TAOGLAS

Datasheet

Triton – TD.10.5113

Part Number:
TD.10.5113

Description:

5dBi DSRC 5.9GHz Dipole Terminal Antenna SMA(M) Hinged Connector

Features:

5.9GHz DSRC Terminal Mount Dipole Antenna

5850MHz to 5925MHz

5dBi Gain

SMA(M) Hinged Connector

Dimensions: 169*18*13mm

RoHS & REACH Compliant

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. Primarily designated for vehicle safety applications, DSRC offers high-speed, low-latency wireless communication over short distances.

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.

For support on how to integrate and test this antenna within your application, or for sample requests, contact your regional Taoglas Customer Services Team.

2. Specifications

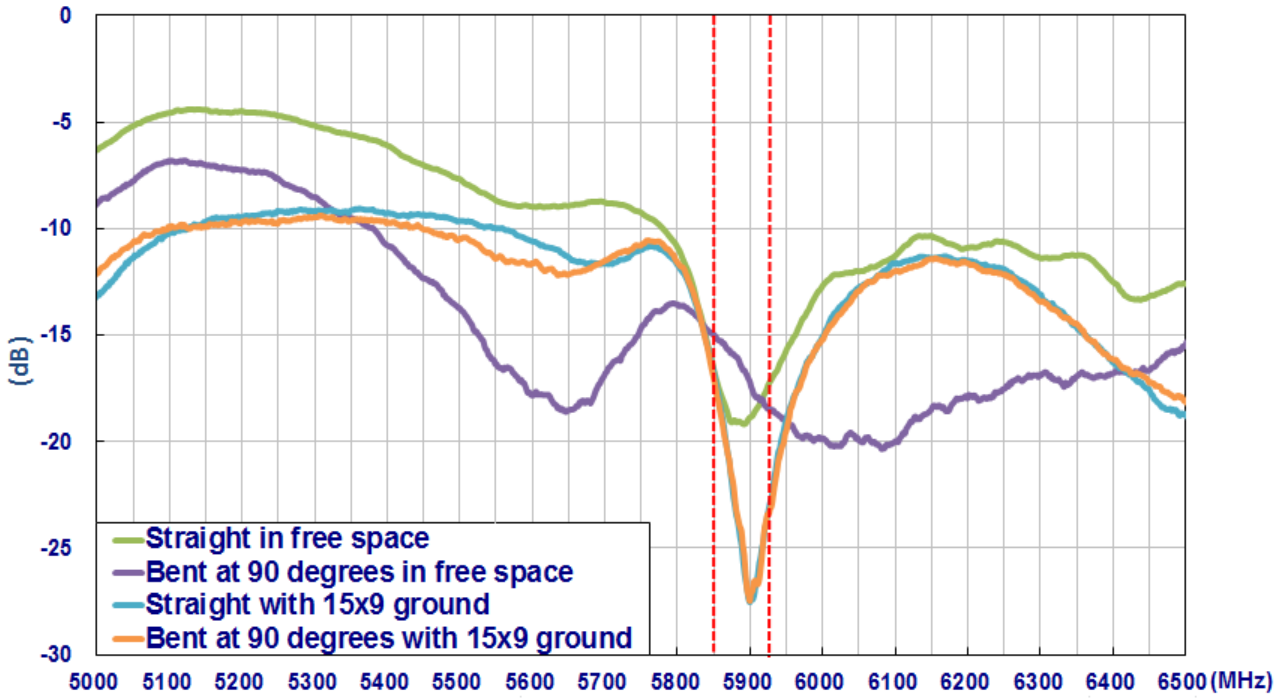
Electrical	
In Free Space	
Frequency	5850~5925MHz
Efficiency (%)	
Straight Pose	73.48
Bent Pose	64.58
Average Gain (dBi)	
Straight Pose	-1.34
Bent Pose	-1.9
Peak Gain (dBi)	
Straight Pose	5.88
Bent Pose	5.67
With 15*9cm Ground Plane	
Frequency	5850~5925MHz
Efficiency (%)	
Straight Pose	49.00
Bent Pose	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 Ω

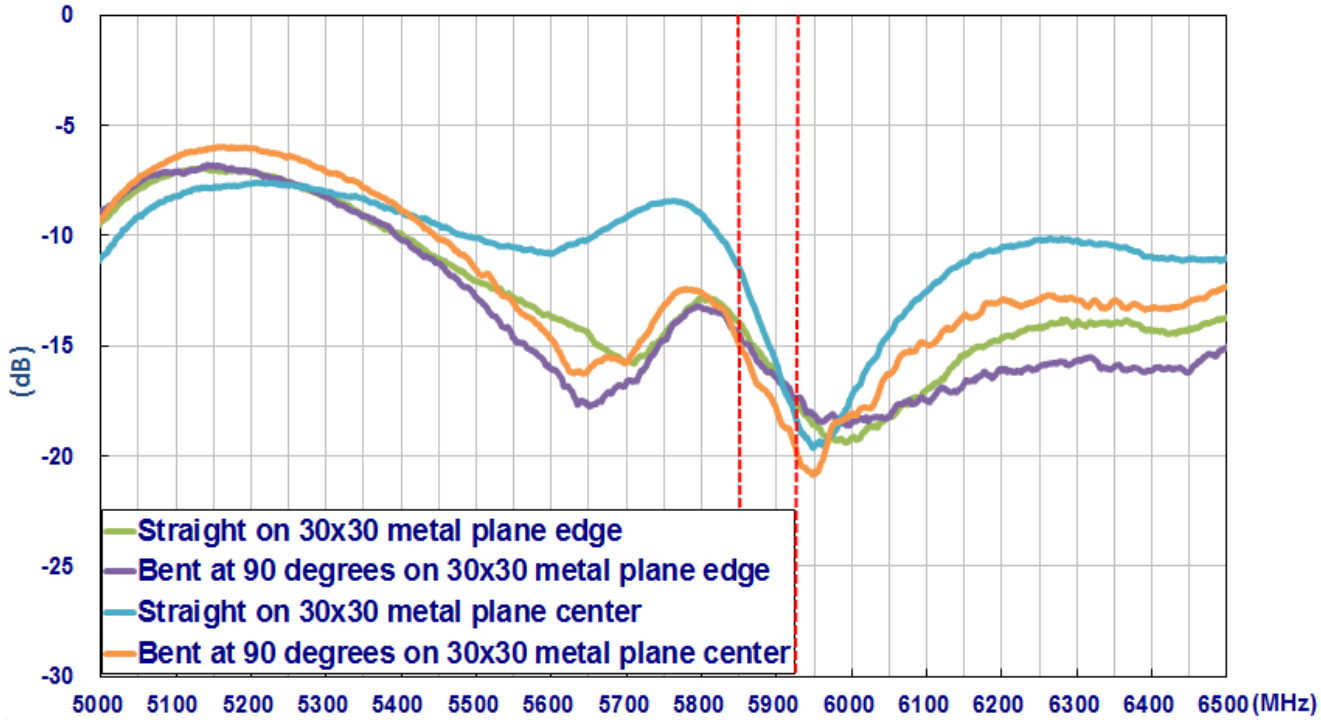
Mechanical	
Dimensions	Length 169mm, Φ18mm
Casing	PC+ABS
Connector	Hinged SMA Male
Weight	21.75 g
Recommended Torque for Mounting	0.9 N·m
Max Torque for Mounting	1.176 N·m

