

# 红点信息科技（深圳）有限公司

REDDOTINFORMATIONTECHNOIOGYSHENZHENCO, LTD

## 产品规格书

RODUCTSPECIFICATION

|                               |                                  |
|-------------------------------|----------------------------------|
| 客户<br>Customer                |                                  |
| 客户编码<br>Customers part number |                                  |
| 产品料号<br>ProductMaterialCode   | HD. P-47-8-100-IPEX              |
| 工作频段<br>Working Band          | 2400MHz-2500MHz 5150MHz- 5850MHz |
| 发行日期<br>Issue Date            | 2019-5- 4                        |
| 发行版本<br>ReleaseVersion        | A1                               |
| 作者<br>Author                  | 邹杨辰                              |

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## Antenna introducing

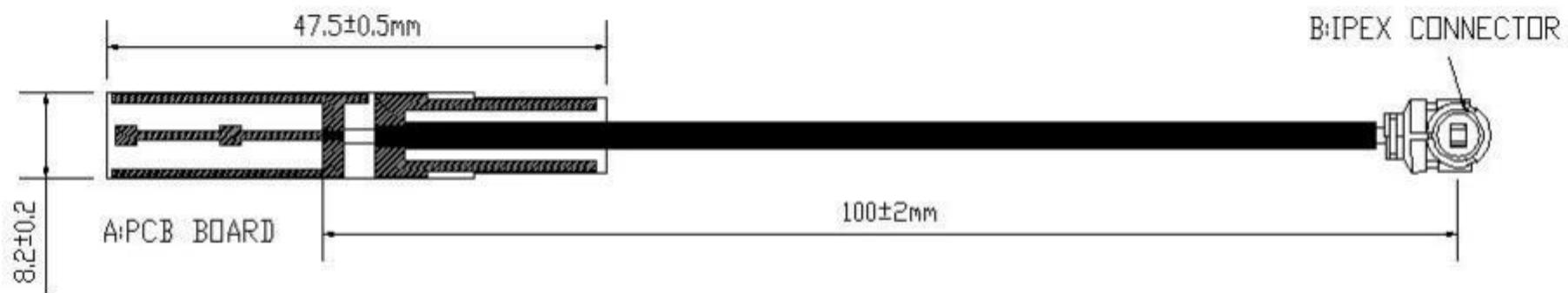
- ◆ Made by copper pipe material, work in 2.4~2.5&4.9~5.825GHz .
- ◆ Design by dipole antenna theory.
- ◆ High gain, High efficiency, Good port matching.
- ◆ Make wireless equipments better communication.

## Antenna useful area

- ◆ Pads, note-book, reader and so on.
- ◆ IP camera, set top box and so on.
- ◆ DVD player, TV and consumer electronics.

