

Regulatory WLAN Antenna Information

(English Language Required for Intel Regulatory Review / Approval)

| | |
|---------------------------------|--|
| Brand Name | <i>Quanta</i> |
| Model Name | <i>TW3</i> |
| Antenna Vendor | <i>Foxconn</i> |
| Antenna Part Number | <input checked="" type="checkbox"/> Main Antenna: WDAN-Q1TW3001-DF <input checked="" type="checkbox"/> Aux Antenna: WDAN-Q1TW3001-DF |
| With WLAN Module (Check Box) | <input type="checkbox"/> WM3B2100 <input type="checkbox"/> WM3B2200BG <input type="checkbox"/> WM3B2915ABG <input type="checkbox"/> WM3945ABG |

Antenna Sample / Antenna Data Requirements for worldwide regulatory approval

| Section | Description of Required OEM / ODM Antenna Information | US / IC | EU | Japan | Taiwan | S.Korea |
|---------|--|----------|----------|----------|-----------------------------|-----------------------------|
| 1A | Part Number for Antenna only | Required | Required | Required | Required | Required |
| 1B | Antenna Manufacturer Name | Required | Required | Required | Required | Required |
| 1C | Description of Antenna Type | Required | N/A | N/A | N/A | N/A |
| 1D | Part number of Antenna Assembly / cable impedance, length & diameter. | Required | Desired | Desired | Desired | Desired |
| 1E | Main & Aux antenna (Peak Gain W/ cable loss) | Required | Required | Required | Required | Required |
| | 1E OR 1F, 1G, 1H | | | | | |
| 1F | Main & Aux antenna (Peak Gain only) | Required | Required | Required | Required | Required |
| 1G | VSWR of cable including connector | Required | Required | Required | Required | Required |
| 1H | Main & Aux antenna (Cable loss W/ connector) | Required | Required | Required | Required | Required |
| 2 | Dimensioned Photographs and Drawings of main & auxiliary antennas | Required | Required | Required | Required | Required |
| 3 | Radiation patterns of antennas loaded in the host platform. | Required | Desired | Required | N/A | Required |
| 4 | Platform model name / number - correlated to antenna manufacturer and antenna part number | Required | Required | Desired | Required | Desired |
| 5 | Photograph(s) or Drawings showing location of antennas in platform. (S. Korea requires photographs of antennas for approval submission). Taiwan requires pictures of each antenna type shown in the system. | Required | Required | Desired | Required (Photos) | Required (Photos) |
| 6 | Mech. drawings / photos with dimensions of antenna locations and distance from end-user (For evaluation of SAR testing requirement). | Required | N/A | N/A | N/A | N/A |
| 7 | Photograph(s) or Drawings showing the location of all antennas (WLAN, BT, other) and distance between those transmitting antennas. Information will be used to evaluate whether co-location testing is required. | Required | N/A | N/A | N/A | N/A |
| 8 | Local representative contact information for LMA/ PARS process. | Required | N/A | N/A | N/A | N/A |

Antenna Information

Section 1. Antenna Assembly Specifications

Antenna Assembly Summary:

| 1A Antenna Part Number | 1B Manufacture | 1C Antenna Type | 1D Cable Assembly Part Number and Information | 1E *Peak Gain W/ Cable loss (dBi) | 1F Peak Gain w/o Cable Loss (dBi) | 1G VSWR | 1H Cable Loss (dBi) |
|---|---------------------------------------|-----------------------|--|--|--|-------------------------|-----------------------------------|
| (P/N: WDAN-Q1TW30 01-DF) Main antenna | HON HAI PRECISION IND. CO.,LTD. | PIFA | 1. Cable P/N: FOXCONN: 703-3200-211 2. Cable type: 32 AWG O.D. 1.13 mm 50 ohm coaxial cable 3. Cable length:650mm 4. Connector P/N: SGX0001-00 | 2400-2488MHz 1.62 dBi (peak) | 2400-2488MHz 3.385 dBi (peak) | 2400-2488MHz 2.0 max | 2400-2488MHz -1.765 dBi (peak) |
| | | | | 4900-5350MHz 1.26 dBi (peak) | 4900-5350MHz 3.919 dBi (peak) | 4900-5350MHz 2.0 max | 4900-5350MHz -2.659 dBi (peak) |
| | | | | 5470-5875MHz 0.19 dBi (peak) | 5470-5875MHz 2.94 dBi (peak) | 5470-5875MHz 2.0 max | 5470-5875MHz -2.75 dBi (peak) |
| (P/N: WDAN-Q1TW30 01-DF) Auxiliary antenna | HON HAI PRECISION IND. CO.,LTD. | PIFA | 1. Cable P/N: FOXCONN: 703-3208-211 2. Cable type: 32 AWG O.D. 1.13 mm 50 ohm coaxial cable 3. Cable length: 915mm 3. Connector P/N: SGX0001-00 | 2400-2488MHz 0.23 dBi (peak) | 2400-2488MHz 2.714 dBi (peak) | 2400-2488MHz 2.0max | 2400-2488MHz -2.484 dBi (peak) |
| | | | | 4900-5350MHz 0.05 dBi (peak) | 4900-5350MHz 3.794 dBi (peak) | 4900-5350MHz 2.0 max | 4900-5350MHz -3.744 dBi (peak) |
| | | | | 5470-5875MHz -0.96 dBi (peak) | 5470-5875MHz 2.912 dBi (peak) | 5470-5875MHz 2.0 max | 5470-5875MHz -3.872 dBi (peak) |

