

# Regulatory WLAN Antenna Information (Template)

*English Language Required for Intel Regulatory Review / Approval*

**(OEM/ODM or antenna vendor is required to complete this document with platform antenna information.**  
**Remove Intel references and make this your own document)**

| Platform information                                                                                                                                                |                                          |                                       |                                       |                                                                                      |                                       |                                                      |                                       |                                                                             |                                       |                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------|---------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------------------|---------------------------------------|----------------------------------------|
| Brand                                                                                                                                                               |                                          | ODM                                   |                                       | ****End product model name                                                           |                                       | Intel platform<br><small>(ex: Yes, No or NA)</small> |                                       | Platform type<br><small>(ex: regular NB, convertible PC, AIO...etc)</small> |                                       | *SAR minimum separation (mm)           |
| ASUS                                                                                                                                                                |                                          | Quanta                                |                                       | FA507XV<br>FA507XU<br>FA507XJ<br>FA507NU<br>FA507NV<br>FA507NJ<br>FA507XI<br>FA507NI |                                       | No                                                   |                                       | regular NB                                                                  |                                       | 7.6mm                                  |
| ****Please fill in exact product model name and make sure the model name is visible on product cover or any parts for end users recognize for authority inspection. |                                          |                                       |                                       |                                                                                      |                                       |                                                      |                                       |                                                                             |                                       |                                        |
| Antenna information                                                                                                                                                 |                                          |                                       |                                       |                                                                                      |                                       |                                                      |                                       |                                                                             |                                       |                                        |
| Vendor                                                                                                                                                              |                                          |                                       | Type                                  |                                                                                      |                                       | Antenna Part number (Main)                           |                                       |                                                                             | Antenna Part number (Aux)             |                                        |
| AWAN                                                                                                                                                                |                                          |                                       | PIFA                                  |                                                                                      |                                       | AYP6Y-200040                                         |                                       |                                                                             | AYP6Y-200040                          |                                        |
| Peak gain w/ cable loss (dBi)*                                                                                                                                      |                                          |                                       |                                       |                                                                                      |                                       |                                                      |                                       |                                                                             |                                       |                                        |
|                                                                                                                                                                     | 2.4GHz<br><small>2400-2483.5 MHz</small> | 5.2GHz<br><small>5150-5250MHz</small> | 5.3GHz<br><small>5250-5350MHz</small> | 5.6GHz<br><small>5470-5725MHz</small>                                                | 5.8GHz<br><small>5725-5850MHz</small> | 5.9GHz<br><small>5850-5895MHz</small>                | 6.2GHz<br><small>5925-6425MHz</small> | 6.5GHz<br><small>6425-6525MHz</small>                                       | 6.7GHz<br><small>6525-6875MHz</small> | 7.0 GHz<br><small>6875-7125MHz</small> |
| Main                                                                                                                                                                | 2.83                                     | 3.56                                  | 3.55                                  | 3.67                                                                                 | 4.34                                  | 4.54                                                 |                                       |                                                                             |                                       |                                        |
| Aux                                                                                                                                                                 | 2.58                                     | 2.43                                  | 3.22                                  | 3.18                                                                                 | 2.29                                  | 3.16                                                 |                                       |                                                                             |                                       |                                        |

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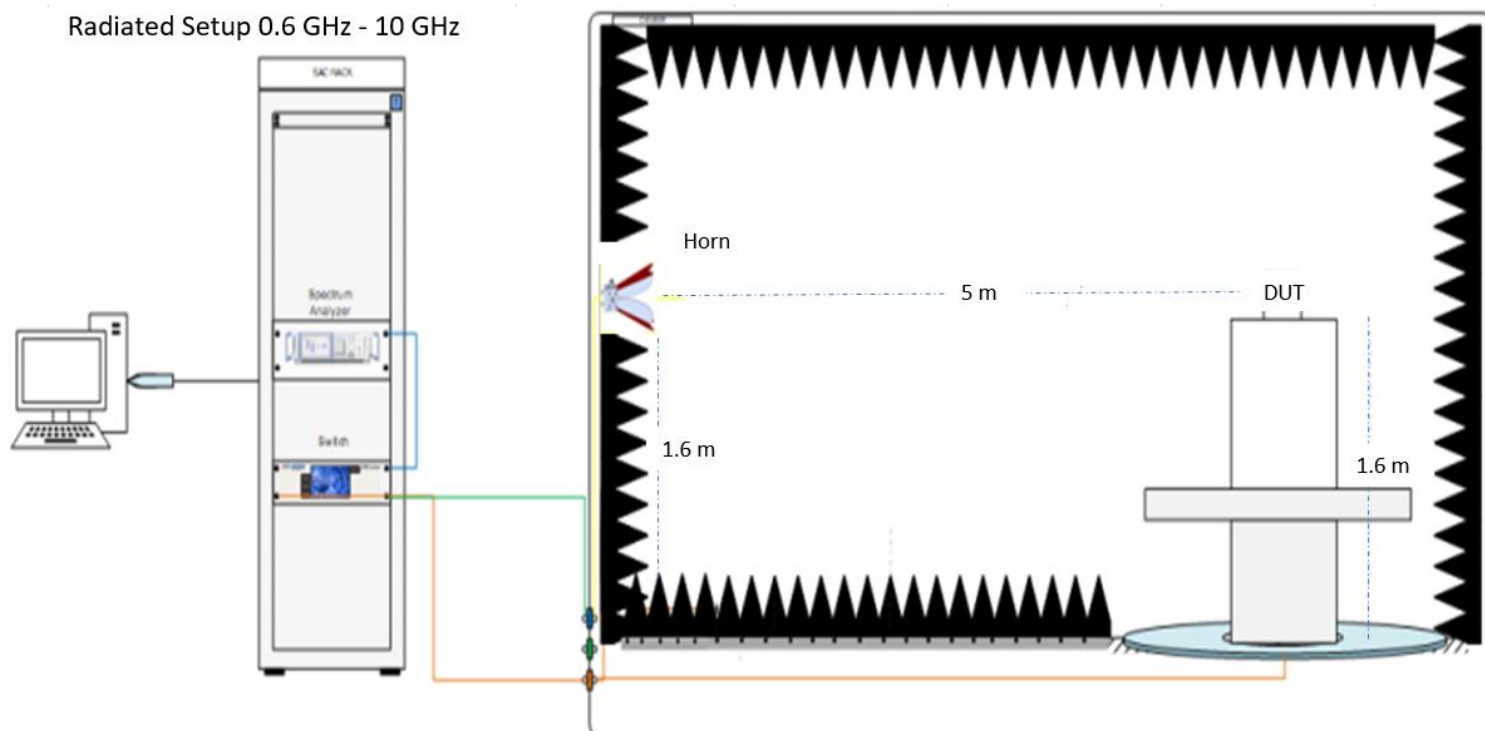
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## 1. Applicable test methods

This test report is prepared for host antenna testing under a Full Anechoic Chamber.