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

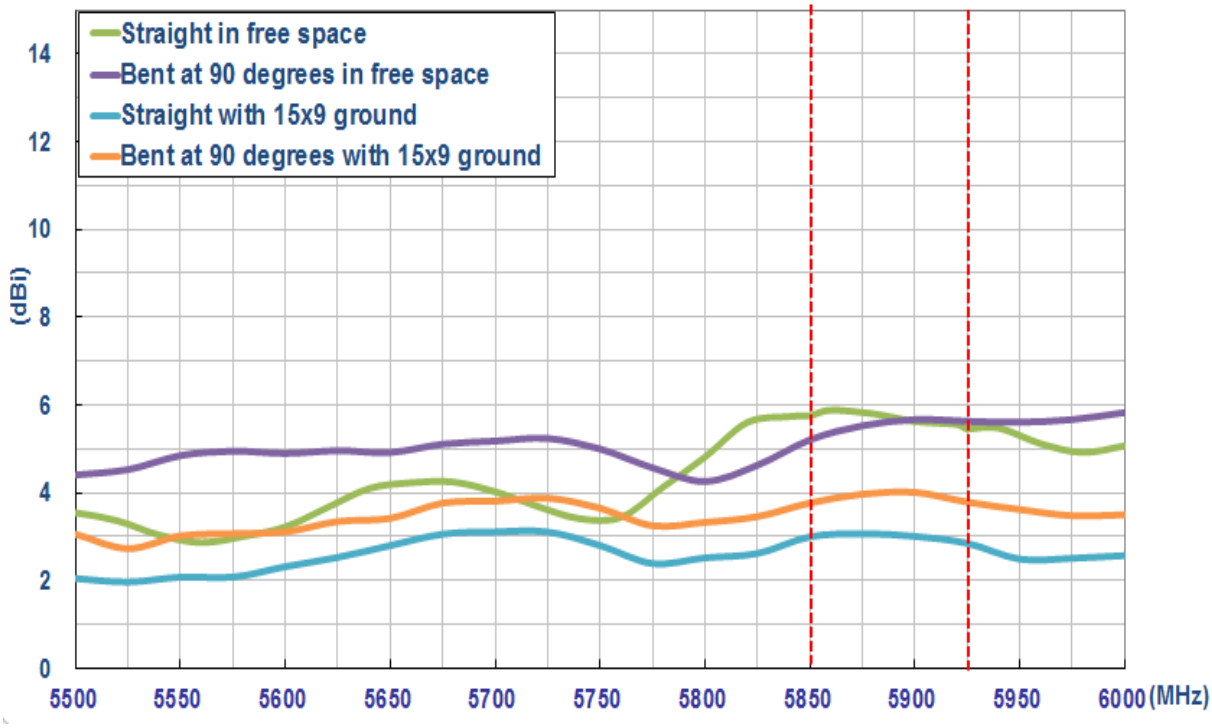
3. Antenna Characteristics

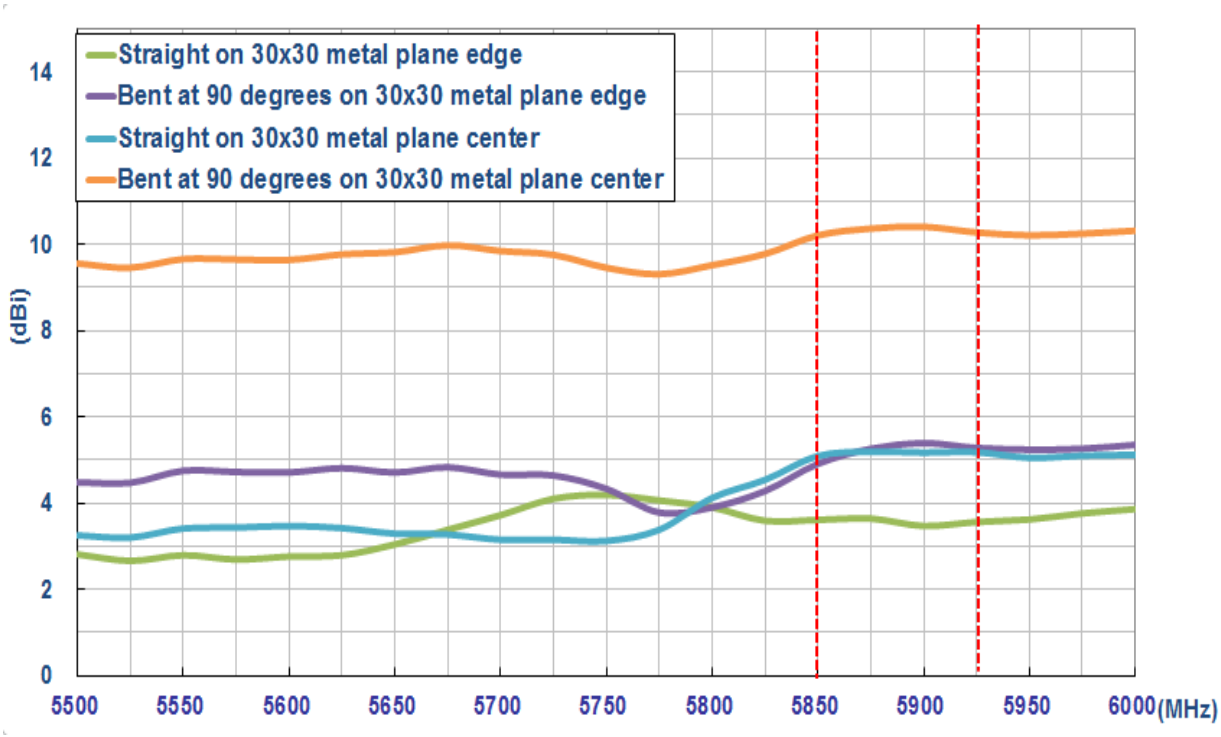
3.1 Return Loss



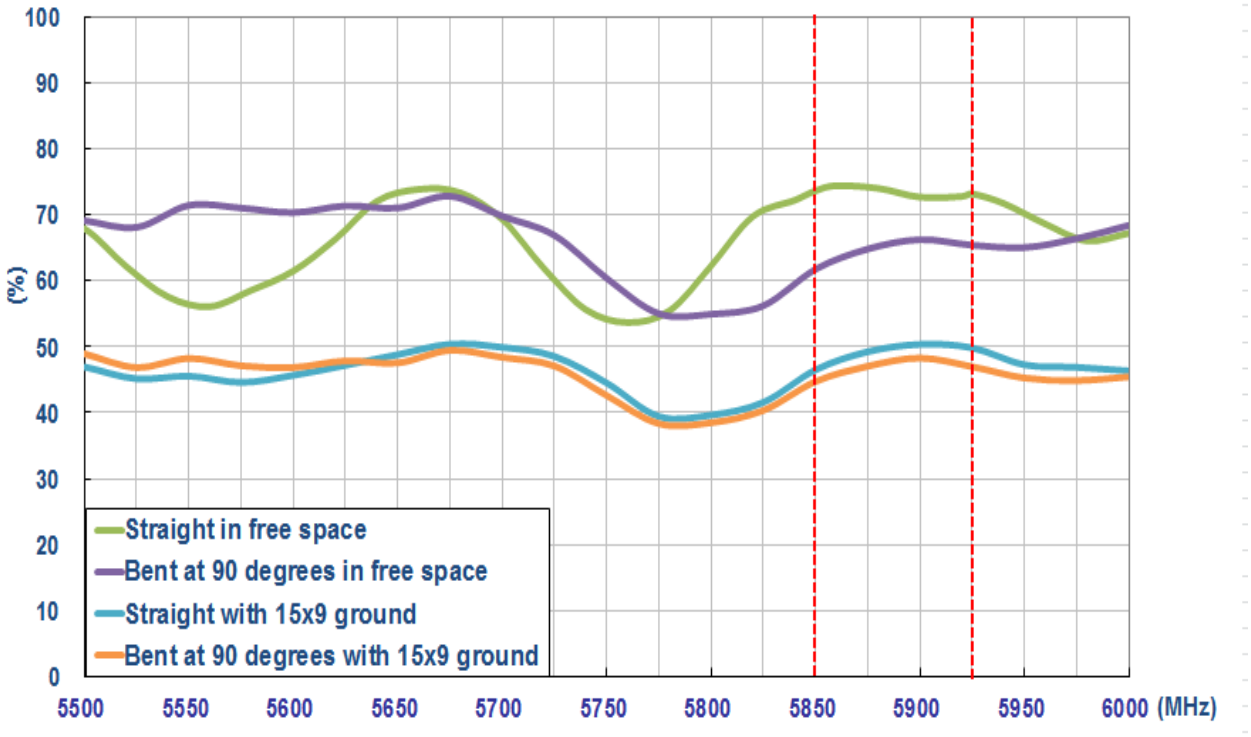


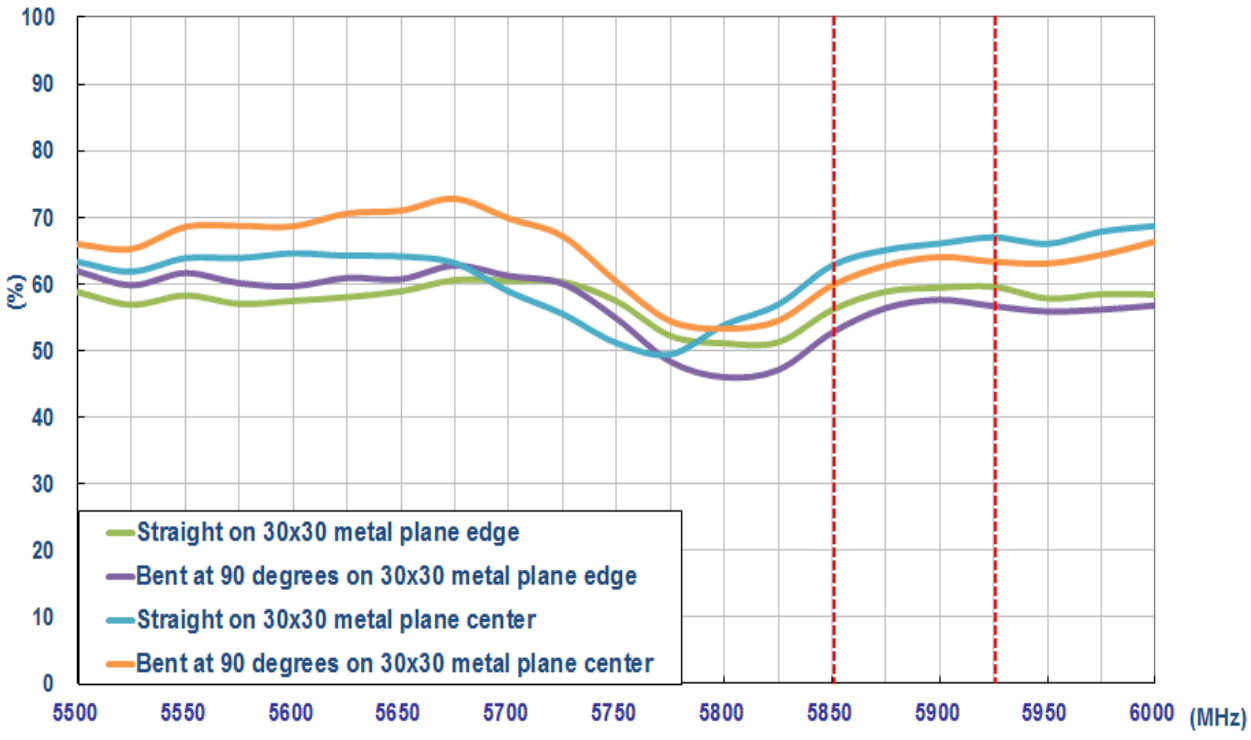
3.2 Peak Gain


Straight in free space
Bent at 90 degrees in free space
Straight with 15x9 ground
Bent at 90 degrees with 15x9 ground
(dBi)
0
2
4
6
8
10
12
14
5500
5550
5600
5650
5700
5750
5800
5850
5900
5950
6000
(MHz)

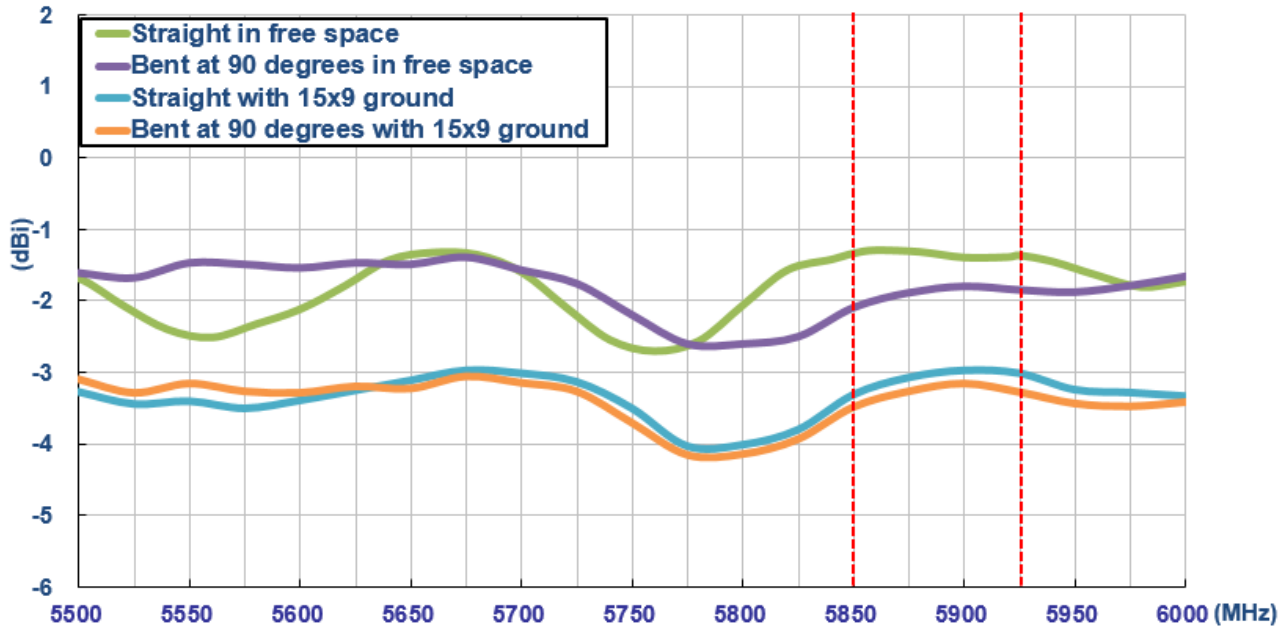

Straight on 30x30 metal plane edge
Bent at 90 degrees on 30x30 metal plane edge
Straight on 30x30 metal plane center
Bent at 90 degrees on 30x30 metal plane center
(dBi)
0
2
4
6
8
10
12
14
5500
5550
5600
5650
5700
5750
5800
5850
5900
5950
6000
(MHz)

