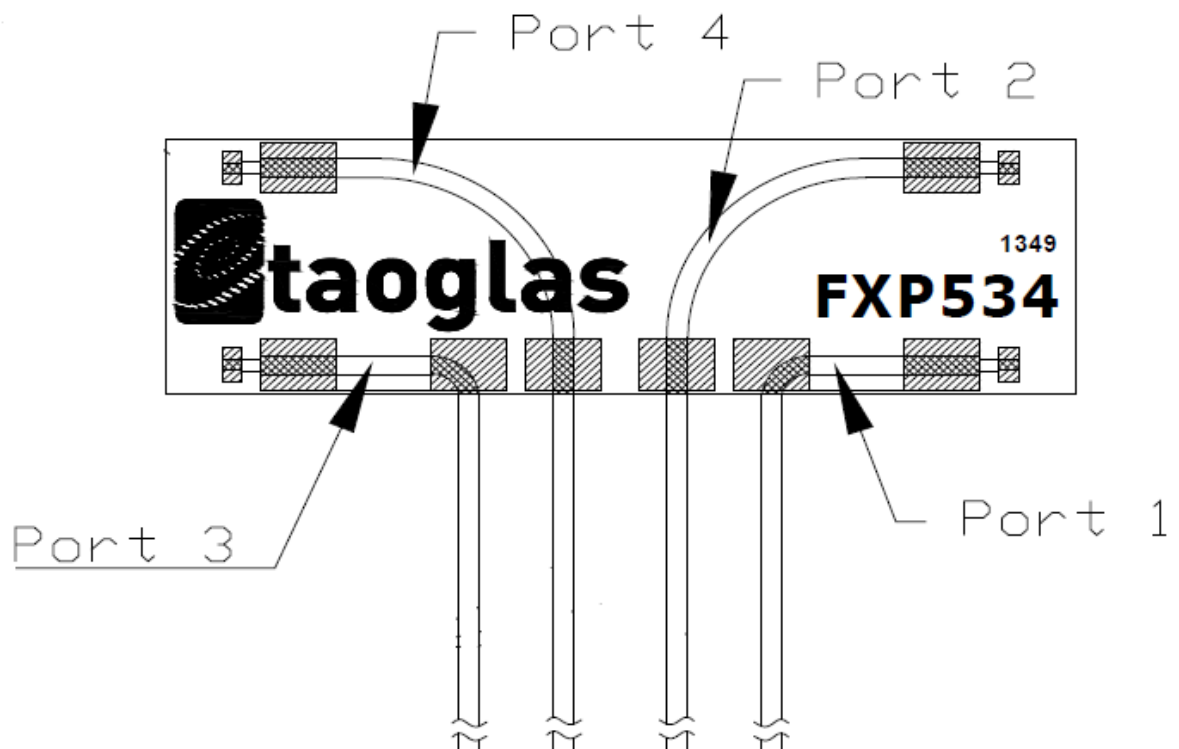
3.2 Return Loss
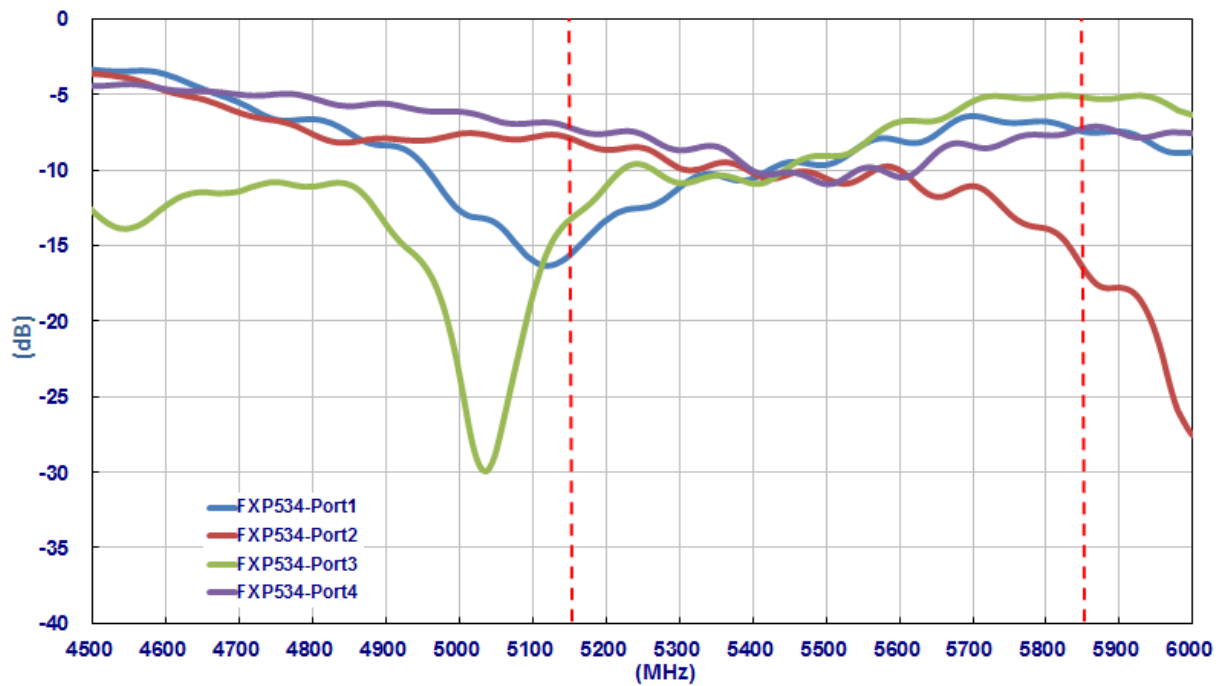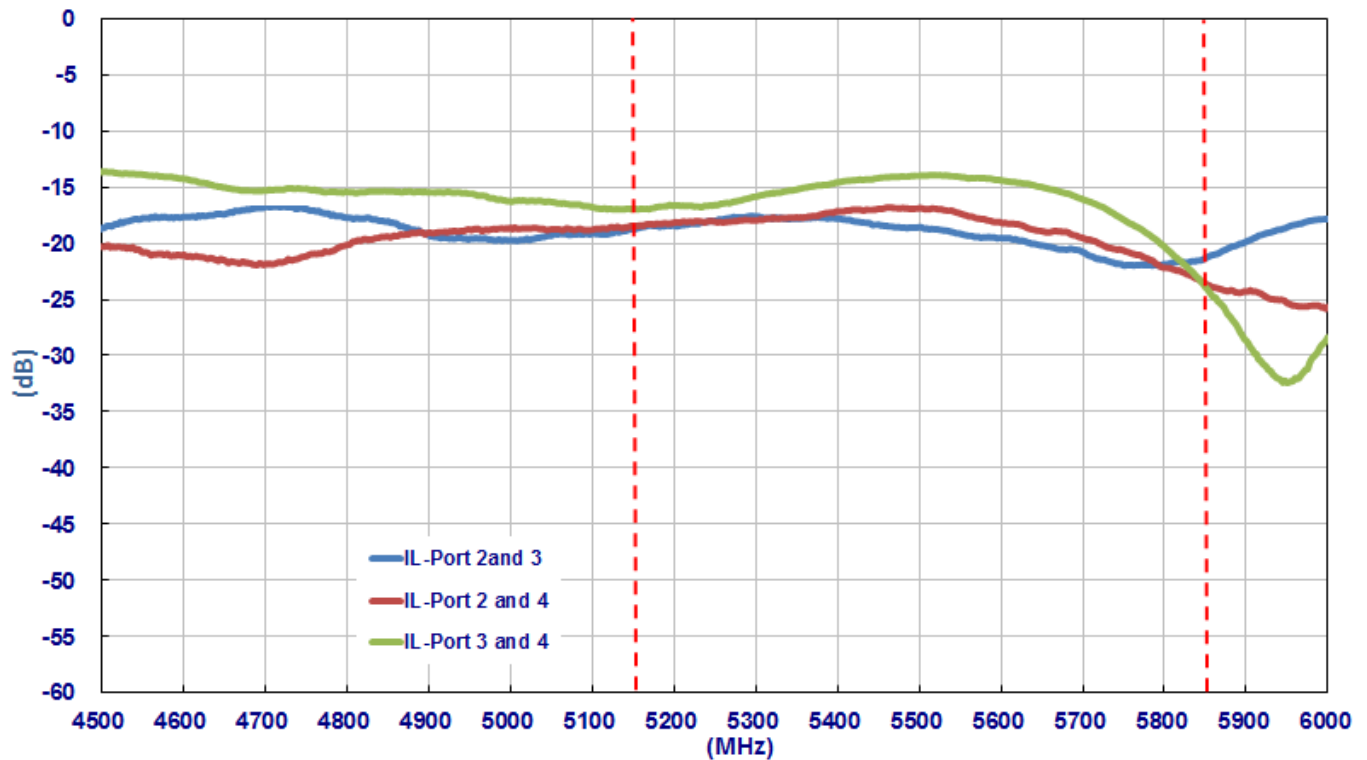
3.3 Peak Gain