## 2. Test & System Description

### a. Test setup



## b. Equipment list

| Device                  | Type/Module    | Serial#          | Manufacturer | Cal. Date | Cal. Due Date |
|-------------------------|----------------|------------------|--------------|-----------|---------------|
| Anechoic Chamber        | AMS-8500       | 1047             | ETS-Lindgren | 2022/1/21 | 2023/7/22     |
| Turn Table              | ETS            | -                | ETS-Lindgren | N/A       | N/A           |
| Rotate controller       | 2090           | SN 00035073      | ETS-Lindgren | N/A       | N/A           |
| Horn Antenna            | HAD-0710       | 111025-02        | Bwant        | 2021/5/16 | 2023/5/16     |
| Vector Network Analyzer | E5071C         | MY46733781       | Keysight     | 2022/1/21 | 2023/1/21     |
| Cable 40cm 18 GHz       | 201EH012010400 | 201EH012010400#1 | Jmtt         | 2022/3/27 | 2023/3/27     |
| Cable 6m 18 GHz         | 201EH012016000 | 201EH012016000#3 | Jmtt         | 2022/3/27 | 2023/3/27     |
| Cable 6m 18 GHz         | 201EH012016000 | 201EH012016000#5 | Jmtt         | 2022/3/27 | 2023/3/27     |
| Cable 3.5m 18 GHz       | 201EH012013500 | 201EH012013500#3 | Jmtt         | 2022/3/27 | 2023/3/27     |
| Cable 1.5m 18 GHz       | 201EH012011500 | 201EH012011500#2 | Jmtt         | 2022/3/27 | 2023/3/27     |

# Antenna Information

## Section 1. Antenna Assembly Specifications

| 1A                                  | 1B           | 1C           | 1D                                                                                |                | 1E                              | 1F                             | 1G       | 1H              |
|-------------------------------------|--------------|--------------|-----------------------------------------------------------------------------------|----------------|---------------------------------|--------------------------------|----------|-----------------|
| Antenna Part Number                 | Manufacturer | Antenna Type | Cable Assembly Part Number and Information                                        | Freq Range MHz | * Peak Gain W/ Cable loss (dBi) | Peak Gain w/o Cable Loss (dBi) | Max VSWR | Cable Loss (dB) |
| (P/N: AYP6Y-200040)<br>Main Antenna | AWAN         | PIFA         | 50 ohm Coaxial length: 131.6cm diameter: 1.13mm Normal Cable Connector : I-PEX IV | 2400-2483.5    | 2.83                            | 3.23                           | 2.0      | 0.40            |
|                                     |              |              |                                                                                   | 5150-5250      | 3.56                            | 4.20                           | 2.0      | 0.64            |
|                                     |              |              |                                                                                   | 5250-5350      | 3.55                            | 4.19                           | 2.0      | 0.64            |
|                                     |              |              |                                                                                   | 5470-5725      | 3.67                            | 4.31                           | 2.0      | 0.64            |
|                                     |              |              |                                                                                   | 5725-5850      | 4.34                            | 5.00                           | 2.0      | 0.66            |
|                                     |              |              |                                                                                   | 5850-5895      | 4.54                            | 5.2                            | 2.0      | 0.66            |
|                                     |              |              |                                                                                   | 5925-6425      |                                 |                                |          |                 |
|                                     |              |              |                                                                                   | 6425-6525      |                                 |                                |          |                 |
|                                     |              |              |                                                                                   | 6525-6875      |                                 |                                |          |                 |
|                                     |              |              |                                                                                   | 6875-7125      |                                 |                                |          |                 |
| (P/N: AYP6Y-200040)<br>Aux Antenna  | AWAN         | PIFA         | 50 ohm Coaxial length: 344.5cm diameter: 1.13mm Normal Cable Connector : I-PEX IV | 2400-2483.5    | 2.58                            | 3.62                           | 2.0      | 1.04            |
|                                     |              |              |                                                                                   | 5150-5250      | 2.43                            | 4.10                           | 2.0      | 1.67            |
|                                     |              |              |                                                                                   | 5250-5350      | 3.22                            | 4.89                           | 2.0      | 1.67            |
|                                     |              |              |                                                                                   | 5470-5725      | 3.18                            | 4.86                           | 2.0      | 1.68            |
|                                     |              |              |                                                                                   | 5725-5850      | 2.29                            | 4.03                           | 2.0      | 1.74            |
|                                     |              |              |                                                                                   | 5850-5895      | 3.16                            | 4.9                            | 2.0      | 1.74            |
|                                     |              |              |                                                                                   | 5925-6425      |                                 |                                |          |                 |
|                                     |              |              |                                                                                   | 6425-6525      |                                 |                                |          |                 |
|                                     |              |              |                                                                                   | 6525-6875      |                                 |                                |          |                 |
|                                     |              |              |                                                                                   | 6875-7125      |                                 |                                |          |                 |

