

# WIFI 6E 2X2 MIMO 30x20 L00CM1 Antenna

## FEATURES & BENEFITS



- Welding RG 1.13 cable, Ipex connector, 3M sticker for easy installation.
- Mounting to: non-conductive surface
- Installation type: adhesive

## APPLICATIONS

- IoT Devices
- Smart Cities
- Smart Agriculture
- Consumer Tracking
- Smart Metering
- Smart Agriculture



## ORDER INFORMATION

|               |                                                                                |
|---------------|--------------------------------------------------------------------------------|
| Product Name  | WIFI 6E 2X2 MIMO 30x20 L00CM1 Antenna                                          |
| Part Number   | AIWF028                                                                        |
| Dimensions    | 30 x 20 mm                                                                     |
| Weight        | 0.8 g                                                                          |
| Color         | Black                                                                          |
| Mounting      | adhesive                                                                       |
| Antenna Cable | Default IPEX 1 RF 1.13 black coaxial cable ( Ø 1.13 x 100 mm ) , customizable. |

## REFERENCE GUIDE

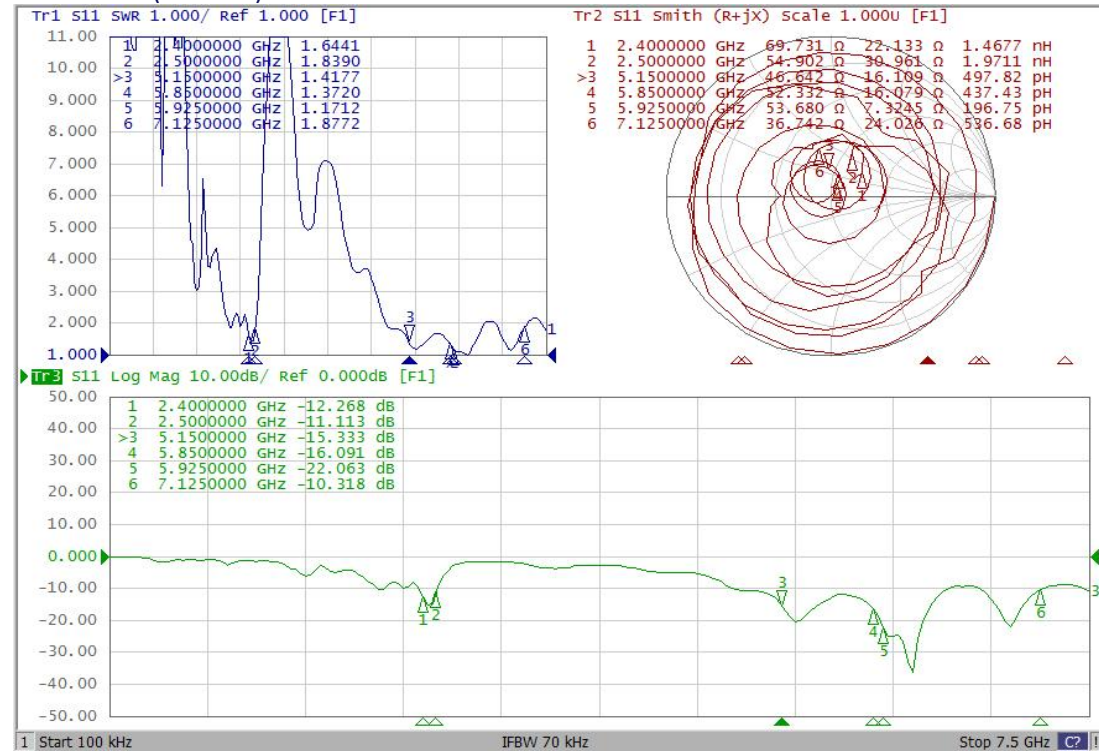
|                                                                                                                                                                       |                     |                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|
| Technical Features (MHz)                                                                                                                                              | ANT1                | ANT2                |
|                                                                                                                                                                       | 2400-2500/5100-7125 | 2400-2500/5100-7125 |
| Max VSWR                                                                                                                                                              | 2.0:1               | 2.2:1               |
| Max Efficiency                                                                                                                                                        | 88.25%              | 95.43%              |
| Peak Gain                                                                                                                                                             | 4.73dBi             | 4.82dBi             |
| Radiation Pattern                                                                                                                                                     | Omnidirectional     |                     |
| Polarization                                                                                                                                                          | Linear              |                     |
| Input Impedance                                                                                                                                                       | 50 Ω                |                     |
| Operating Temperature                                                                                                                                                 | -40°C to +85°C      |                     |
| Storage Temperature                                                                                                                                                   | -40°C to +85°C      |                     |
| Relative Humidity                                                                                                                                                     | 10 to 70%           |                     |
| Material Substance Compliance                                                                                                                                         | RoHS Compliant      |                     |
| Dimensions(L x W x H)                                                                                                                                                 | 30x20mm             |                     |
| All test data were obtained from testing conducted on 1.4mm thick polycarbonate (PC) plastic material; with an 100-mm-long RF 1.13 cable.Application data might vary. |                     |                     |

## ELECTRICAL PERFORMANCE

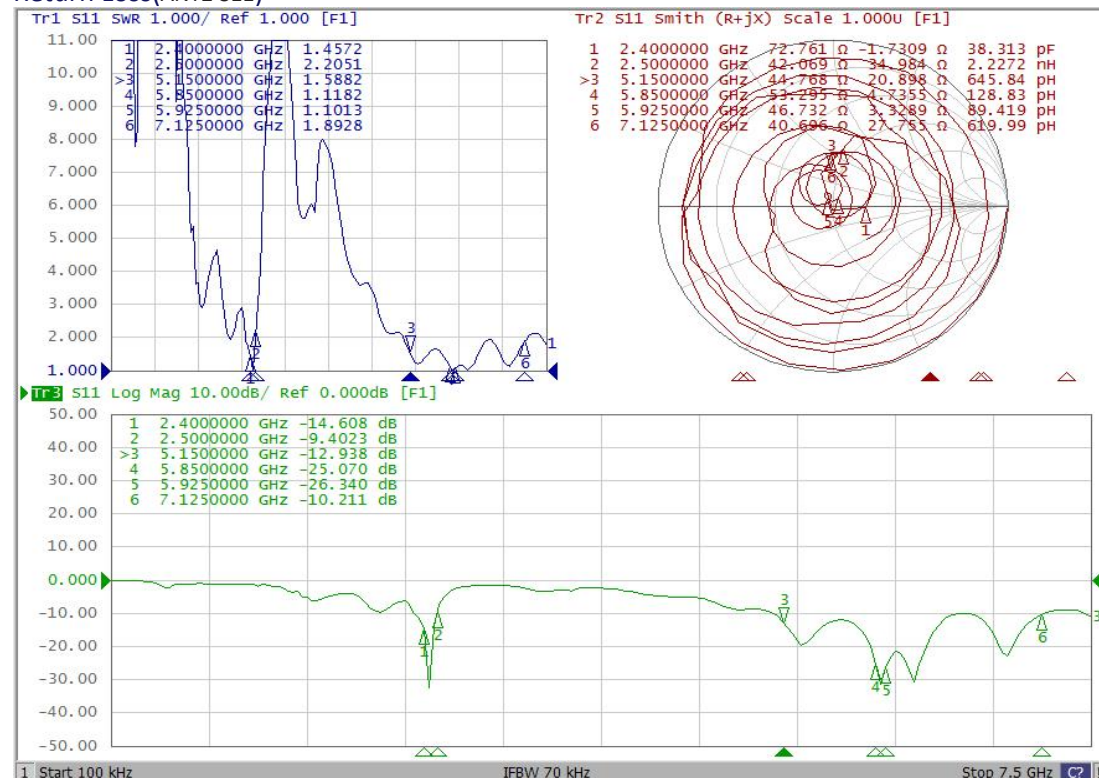
### Note

All data displayed in the "ELECTRICAL PERFORMANCE" section were measured using a 100mm-long RF 1.13 cable mounted on 1.4mm thick polycarbonate (PC) plastic material.

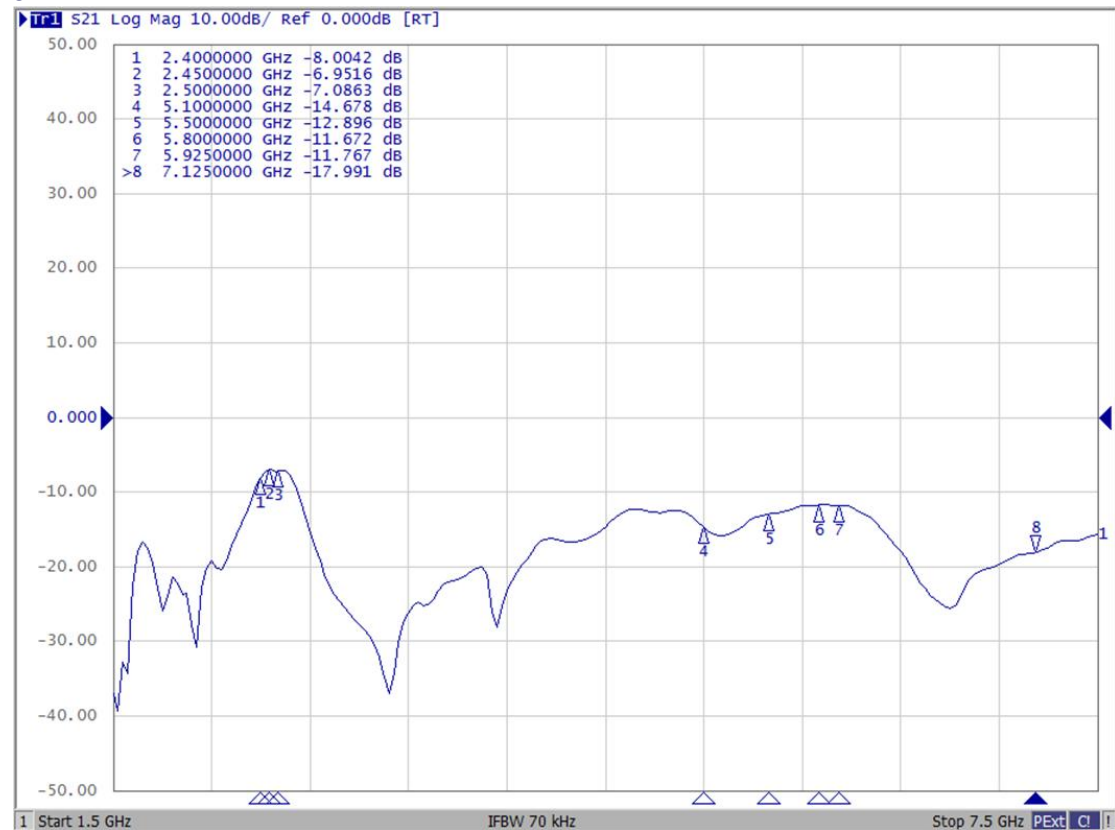
### Return Loss(ANT1 S11)



