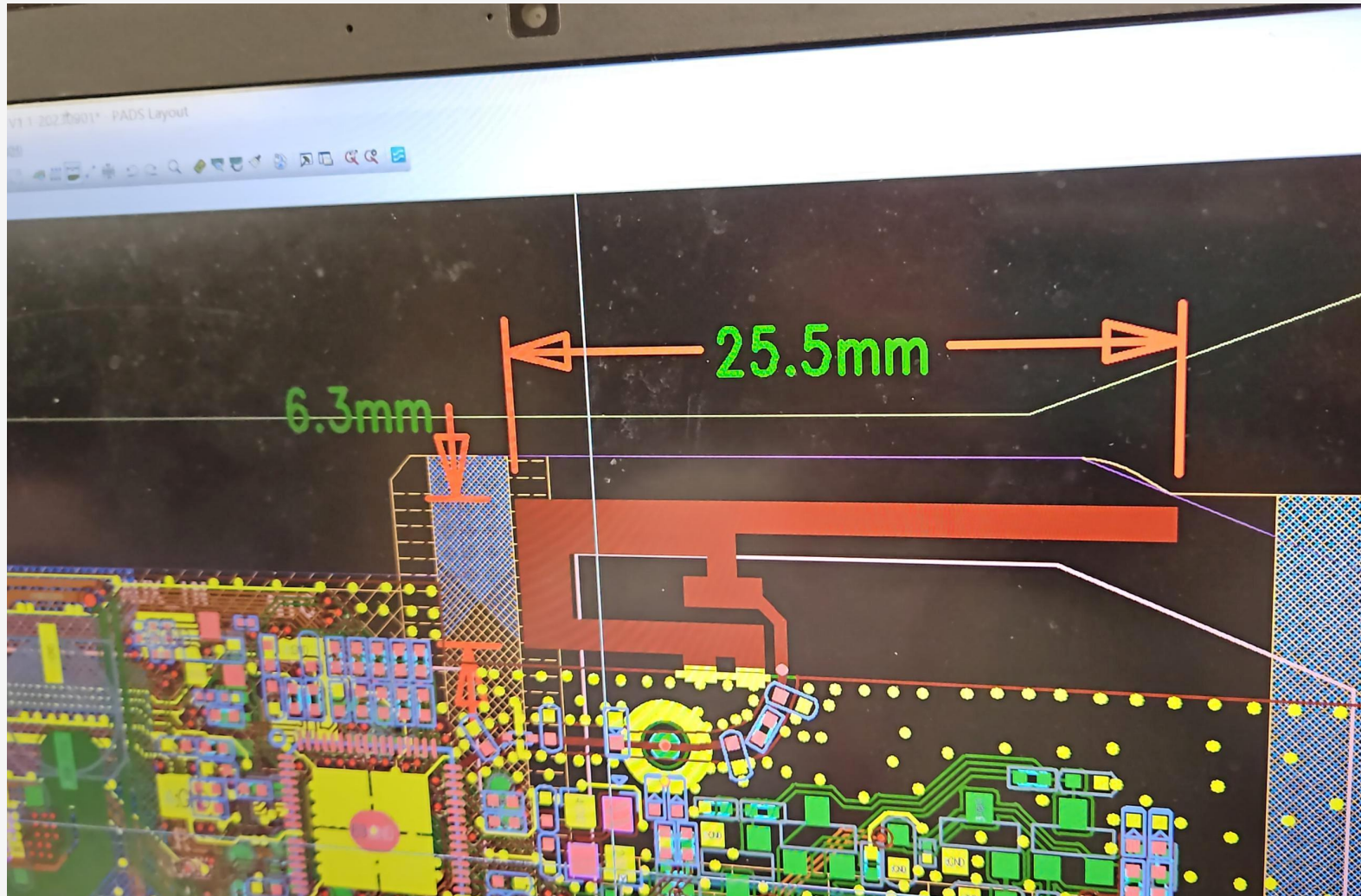
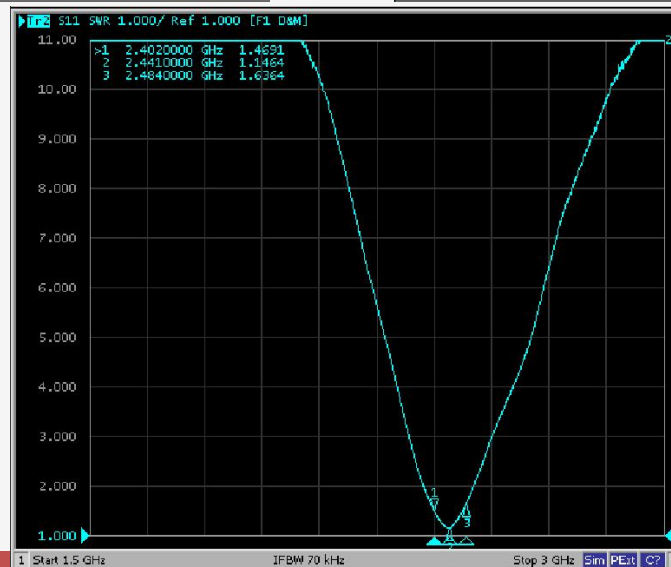
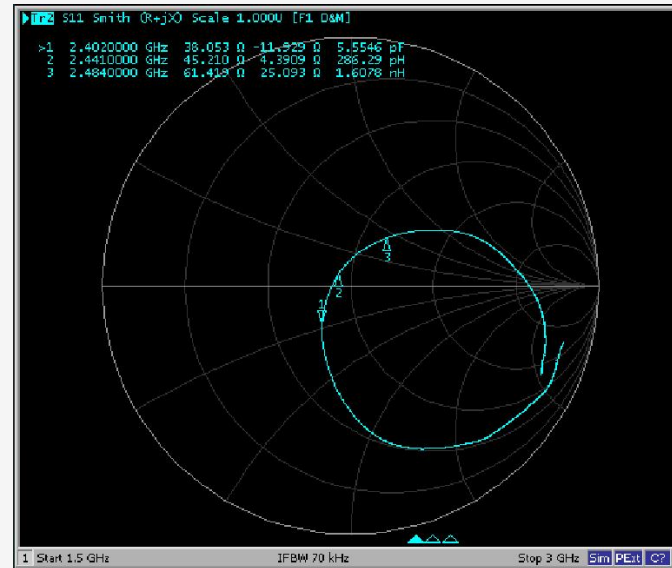
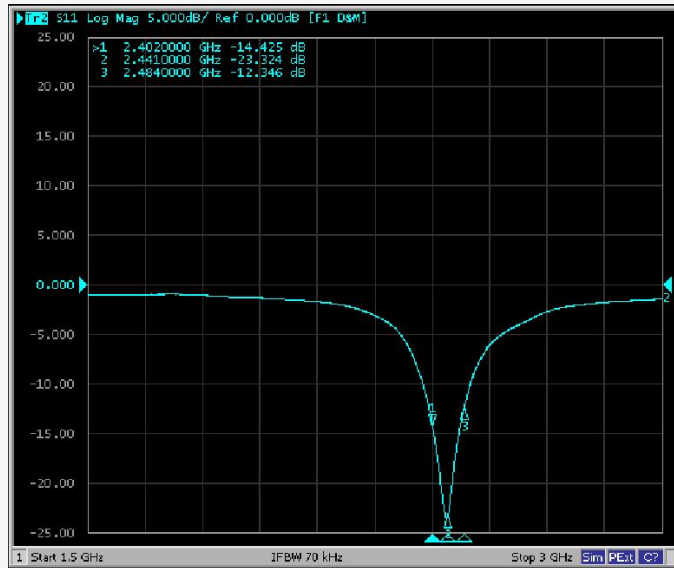


# Antenna size:



# Antenna test results:

## Machine data - Passive S11 parameter diagram



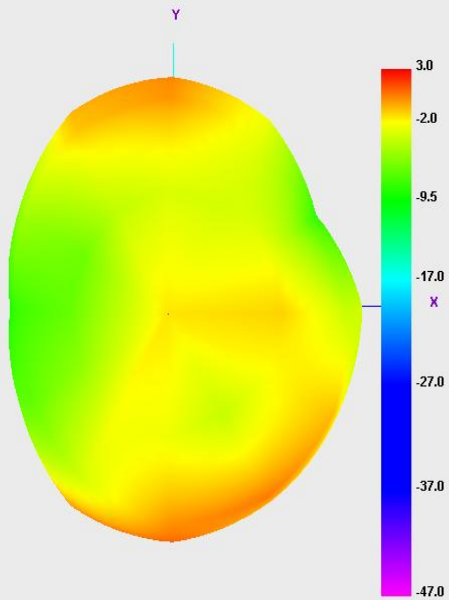
# Antenna passive efficiency:

