

PSA

PASSIVE SYSTEM ALLIANCE  
WALSIN TECHNOLOGY CORPORATION

# 台達 Cranberry

Presented by

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<b>Version</b>	<b>Date</b>	<b>Description</b>	<b>Author</b>
<b>V01</b>	<b>2021/09/23</b>	<b>New Release</b>	<b>Simon Huang</b>
<b>V02</b>	<b>2021/12/10</b>	<b>1.Change machine and Ant Position 2.Change Ant type</b>	<b>Simon Huang</b>

# OUTLINE

## 1. Measurement Information

1.1 Experimental Setup

1.2 Antenna Solution Detail

## 2. Antenna Characteristics

2.1 Return Loss

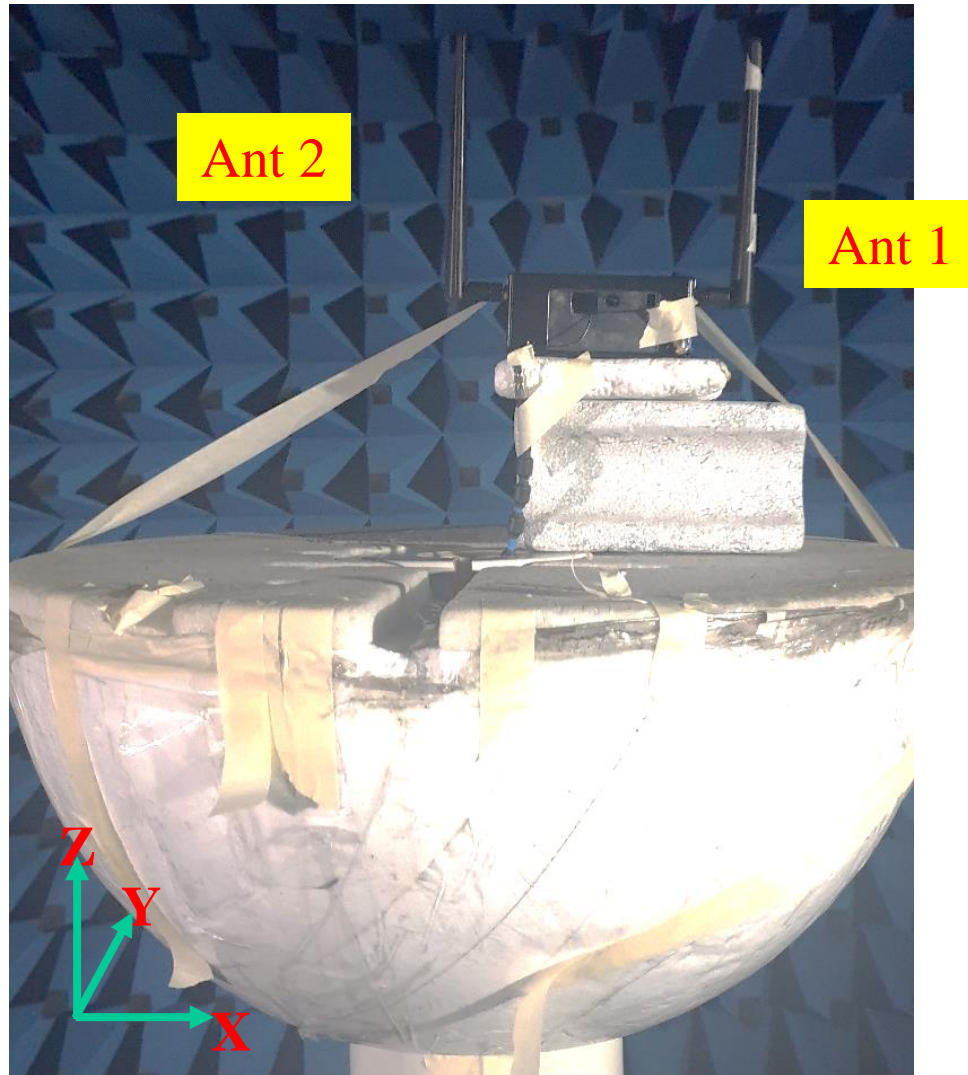
2.2 Antenna Efficiency and Peak Gain

2.3 3 views of antenna & 2D Radiation Patterns

## 3. Summary

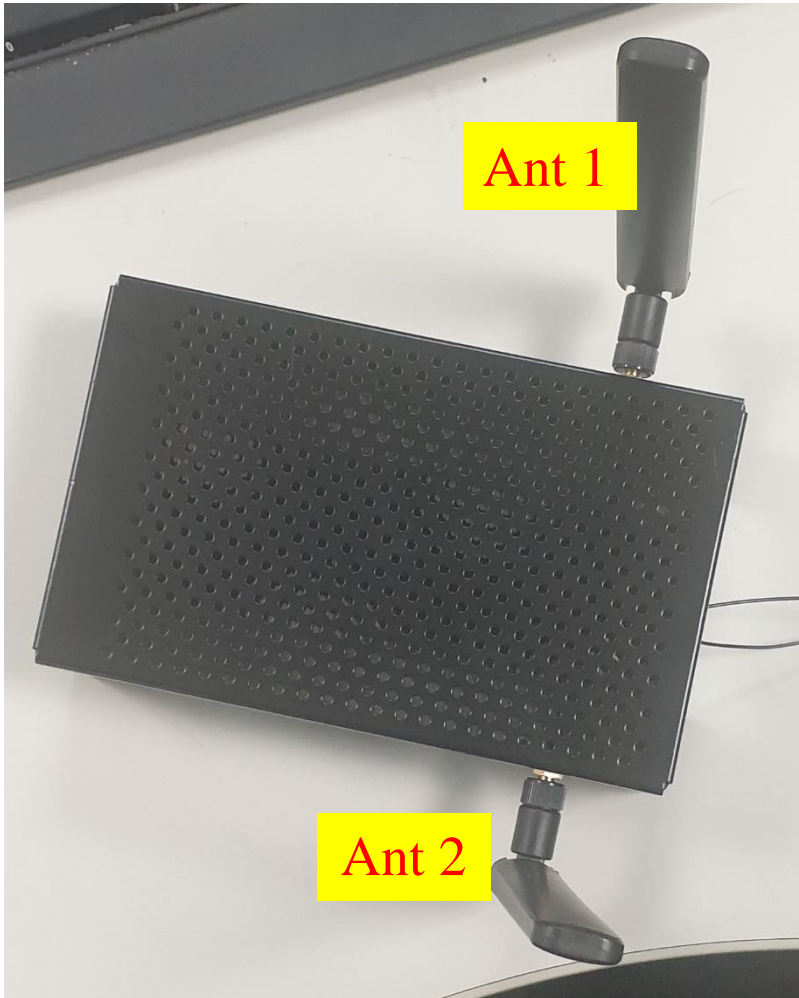
# 1. Measurement Information

## 1.1 Experimental Setup ( 90 deg )



# 1. Measurement Information

## 1.2 Antenna Solution Detail



Difference:

1. S11 , impedance meets spec after commissioning .
2. Cable's length update .
3. 2pcs rivet , combination antenna outer pole cover .