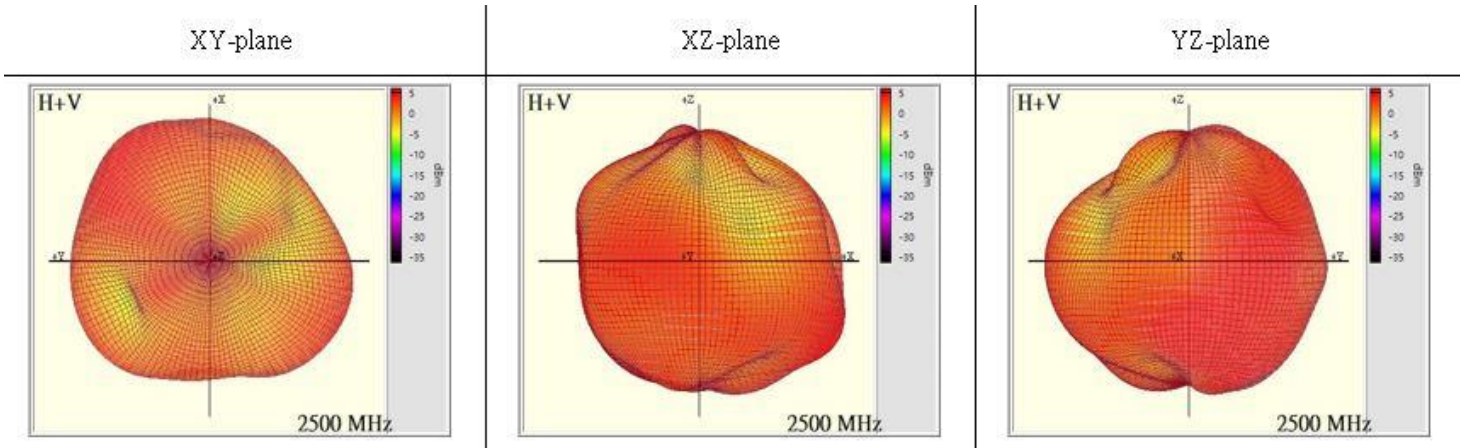
- 3D Antenna Peak Gain required being test in system basis.

Section 3. Radiation characteristics of antenna loaded in Host Platform

Main Antenna

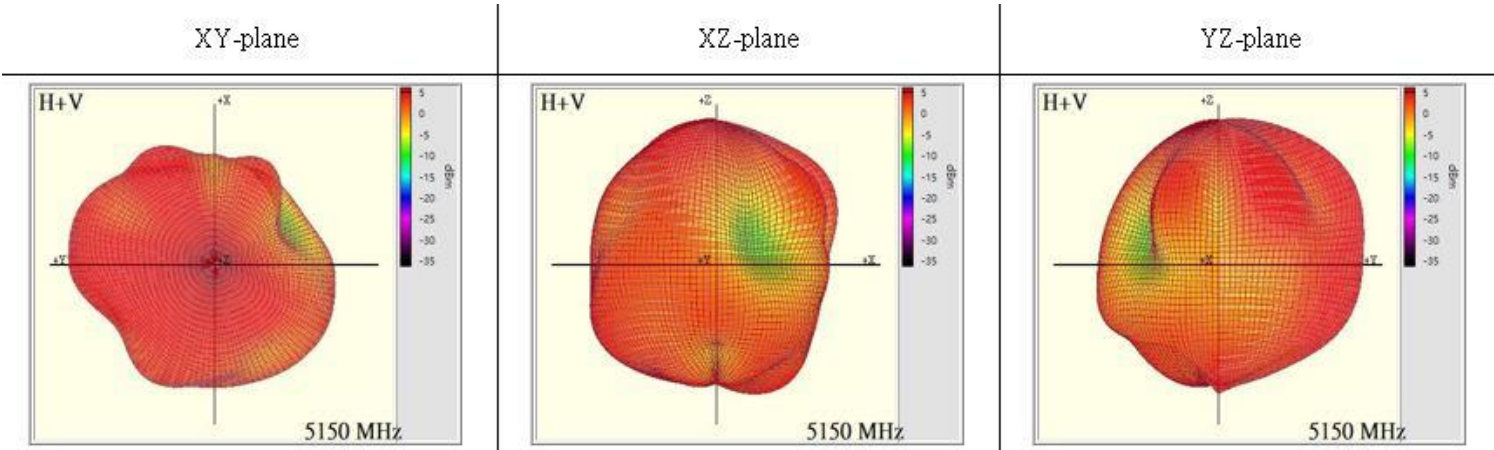
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

| Frequency (MHz) | Peak Gain w/ Cable Loss (dBi) |
|-----------------|-------------------------------|
| 2400-2483.5     | 2.83                          |



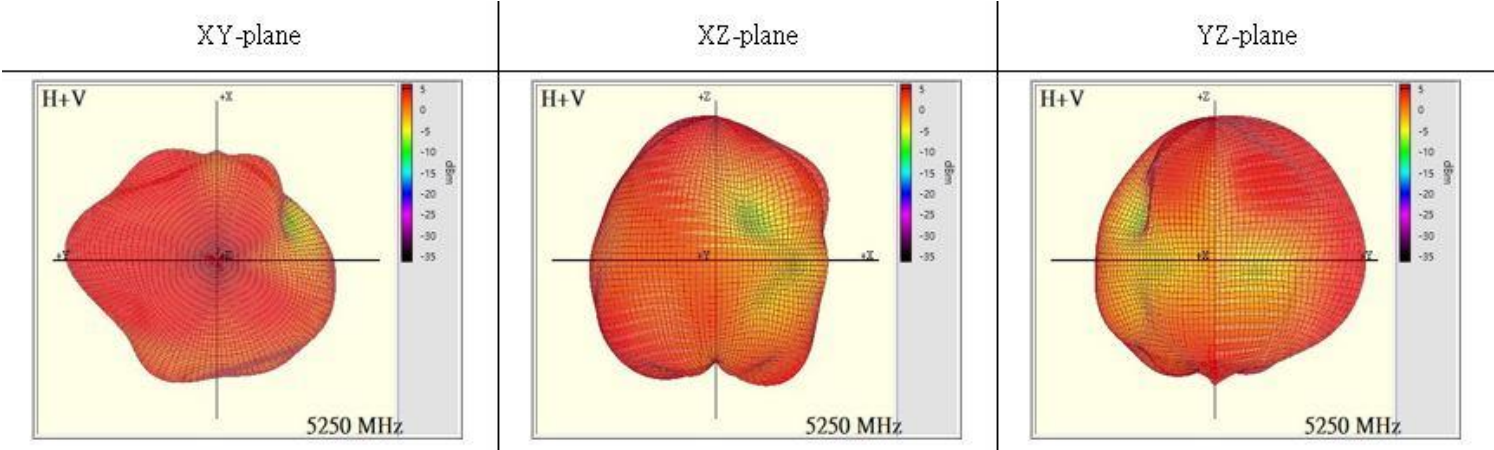
Max Antenna 3D Radiation Pattern 5150-5250 MHz

| Frequency (MHz) | Peak Gain w/ Cable Loss (dBi) |
|-----------------|-------------------------------|
| 5150-5250       | 3.56                          |