## Machine data

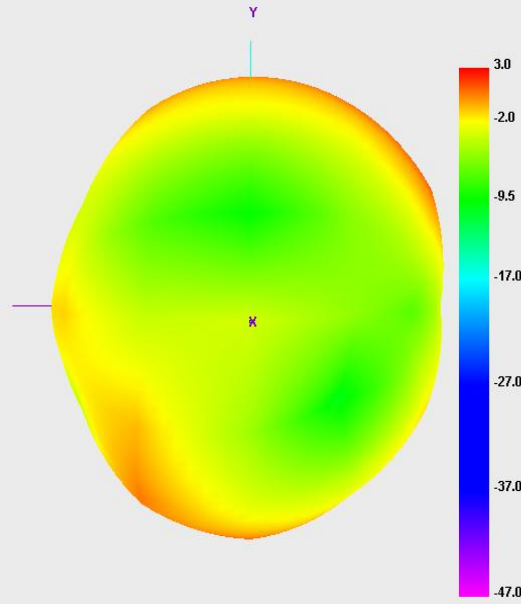
| Frequency (MHz) | Efficiency (%) | AVG Gain (dB) | Gain (dBi) |
|-----------------|----------------|---------------|------------|
| 2350            | 59.38          | -2.26         | 2.01       |
| 2360            | 60.45          | -2.19         | 1.92       |
| 2370            | 61.32          | -2.12         | 2.1        |
| 2380            | 62.46          | -2.04         | 2.08       |
| 2390            | 63.32          | -1.98         | 2.25       |
| 2400            | 63.34          | -1.98         | 2.47       |
| 2410            | 63.29          | -1.99         | 2.59       |
| 2420            | 63.19          | -1.99         | 2.62       |
| 2430            | 63.08          | -2            | 2.79       |
| 2440            | 63.79          | -1.95         | 2.93       |
| 2450            | 62.66          | -2.03         | 3.03       |
| 2460            | 63.38          | -1.98         | 2.91       |
| 2470            | 62.96          | -2.01         | 2.84       |
| 2480            | 59.74          | -2.24         | 2.72       |
| 2490            | 57.39          | -2.41         | 2.66       |
| 2500            | 55.71          | -2.54         | 2.42       |
| 2510            | 55.04          | -2.59         | 2.39       |
| 2520            | 53.07          | -2.75         | 2.28       |
| 2530            | 50.44          | -2.97         | 2.11       |
| 2540            | 49.01          | -3.1          | 2.06       |
| 2550            | 47.48          | -3.24         | 1.83       |

# Antenna passive efficiency field pattern diagram:

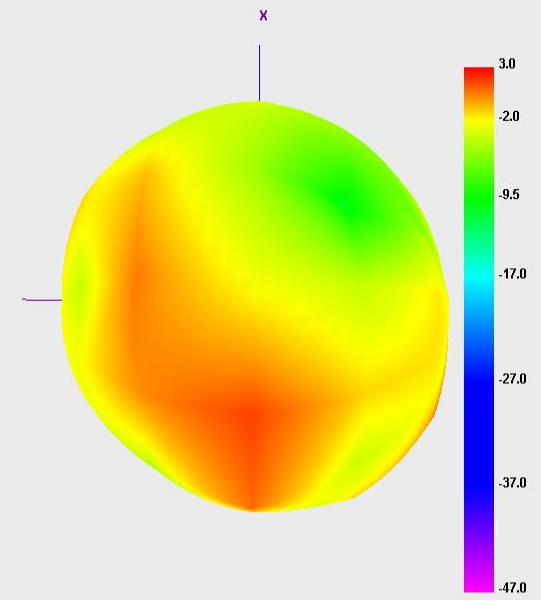
2450.000MHz



2450.000MHz



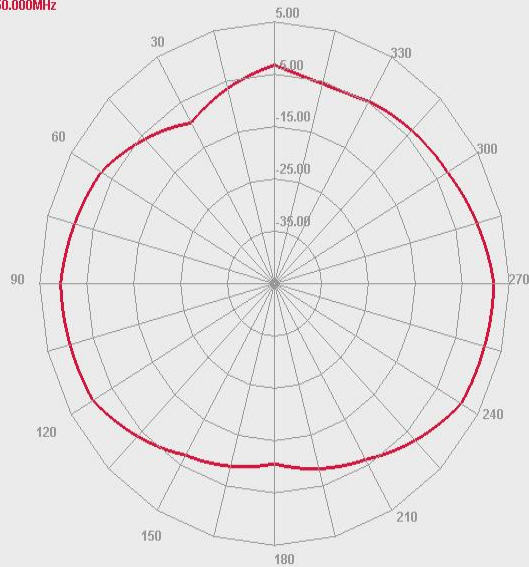
2450.000MHz



# Antenna passive efficiency field pattern diagram:

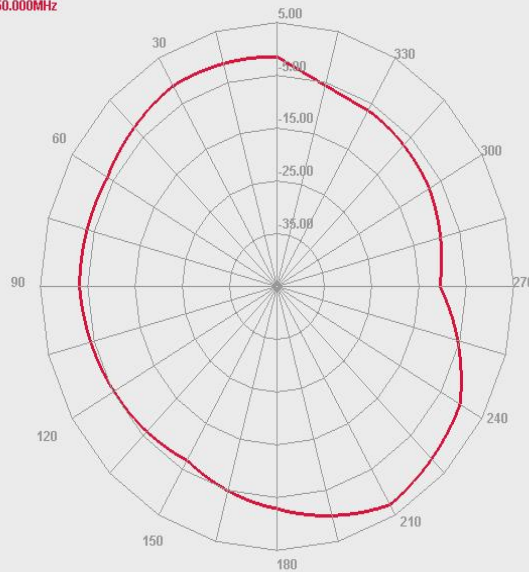
Horizontal

2450.000MHz



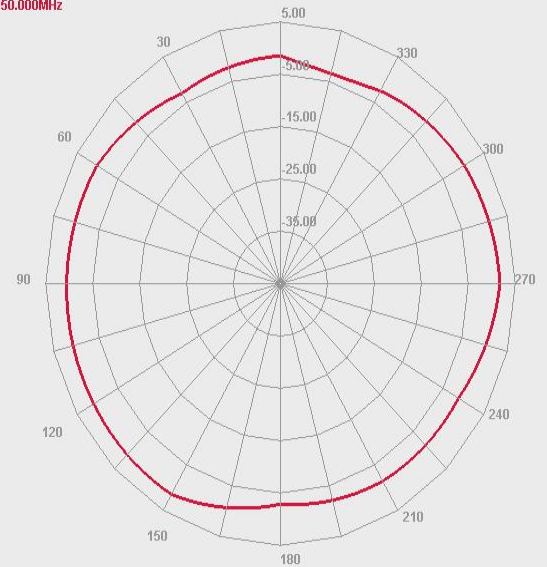
E1 Face

2450.000MHz



E2 Face

2450.000MHz



# Antenna passive efficiency field pattern diagram:

MIN= -11



# Antenna OTA active test data:

| Free space state--- 1# |    |           |           |
|------------------------|----|-----------|-----------|
| BAND                   | CH | TRP (dBm) | TIS (dBm) |
| BT                     | 0  | 8.35      | -91.36    |
|                        | 39 | 8.47      | -91.62    |
|                        | 78 | 9.22      | -91.74    |

| Conducting data--- 1# |    |           |           |
|-----------------------|----|-----------|-----------|
| BAND                  | CH | TRP (dBm) | TIS (dBm) |
| BT                    | 0  | 9.94      | -93.5     |
|                       | 39 | 9.97      | -93.5     |
|                       | 78 | 10.73     | -93.5     |

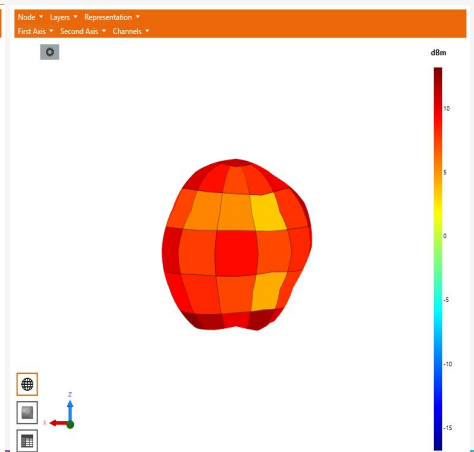
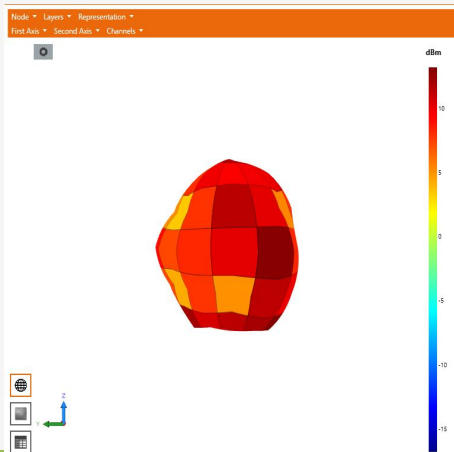
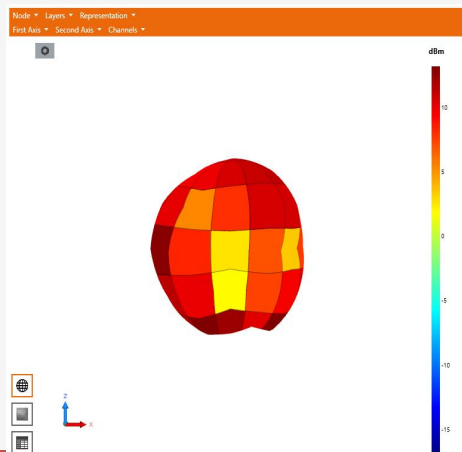
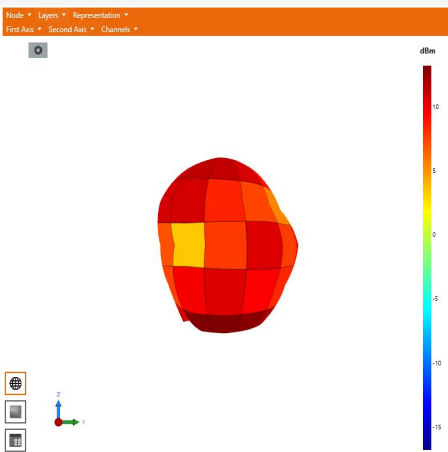
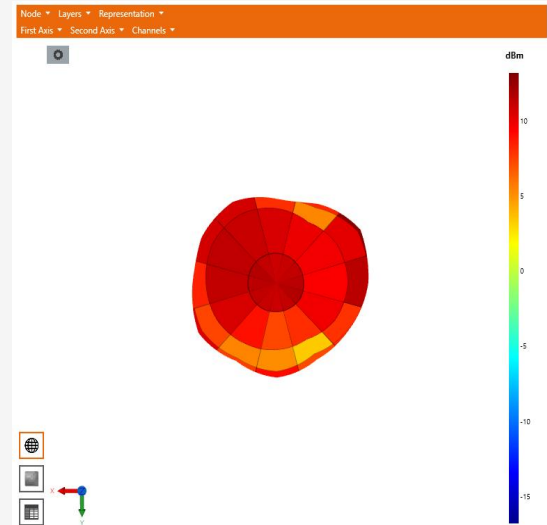
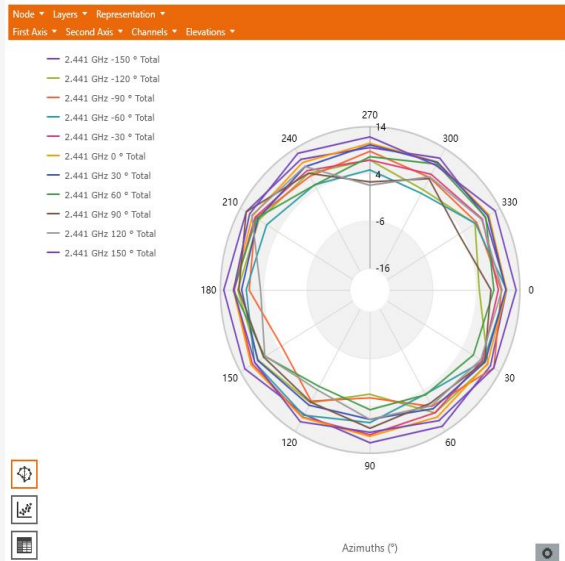
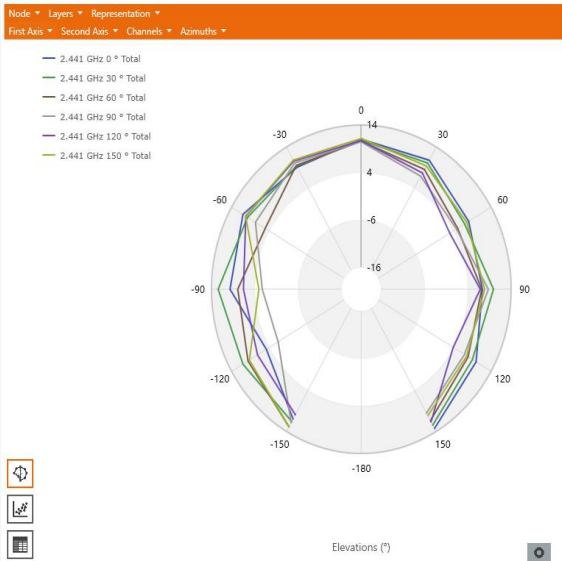
# Antenna OTA active test data:

| Free space state--- 2# |    |           |           |
|------------------------|----|-----------|-----------|
| BAND                   | CH | TRP (dBm) | TIS (dBm) |
| BT                     | 0  | 8.29      | -91.47    |
|                        | 39 | 8.33      | -91.58    |
|                        | 78 | 9.18      | -91.83    |

# Antenna active data:

## Whole field shape data - Free space - Main antenna

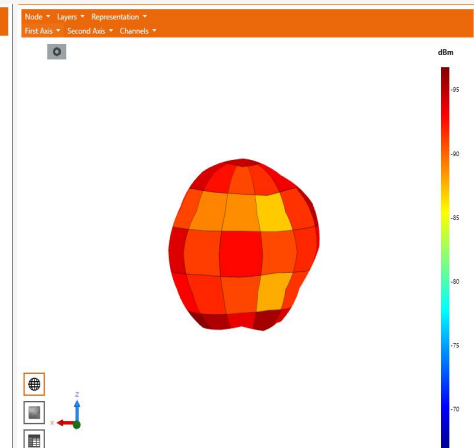
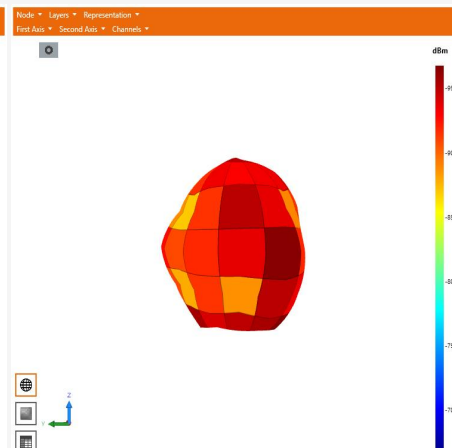
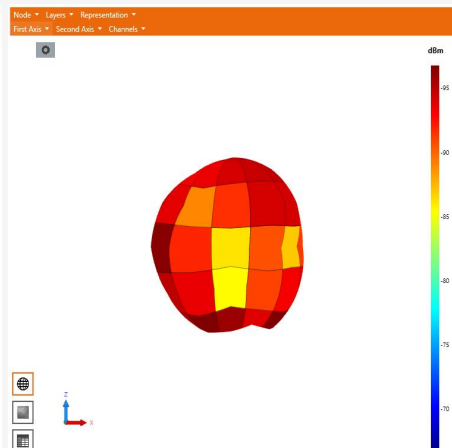
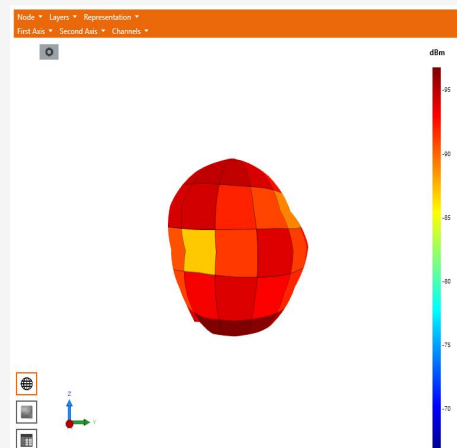
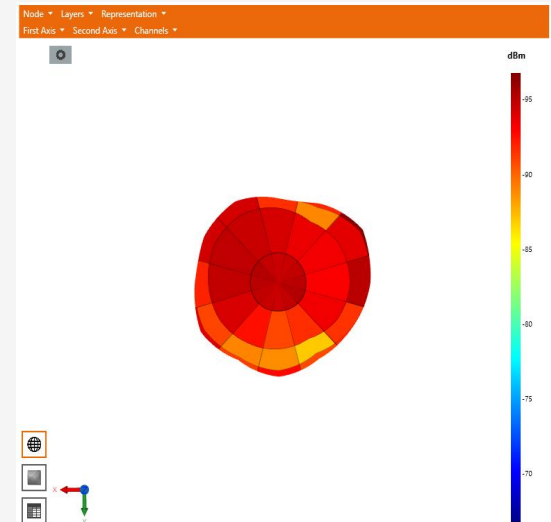
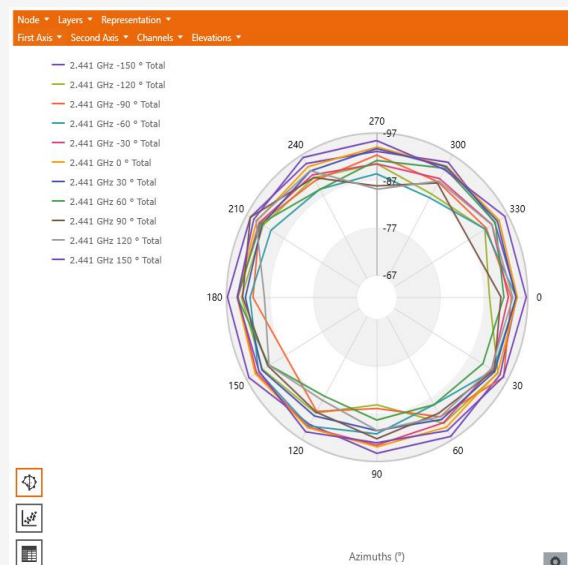
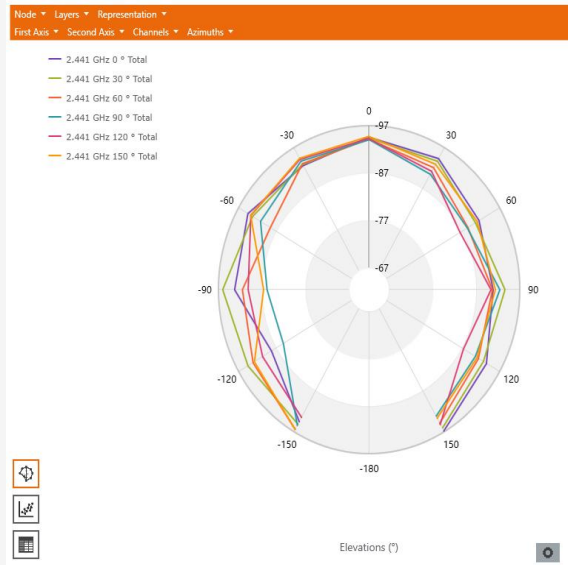
1#---TRP