## 2. Antenna Characteristics

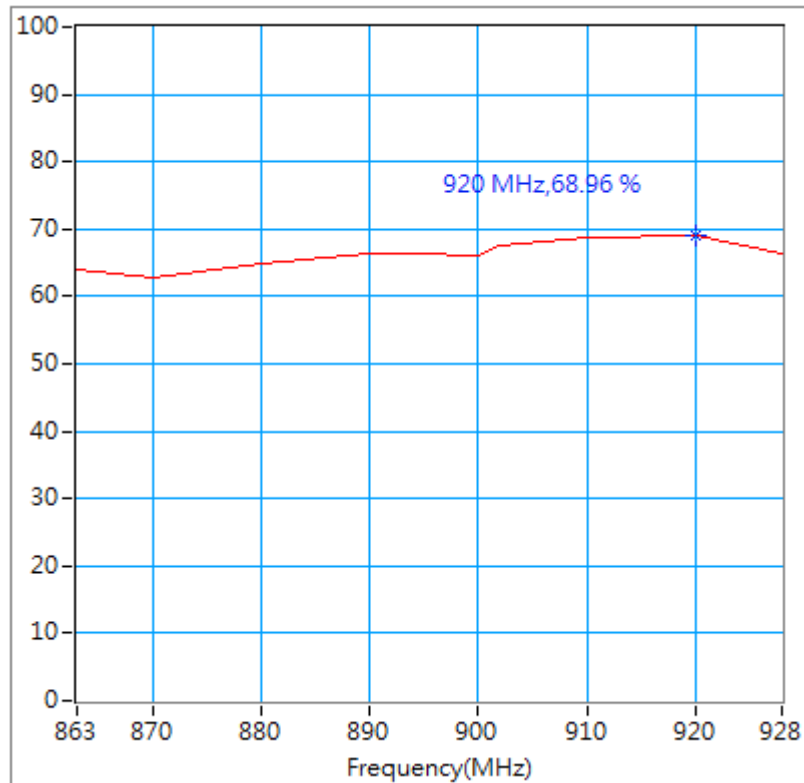
### 2.1 Return Loss



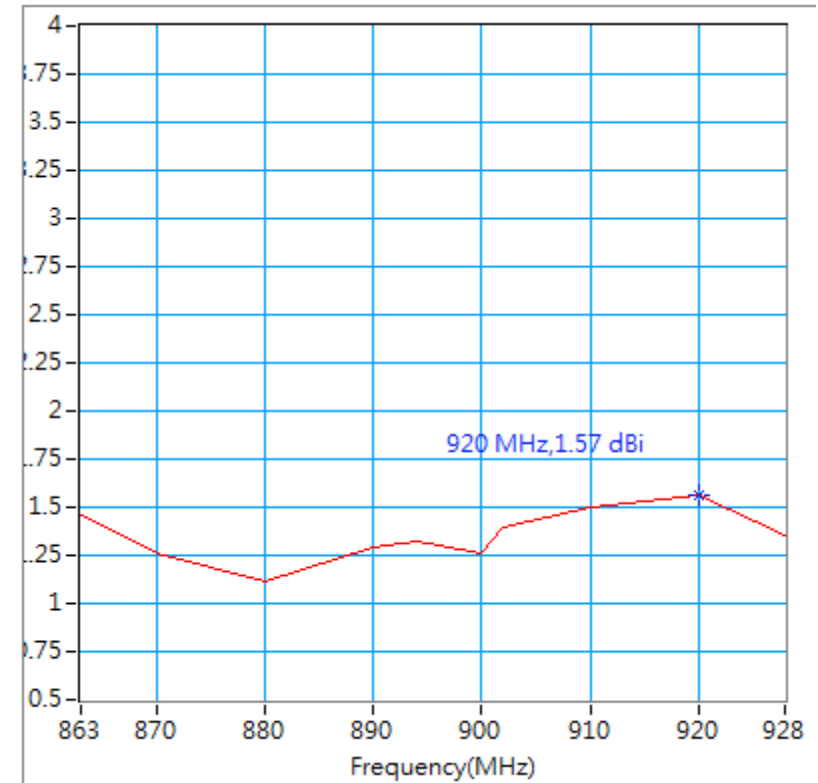
## 2. Antenna Characteristics

### 2.2 