3.4 Average Gain

3.5 Efficiency

3.6 Insertion Loss
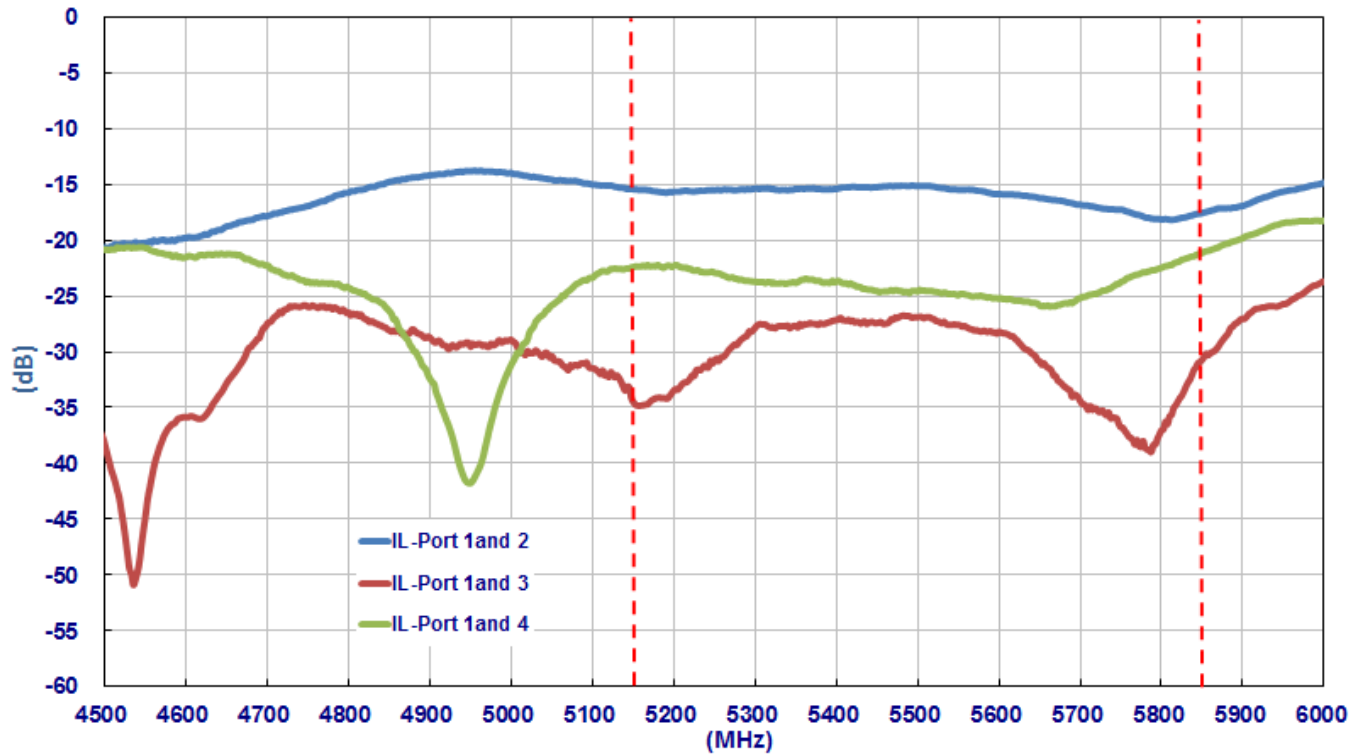
4. Antenna Radiation Patterns

4.1 Antenna setup in Anechoic Chamber