Antenna Peak Gain Table:

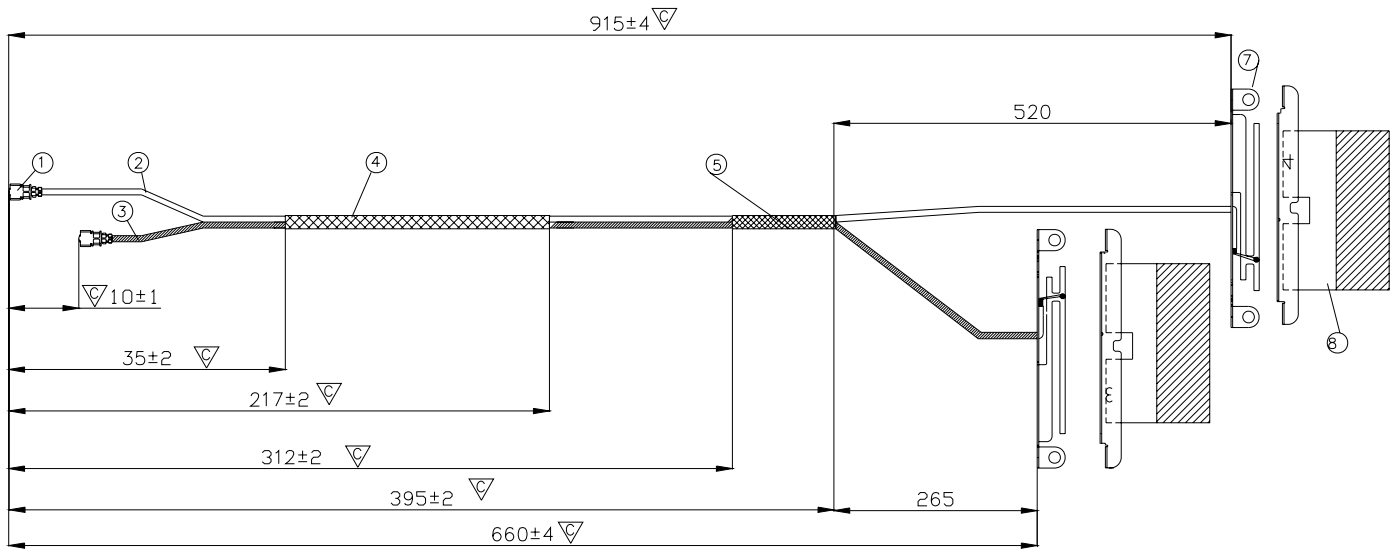
| Frequency (MHz) | Main antenna | | | Aux Antenna | | |
|-----------------|---------------------|-------------------|-------------------|---------------------|-------------------|-------------------|
| | Horizontal (dBi) | Vertical (dBi) | Hori+Ver (dBi) | Horizontal (dBi) | Vertical (dBi) | Hori+Ver (dBi) |
| 2400 | -1.03 | -0.65 | 0.85 | -1.71 | -1.64 | 0.23 |
| 2444 | -0.17 | -0.39 | 1.62 | -2.03 | -2.07 | -0.5 |
| 2488 | -0.61 | 0.21 | 1.08 | -3.02 | -3.11 | -1.51 |
| 4900 | -0.27 | -2.97 | 1.26 | -0.49 | -4.84 | 0.05 |
| 5125 | -1.88 | -0.01 | 1.12 | -1.33 | -2.38 | -0.72 |
| 5350 | -2.17 | -2.07 | -0.28 | -2.73 | -3.36 | -0.96 |
| 5470 | -1.64 | -1.98 | 0.19 | -2.86 | -3.28 | -0.96 |
| 5673 | -1.74 | -1.82 | 0.15 | -2.76 | -2.66 | -1.04 |
| 5875 | -2.63 | -1.39 | -0.01 | -3.65 | -3.7 | -2.13 |

- Antenna Peak Gain required being test in system basis.
- 1E frame contend absolutely peak antenna gain include H/ V/ H+V.

Section 2. Dimensioned Photos or Drawings of Antennas

Include a dimensioned photo and dimensioned drawing of main antenna here.