Antenna Efficiency and Peak Gain

Ant 1



**Maximum Efficiency at 920 MHz : 68.96 %**



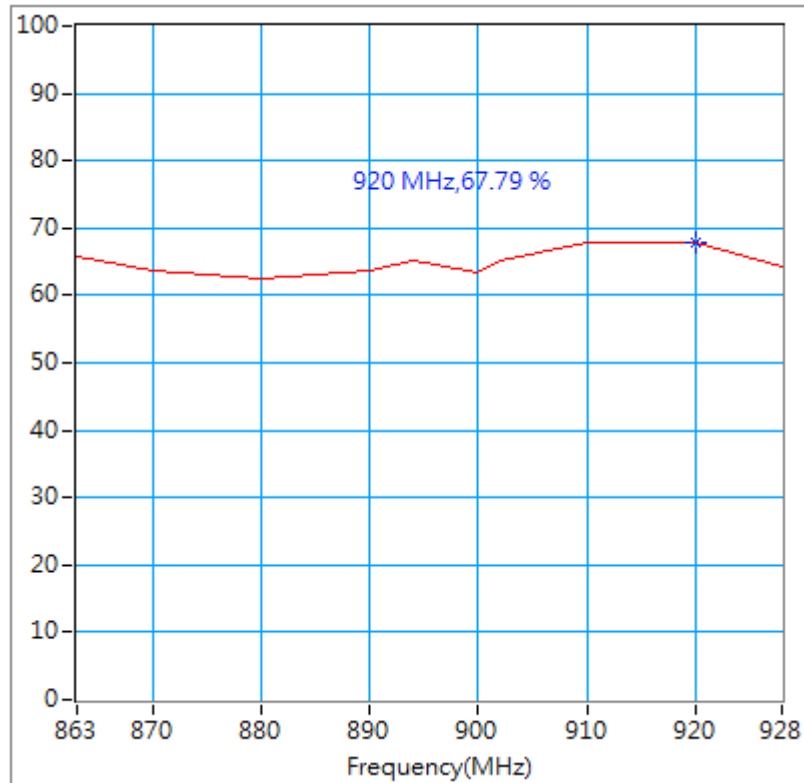
**Maximum Peak Gain at 920 MHz : 1.57 dBi**