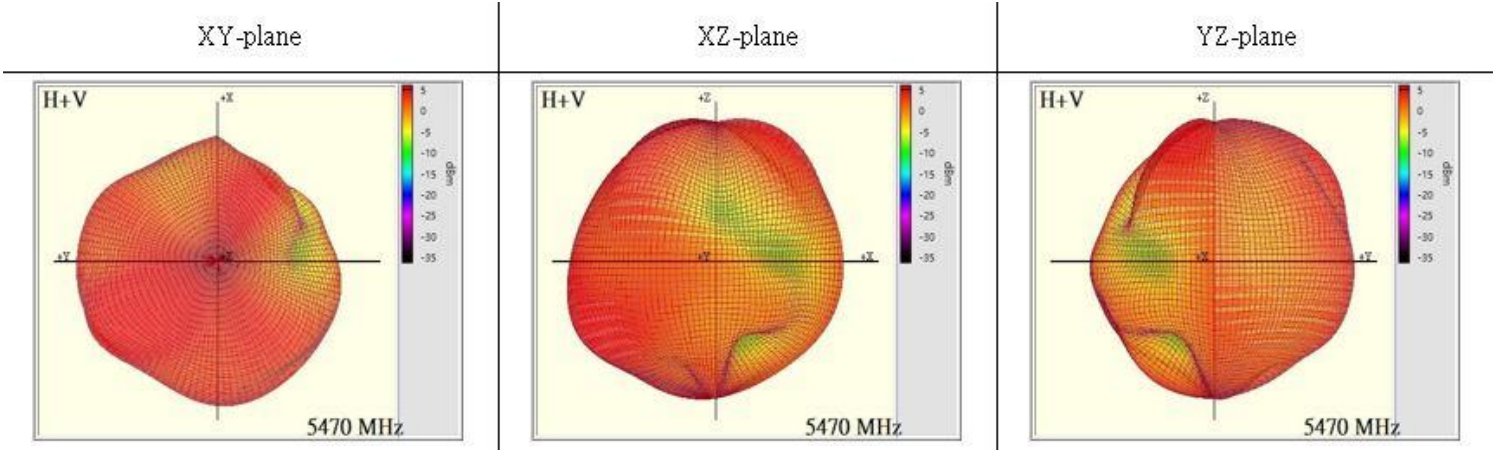
Max Antenna 3D Radiation Pattern 5250-5350 MHz

| Frequency (MHz) | Peak Gain w/ Cable Loss (dBi) |
|-----------------|-------------------------------|
| 5250-5350       | 3.55                          |



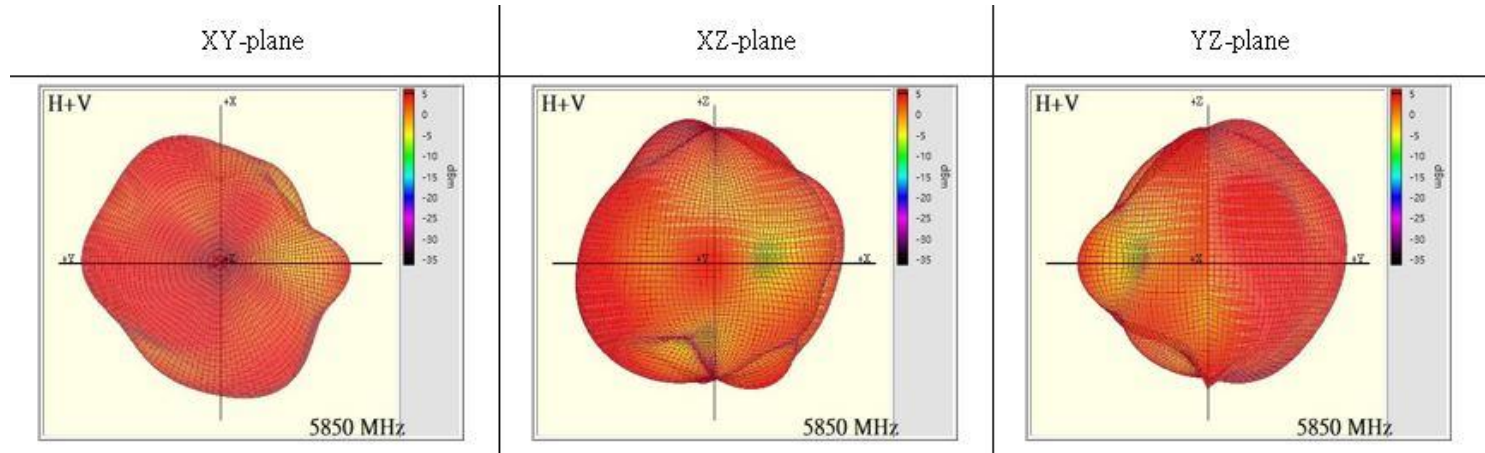
Max Antenna 3D Radiation Pattern 5470-5725 MHz

| Frequency (MHz) | Peak Gain w/ Cable Loss (dBi) |
|-----------------|-------------------------------|
| 5470-5725       | 3.67                          |



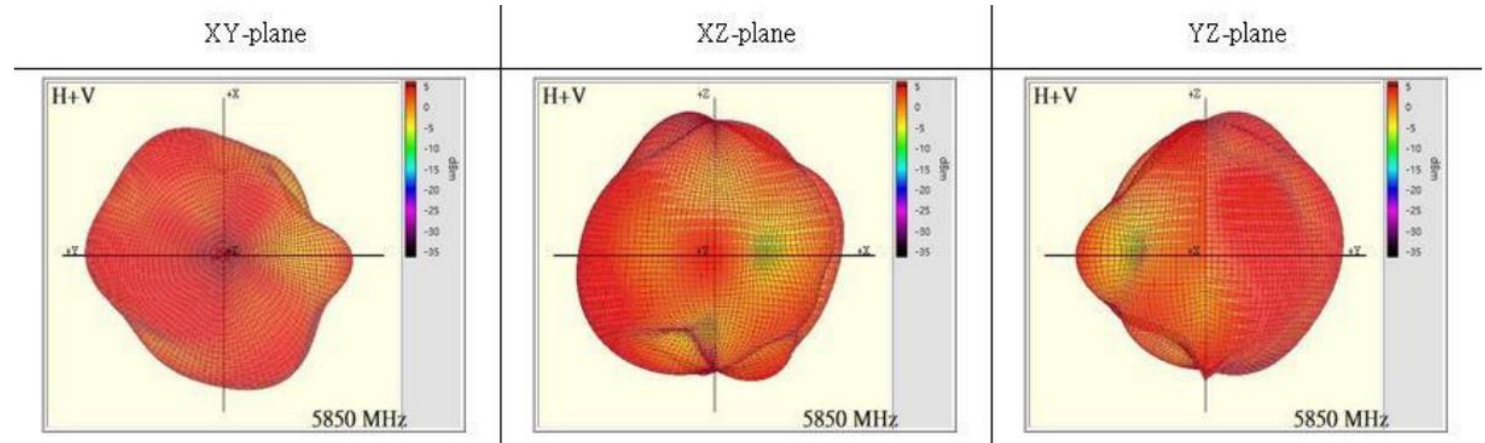
Max Antenna 3D Radiation Pattern 5725-5850 MHz

