TAOGLAS

Datasheet

Triton – 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

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

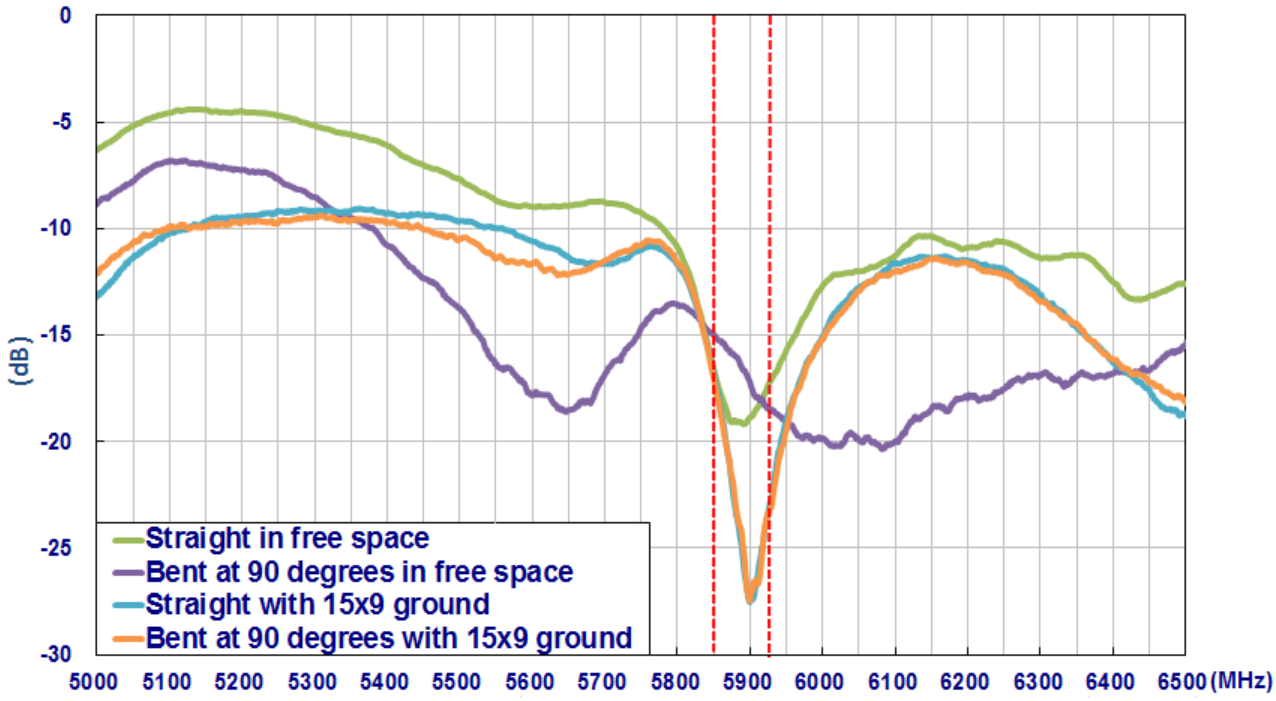
Electrical	
In Free Space	
Frequency	5850~5925MHz
Efficiency (%)	
Straight Pose	73.48
Bent Pose	64.58
Average Gain (dBi)	
Straight Pose	-1.34
Bent Pose	-1.9
Peak Gain (dBi)	
Straight Pose	5.88
Bent Pose	5.67
With 15*9cm Ground Plane	
Frequency	5850~5925MHz
Efficiency (%)	
Straight Pose	49.00
Bent Pose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

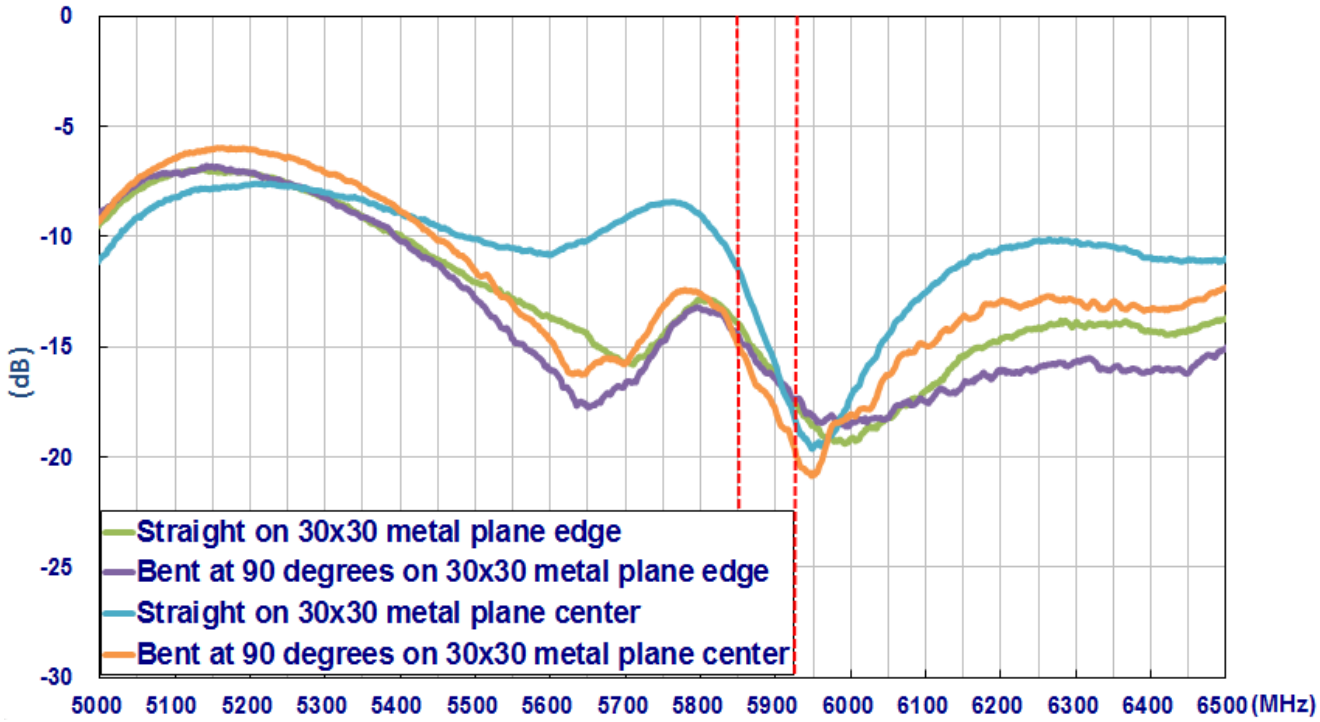
Mechanical	
Dimensions	Length 169mm, Φ18mm
Casing	PC+ABS
Connector	Hinged SMA Male
Weight	21.75 g
Recommended Torque for Mounting	0.9 N·m
Max Torque for Mounting	1.176 N·m