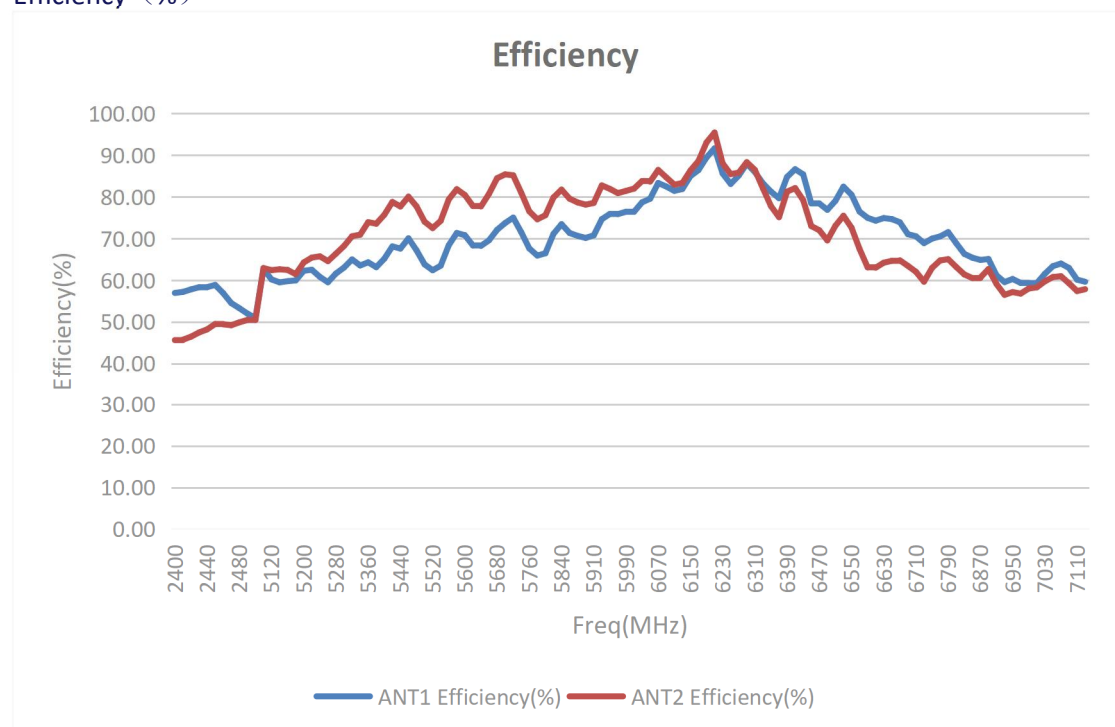
### Return Loss(ANT2 S11)



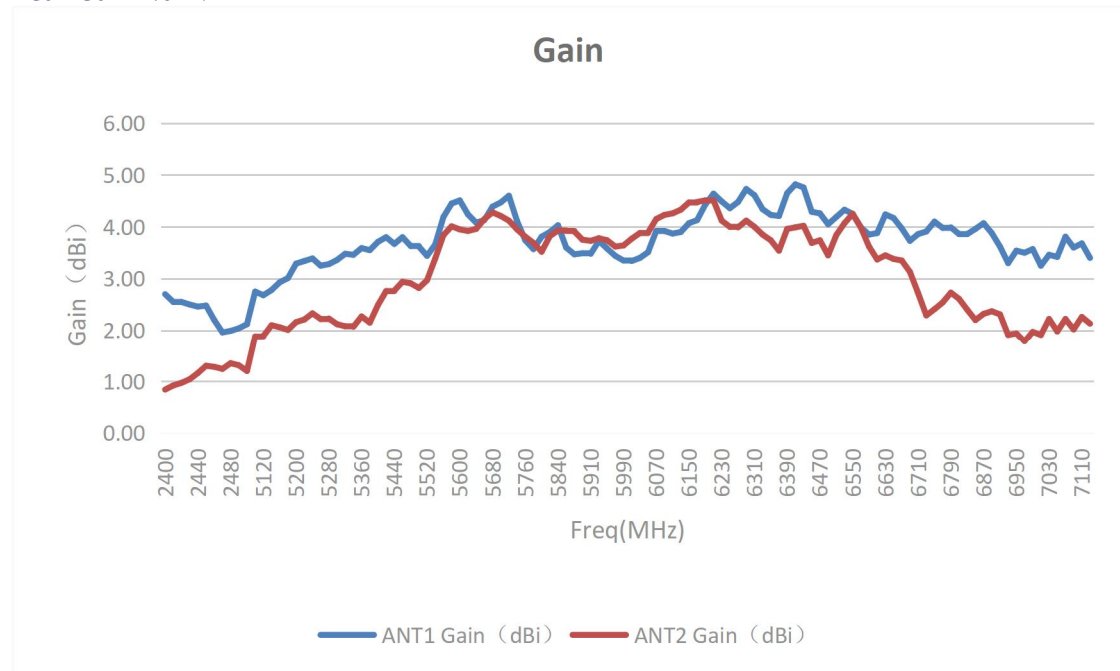
S21



Efficiency (%)



Peak Gain (dBi)