| Frequency (MHz) | Peak Gain w/ Cable Loss (dBi) |
|-----------------|-------------------------------|
| 5725-5850       | 4.34                          |



Max Antenna 3D Radiation Pattern 5850-5895 MHz

| Frequency (MHz) | Peak Gain w/ Cable Loss (dBi) |
|-----------------|-------------------------------|
| 5850-5895       | 4.54                          |



Max Antenna 3D Radiation Pattern 5925-6425 MHz

| Frequency<br>(MHz) | Peak Gain w/ Cable Loss<br>(dBi) |
|--------------------|----------------------------------|
| 5925-6425          |                                  |

Max Antenna 3D Radiation Pattern 6425-6525 MHz

| Frequency<br>(MHz) | Peak Gain w/ Cable Loss<br>(dBi) |
|--------------------|----------------------------------|
| 6425-6525          |                                  |

Max Antenna 3D Radiation Pattern 6525-6875 MHz

| Frequency<br>(MHz) | Peak Gain w/ Cable Loss<br>(dBi) |
|--------------------|----------------------------------|
| 6525-6875          |                                  |

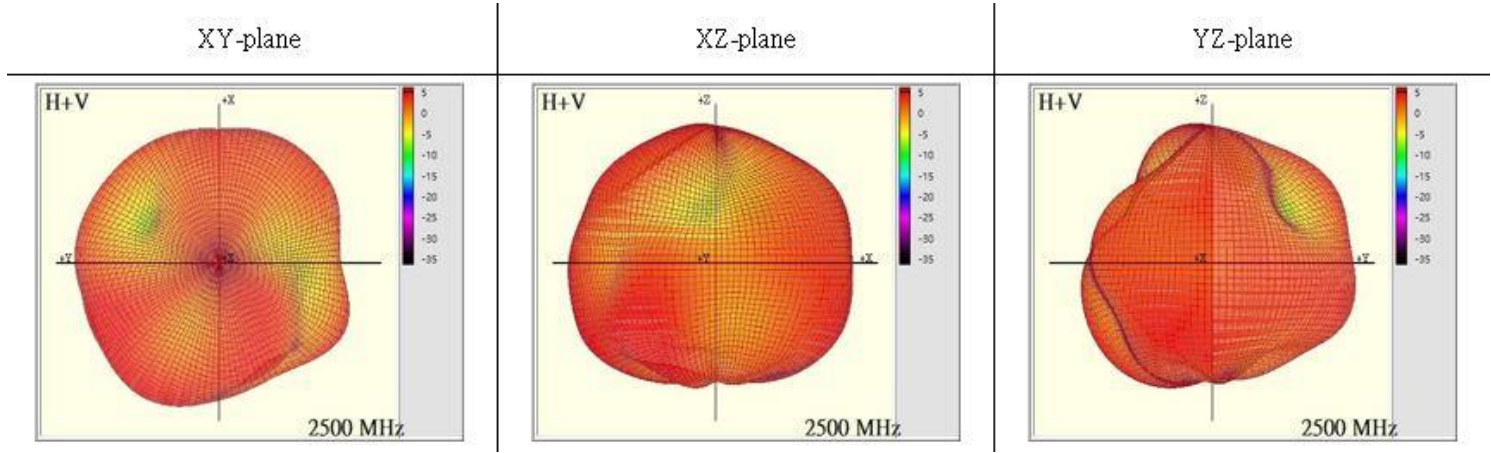
Max Antenna 3D Radiation Pattern 6875-7125 MHz

| Frequency<br>(MHz) | Peak Gain w/ Cable Loss<br>(dBi) |
|--------------------|----------------------------------|
| 6875-7125          |                                  |

Auxiliary Antenna

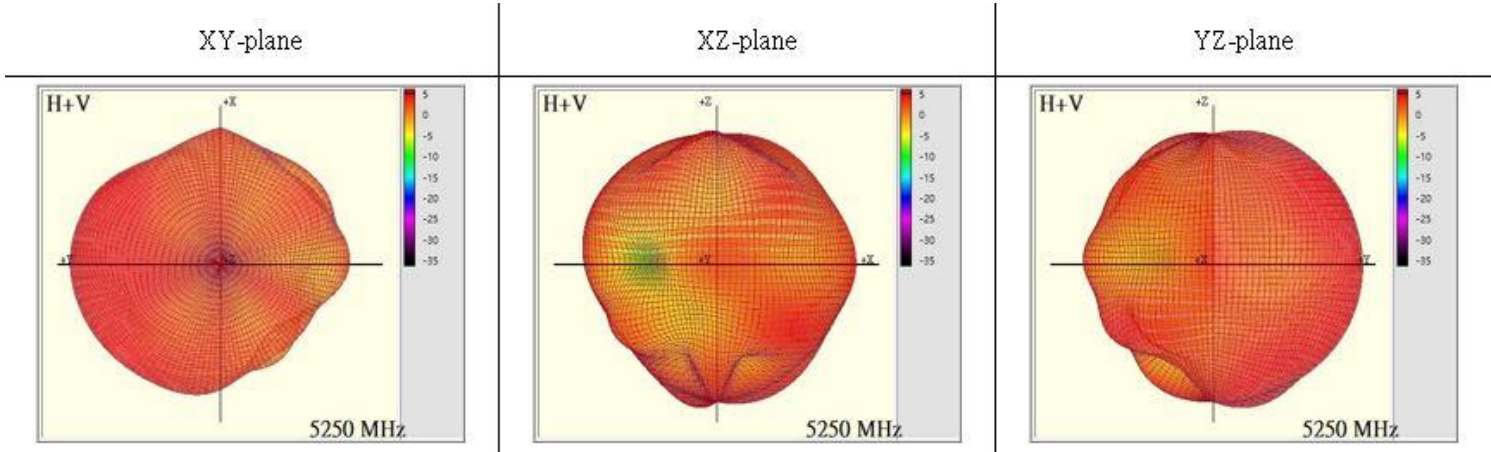
Max Antenna 3D Radiation Pattern 2400 – 2483.5 MHz

| Frequency (MHz) | Peak Gain w/ Cable Loss (dBi) |
|-----------------|-------------------------------|
| 2400-2483.5     | 2.58                          |



