



# TAOGLAS®



# Datasheet

## Triton – TD.10.5113

**Part Number:**  
TD.10.5113

**Description:**

5dBi C-V2X 5.9GHz Dipole Terminal Antenna SMA(M) Hinged Connector

**Features:**

5.9GHz C-V2X Terminal Mount Dipole Antenna

5850MHz to 5925MHz

5dBi Gain

SMA(M) Hinged Connector

Dimensions: 169\*18\*13mm

RoHS & REACH Compliant

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## 1. Introduction



The Triton TD.10 is a dipole terminal DSRC antenna. This high performance, compact 5 dBi antenna designed to operate between 5850-5925MHz for C-V2X systems. The TD.10 does not require a ground-plane to connect to and has market-leading efficiency of 70%. Connection is made via the hinged SMA(M) connector which can be oriented straight, 45 degrees, or at a right angle to best fit your needs.

C-V2X is the communications medium of choice for active safety V2V/V2X (Vehicle-to-Vehicle and Vehicle-to-Other) systems. Primarily allocated for vehicle safety applications, C-V2X supports high-speed, low-latency, short-range, V2V/V2X wireless communications.

For further optimization to customer-specific device environments and for support to integrate and test this antennas performance in your device, contact your regional Taoglas Customer Services Team.

## 2. Specifications

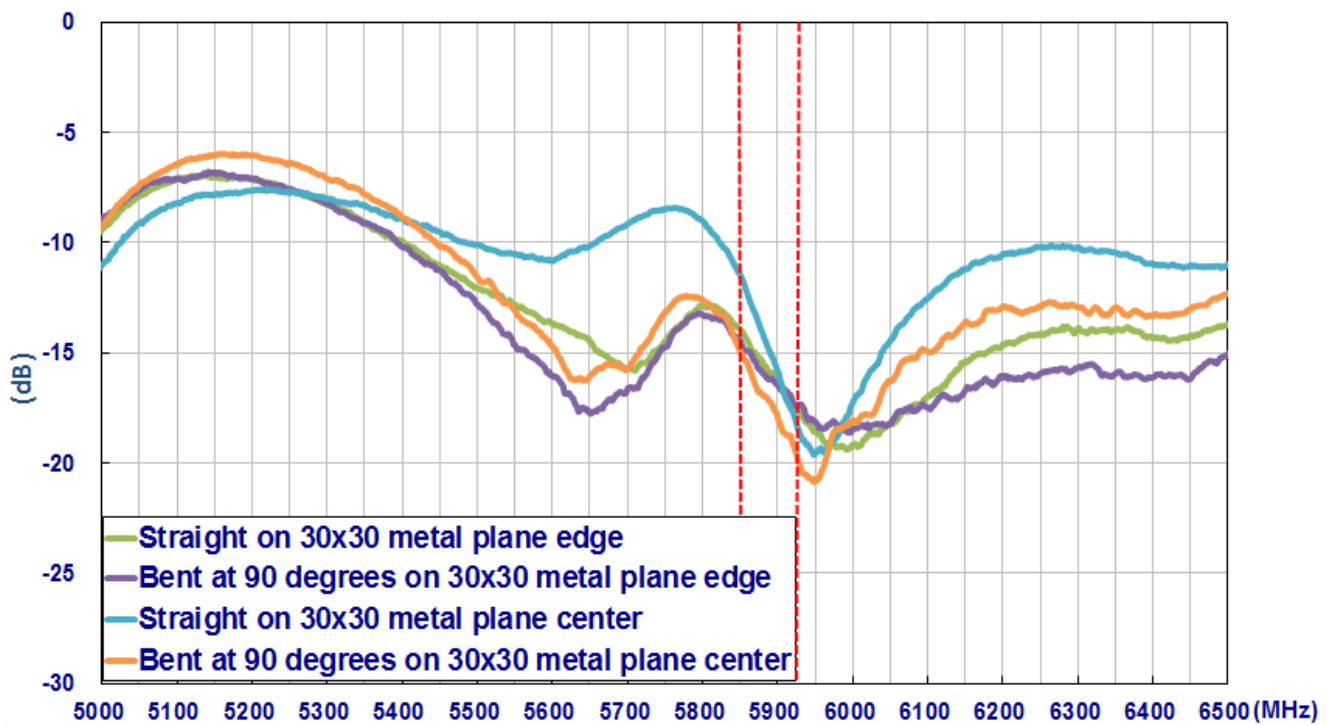
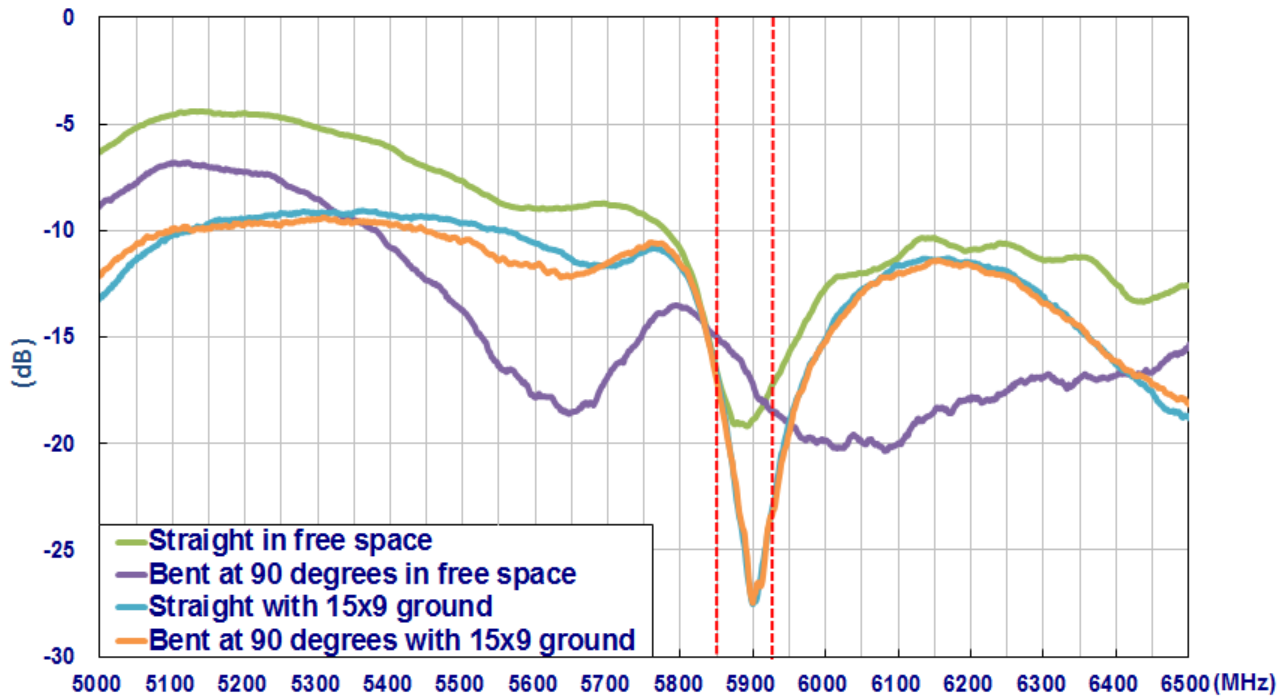
Electrical	
In Free Space	
Frequency	5850~5925MHz
Efficiency (%)	
Straight Pose	73.48
Bent Pose	64.58
Average Gain (dBi)	
Straight Pose	-1.34
Bent Pose	-1.9
Peak Gain (dBi)	
Straight Pose	5.88
Bent Pose	5.67
With 15*9cm Ground Plane	
Frequency	5850~5925MHz
Efficiency (%)	
Straight Pose	49.00
Bent Pose	46.77
Average Gain (dBi)	
Straight Pose	-3.10
Bent Pose	-3.30
Peak Gain (dBi)	
Straight Pose	3.07
Bent Pose	4.01
On 30*30cm Ground Plane Edge	
Frequency	5850~5925MHz
Efficiency (%)	
Straight Pose	58.49
Bent Pose	55.84
Average Gain (dBi)	
Straight Pose	-2.33
Bent Pose	-2.53
Peak Gain (dBi)	
Straight Pose	3.64
Bent Pose	5.39
On 30*30cm Ground Plane Center	
Frequency	5850~5925MHz
Efficiency (%)	
Straight Pose	65.24
Bent Pose	62.49
Average Gain (dBi)	
Straight Pose	-1.86
Bent Pose	-2.04
Peak Gain (dBi)	
Straight Pose	5.19
Bent Pose	10.41
Operation Band	DSRC 5.9GHz
Return Loss	< -10dB
VSWR	< 2:1
Polarization	Linear
Impedance	50 $\Omega$

Mechanical	
Dimensions	Length 169mm, $\Phi$ 18mm
Casing	PC+ABS
Connector	Hinged SMA Male
Weight	21.75 g
Recommended Torque for Mounting	0.9 N·m
Max Torque for Mounting	1.176 N·m

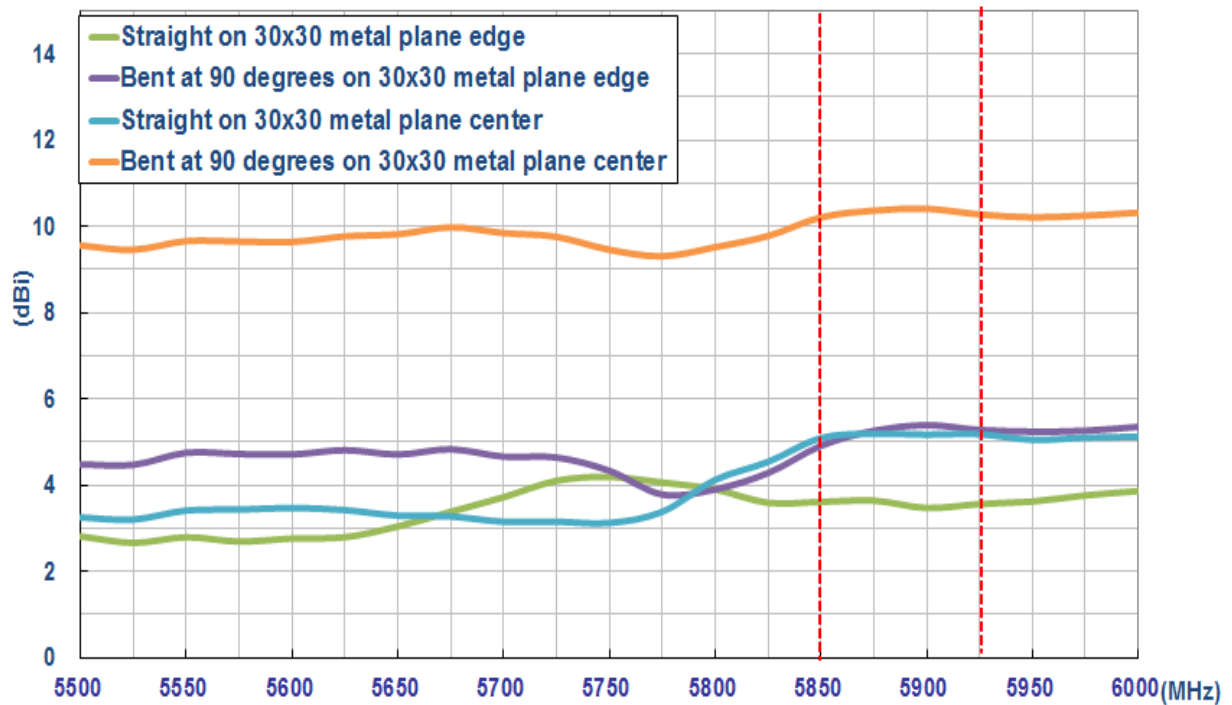
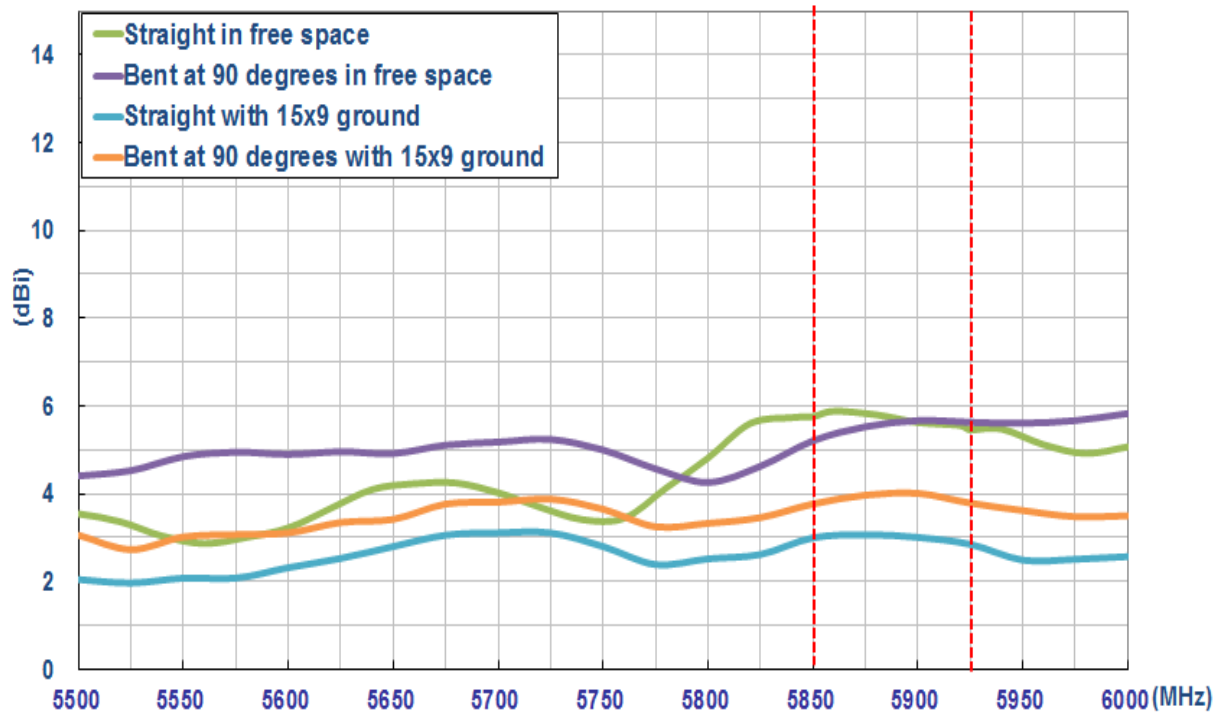
Environmental	
Temperature Range	-40°C to 85°C
Humidity	Non-condensing 65°C 95% RH

