

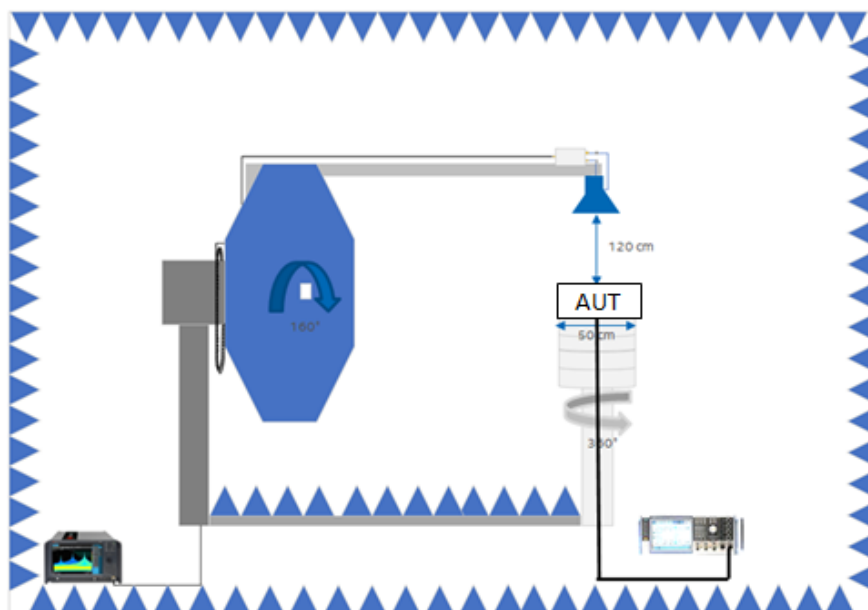
# WiFi-6E Reference Antenna Datasheet

## 1. Measurement Method and System

3D spherical measurement using distributed axis system.

## 2. Test Setup & Equipment List

### 2.1. Test Setup



### 2.2. Equipment List

| ID#     | Device                          | Type/Model | Serial #             | Manufacturer    |
|---------|---------------------------------|------------|----------------------|-----------------|
| 009-000 | Spherical full anechoic chamber | WPTC       | P28765-00651-001-PRB | Rohde & Schwarz |
| 009-001 | Measurement software (v11.30)   | AMS32      | 100084               | Rohde & Schwarz |
| 152-000 | Cross-polarized vivaldi antenna | TC-TA85CP  | 101018               | Rohde & Schwarz |
| 345-000 | Switch unit + LNA               | TC-ELAMP-D | 1533.6350.02         | Rohde & Schwarz |
| 335-000 | Positioner                      | NCD        | 173167577            | Maturo          |
| 143-000 | Spectrum analyser               | UXA N9040B | US57212210           | Keysight        |
| 130-000 | Signal generator                | SMB 100A   | 178217               | Rohde & Schwarz |

### 3. Antenna Specification

The herein test results were performed by:

| Test case measurement    | Test Personnel | Date       |
|--------------------------|----------------|------------|
| Antenna Gain measurement | G. Gerbaud     | 03/26/2021 |

#### 3.1. Antenna information

| Manufacturer  | Type | Antenna Part number | Band                          | Peak Gain (dBi) | Target Peak Gain (dBi) |
|---------------|------|---------------------|-------------------------------|-----------------|------------------------|
| Intel WRF Lab | PIFA | WRF-BR-PIFA-V3.2    | <b>6.2GHz</b><br>5925-6425MHz | 4.83            | 5                      |
|               |      |                     | <b>6.5GHz</b><br>6425-6525MHz | 4.30            |                        |
|               |      |                     | <b>6.6GHz</b><br>6525-6875MHz | 5.37            |                        |
|               |      |                     | <b>7GHz</b><br>6875-7125MHz   | 5.59            |                        |

