

# ANTENNA TEST REPORT

|           |                                                                 |
|-----------|-----------------------------------------------------------------|
| Applicant | JCW Investments Inc. DBA Tekky Toys                             |
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|                          |                                                                                                                                    |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Manufacturer or Supplier | Dongguan Fashion Electronics Toys Co., Ltd                                                                                         |
| Address                  | 2F, A5 Building, OMEKEY Industrial Park, Yongjun Rd, Shui Lang Village, Daling Shan Town, Dongguan City, Guangdong Province, China |
| Product                  | Antenna                                                                                                                            |
| Brand Name               | N/A                                                                                                                                |
| Model                    | 60390                                                                                                                              |
| Max. Peak Gain           | -0.63 dBi                                                                                                                          |
| Date of tests            | Feb. 07, 2023 ~ Feb. 08, 2023                                                                                                      |

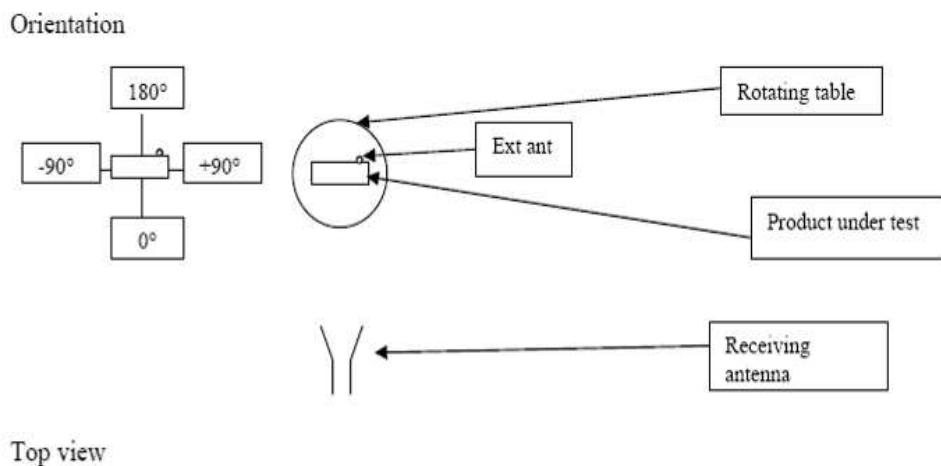
|                                                                                     |                                                                                                                 |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Tested by Andy Zhu<br>Supervisor / EMC Department                                   | Approved by Glyn He<br>Assistant Manager / EMC Department                                                       |
|  | <br><br>Date: Feb. 22, 2023 |

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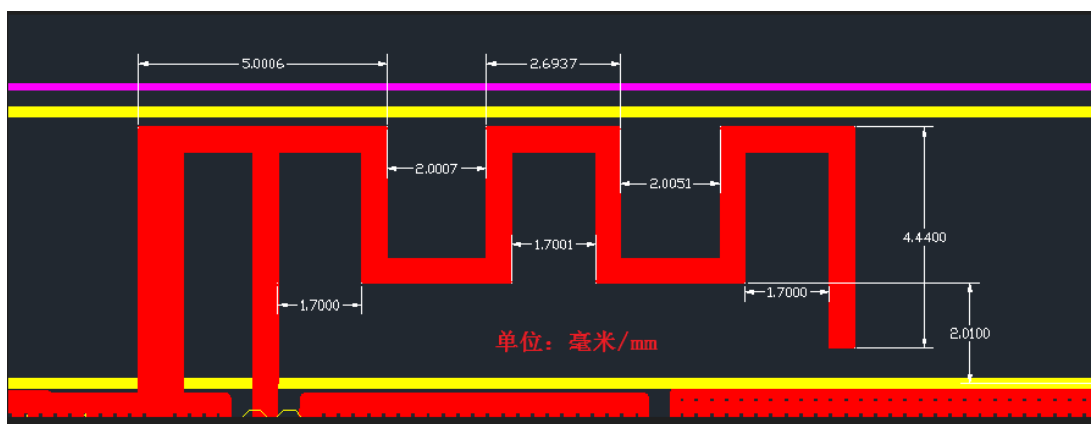
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## 1. MEASUREMENTS SETUP