Antenna Dimensioned Drawing:



Main Antenna Photo:



(Aux Antenna)

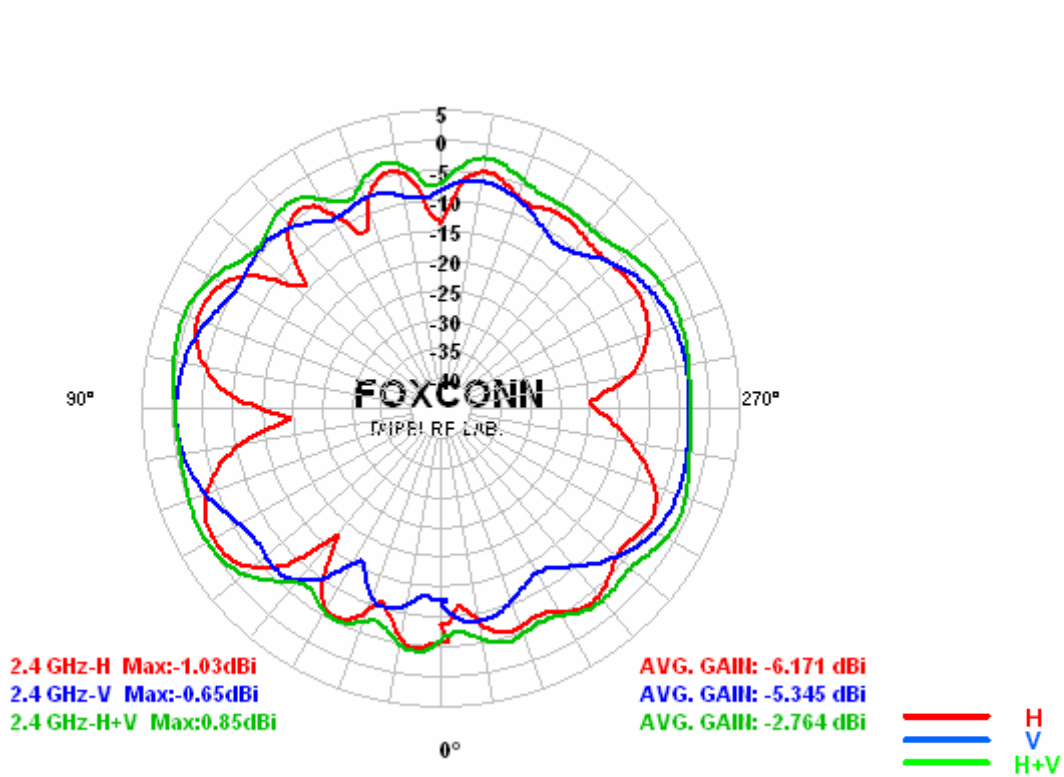


(Main Antenna)