## Antenna size

120.5mm\*8.2mm\*0.75mm

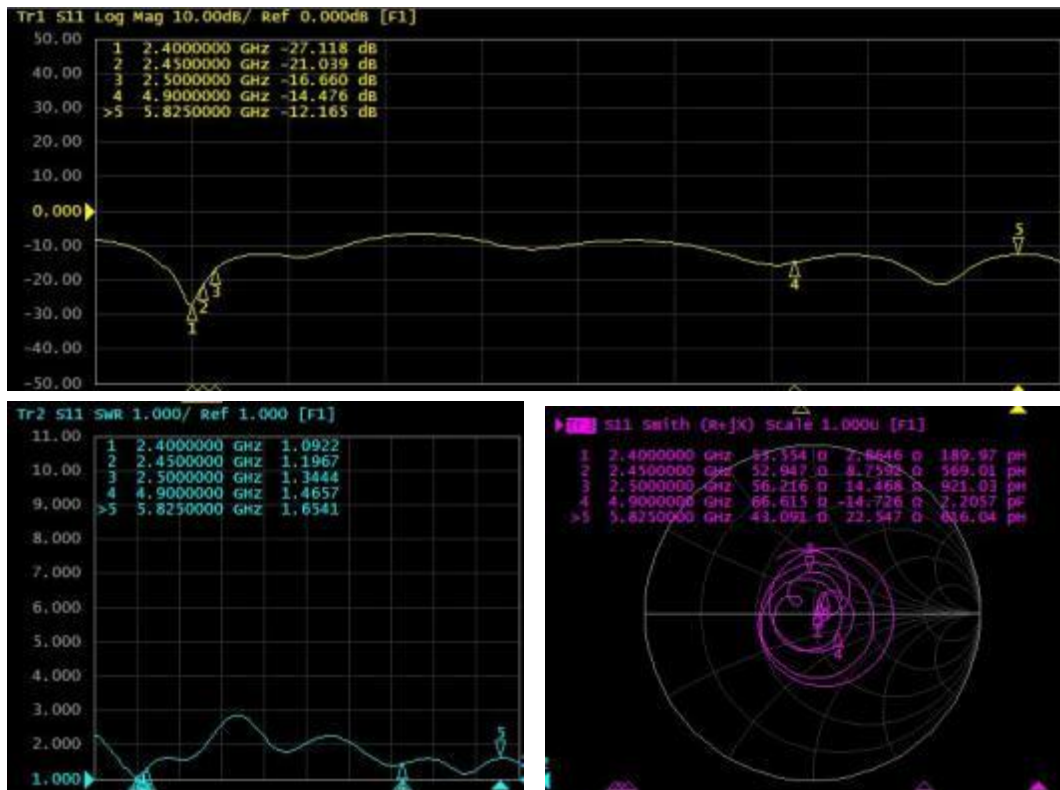


The cable is RF-Φ1.13 cable with IPEX and length is 100mm

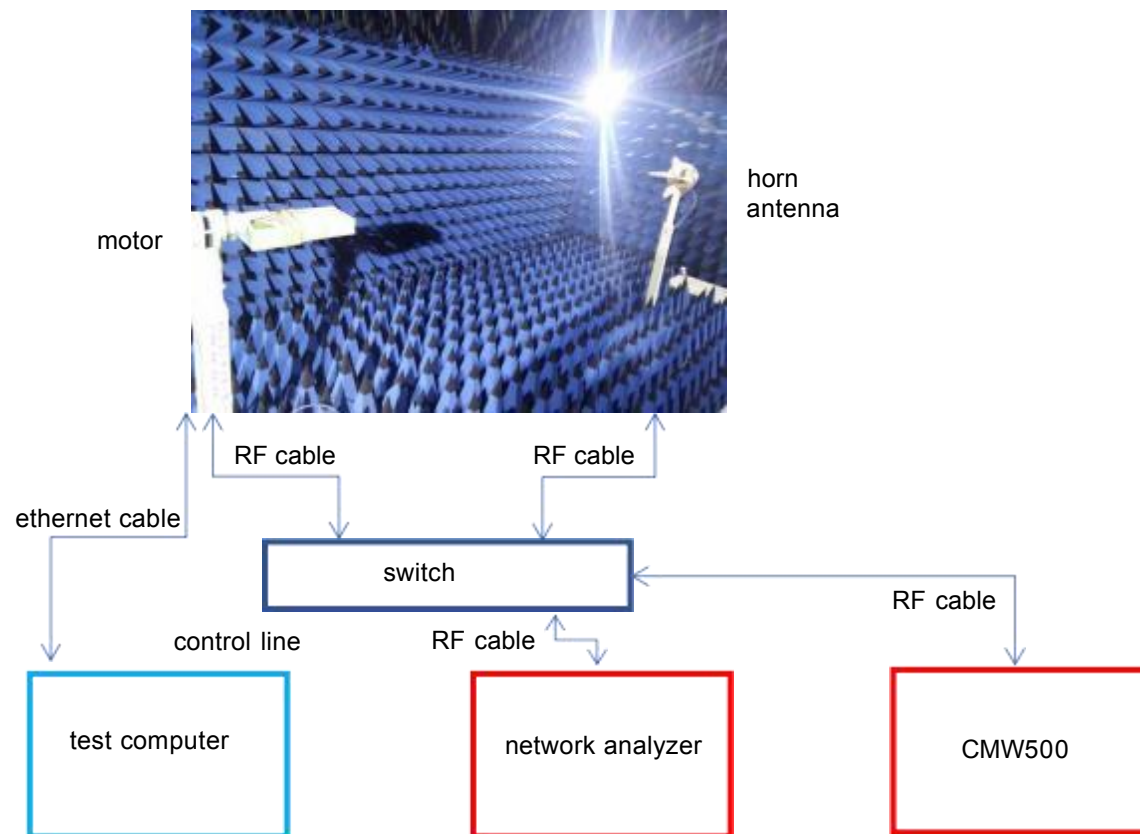
# Antenna electrical properties

|                |                                    |
|----------------|------------------------------------|
| Frequency      | 2.4~2.5&4.9~5.825GHz               |
| Impedance      | 50ohm nominal                      |
| V.S.W.R        | ≤2.0                               |
| Return loss    | ≤-10dB                             |
| Radiation      | Omni-directional                   |
| Gain(Peak)     | 2.4G:4dBi/ 5G:3.0dBi               |
| Polarization   | Linear                             |
| Admitted Power | 5W                                 |
| Connector      | IPEX                               |
| Efficiency     | 2.4G:68%/ 5G:63%                   |
| Cable          | RF Φ1.13 cable and length is 100mm |