## 2. SIZE OF THE ANTENNA



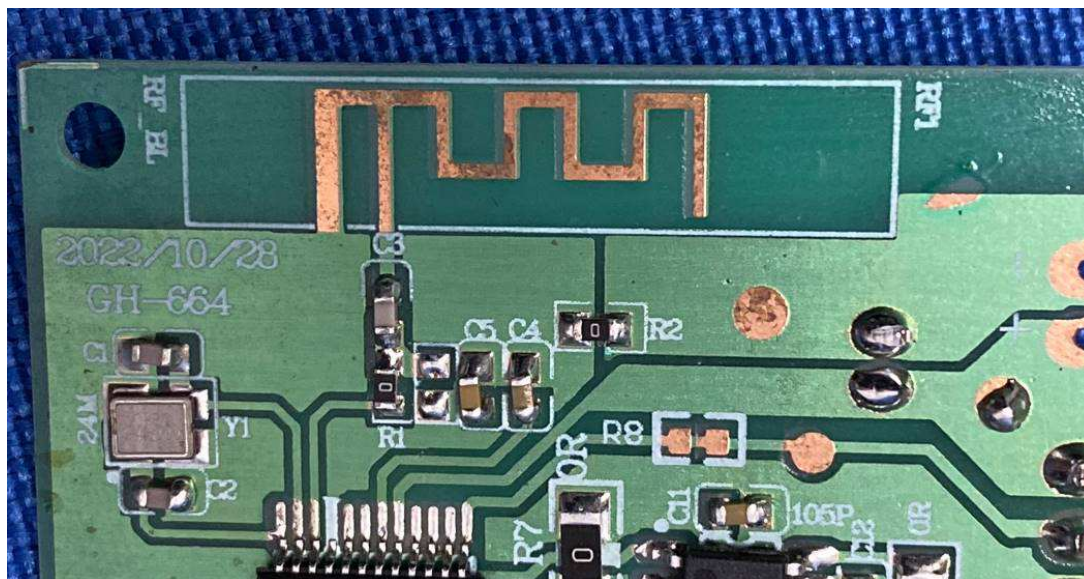
### 3. TEST INSTRUMENTS

| Equipment               | Manufacturer  | Model No.              | Serial No.  | Next Cal.   |
|-------------------------|---------------|------------------------|-------------|-------------|
| Signal Generator        | Agilent       | N5183A                 | MY50140980  | Jul. 20, 23 |
| Spectrum Analyzer       | Rohde&Schwarz | FSV40                  | 101003      | Jan. 11, 24 |
| Broad-Band Horn Antenna | SCHWARZBECK   | BBHA 9120 D            | 9120D-1247  | Apr. 23, 23 |
| Broad-Band Horn Antenna | SCHWARZBECK   | BBHA 9120 B            | 00740       | Jul. 20, 23 |
| Turn Table              | MF            | MF-7802                | MF780208191 | N/A         |
| Controller              | MF            | MF-7802                | MF780208243 | N/A         |
| Test Software           | BV ADT        | BV ADT Antenna Pattern | V6.2        | N/A         |

**NOTE:** 1. The test was performed in Fully Anechoic Room.  
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

## 4. TEST RESULTS

| ANTENNA | FREQUENCY (MHz) | ANTENNA POLARITY | MAX. PEAK GAIN (dBi) |
|---------|-----------------|------------------|----------------------|
| PCB     | 2402            | Horizontal       | -0.63                |
|         |                 | Vertical         | -9.88                |
|         | 2440            | Horizontal       | -1.20                |
|         |                 | Vertical         | -9.47                |
|         | 2480            | Horizontal       | -1.37                |
|         |                 | Vertical         | -8.57                |