Section 3. Radiation characteristics of antenna Loaded in Host Platform

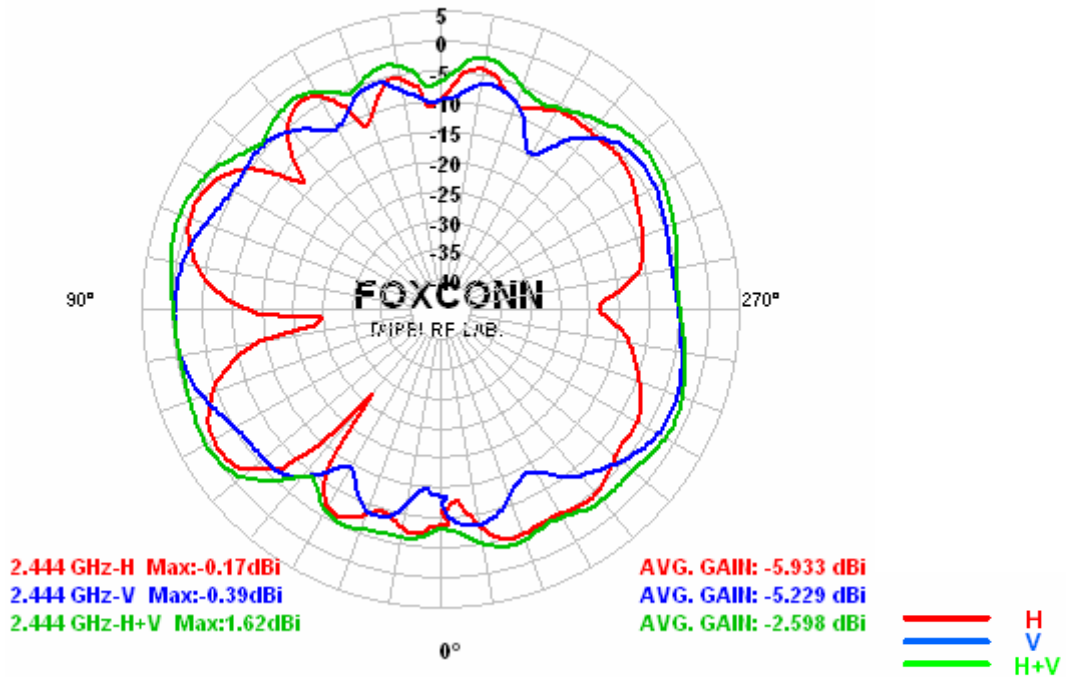
2400-2500MHz radiation characteristic

Main antenna: 2400 MHz



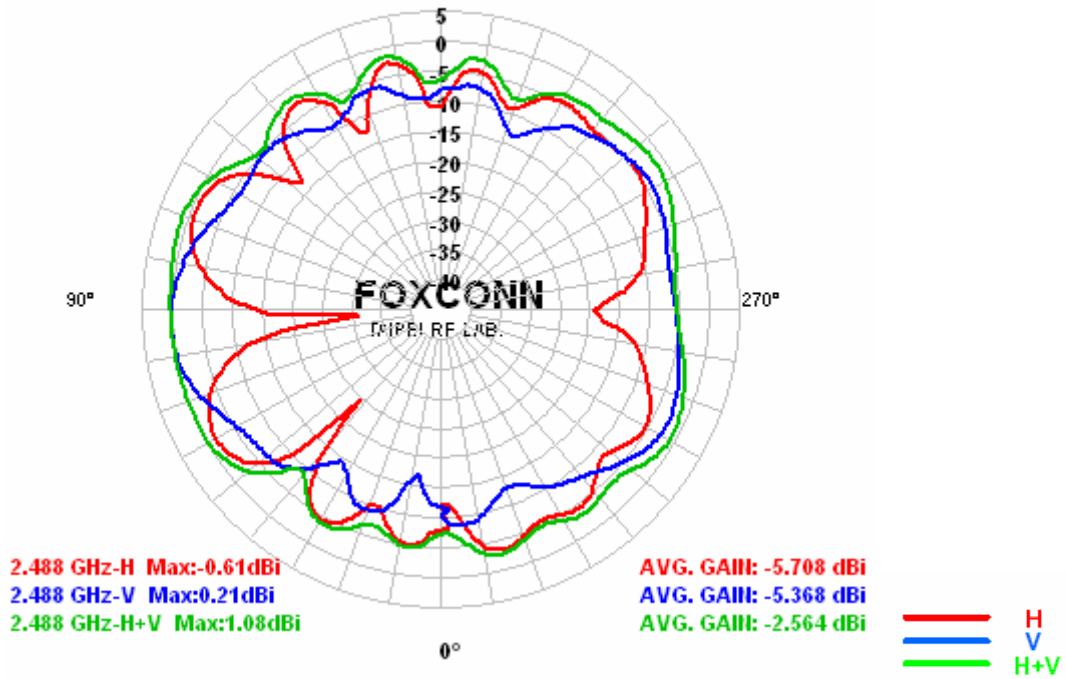
| | |
|-----------------------|-----------------|
| Center Frequency | 2400 MHz |
| Horizontal (dBi) peak | -1.03 |
| Vertical (dBi) peak | -0.65 |
| Horz+Vert (dBi) peak | 0.85 |

Main antenna: 2444 MHz



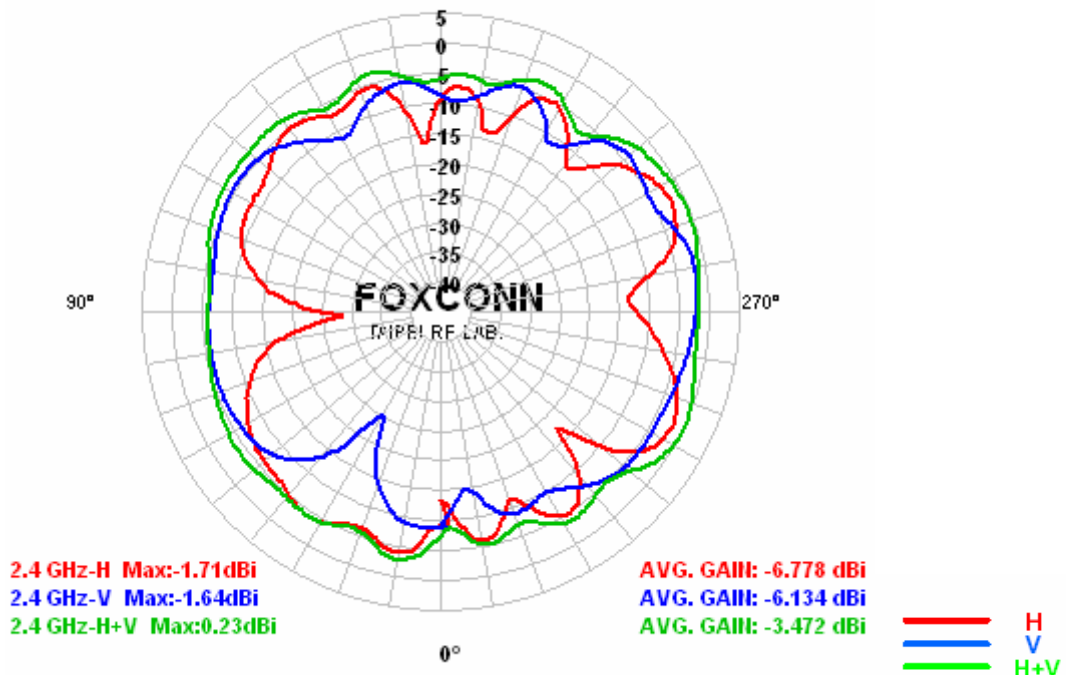
| | |
|-----------------------|-----------------|
| Center Frequency | 2444 MHz |
| Horizontal (dBi) peak | -0.17 |
| Vertical (dBi) peak | -0.39 |
| Horz+Vert (dBi) peak | 1.62 |