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

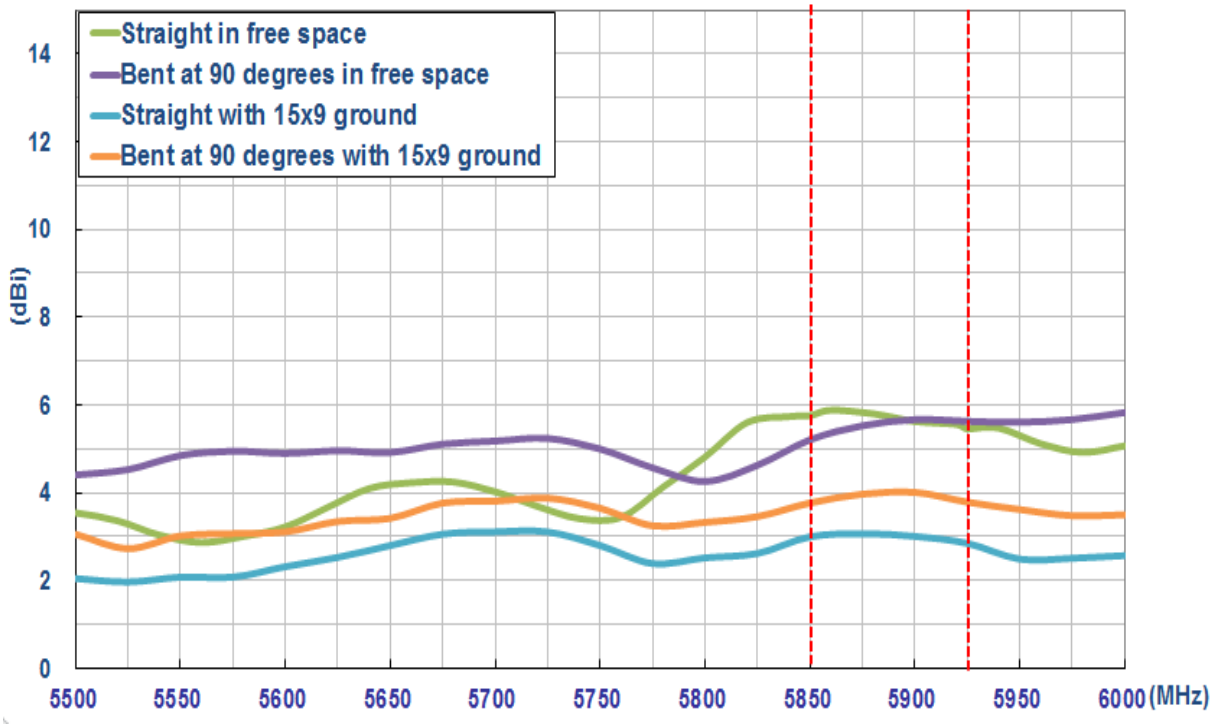
3. Antenna Characteristics

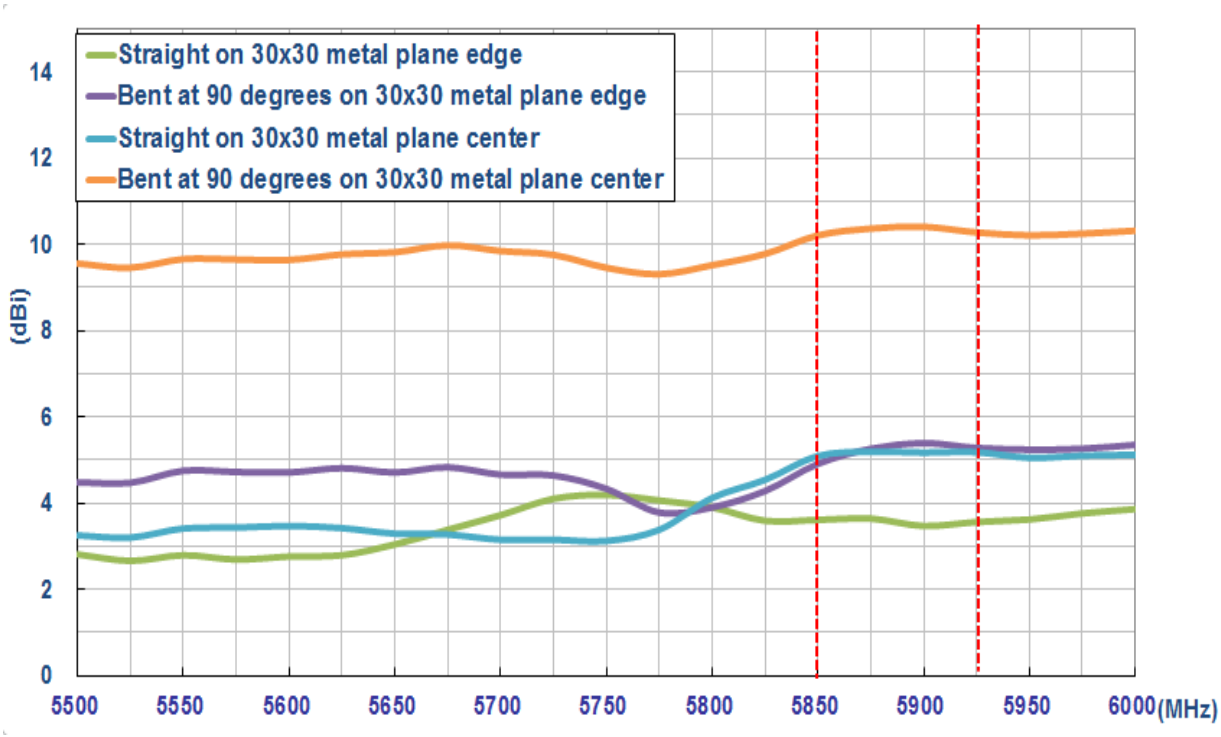
3.1 Return Loss



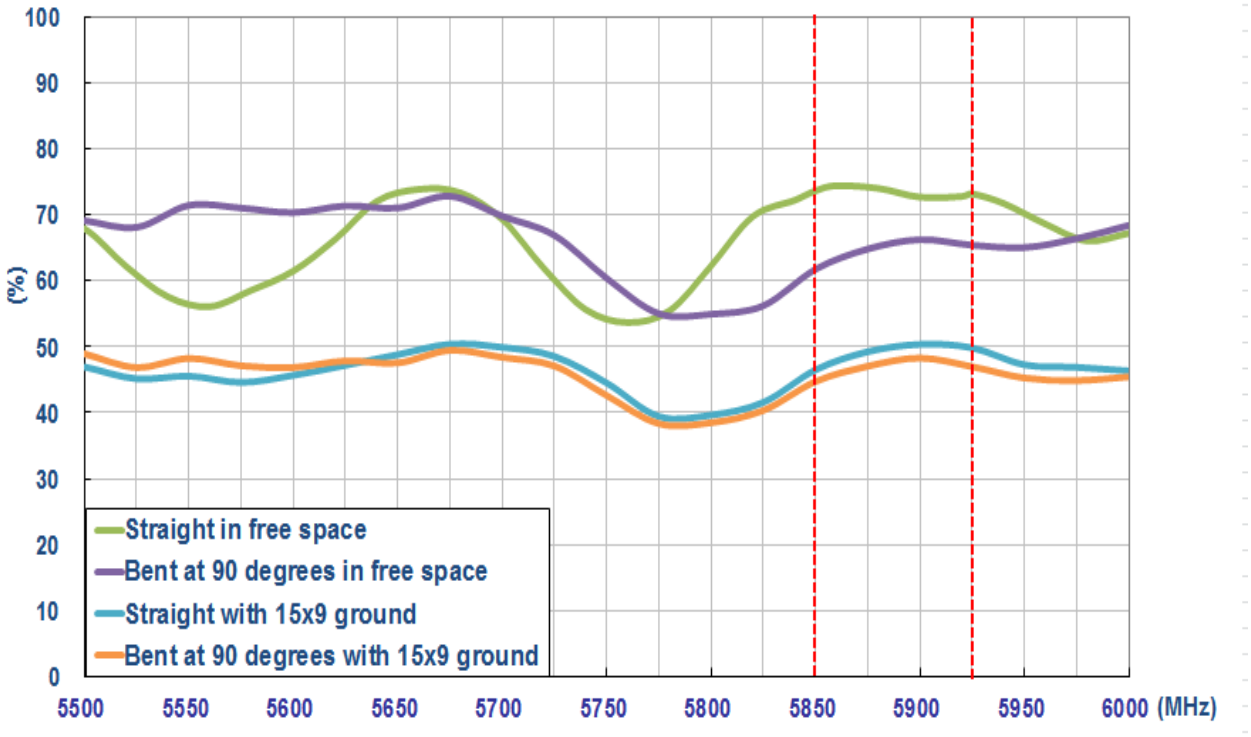


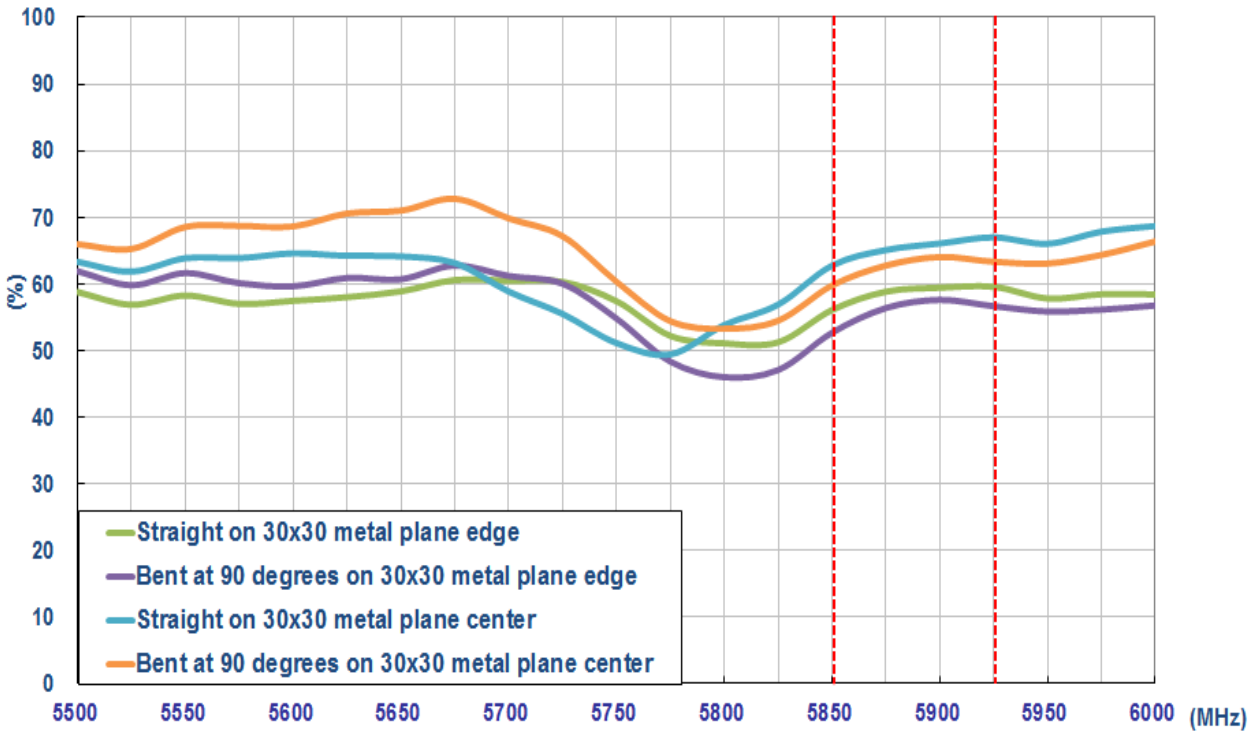
3.2 Peak Gain


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

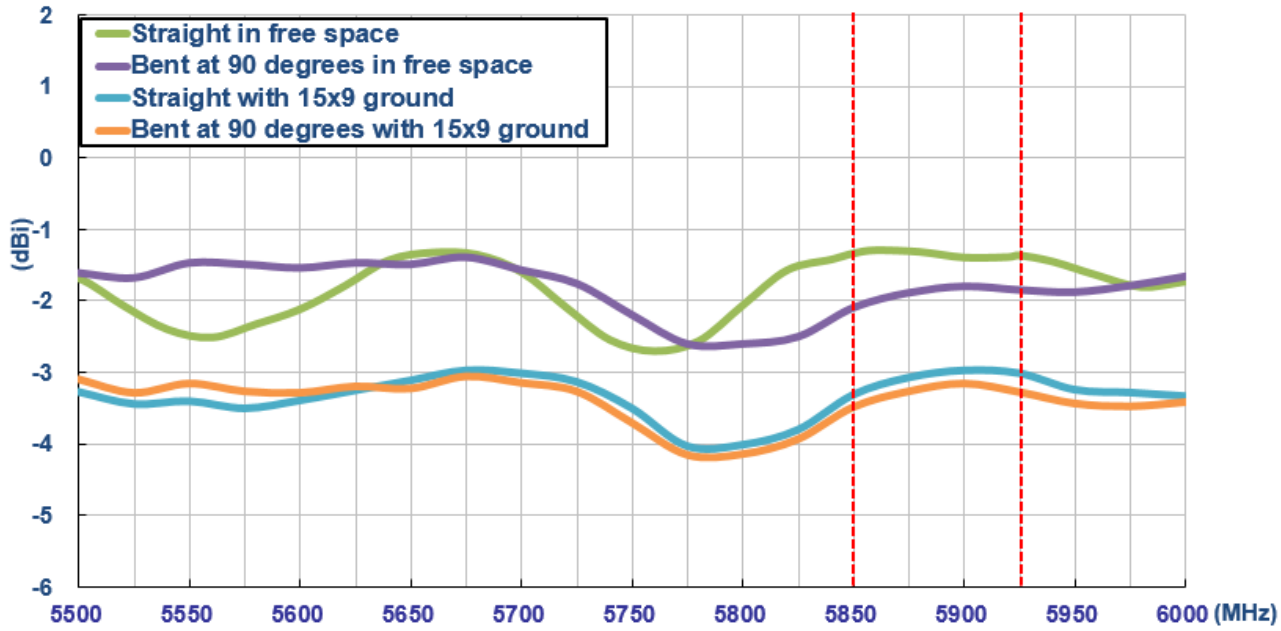

Straight on 30x30 metal plane edge
Bent at 90 degrees on 30x30 metal plane edge
Straight on 30x30 metal plane center
Bent at 90 degrees on 30x30 metal plane center
(dBi)
14
12
10
8
6
4
2
0
5500
5550
5600
5650
5700
5750
5800
5850
5900
5950
6000
(MHz)