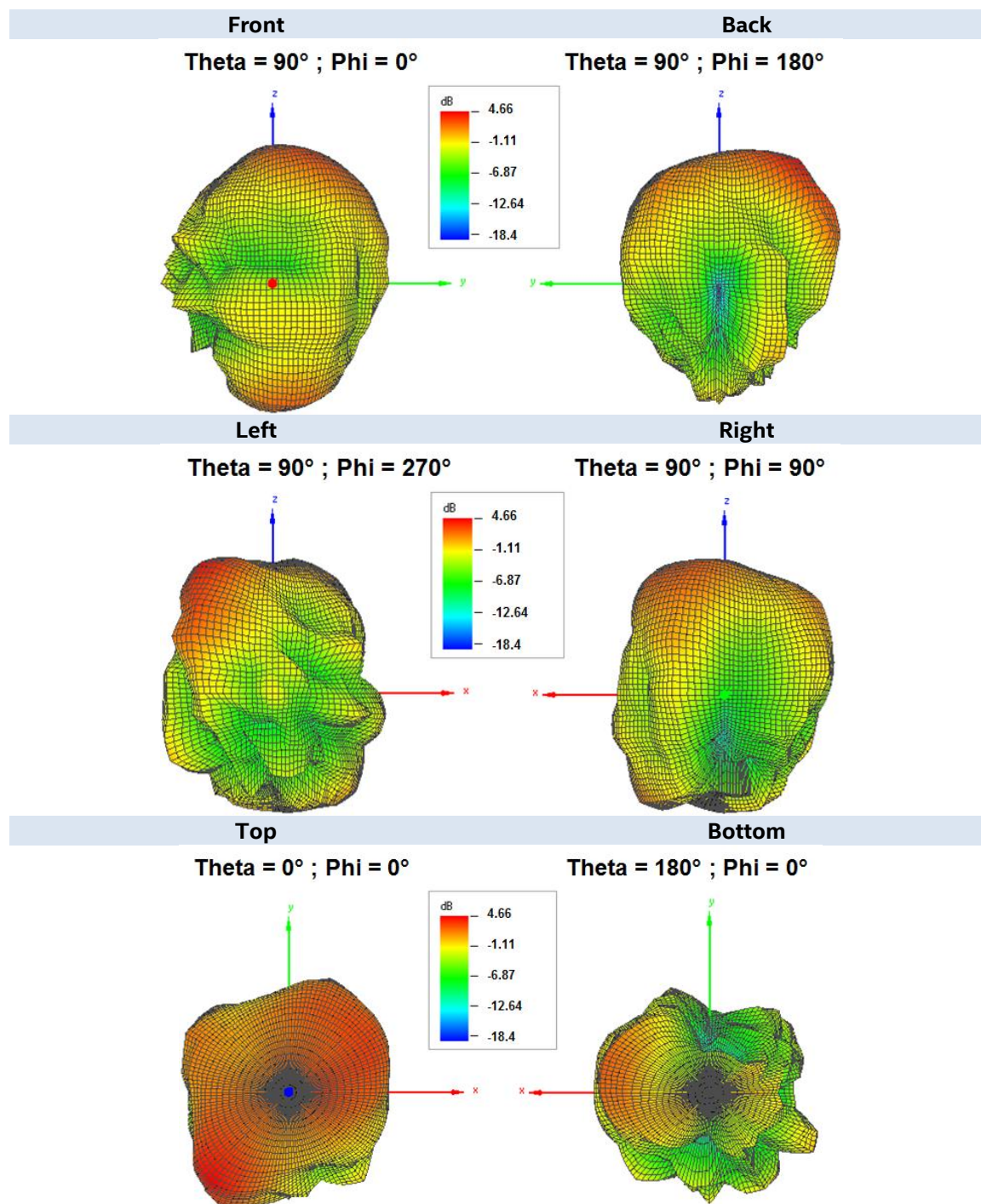
#### 3.2. Antenna Peak Gain Table

| Frequency (MHz) | Peak Gain          |                |       |
|-----------------|--------------------|----------------|-------|
|                 | Horizontal (Theta) | Vertical (Phi) | Total |
|                 | (dBi)              | (dBi)          | (dBi) |
| <b>5925</b>     | 3.32               | 2.90           | 4.66  |
| <b>6250</b>     | 3.45               | 2.58           | 4.83  |
| <b>6425</b>     | 3.95               | 2.97           | 4.30  |
| <b>6525</b>     | 3.46               | 2.71           | 4.11  |
| <b>6875</b>     | 5.29               | 3.98           | 5.37  |
| <b>7125</b>     | 3.84               | 4.21           | 5.59  |