Main antenna: 2488 MHz



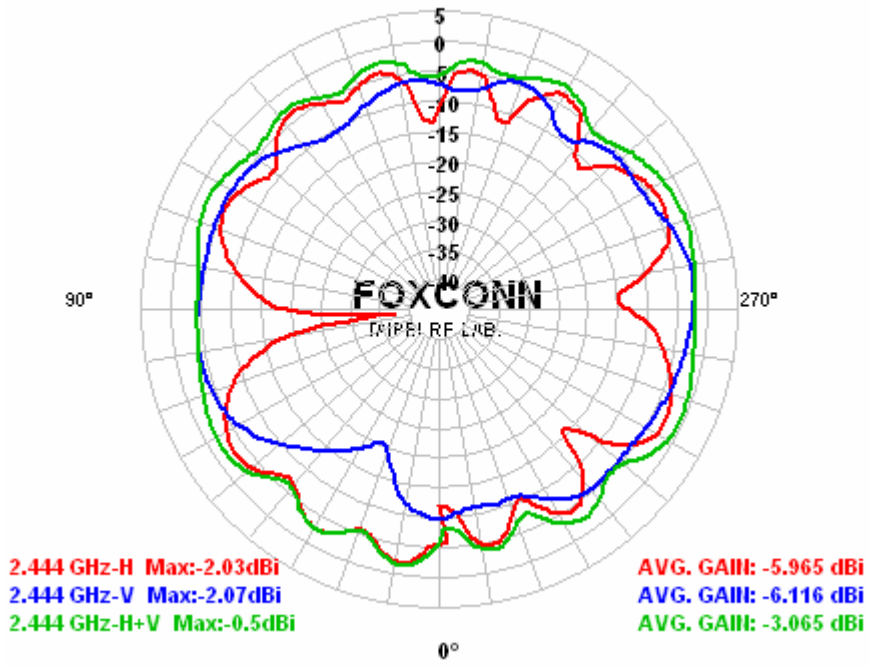
| | |
|-----------------------|-----------------|
| Center Frequency | 2488 MHz |
| Horizontal (dBi) peak | -0.61 |
| Vertical (dBi) peak | 0.21 |
| Horz+Vert (dBi) peak | 1.08 |

Auxiliary antenna: 2400 MHz



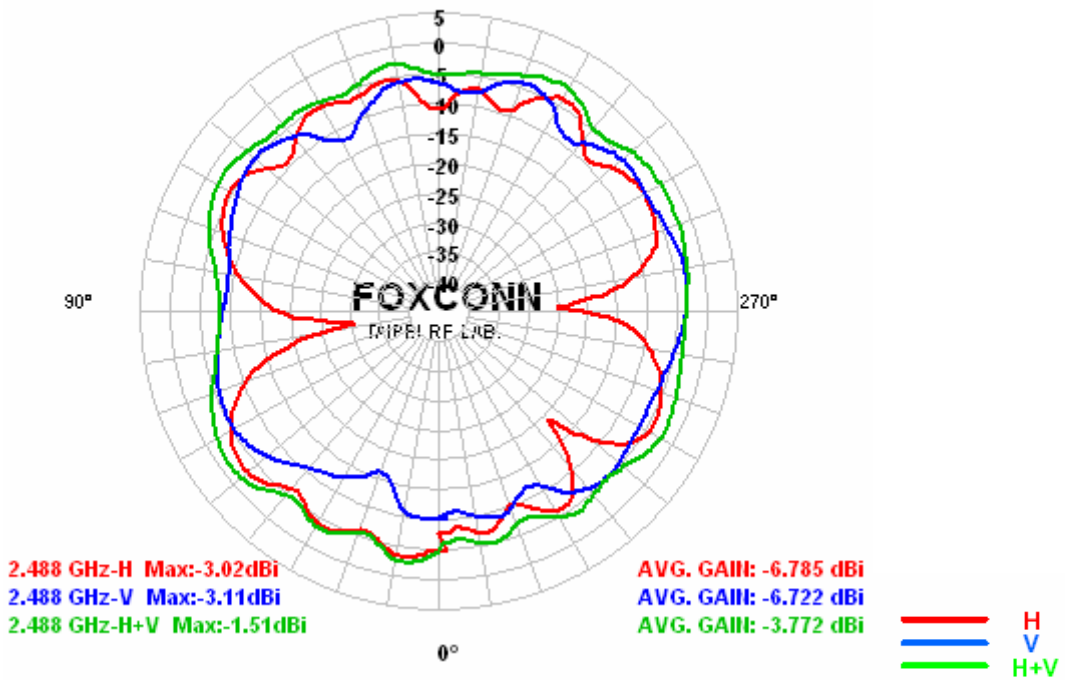
| | |
|-----------------------|-----------------|
| Center Frequency | 2400 MHz |
| Horizontal (dBi) peak | -1.71 |
| Vertical (dBi) peak | -1.64 |
| Horz+Vert (dBi) peak | 0.23 |