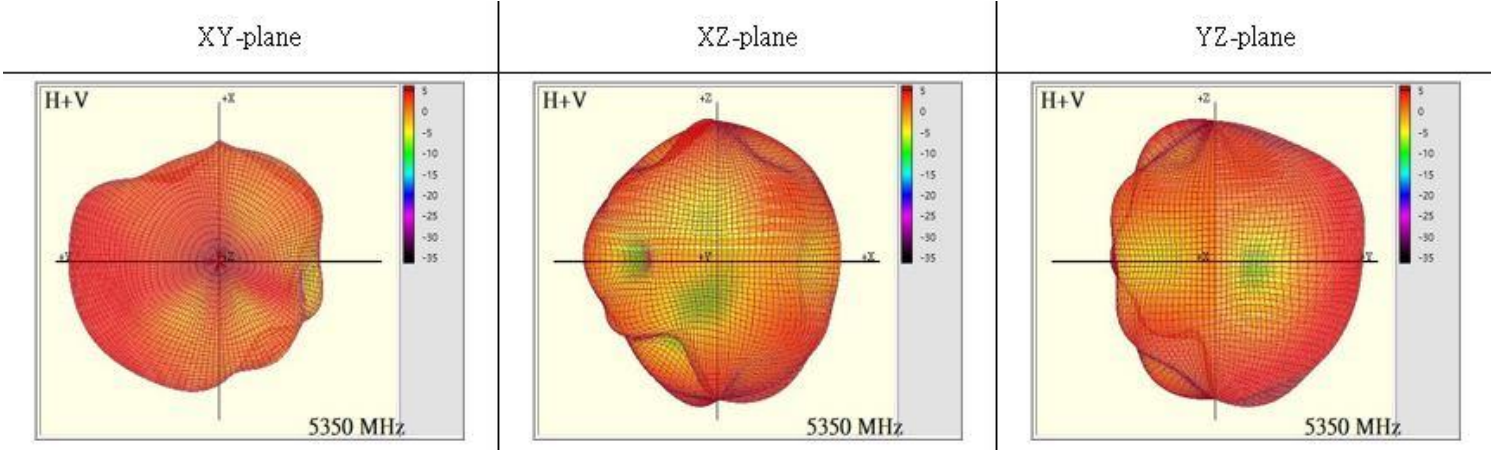
Max Antenna 3D Radiation Pattern 5150-5250 MHz

| Frequency (MHz) | Peak Gain w/ Cable Loss (dBi) |
|-----------------|-------------------------------|
| 5150-5250       | 2.43                          |



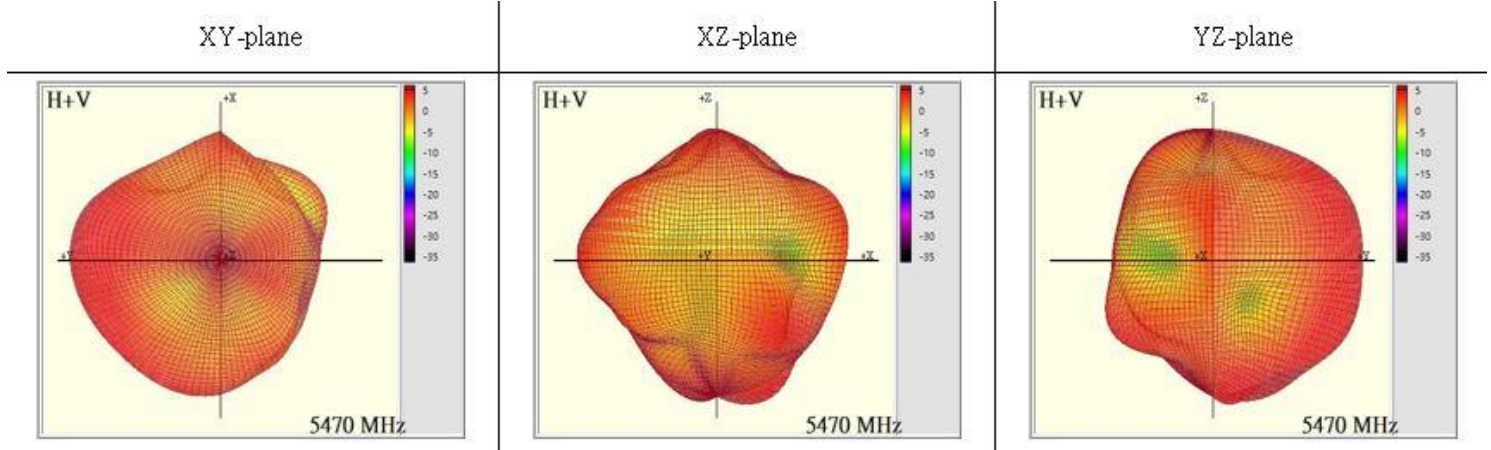
Max Antenna 3D Radiation Pattern 5250-5350 MHz

| Frequency (MHz) | Peak Gain w/ Cable Loss (dBi) |
|-----------------|-------------------------------|
| 5250-5350       | 3.22                          |