### 3. Antenna Characteristics

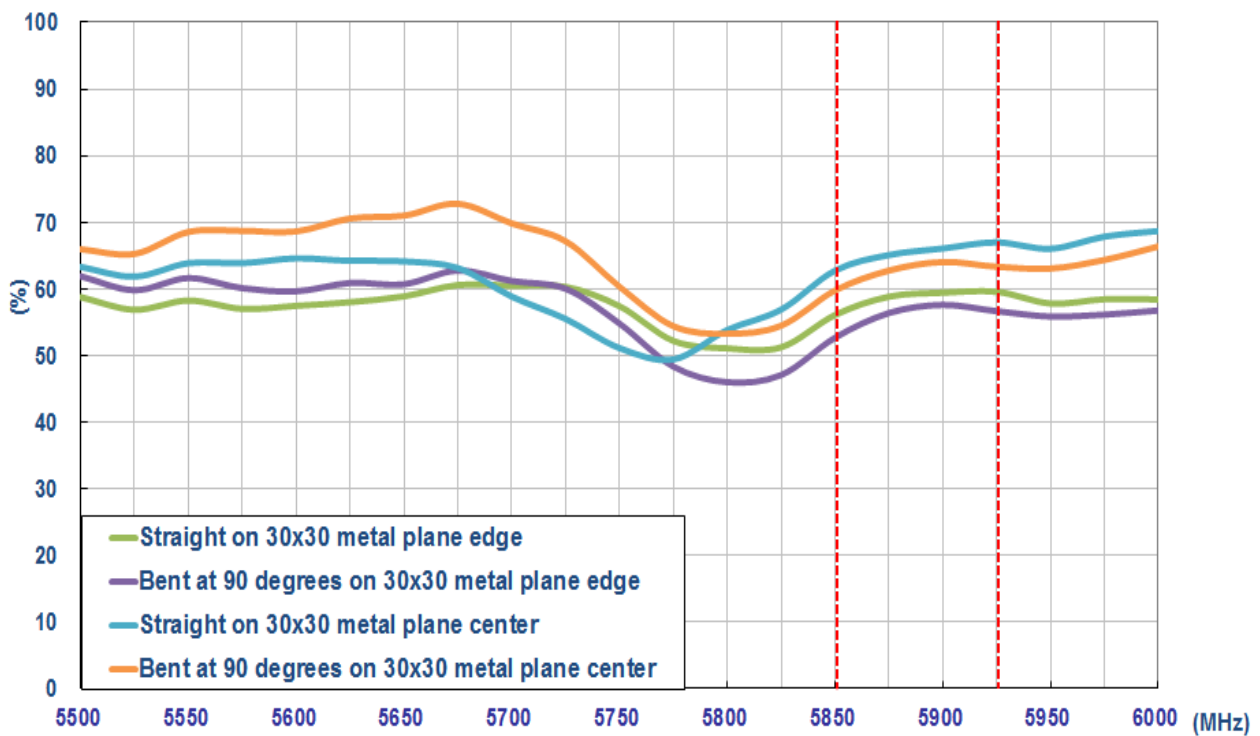
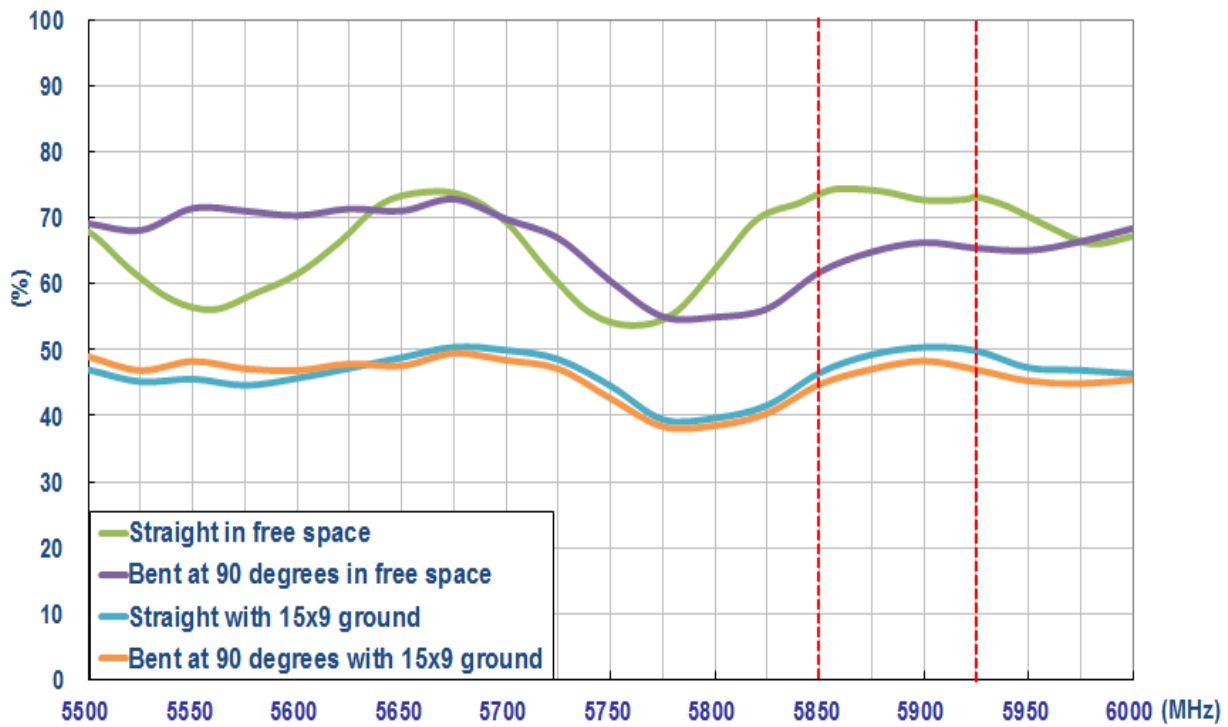
#### 3.1 Return Loss



### 3.2 Peak Gain

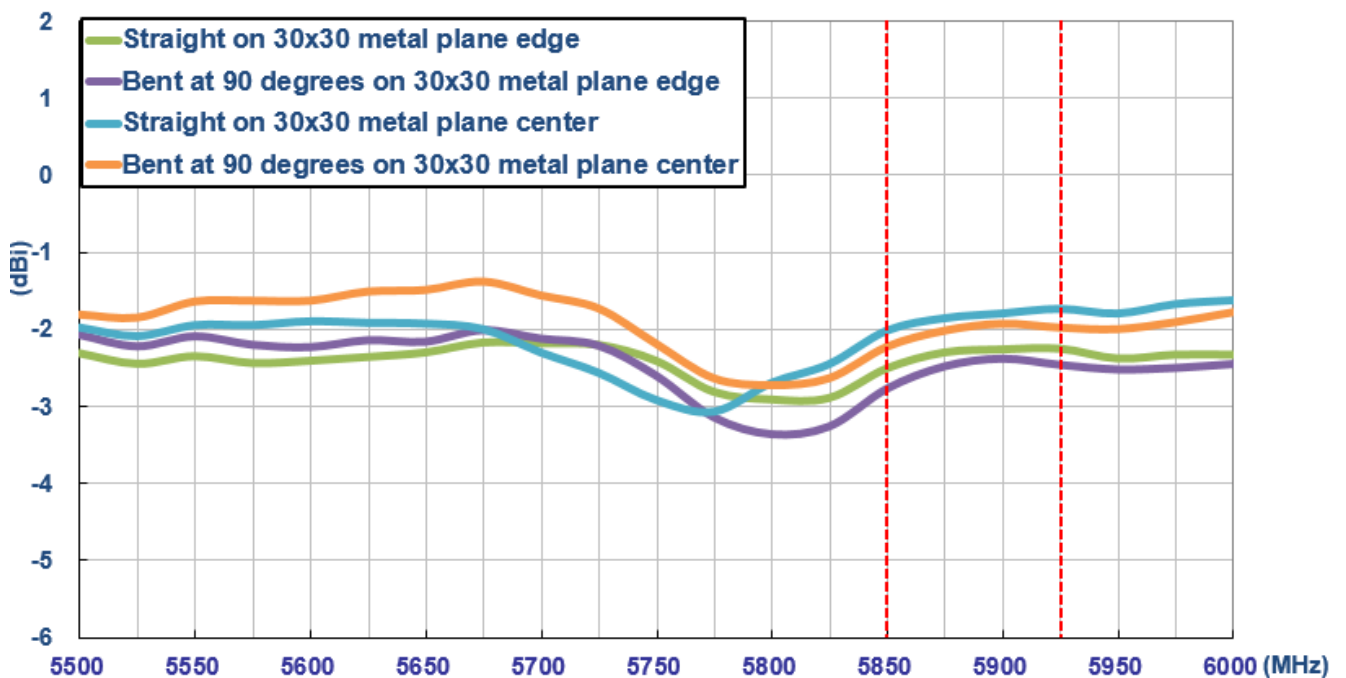
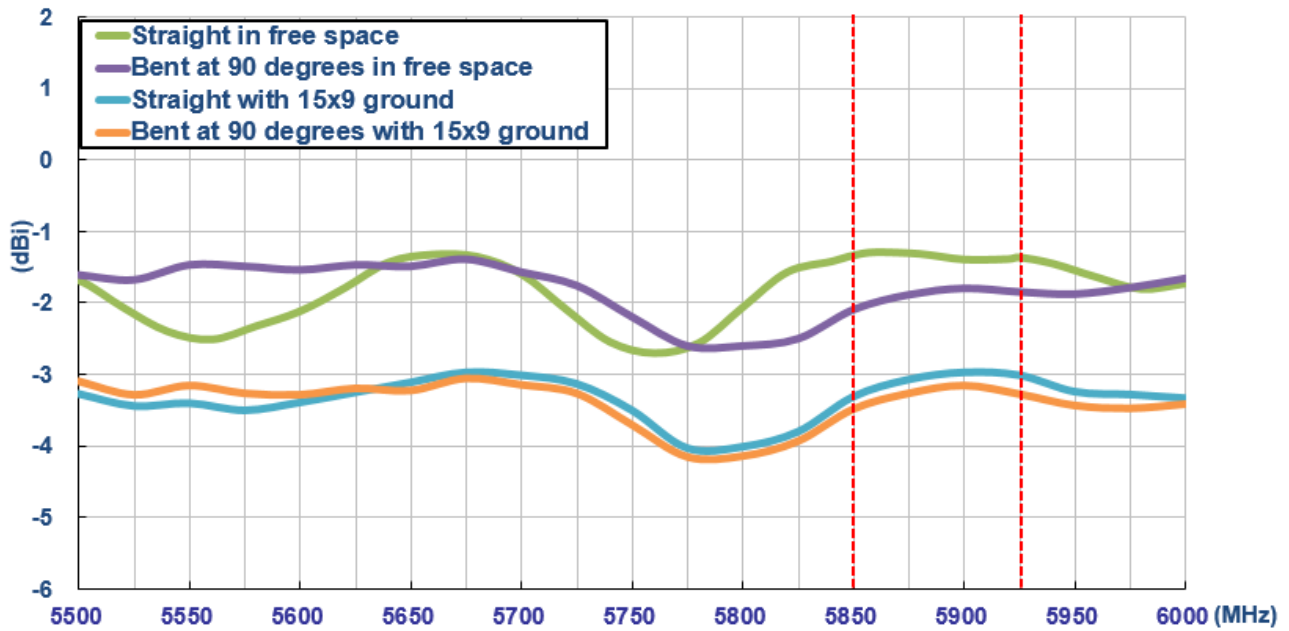