Auxiliary antenna: 2444 MHz



| | |
|-----------------------|-----------------|
| Center Frequency | 2444 MHz |
| Horizontal (dBi) peak | -2.03 |
| Vertical (dBi) peak | -2.07 |
| Horz+Vert (dBi) peak | -0.5 |

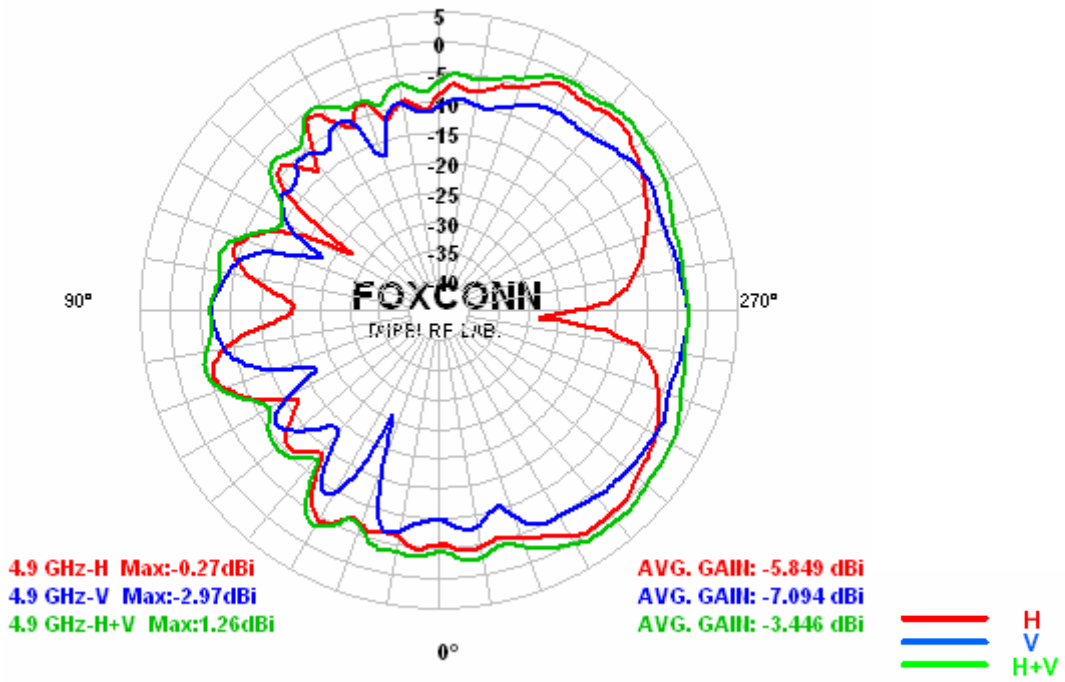
Auxiliary antenna: 2488 MHz



| | |
|-----------------------|-----------------|
| Center Frequency | 2500 MHz |
| Horizontal (dBi) peak | -3.02 |
| Vertical (dBi) peak | -3.11 |
| Horz+Vert (dBi) peak | -1.51 |