# Antenna active data:

## Whole field shape data - Free space - Main antenna

1#---TIS



# OTA active testing - full angle data:

1#

| 2402-TRP     |                                |                                |                           |                           |                           |                         |                          |                          |                          |                           |                           |
|--------------|--------------------------------|--------------------------------|---------------------------|---------------------------|---------------------------|-------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|
| Azimuth<br>s | 2.402<br>GHz -<br>150<br>Total | 2.402<br>GHz -<br>120<br>Total | 2.402<br>GHz -90<br>Total | 2.402<br>GHz -60<br>Total | 2.402<br>GHz -30<br>Total | 2.402<br>GHz 0<br>Total | 2.402<br>GHz 30<br>Total | 2.402<br>GHz 60<br>Total | 2.402<br>GHz 90<br>Total | 2.402<br>GHz 120<br>Total | 2.402<br>GHz 150<br>Total |
| 0            | 10.6                           | 5.38                           | 9.03                      | 10.34                     | 9.43                      | 11.39                   | 10.81                    | 7.95                     | 8.63                     | 11.53                     | 13.72                     |
| 30           | 10.83                          | 10.76                          | 11.61                     | 10.23                     | 9.93                      | 11.36                   | 10.09                    | 7.45                     | 11.12                    | 9.93                      | 13.57                     |
| 60           | 13.32                          | 10.02                          | 8.43                      | 6.33                      | 9.41                      | 11.09                   | 8.38                     | 3.96                     | 6.83                     | 9.51                      | 12.15                     |
| 90           | 13.61                          | 2.66                           | 0.16                      | 6.71                      | 9.23                      | 10.73                   | 6.71                     | 5.09                     | 9                        | 7.06                      | 9.88                      |
| 120          | 10.8                           | 6.52                           | 5.85                      | 9.13                      | 9.46                      | 10.79                   | 6.84                     | 3.18                     | 6.88                     | 4.42                      | 12.71                     |
| 150          | 13.3                           | 10.51                          | 4.14                      | 9.74                      | 10.27                     | 11.31                   | 8                        | 7.43                     | 8.59                     | 8.29                      | 10                        |
| 180          | 13.72                          | 11.53                          | 8.63                      | 7.95                      | 10.81                     | 11.39                   | 9.43                     | 10.34                    | 9.03                     | 5.38                      | 10.6                      |
| 210          | 13.57                          | 9.93                           | 11.12                     | 7.45                      | 10.09                     | 11.36                   | 9.93                     | 10.23                    | 11.61                    | 10.76                     | 10.83                     |
| 240          | 12.15                          | 9.51                           | 6.83                      | 3.96                      | 8.38                      | 11.09                   | 9.41                     | 6.33                     | 8.43                     | 10.02                     | 13.32                     |
| 270          | 9.88                           | 7.06                           | 9                         | 5.09                      | 6.71                      | 10.73                   | 9.23                     | 6.71                     | 0.16                     | 2.66                      | 13.61                     |
| 300          | 12.71                          | 4.42                           | 6.88                      | 3.18                      | 6.84                      | 10.79                   | 9.46                     | 9.13                     | 5.85                     | 6.52                      | 10.8                      |
| 330          | 10                             | 8.29                           | 8.59                      | 7.43                      | 8                         | 11.31                   | 10.27                    | 9.74                     | 4.14                     | 10.51                     | 13.3                      |

| 2402-TIS     |                                |                                |                           |                           |                           |                         |                          |                          |                          |                           |                           |
|--------------|--------------------------------|--------------------------------|---------------------------|---------------------------|---------------------------|-------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|
| Azimuth<br>s | 2.402<br>GHz -<br>150<br>Total | 2.402<br>GHz -<br>120<br>Total | 2.402<br>GHz -90<br>Total | 2.402<br>GHz -60<br>Total | 2.402<br>GHz -30<br>Total | 2.402<br>GHz 0<br>Total | 2.402<br>GHz 30<br>Total | 2.402<br>GHz 60<br>Total | 2.402<br>GHz 90<br>Total | 2.402<br>GHz 120<br>Total | 2.402<br>GHz 150<br>Total |
| 0            | -93.64                         | -88.42                         | -92.07                    | -93.38                    | -92.47                    | -94.43                  | -93.86                   | -91                      | -91.67                   | -94.57                    | -96.76                    |
| 30           | -93.87                         | -93.8                          | -94.65                    | -93.27                    | -92.97                    | -94.4                   | -93.13                   | -90.49                   | -94.16                   | -92.97                    | -96.61                    |
| 60           | -96.36                         | -93.06                         | -91.47                    | -89.37                    | -92.45                    | -94.13                  | -91.42                   | -87                      | -89.87                   | -92.55                    | -95.19                    |
| 90           | -96.66                         | -85.7                          | -83.2                     | -89.76                    | -92.27                    | -93.77                  | -89.75                   | -88.13                   | -92.04                   | -90.1                     | -92.92                    |
| 120          | -93.84                         | -89.56                         | -88.9                     | -92.17                    | -92.5                     | -93.83                  | -89.88                   | -86.22                   | -89.92                   | -87.46                    | -95.75                    |
| 150          | -96.34                         | -93.55                         | -87.18                    | -92.78                    | -93.31                    | -94.35                  | -91.04                   | -90.47                   | -91.63                   | -91.33                    | -93.04                    |
| 180          | -96.76                         | -94.57                         | -91.67                    | -91                       | -93.86                    | -94.43                  | -92.47                   | -93.38                   | -92.07                   | -88.42                    | -93.64                    |
| 210          | -96.61                         | -92.97                         | -94.16                    | -90.49                    | -93.13                    | -94.4                   | -92.97                   | -93.27                   | -94.65                   | -93.8                     | -93.87                    |
| 240          | -95.19                         | -92.55                         | -89.87                    | -87                       | -91.42                    | -94.13                  | -92.45                   | -89.37                   | -91.47                   | -93.06                    | -96.36                    |
| 270          | -92.92                         | -90.1                          | -92.04                    | -88.13                    | -89.75                    | -93.77                  | -92.27                   | -89.76                   | -83.2                    | -85.7                     | -96.66                    |
| 300          | -95.75                         | -87.46                         | -89.92                    | -86.22                    | -89.88                    | -93.83                  | -92.5                    | -92.17                   | -88.9                    | -89.56                    | -93.84                    |
| 330          | -93.04                         | -91.33                         | -91.63                    | -90.47                    | -91.04                    | -94.35                  | -93.31                   | -92.78                   | -87.18                   | -93.55                    | -96.34                    |

# OTA active testing - full angle data:

1#

| 2441-TRP     |                                |                                |                           |                           |                           |                         |                          |                          |                          |                           |                           |
|--------------|--------------------------------|--------------------------------|---------------------------|---------------------------|---------------------------|-------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|
| Azimuth<br>s | 2.441<br>GHz -<br>150<br>Total | 2.441<br>GHz -<br>120<br>Total | 2.441<br>GHz -90<br>Total | 2.441<br>GHz -60<br>Total | 2.441<br>GHz -30<br>Total | 2.441<br>GHz 0<br>Total | 2.441<br>GHz 30<br>Total | 2.441<br>GHz 60<br>Total | 2.441<br>GHz 90<br>Total | 2.441<br>GHz 120<br>Total | 2.441<br>GHz 150<br>Total |
| 0            | 10.95                          | 4.72                           | 9.73                      | 10.98                     | 9.09                      | 11.01                   | 10.79                    | 8.02                     | 7.34                     | 9.98                      | 13.22                     |
| 30           | 11.56                          | 10.96                          | 12.45                     | 9.74                      | 9.37                      | 10.78                   | 10.12                    | 6.98                     | 9.96                     | 9.06                      | 12.45                     |
| 60           | 12.83                          | 9.61                           | 7.94                      | 5.04                      | 9.52                      | 10.58                   | 8.58                     | 5.11                     | 7.21                     | 7.89                      | 11.37                     |
| 90           | 11.85                          | 1.58                           | 2.28                      | 7.64                      | 10.15                     | 10.49                   | 6.93                     | 4.84                     | 8.79                     | 6.95                      | 9.57                      |
| 120          | 9.91                           | 7.08                           | 6.62                      | 10.2                      | 10.6                      | 10.71                   | 7.69                     | 3.04                     | 6.9                      | 3.93                      | 11.66                     |
| 150          | 12.85                          | 9.26                           | 3.06                      | 10.26                     | 10.83                     | 11.17                   | 9.4                      | 7.55                     | 7.86                     | 7.49                      | 10.15                     |
| 180          | 13.22                          | 9.98                           | 7.34                      | 8.02                      | 10.79                     | 11.01                   | 9.09                     | 10.98                    | 9.73                     | 4.72                      | 10.95                     |
| 210          | 12.45                          | 9.06                           | 9.96                      | 6.98                      | 10.12                     | 10.78                   | 9.37                     | 9.74                     | 12.45                    | 10.96                     | 11.56                     |
| 240          | 11.37                          | 7.89                           | 7.21                      | 5.11                      | 8.58                      | 10.58                   | 9.52                     | 5.04                     | 7.94                     | 9.61                      | 12.83                     |
| 270          | 9.57                           | 6.95                           | 8.79                      | 4.84                      | 6.93                      | 10.49                   | 10.15                    | 7.64                     | 2.28                     | 1.58                      | 11.85                     |
| 300          | 11.66                          | 3.93                           | 6.9                       | 3.04                      | 7.69                      | 10.71                   | 10.6                     | 10.2                     | 6.62                     | 7.08                      | 9.91                      |
| 330          | 10.15                          | 7.49                           | 7.86                      | 7.55                      | 9.4                       | 11.17                   | 10.83                    | 10.26                    | 3.06                     | 9.26                      | 12.85                     |