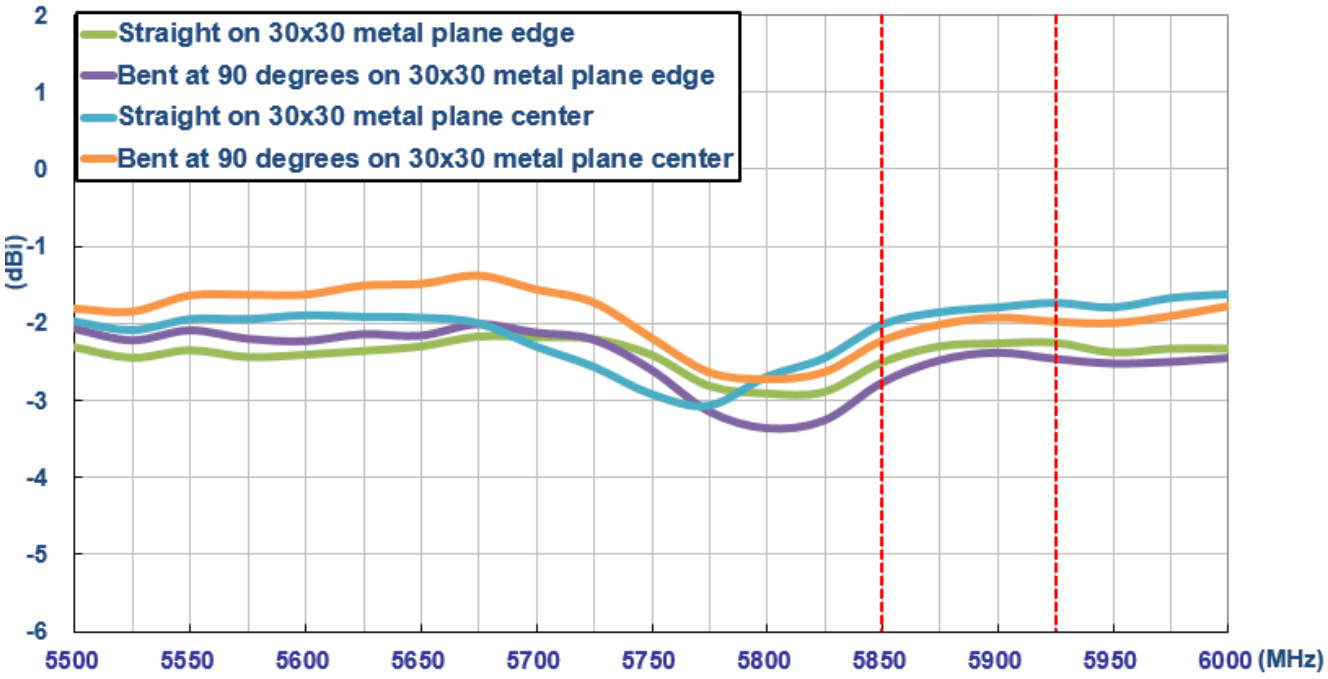
3.3 Efficiency





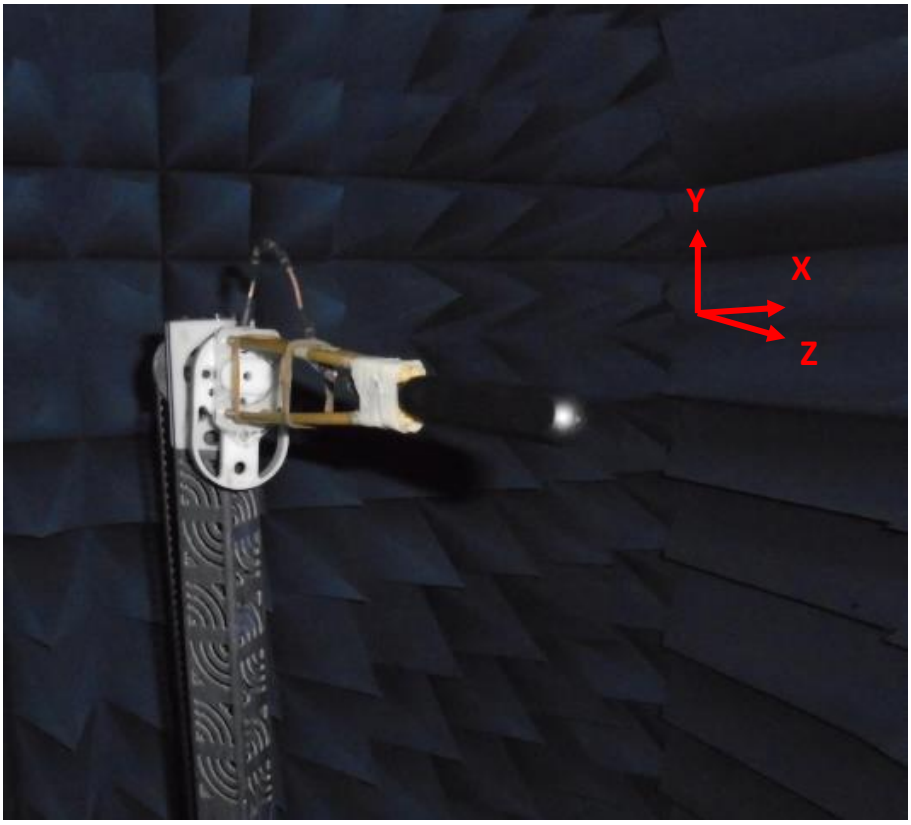
3.4 Average Gain





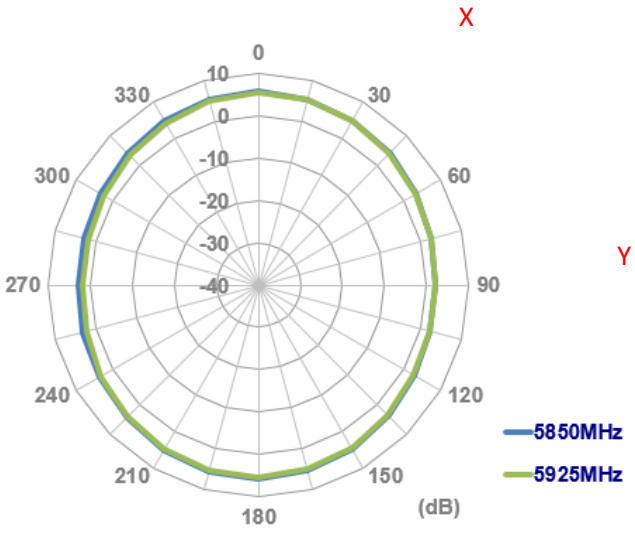
4. 2D Radiation Patterns

4.1 Test Setup

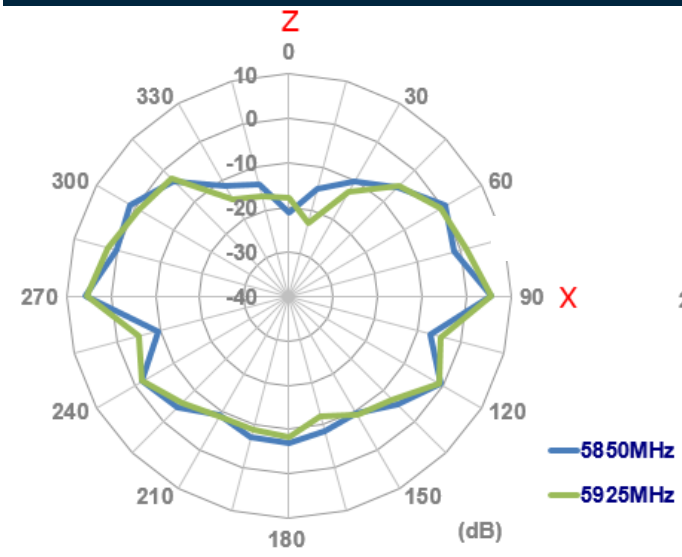


Free space Straight

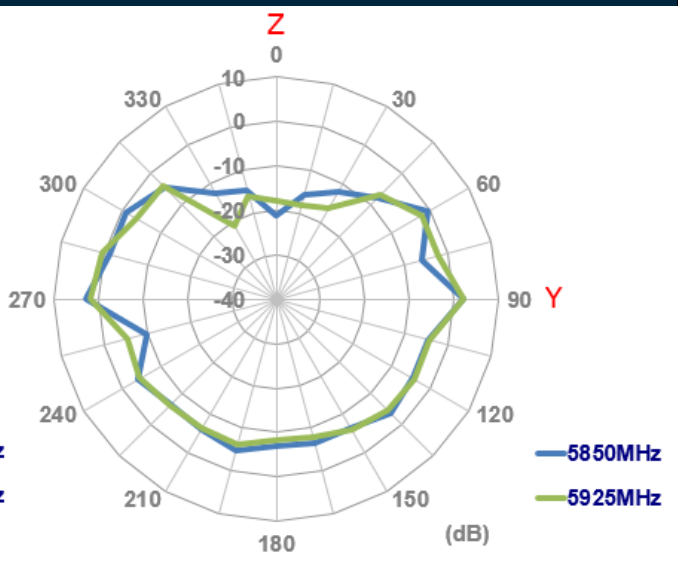
XY Plane



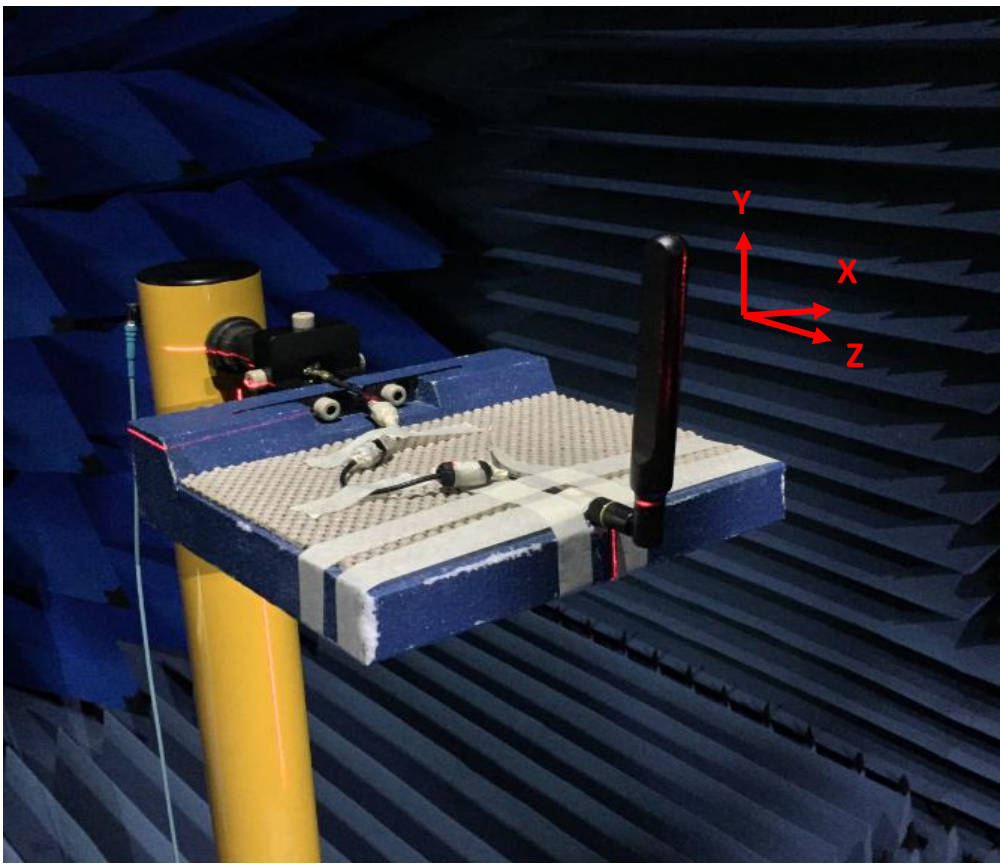
XZ Plane



YZ Plane

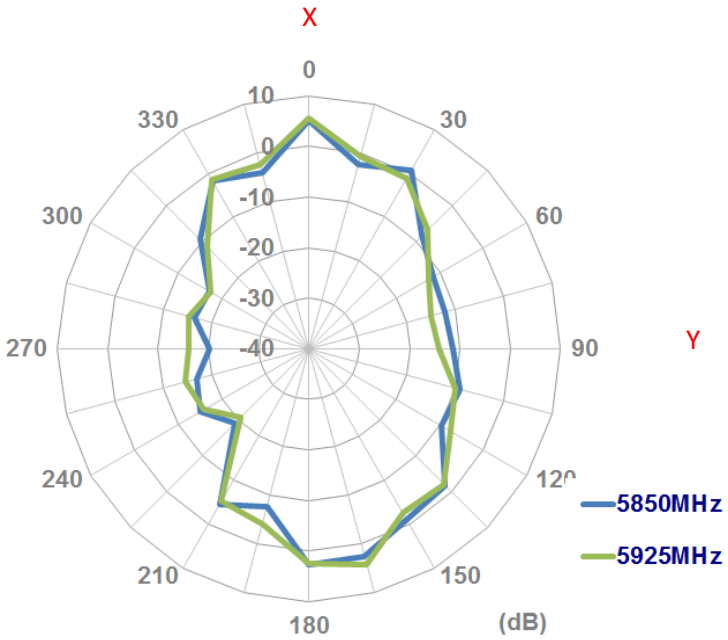


4.2 Test Setup