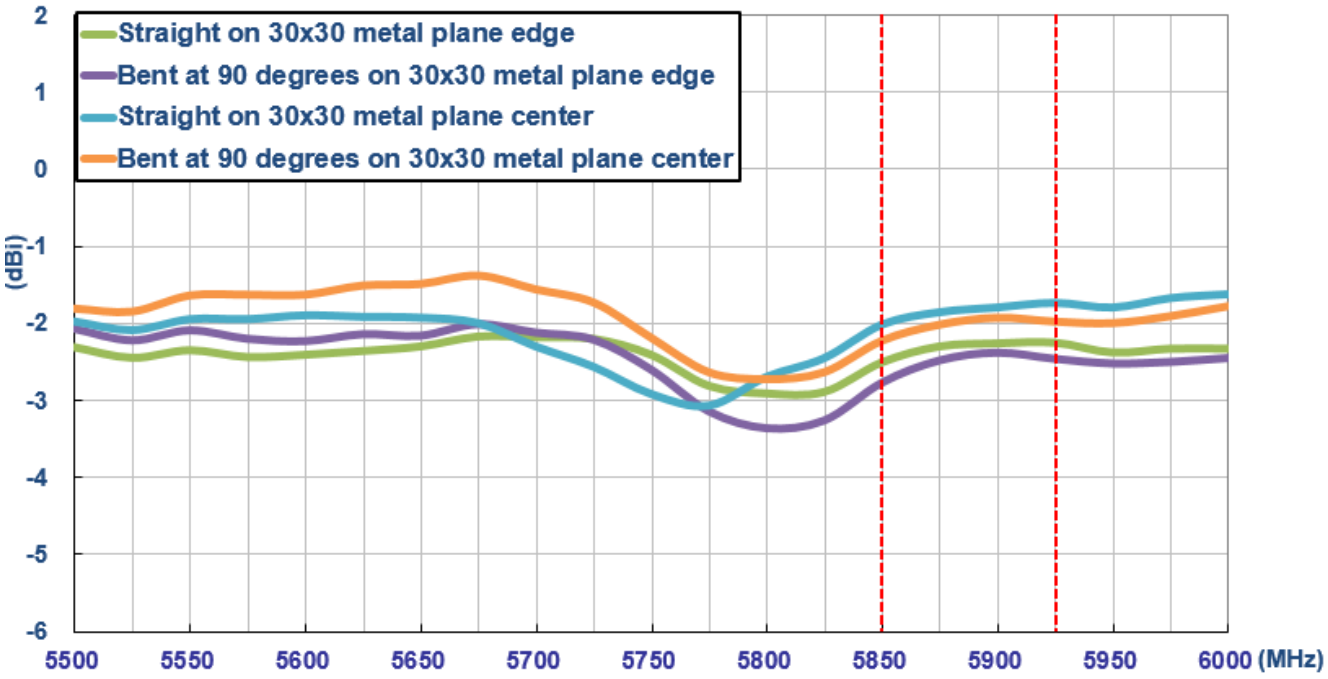
3.3 Efficiency





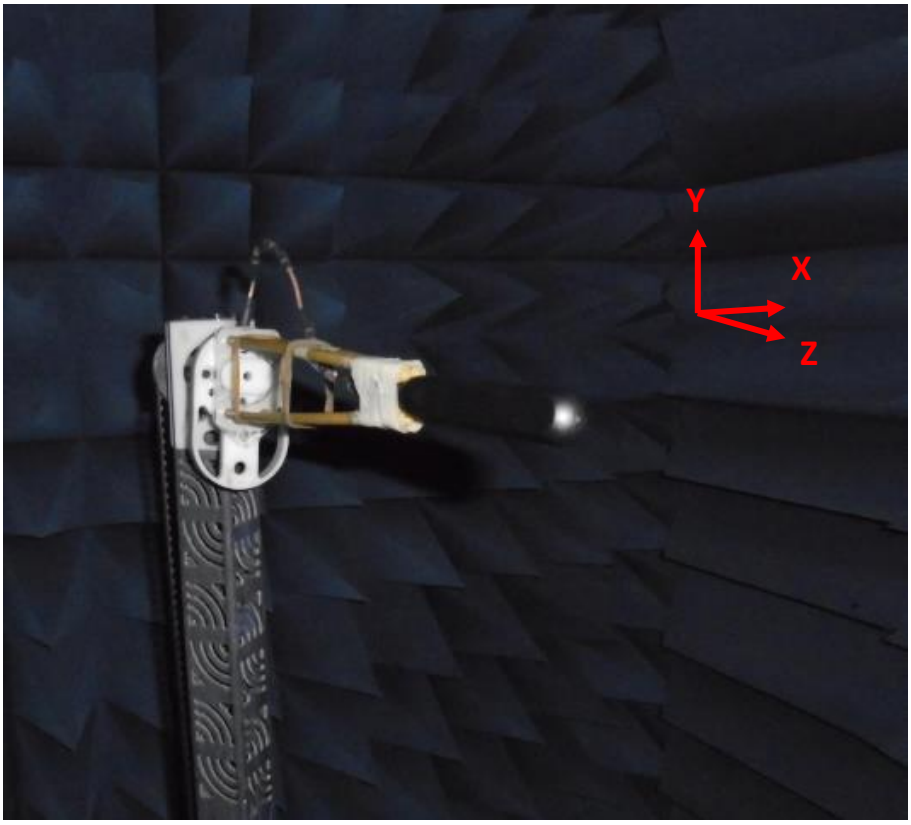
3.4 Average Gain





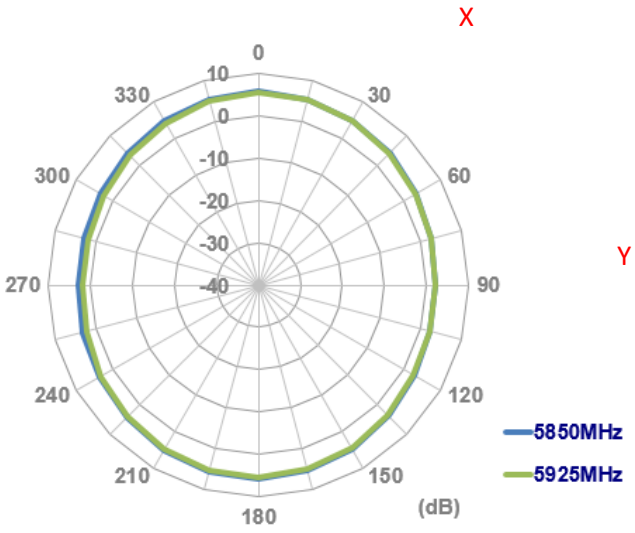
4. 2D Radiation Patterns

4.1 Test Setup

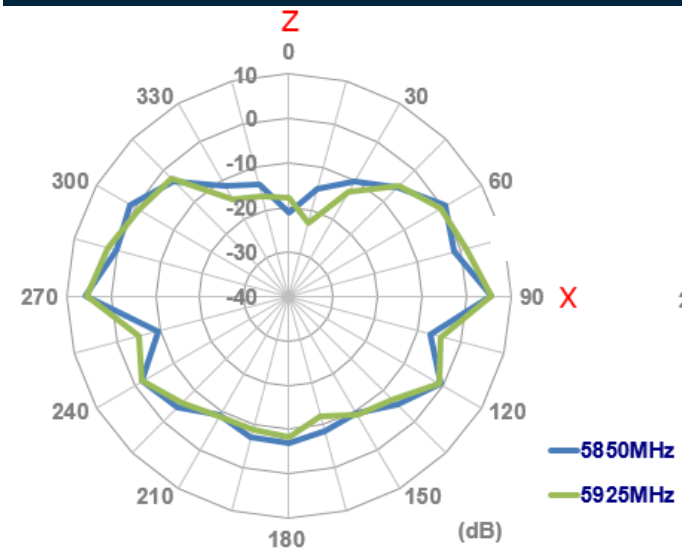


Free space Straight

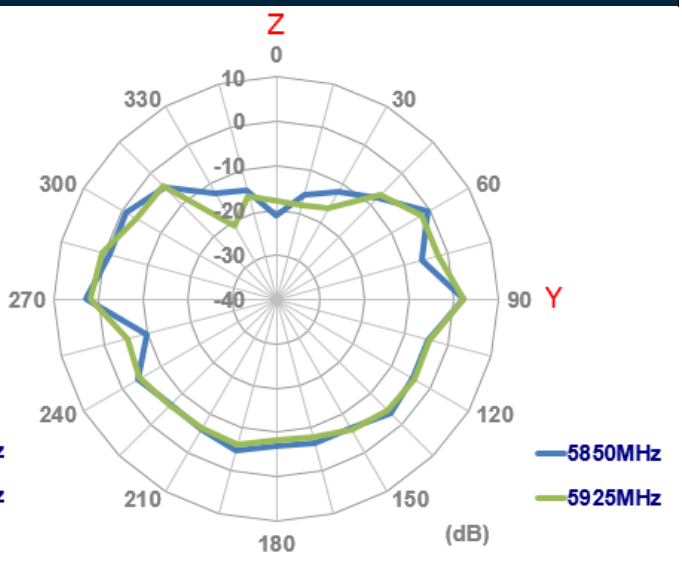
XY Plane



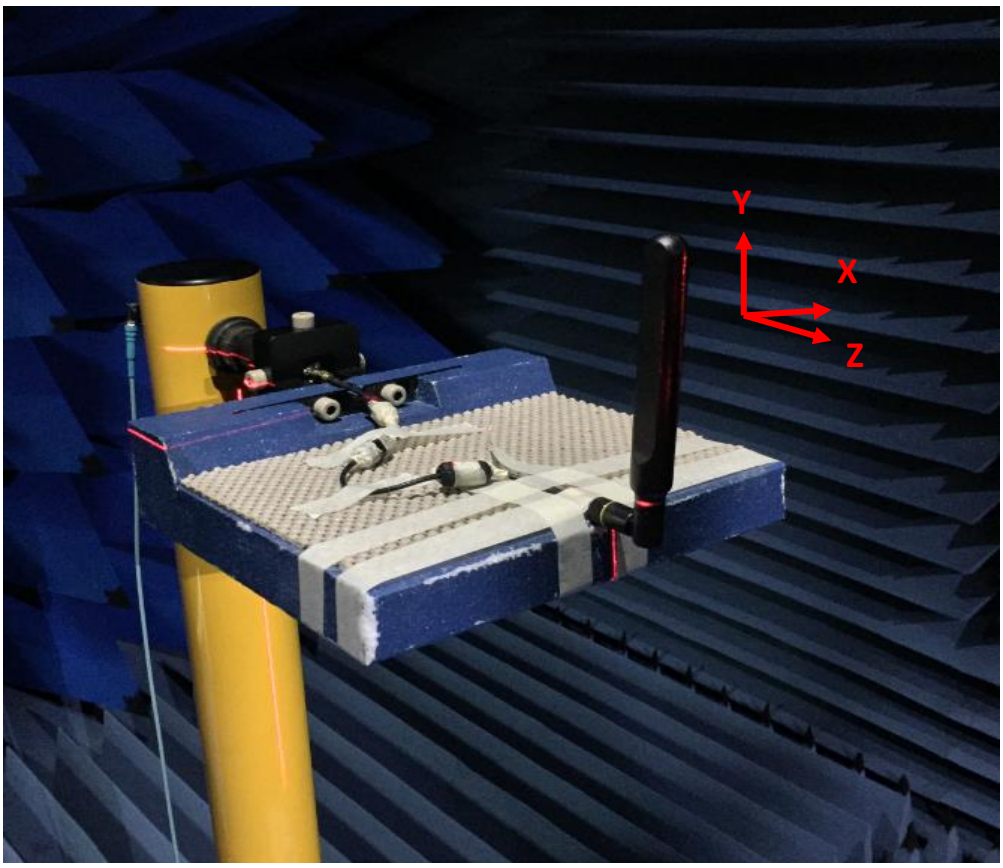
XZ Plane



YZ Plane

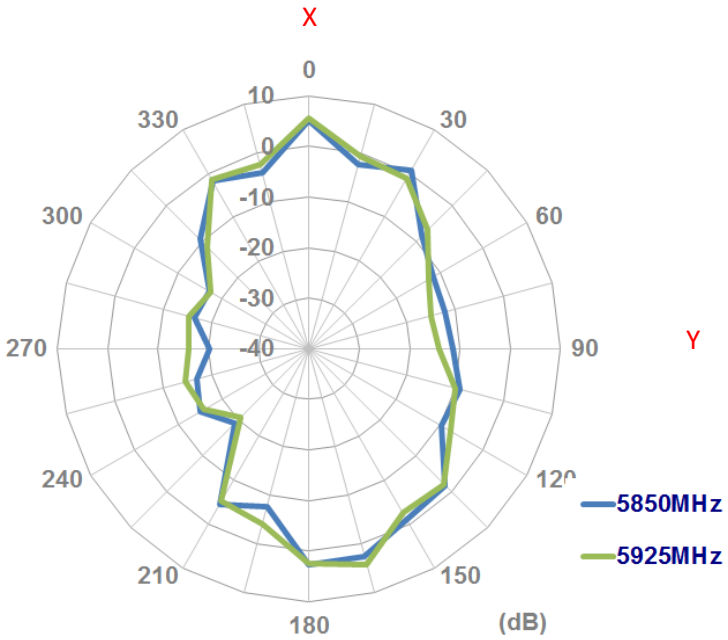


4.2 Test Setup

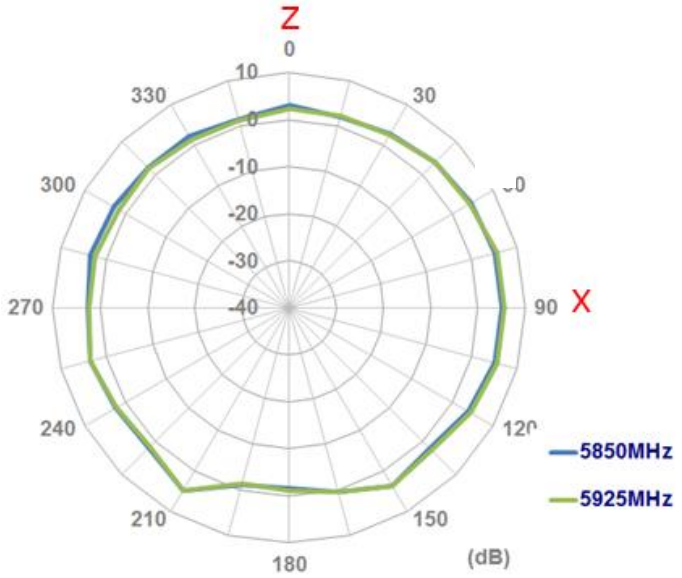


Free space bend

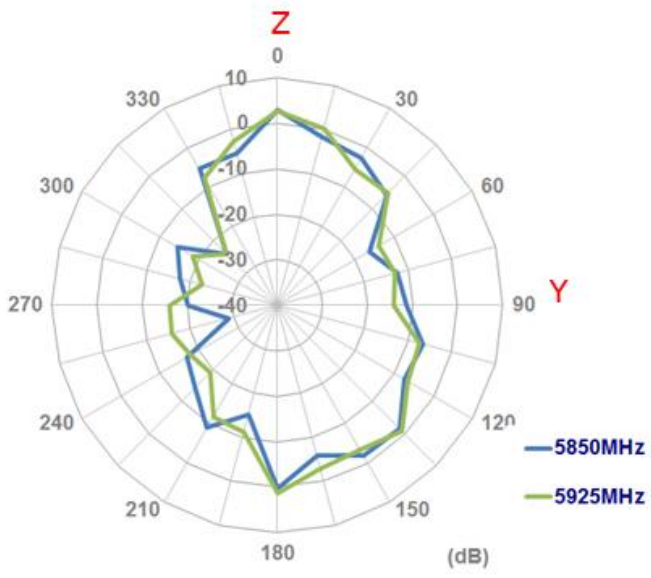
XY Plane



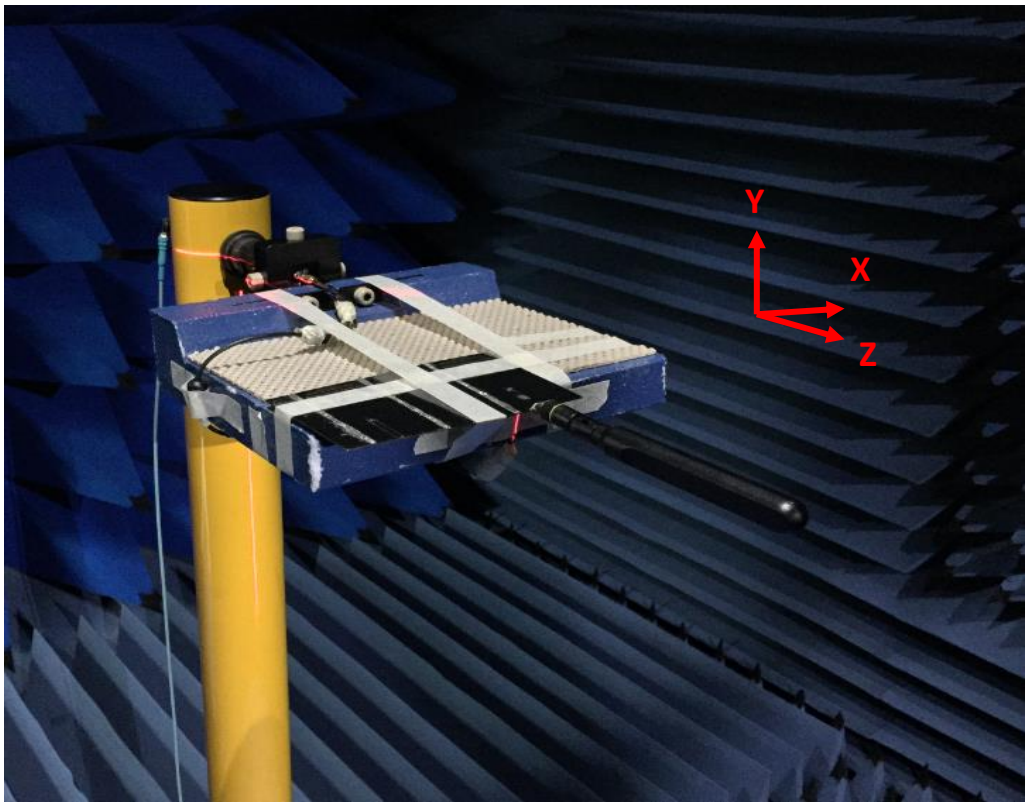
XZ Plane



YZ Plane

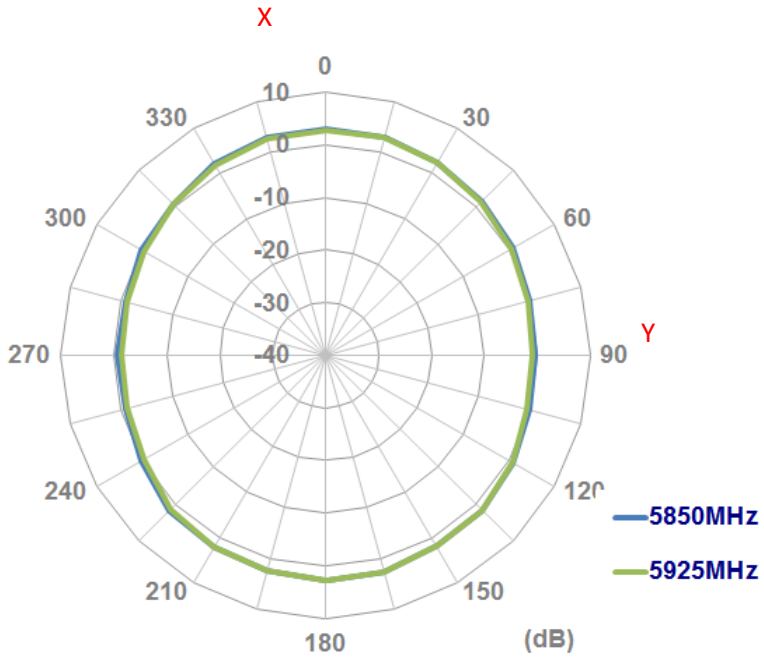


4.3 Test Setup

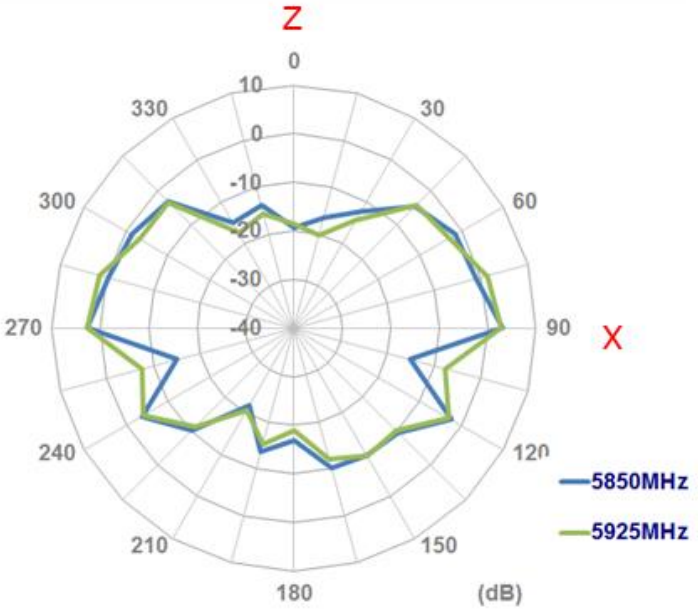


straight with 15*9cm ground plane