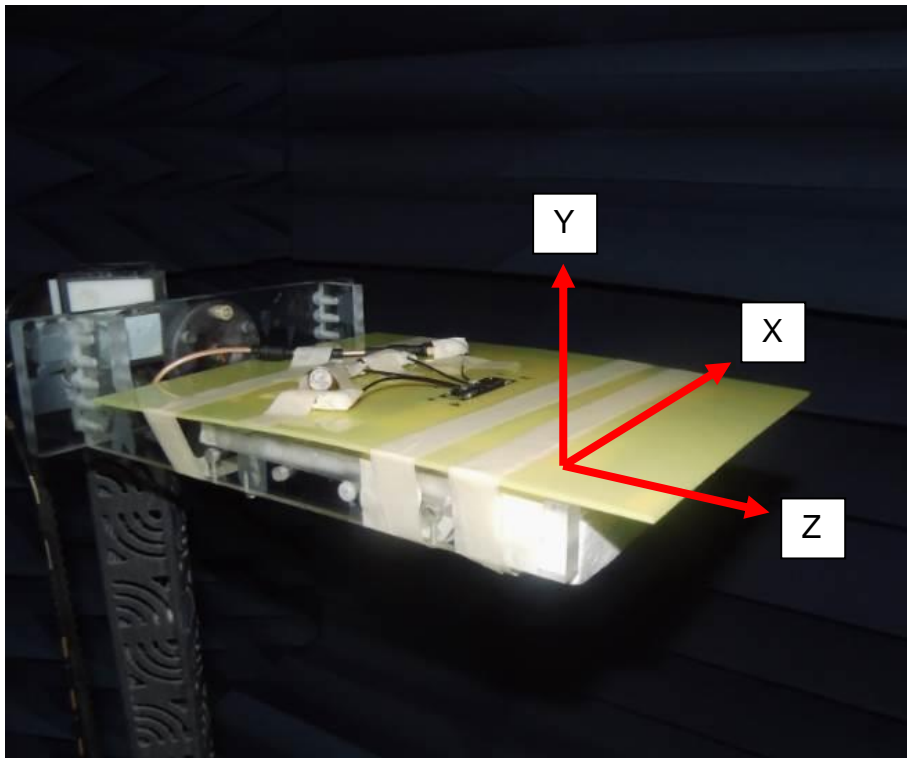
5. Radiation Patterns

5.1 Radiation pattern of FXP5344 antenna (Port 1)

XY plane
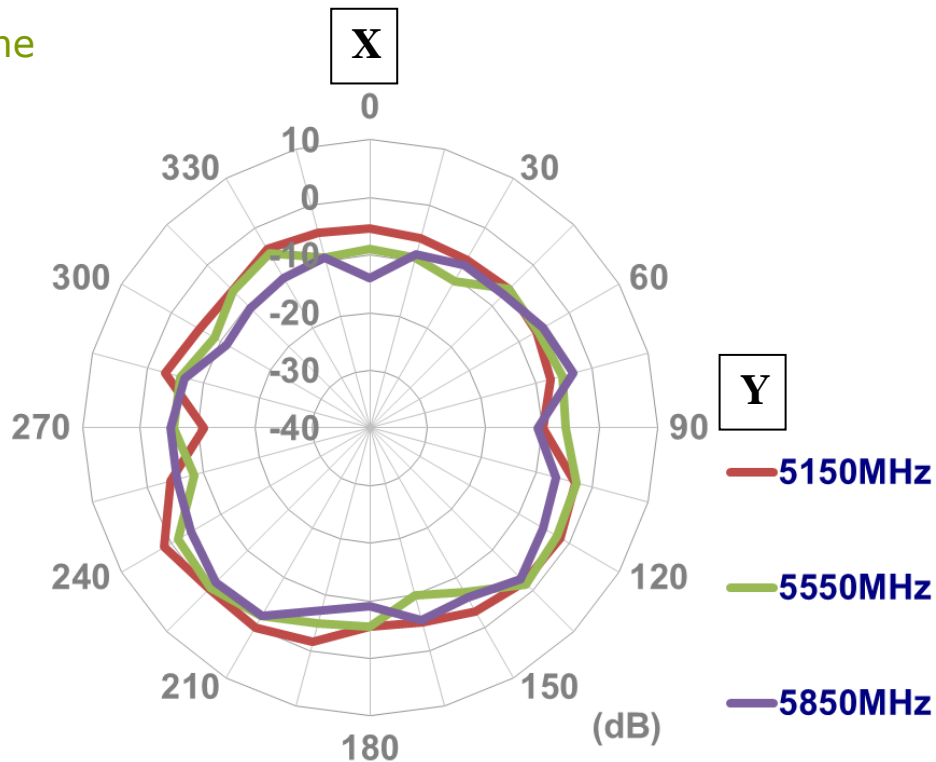