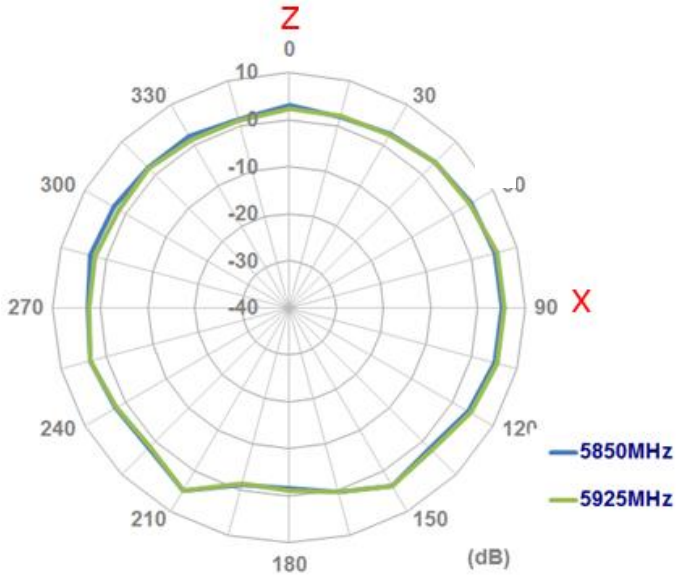


Free space bend

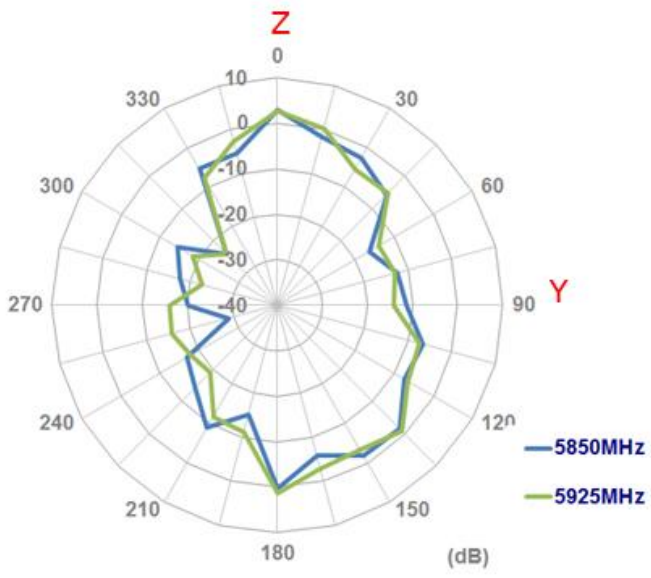
XY Plane



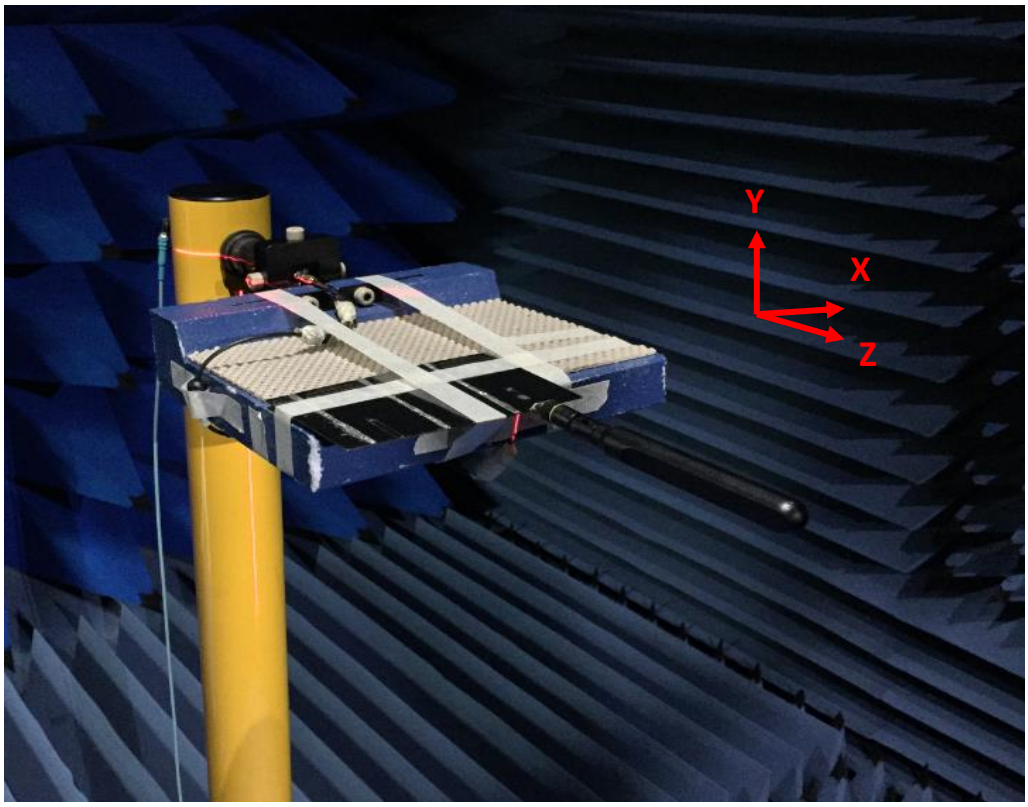
XZ Plane



YZ Plane

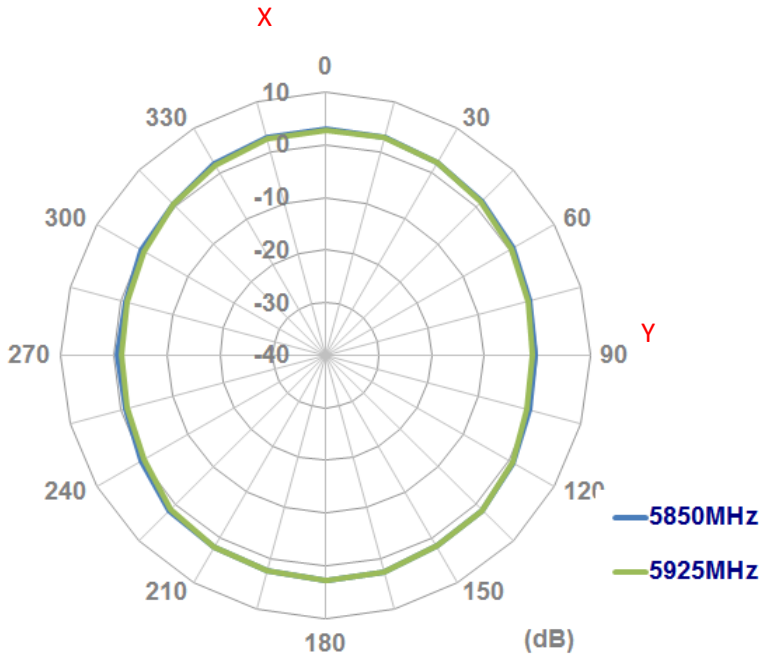


4.3 Test Setup

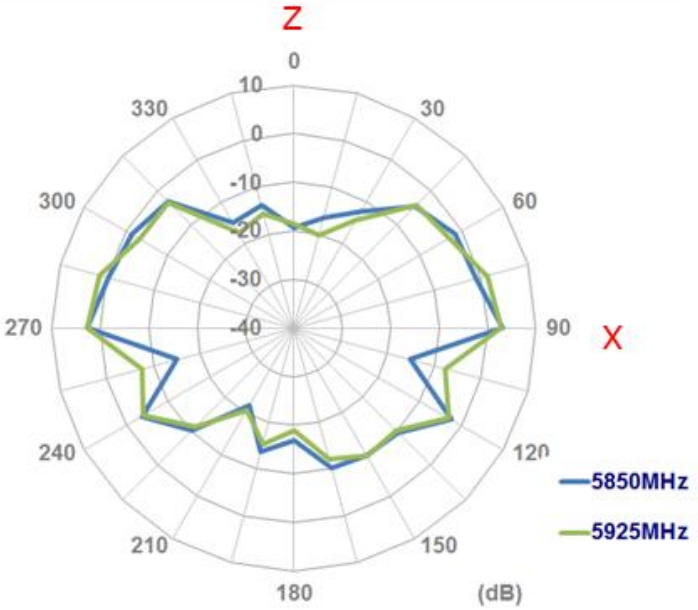


straight with 15*9cm ground plane

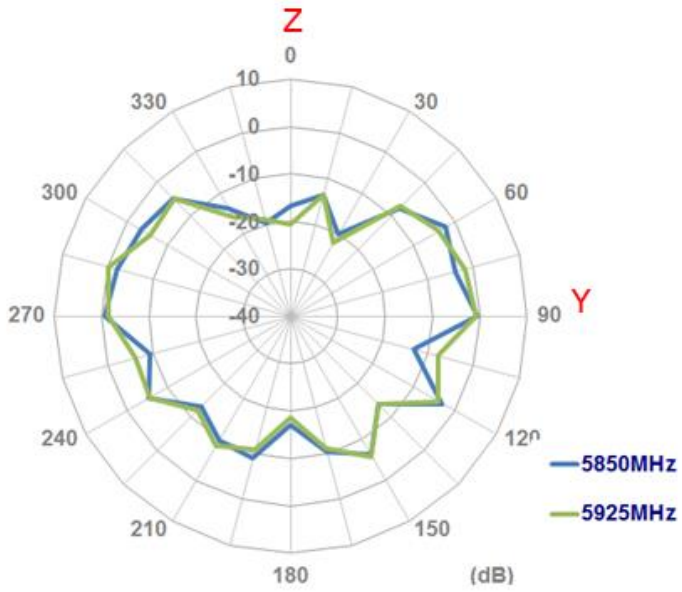
XY Plane



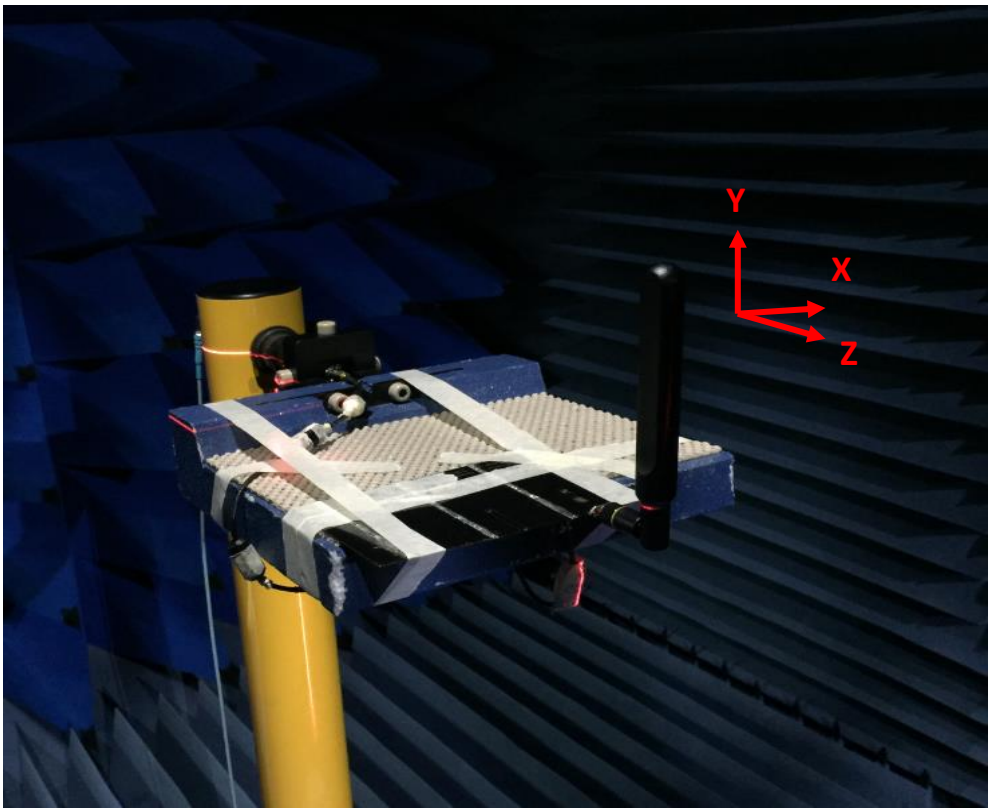
XZ Plane



YZ Plane