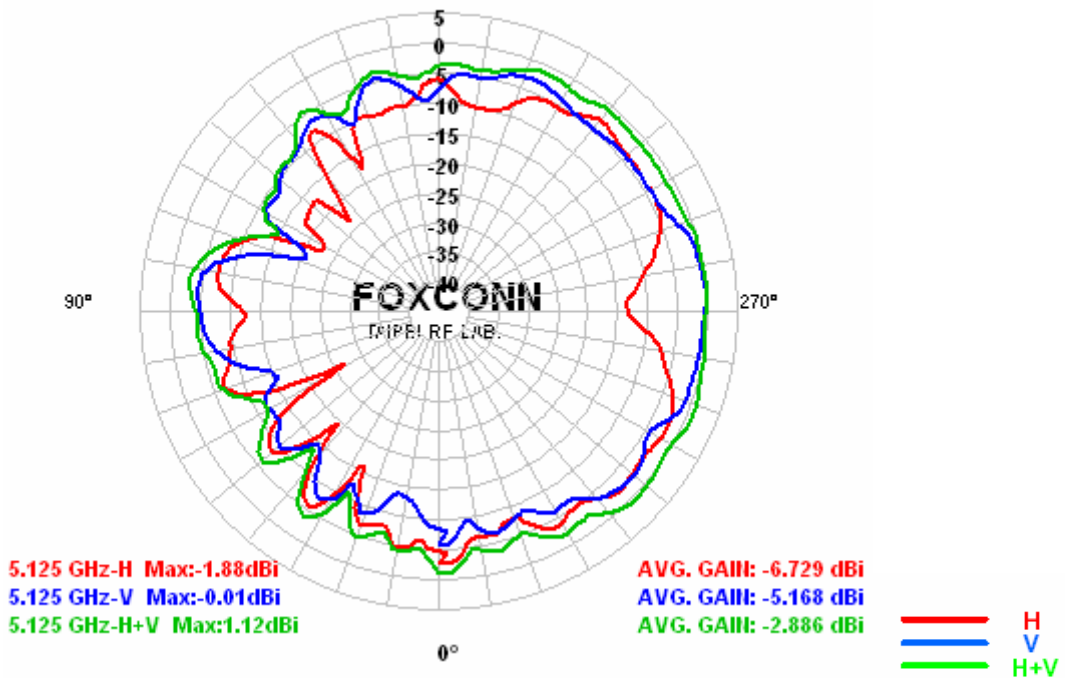
4900-5350 MHz radiation characteristic

Main antenna: 4900 MHz



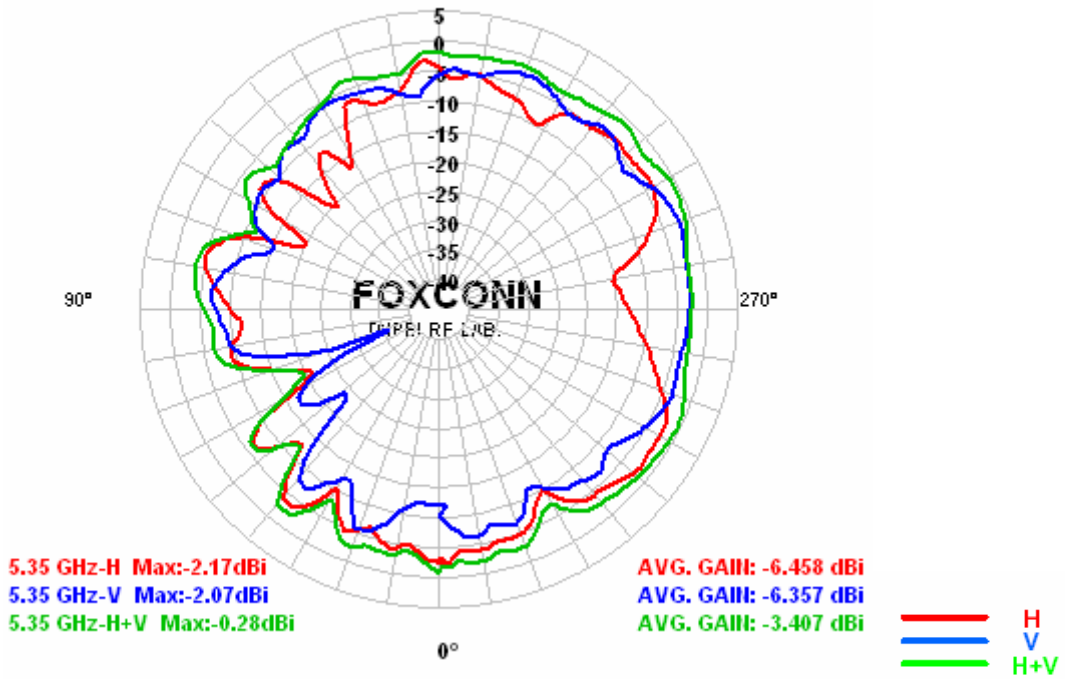
| | |
|-----------------------|-----------------|
| Center Frequency | 4900 MHz |
| Horizontal (dBi) peak | -0.27 |
| Vertical (dBi) peak | -2.97 |
| Horz+Vert (dBi) peak | 1.26 |