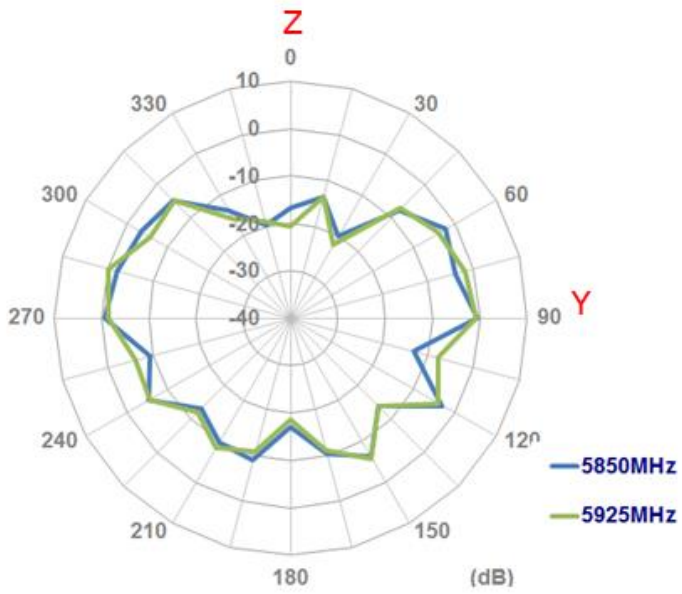
XY Plane



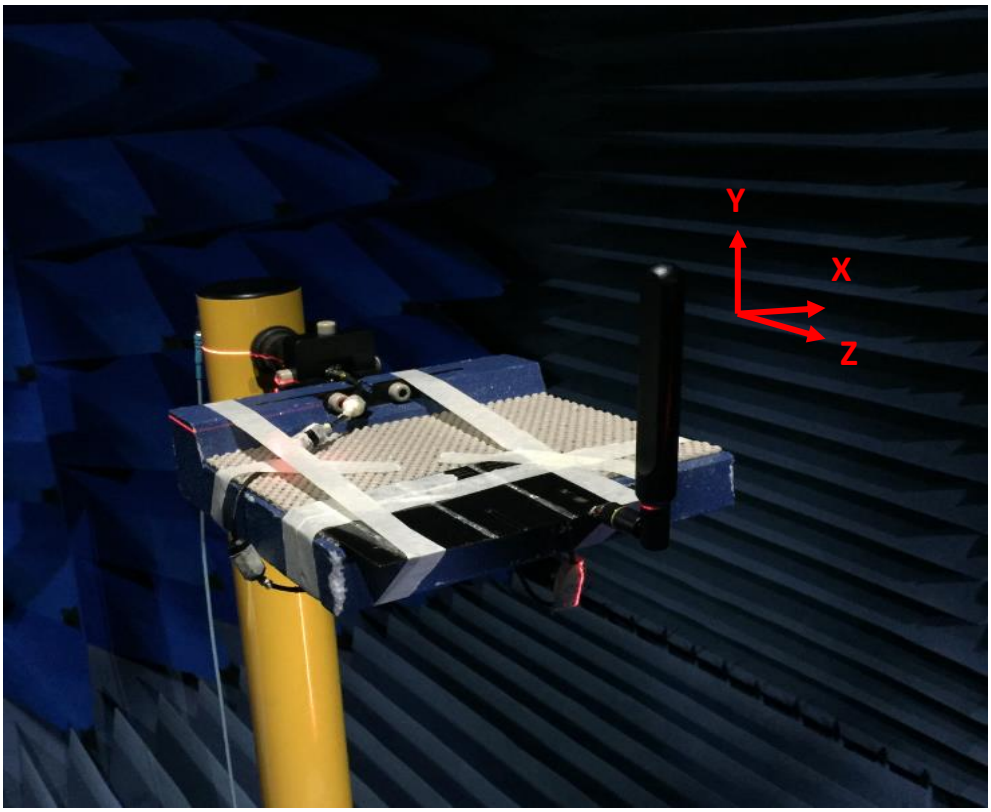
XZ Plane



YZ Plane

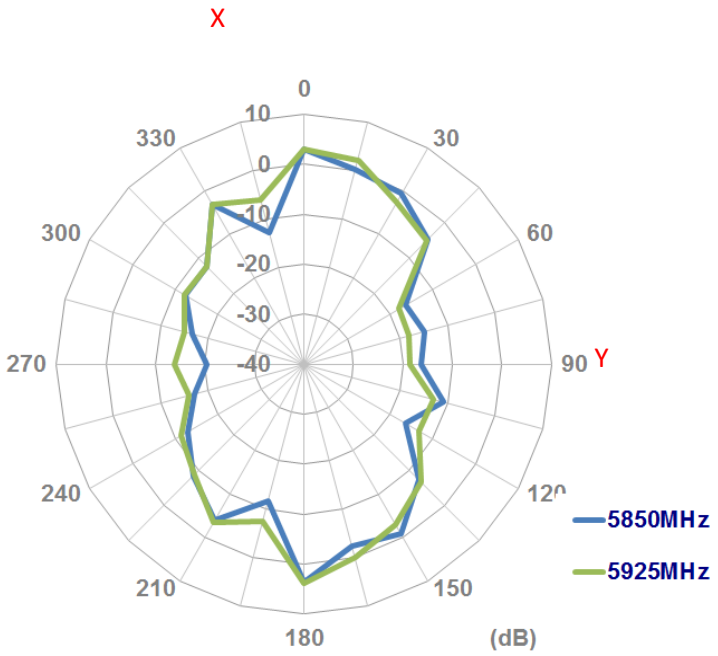


4.4 Test Setup

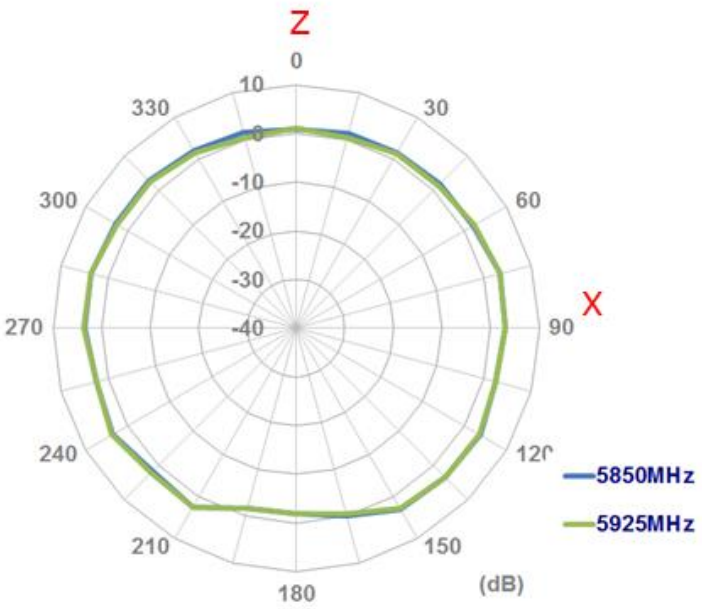


bent with 15*9cm ground plane

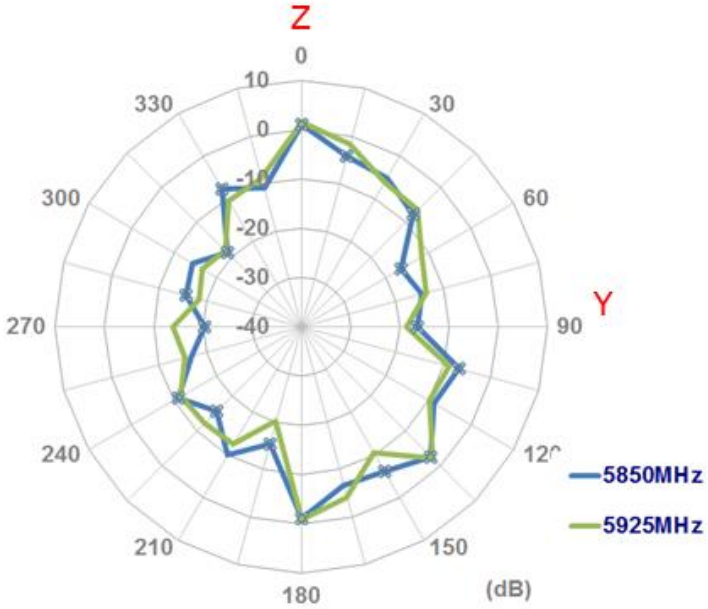
XY Plane



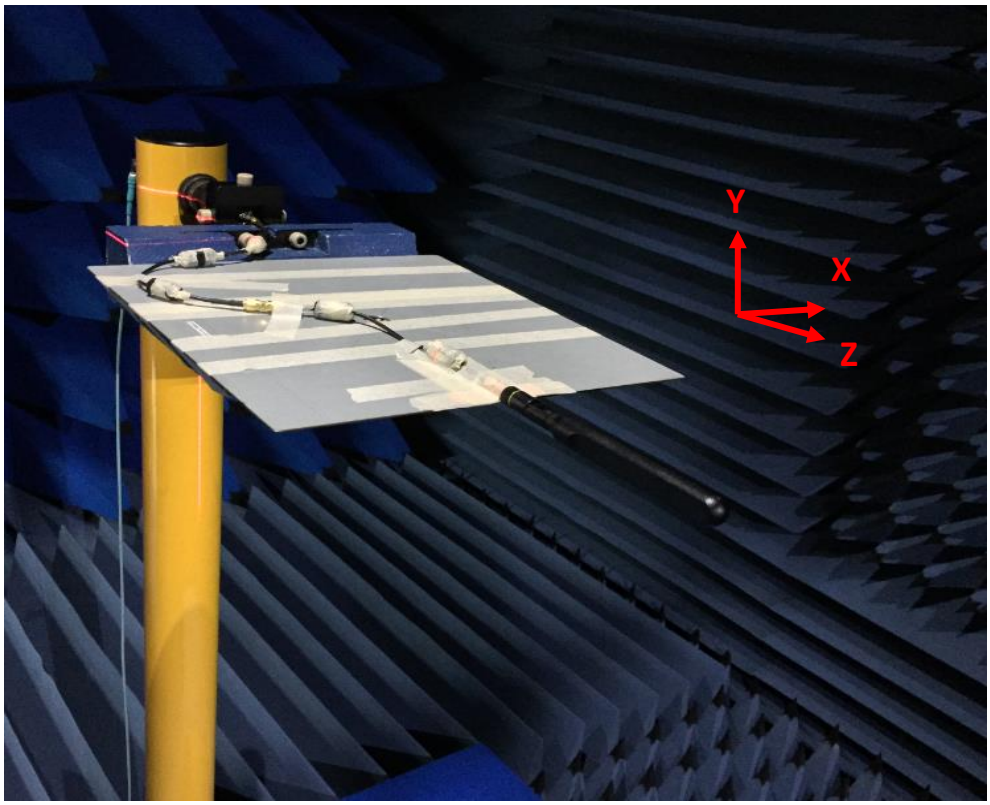
XZ Plane



YZ Plane

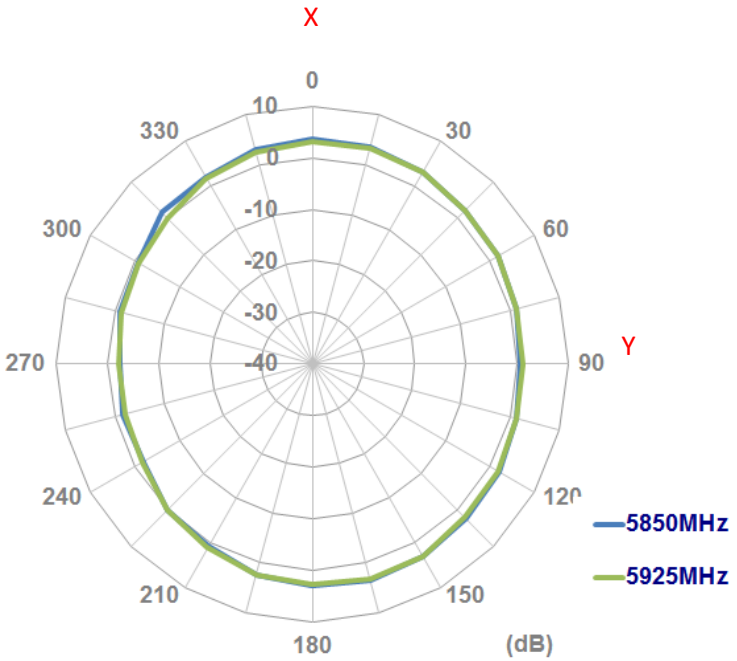


4.5 Test Setup

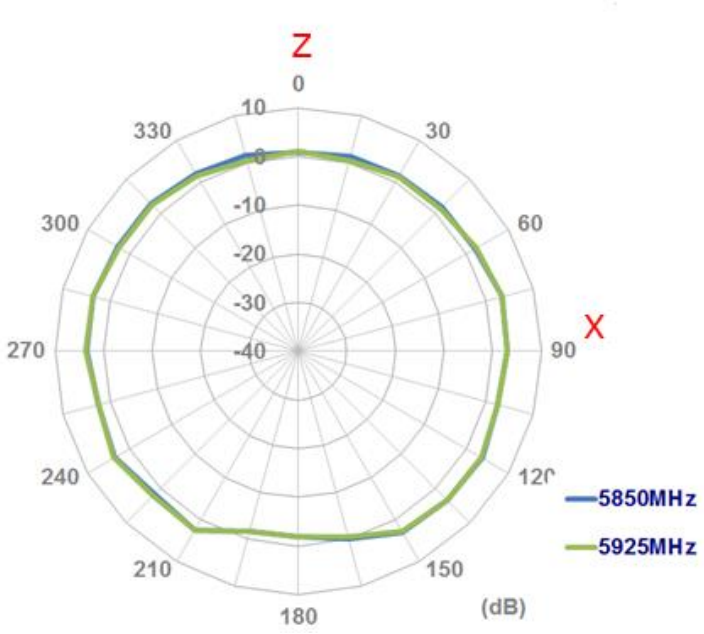


Straight with 30*30cm Ground Plane edge

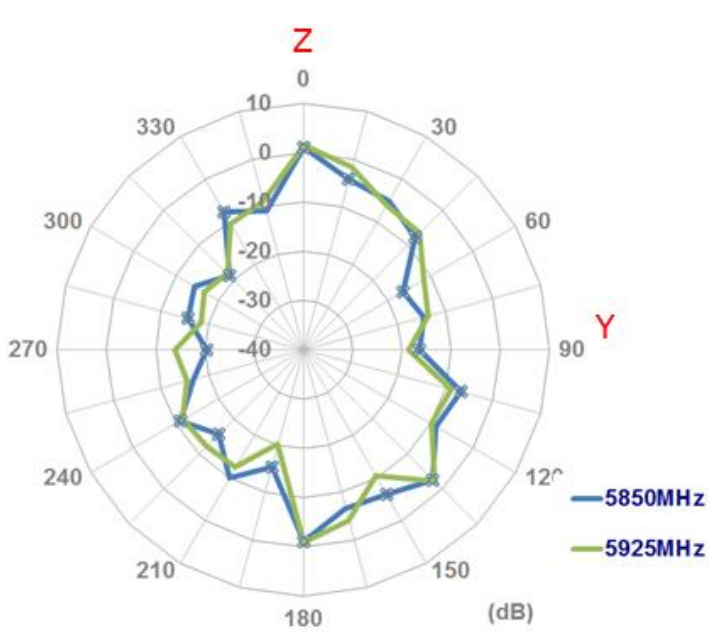
XY Plane



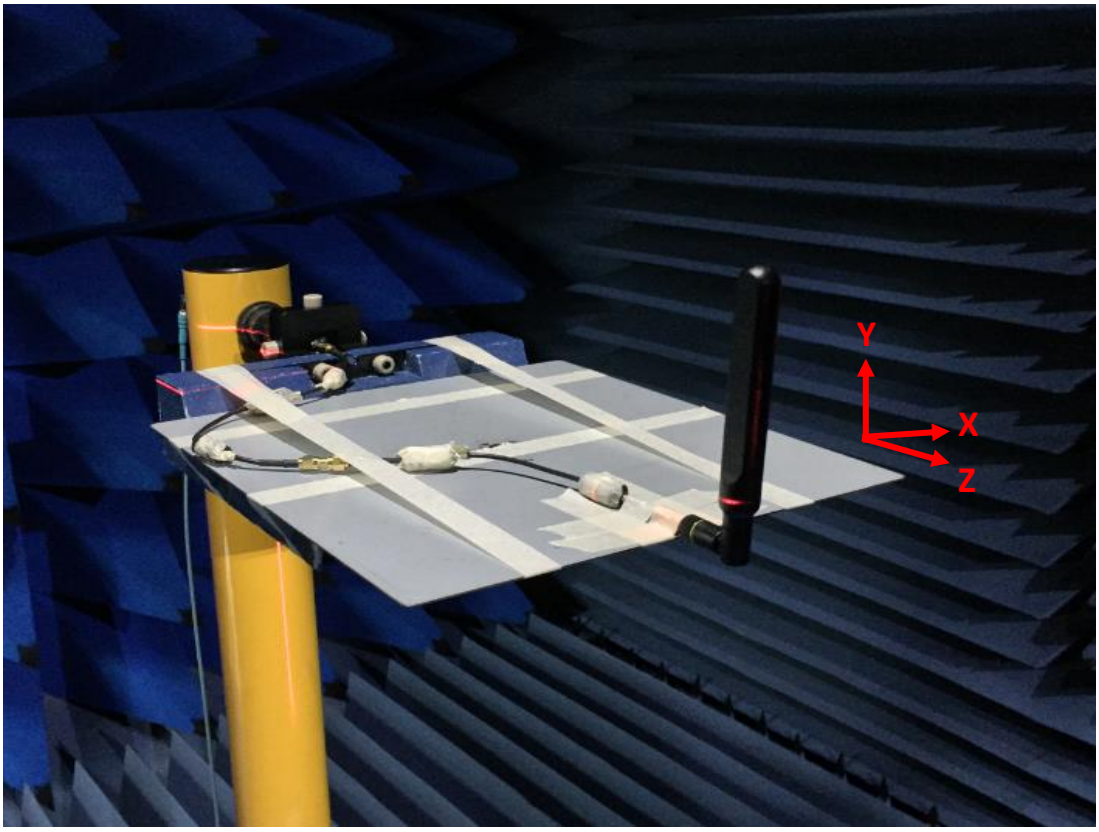
XZ Plane



YZ Plane

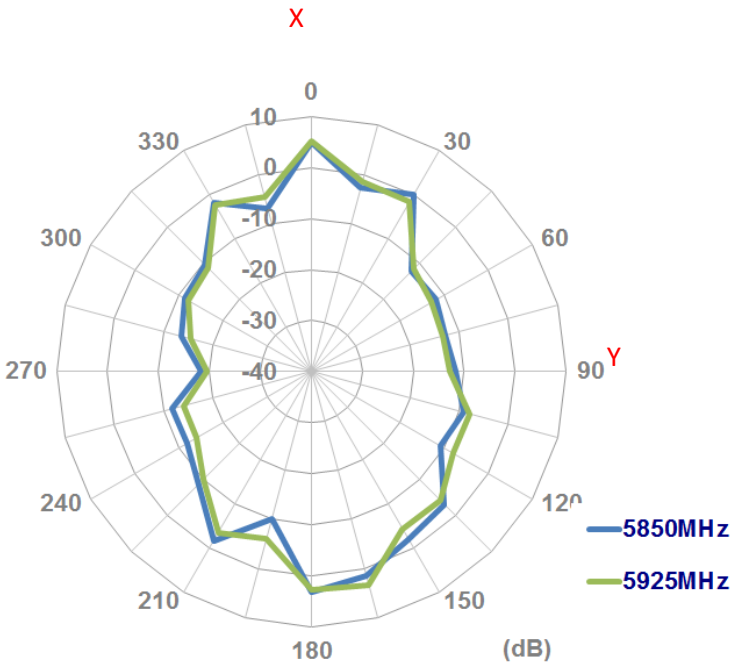


4.6 Test Setup

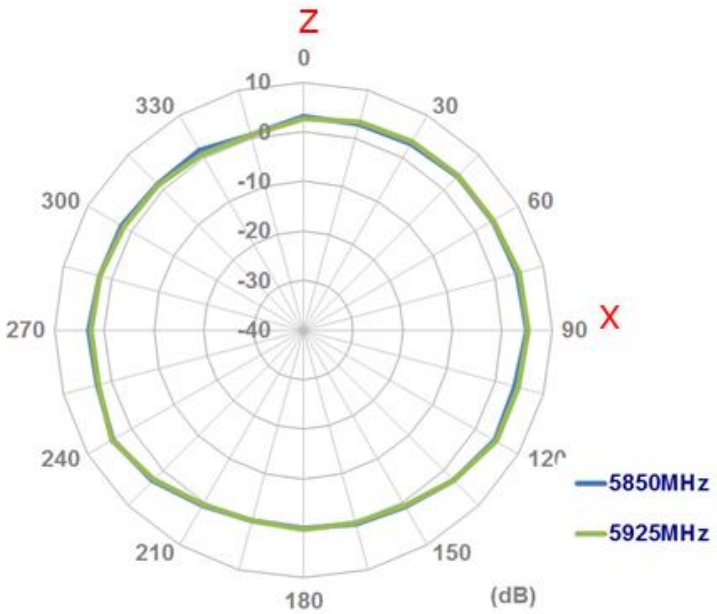


Bent with 30*30cm Ground Plane edge

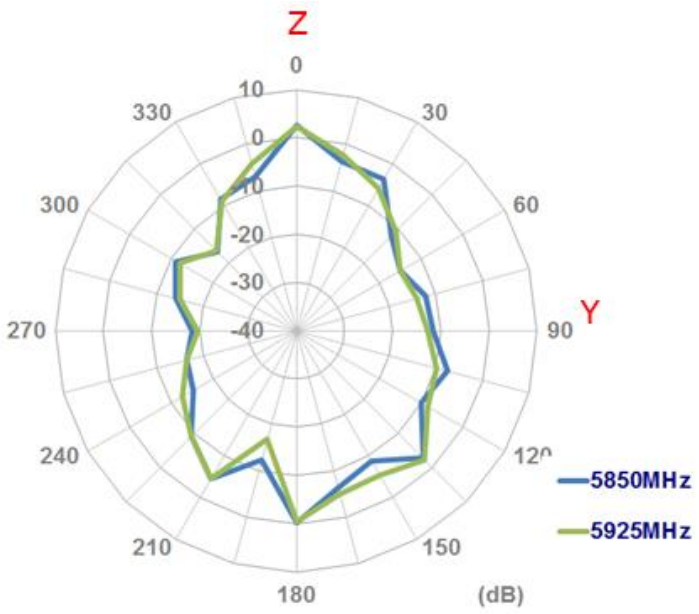