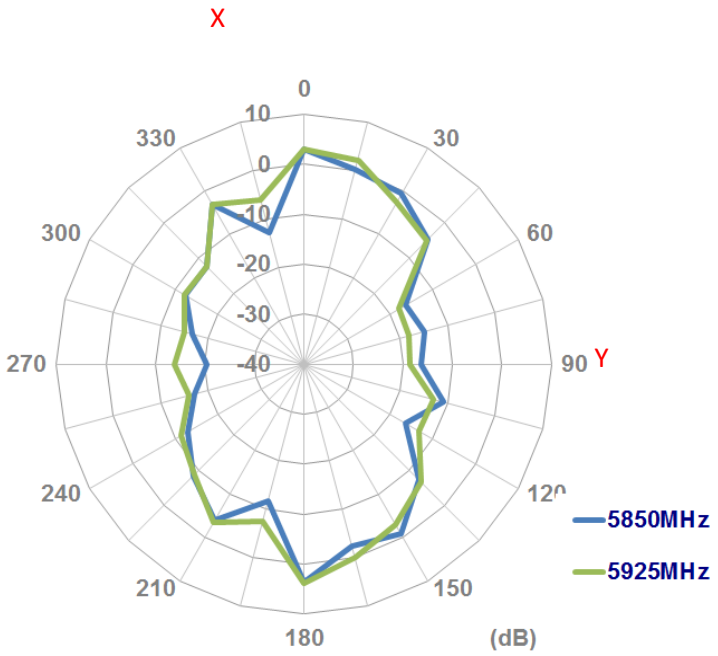


4.4 Test Setup

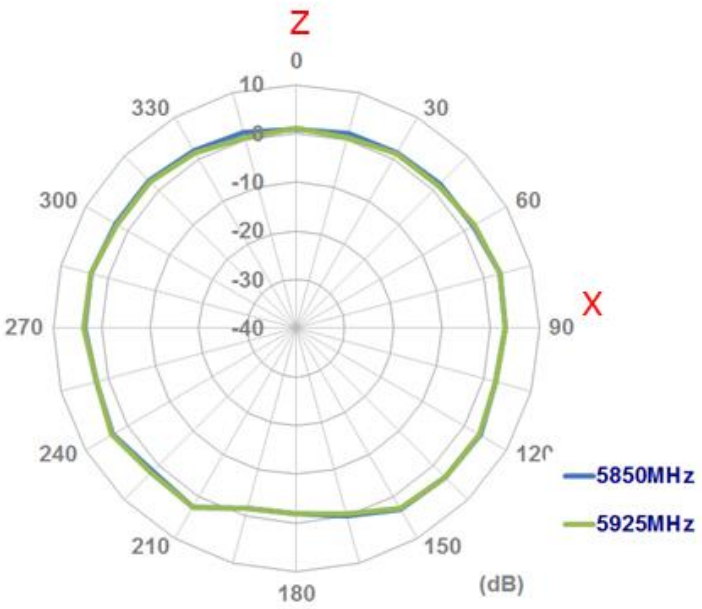


bent with 15*9cm ground plane

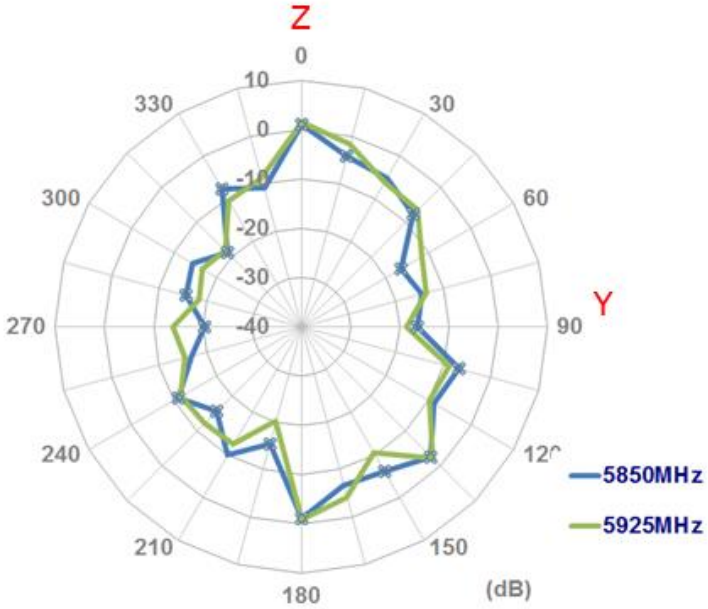
XY Plane



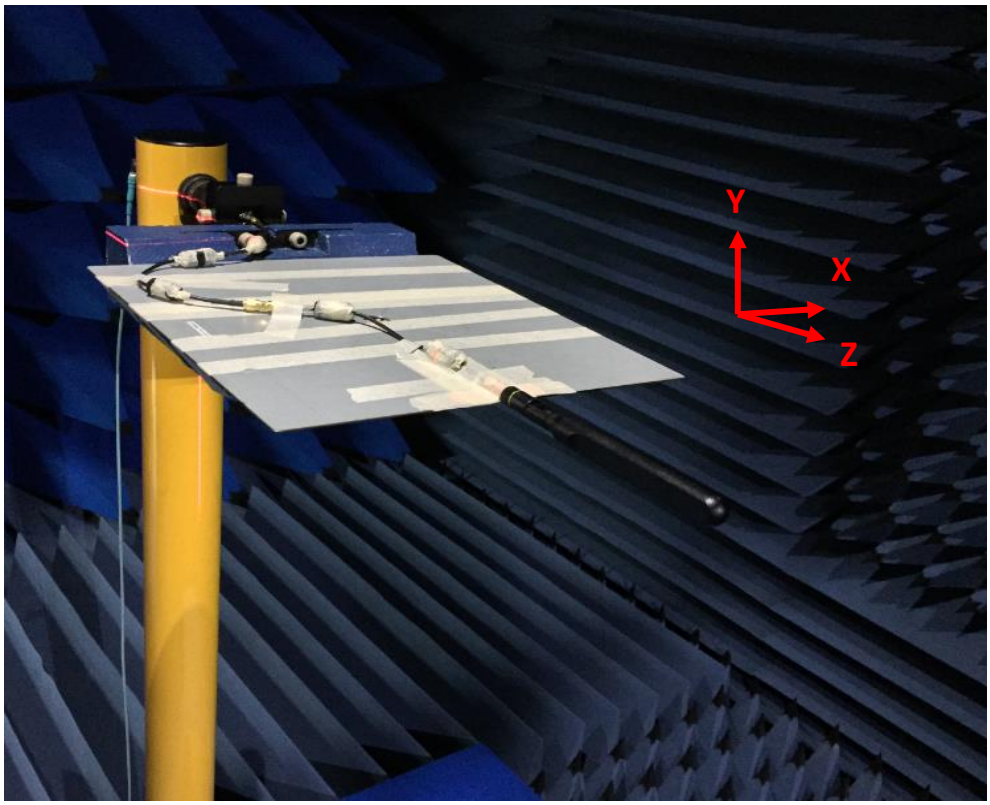
XZ Plane



YZ Plane

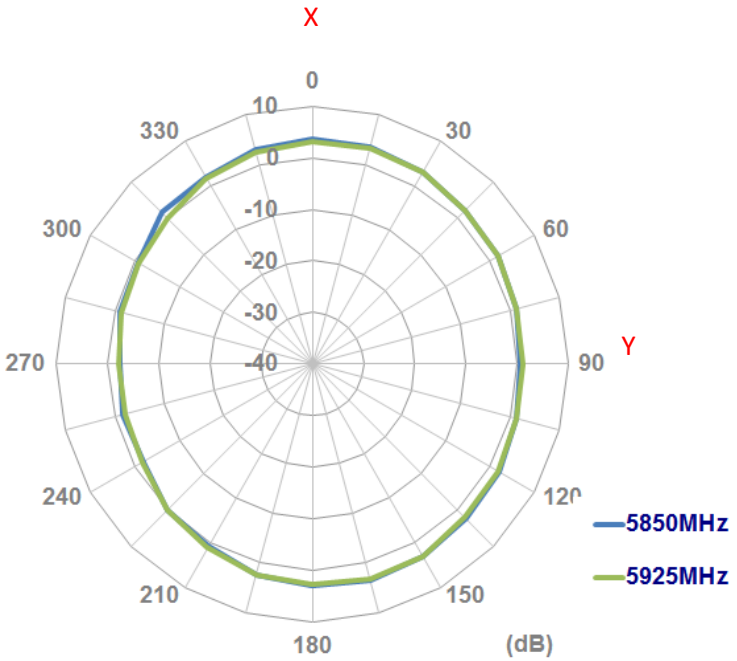


4.4 Test Setup

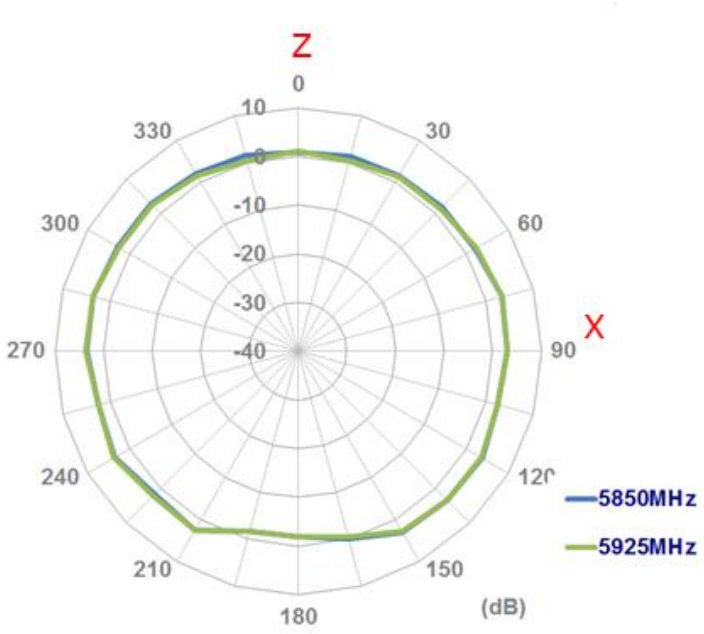


Straight with 30*30cm Ground Plane edge

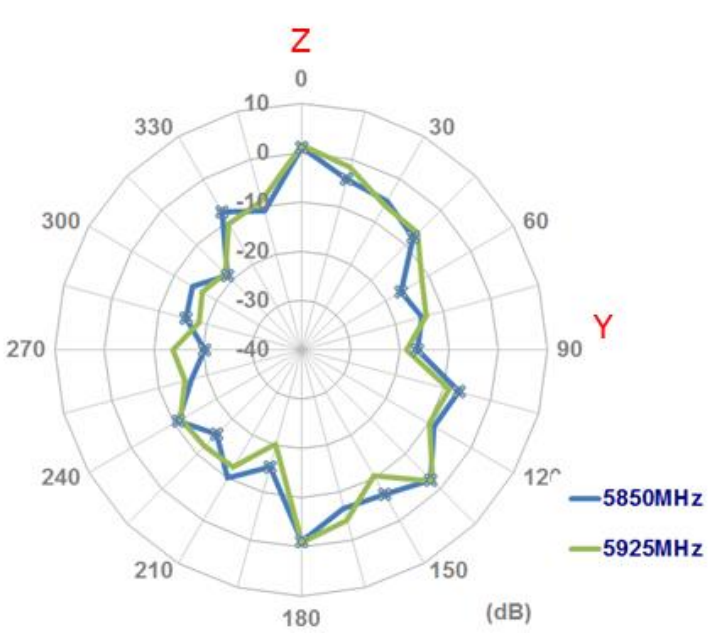
XY Plane