## Antenna S-parameter

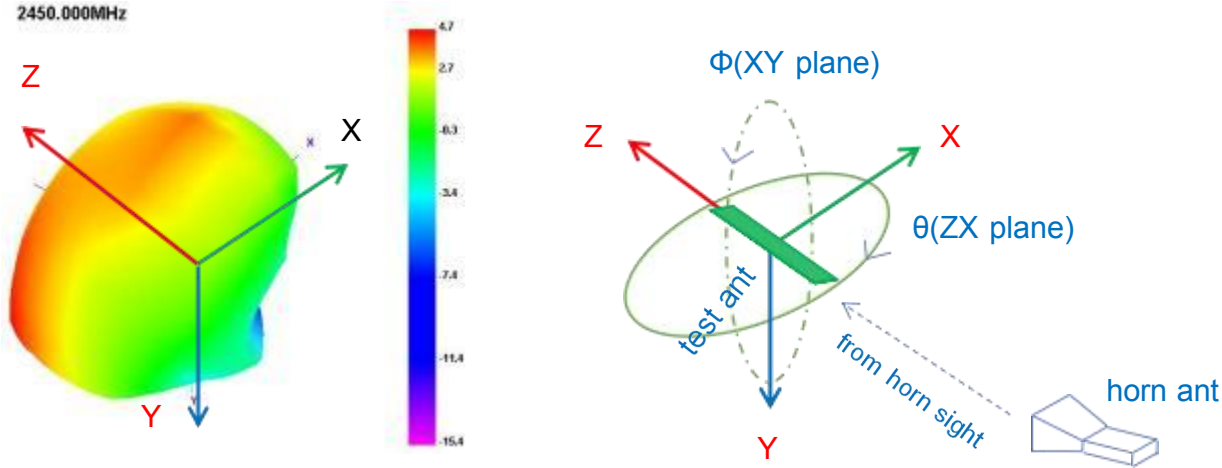


## Antenna chamber structure

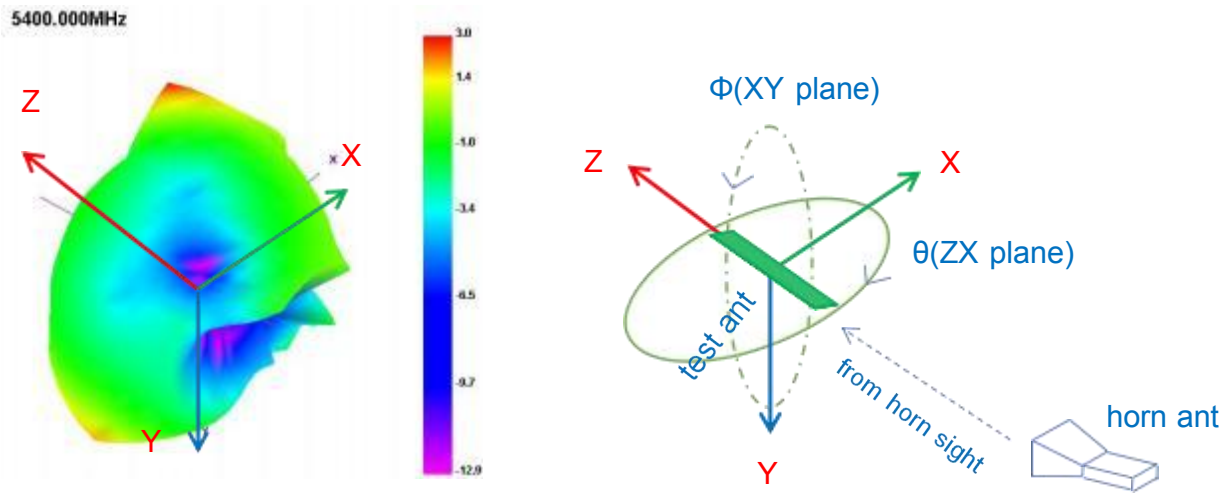


Antenna total gain and efficiency

|                 | Freq. (MHz) | Gain (dBi) | Efficiency (%) |
|-----------------|-------------|------------|----------------|
| COPPER_PIPE_ANT | 2400        | 3.25       | 65%            |
|                 | 2450        | 4.0        | 68%            |