XY Plane



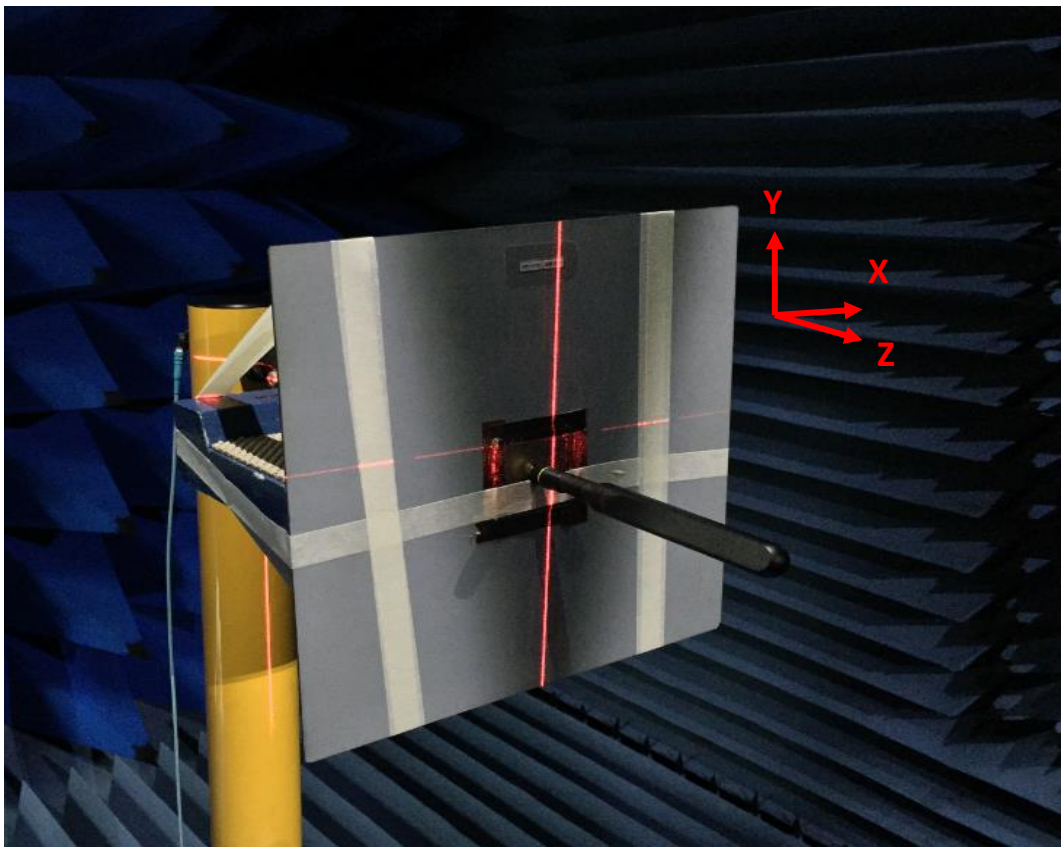
XZ Plane



YZ Plane

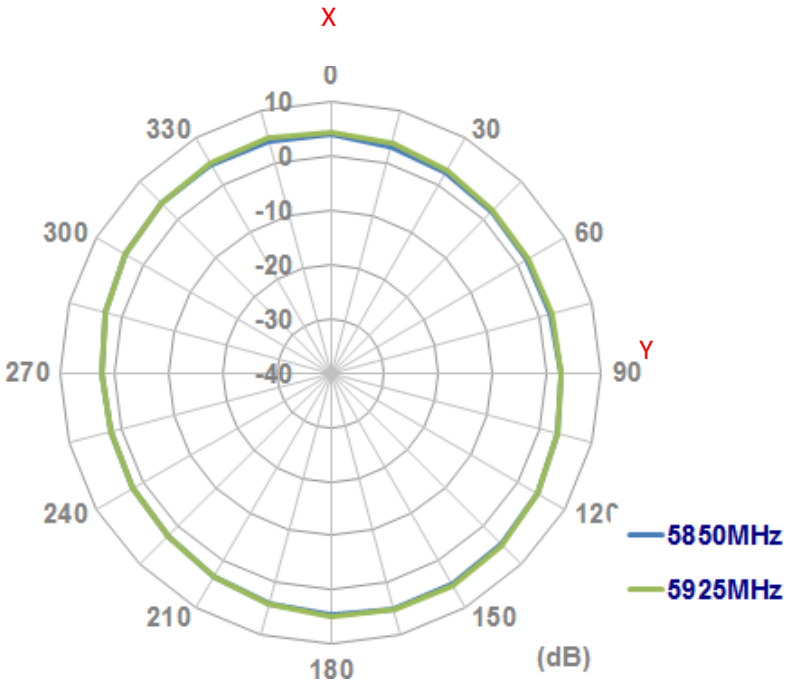


4.7 Test Setup

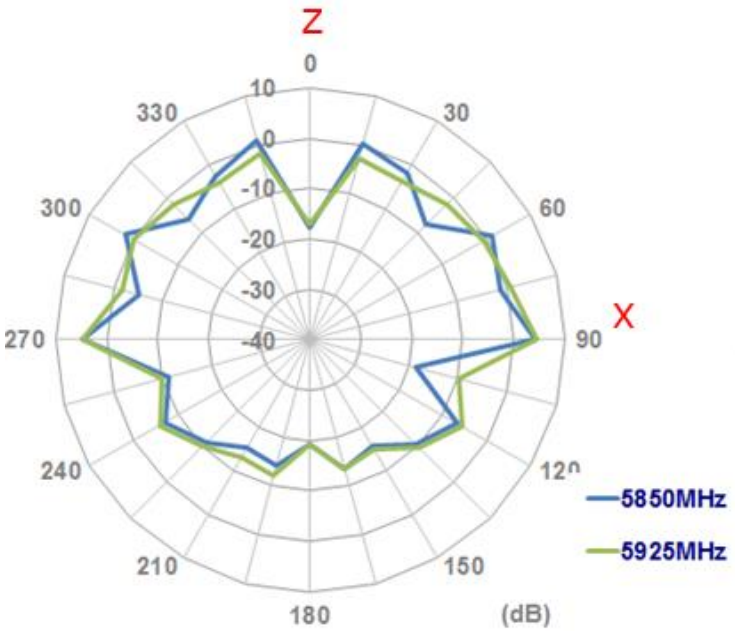


Straight with 30*30cm Ground Plane Center

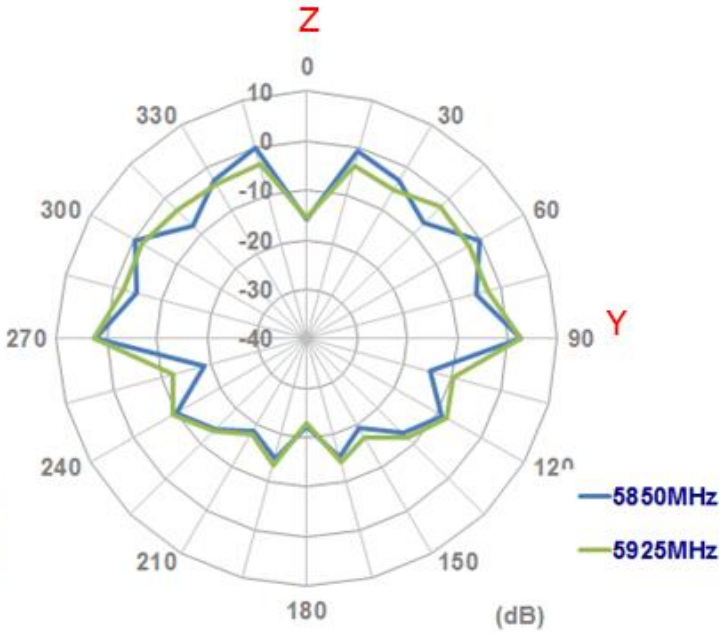
XY Plane



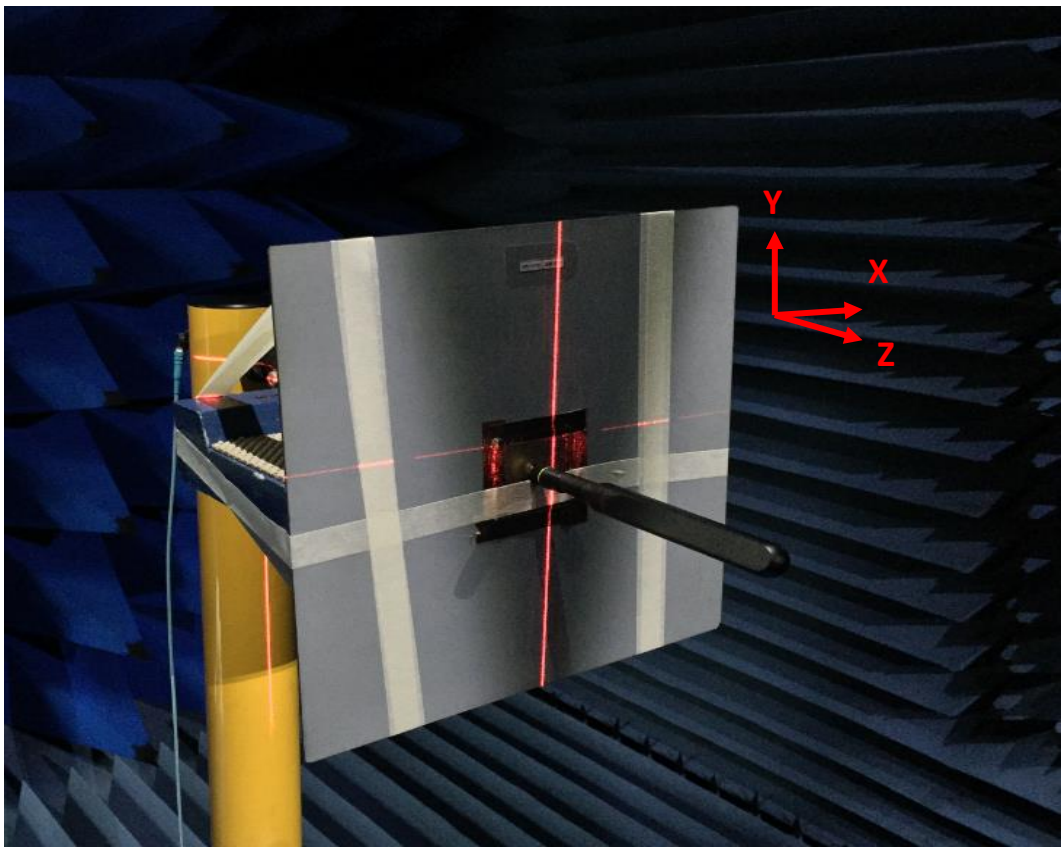
XZ Plane



YZ Plane

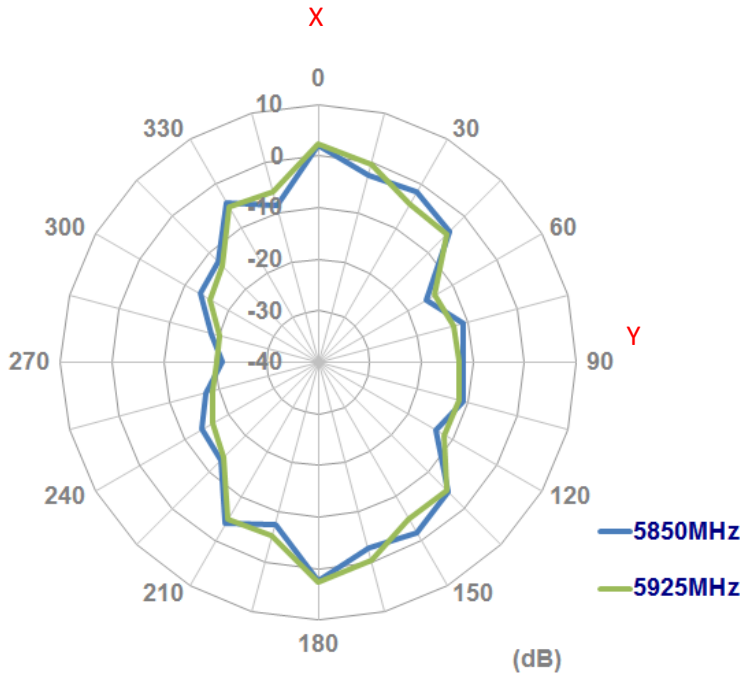


4.8 Test Setup

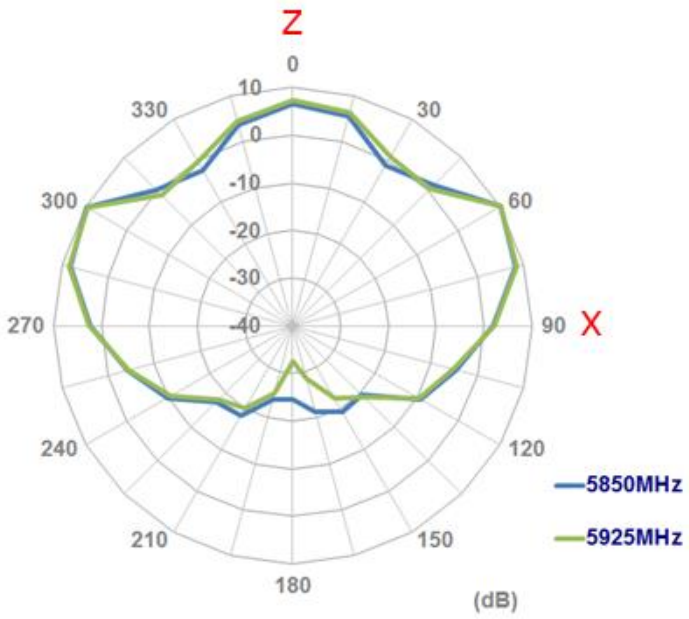


Bent at 90º with 30*30cm Ground Plane Center

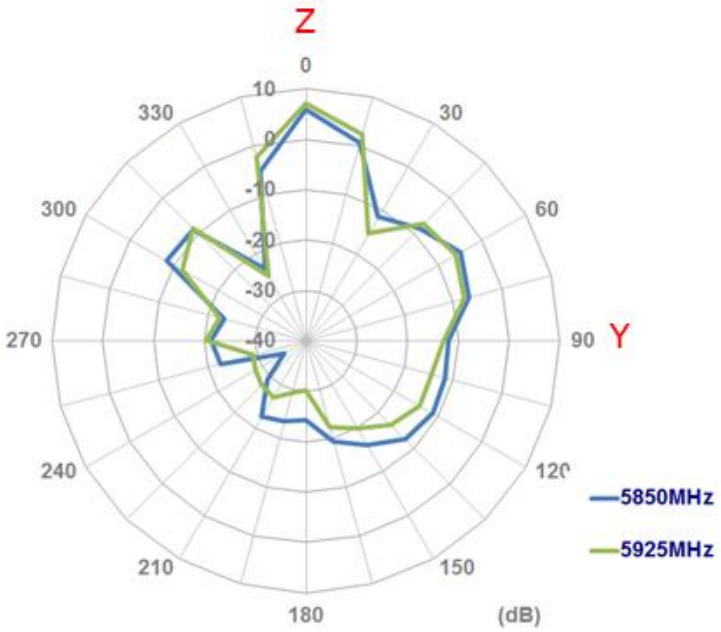
XY Plane



XZ Plane



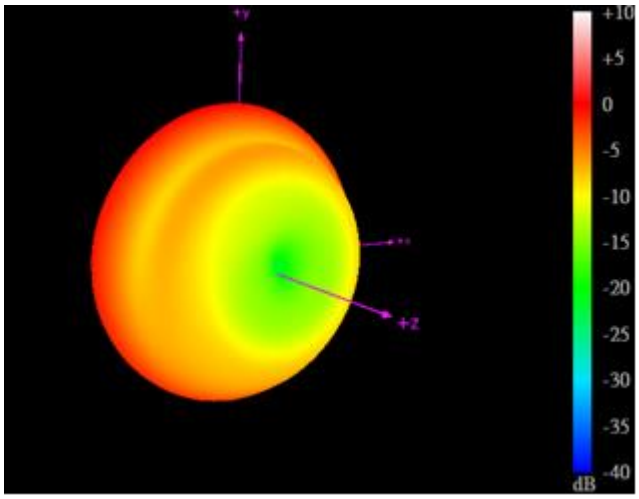
YZ Plane



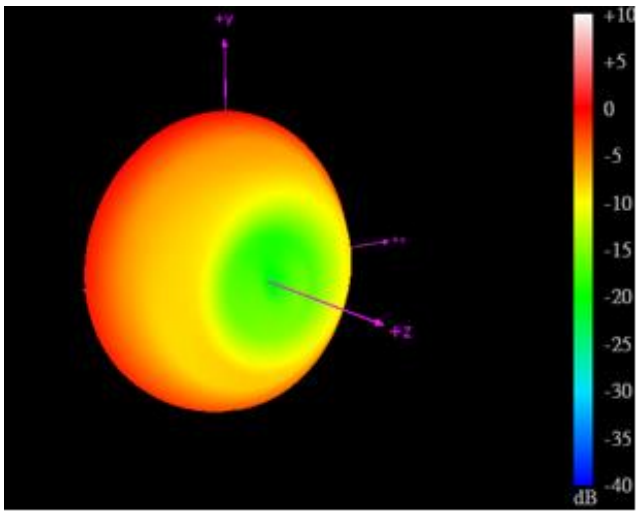
5. 3D Radiation Patterns

5.1 Free Space

Straight

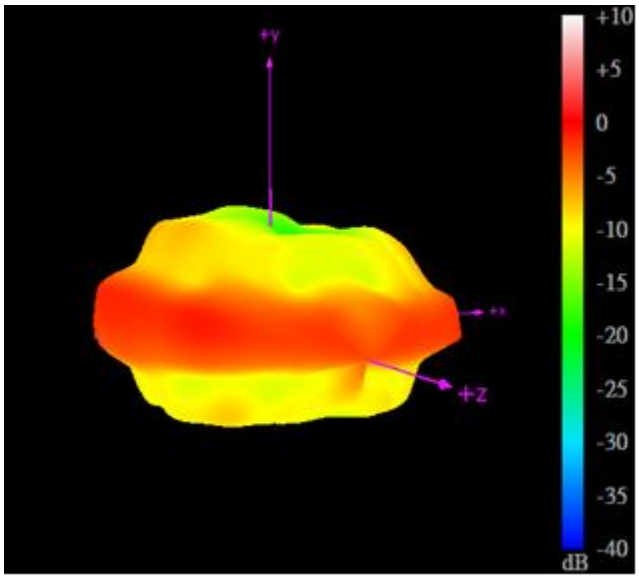


5850MHz

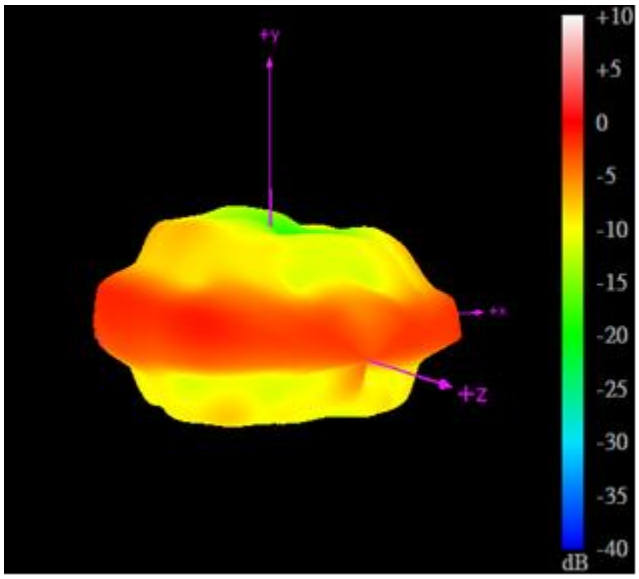