### 3.3 Efficiency



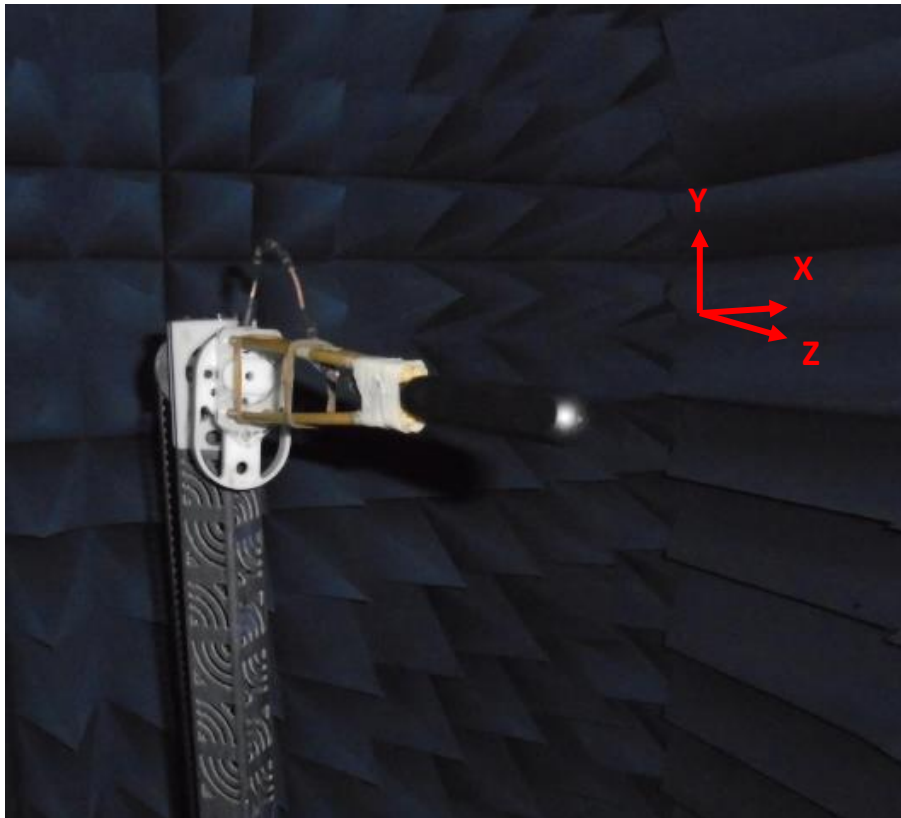


### 3.4 Average Gain



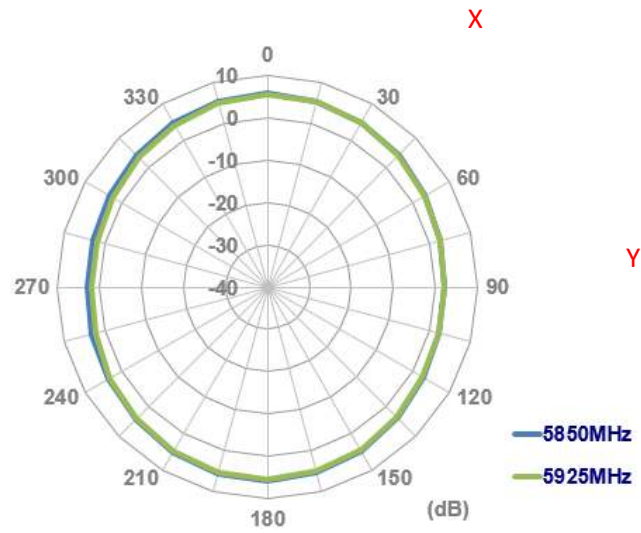
## 4. 2D Radiation Patterns

### 4.1 Test Setup

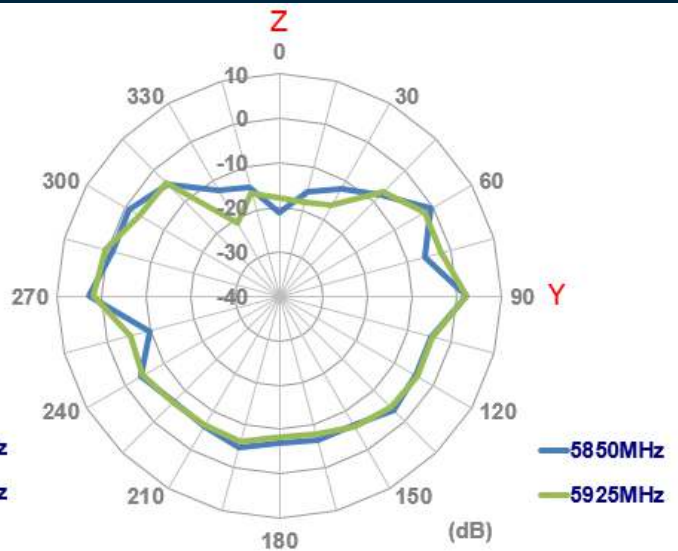
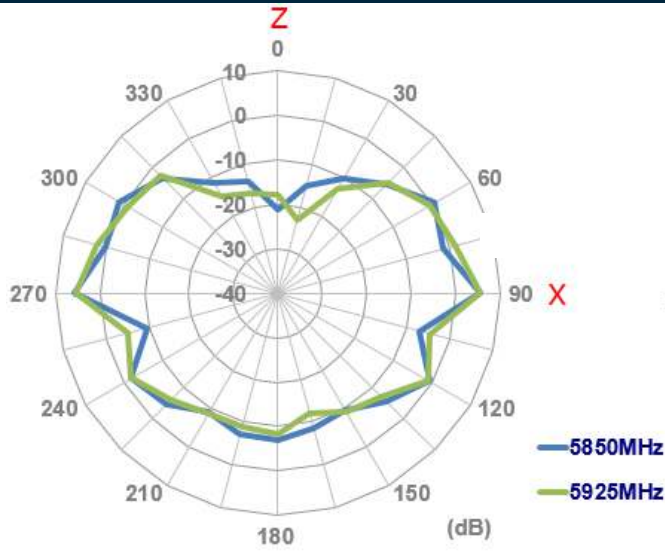


Free space Straight

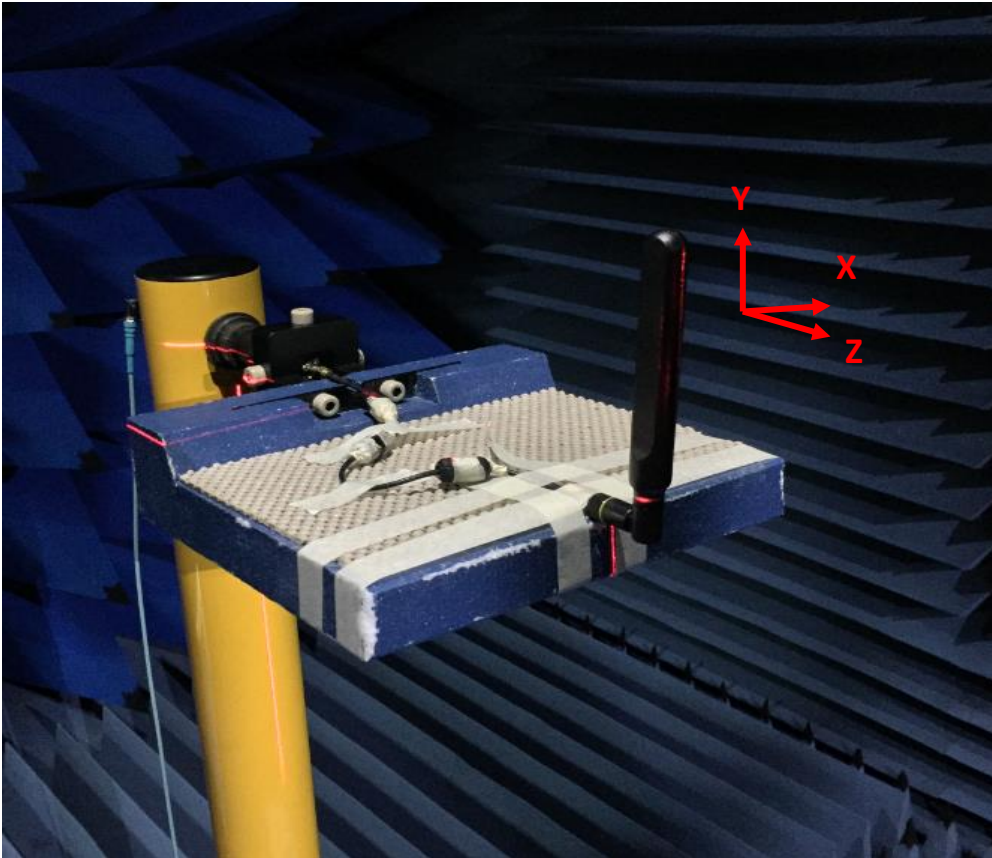
XY Plane



XZ Plane      YZ Plane

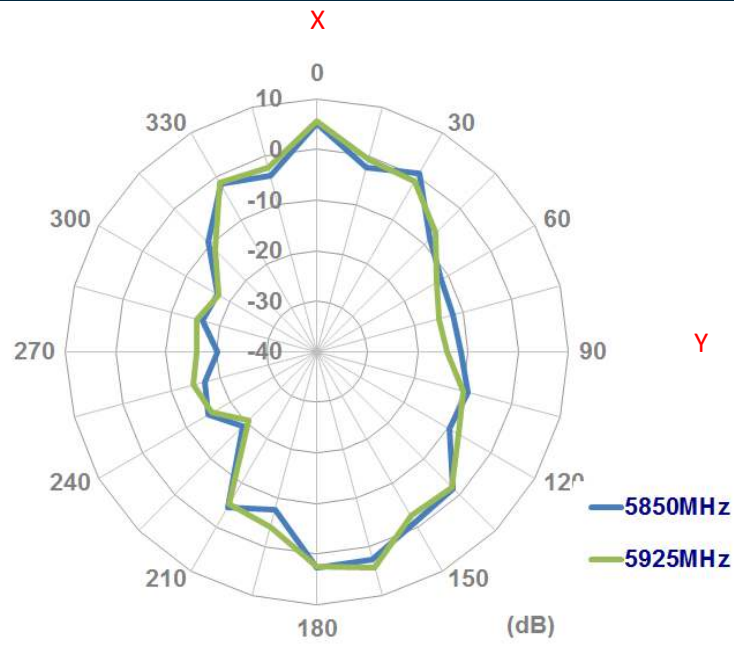


4.2 Test Setup

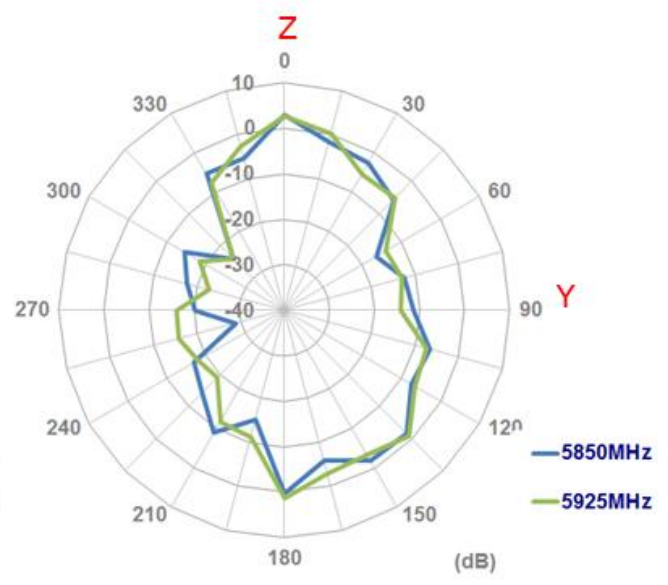
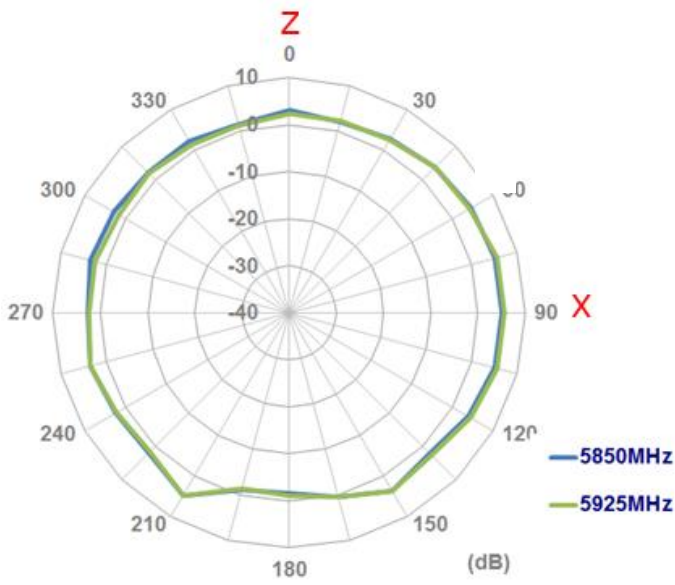