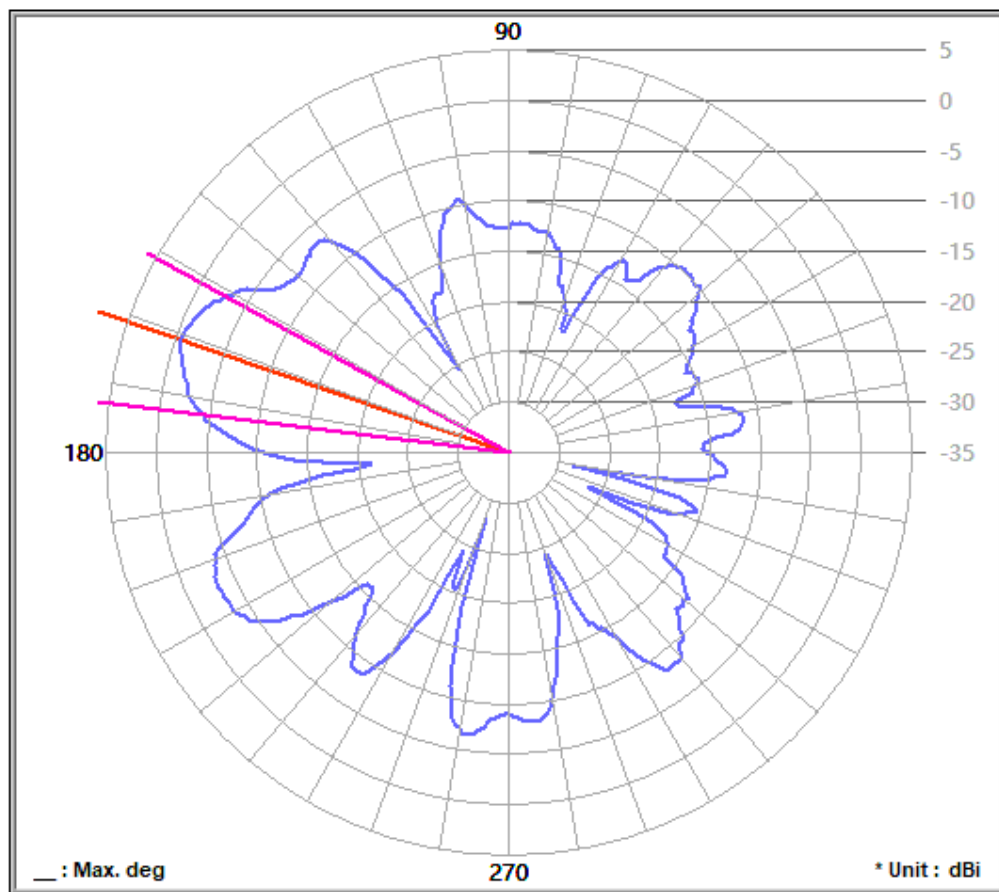


Frequency: 2402 MHz (Horizontal)