|                 | 2500        | 4.2        | 67%            |

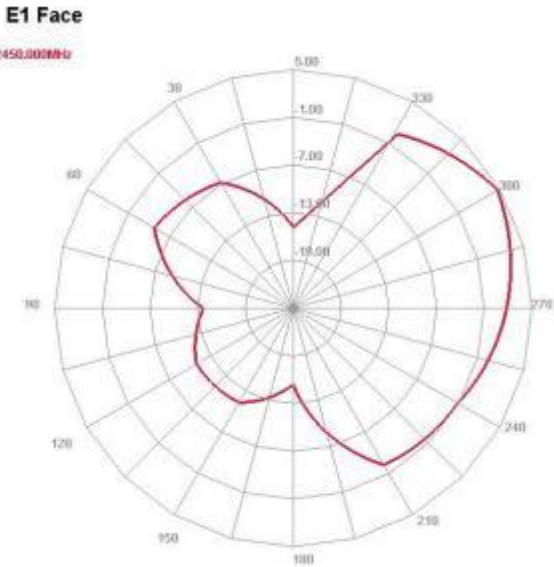
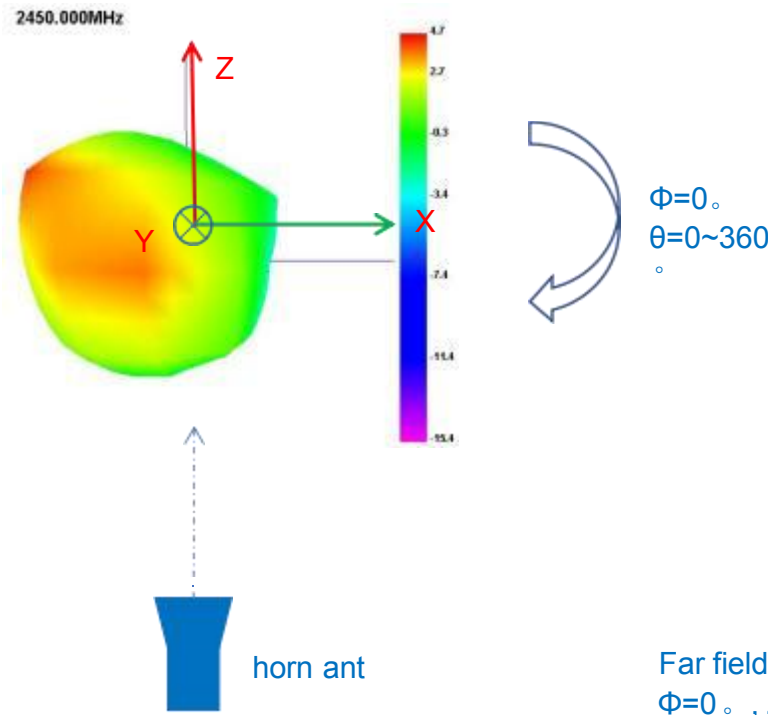


|         | Freq. (MHz) | Gain (dBi) | Efficiency (%) |
|---------|-------------|------------|----------------|
| PCB_ANT | 5100        | 2.75       | 62%            |
|         | 5400        | 2.56       | 65%            |
|         | 5820        | 2.4        | 62%            |