| 2441-TIS     |                                |                                |                           |                           |                           |                         |                          |                          |                          |                           |                           |
|--------------|--------------------------------|--------------------------------|---------------------------|---------------------------|---------------------------|-------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|
| Azimuth<br>s | 2.441<br>GHz -<br>150<br>Total | 2.441<br>GHz -<br>120<br>Total | 2.441<br>GHz -90<br>Total | 2.441<br>GHz -60<br>Total | 2.441<br>GHz -30<br>Total | 2.441<br>GHz 0<br>Total | 2.441<br>GHz 30<br>Total | 2.441<br>GHz 60<br>Total | 2.441<br>GHz 90<br>Total | 2.441<br>GHz 120<br>Total | 2.441<br>GHz 150<br>Total |
| 0            | -94.51                         | -88.28                         | -93.29                    | -94.54                    | -92.65                    | -94.57                  | -94.34                   | -91.58                   | -90.9                    | -93.54                    | -96.78                    |
| 30           | -95.12                         | -94.52                         | -96.01                    | -93.3                     | -92.93                    | -94.34                  | -93.68                   | -90.54                   | -93.52                   | -92.62                    | -96.01                    |
| 60           | -96.39                         | -93.17                         | -91.5                     | -88.6                     | -93.08                    | -94.14                  | -92.14                   | -88.67                   | -90.77                   | -91.45                    | -94.93                    |
| 90           | -95.41                         | -85.14                         | -85.84                    | -91.2                     | -93.71                    | -94.04                  | -90.49                   | -88.4                    | -92.35                   | -90.51                    | -93.13                    |
| 120          | -93.47                         | -90.64                         | -90.18                    | -93.76                    | -94.16                    | -94.27                  | -91.25                   | -86.6                    | -90.46                   | -87.49                    | -95.22                    |
| 150          | -96.41                         | -92.82                         | -86.62                    | -93.82                    | -94.39                    | -94.73                  | -92.96                   | -91.11                   | -91.41                   | -91.05                    | -93.71                    |
| 180          | -96.78                         | -93.54                         | -90.9                     | -91.58                    | -94.34                    | -94.57                  | -92.65                   | -94.54                   | -93.29                   | -88.28                    | -94.51                    |
| 210          | -96.01                         | -92.62                         | -93.52                    | -90.54                    | -93.68                    | -94.34                  | -92.93                   | -93.3                    | -96.01                   | -94.52                    | -95.12                    |
| 240          | -94.93                         | -91.45                         | -90.77                    | -88.67                    | -92.14                    | -94.14                  | -93.08                   | -88.6                    | -91.5                    | -93.17                    | -96.39                    |
| 270          | -93.13                         | -90.51                         | -92.35                    | -88.4                     | -90.49                    | -94.04                  | -93.71                   | -91.2                    | -85.84                   | -85.14                    | -95.41                    |
| 300          | -95.22                         | -87.49                         | -90.46                    | -86.6                     | -91.25                    | -94.27                  | -94.16                   | -93.76                   | -90.18                   | -90.64                    | -93.47                    |
| 330          | -93.71                         | -91.05                         | -91.41                    | -91.11                    | -92.96                    | -94.73                  | -94.39                   | -93.82                   | -86.62                   | -92.82                    | -96.41                    |

# OTA active testing - full angle data:

1#

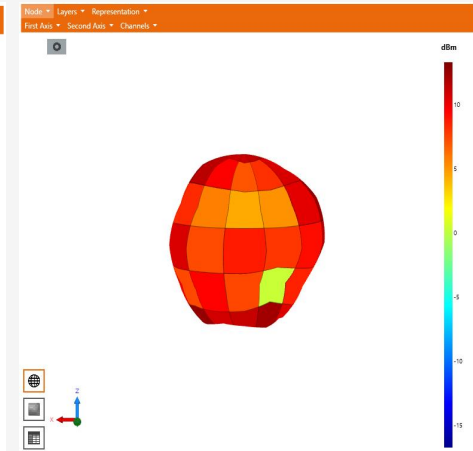
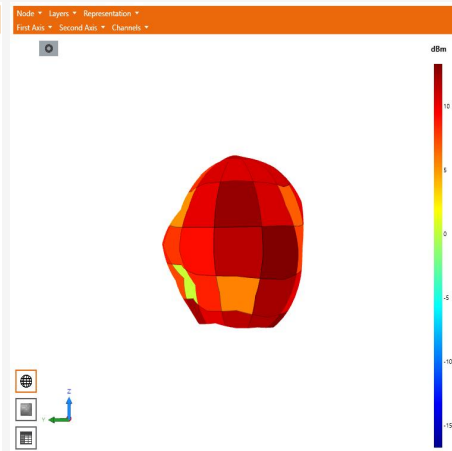
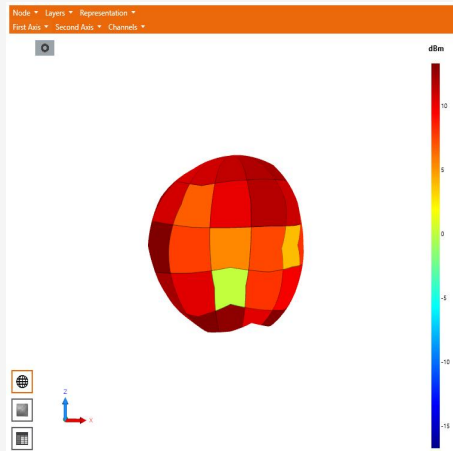
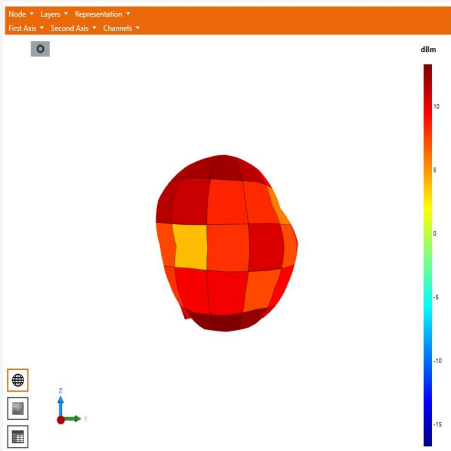
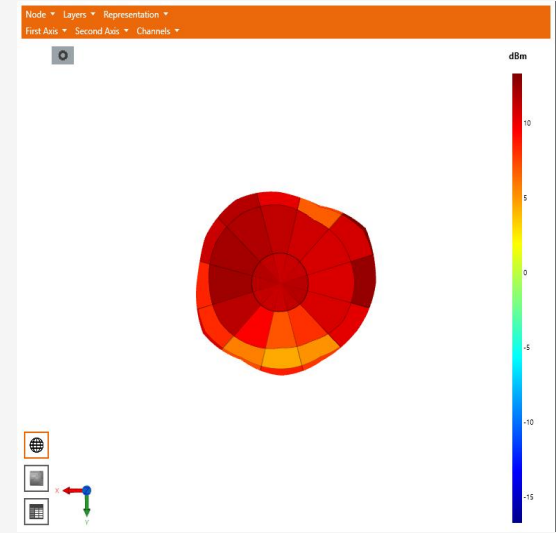
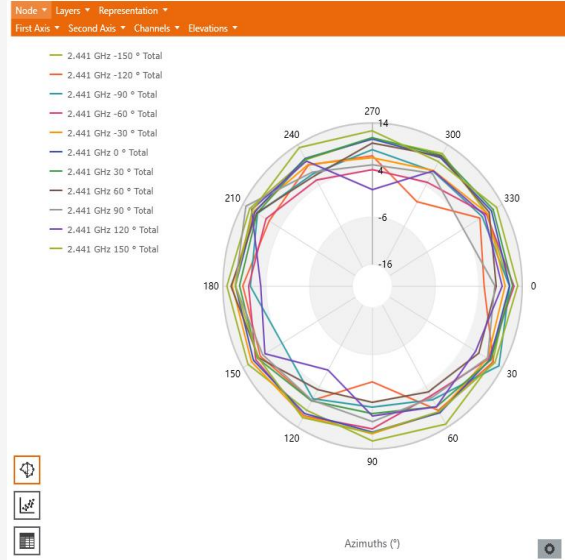
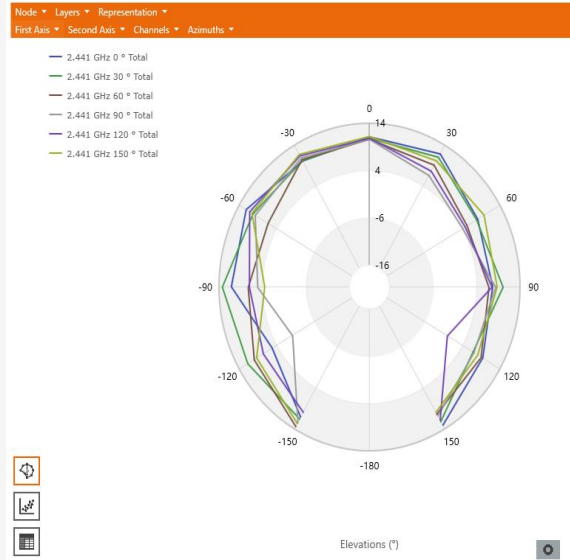
| 2480-TRP     |                               |                               |                          |                          |                          |                        |                         |                         |                         |                          |                          |
|--------------|-------------------------------|-------------------------------|--------------------------|--------------------------|--------------------------|------------------------|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|
| Azimuth<br>s | 2.48<br>GHz -<br>150<br>Total | 2.48<br>GHz -<br>120<br>Total | 2.48<br>GHz -90<br>Total | 2.48<br>GHz -60<br>Total | 2.48<br>GHz -30<br>Total | 2.48<br>GHz 0<br>Total | 2.48<br>GHz 30<br>Total | 2.48<br>GHz 60<br>Total | 2.48<br>GHz 90<br>Total | 2.48<br>GHz 120<br>Total | 2.48<br>GHz 150<br>Total |
| 0            | 11.27                         | 4.12                          | 10.18                    | 9.67                     | 8.99                     | 11.06                  | 11.04                   | 7.6                     | 8                       | 9.66                     | 12.6                     |
| 30           | 11.47                         | 11.35                         | 12.62                    | 8.96                     | 9.33                     | 10.93                  | 10.46                   | 6.17                    | 8.64                    | 8.94                     | 12                       |
| 60           | 11.57                         | 9.21                          | 7.14                     | 4.83                     | 9.19                     | 10.5                   | 9.29                    | 4.96                    | 6.7                     | 6.15                     | 10.96                    |
| 90           | 10.66                         | 0.41                          | 3.11                     | 7.19                     | 9.94                     | 10.47                  | 6.85                    | 4.05                    | 7.9                     | 6.45                     | 8.96                     |
| 120          | 9.94                          | 6.55                          | 6.91                     | 9.81                     | 10.57                    | 10.58                  | 9.13                    | 3.49                    | 6.98                    | 2.7                      | 10.76                    |
| 150          | 12.08                         | 6.3                           | 5.5                      | 9.71                     | 10.6                     | 11                     | 10.54                   | 6.46                    | 7.55                    | 7.68                     | 9.74                     |
| 180          | 12.6                          | 9.66                          | 8                        | 7.6                      | 11.04                    | 11.06                  | 8.99                    | 9.67                    | 10.18                   | 4.12                     | 11.27                    |
| 210          | 12                            | 8.94                          | 8.64                     | 6.17                     | 10.46                    | 10.93                  | 9.33                    | 8.96                    | 12.62                   | 11.35                    | 11.47                    |
| 240          | 10.96                         | 6.15                          | 6.7                      | 4.96                     | 9.29                     | 10.5                   | 9.19                    | 4.83                    | 7.14                    | 9.21                     | 11.57                    |
| 270          | 8.96                          | 6.45                          | 7.9                      | 4.05                     | 6.85                     | 10.47                  | 9.94                    | 7.19                    | 3.11                    | 0.41                     | 10.66                    |
| 300          | 10.76                         | 2.7                           | 6.98                     | 3.49                     | 9.13                     | 10.58                  | 10.57                   | 9.81                    | 6.91                    | 6.55                     | 9.94                     |
| 330          | 9.74                          | 7.68                          | 7.55                     | 6.46                     | 10.54                    | 11                     | 10.6                    | 9.71                    | 5.5                     | 6.3                      | 12.08                    |