XZ Plane
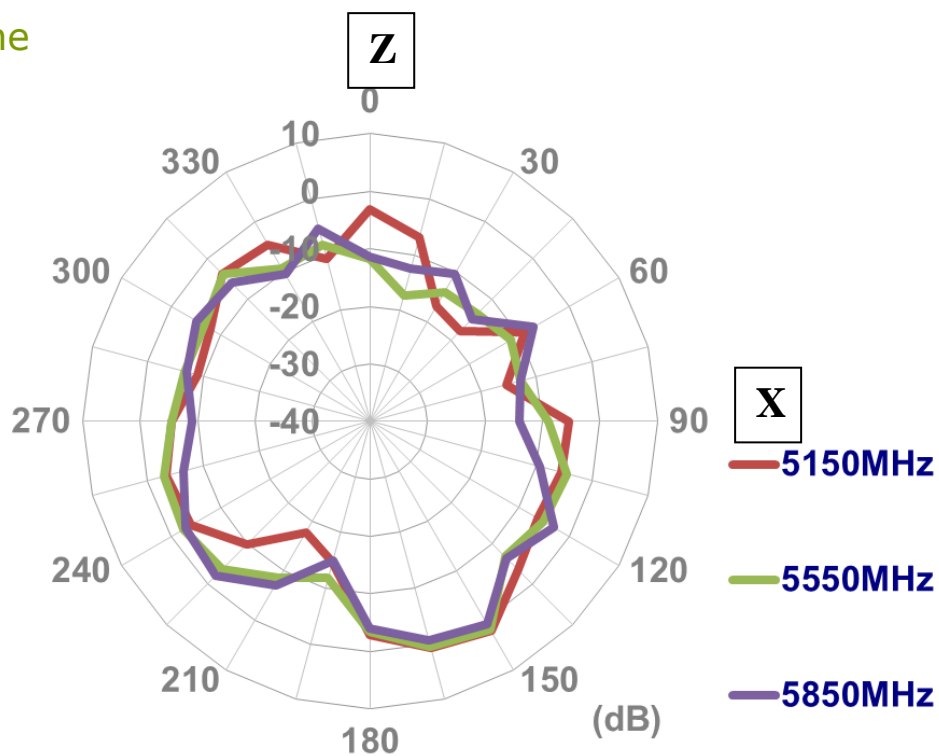
YZ Plane
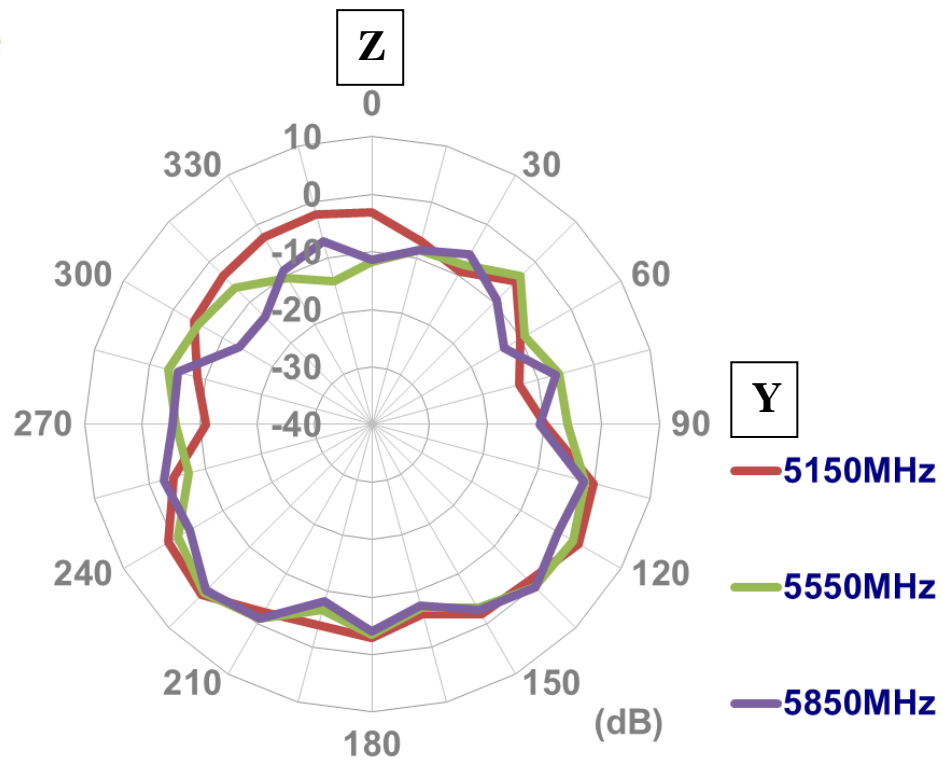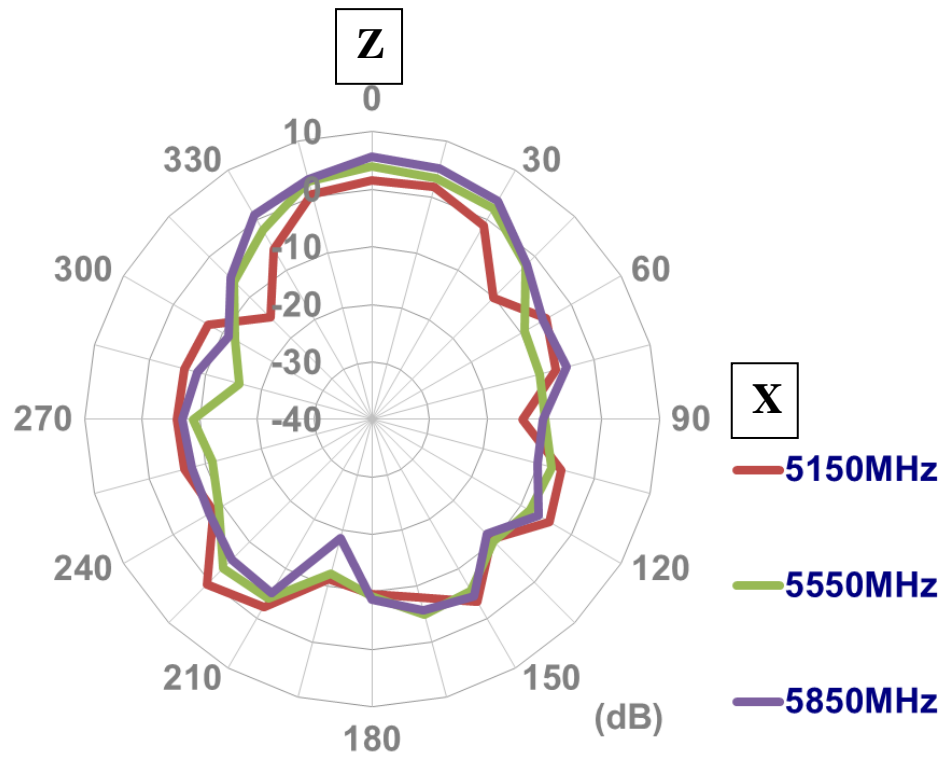