Radiation Pattern E\_PLANE

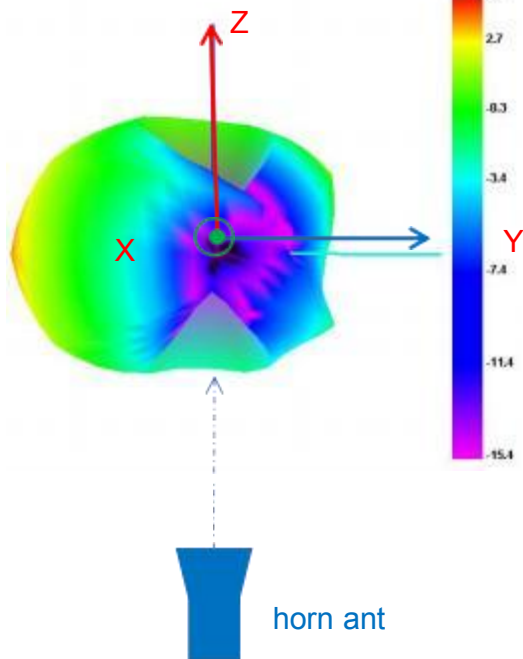
|         | Freq. (MHz) | Gain (dB) |
|---------|-------------|-----------|
| PCB_ANT | 2450        | 4.0       |



Far field E1\_PLANE  
 $\Phi=0^\circ$  , ZX plane

|         | Freq. (MHz) | Gain (dB) |
|---------|-------------|-----------|
| PCB_ANT | 2450        | 4.0       |