5925MHz

Bent at 90 Degrees



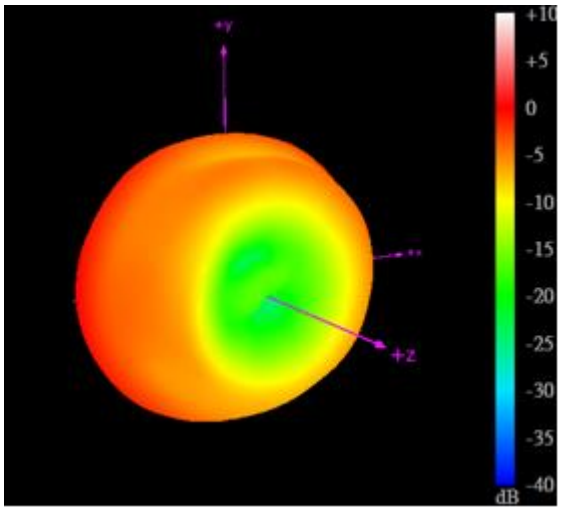
5850MHz



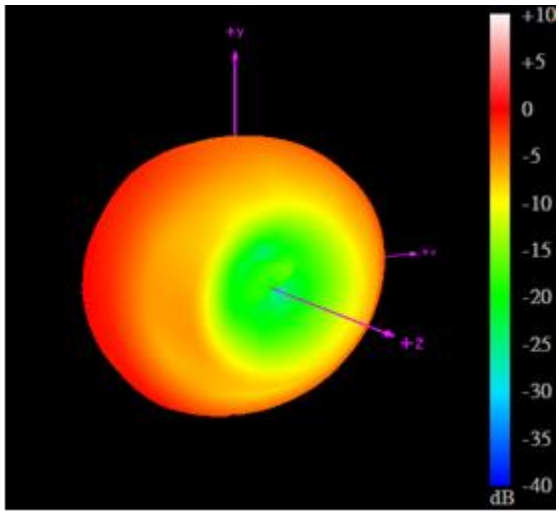
5925MHz

5.2 15*9cm Ground Plane

Straight

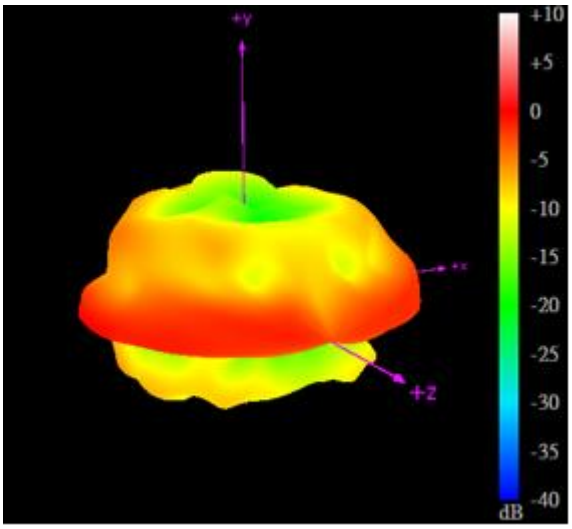


5850MHz

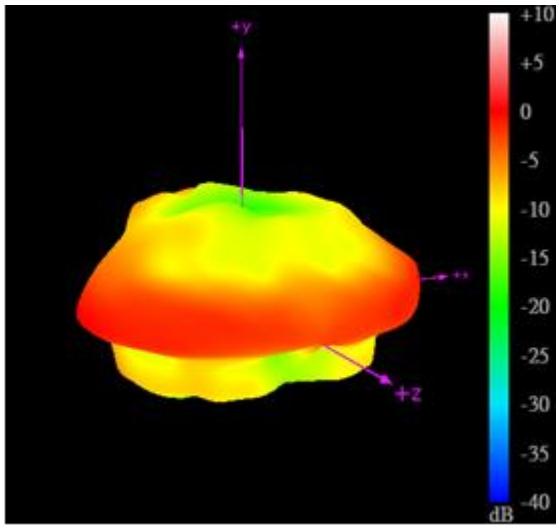


5925MHz

Bent at 90 Degrees



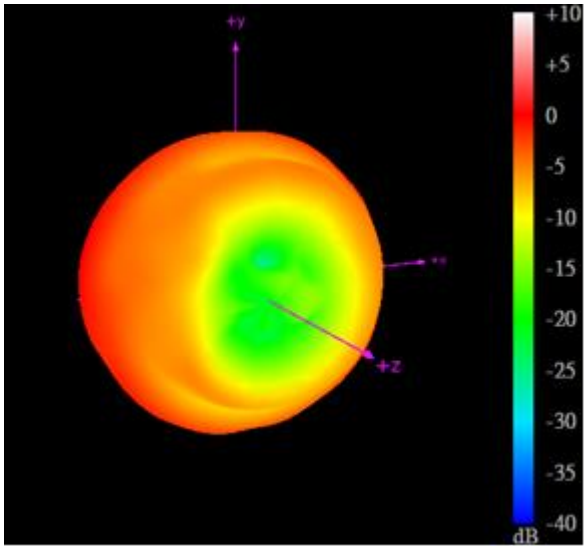
5850MHz



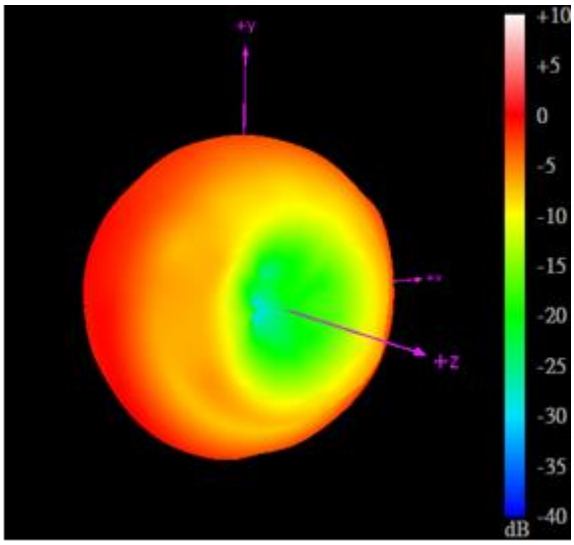
5925MHz

5.3 30*30cm Ground Plane edge

Straight

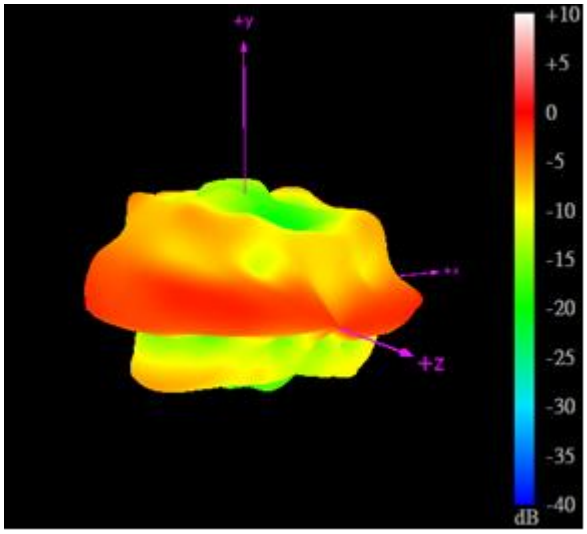


5850MHz

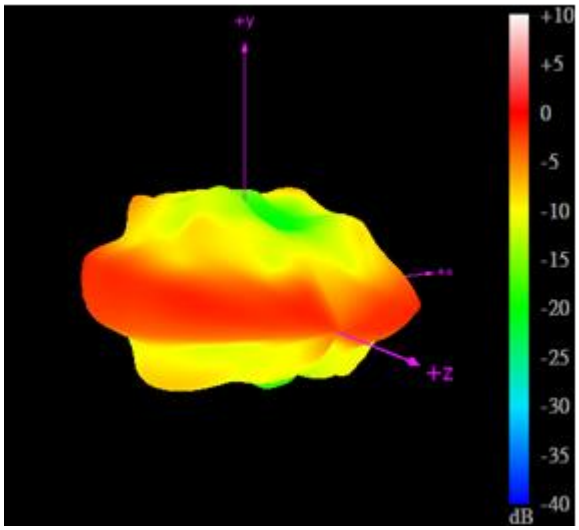


5925MHz

Bent at 90 Degrees



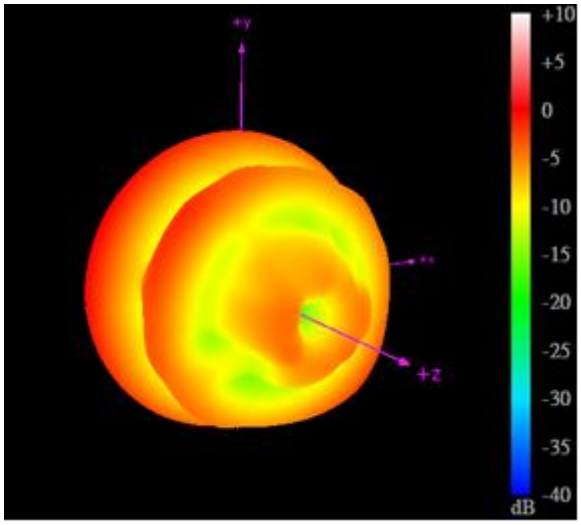
5850MHz



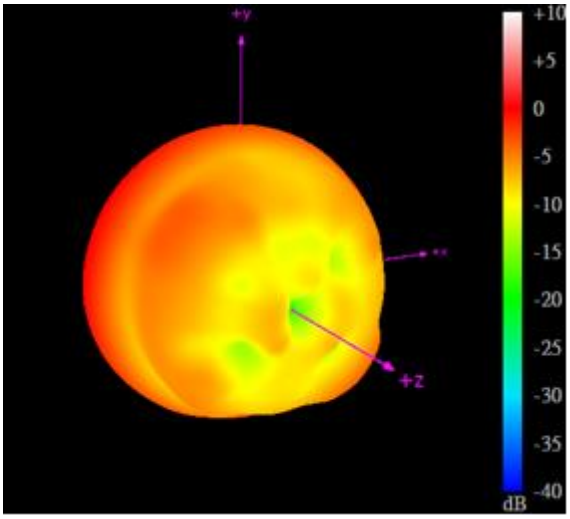
5925MHz

5.4 30*30cm Ground Plane Center

Straight

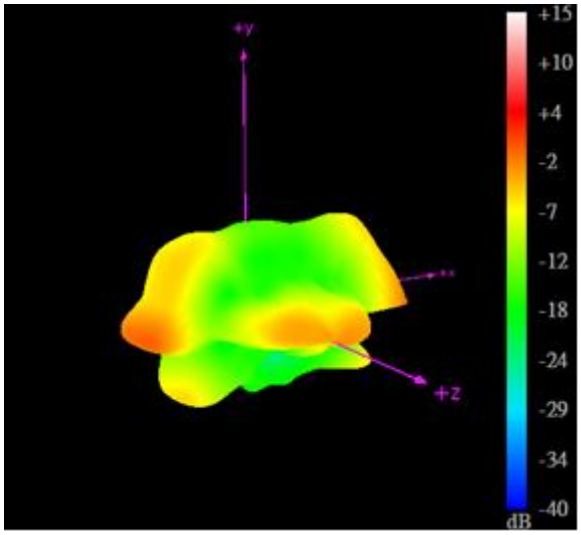


5850MHz