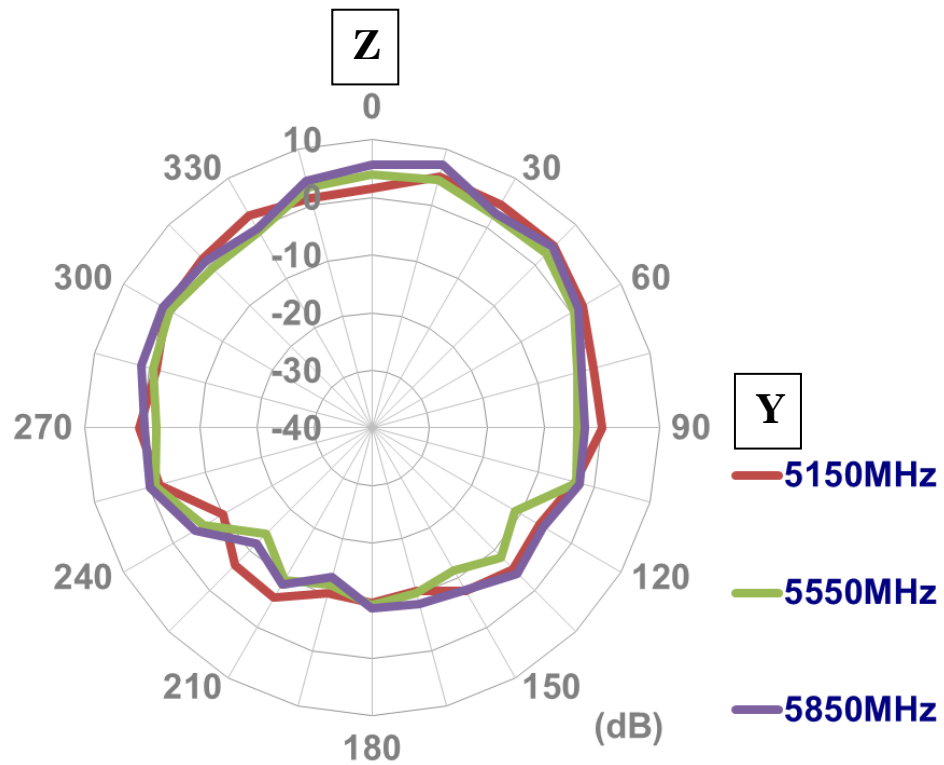## 5.2 Radiation pattern of FXP534 antenna (Port 2)
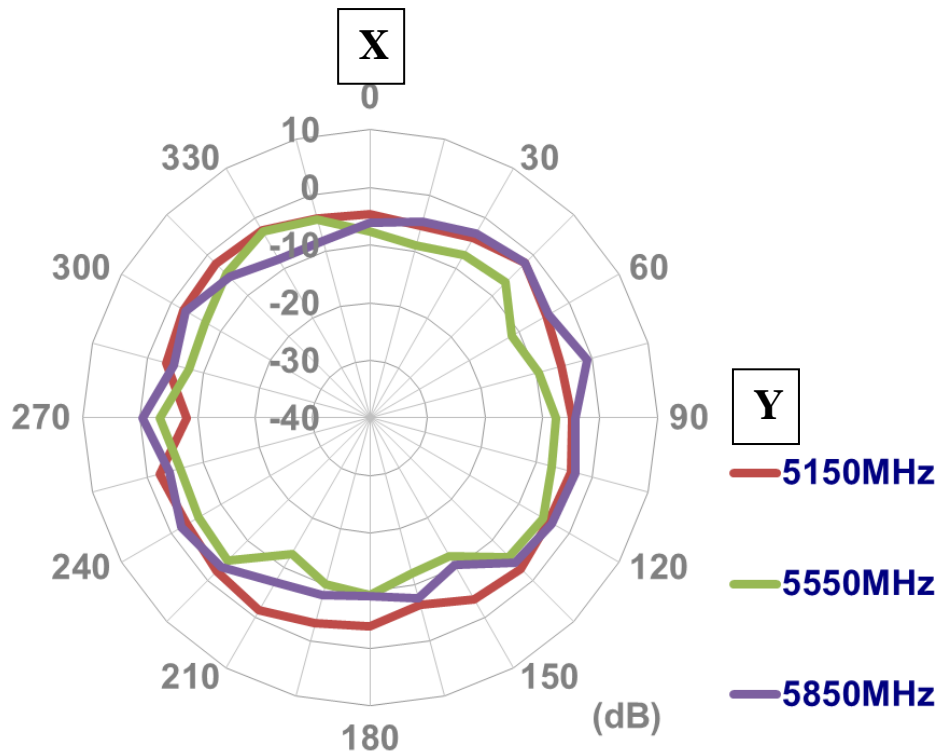
XY plane

XZ Plane

Z
0

X

5150MHz
5550MHz
5850MHz

(dB)

