

# AD-512AX

## Antenna Approval Sheet

|                       |                                                                         |
|-----------------------|-------------------------------------------------------------------------|
| <b>Part Number</b>    | R3410A10052                                                             |
| <b>Product Number</b> | AD-512AX                                                                |
| <b>Description</b>    | Dipole Antenna,2.35dBi/3.0dBi/3.02dBi 2.4G/5G/6GHz, RP-SMA(M) connector |
| <b>DOC NO</b>         | AS-2303001                                                              |

Ver. 0.9

### Revised History

| Version | Purpose         | Date       | Responsible |
|---------|-----------------|------------|-------------|
| 0.9     | Preliminary DoC | 2023/03/27 | Christina   |
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| SparkLAN |    | Customer    |
|----------|----|-------------|
| Sales    | PM | Approval by |
|          |    |             |

## Antenna Type : Dipole

## Wi-Fi 6E Antenna

## AD-512X

### Electrical Specifications

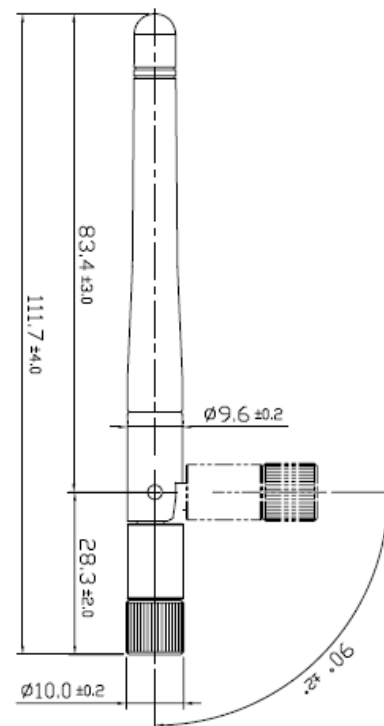
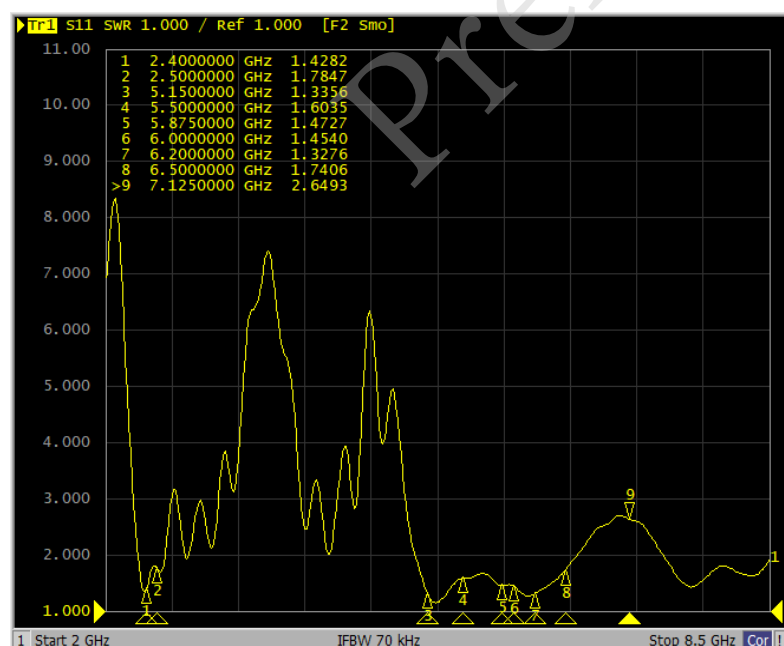
| Frequency range | 2400 - 2500 MHz  | 5150 - 5925 MHz | 6000 - 7125 MHz |
|-----------------|------------------|-----------------|-----------------|
| Peak gain       | 2.35 dBi         | 3.0 dBi         | 3.02 dBi        |
| Average gain    | 1.25 dBi         | 1.6 dBi         | 1.87 dBi        |
| VSWR            | 2.0 : 1 Max.     | 2.0 : 1 Max.    | 3.0 : 1 Max.    |
| Polarization    | Linear, vertical |                 |                 |
| Power handling  | 2 W (cw)         |                 |                 |
| Impedance       | 50 $\Omega$      |                 |                 |
| Connector       | RP SMA PLUG      |                 |                 |



### Environmental & Mechanical Characteristics

|             |                |
|-------------|----------------|
| Temperature | -10°C to +55°C |
| Humidity    | 95% @ 25°C     |