Free space bend

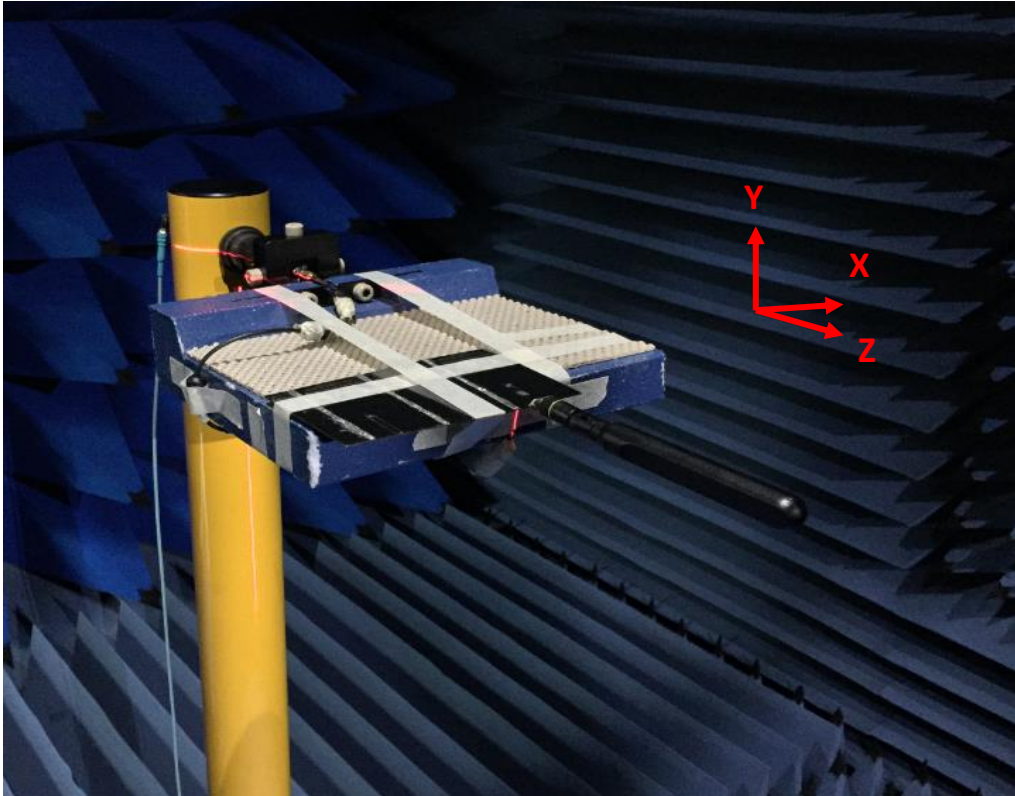
XY Plane



XZ Plane      YZ Plane



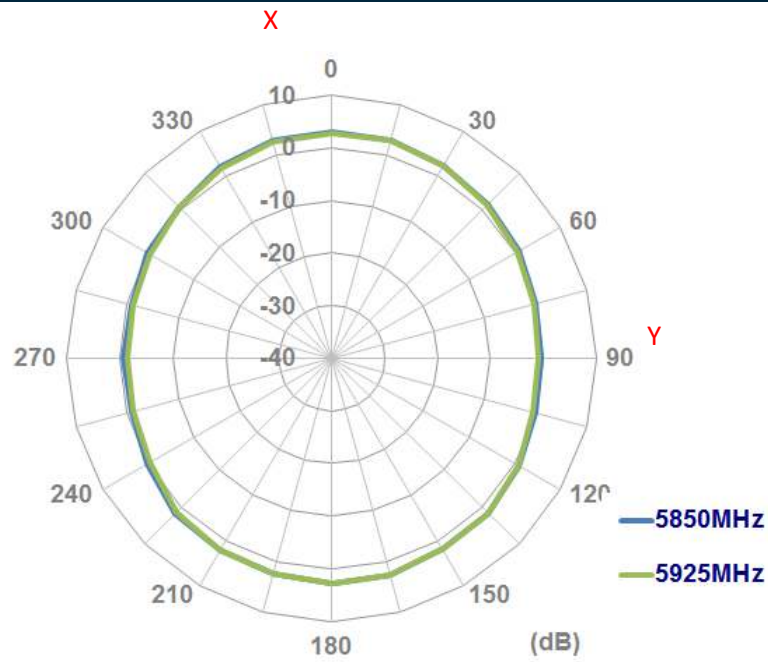
4.3 Test Setup



straight with 15\*9cm ground plane

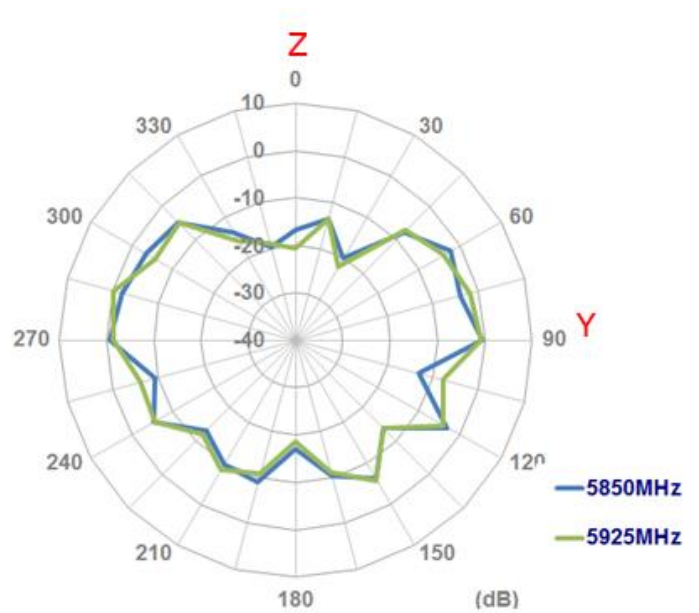
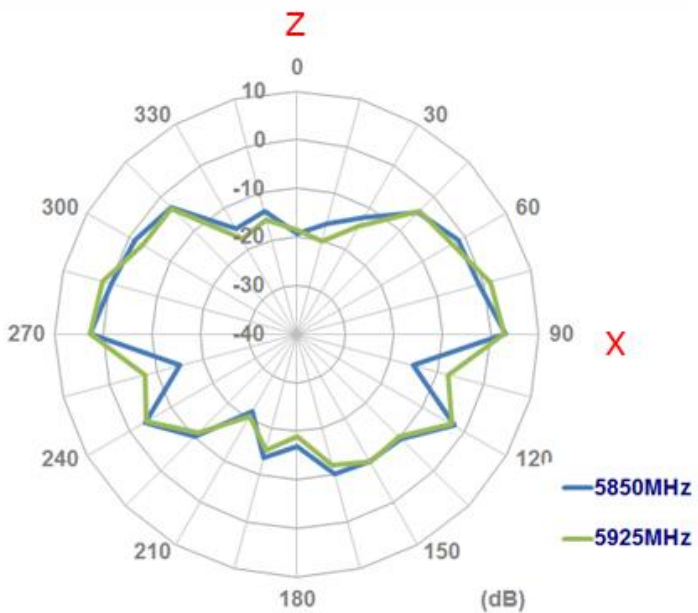


XY Plane

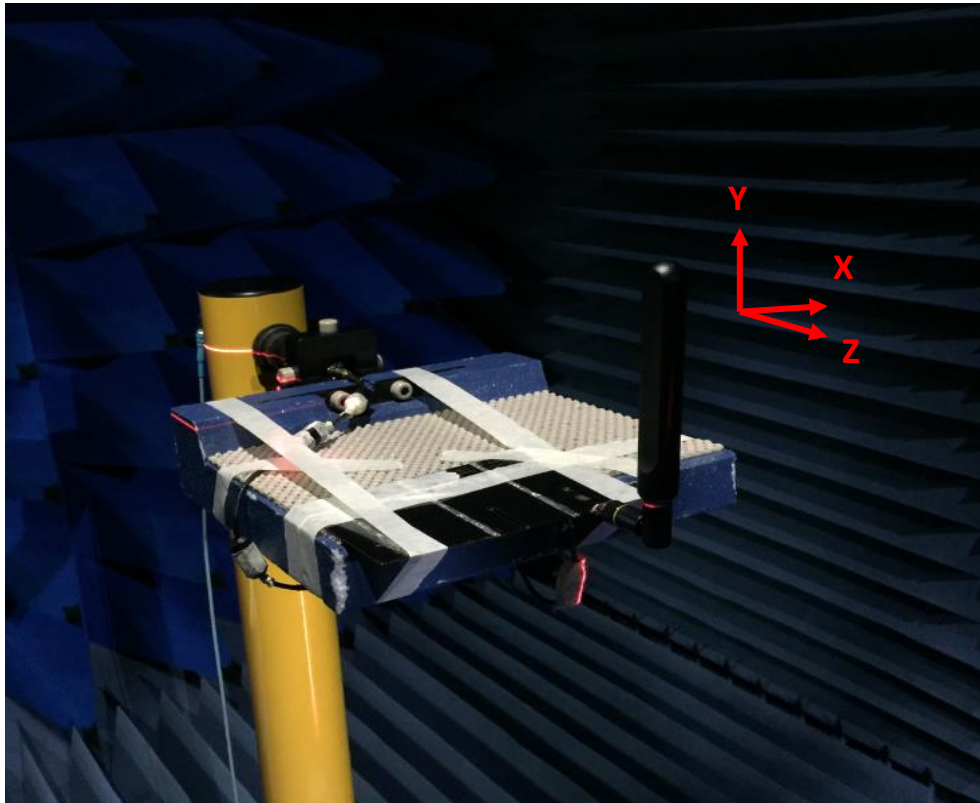


XZ Plane

YZ Plane



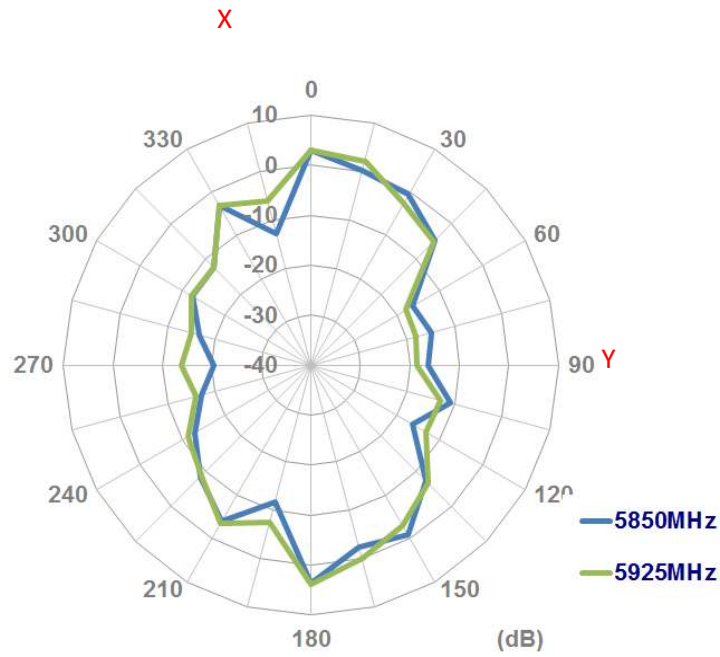
4.4 Test Setup



bent with 15\*9cm ground plane

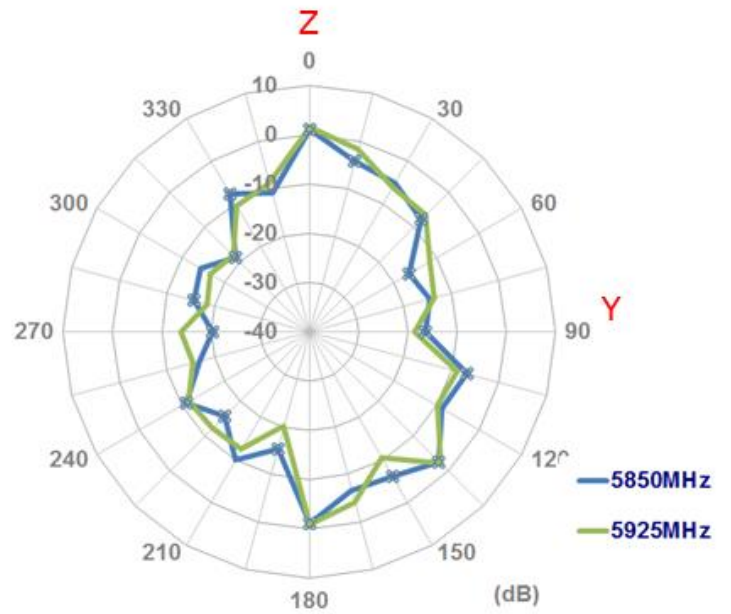
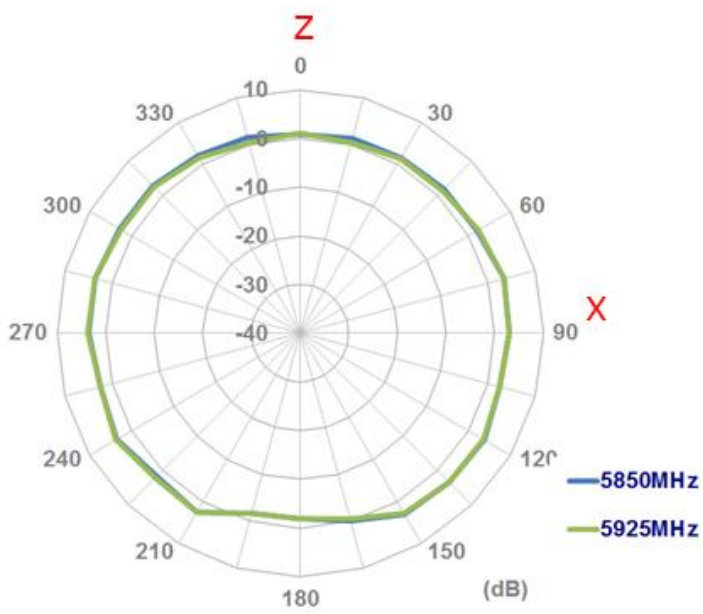