## 4. Antenna Radiation Patterns 5925 - 7125 MHz

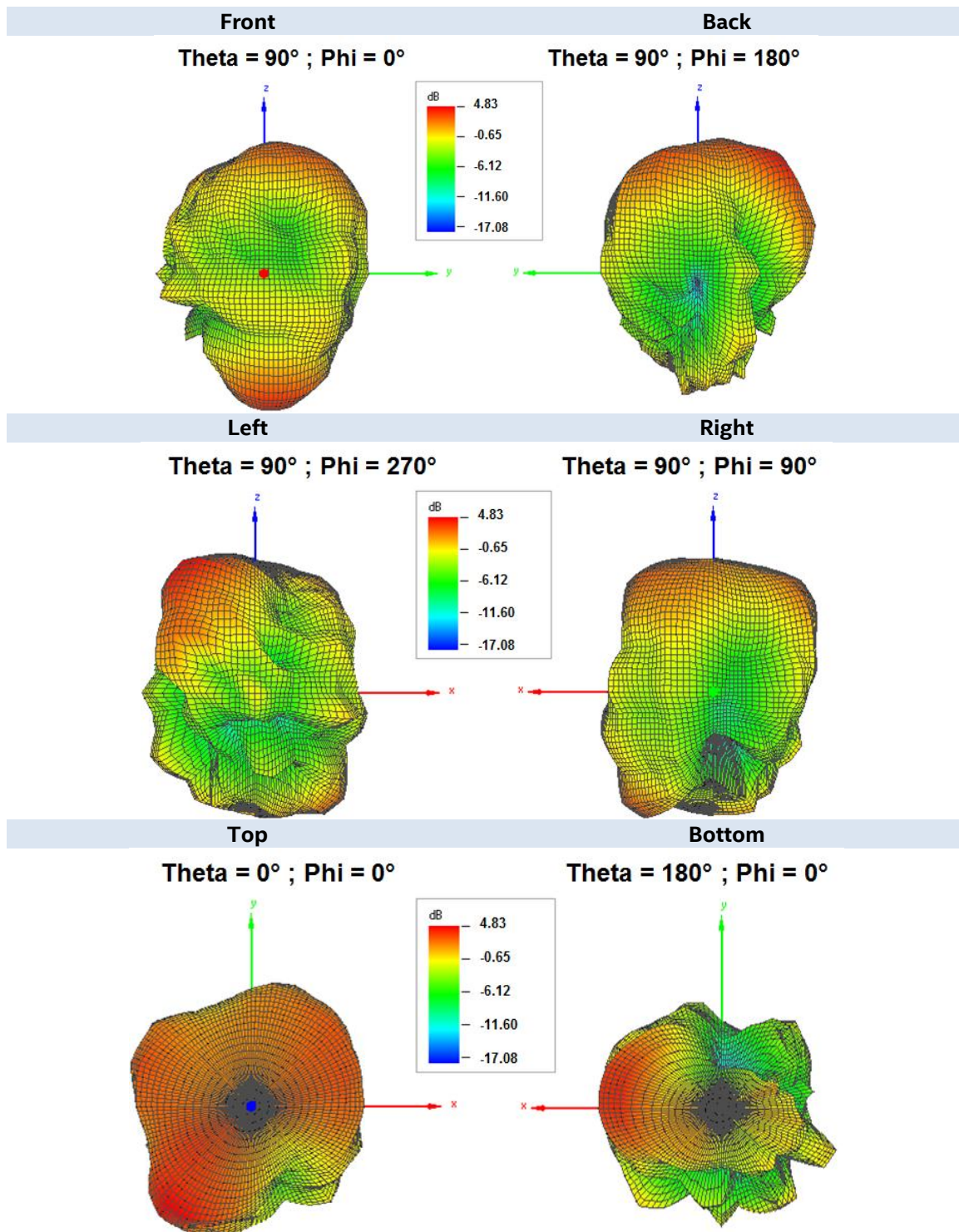
### 4.1. Pattern @5925MHz

| Frequency<br>(MHz) | Peak Gain             |                |       |
|--------------------|-----------------------|----------------|-------|
|                    | Horizontal<br>(Theta) | Vertical (Phi) | Total |
|                    | (dBi)                 | (dBi)          | (dBi) |
| 6000               | 3.32                  | 2.90           | 4.66  |