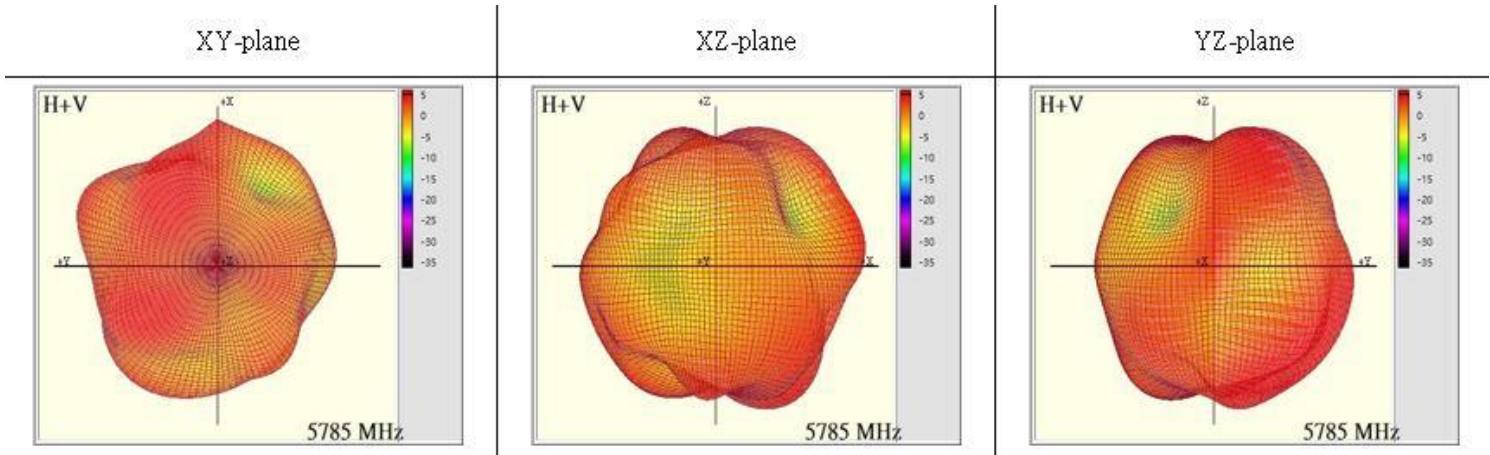
Max Antenna 3D Radiation Pattern 5470-5725 MHz

| Frequency (MHz) | Peak Gain w/ Cable Loss (dBi) |
|-----------------|-------------------------------|
| 5470-5725       | 3.18                          |



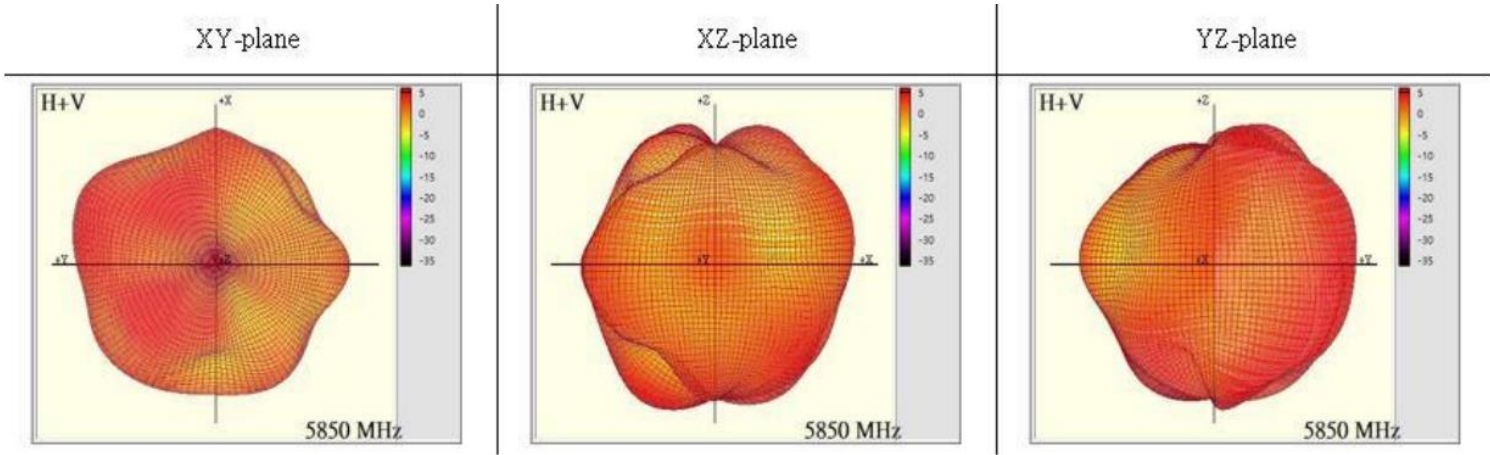
Max Antenna 3D Radiation Pattern 5725-5850 MHz

| Frequency (MHz) | Peak Gain w/ Cable Loss (dBi) |
|-----------------|-------------------------------|
| 5725-5850       | 2.29                          |



Max Antenna 3D Radiation Pattern 5850-5895 MHz

| Frequency (MHz) | Peak Gain w/ Cable Loss (dBi) |
|-----------------|-------------------------------|
| 5850-5895       | 3.16                          |



Max Antenna 3D Radiation Pattern 5925-6425 MHz

| Frequency<br>(MHz) | Peak Gain w/ Cable Loss<br>(dBi) |
|--------------------|----------------------------------|
| 5925-6425          |                                  |

Max Antenna 3D Radiation Pattern 6425-6525 MHz

| Frequency<br>(MHz) | Peak Gain w/ Cable Loss<br>(dBi) |
|--------------------|----------------------------------|
| 6425-6525          |                                  |

Max Antenna 3D Radiation Pattern 6525-6875 MHz

| Frequency<br>(MHz) | Peak Gain w/ Cable Loss<br>(dBi) |
|--------------------|----------------------------------|
| 6525-6875          |                                  |