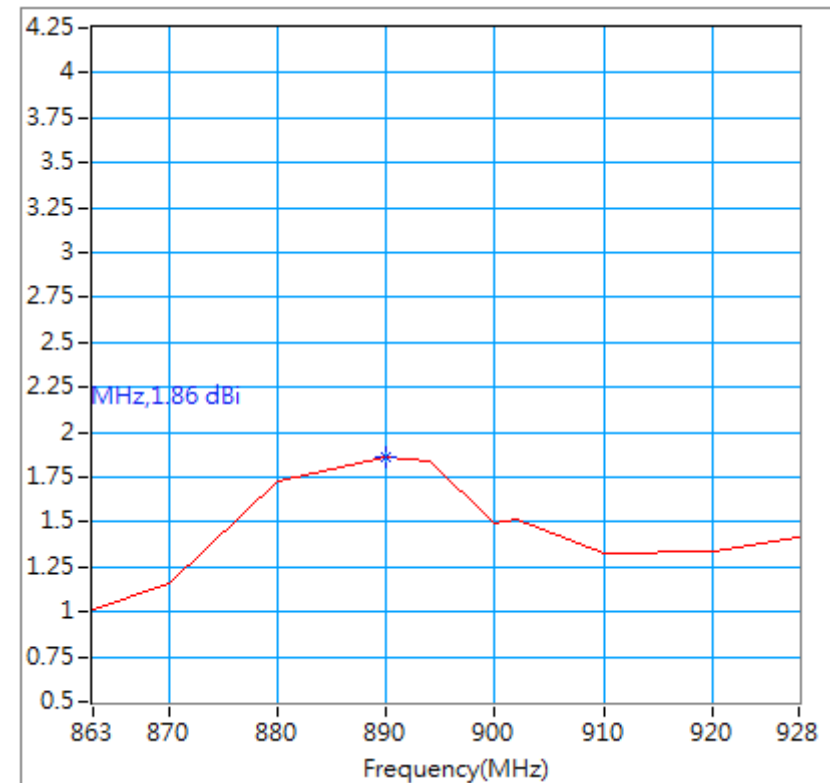
## 2. Antenna Characteristics

### 2.2 Antenna Efficiency and Peak Gain

Ant 2



**Maximum Efficiency at 920 MHz : 67.79 %**



**Maximum Peak Gain at 890 MHz : 1.86 dBi**

## 2. Antenna Characteristics

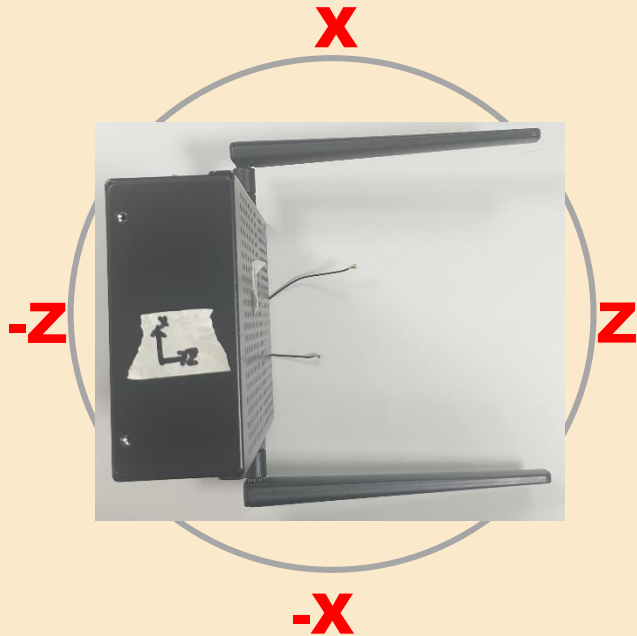
### 2.2 Antenna Efficiency and Peak Gain

	Ant 1		Ant 2	
Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)
863	64.13	1.46	65.86	1.01
902	67.61	1.40	65.04	1.52
928	66.25	1.35	64.25	1.42