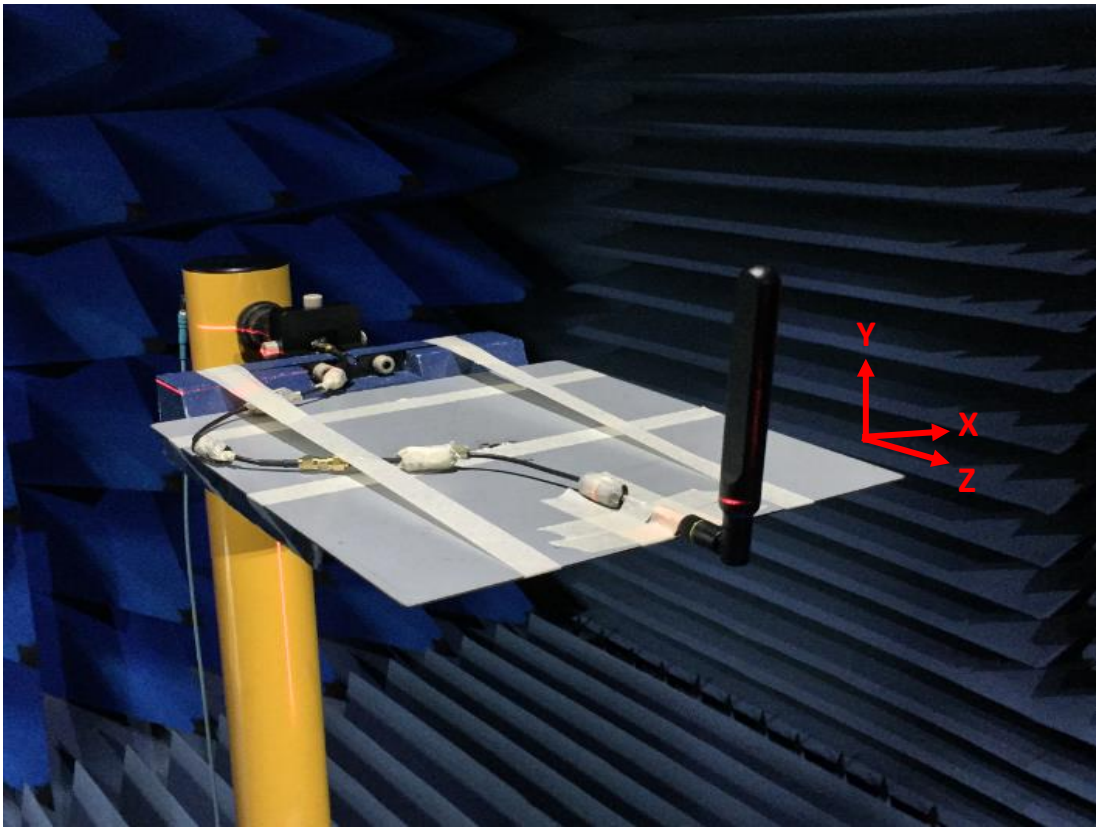
XZ Plane



YZ Plane

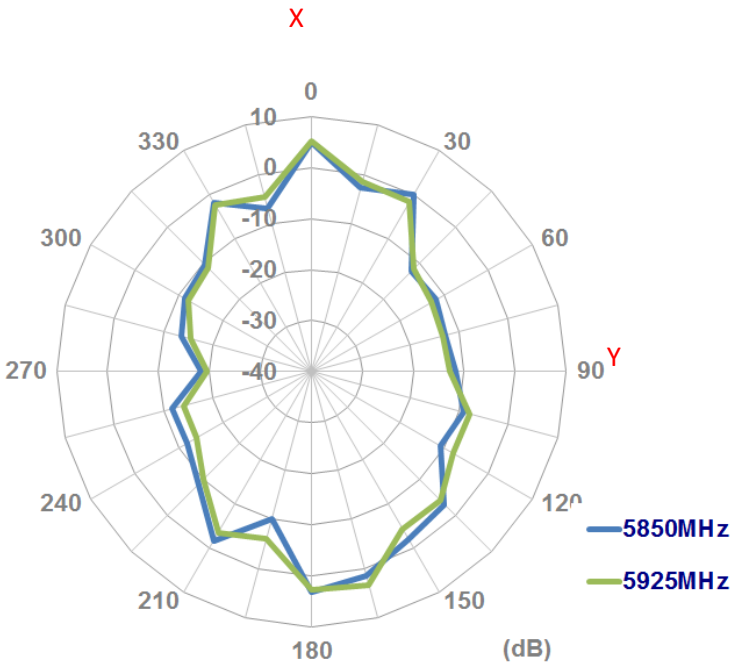


4.5 Test Setup

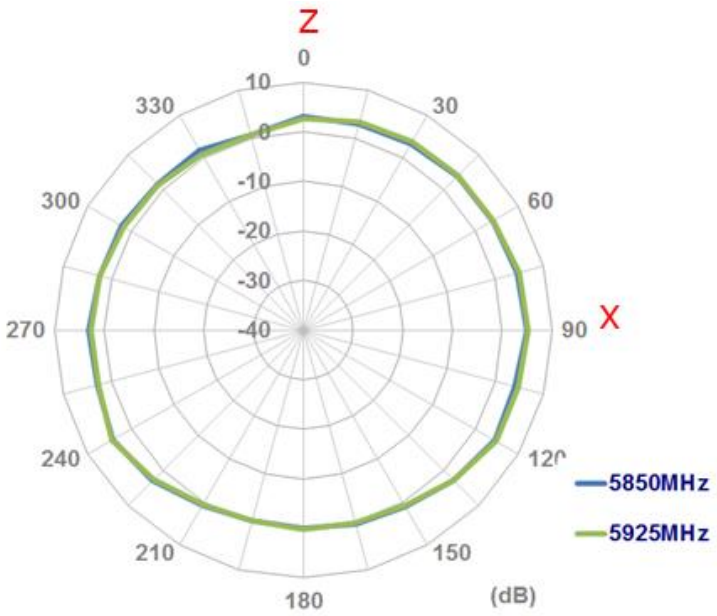


Bent with 30*30cm Ground Plane edge

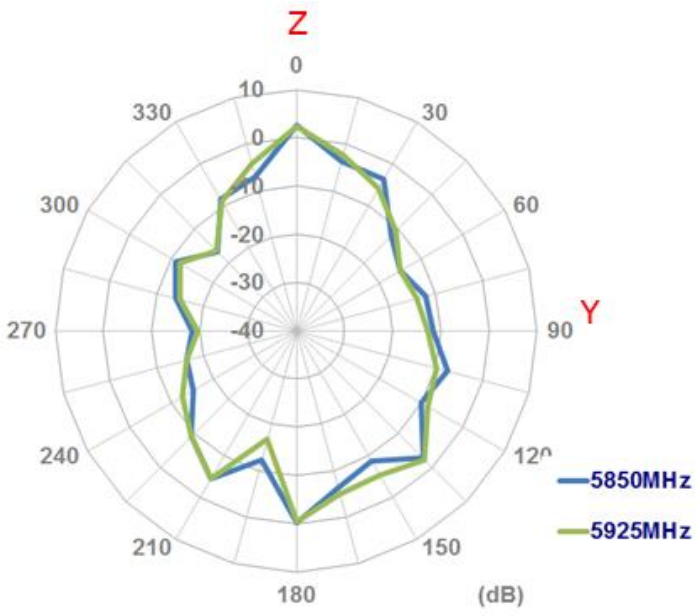
XY Plane



XZ Plane



YZ Plane



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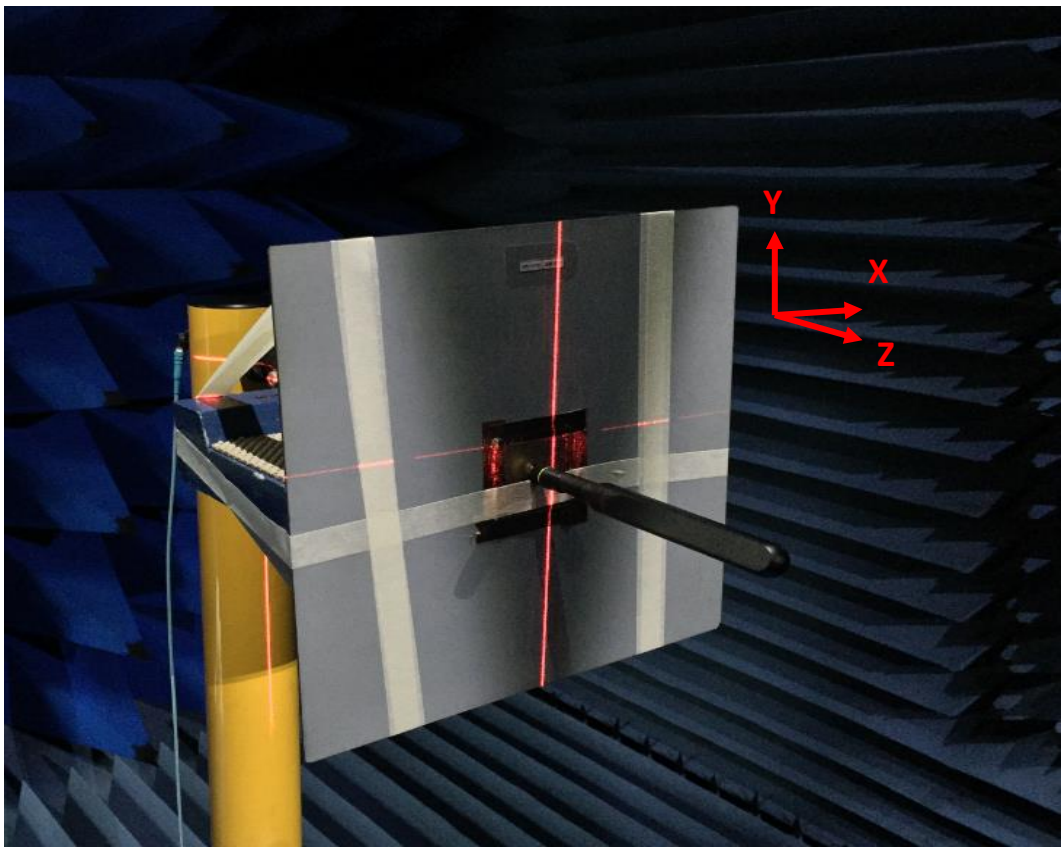
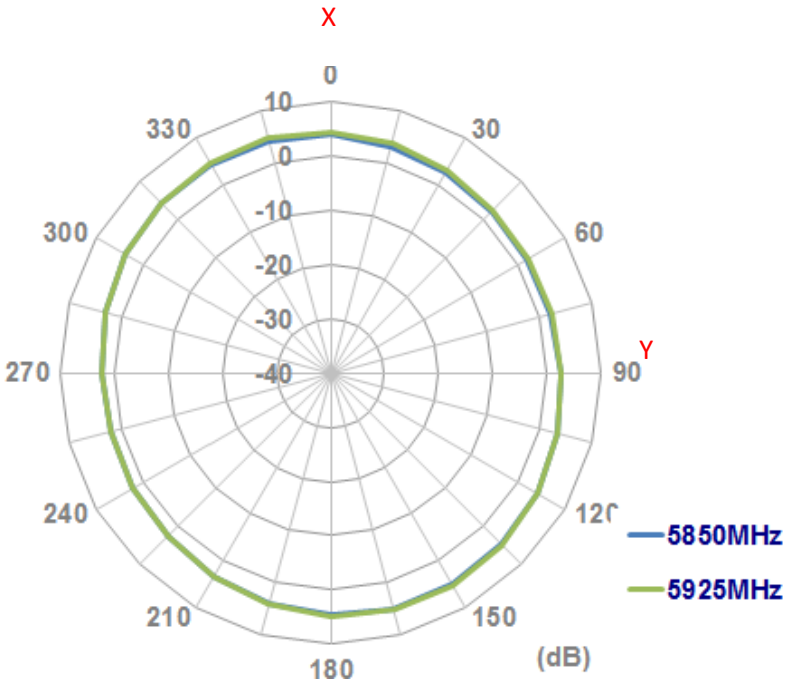
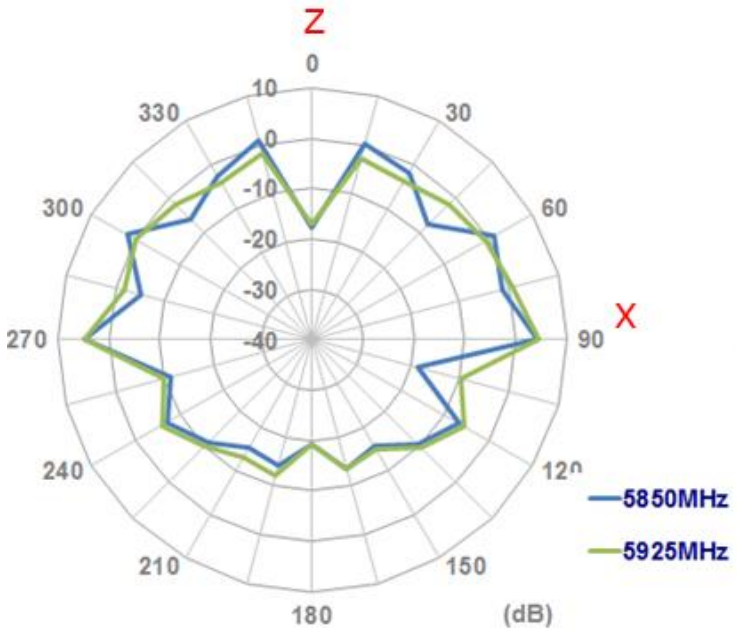