XY Plane

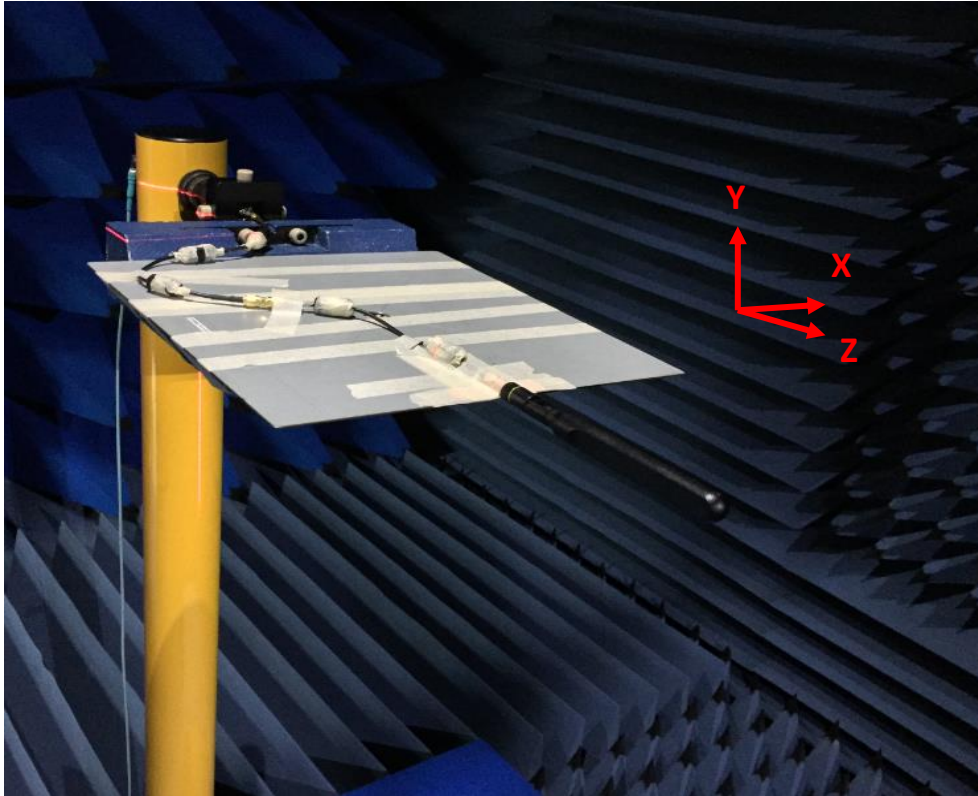


XZ Plane

YZ Plane

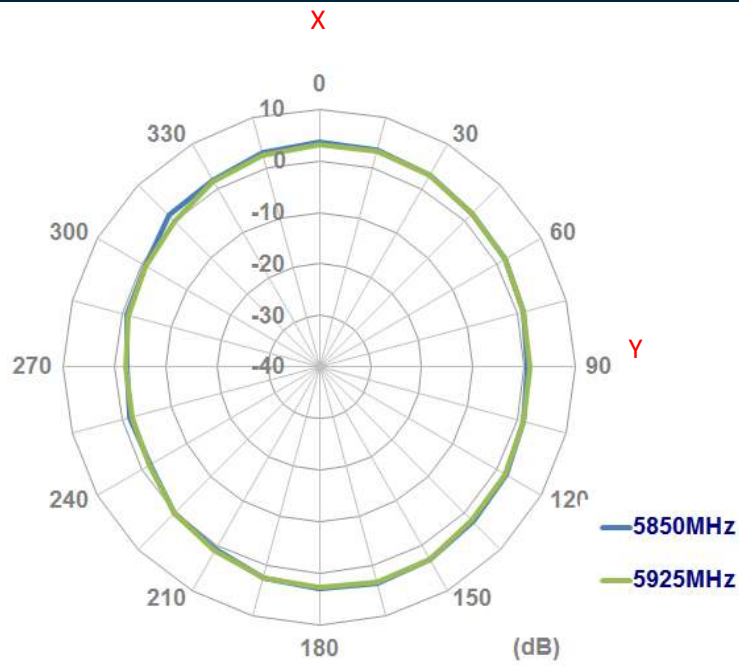


4.5 Test Setup



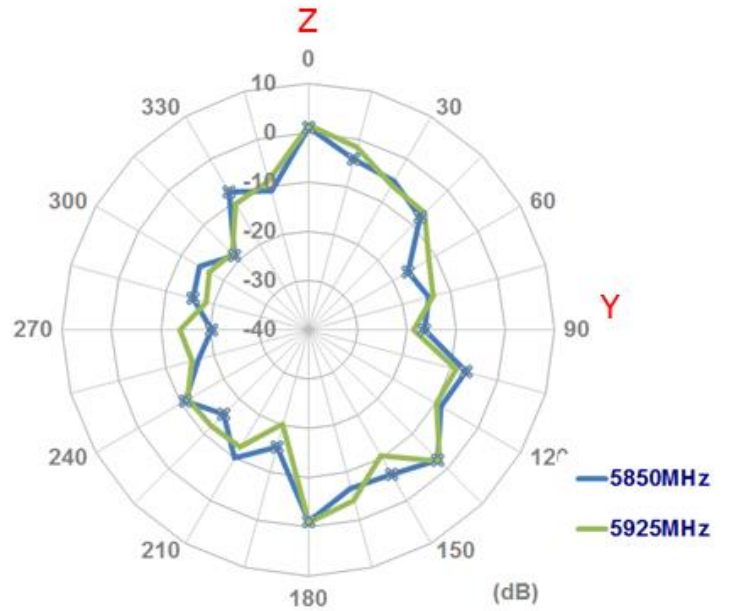
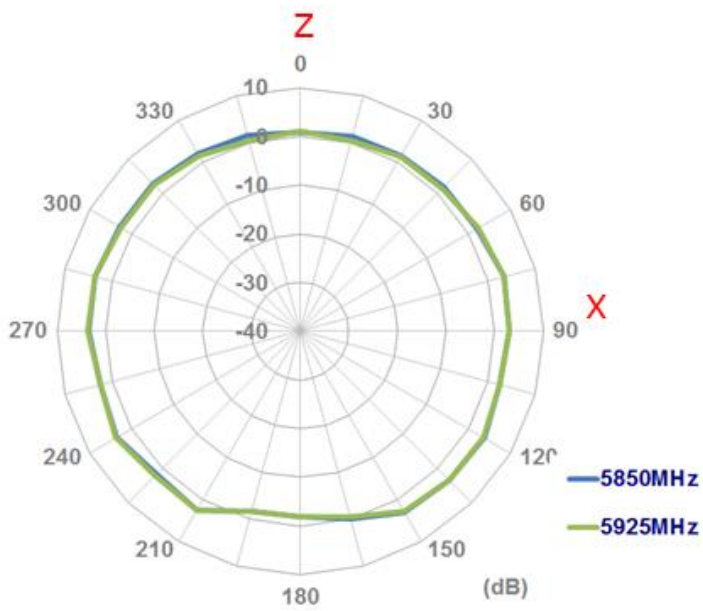
Straight with 30\*30cm Ground Plane edge