ANT1 Data

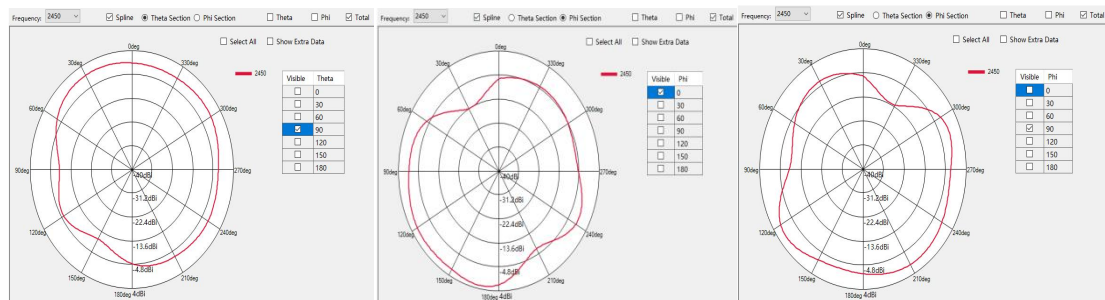
| Freq(MHz) | Gain (dBi) | Efficiency(%) | Freq(MHz) | Gain (dBi) | Efficiency(%) | Freq(MHz) | Gain (dBi) | Efficiency(%) |
|-----------|------------|---------------|-----------|------------|---------------|-----------|------------|---------------|
| 2400      | 2.70       | 56.96         | 5640      | 4.08       | 68.24         | 6390      | 4.65       | 84.79         |
| 2410      | 2.55       | 57.20         | 5660      | 4.13       | 69.59         | 6410      | 4.82       | 86.64         |
| 2420      | 2.55       | 57.81         | 5680      | 4.39       | 72.10         | 6430      | 4.76       | 85.40         |
| 2430      | 2.50       | 58.32         | 5700      | 4.47       | 73.73         | 6450      | 4.29       | 78.44         |
| 2440      | 2.46       | 58.35         | 5720      | 4.60       | 75.03         | 6470      | 4.26       | 78.41         |
| 2450      | 2.48       | 58.87         | 5740      | 4.11       | 71.51         | 6490      | 4.05       | 76.90         |
| 2460      | 2.20       | 56.91         | 5760      | 3.74       | 67.63         | 6510      | 4.19       | 79.04         |
| 2470      | 1.96       | 54.52         | 5780      | 3.57       | 65.92         | 6530      | 4.33       | 82.45         |
| 2480      | 1.99       | 53.30         | 5800      | 3.81       | 66.47         | 6550      | 4.25       | 80.52         |
| 2490      | 2.04       | 52.01         | 5820      | 3.90       | 71.13         | 6570      | 3.99       | 76.46         |
| 2500      | 2.12       | 50.96         | 5840      | 4.03       | 73.45         | 6590      | 3.85       | 74.97         |
| 5100      | 2.75       | 62.67         | 5860      | 3.60       | 71.35         | 6610      | 3.88       | 74.29         |
| 5120      | 2.68       | 60.20         | 5880      | 3.47       | 70.65         | 6630      | 4.24       | 74.92         |
| 5140      | 2.78       | 59.50         | 5900      | 3.49       | 70.16         | 6650      | 4.17       | 74.68         |
| 5160      | 2.93       | 59.78         | 5910      | 3.48       | 70.77         | 6670      | 3.97       | 73.91         |
| 5180      | 3.01       | 59.96         | 5930      | 3.73       | 74.64         | 6690      | 3.73       | 71.05         |
| 5200      | 3.29       | 62.27         | 5950      | 3.58       | 75.91         | 6710      | 3.86       | 70.54         |
| 5220      | 3.34       | 62.52         | 5970      | 3.44       | 75.87         | 6730      | 3.91       | 68.91         |
| 5240      | 3.39       | 60.81         | 5990      | 3.35       | 76.43         | 6750      | 4.10       | 69.99         |
| 5260      | 3.25       | 59.53         | 6010      | 3.34       | 76.42         | 6770      | 3.98       | 70.52         |
| 5280      | 3.28       | 61.62         | 6030      | 3.40       | 78.70         | 6790      | 3.99       | 71.54         |
| 5300      | 3.36       | 63.05         | 6050      | 3.51       | 79.56         | 6810      | 3.86       | 68.88         |
| 5320      | 3.48       | 65.00         | 6070      | 3.92       | 83.33         | 6830      | 3.86       | 66.34         |
| 5340      | 3.46       | 63.55         | 6090      | 3.92       | 82.49         | 6850      | 3.96       | 65.41         |
| 5360      | 3.59       | 64.30         | 6110      | 3.87       | 81.45         | 6870      | 4.07       | 64.88         |
| 5380      | 3.55       | 63.14         | 6130      | 3.90       | 81.89         | 6890      | 3.88       | 65.09         |
| 5400      | 3.71       | 65.16         | 6150      | 4.07       | 84.97         | 6910      | 3.62       | 61.18         |
| 5420      | 3.80       | 68.12         | 6170      | 4.13       | 86.43         | 6930      | 3.30       | 59.56         |
| 5440      | 3.67       | 67.60         | 6190      | 4.43       | 89.44         | 6950      | 3.54       | 60.30         |
| 5460      | 3.80       | 70.06         | 6210      | 4.64       | 91.65         | 6970      | 3.50       | 59.36         |
| 5480      | 3.63       | 67.19         | 6230      | 4.49       | 85.61         | 6990      | 3.57       | 59.27         |
| 5500      | 3.62       | 63.81         | 6250      | 4.36       | 83.11         | 7010      | 3.25       | 59.30         |
| 5520      | 3.44       | 62.40         | 6270      | 4.48       | 85.11         | 7030      | 3.46       | 61.54         |
| 5540      | 3.66       | 63.49         | 6290      | 4.73       | 87.96         | 7050      | 3.42       | 63.38         |
| 5560      | 4.19       | 68.40         | 6310      | 4.61       | 85.97         | 7070      | 3.81       | 64.01         |
| 5580      | 4.45       | 71.34         | 6330      | 4.34       | 83.26         | 7090      | 3.60       | 62.95         |
| 5600      | 4.51       | 70.81         | 6350      | 4.23       | 81.27         | 7110      | 3.68       | 60.14         |
| 5620      | 4.24       | 68.35         | 6370      | 4.21       | 79.68         | 7125      | 3.40       | 59.64         |

ANT2 Data

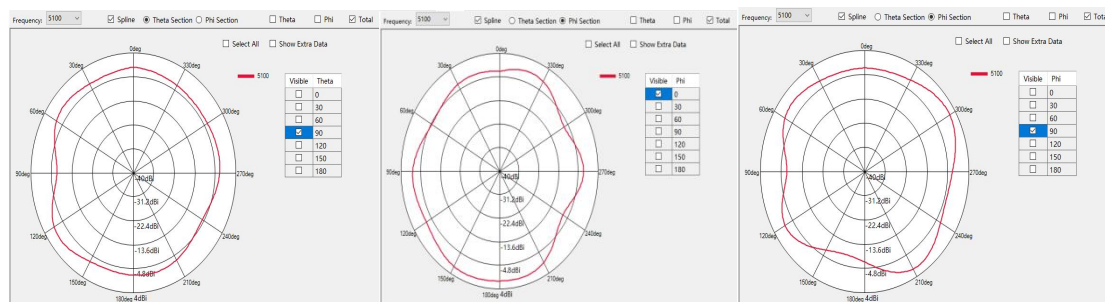
| Freq(MHz) | Gain (dBi) | Efficiency(%) | Freq(MHz) | Gain (dBi) | Efficiency(%) | Freq(MHz) | Gain (dBi) | Efficiency(%) |
|-----------|------------|---------------|-----------|------------|---------------|-----------|------------|---------------|
| 2400      | 0.84       | 45.64         | 5640      | 3.96       | 77.71         | 6390      | 3.96       | 81.26         |
| 2410      | 0.92       | 45.74         | 5660      | 4.15       | 80.73         | 6410      | 3.99       | 82.11         |
| 2420      | 0.97       | 46.46         | 5680      | 4.28       | 84.48         | 6430      | 4.02       | 79.22         |
| 2430      | 1.04       | 47.47         | 5700      | 4.21       | 85.40         | 6450      | 3.69       | 73.01         |
| 2440      | 1.16       | 48.21         | 5720      | 4.12       | 85.18         | 6470      | 3.74       | 72.00         |
| 2450      | 1.30       | 49.50         | 5740      | 3.95       | 80.98         | 6490      | 3.45       | 69.57         |
| 2460      | 1.28       | 49.42         | 5760      | 3.81       | 76.53         | 6510      | 3.84       | 73.07         |
| 2470      | 1.24       | 49.21         | 5780      | 3.69       | 74.63         | 6530      | 4.07       | 75.47         |
| 2480      | 1.35       | 49.90         | 5800      | 3.52       | 75.60         | 6550      | 4.25       | 72.62         |
| 2490      | 1.31       | 50.47         | 5820      | 3.82       | 79.86         | 6570      | 3.99       | 67.50         |
| 2500      | 1.20       | 50.47         | 5840      | 3.93       | 81.74         | 6590      | 3.62       | 63.11         |
| 5100      | 1.88       | 62.92         | 5860      | 3.92       | 79.57         | 6610      | 3.37       | 63.01         |
| 5120      | 1.89       | 62.42         | 5880      | 3.91       | 78.67         | 6630      | 3.45       | 64.21         |
| 5140      | 2.10       | 62.63         | 5900      | 3.75       | 78.14         | 6650      | 3.38       | 64.66         |
| 5160      | 2.06       | 62.47         | 5910      | 3.73       | 78.55         | 6670      | 3.35       | 64.79         |
| 5180      | 2.01       | 61.45         | 5930      | 3.78       | 82.75         | 6690      | 3.13       | 63.45         |
| 5200      | 2.16       | 64.27         | 5950      | 3.74       | 81.92         | 6710      | 2.72       | 62.03         |
| 5220      | 2.21       | 65.44         | 5970      | 3.62       | 80.90         | 6730      | 2.29       | 59.66         |
| 5240      | 2.33       | 65.74         | 5990      | 3.64       | 81.44         | 6750      | 2.41       | 62.97         |
| 5260      | 2.22       | 64.59         | 6010      | 3.77       | 81.98         | 6770      | 2.54       | 64.75         |
| 5280      | 2.23       | 66.38         | 6030      | 3.88       | 83.80         | 6790      | 2.73       | 65.06         |
| 5300      | 2.12       | 68.22         | 6050      | 3.89       | 83.66         | 6810      | 2.61       | 63.18         |
| 5320      | 2.08       | 70.56         | 6070      | 4.15       | 86.46         | 6830      | 2.40       | 61.40         |
| 5340      | 2.07       | 70.93         | 6090      | 4.23       | 84.69         | 6850      | 2.20       | 60.53         |
| 5360      | 2.27       | 73.93         | 6110      | 4.26       | 82.94         | 6870      | 2.32       | 60.66         |
| 5380      | 2.15       | 73.57         | 6130      | 4.33       | 83.32         | 6890      | 2.37       | 62.67         |
| 5400      | 2.49       | 75.70         | 6150      | 4.47       | 86.32         | 6910      | 2.31       | 59.10         |
| 5420      | 2.76       | 78.78         | 6170      | 4.48       | 88.61         | 6930      | 1.91       | 56.50         |
| 5440      | 2.77       | 77.70         | 6190      | 4.51       | 93.07         | 6950      | 1.94       | 57.16         |
| 5460      | 2.94       | 80.05         | 6210      | 4.51       | 95.43         | 6970      | 1.78       | 56.80         |
| 5480      | 2.91       | 77.73         | 6230      | 4.12       | 88.05         | 6990      | 1.97       | 58.02         |
| 5500      | 2.82       | 74.05         | 6250      | 4.00       | 85.46         | 7010      | 1.91       | 58.30         |
| 5520      | 2.97       | 72.52         | 6270      | 3.99       | 85.82         | 7030      | 2.22       | 59.73         |
| 5540      | 3.39       | 74.25         | 6290      | 4.12       | 88.32         | 7050      | 1.98       | 60.77         |
| 5560      | 3.84       | 79.40         | 6310      | 4.00       | 86.49         | 7070      | 2.22       | 60.97         |
| 5580      | 4.01       | 81.84         | 6330      | 3.85       | 82.07         | 7090      | 2.02       | 59.27         |
| 5600      | 3.95       | 80.46         | 6350      | 3.74       | 77.79         | 7110      | 2.26       | 57.41         |
| 5620      | 3.92       | 77.81         | 6370      | 3.54       | 75.14         | 7125      | 2.13       | 57.85         |