YZ Plane
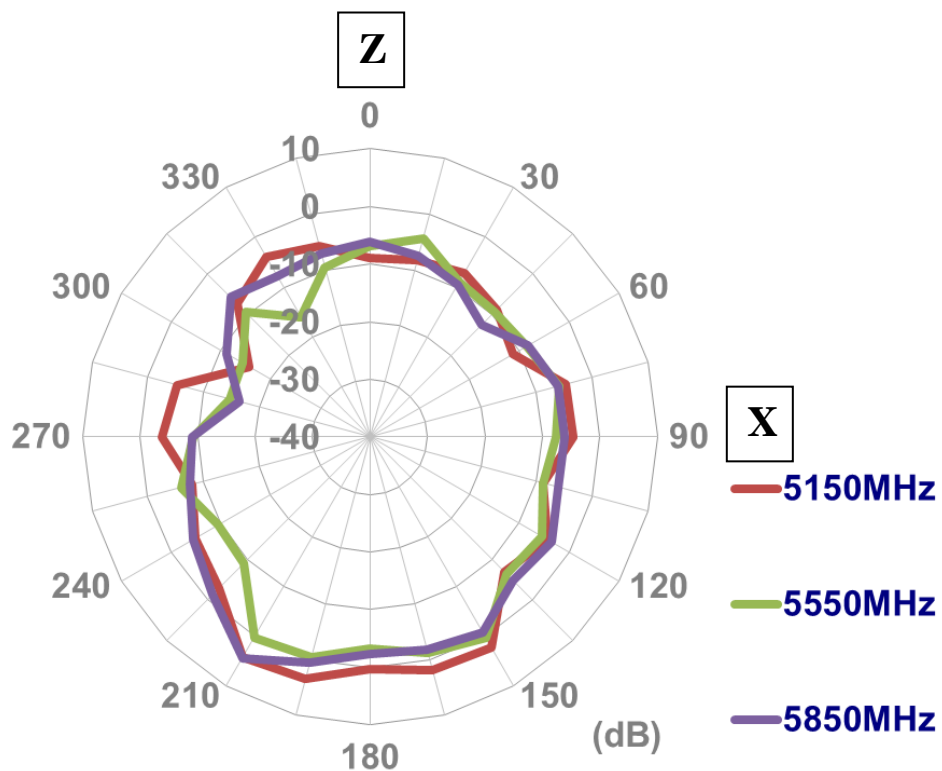
Z
0

Y

5150MHz
5550MHz
5850MHz

(dB)
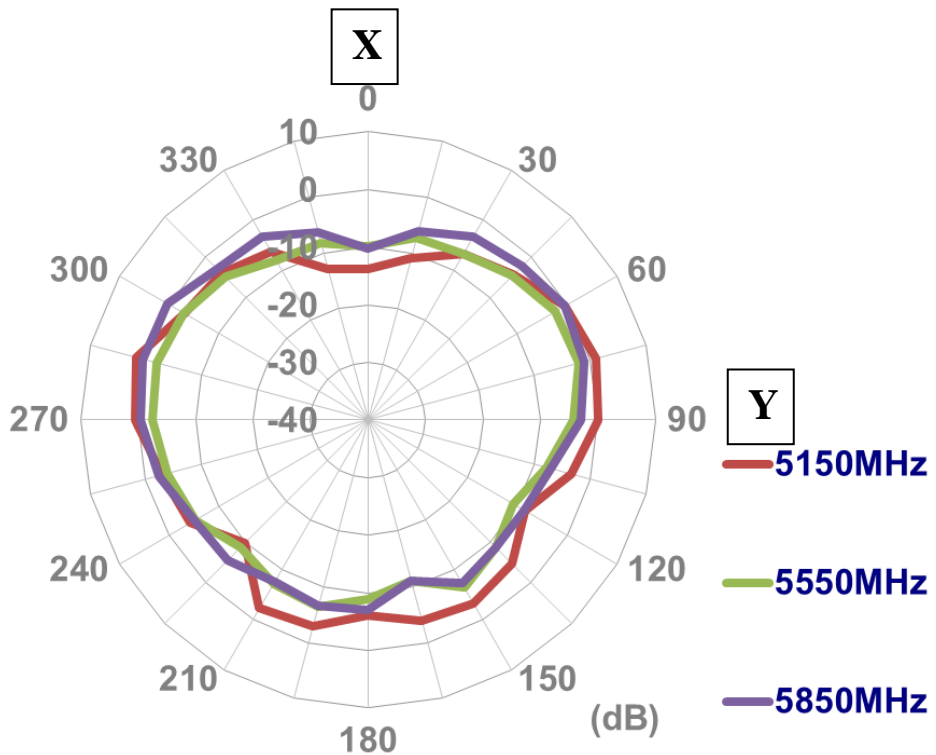
5.3 Radiation pattern of FXP534 antenna (Port 3)

XY Plane

XZ plane

YZ plane

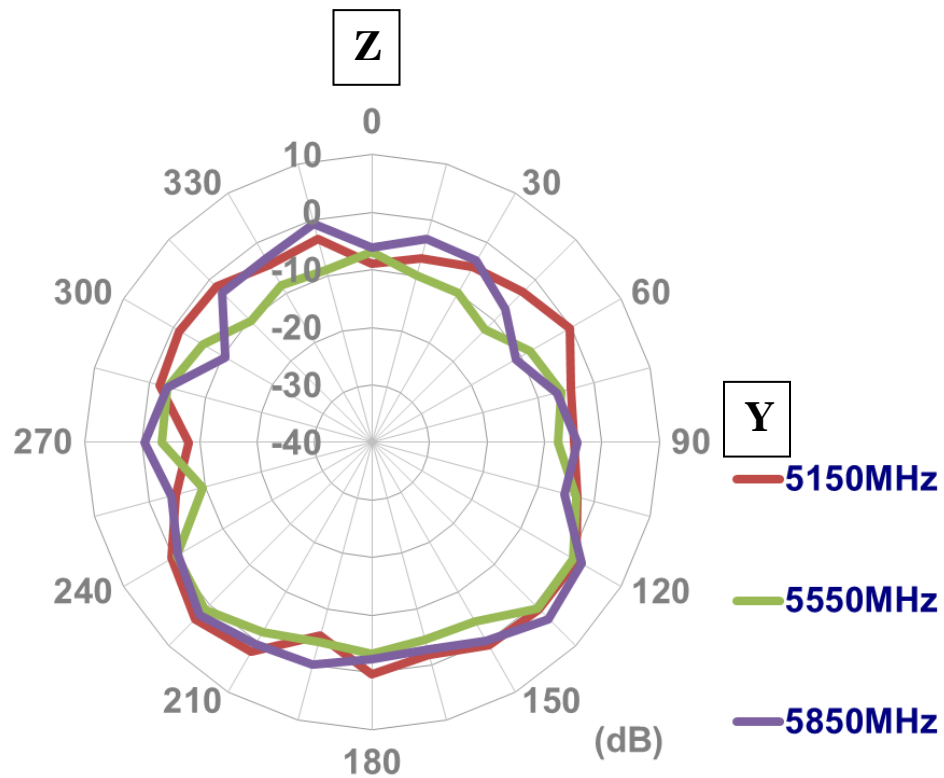## 5.4 Radiation pattern of FXP534 antenna (Port 4)