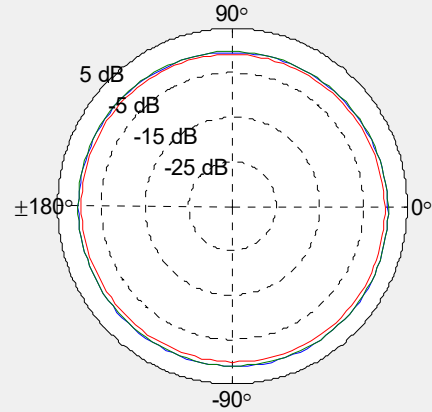
### VSWR



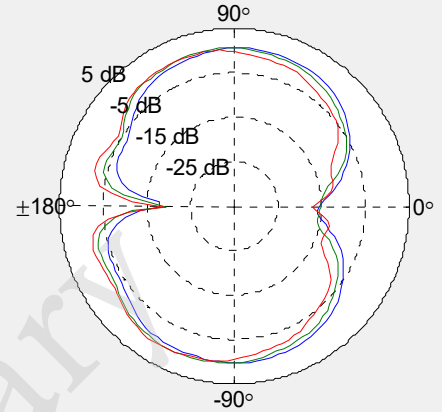
## Radiation Pattern

2G Band = 2400 - 2500 MHz % 2G Band

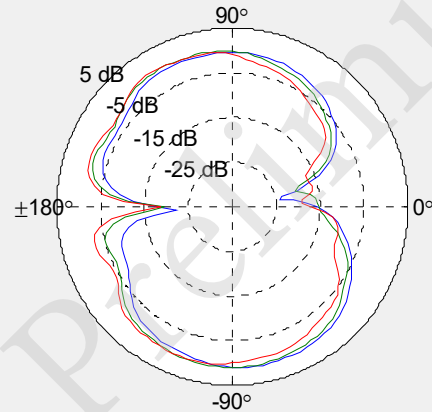
XY Plane (+X = 0°, +Y = +90°) / Elevation = 90 °



ZX Plane (+Z = 0°, +X = +90°) / Azimuth = 0 °



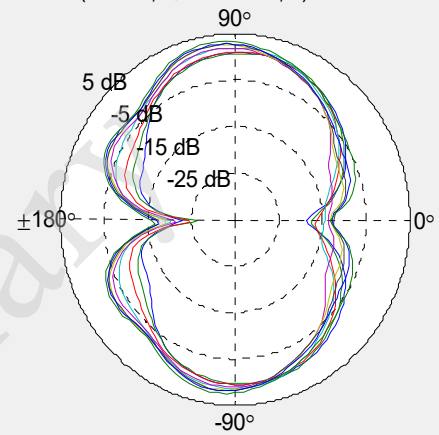
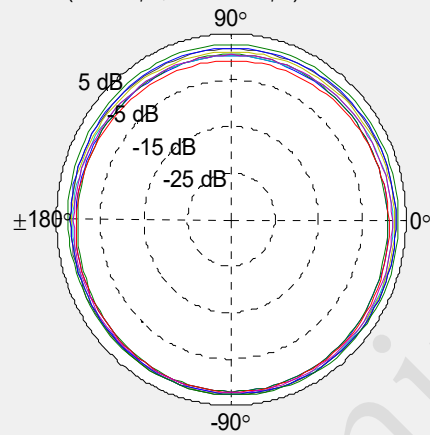
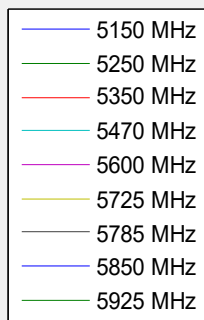
YZ Plane (+Z = 0°, +Y = +90°) / Azimuth = 90 °



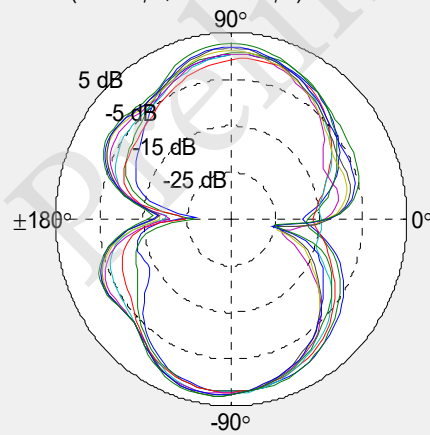
## Radiation Pattern

5G Band = 4900 - 5975 MHz

XY Plane (+X = 0°X, +Y = +90°X) / Elevation = 90°X    ZX Plane (+Z = 0°X, +X = +90°X) / Azimuth = 0°X