**RADIATION PATTERNS(The data were obtained through testing conducted using a 100-mm-long RF 1.13 cable mounted on a 1.4mm thick polycarbonate (PC) plastic substrate.)**

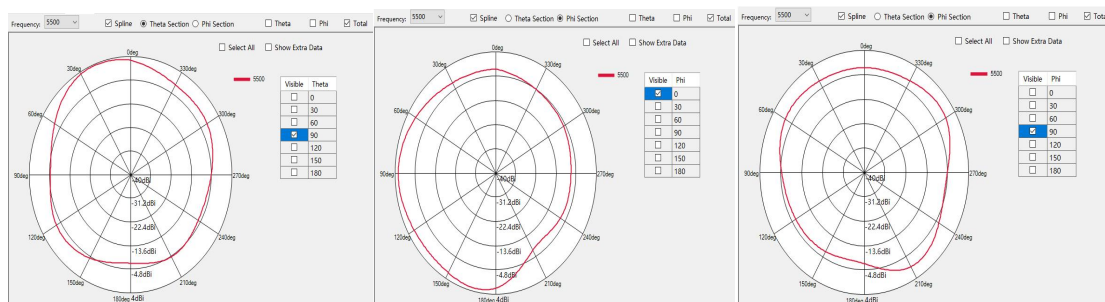
### 2D Radiation Pattern at 2450MHz Gain = 2.48 dBi(ANT 1)



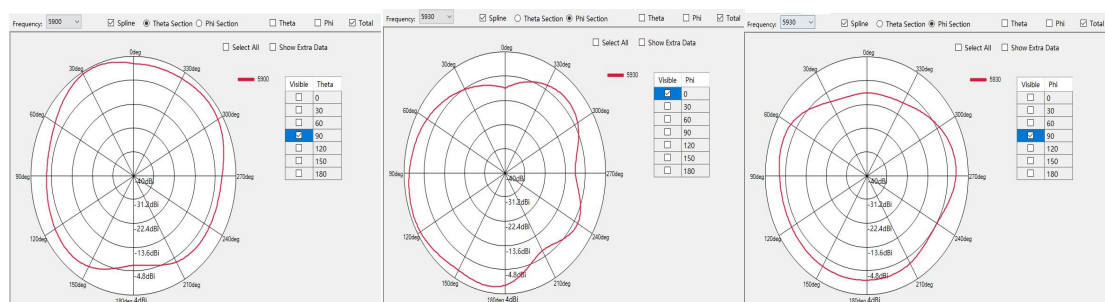
### 2D Radiation Pattern at 5100MHz Gain = 2.75 dBi(ANT 1)



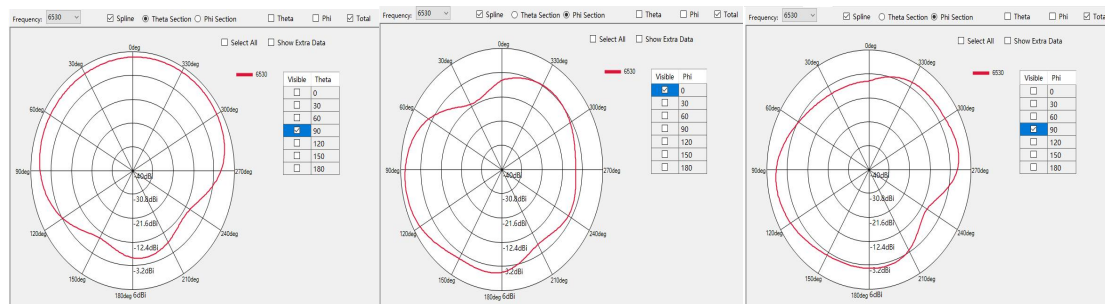
### 2D Radiation Pattern at 5500MHz Gain = 3.62 dBi(ANT 1)



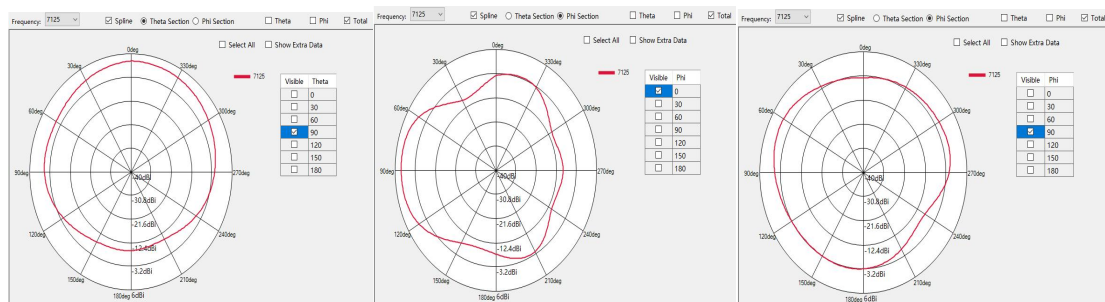
### 2D Radiation Pattern at 5900MHz Gain = 3.49dBi(ANT 1)



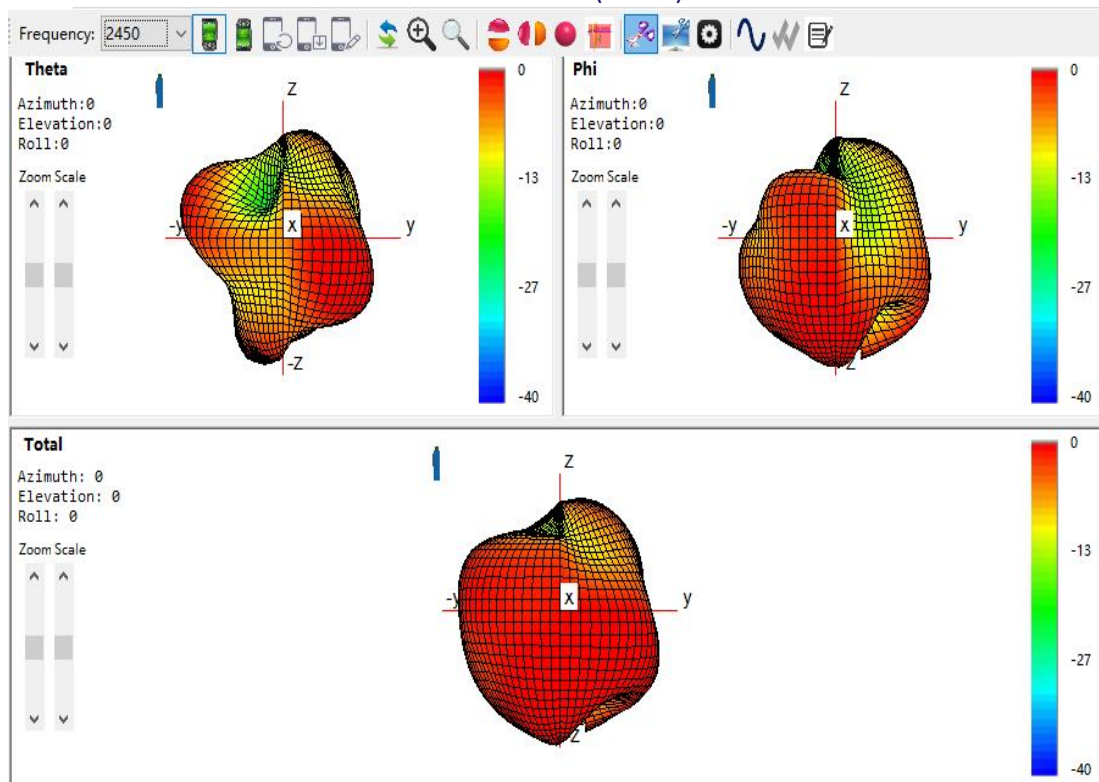
## 2D Radiation Pattern at 6530MHz Gain = 4.33dBi(ANT 1)



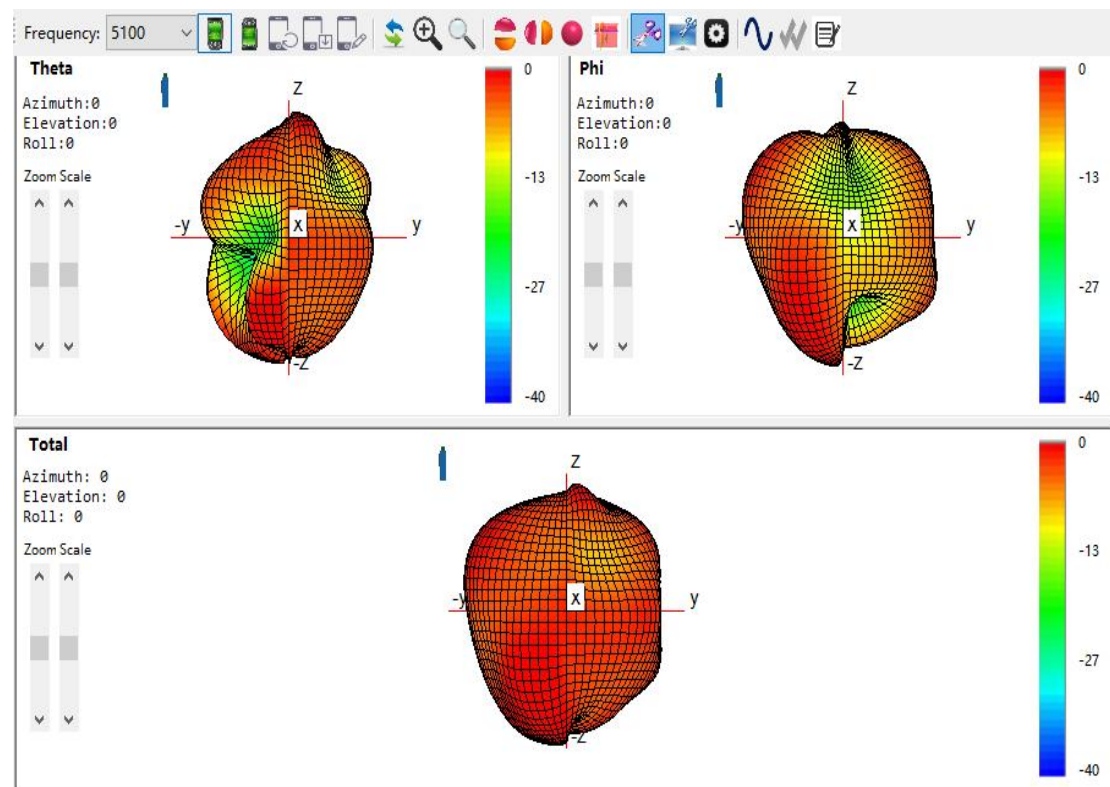
## 2D Radiation Pattern at 7125MHz Gain = 3.4dBi(ANT 1)