Straight with 30*30cm Ground Plane Center

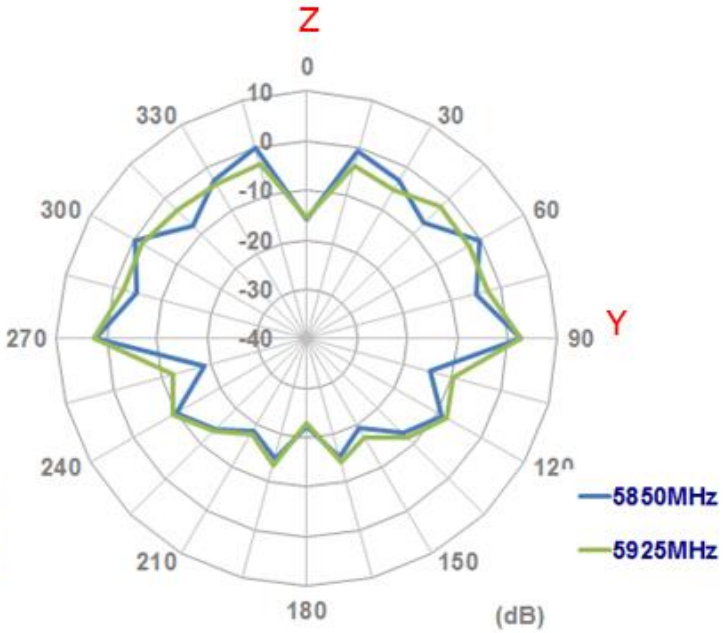
XY Plane



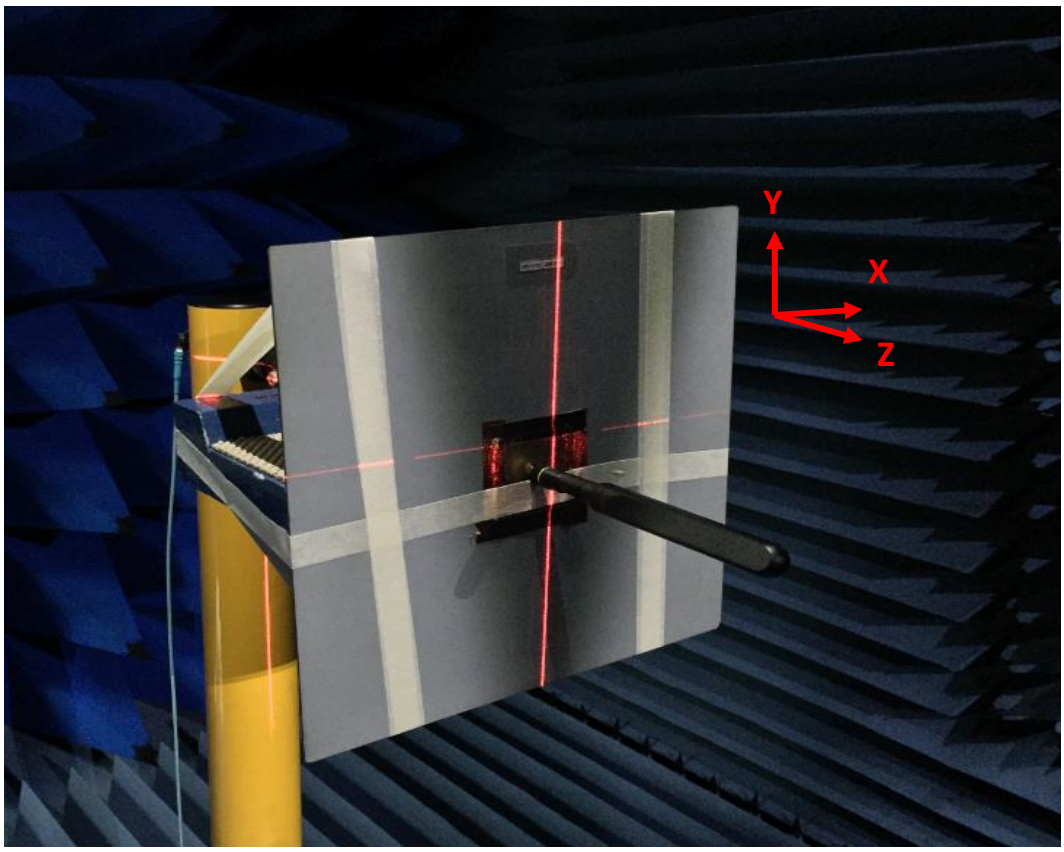
XZ Plane



YZ Plane

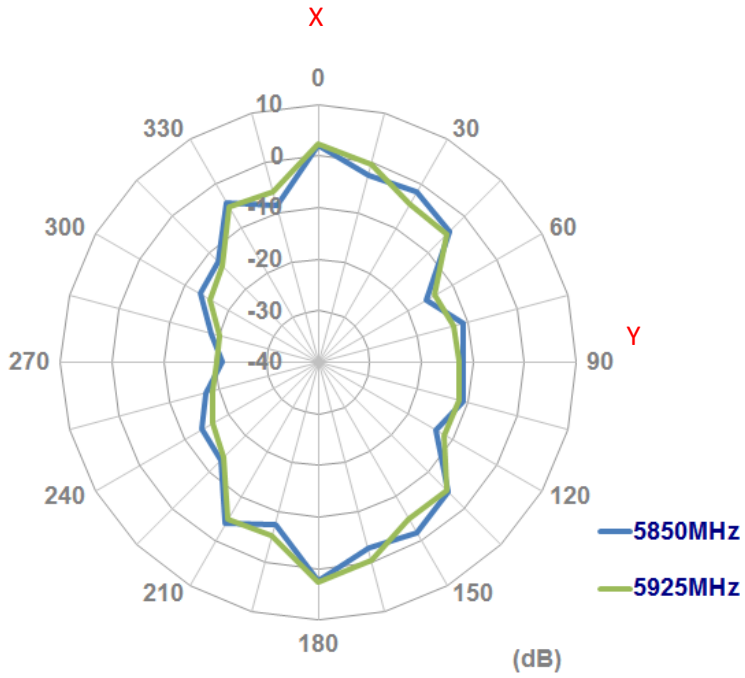


4.7 Test Setup

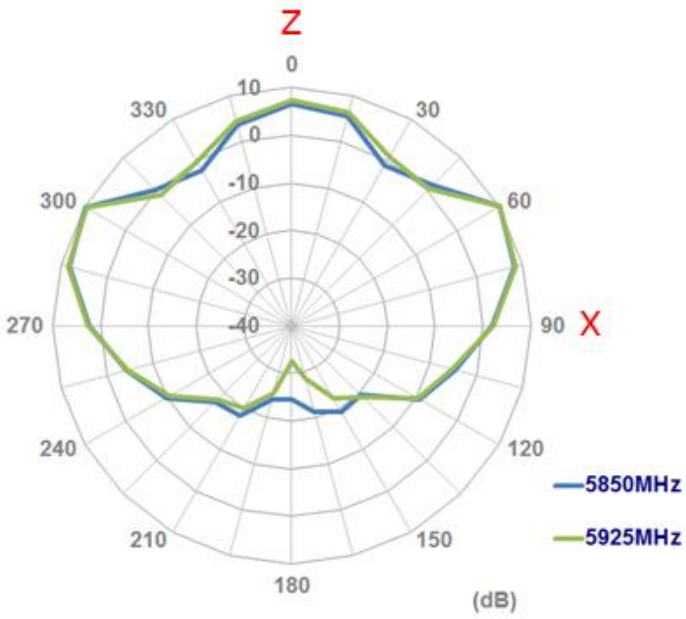


Bent at 90º with 30*30cm Ground Plane Center

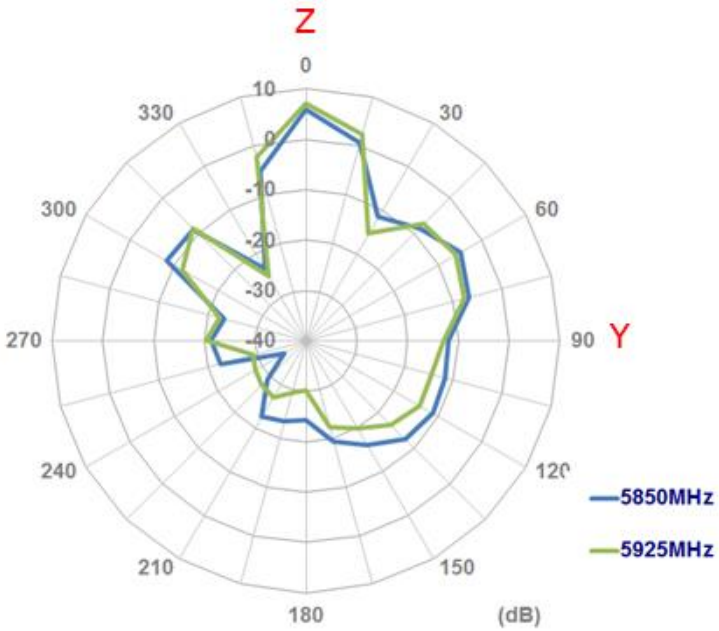
XY Plane



XZ Plane



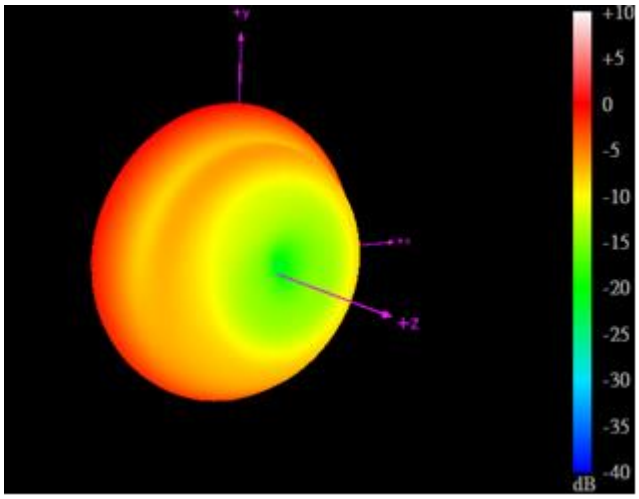
YZ Plane



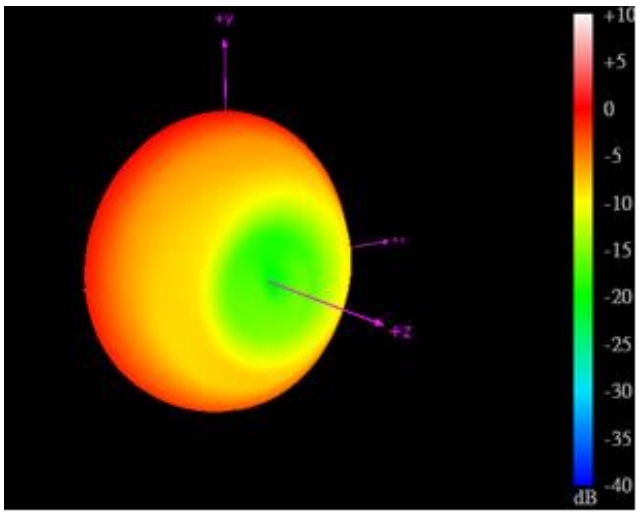
5. 3D Radiation Patterns

5.1 Free Space

Straight

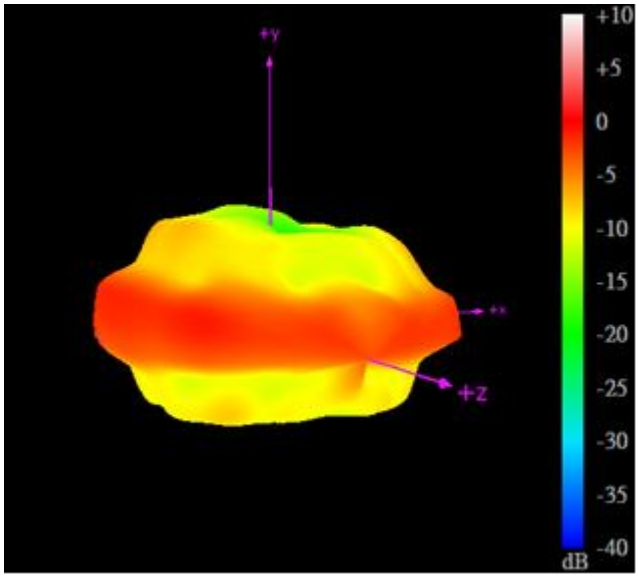


5850MHz

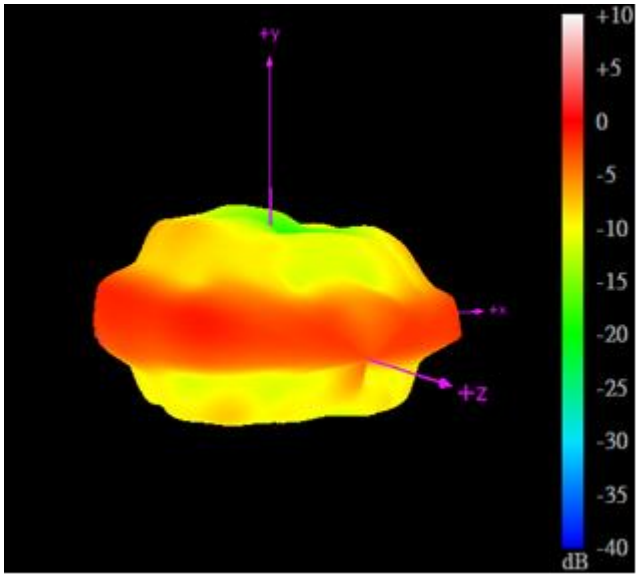


5925MHz

Bent at 90 Degrees



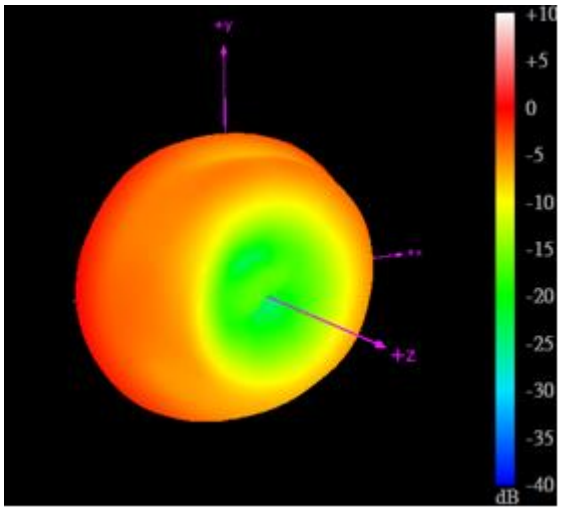
5850MHz



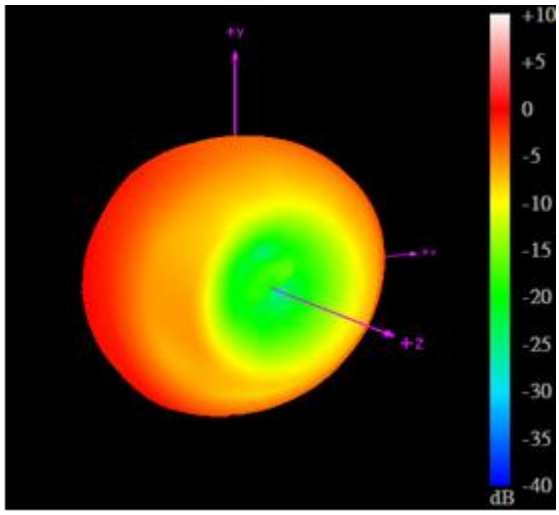
5925MHz

5.2 15*9cm Ground Plane

Straight

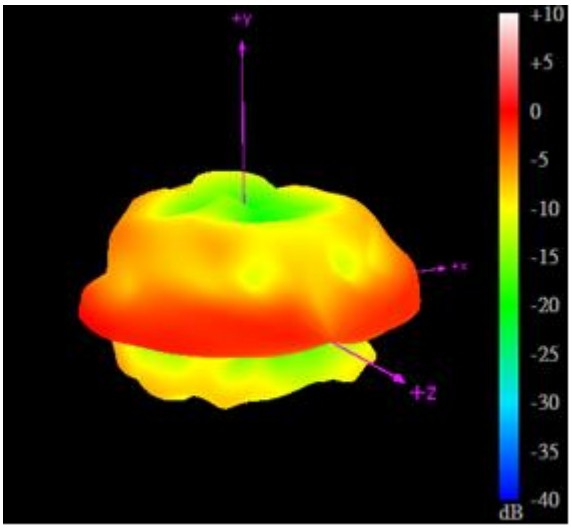


5850MHz

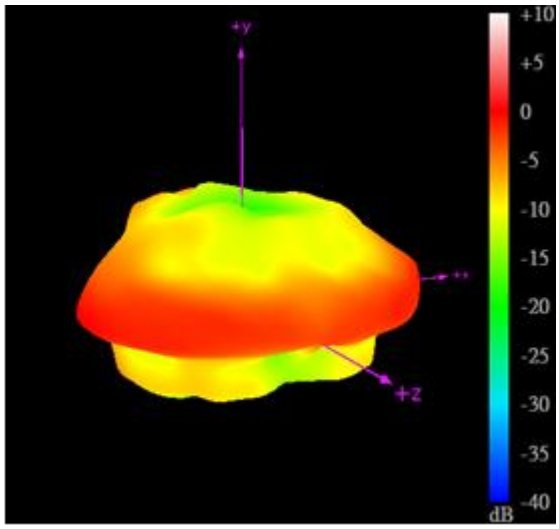


5925MHz

Bent at 90 Degrees



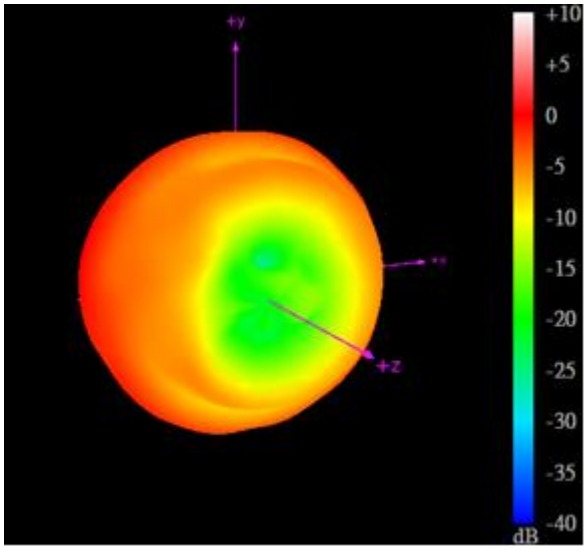
5850MHz



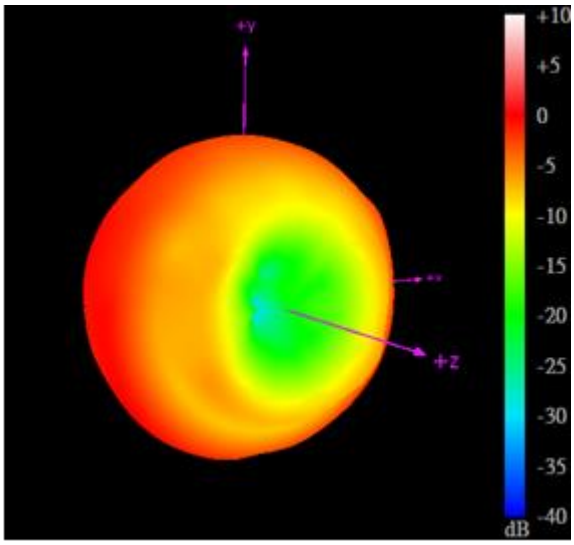
5925MHz

5.3 30*30cm Ground Plane edge

Straight

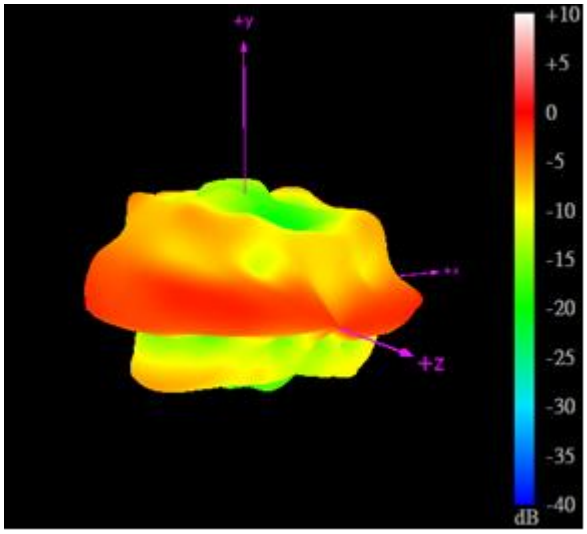


5850MHz

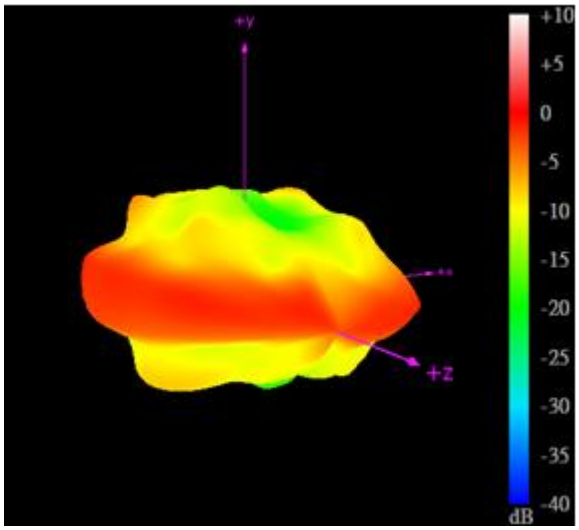


5925MHz

Bent at 90 Degrees



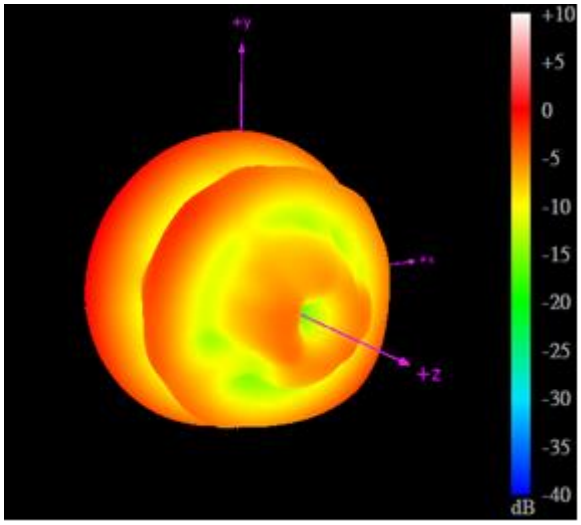
5850MHz



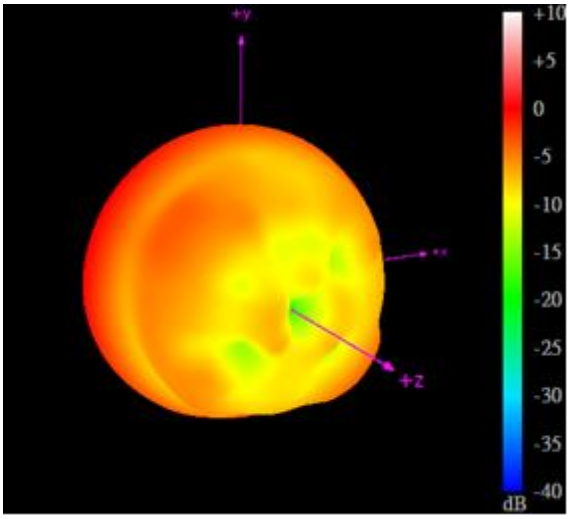
5925MHz

5.4 30*30cm Ground Plane Center

Straight

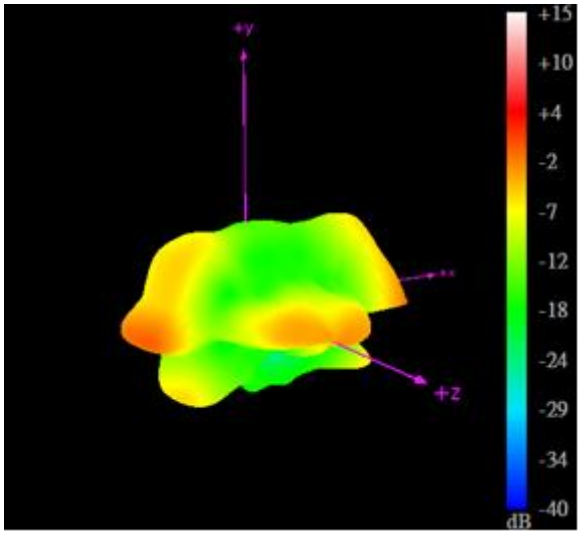


5850MHz