| 2480-TIS     |                               |                               |                          |                          |                          |                        |                         |                         |                         |                          |                          |
|--------------|-------------------------------|-------------------------------|--------------------------|--------------------------|--------------------------|------------------------|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|
| Azimuth<br>s | 2.48<br>GHz -<br>150<br>Total | 2.48<br>GHz -<br>120<br>Total | 2.48<br>GHz -90<br>Total | 2.48<br>GHz -60<br>Total | 2.48<br>GHz -30<br>Total | 2.48<br>GHz 0<br>Total | 2.48<br>GHz 30<br>Total | 2.48<br>GHz 60<br>Total | 2.48<br>GHz 90<br>Total | 2.48<br>GHz 120<br>Total | 2.48<br>GHz 150<br>Total |
| 0            | -94.1                         | -86.95                        | -93.01                   | -92.5                    | -91.82                   | -93.89                 | -93.87                  | -90.43                  | -90.83                  | -92.49                   | -95.43                   |
| 30           | -94.3                         | -94.18                        | -95.45                   | -91.79                   | -92.16                   | -93.76                 | -93.29                  | -89                     | -91.47                  | -91.77                   | -94.83                   |
| 60           | -94.4                         | -92.04                        | -89.97                   | -87.66                   | -92.02                   | -93.33                 | -92.12                  | -87.79                  | -89.53                  | -88.98                   | -93.79                   |
| 90           | -93.49                        | -83.24                        | -85.94                   | -90.02                   | -92.77                   | -93.3                  | -89.68                  | -86.88                  | -90.73                  | -89.29                   | -91.79                   |
| 120          | -92.77                        | -89.38                        | -89.74                   | -92.64                   | -93.4                    | -93.41                 | -91.97                  | -86.32                  | -89.81                  | -85.53                   | -93.59                   |
| 150          | -94.91                        | -89.13                        | -88.33                   | -92.54                   | -93.43                   | -93.83                 | -93.37                  | -89.29                  | -90.38                  | -90.51                   | -92.57                   |
| 180          | -95.43                        | -92.49                        | -90.83                   | -90.43                   | -93.87                   | -93.89                 | -91.82                  | -92.5                   | -93.01                  | -86.95                   | -94.1                    |
| 210          | -94.83                        | -91.77                        | -91.47                   | -89                      | -93.29                   | -93.76                 | -92.16                  | -91.79                  | -95.45                  | -94.18                   | -94.3                    |
| 240          | -93.79                        | -88.98                        | -89.53                   | -87.79                   | -92.12                   | -93.33                 | -92.02                  | -87.66                  | -89.97                  | -92.04                   | -94.4                    |
| 270          | -91.79                        | -89.29                        | -90.73                   | -86.88                   | -89.68                   | -93.3                  | -92.77                  | -90.02                  | -85.94                  | -83.24                   | -93.49                   |
| 300          | -93.59                        | -85.53                        | -89.81                   | -86.32                   | -91.97                   | -93.41                 | -93.4                   | -92.64                  | -89.74                  | -89.38                   | -92.77                   |
| 330          | -92.57                        | -90.51                        | -90.38                   | -89.29                   | -93.37                   | -93.83                 | -93.43                  | -92.54                  | -88.33                  | -89.13                   | -94.91                   |

# Antenna active data:

## Whole field shape data - Free space - Main antenna

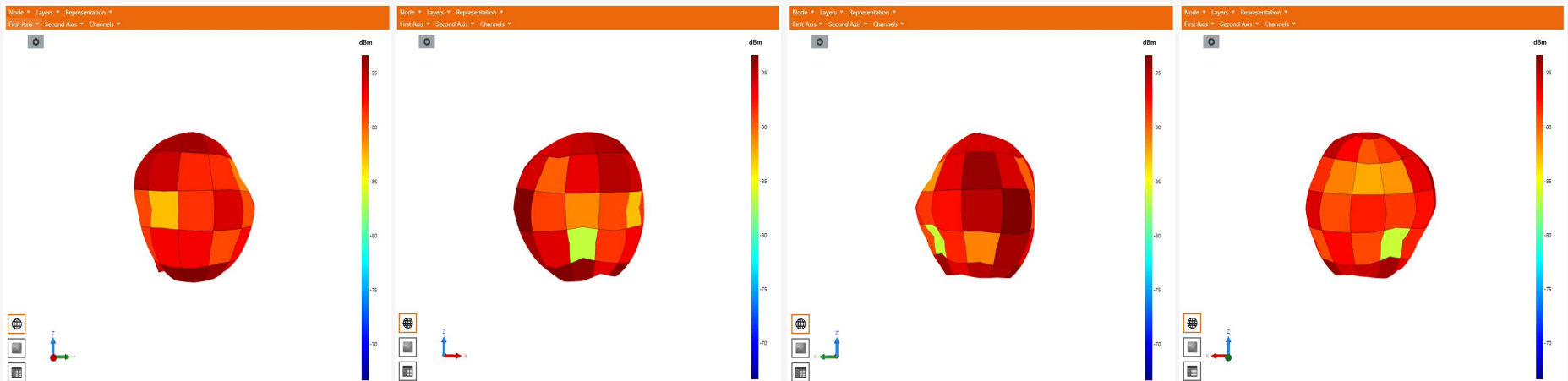
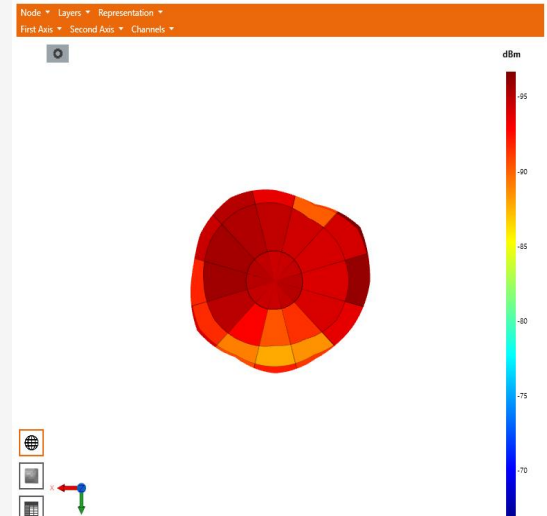
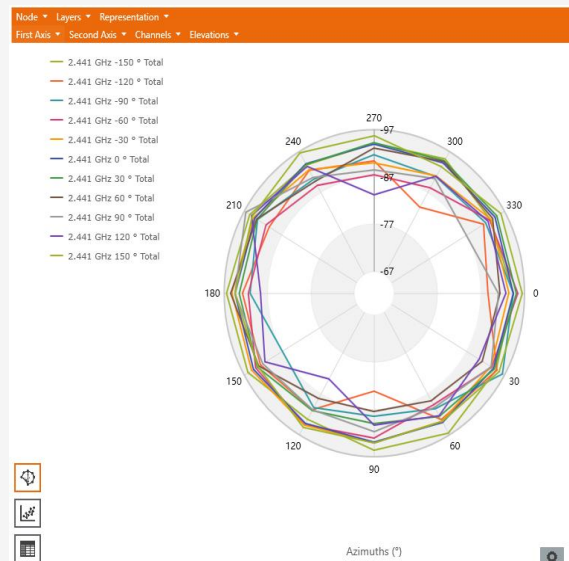
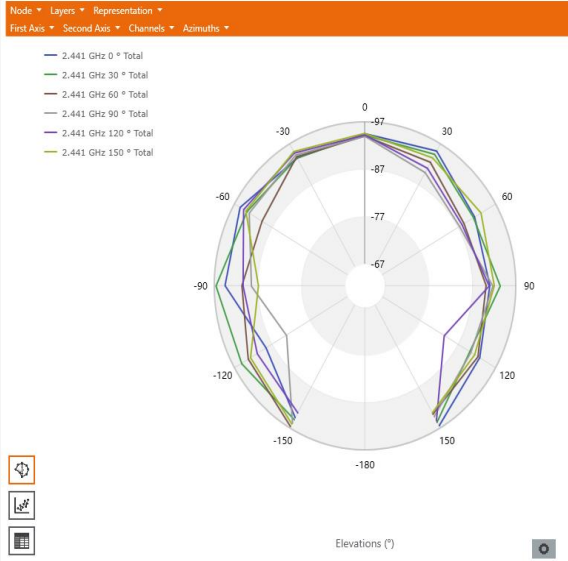
2#---TRP