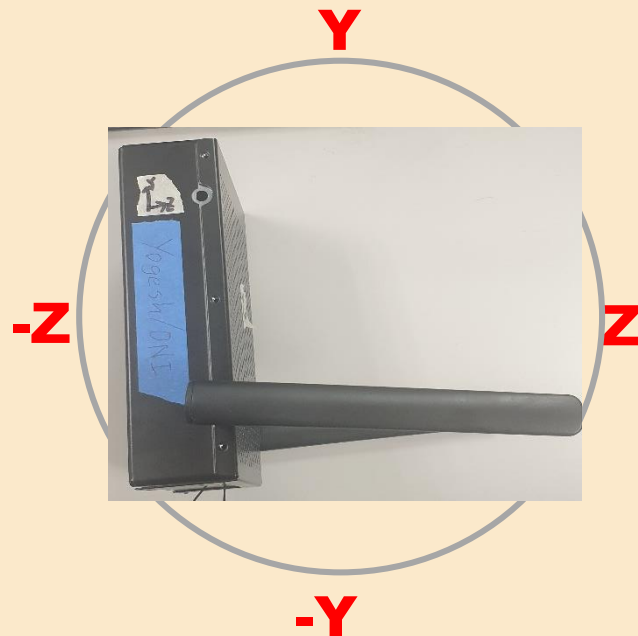
## 2. Antenna Characteristics

### 2.3 3 views of antenna

X-Z plane



Y-Z plane



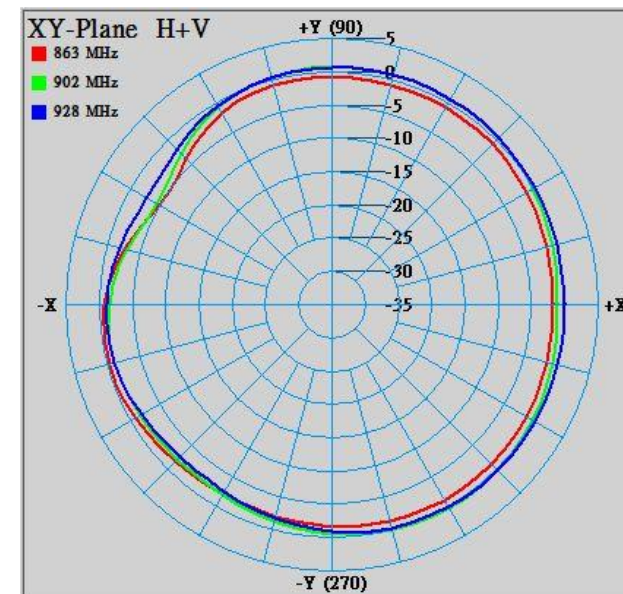
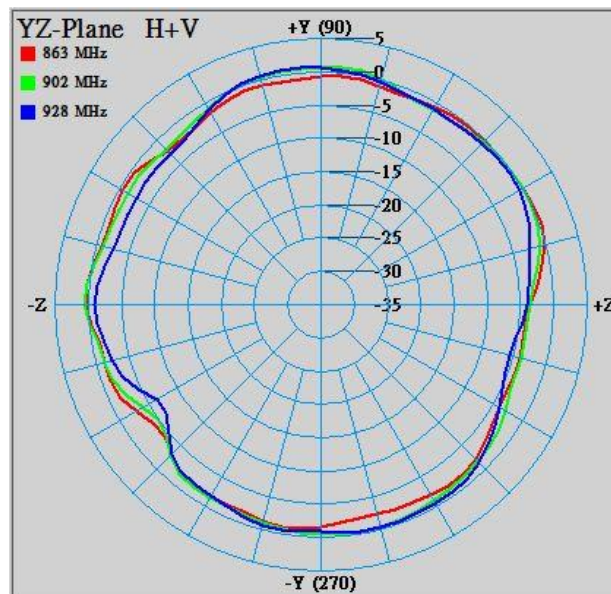
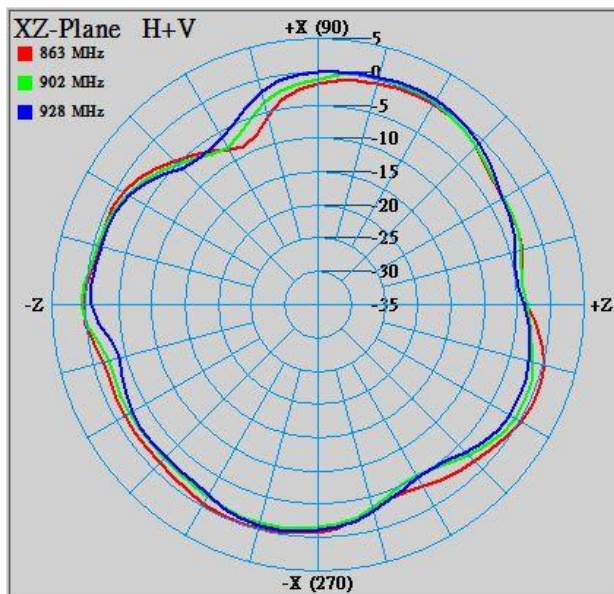
X-Y plane