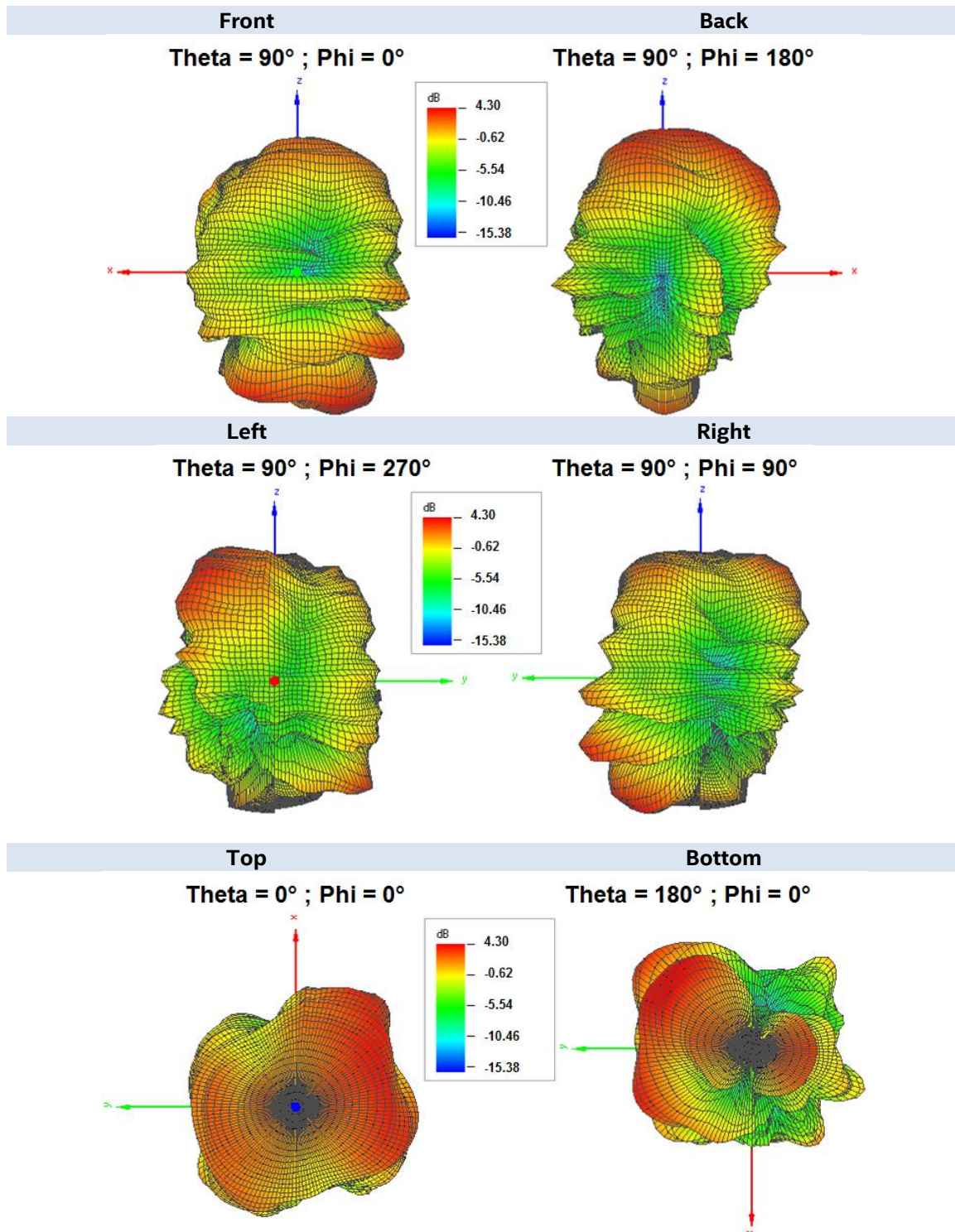
## 4.2. Pattern @6250MHz

| Frequency<br>(MHz) | Peak Gain             |                |       |
|--------------------|-----------------------|----------------|-------|
|                    | Horizontal<br>(Theta) | Vertical (Phi) | Total |
|                    | (dBi)                 | (dBi)          | (dBi) |
| 6250               | 3.45                  | 2.58           | 4.83  |