2450.000MHz

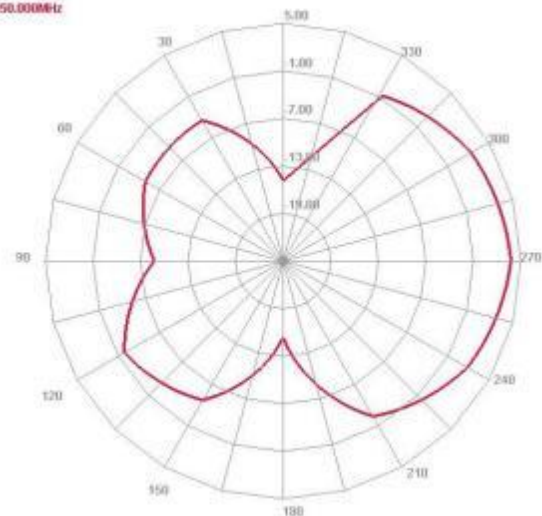


$\Phi=90^\circ$   
 $\theta=0\sim360^\circ$

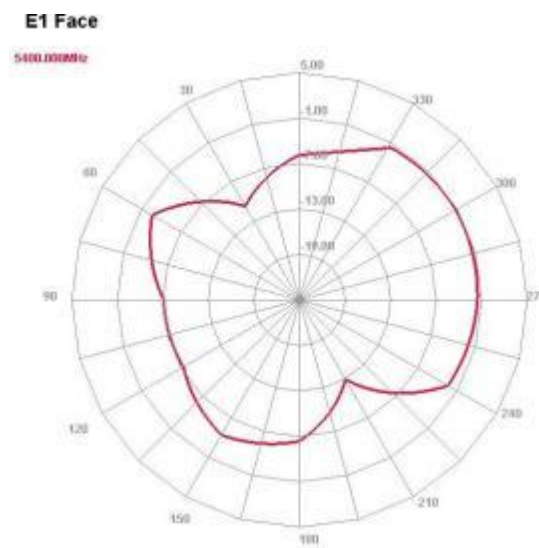
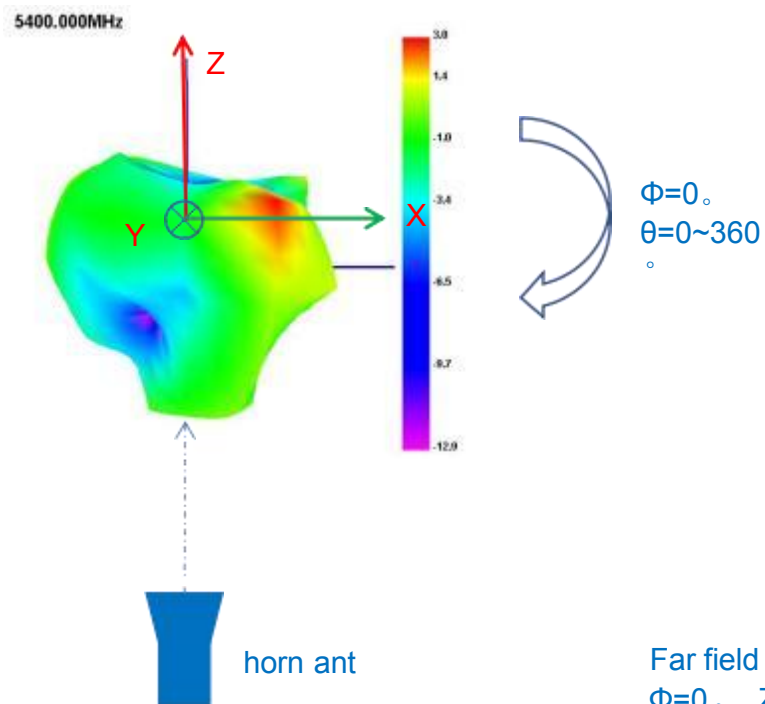
Far field E2\_PLANE  
 $\Phi=90^\circ$ , ZY plane

E2 Face

2450.000MHz

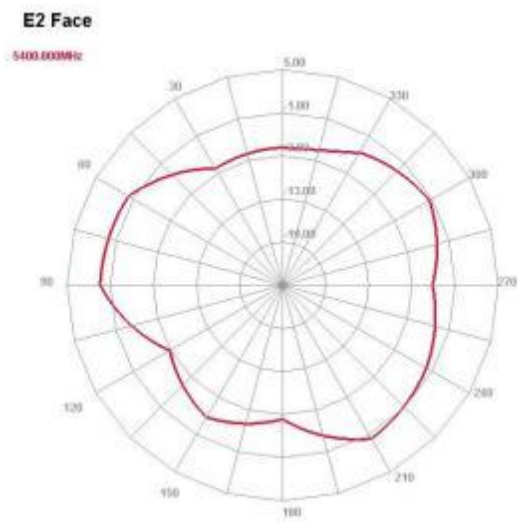
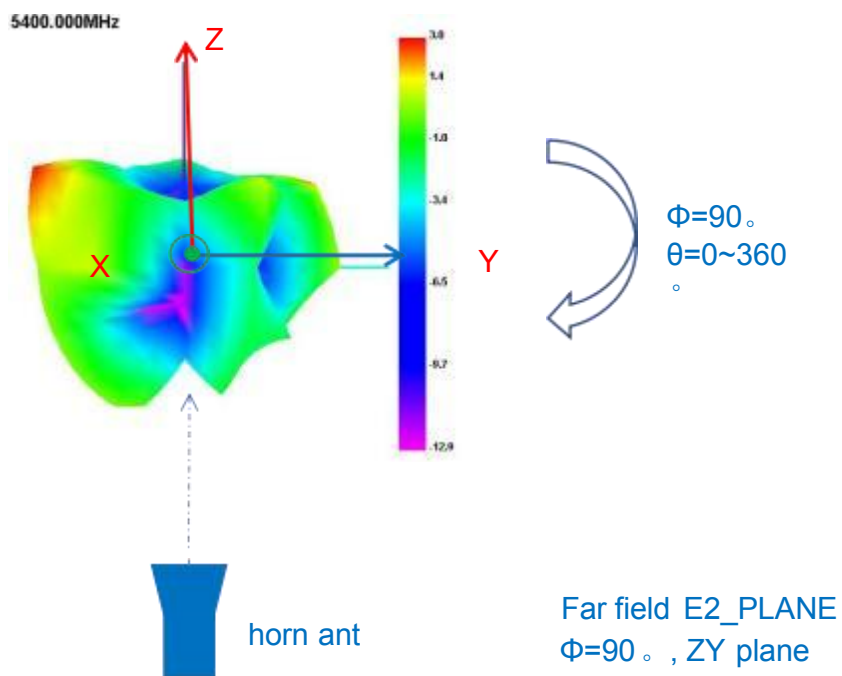