# Antenna active data:

## Whole field shape data - Free space - Main antenna

2#---TRP



# OTA active testing - full angle data:

2#

| 2402-TRP |                       |                       |                     |                     |                     |                   |                    |                    |                    |                     |                     |
|----------|-----------------------|-----------------------|---------------------|---------------------|---------------------|-------------------|--------------------|--------------------|--------------------|---------------------|---------------------|
| Azimuths | 2.402 GHz - 150 Total | 2.402 GHz - 120 Total | 2.402 GHz -90 Total | 2.402 GHz -60 Total | 2.402 GHz -30 Total | 2.402 GHz 0 Total | 2.402 GHz 30 Total | 2.402 GHz 60 Total | 2.402 GHz 90 Total | 2.402 GHz 120 Total | 2.402 GHz 150 Total |
| 0        | 10.98                 | 5.93                  | 10.32               | 11.68               | 10.57               | 11.45             | 11.86              | 8.22               | 8.94               | 10.67               | 13.7                |
| 30       | 10.93                 | 11.59                 | 12.29               | 11                  | 10.69               | 11.44             | 10.99              | 7.74               | 10.56              | 8.07                | 13.49               |
| 60       | 13.86                 | 10.04                 | 7.35                | 6.98                | 10.27               | 11.21             | 8.51               | 4.26               | 6.53               | 9.99                | 10.58               |
| 90       | 14.02                 | 2.12                  | 5.05                | 9.45                | 10.06               | 10.79             | 6.1                | 4.27               | 8.22               | 7.49                | 11.58               |
| 120      | 11.24                 | 7.16                  | 7.02                | 10.58               | 10.5                | 11.15             | 6.77               | 4.69               | 7.42               | -0.22               | 12.25               |
| 150      | 13.42                 | 10.39                 | 4.65                | 10.29               | 11.38               | 11.64             | 9.31               | 9.19               | 9.17               | 8.71                | 9.78                |
| 180      | 13.7                  | 10.67                 | 8.94                | 8.22                | 11.86               | 11.45             | 10.57              | 11.68              | 10.32              | 5.93                | 10.98               |
| 210      | 13.49                 | 8.07                  | 10.56               | 7.74                | 10.99               | 11.44             | 10.69              | 11                 | 12.29              | 11.59               | 10.93               |
| 240      | 10.58                 | 9.99                  | 6.53                | 4.26                | 8.51                | 11.21             | 10.27              | 6.98               | 7.35               | 10.04               | 13.86               |
| 270      | 11.58                 | 7.49                  | 8.22                | 4.27                | 6.1                 | 10.79             | 10.06              | 9.45               | 5.05               | 2.12                | 14.02               |
| 300      | 12.25                 | -0.22                 | 7.42                | 4.69                | 6.77                | 11.15             | 10.5               | 10.58              | 7.02               | 7.16                | 11.24               |
| 330      | 9.78                  | 8.71                  | 9.17                | 9.19                | 9.31                | 11.64             | 11.38              | 10.29              | 4.65               | 10.39               | 13.42               |

| 2402-TIS |                       |                       |                     |                     |                     |                   |                    |                    |                    |                     |                     |
|----------|-----------------------|-----------------------|---------------------|---------------------|---------------------|-------------------|--------------------|--------------------|--------------------|---------------------|---------------------|
| Azimuths | 2.402 GHz - 150 Total | 2.402 GHz - 120 Total | 2.402 GHz -90 Total | 2.402 GHz -60 Total | 2.402 GHz -30 Total | 2.402 GHz 0 Total | 2.402 GHz 30 Total | 2.402 GHz 60 Total | 2.402 GHz 90 Total | 2.402 GHz 120 Total | 2.402 GHz 150 Total |
| 0        | -93.5                 | -88.45                | -92.84              | -94.19              | -93.08              | -93.97            | -94.38             | -90.74             | -91.45             | -93.18              | -96.22              |
| 30       | -93.45                | -94.11                | -94.81              | -93.52              | -93.21              | -93.96            | -93.51             | -90.26             | -93.08             | -90.59              | -96.01              |
| 60       | -96.37                | -92.56                | -89.86              | -89.49              | -92.79              | -93.72            | -91.03             | -86.78             | -89.05             | -92.51              | -93.09              |
| 90       | -96.53                | -84.64                | -87.57              | -91.96              | -92.57              | -93.3             | -88.62             | -86.78             | -90.74             | -90                 | -94.09              |
| 120      | -93.76                | -89.68                | -89.53              | -93.09              | -93.02              | -93.66            | -89.28             | -87.21             | -89.93             | -82.3               | -94.77              |
| 150      | -95.93                | -92.91                | -87.16              | -92.8               | -93.89              | -94.15            | -91.82             | -91.71             | -91.68             | -91.23              | -92.29              |
| 180      | -96.22                | -93.18                | -91.45              | -90.74              | -94.38              | -93.97            | -93.08             | -94.19             | -92.84             | -88.45              | -93.5               |
| 210      | -96.01                | -90.59                | -93.08              | -90.26              | -93.51              | -93.96            | -93.21             | -93.52             | -94.81             | -94.11              | -93.45              |
| 240      | -93.09                | -92.51                | -89.05              | -86.78              | -91.03              | -93.72            | -92.79             | -89.49             | -89.86             | -92.56              | -96.37              |
| 270      | -94.09                | -90                   | -90.74              | -86.78              | -88.62              | -93.3             | -92.57             | -91.96             | -87.57             | -84.64              | -96.53              |
| 300      | -94.77                | -82.3                 | -89.93              | -87.21              | -89.28              | -93.66            | -93.02             | -93.09             | -89.53             | -89.68              | -93.76              |
| 330      | -92.29                | -91.23                | -91.68              | -91.71              | -91.82              | -94.15            | -93.89             | -92.8              | -87.16             | -92.91              | -95.93              |

# OTA active testing - full angle data:

2#

| 2441-TRP     |                                |                                |                           |                           |                           |                         |                          |                          |                          |                           |                           |
|--------------|--------------------------------|--------------------------------|---------------------------|---------------------------|---------------------------|-------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|
| Azimuth<br>s | 2.441<br>GHz -<br>150<br>Total | 2.441<br>GHz -<br>120<br>Total | 2.441<br>GHz -90<br>Total | 2.441<br>GHz -60<br>Total | 2.441<br>GHz -30<br>Total | 2.441<br>GHz 0<br>Total | 2.441<br>GHz 30<br>Total | 2.441<br>GHz 60<br>Total | 2.441<br>GHz 90<br>Total | 2.441<br>GHz 120<br>Total | 2.441<br>GHz 150<br>Total |
| 0            | 11.13                          | 5.26                           | 11.15                     | 12.14                     | 10.16                     | 11.13                   | 11.87                    | 8.06                     | 7.65                     | 9.4                       | 13.09                     |
| 30           | 11.53                          | 11.71                          | 13.22                     | 10.34                     | 10.24                     | 10.81                   | 11.08                    | 7.84                     | 10.12                    | 6.99                      | 12.2                      |
| 60           | 13.3                           | 9.99                           | 7.28                      | 6.33                      | 10.48                     | 10.63                   | 9.15                     | 5.33                     | 6.88                     | 9.03                      | 10.34                     |
| 90           | 12.34                          | -0.19                          | 5.1                       | 9.72                      | 10.88                     | 10.57                   | 6.6                      | 4.06                     | 8.32                     | 7.02                      | 10.73                     |
| 120          | 9.9                            | 7.58                           | 7                         | 11.2                      | 11.4                      | 10.85                   | 7.68                     | 4.76                     | 7.51                     | 0.01                      | 11.82                     |
| 150          | 12.67                          | 9.36                           | 3.49                      | 10.61                     | 11.74                     | 11.2                    | 10.19                    | 9.82                     | 8.74                     | 8.14                      | 9.99                      |
| 180          | 13.09                          | 9.4                            | 7.65                      | 8.06                      | 11.87                     | 11.13                   | 10.16                    | 12.14                    | 11.15                    | 5.26                      | 11.13                     |
| 210          | 12.2                           | 6.99                           | 10.12                     | 7.84                      | 11.08                     | 10.81                   | 10.24                    | 10.34                    | 13.22                    | 11.71                     | 11.53                     |
| 240          | 10.34                          | 9.03                           | 6.88                      | 5.33                      | 9.15                      | 10.63                   | 10.48                    | 6.33                     | 7.28                     | 9.99                      | 13.3                      |
| 270          | 10.73                          | 7.02                           | 8.32                      | 4.06                      | 6.6                       | 10.57                   | 10.88                    | 9.72                     | 5.1                      | -0.19                     | 12.34                     |
| 300          | 11.82                          | 0.01                           | 7.51                      | 4.76                      | 7.68                      | 10.85                   | 11.4                     | 11.2                     | 7                        | 7.58                      | 9.9                       |
| 330          | 9.99                           | 8.14                           | 8.74                      | 9.82                      | 10.19                     | 11.2                    | 11.74                    | 10.61                    | 3.49                     | 9.36                      | 12.67                     |