## 2. Antenna Characteristics

### 2.3 2D Radiation Patterns ( 90 deg )

Ant 1

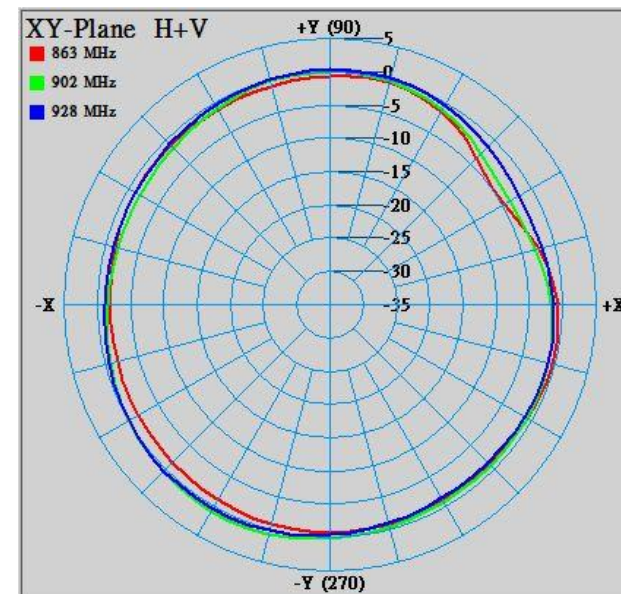
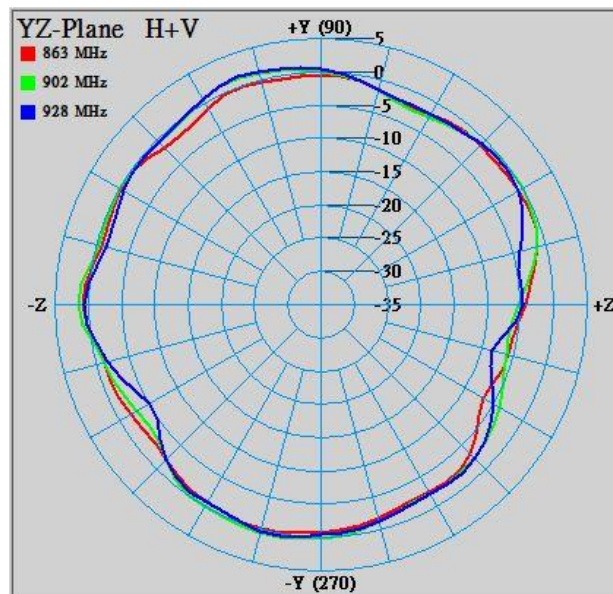
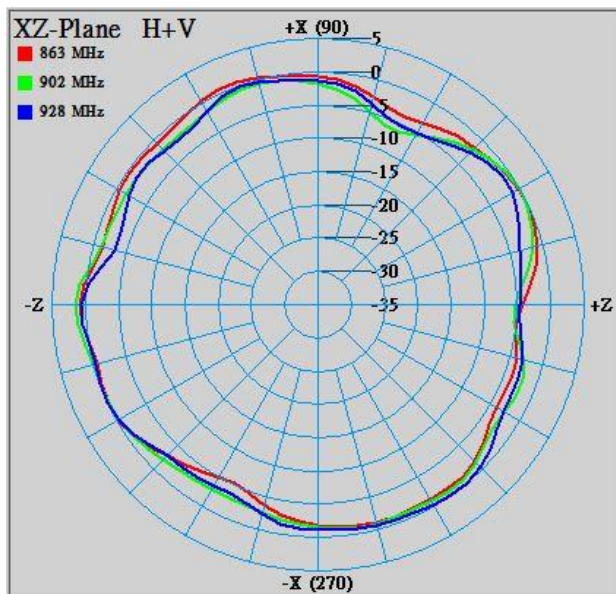


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value (dB)	Average (dB)	Max Value (dB)	Average (dB)	Max Value (dB)	Average (dB)
863	0.667	-1.623	0.472	-1.476	-0.365	-1.506
902	0.56	-1.992	0.799	-1.134	0.715	-0.702
928	0.547	-2.088	0.757	-1.62	0.691	-0.538

## 2. Antenna Characteristics

### 2.3 2D Radiation Patterns ( 90 deg )

Ant 2



	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value (dB)	Average (dB)	Max Value (dB)	Average (dB)	Max Value (dB)	Average (dB)
863	0.878	-1.477	0.878	-1.447	-0.419	-1.358
902	1.508	-1.628	1.508	-0.959	0.83	-0.87
928	0.683	-1.828	1.391	-1.326	0.41	-0.714

### 3. Summary

- The performance of antennas is shown in table

	Ant 1	Ant 2
Maximum Efficiency (%)	920 MHz → 68.96 %	920 MHz → 67.79 %
Maximum Gain (dBi)	920 MHz → 1.57 dBi	890 MHz → 1.86 dBi

# Thank you

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