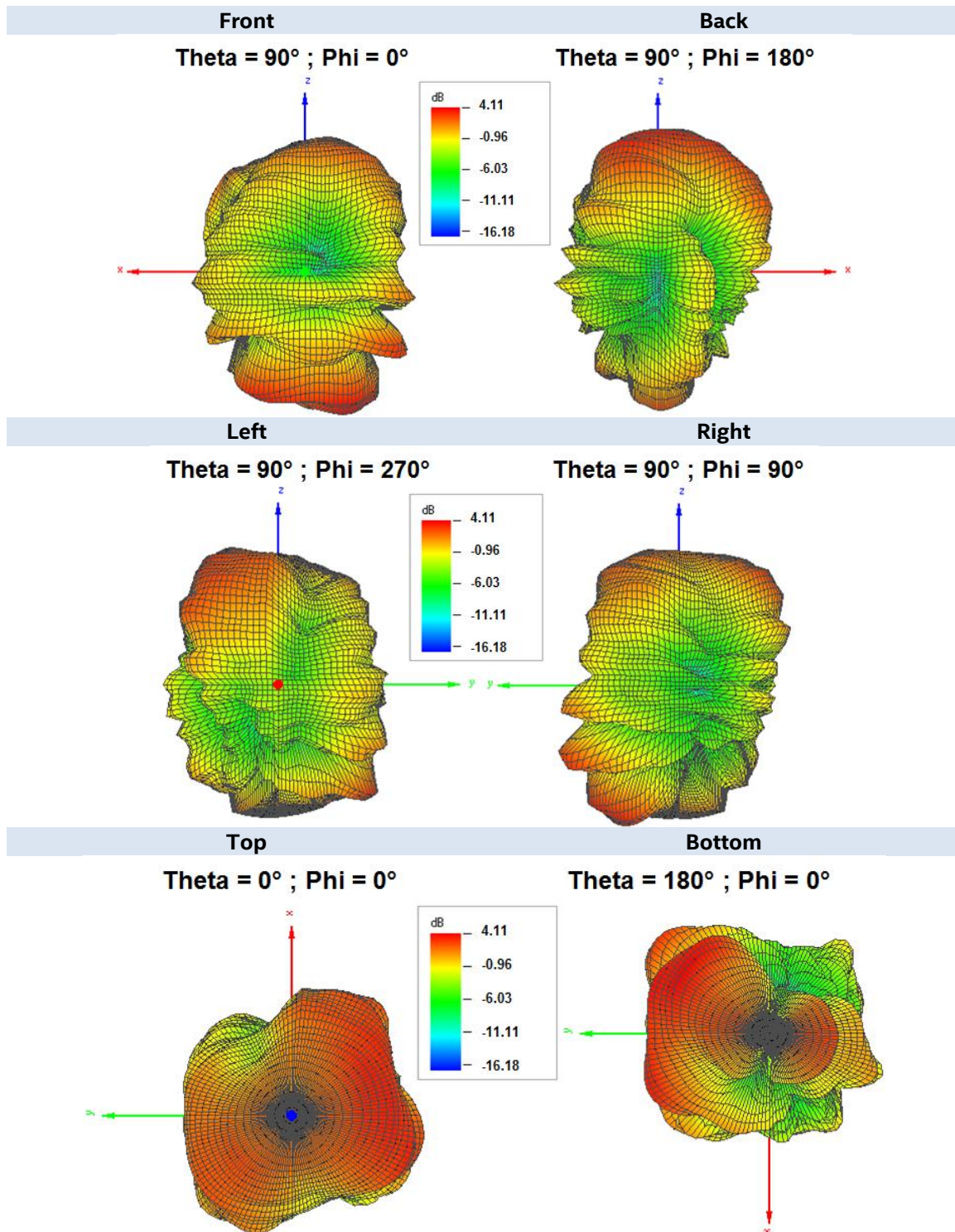
### 4.3. Pattern @6425MHz

| Frequency<br>(MHz) | Peak Gain             |                |       |
|--------------------|-----------------------|----------------|-------|
|                    | Horizontal<br>(Theta) | Vertical (Phi) | Total |
|                    | (dBi)                 | (dBi)          | (dBi) |
| 7125               | 3.95                  | 2.97           | 4.30  |