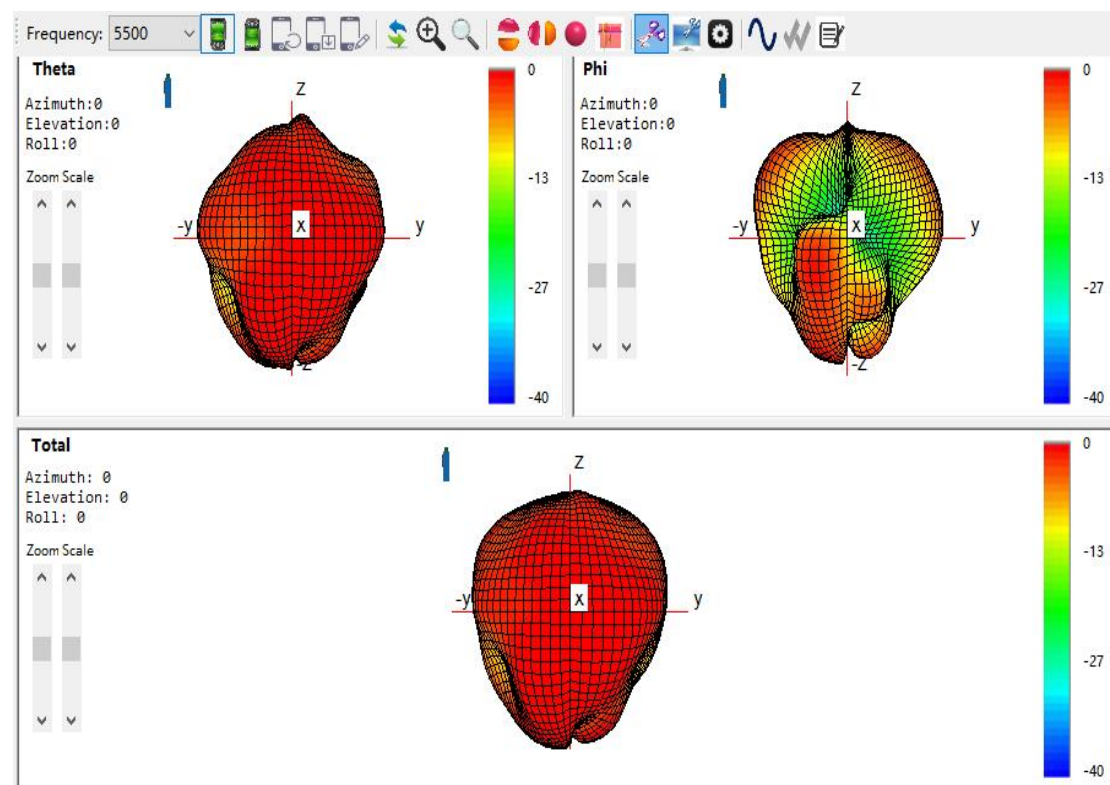
## 3D Radiation Pattern at 2450MHz Gain = 2.48 dBi(ANT 1)



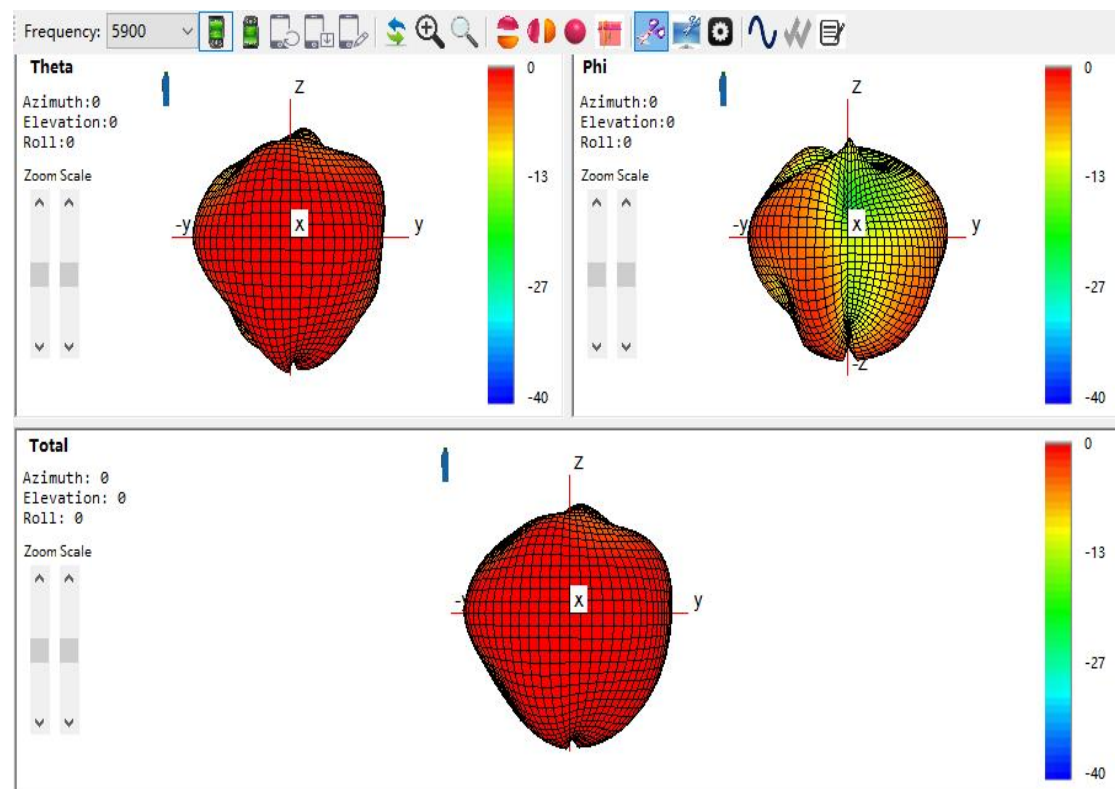
### 3D Radiation Pattern at 5100MHz Gain = 2.75 dBi(ANT 1)



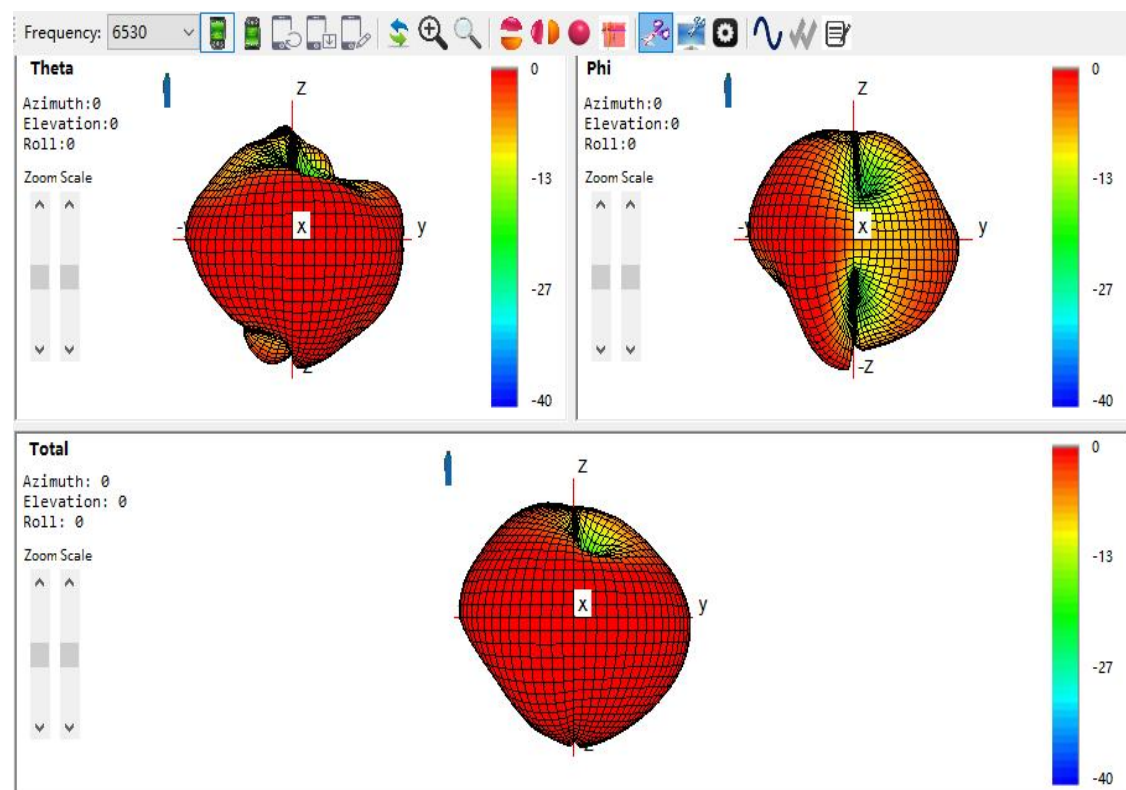
### 3D Radiation Pattern at 5500MHz Gain = 3.62 dBi(ANT 1)