Location : RF Chamber

Date: 2023/2/7

Time: 15:59:41



Frequency (MHz) : 2402.00

Polarity : Horizontal

Average Gain (dB) : -8.92

Max. Gain (dB) : -0.63

Max. Gain (degree) : 161

Beamwidth Degree : 22

Mini. Gain (dB) : -28.60

Mini. Gain (degree) : 349

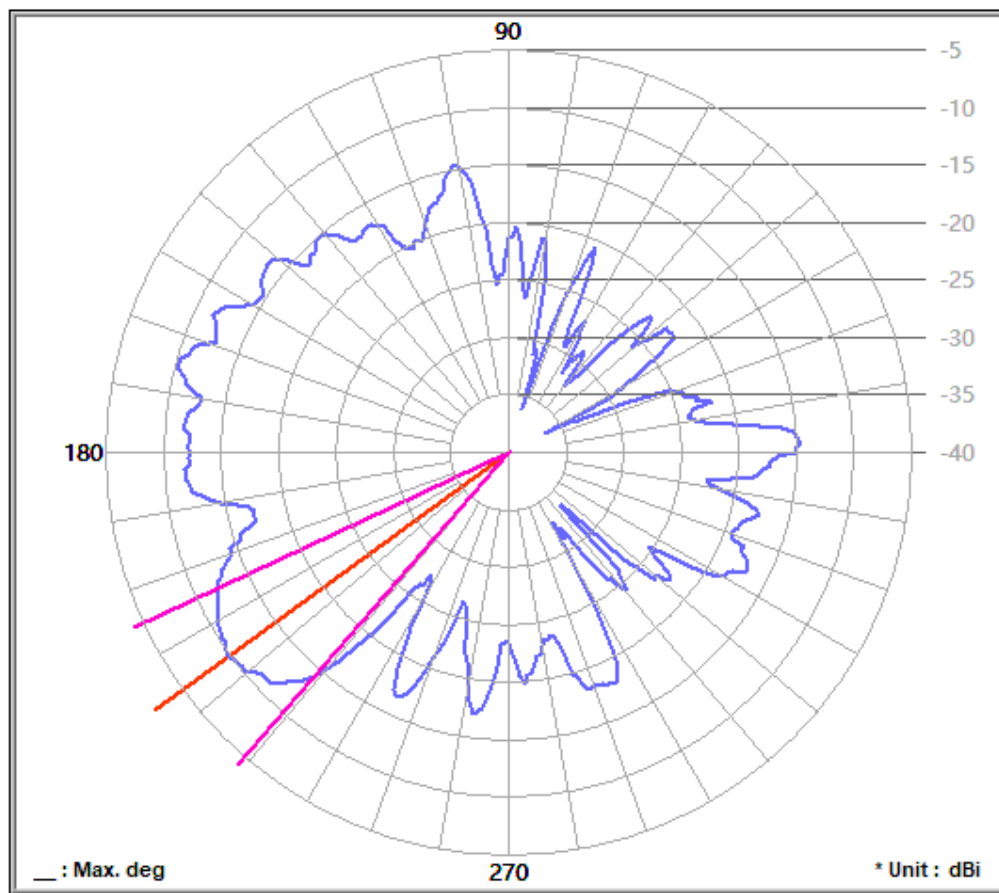
(at the 3 dB down)

Frequency: 2402 MHz (Vertical)

Location : RF Chamber

Date: 2023/2/7

Time: 15:48:28



Frequency (MHz) : 2402.00

Polarity : Vertical

Average Gain (dB) : -16.57

Max. Gain (dB) : -9.88

Max. Gain (degree) : 216

Beamwidth Degree : 24

Mini. Gain (dB) : -36.49

Mini. Gain (degree) : 27

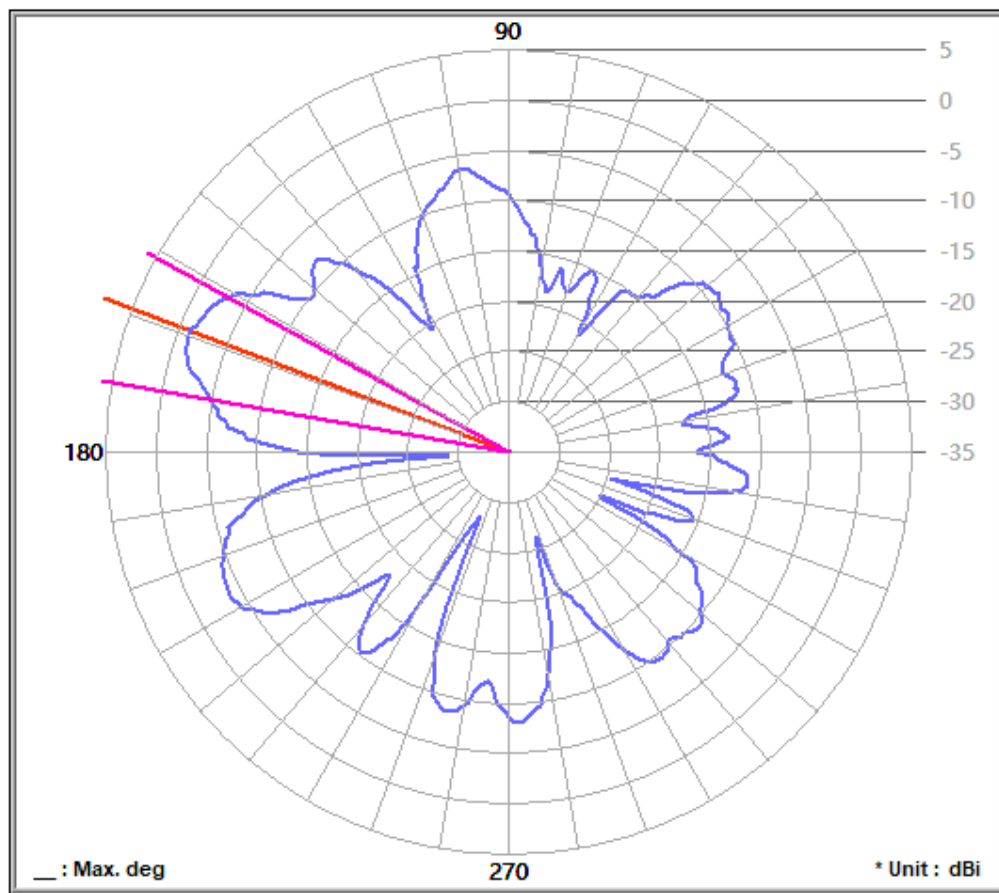
(at the 3 dB down)