XY Plane

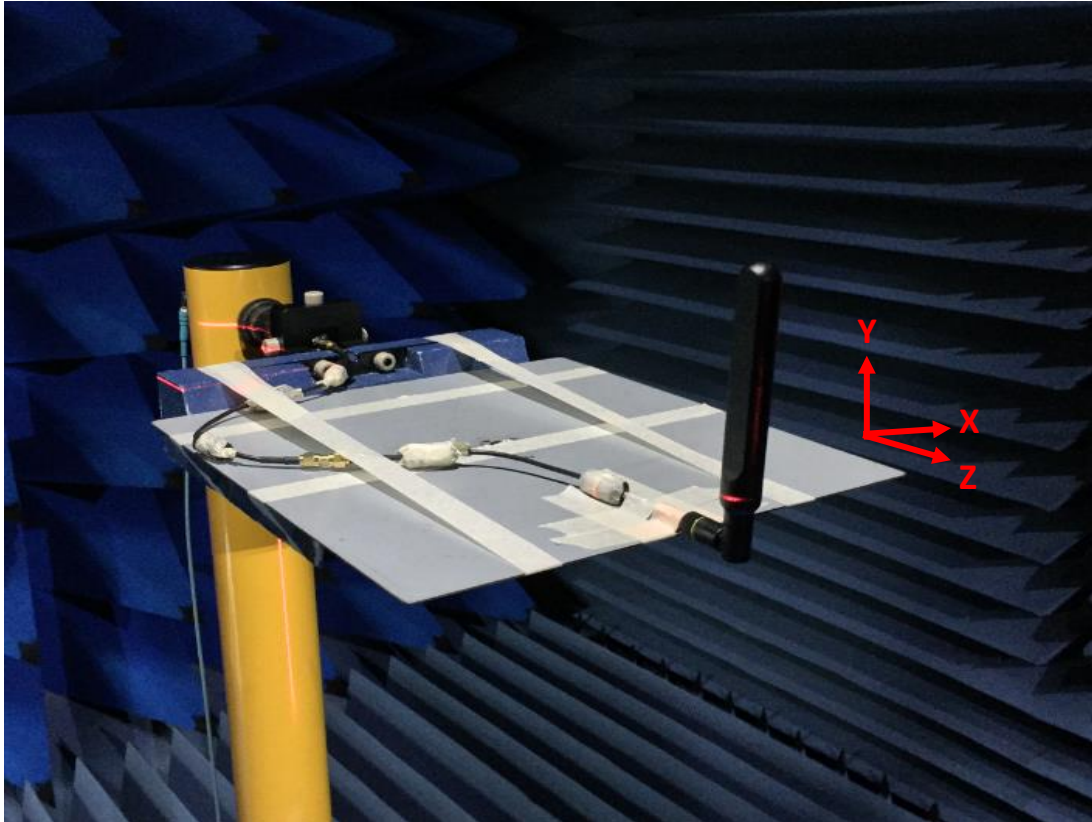


XZ Plane

YZ Plane

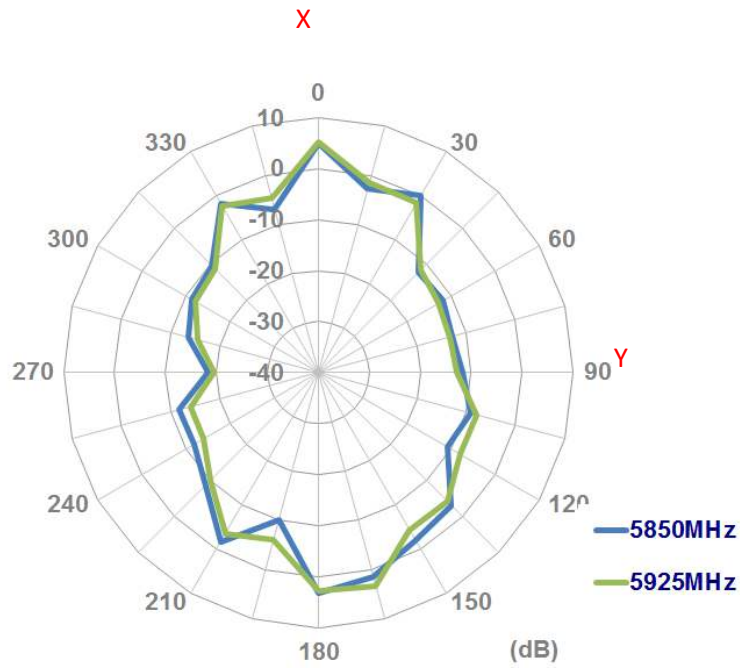


4.6 Test Setup

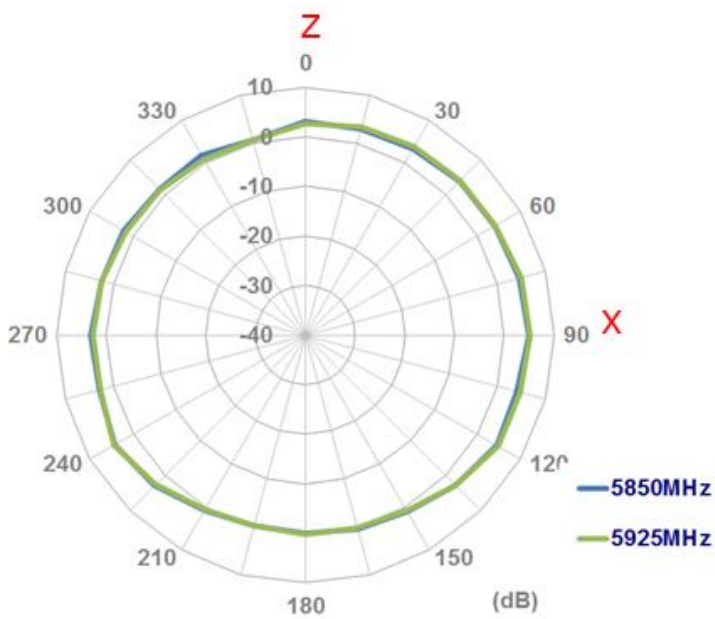


Bent with 30\*30cm Ground Plane edge

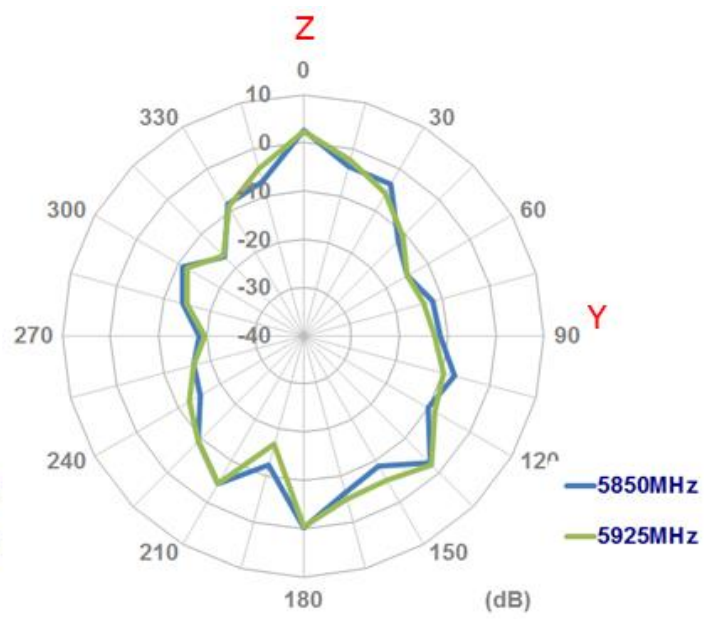
XY Plane



XZ Plane

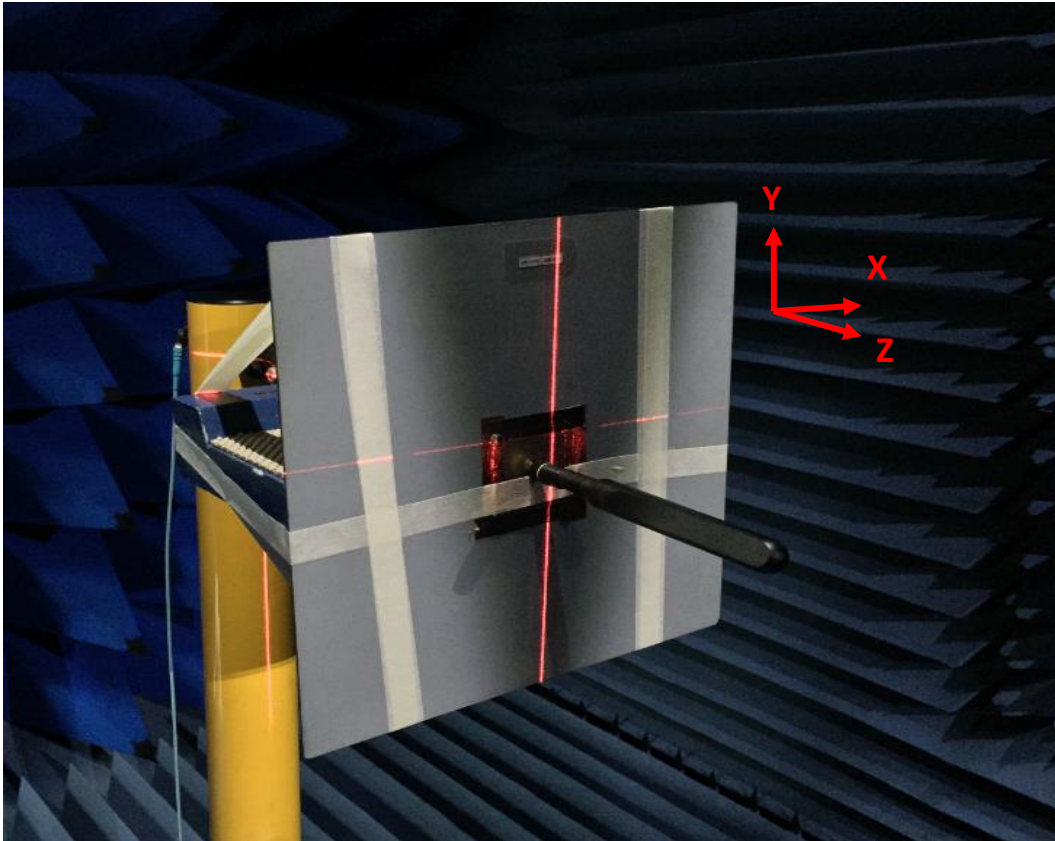


YZ Plane



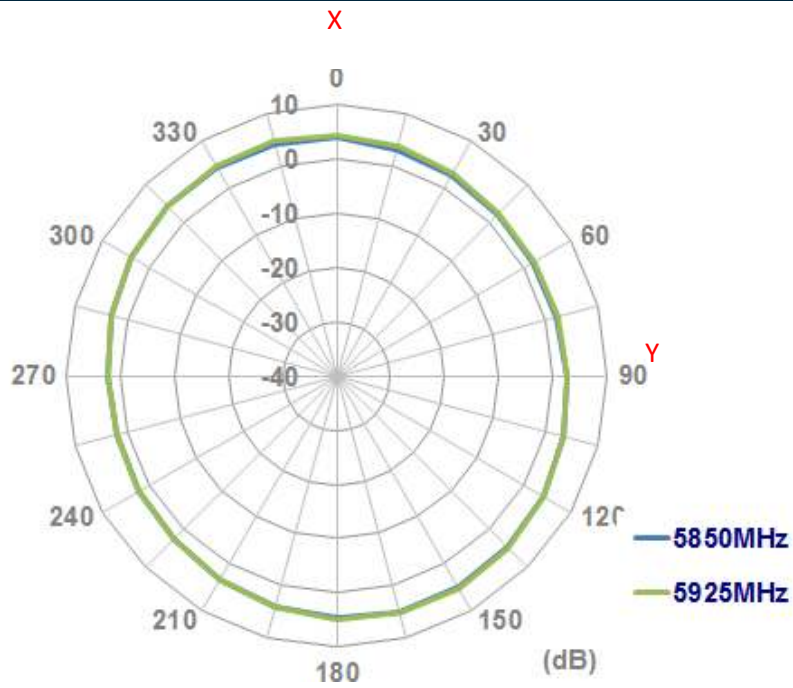


4.7 Test Setup