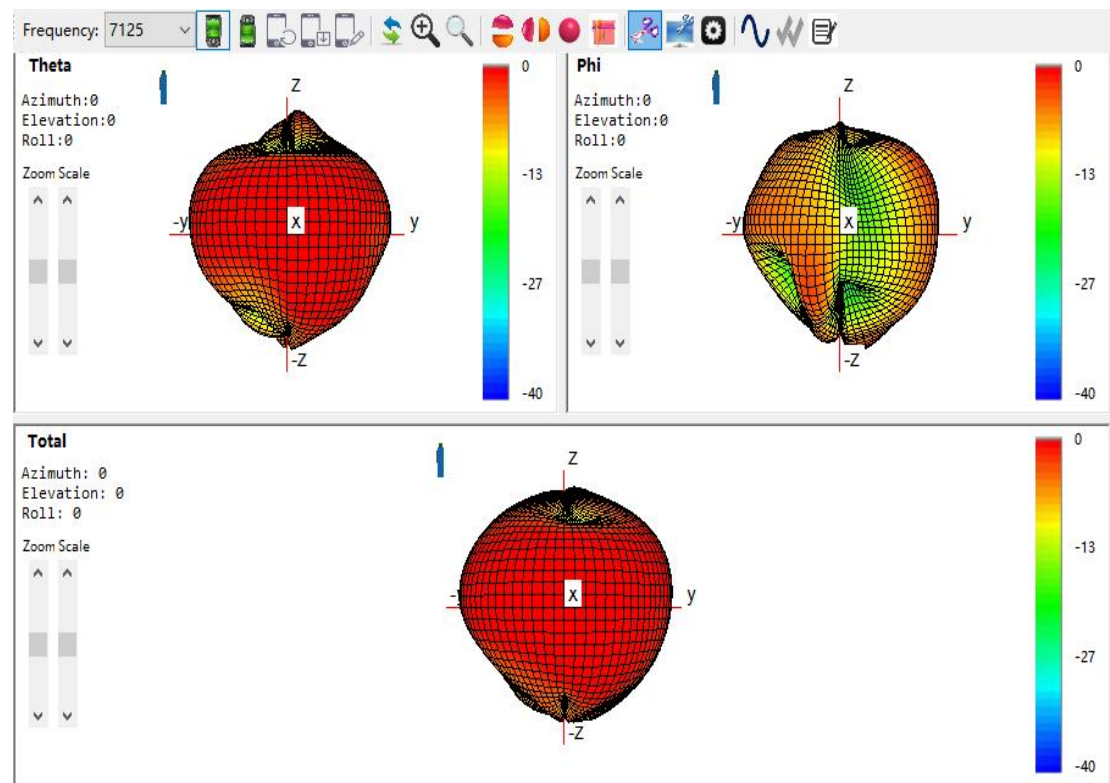
### 3D Radiation Pattern at 5900MHz Gain = 3.49dBi(ANT 1)



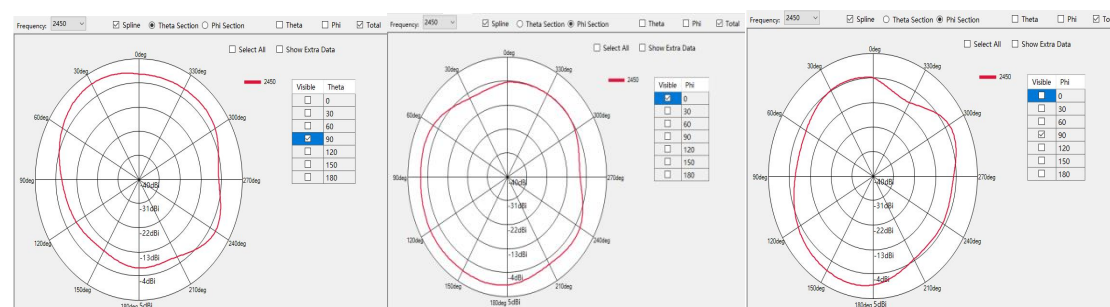
### 3D Radiation Pattern at 6530MHz Gain = 4.33dBi(ANT 1)



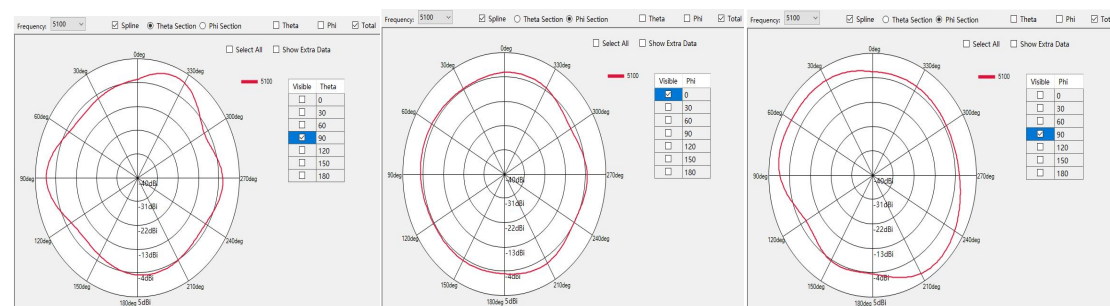
### 3D Radiation Pattern at 7125MHz Gain = 3.4dBi(ANT 1)



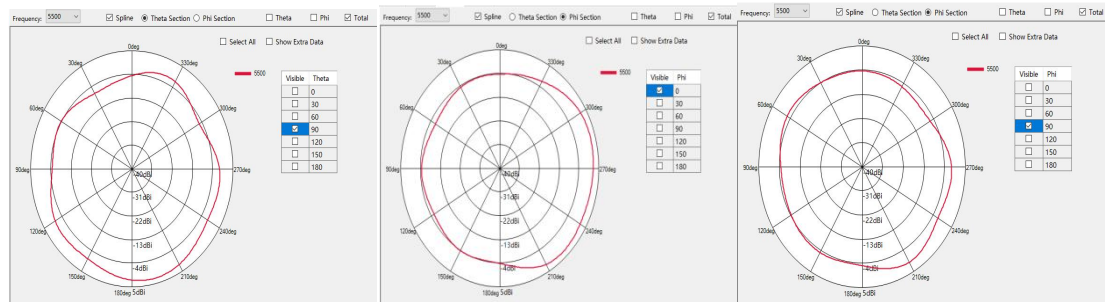
### 2D Radiation Pattern at 2450MHz Gain = 1.3dBi(ANT 2)



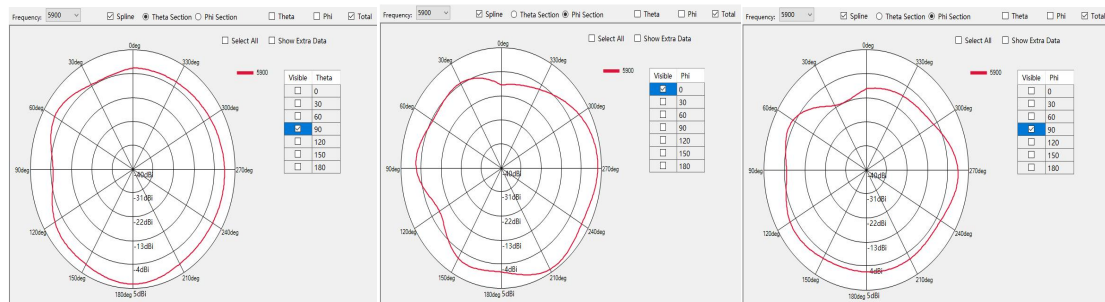
### 2D Radiation Pattern at 5100MHz Gain = 1.88dBi(ANT 2)



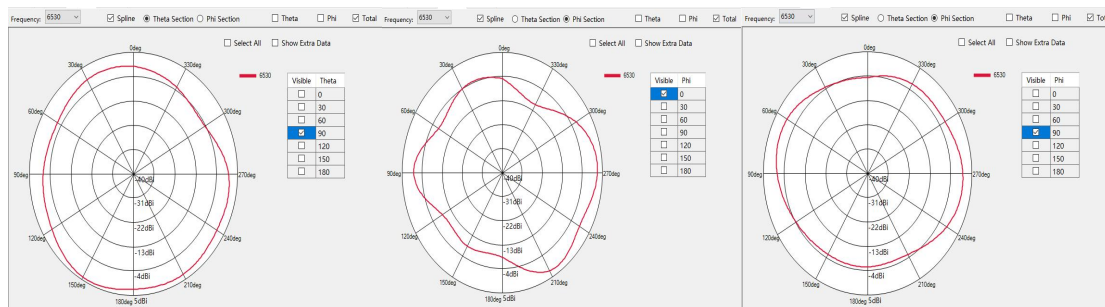
## 2D Radiation Pattern at 5500MHz Gain = 2.82dBi(ANT 2)