Frequency: 2440 MHz (Horizontal)

Location : RF Chamber

Date: 2023/2/7

Time: 16:02:40



Frequency (MHz) : 2440.00

Polarity : Horizontal

Average Gain (dB) : -9.31

Max. Gain (dB) : -1.20

Max. Gain (degree) : 159

Beamwidth Degree : 19

Mini. Gain (dB) : -29.04

Mini. Gain (degree) : 183

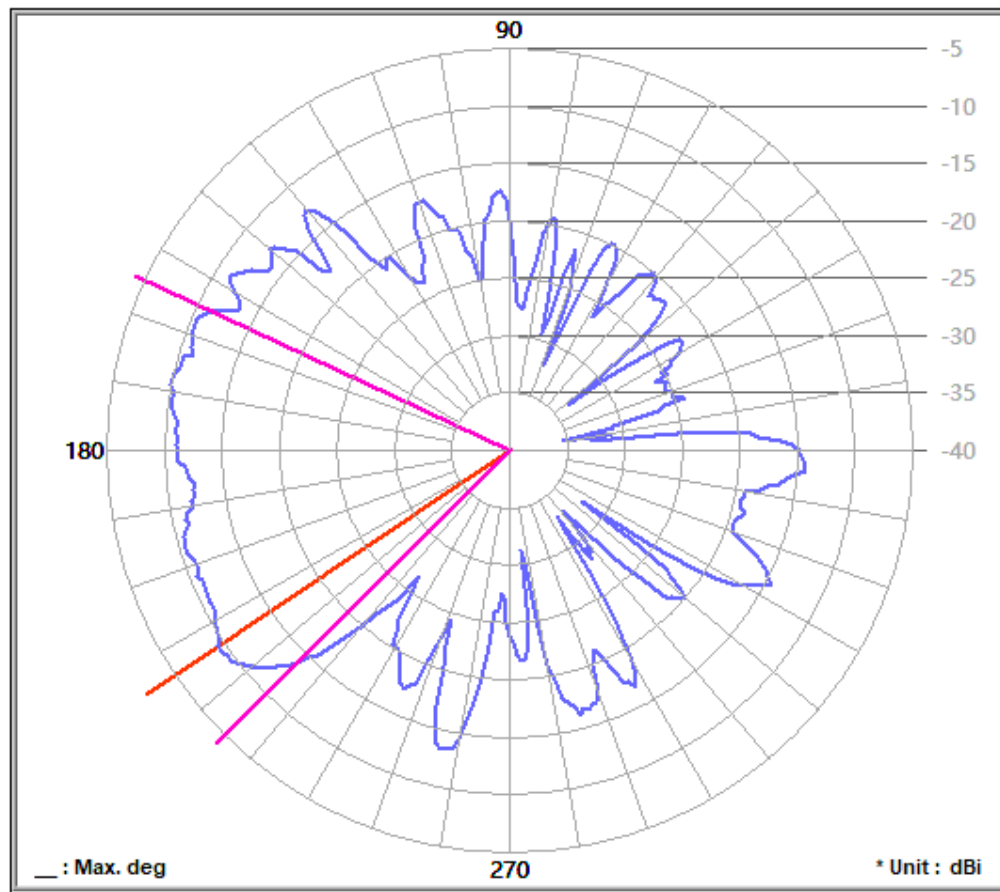
(at the 3 dB down)