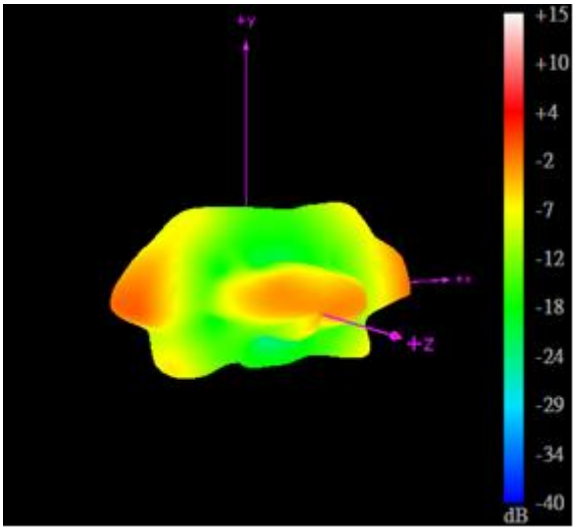


5925MHz

Bent at 90 Degrees



5850MHz

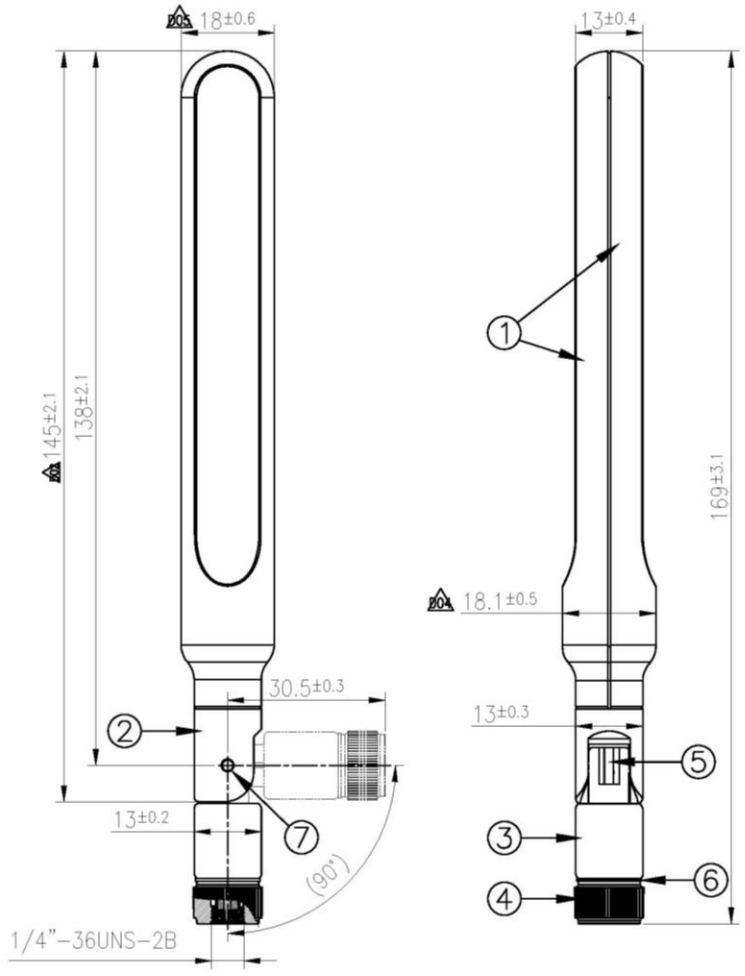


5925MHz

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

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REV D05

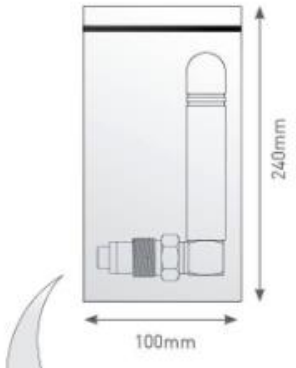
APPROVED BY:	CHECKED BY:	DRAWN BY:	CUSTOMERS SIGNATURE / DATE
Paul	Jack/Jason	Kim	

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

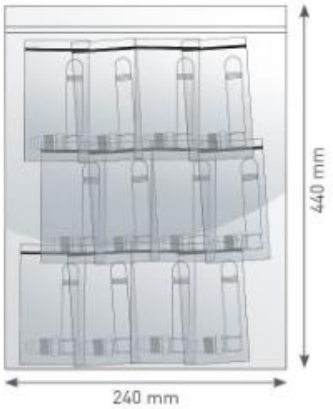
PART NO. : TD.10.5113

7. Packaging

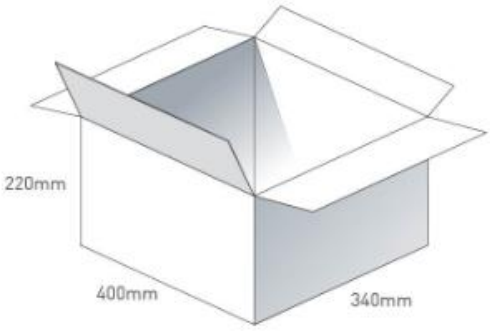
1 pc TD.10.5113 per PE bag
PE Bag Dimensions - 240*100mm
Weight - 200g



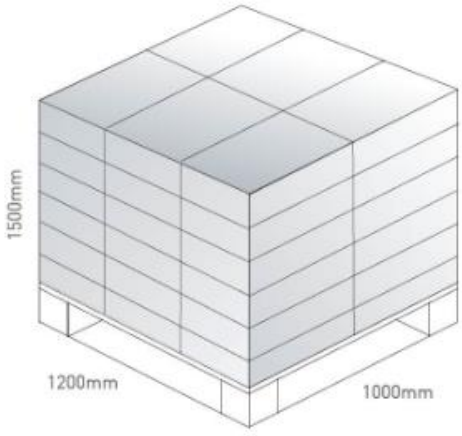
50 pcs TD.10.5113 per Large PE bag
PE Bag Dimensions - 440*240mm
Weight - 1.1kg



300 pcs TD.10.5113 per carton
Carton Dimensions - 400*340*220mm
Weight - 7.7kg



Pallet Dimensions 1200*1000*1500mm
54 Cartons per Pallet
6 Cartons per layer
9 Layers



Changelog for the datasheet

SPE-16-8-063 – TD.10.5113

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

Previous Revisions

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

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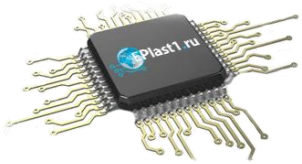
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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Факс: 8 (812) 320-02-42
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