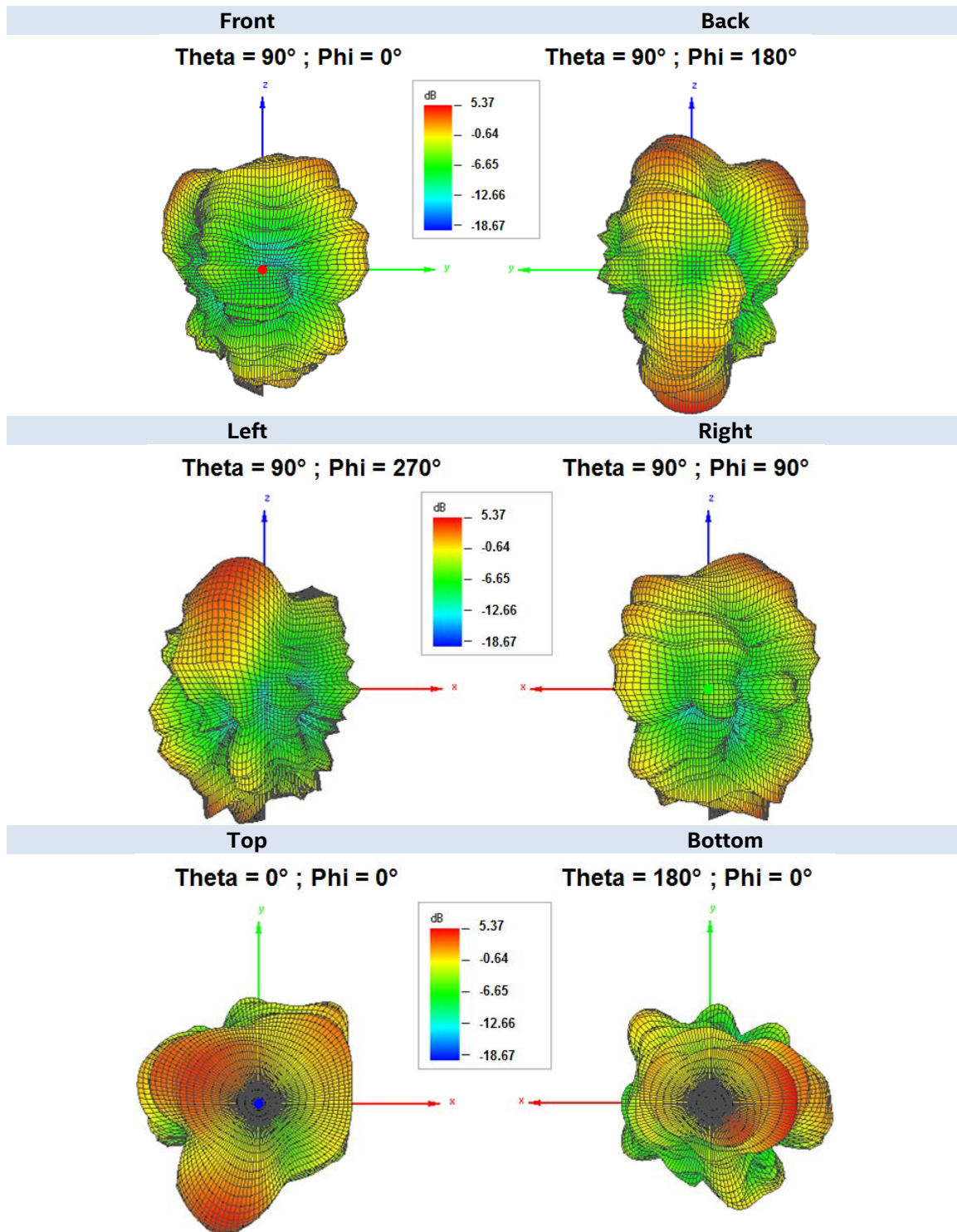
#### 4.4. Pattern @6525MHz

| Frequency<br>(MHz) | Peak Gain             |                |       |
|--------------------|-----------------------|----------------|-------|
|                    | Horizontal<br>(Theta) | Vertical (Phi) | Total |
|                    | (dBi)                 | (dBi)          | (dBi) |
| 7125               | 3.46                  | 2.71           | 4.11  |