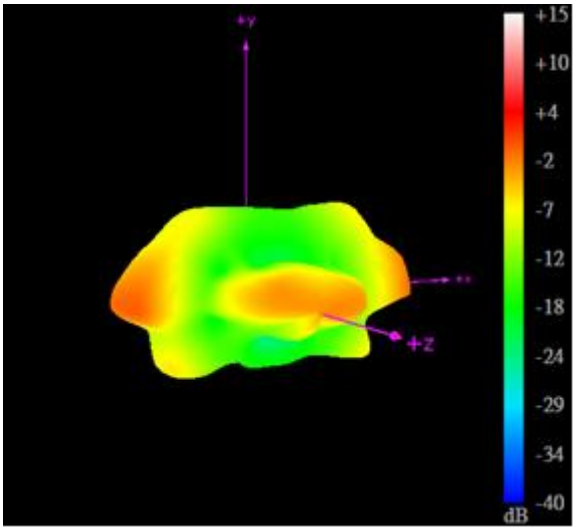


5925MHz

Bent at 90 Degrees



5850MHz

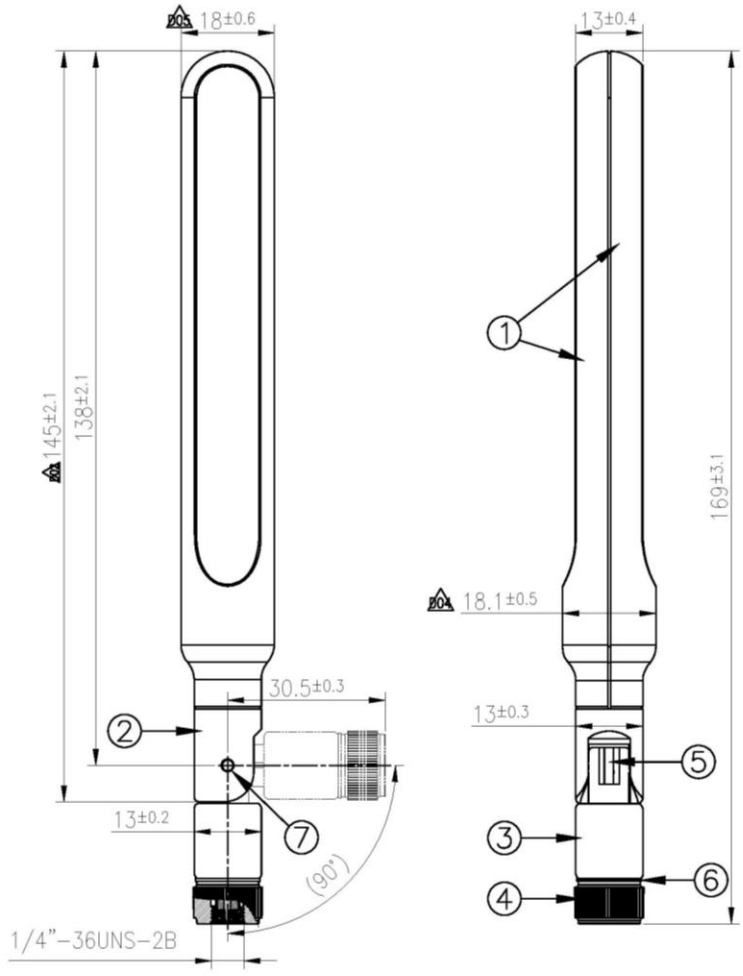


5925MHz

6. Mechanical Drawing (Units: mm)

ISO NO: EDW-18-8-6559 <Release>

REV	ZONE	DESCRIPTION	ENG	APPROVED	ISSUED DATE
D01	ALL	Initial Design	Kim	Paul	2016/02/24
D02	E6	Add a dimension	Haley	Wayne	2016/05/27
D03	ALL	Amend Quantity of Rivet Remove Cable Dimension	Haley	Paul	2018/02/02
D04	ALL	Modify tolerance <ECR-18-8-068>	Rachel	Haley	2018/09/28
D05	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

D03

UNLESS OTHERWISE SPECFIED TOLERANCES ON:
.X± 0.2
XX.± 0.5 .XX± 0.1
X.± 0.3 .XXX± 0.05

DATE: 2016/02/24 | MAT'L:
UNIT: mm | FINISH:
THIRD ANGLE PROJECTION | SCALE: 1/1.25

TAOGLAS. TW Design Centre

REV D05