|         | Freq. (MHz) | Gain (dB) |
|---------|-------------|-----------|
| PCB_ANT | 5400        | 2.56      |



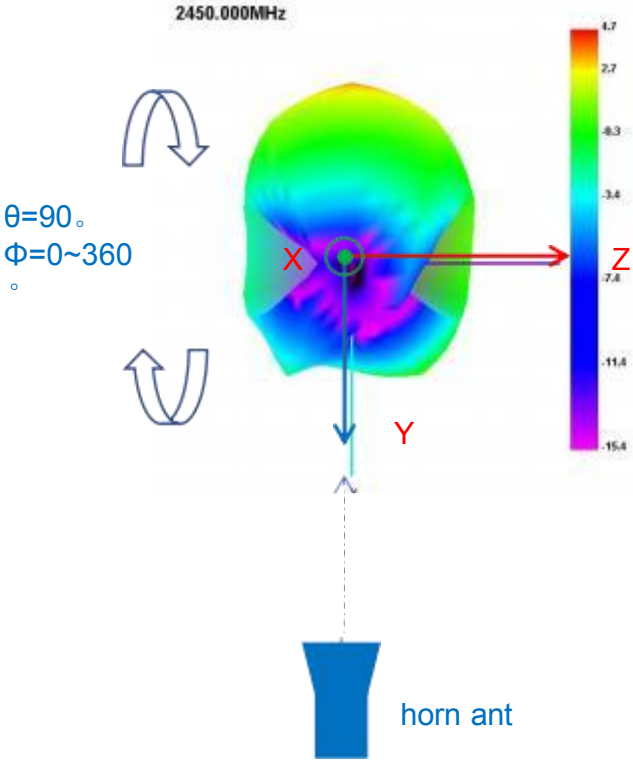
Far field E1\_PLANE  
 $\Phi=0^\circ$ , ZX plane

|         | Freq. (MHz) | Gain (dB) |
|---------|-------------|-----------|
| PCB_ANT | 5400        | 2.52      |

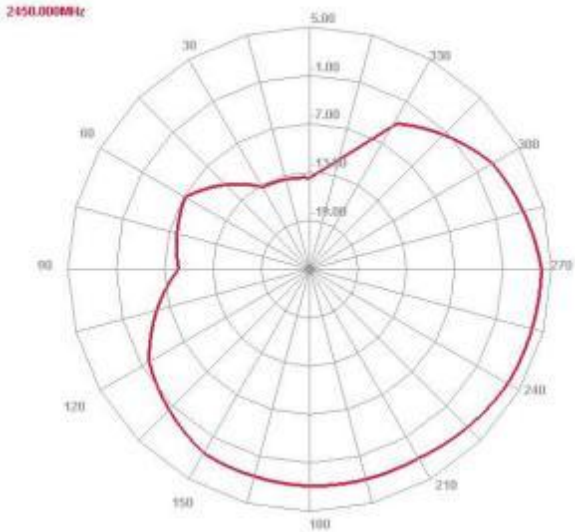


Radiation Pattern H\_PLANE

|         | Freq. (MHz) | Gain (dB) |
|---------|-------------|-----------|
| PCB_ANT | 2450        | 4.0       |



Horizontal



Far field H\_PLANE  
 $\theta=90^\circ$  , XY plane

|         | Freq. (MHz) | Gain (dB) |
|---------|-------------|-----------|
| PCB_ANT | 5400        | 2.53      |