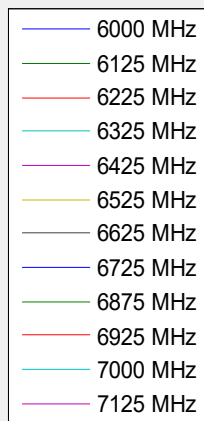


YZ Plane (+Z = 0°X, +Y = +90°X) / Azimuth = 90°X

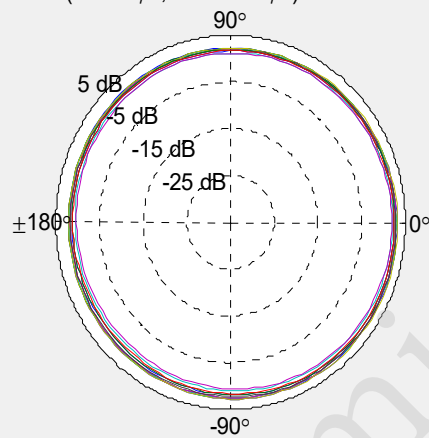


## Radiation Pattern

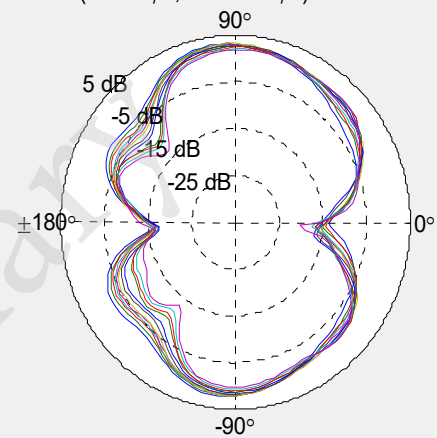
6G Band = 6000 - 8500 MHz



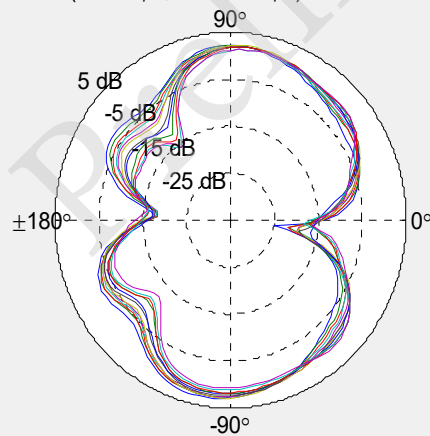
XY Plane (+X = 0°X, +Y = +90°X) / Elevation = 90°X



ZX Plane (+Z = 0°X, +X = +90°X) / Azimuth = 0°X



YZ Plane (+Z = 0°X, +Y = +90°X) / Azimuth = 90°X



## Gain Table

| Frequency<br>(MHz) | Efficiency | V+H Avg. Gain | V+H Peak Gain |
|--------------------|------------|---------------|---------------|
|                    |            | XY-plane      | XY-plane      |
| 2400.00            | 77.54      | 1.63          | 2.35          |
| 2450.00            | 75.72      | 1.31          | 2.14          |
| 2500.00            | 73.59      | 0.82          | 1.76          |
| 5150.00            | 73.92      | 1.46          | 2.81          |
| 5250.00            | 75.31      | 1.42          | 2.82          |
| 5350.00            | 71.01      | 1.33          | 2.94          |
| 5470.00            | 77.30      | 1.60          | 3.00          |
| 5600.00            | 74.57      | 1.44          | 2.75          |
| 5725.00            | 75.44      | 1.47          | 2.64          |
| 5785.00            | 76.28      | 1.74          | 2.75          |
| 5850.00            | 77.29      | 1.73          | 2.63          |
| 5925.00            | 77.45      | 2.28          | 2.80          |
| 6000.00            | 78.45      | 2.25          | 2.87          |
| 6125.00            | 76.42      | 2.16          | 2.78          |
| 6225.00            | 74.59      | 1.99          | 2.64          |
| 6325.00            | 74.65      | 2.10          | 2.75          |
| 6425.00            | 75.03      | 1.99          | 2.70          |
| 6525.00            | 76.18      | 2.29          | 3.02          |
| 6625.00            | 74.17      | 1.88          | 2.69          |
| 6725.00            | 72.63      | 1.86          | 2.59          |
| 6875.00            | 70.68      | 1.89          | 2.61          |
| 6925.00            | 70.77      | 1.74          | 2.46          |
| 7000.00            | 69.84      | 1.24          | 2.04          |
| 7125.00            | 67.23      | 1.03          | 1.90          |