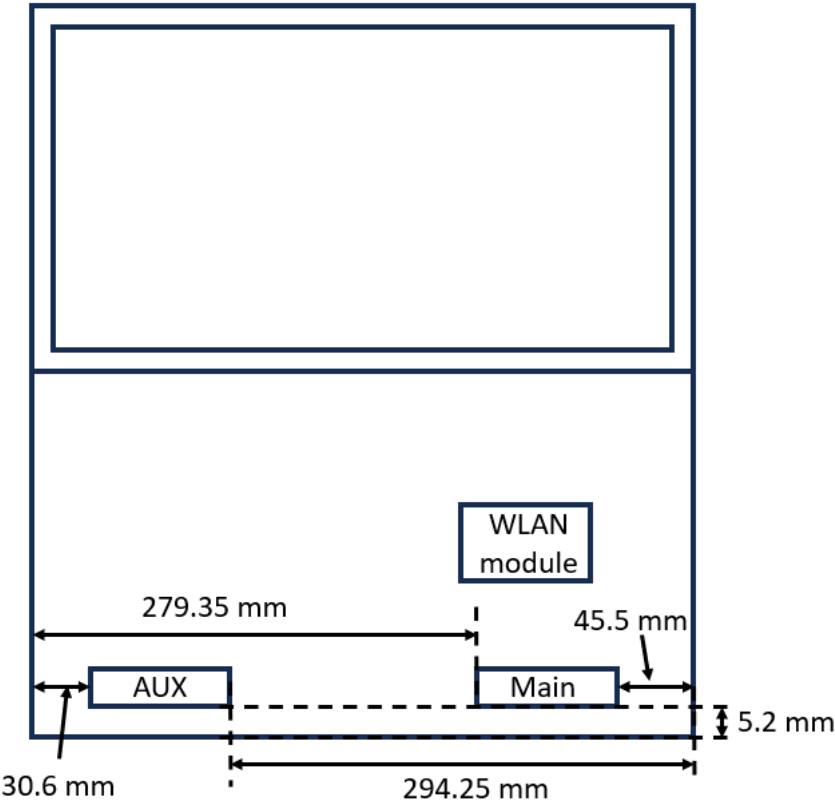
Max Antenna 3D Radiation Pattern 6875-7125 MHz

| Frequency<br>(MHz) | Peak Gain w/ Cable Loss<br>(dBi) |
|--------------------|----------------------------------|
| 6875-7125          |                                  |

Section 4. Antenna Host Platform Location Information

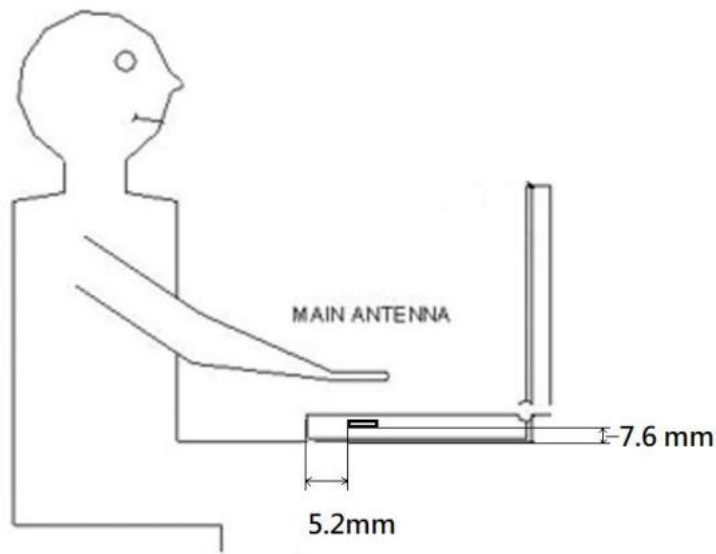
Include a **dimensioned photo(s) or dimensioned drawing(s)** of Main and Aux antenna placements (measurements are not required for receive-only antenna).

Any antenna that transmits must show dimensions to bottom of laptop. Provide a description of the materials that are used for supporting or surrounding transmit antennas; for example, non-conductive plastics vs. conductive coated plastic or metallic materials.



## Section 5. Antenna dimensional information for SAR evaluation

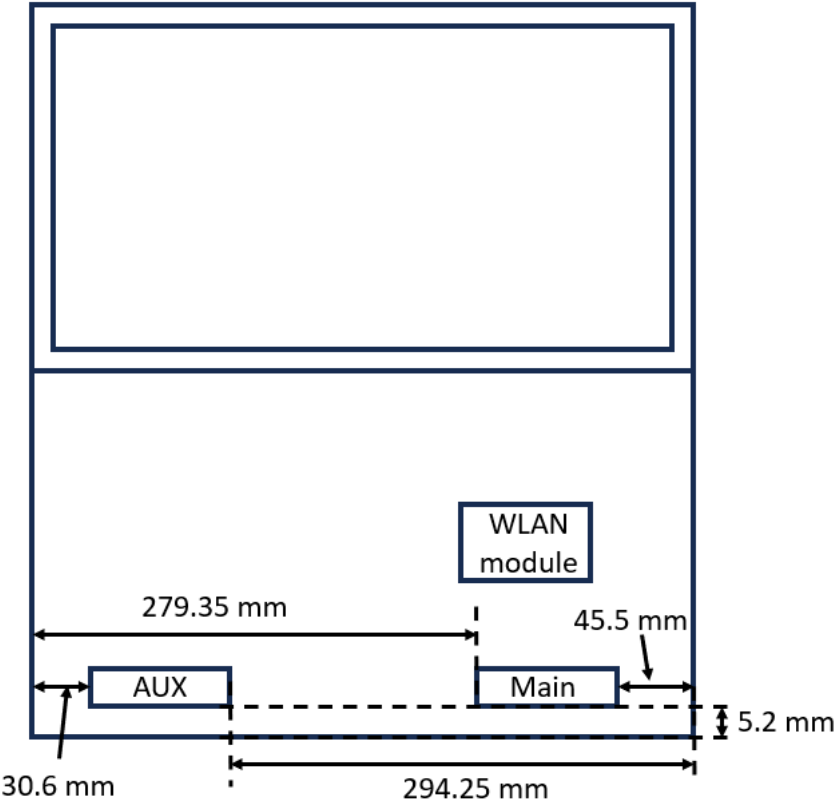
Include a **dimensioned photo(s) or dimensioned drawing(s)** showing the distance (mm) between the transmit antennas and the user. For notebook/laptop hosts show lapheld position (example below). For tablet hosts show all orientations including lapheld, primary & secondary portrait, primary & secondary landscape positions. Include a description of any proximity sensors or power throttling implementations that limit or exclude use of any host orientation.



## Section 6. Diagram Example of Co-Location Antenna Separation

Include a **dimensioned photo or dimensioned drawing** showing the distance (mm) between all WLAN transmit antennas and other co-located radiator transmit antenna such as Bluetooth, WWAN,..

(Note: Due to the evolving rules regarding co-location, each platform will need to be reviewed on a case by case basis)



## Revision History

| Revision | Description                                                                                                                                | Date               |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 10.3     | <u>Page2-5</u><br>Add Applicable test method, Test & System Description and Setup photo                                                    | July 24, 2022      |
| 10.4     | <u>Cover page</u><br>Add Intel 5.9GHz reference antenna gain<br><u>Cover page/Section1/Section3</u><br>Add 5.9GHz antenna gain information | September 15, 2022 |