| 2441-TIS     |                                |                                |                           |                           |                           |                         |                          |                          |                          |                           |                           |
|--------------|--------------------------------|--------------------------------|---------------------------|---------------------------|---------------------------|-------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|
| Azimuth<br>s | 2.441<br>GHz -<br>150<br>Total | 2.441<br>GHz -<br>120<br>Total | 2.441<br>GHz -90<br>Total | 2.441<br>GHz -60<br>Total | 2.441<br>GHz -30<br>Total | 2.441<br>GHz 0<br>Total | 2.441<br>GHz 30<br>Total | 2.441<br>GHz 60<br>Total | 2.441<br>GHz 90<br>Total | 2.441<br>GHz 120<br>Total | 2.441<br>GHz 150<br>Total |
| 0            | -94.5                          | -88.63                         | -94.53                    | -95.51                    | -93.54                    | -94.5                   | -95.24                   | -91.44                   | -91.02                   | -92.78                    | -96.46                    |
| 30           | -94.9                          | -95.09                         | -96.6                     | -93.71                    | -93.61                    | -94.18                  | -94.45                   | -91.22                   | -93.49                   | -90.37                    | -95.57                    |
| 60           | -96.68                         | -93.36                         | -90.65                    | -89.7                     | -93.85                    | -94                     | -92.52                   | -88.71                   | -90.26                   | -92.4                     | -93.72                    |
| 90           | -95.72                         | -83.18                         | -88.47                    | -93.1                     | -94.25                    | -93.95                  | -89.98                   | -87.44                   | -91.69                   | -90.39                    | -94.1                     |
| 120          | -93.28                         | -90.96                         | -90.38                    | -94.58                    | -94.77                    | -94.22                  | -91.06                   | -88.14                   | -90.89                   | -83.39                    | -95.19                    |
| 150          | -96.04                         | -92.74                         | -86.86                    | -93.98                    | -95.11                    | -94.58                  | -93.57                   | -93.19                   | -92.12                   | -91.51                    | -93.37                    |
| 180          | -96.46                         | -92.78                         | -91.02                    | -91.44                    | -95.24                    | -94.5                   | -93.54                   | -95.51                   | -94.53                   | -88.63                    | -94.5                     |
| 210          | -95.57                         | -90.37                         | -93.49                    | -91.22                    | -94.45                    | -94.18                  | -93.61                   | -93.71                   | -96.6                    | -95.09                    | -94.9                     |
| 240          | -93.72                         | -92.4                          | -90.26                    | -88.71                    | -92.52                    | -94                     | -93.85                   | -89.7                    | -90.65                   | -93.36                    | -96.68                    |
| 270          | -94.1                          | -90.39                         | -91.69                    | -87.44                    | -89.98                    | -93.95                  | -94.25                   | -93.1                    | -88.47                   | -83.18                    | -95.72                    |
| 300          | -95.19                         | -83.39                         | -90.89                    | -88.14                    | -91.06                    | -94.22                  | -94.77                   | -94.58                   | -90.38                   | -90.96                    | -93.28                    |
| 330          | -93.37                         | -91.51                         | -92.12                    | -93.19                    | -93.57                    | -94.58                  | -95.11                   | -93.98                   | -86.86                   | -92.74                    | -96.04                    |

# OTA active testing - full angle data:

2#

| 2480-TRP     |                               |                               |                          |                          |                          |                        |                         |                         |                         |                          |                          |
|--------------|-------------------------------|-------------------------------|--------------------------|--------------------------|--------------------------|------------------------|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|
| Azimuth<br>s | 2.48<br>GHz -<br>150<br>Total | 2.48<br>GHz -<br>120<br>Total | 2.48<br>GHz -90<br>Total | 2.48<br>GHz -60<br>Total | 2.48<br>GHz -30<br>Total | 2.48<br>GHz 0<br>Total | 2.48<br>GHz 30<br>Total | 2.48<br>GHz 60<br>Total | 2.48<br>GHz 90<br>Total | 2.48<br>GHz 120<br>Total | 2.48<br>GHz 150<br>Total |
| 0            | 11.4                          | 5.93                          | 11.51                    | 11                       | 9.88                     | 11.13                  | 12.09                   | 6.94                    | 7.8                     | 9.15                     | 12.79                    |
| 30           | 11.26                         | 12.77                         | 13.29                    | 9.61                     | 9.98                     | 10.84                  | 11.62                   | 7.45                    | 9.19                    | 6.94                     | 12                       |
| 60           | 12.42                         | 9.47                          | 6.35                     | 5.97                     | 9.95                     | 10.57                  | 9.84                    | 5.59                    | 6.32                    | 7.18                     | 10.06                    |
| 90           | 11.28                         | -2.5                          | 4.94                     | 8.98                     | 10.58                    | 10.66                  | 6.94                    | 3.69                    | 7.87                    | 6.73                     | 9.44                     |
| 120          | 9.49                          | 7.25                          | 7.22                     | 10.55                    | 11.31                    | 10.88                  | 9.41                    | 4.81                    | 7.78                    | -0.22                    | 11.13                    |
| 150          | 12.16                         | 7.08                          | 5.61                     | 9.69                     | 11.53                    | 11.36                  | 11.2                    | 8.81                    | 8.33                    | 8.18                     | 9.95                     |
| 180          | 12.79                         | 9.15                          | 7.8                      | 6.94                     | 12.09                    | 11.13                  | 9.88                    | 11                      | 11.51                   | 5.93                     | 11.4                     |
| 210          | 12                            | 6.94                          | 9.19                     | 7.45                     | 11.62                    | 10.84                  | 9.98                    | 9.61                    | 13.29                   | 12.77                    | 11.26                    |
| 240          | 10.06                         | 7.18                          | 6.32                     | 5.59                     | 9.84                     | 10.57                  | 9.95                    | 5.97                    | 6.35                    | 9.47                     | 12.42                    |
| 270          | 9.44                          | 6.73                          | 7.87                     | 3.69                     | 6.94                     | 10.66                  | 10.58                   | 8.98                    | 4.94                    | -2.5                     | 11.28                    |
| 300          | 11.13                         | -0.22                         | 7.78                     | 4.81                     | 9.41                     | 10.88                  | 11.31                   | 10.55                   | 7.22                    | 7.25                     | 9.49                     |
| 330          | 9.95                          | 8.18                          | 8.33                     | 8.81                     | 11.2                     | 11.36                  | 11.53                   | 9.69                    | 5.61                    | 7.08                     | 12.16                    |

| 2480-TIS     |                               |                               |                          |                          |                          |                        |                         |                         |                         |                          |                          |
|--------------|-------------------------------|-------------------------------|--------------------------|--------------------------|--------------------------|------------------------|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|
| Azimuth<br>s | 2.48<br>GHz -<br>150<br>Total | 2.48<br>GHz -<br>120<br>Total | 2.48<br>GHz -90<br>Total | 2.48<br>GHz -60<br>Total | 2.48<br>GHz -30<br>Total | 2.48<br>GHz 0<br>Total | 2.48<br>GHz 30<br>Total | 2.48<br>GHz 60<br>Total | 2.48<br>GHz 90<br>Total | 2.48<br>GHz 120<br>Total | 2.48<br>GHz 150<br>Total |
| 0            | -94.16                        | -88.69                        | -94.27                   | -93.76                   | -92.63                   | -93.88                 | -94.84                  | -89.69                  | -90.56                  | -91.91                   | -95.54                   |
| 30           | -94.02                        | -95.53                        | -96.04                   | -92.36                   | -92.73                   | -93.6                  | -94.38                  | -90.21                  | -91.94                  | -89.7                    | -94.76                   |
| 60           | -95.18                        | -92.23                        | -89.1                    | -88.72                   | -92.7                    | -93.32                 | -92.6                   | -88.35                  | -89.07                  | -89.93                   | -92.81                   |
| 90           | -94.03                        | -80.26                        | -87.7                    | -91.74                   | -93.33                   | -93.42                 | -89.69                  | -86.45                  | -90.62                  | -89.49                   | -92.2                    |
| 120          | -92.24                        | -90.01                        | -89.98                   | -93.31                   | -94.07                   | -93.64                 | -92.17                  | -87.57                  | -90.54                  | -82.54                   | -93.88                   |
| 150          | -94.92                        | -89.83                        | -88.36                   | -92.44                   | -94.28                   | -94.11                 | -93.95                  | -91.57                  | -91.09                  | -90.93                   | -92.7                    |
| 180          | -95.54                        | -91.91                        | -90.56                   | -89.69                   | -94.84                   | -93.88                 | -92.63                  | -93.76                  | -94.27                  | -88.69                   | -94.16                   |
| 210          | -94.76                        | -89.7                         | -91.94                   | -90.21                   | -94.38                   | -93.6                  | -92.73                  | -92.36                  | -96.04                  | -95.53                   | -94.02                   |
| 240          | -92.81                        | -89.93                        | -89.07                   | -88.35                   | -92.6                    | -93.32                 | -92.7                   | -88.72                  | -89.1                   | -92.23                   | -95.18                   |
| 270          | -92.2                         | -89.49                        | -90.62                   | -86.45                   | -89.69                   | -93.42                 | -93.33                  | -91.74                  | -87.7                   | -80.26                   | -94.03                   |
| 300          | -93.88                        | -82.54                        | -90.54                   | -87.57                   | -92.17                   | -93.64                 | -94.07                  | -93.31                  | -89.98                  | -90.01                   | -92.24                   |
| 330          | -92.7                         | -90.93                        | -91.09                   | -91.57                   | -93.95                   | -94.11                 | -94.28                  | -92.44                  | -88.36                  | -89.83                   | -94.92                   |