TITLE. : Triton 5dBi DSRC 5.9GHz Dipole Terminal Antenna SMA(M) Hinged Connector

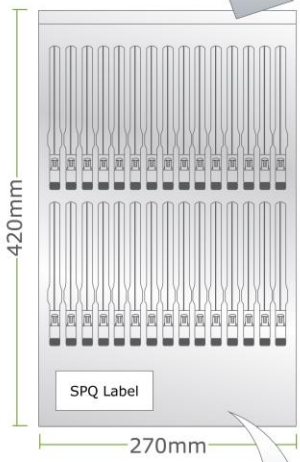
PART NO. : TD.10.5113

APPROVED BY:	CHECKED BY:	DRAWN BY:	CUSTOMERS SIGNATURE / DATE
Paul	Jack/Jason	Kim	

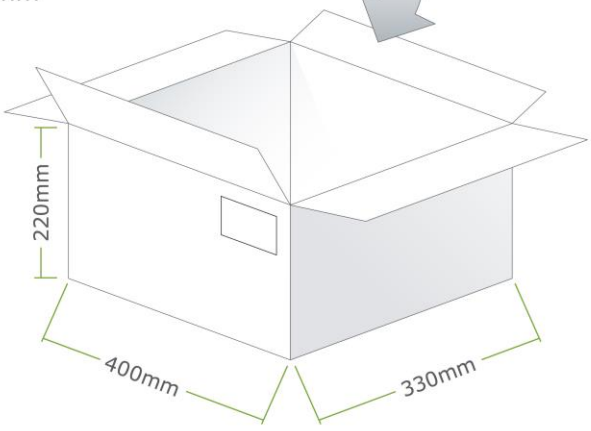
7. Packaging

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

Revision: E (Current Version)	
Date:	20223-10-16
Changes:	Updated specification
Changes Made by:	Cesar Sousa

Previous Revisions

Revision: D	
Date:	2021-12-17
Changes:	Packaging Updated
Changes Made by:	Jack Conroy

Revision: C	
Date:	2019-10-25
Changes:	Updated Terminology
Changes Made by:	Jack Conroy

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

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

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