XY plane
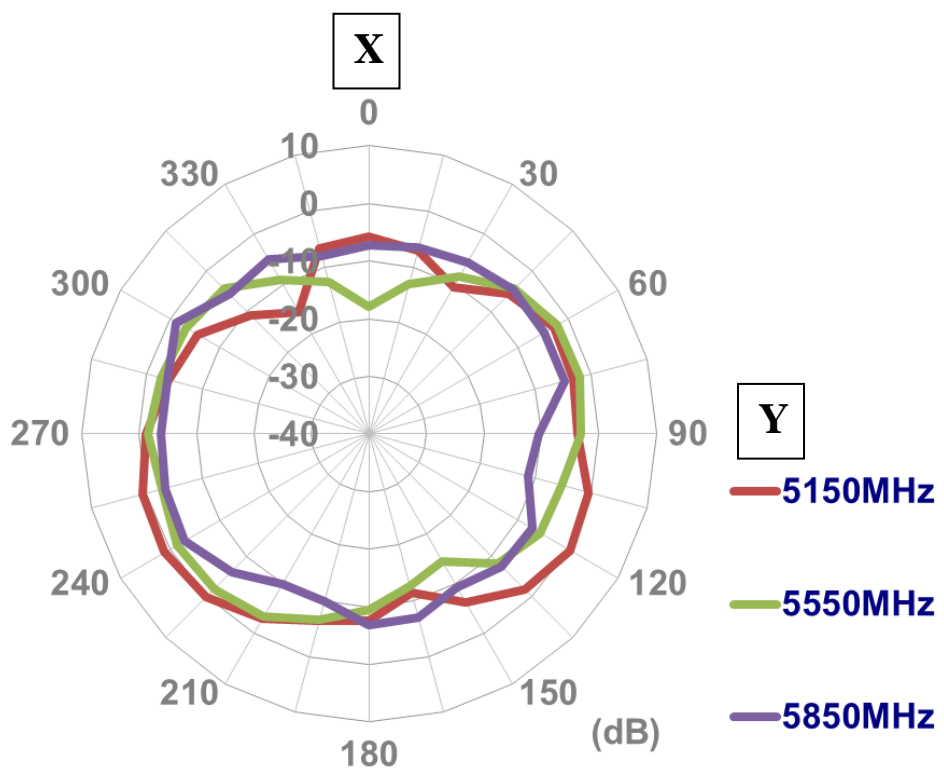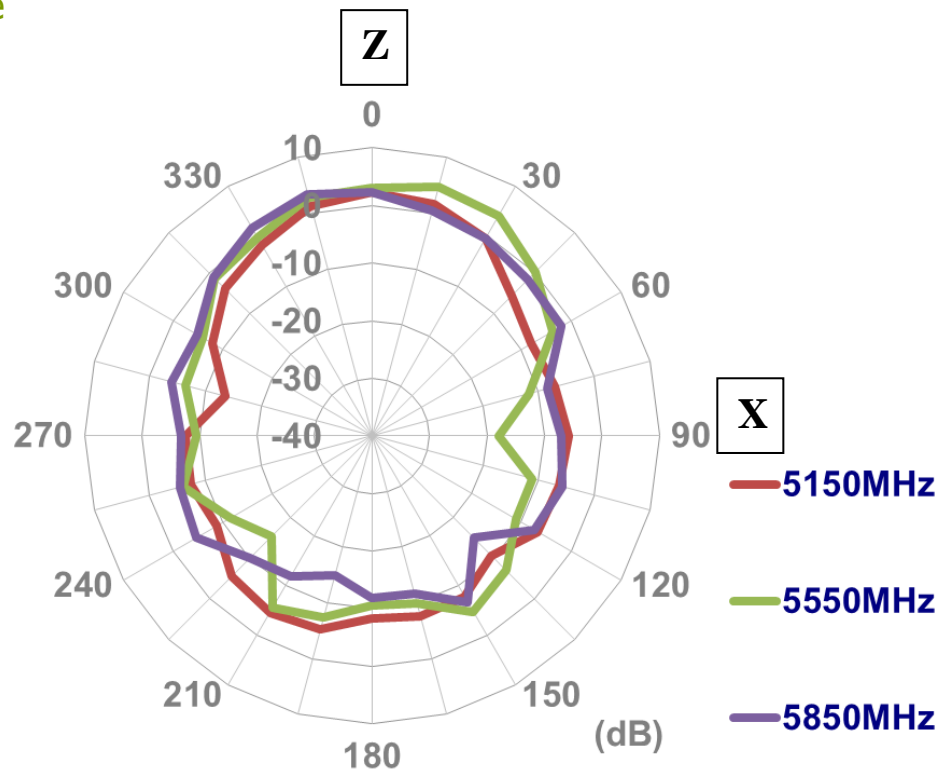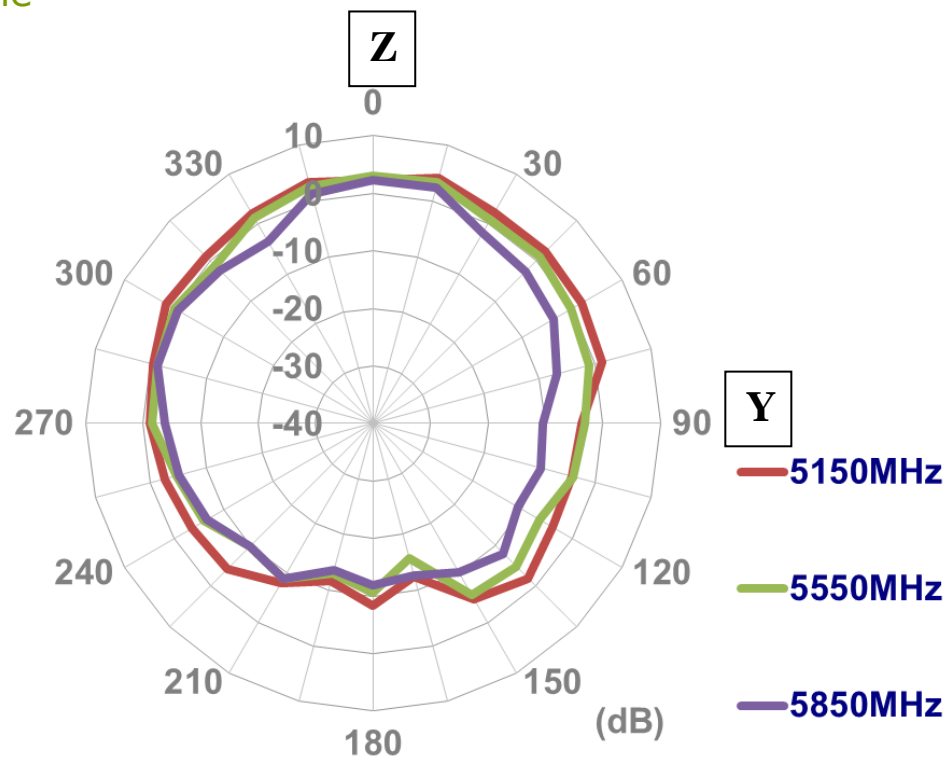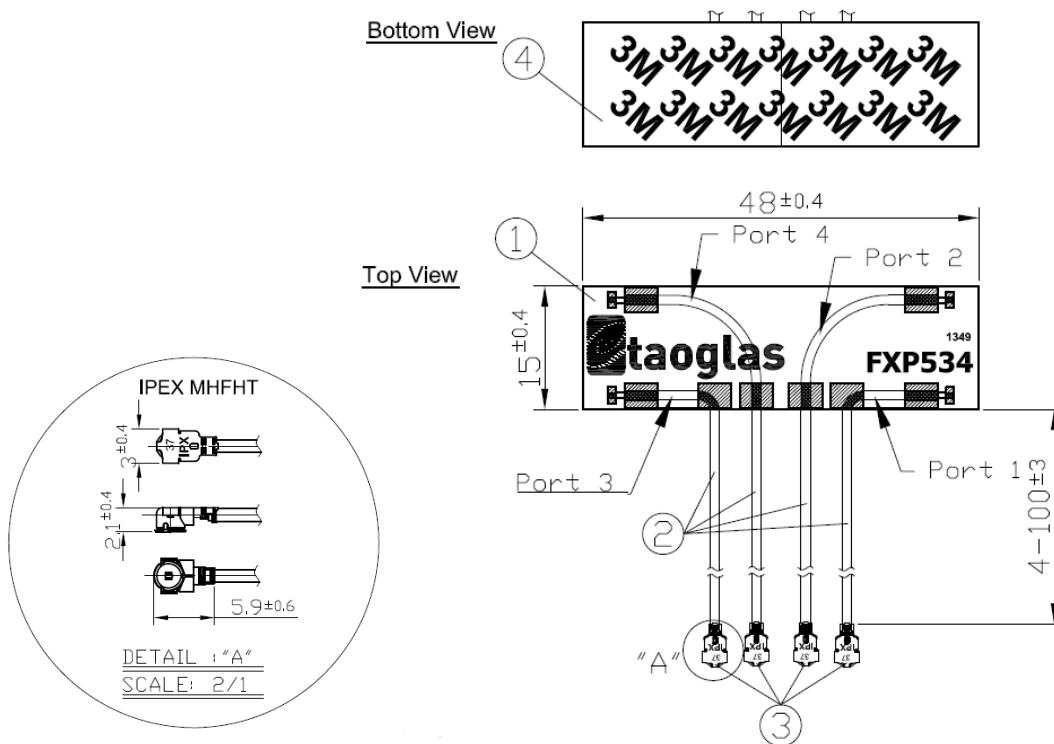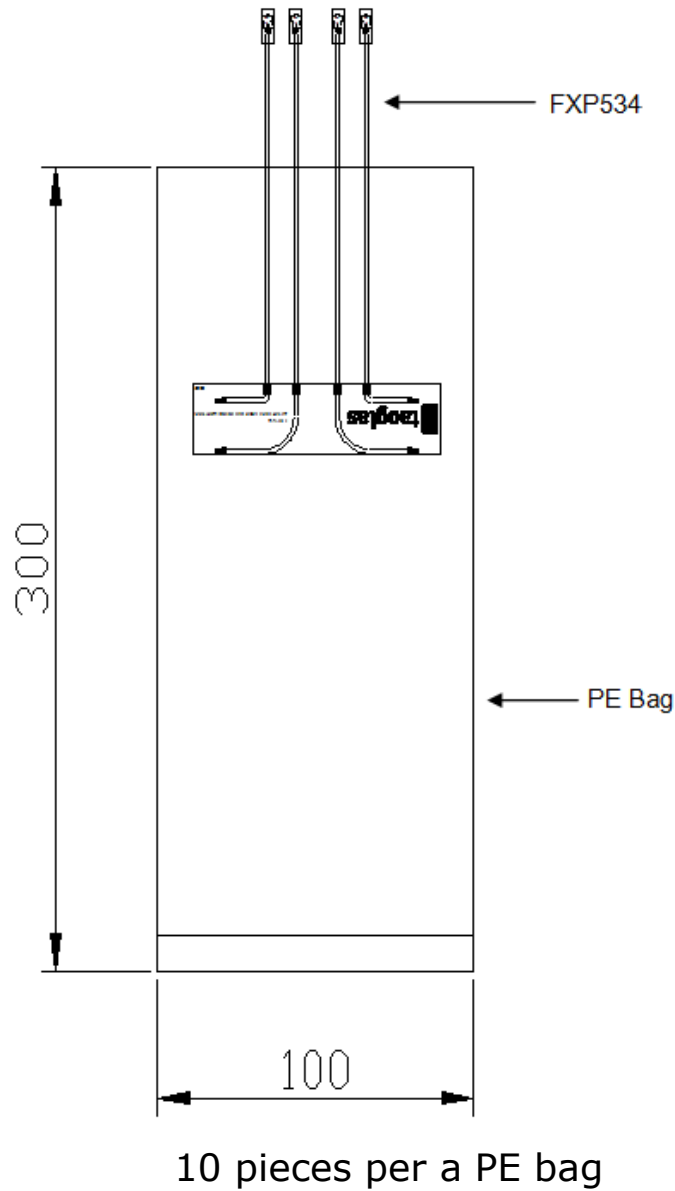
XZ plane

YZ plane

6. Drawing

	Name	P/N	Material	Finish	QTY
1	FXP534 FPCB	100114C000011A	FPCB 0.15t	Black	1
2	1.37 Coaxial Cable	300513A000013A	FEP	Black	4
3	IPEX MHFHT	204511G000013A	Brass	Gold	4
4	Double-Sided Adhesive	100114C000011A	3M 467	Brown Liner	1

7. Packaging

FXP534

300

100

PE Bag

10 pieces per a PE bag

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Taoglas](#):

[FXP534.D.07.C.001](#)