Frequency: 2440 MHz (Vertical)

Location : RF Chamber

Date: 2023/2/7

Time: 15:45:35



Frequency (MHz) : 2440.00

Polarity : Vertical

Average Gain (dB) : -15.70

Max. Gain (dB) : -9.47

Max. Gain (degree) : 214

Beamwidth Degree : 70

Mini. Gain (dB) : -35.42

Mini. Gain (degree) : 11

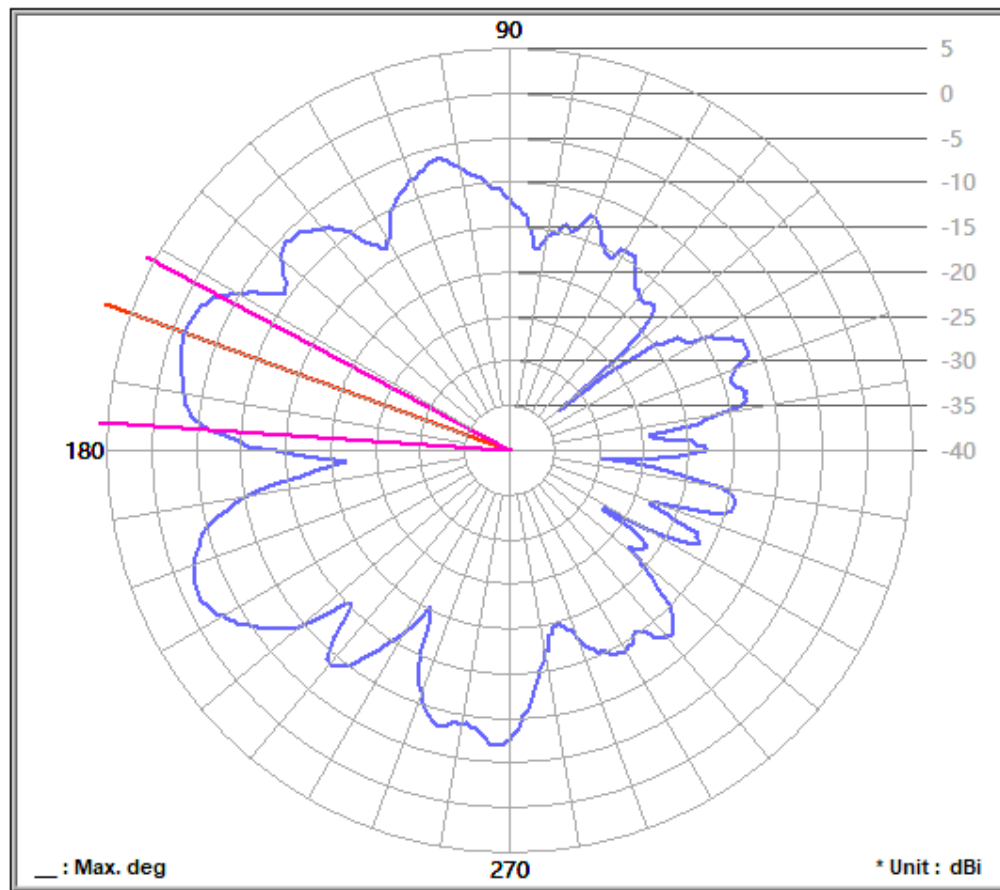
(at the 3 dB down)