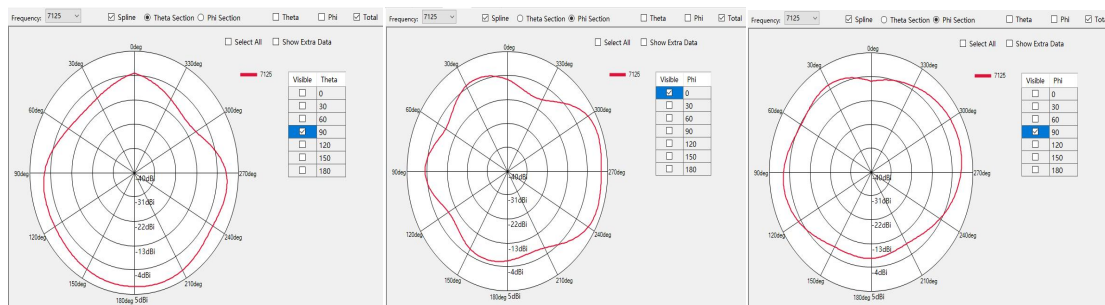
## 2D Radiation Pattern at 5900MHz Gain =3.75dBi(ANT 2)



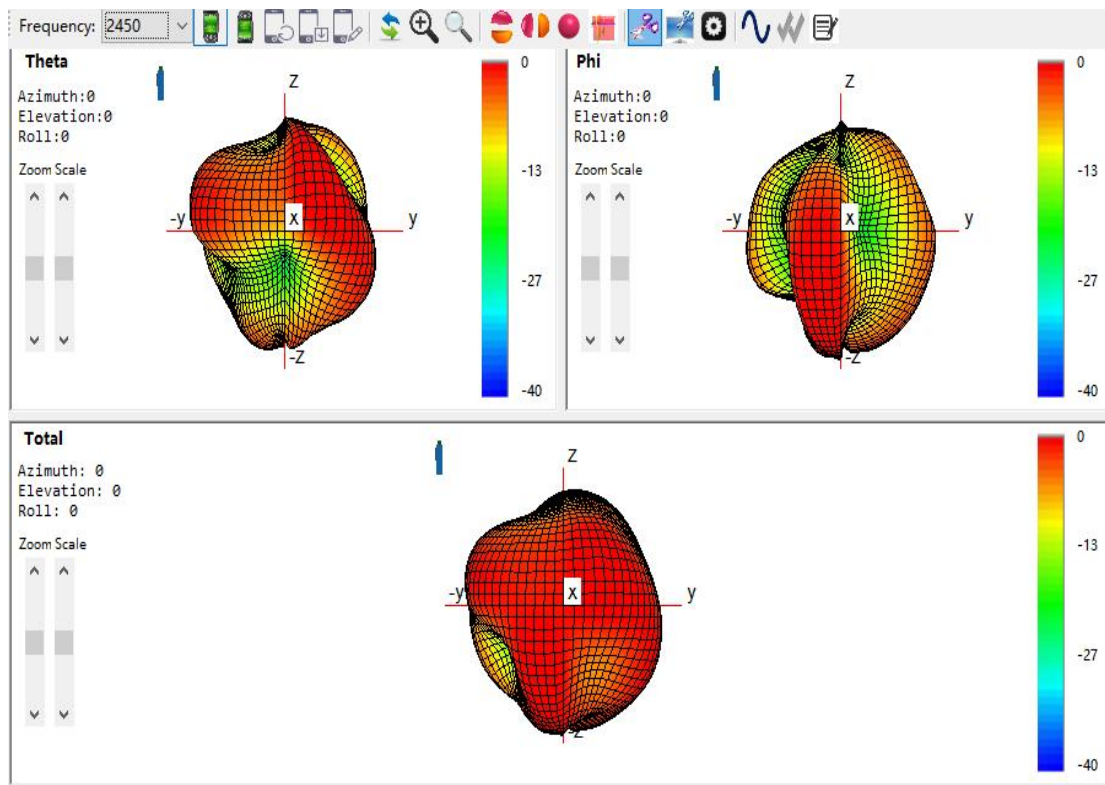
## 2D Radiation Pattern at 6530MHz Gain =4.07dBi(ANT 2)



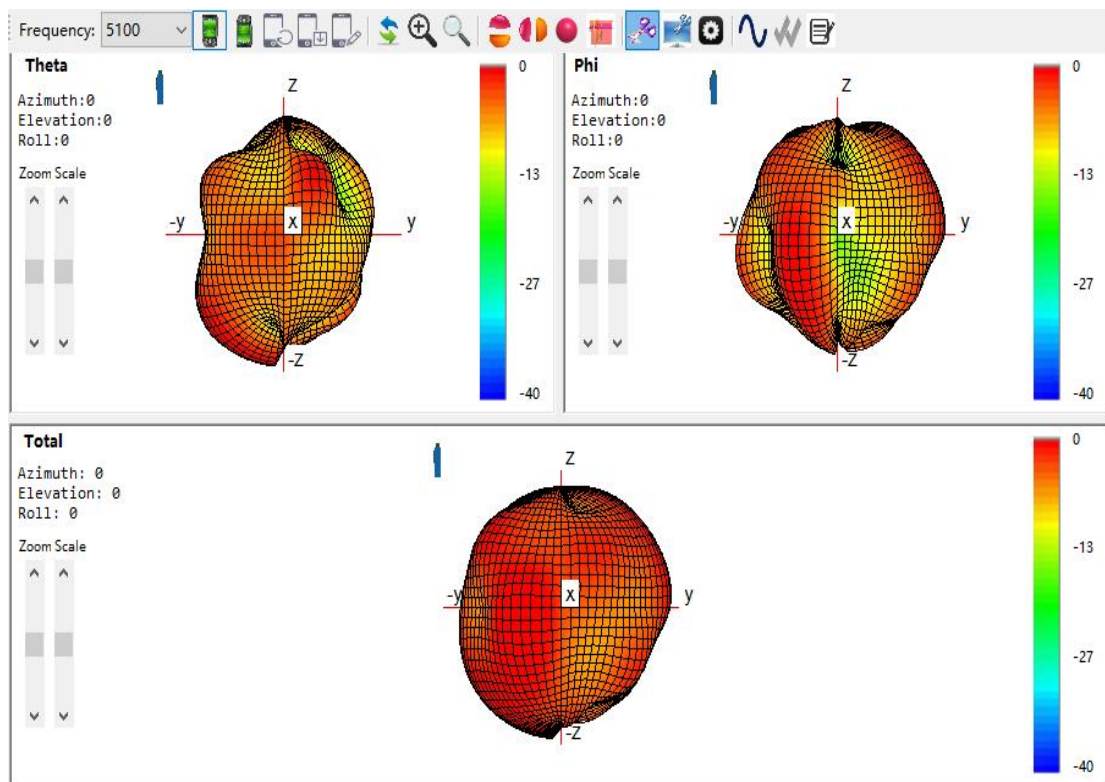
## 2D Radiation Pattern at 7125MHz Gain =2.13dBi(ANT 2)



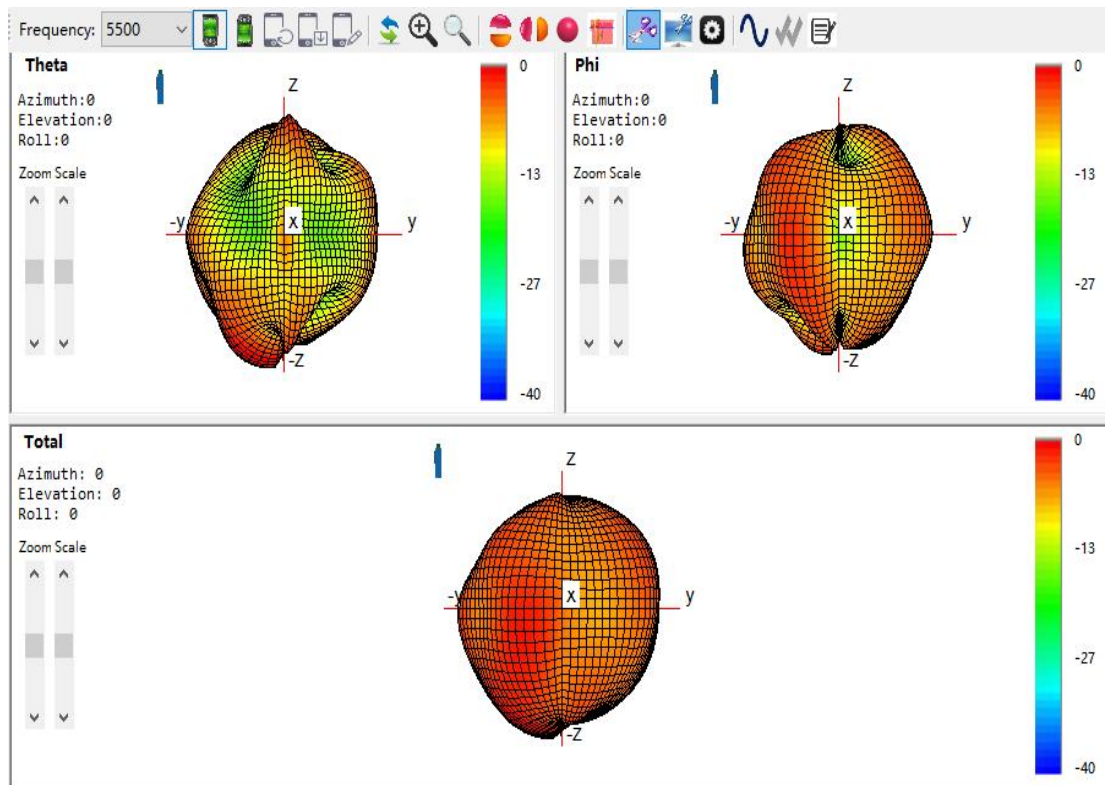
### 3D Radiation Pattern at 2450MHz Gain = 1.3dBi(ANT 2)