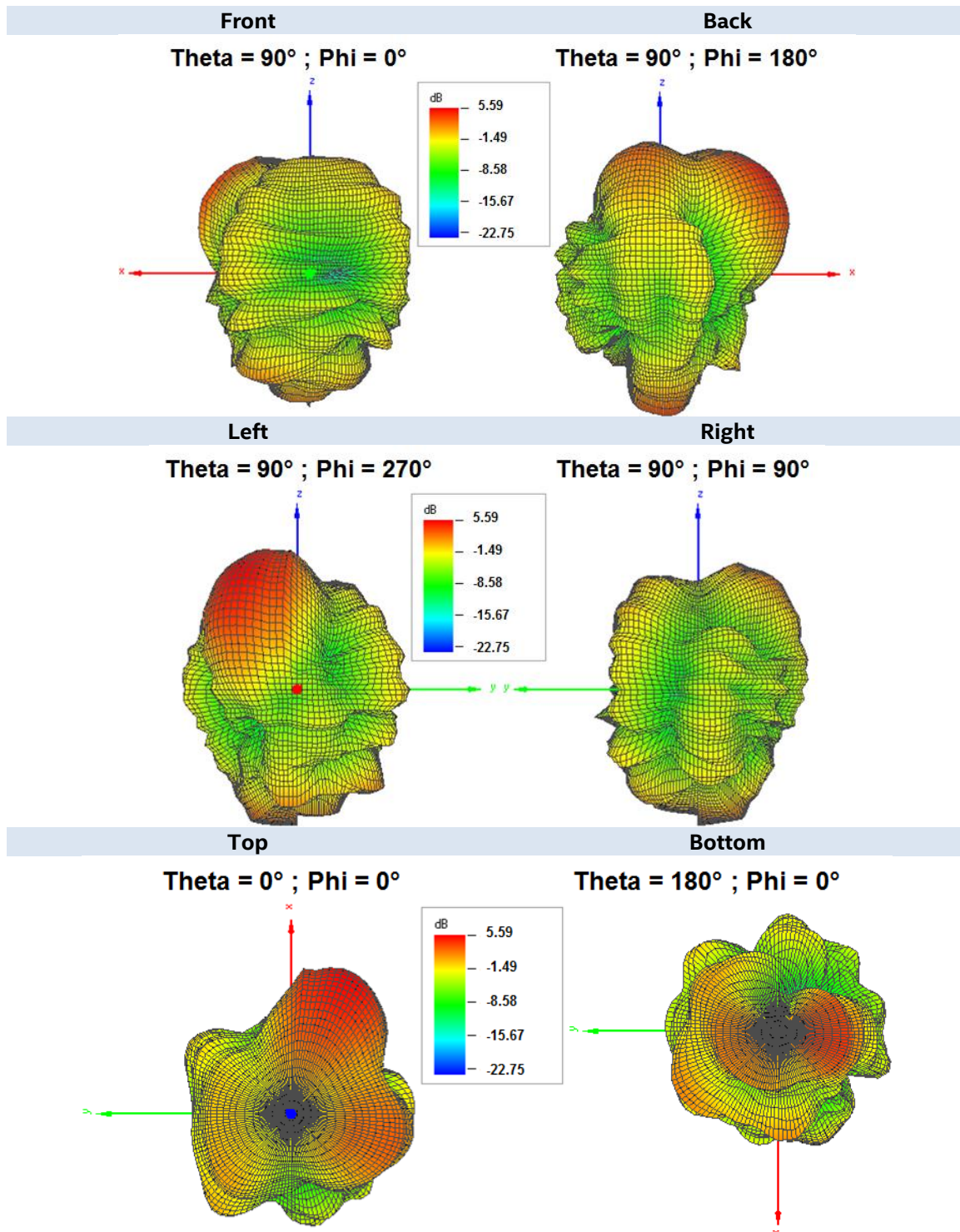
#### 4.5. Pattern @6875MHz

| Frequency<br>(MHz) | Peak Gain             |                |       |
|--------------------|-----------------------|----------------|-------|
|                    | Horizontal<br>(Theta) | Vertical (Phi) | Total |
|                    | (dBi)                 | (dBi)          | (dBi) |
| 7125               | 5.29                  | 3.98           | 5.37  |



#### 4.6. Pattern @7125MHz

| Frequency<br>(MHz) | Peak Gain             |                |       |
|--------------------|-----------------------|----------------|-------|
|                    | Horizontal<br>(Theta) | Vertical (Phi) | Total |
|                    | (dBi)                 | (dBi)          | (dBi) |
| 7125               | 3.84                  | 4.21           | 5.59  |



## 7. Measurement Setup Photo