Frequency: 2480 MHz (Horizontal)

Location : RF Chamber

Date: 2023/2/7

Time: 16:05:17



Frequency (MHz) : 2480.00

Polarity : Horizontal

Average Gain (dB) : -8.88

Max. Gain (dB) : -1.37

Max. Gain (degree) : 160

Beamwidth Degree : 24

Mini. Gain (dB) : -32.93

Mini. Gain (degree) : 39

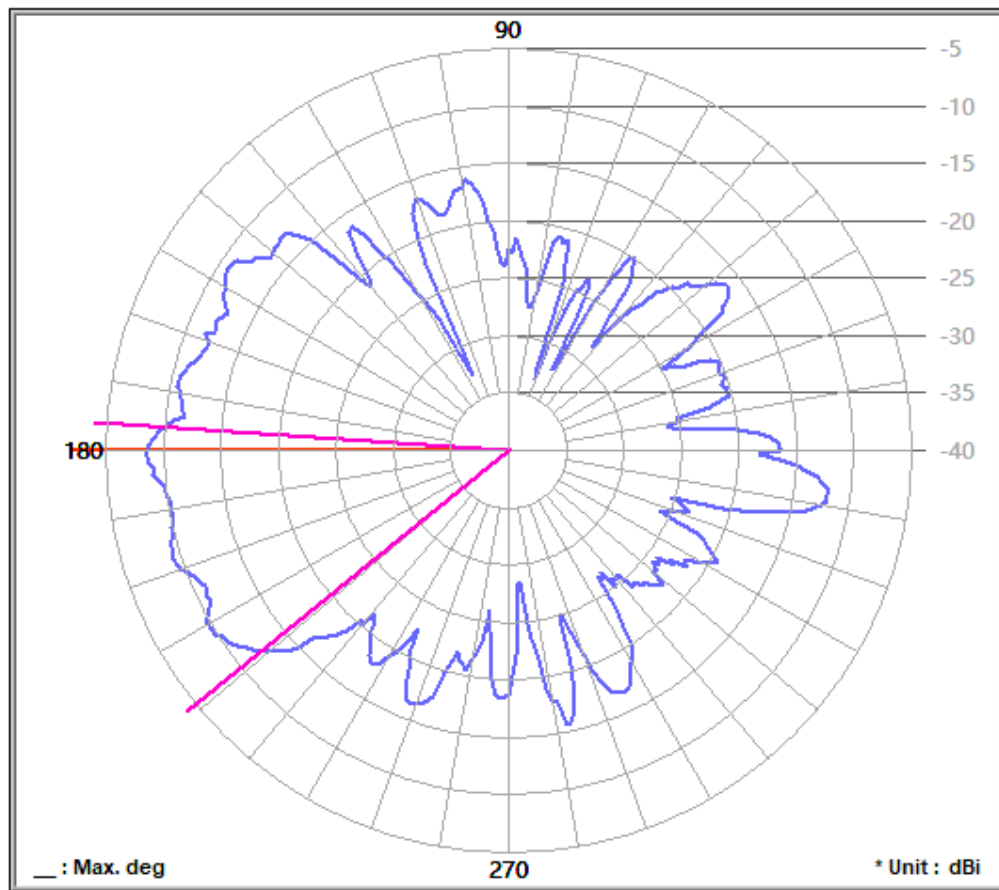
(at the 3 dB down)

Frequency: 2480 MHz (Vertical)

Location : RF Chamber

Date: 2023/2/7

Time: 15:42:58



Frequency (MHz) : 2480.00

Polarity : Vertical

Average Gain (dB) : -15.43

Max. Gain (dB) : -8.57

Max. Gain (degree) : 180

Beamwidth Degree : 43

Mini. Gain (dB) : -33.33

Mini. Gain (degree) : 70

(at the 3 dB down)

## 5. PHOTOGRAPHS OF THE TEST CONFIGURATION