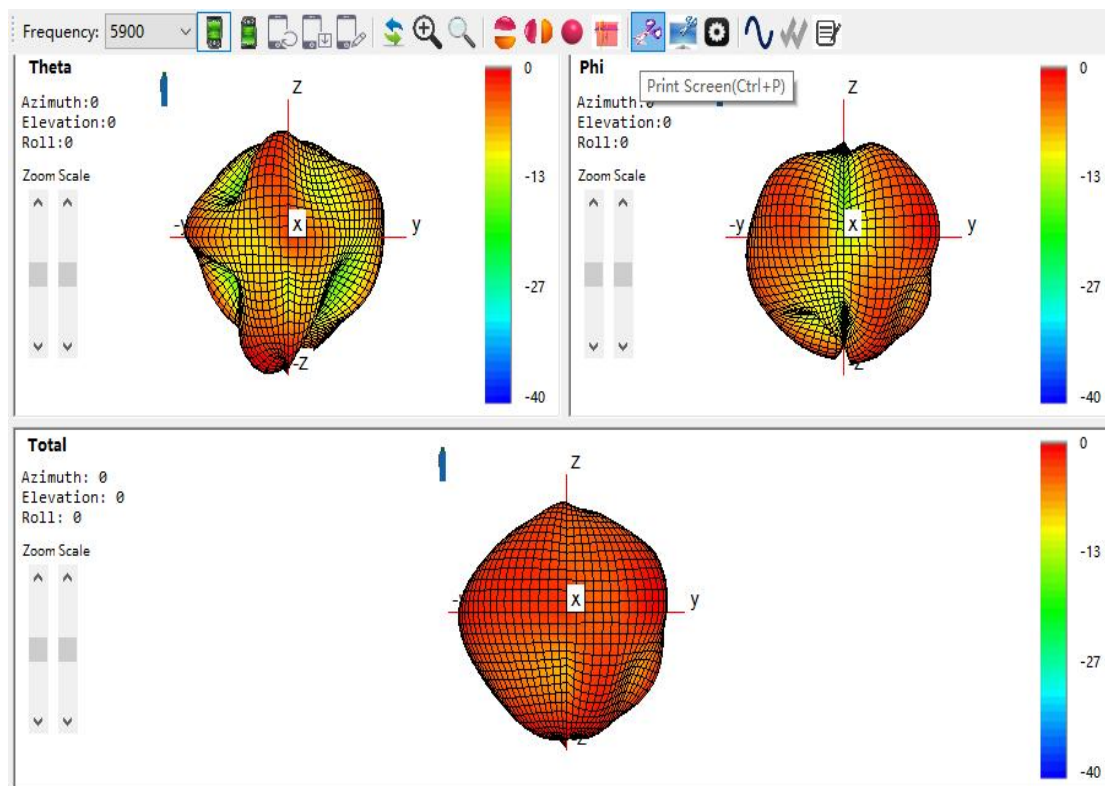
### 3D Radiation Pattern at 5100MHz Gain = 1.88dBi(ANT 2)



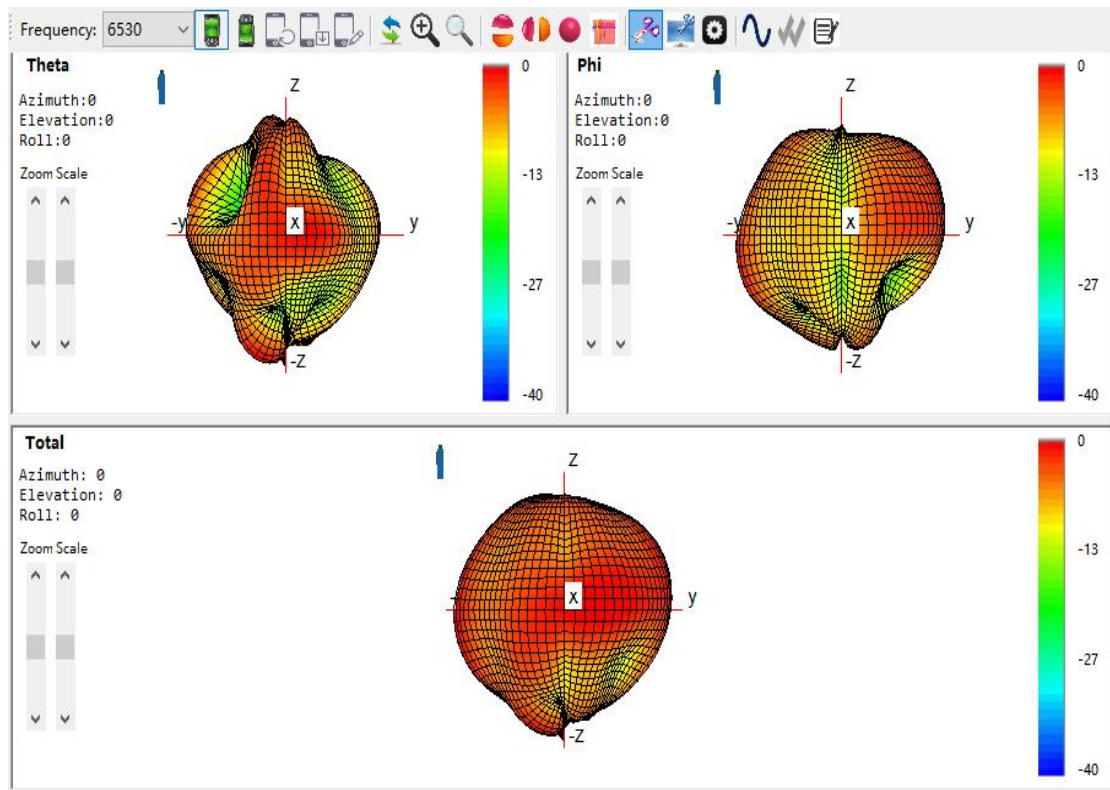
### 3D Radiation Pattern at 5500MHz Gain = 2.82dBi(ANT 2)



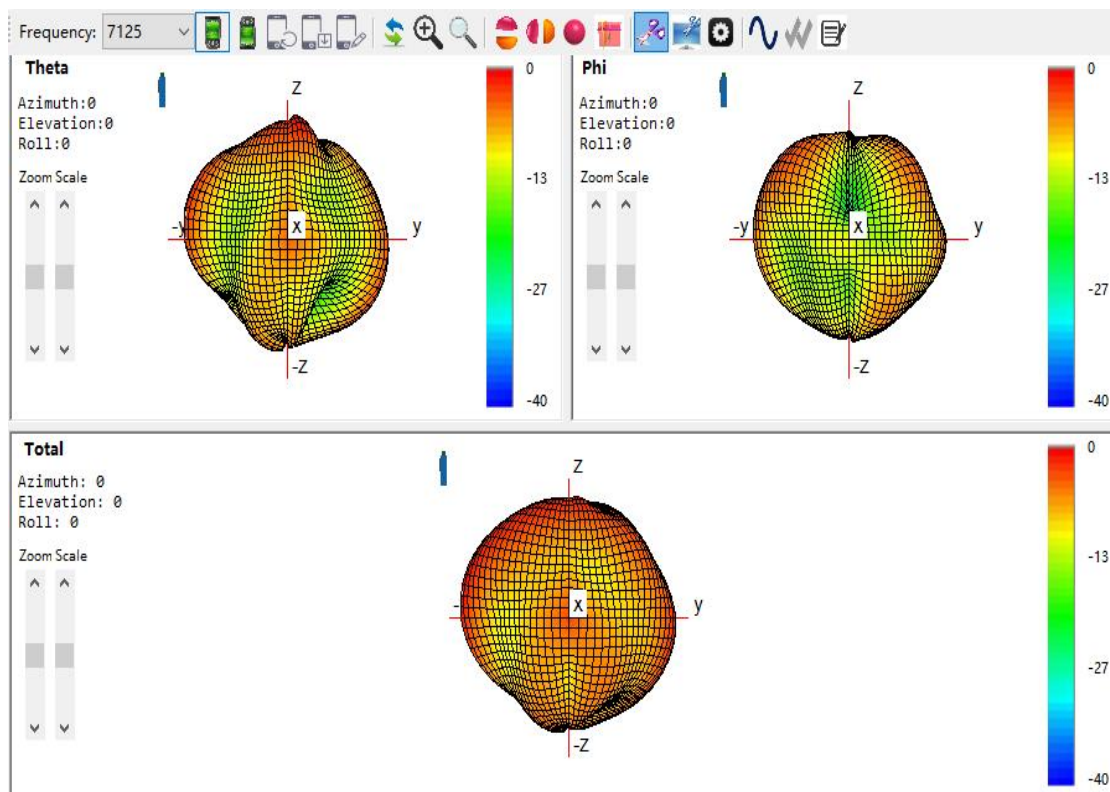
### 3D Radiation Pattern at 5900MHz Gain = 3.75dBi(ANT 2)



### 3D Radiation Pattern at 6530MHz Gain =4.07dBi(ANT 2)



### 3D Radiation Pattern at 7125MHz Gain =2.13dBi(ANT 2)



## HOUSING CONFIGURATIONS