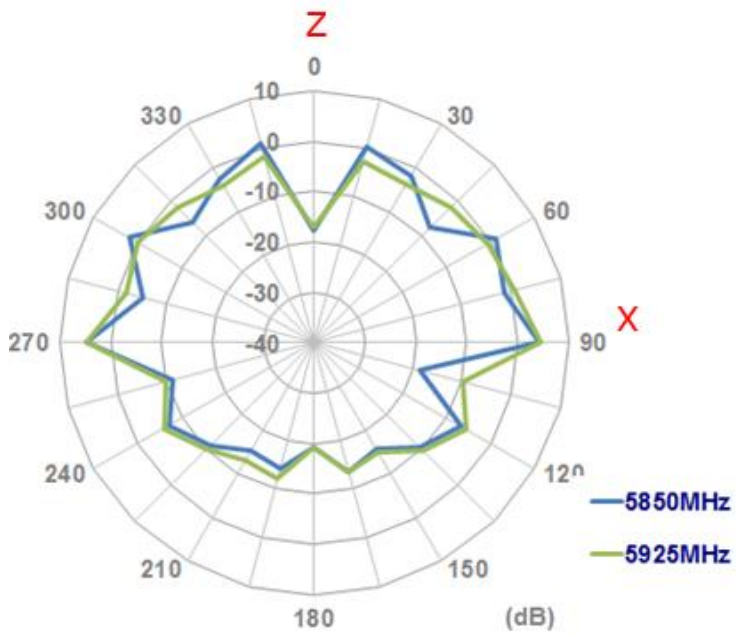


Straight with 30\*30cm Ground Plane Center

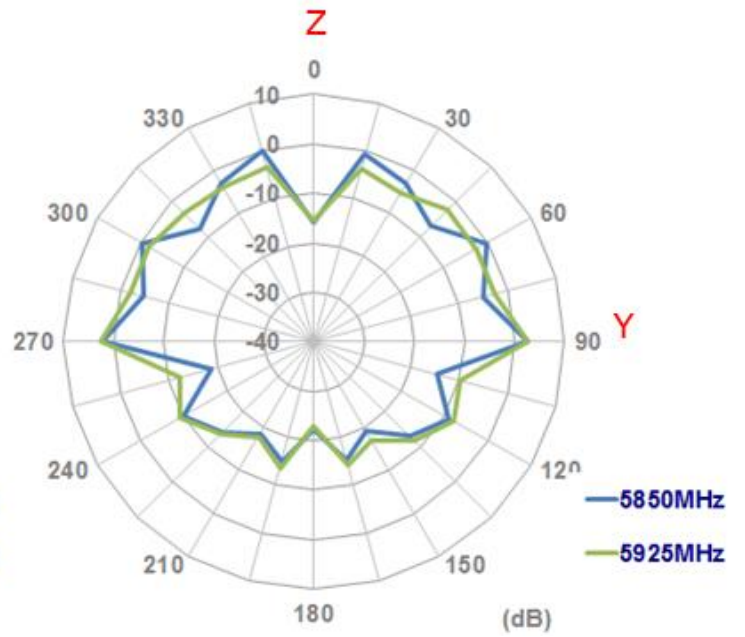
XY Plane



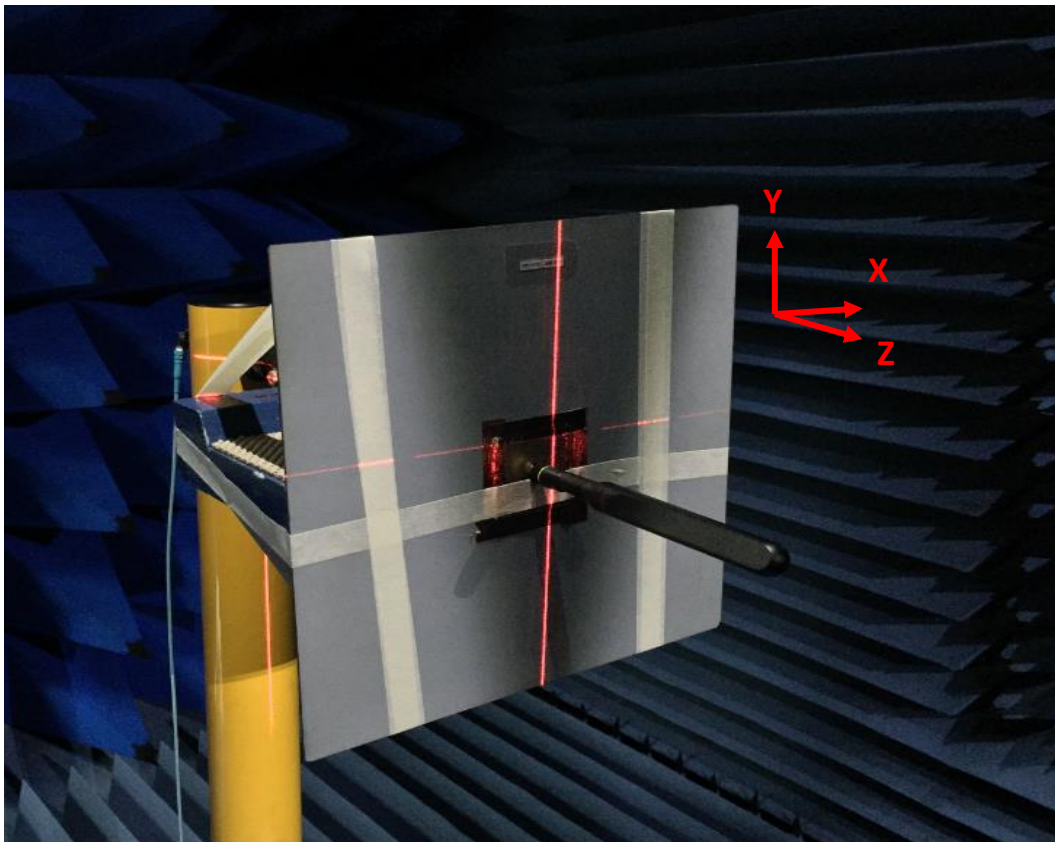
XZ Plane



YZ Plane



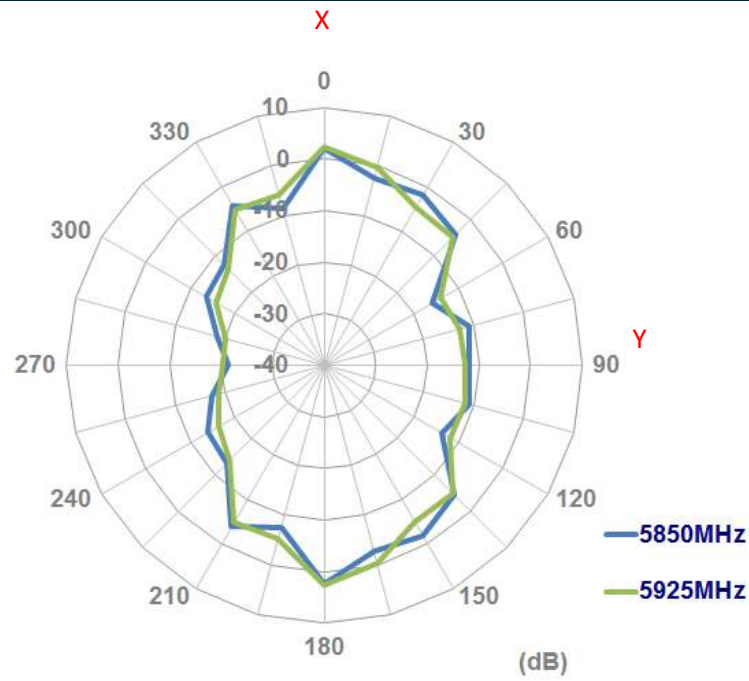
4.8 Test Setup



Bent at 90° with 30\*30cm Ground Plane Center

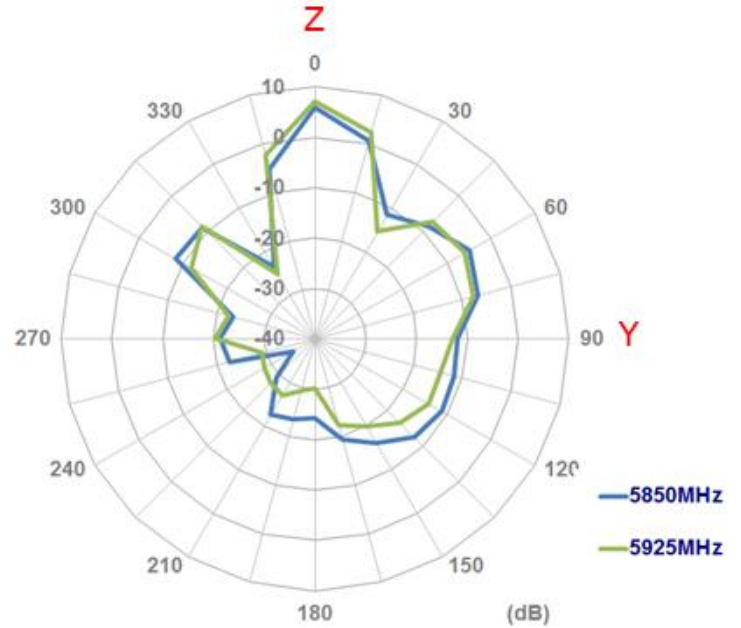
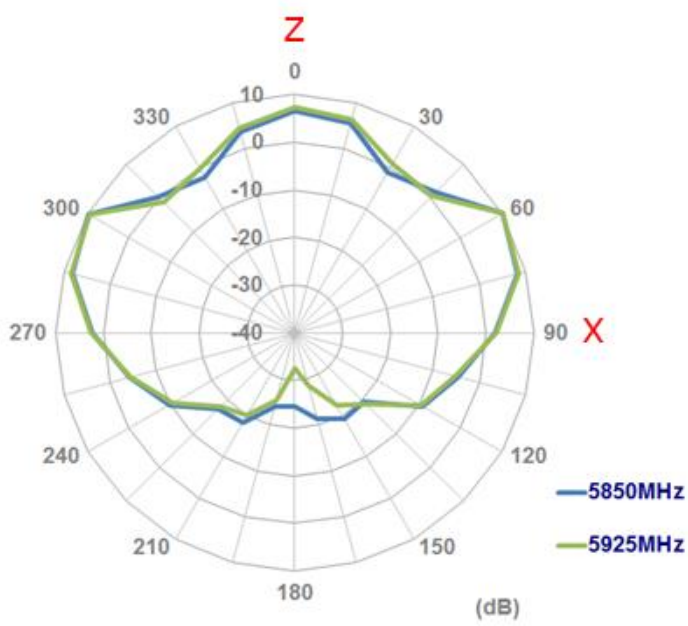


XY Plane



XZ Plane

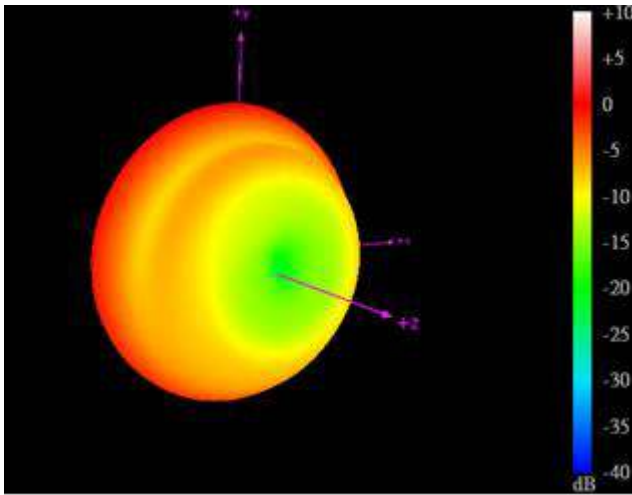
YZ Plane



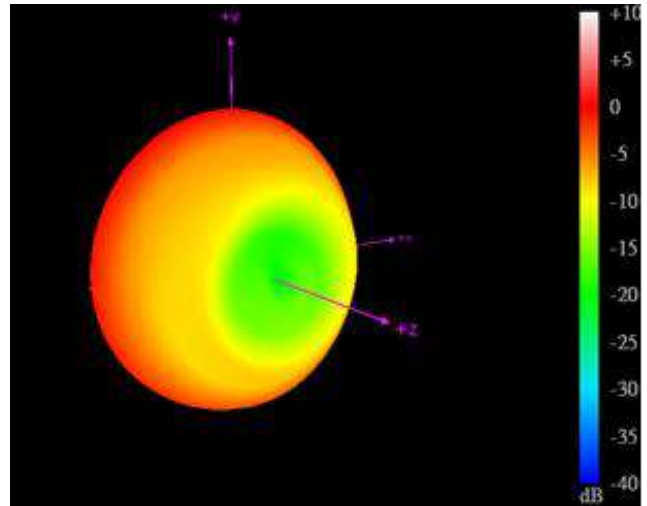
## 5. 3D Radiation Patterns

### 5.1 Free Space

Straight

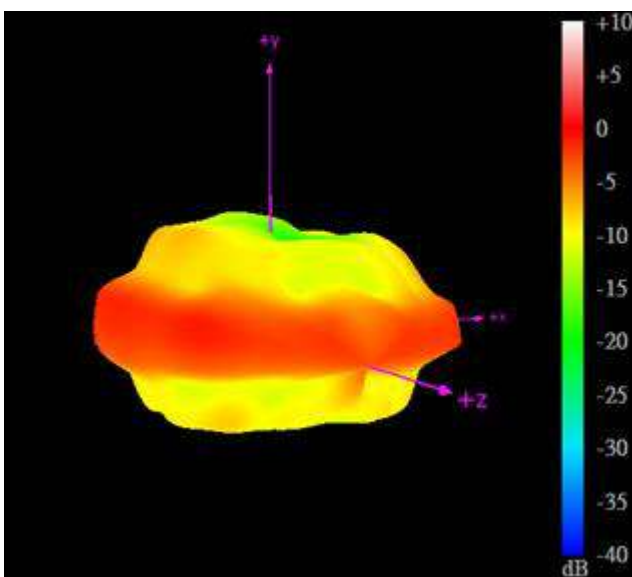


5850MHz

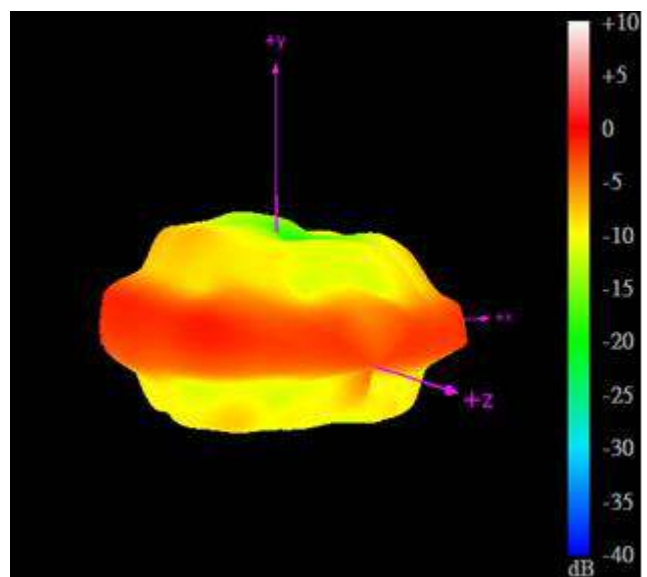


5925MHz

Bent at 90 Degrees



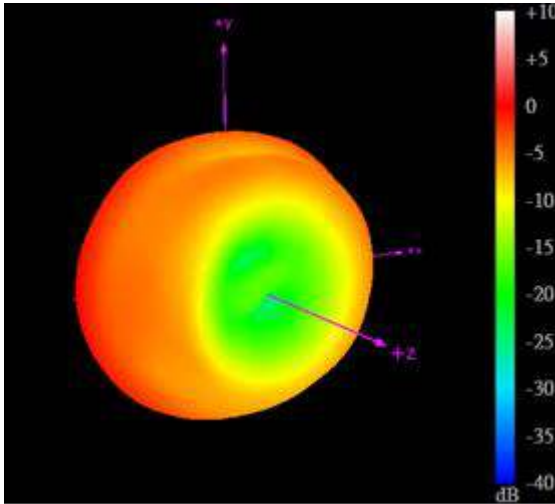
5850MHz



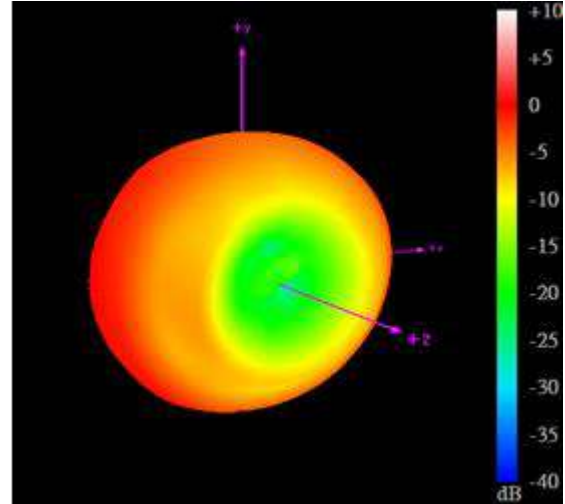
5925MHz

## 5.2 15\*9cm Ground Plane

Straight

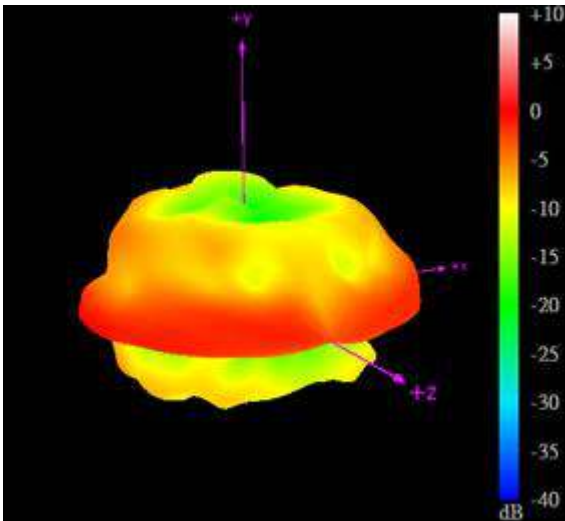


5850MHz

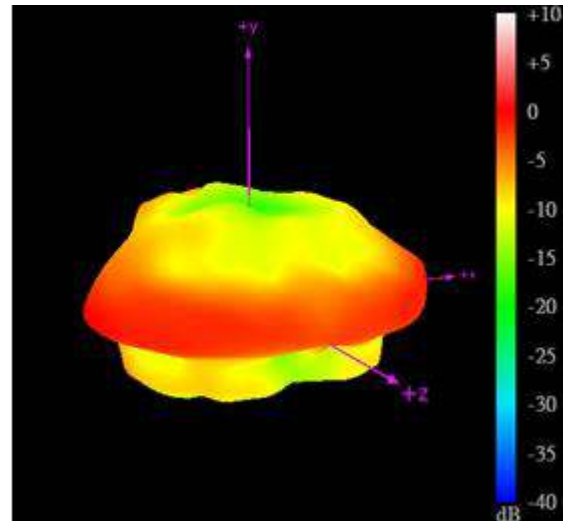


5925MHz

Bent at 90 Degrees



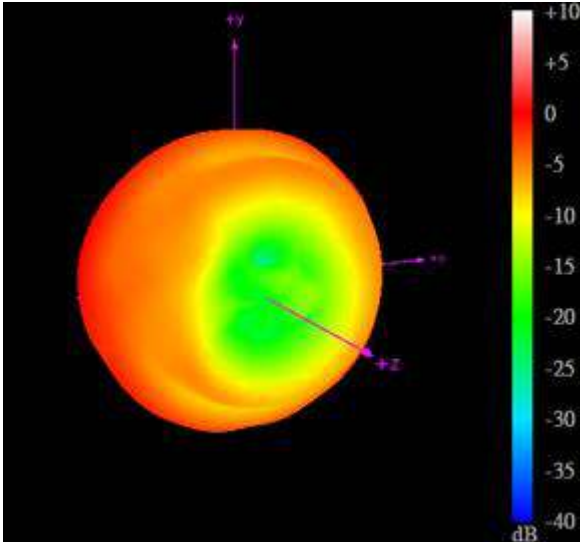
5850MHz



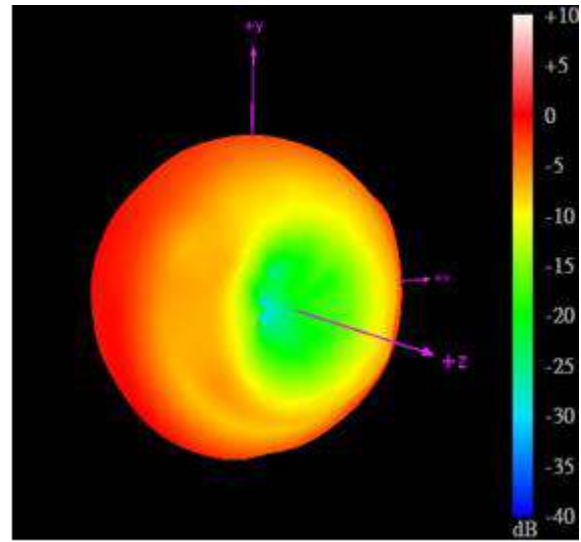
5925MHz

5.3 30\*30cm Ground Plane edge

Straight

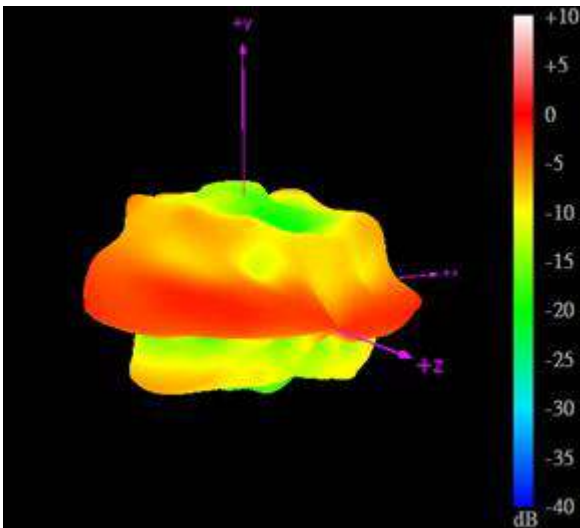


5850MHz

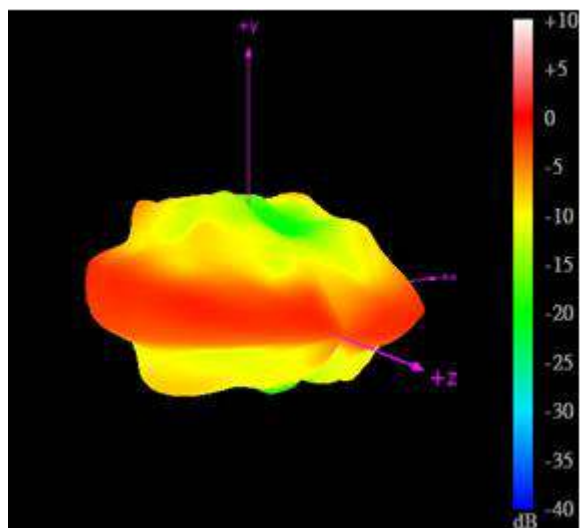


5925MHz

Bent at 90 Degrees



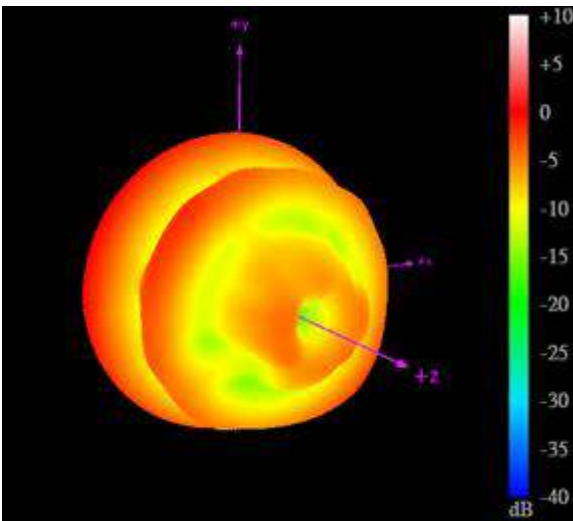
5850MHz



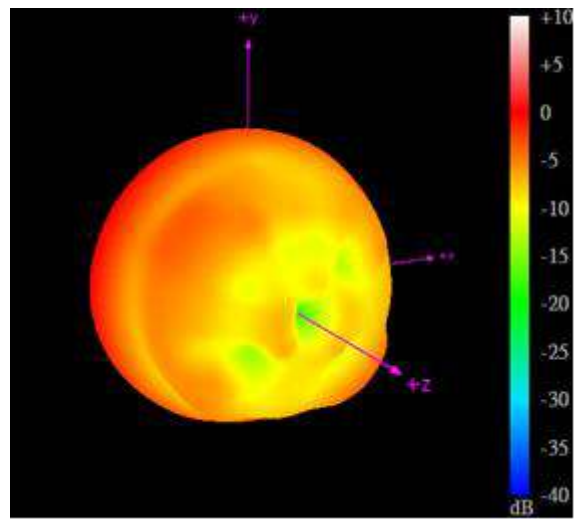
5925MHz

5.4 30\*30cm Ground Plane Center

Straight

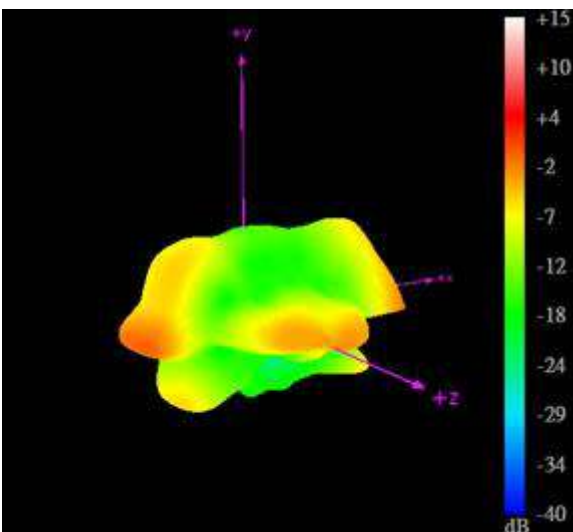


5850MHz

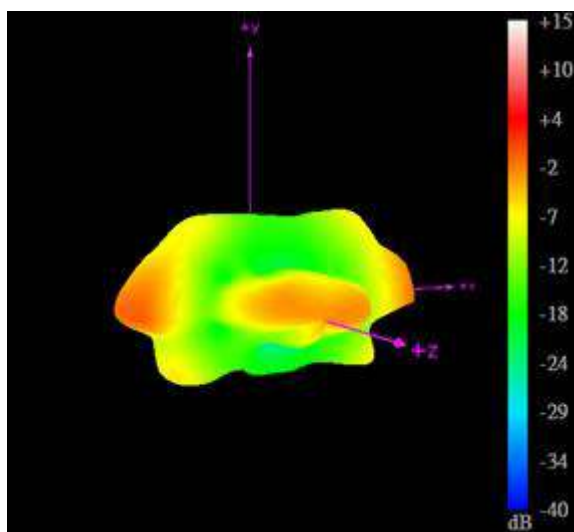


5925MHz

Bent at 90 Degrees



5850MHz



5925MHz

6. Mechanical Drawing (Units: mm)

6	5	4	3	2	1		
ISO NO: EDW-18-8-6559		<Release>					
		REV	ZONE	DESCRIPTION	ENG	APPROVED	ISSUED DATE
		⚠	ALL	Initial Design	Kim	Paul	2016/02/24
		⚠	E6	Add a dimension	Haley	Wayne	2016/05/27
		⚠	ALL	Amend Quantity of Rivet Remove Cable Dimension	Haley	Paul	2018/02/02
		⚠	ALL	Modify tolerance <ECR-18-8-068>	Rachel	Haley	2018/09/28
		⚠	ALL	Modify tolerance <ECR-19-8-002>	Rachel	Joey	2019/02/21

Name	P/N	Material	Finish	QTY
1 Antenna Housing	000111K070015A	PC+ABS	Black	2
2 Antenna Base1	000111K080015A	PC+ABS	Black	1
3 Antenna Base2	000111K090015A	PBT	Black	1
4 SMA(M)	210211L000015A	PBT	Black	1
5 RG178 Coaxial Cable	301115C010000A	FEP	Brown	1
6 Washer	000416B000000A	PP	Yellow	1
7 Rivet	000116B000015A	POM	Black	2

UNLESS OTHERWISE SPECIFIED TOLERANCES ON:		DATE: 2016/02/24	MAT'L:	 <small>TW Design Centre This drawing and its inherent design concepts are property of Taoglas. Not to be copied or given to third parties without the written consent of Taoglas.</small>	REV
.XX± 0.5 .XX± 0.1		UNIT: mm	FINISH:		D05
X± 0.3 .XXX± 0.05		THIRD ANGLE PROJECTION	SCALE: 1/1.25		A
APPROVED BY:	CHECKED BY:	DRAWN BY:	CUSTOMERS SIGNATURE / DATE	TITLE. : Triton 5dBi DSRC 5.9GHz Dipole Terminal Antenna SMA(M) Hinged Connector	
Paul	Jack/Jason	Kim		PART NO. : TD.10.5113	

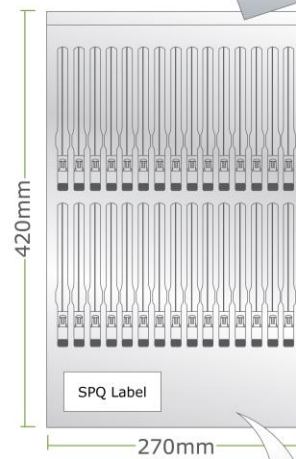


## 7. Packaging

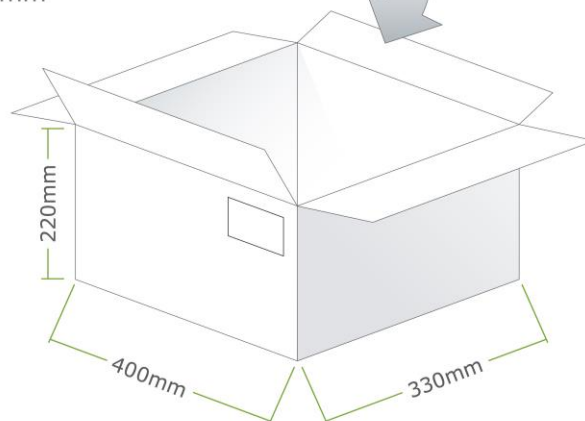
10pc TD.10.5113 per PE Bag  
 Bag Dimensions - 260\*105mm  
 Weight - 0.23Kg



50pc TD.10.5113 per SPQ Bag  
 Bag Dimensions - 270\*420mm  
 Weight - 1.2Kg



300pcs TD.10.5113 per Carton  
 Carton Dimensions - 400\*330\*220mm  
 Weight - 8Kg



Changelog for the datasheet

**SPE-16-8-063 – TD.10.5113**

<b>Revision: D (Current Version)</b>	
Date:	2021-12-17
Changes:	Packaging Updated
Changes Made by:	Jack Conroy

**Previous Revisions**

<b>Revision: C</b>	
Date:	2019-10-25
Changes:	Updated Terminology
Changes Made by:	Jack Conroy

<b>Revision: B</b>	
Date:	2019-02-27
Changes:	Installation Guide Amended
Changes Made by:	Jack Conroy

<b>Revision: A (Original First Release)</b>	
Date:	2016-09-27
Notes:	
Author:	Your Name Here







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