Main antenna: 5125 MHz



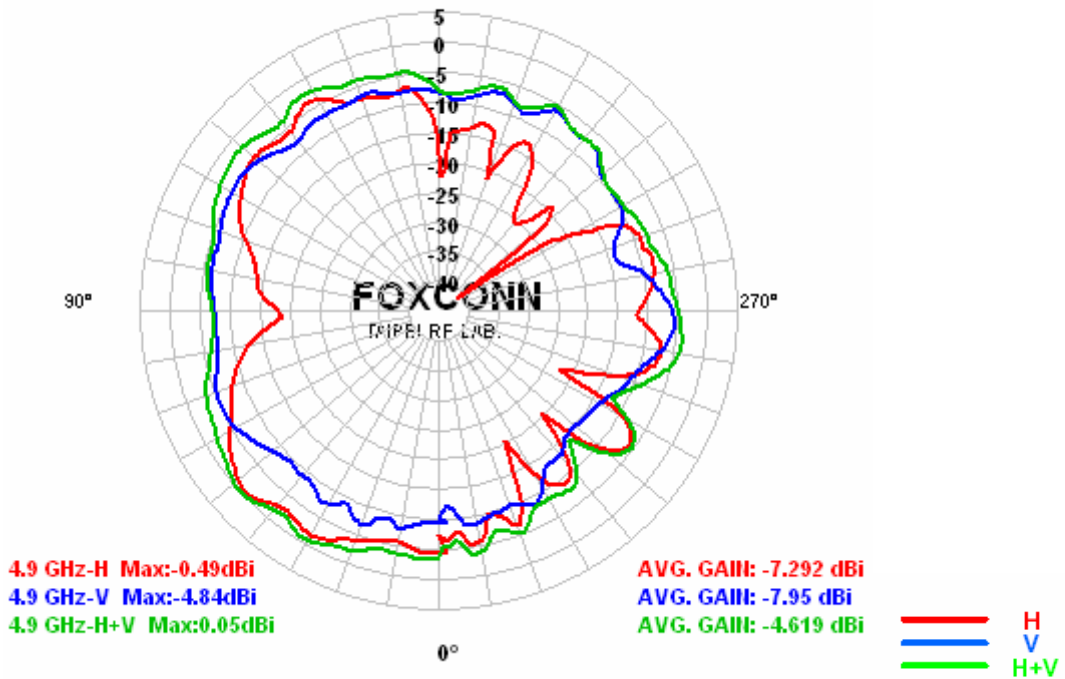
| | |
|-----------------------|-----------------|
| Center Frequency | 5125 MHz |
| Horizontal (dBi) peak | -1.88 |
| Vertical (dBi) peak | -0.01 |
| Horz+Vert (dBi) peak | 1.12 |

Main antenna: 5350 MHz



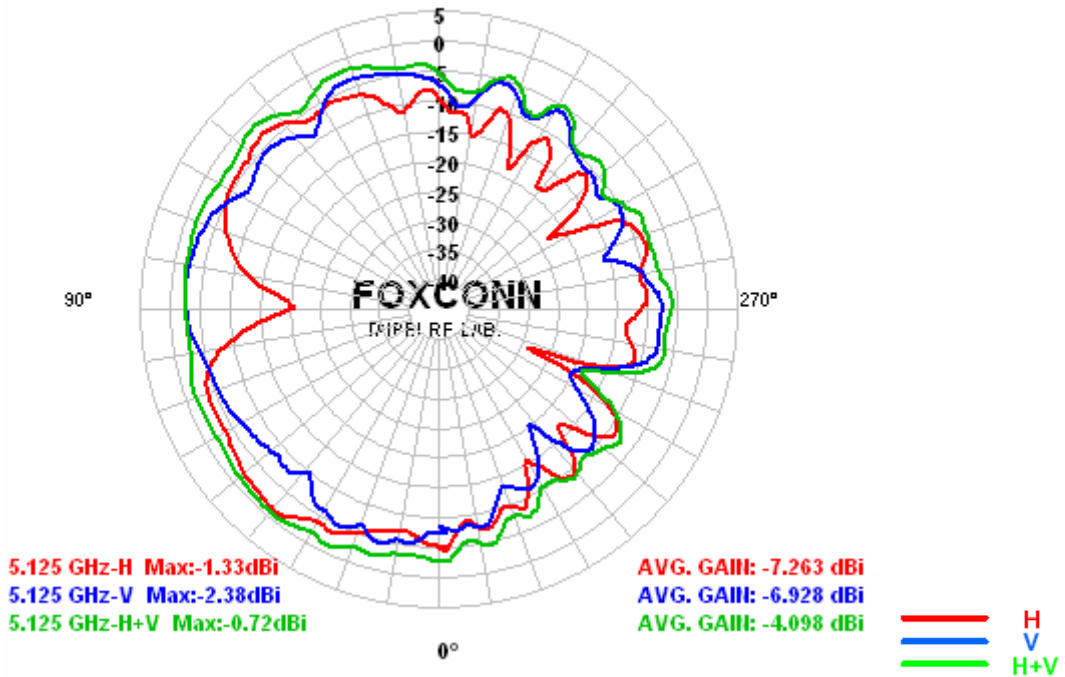
| | |
|-----------------------|-----------------|
| Center Frequency | 5350 MHz |
| Horizontal (dBi) peak | -2.17 |
| Vertical (dBi) peak | -2.07 |
| Horz+Vert (dBi) peak | -0.28 |

Auxiliary antenna: 4900 MHz



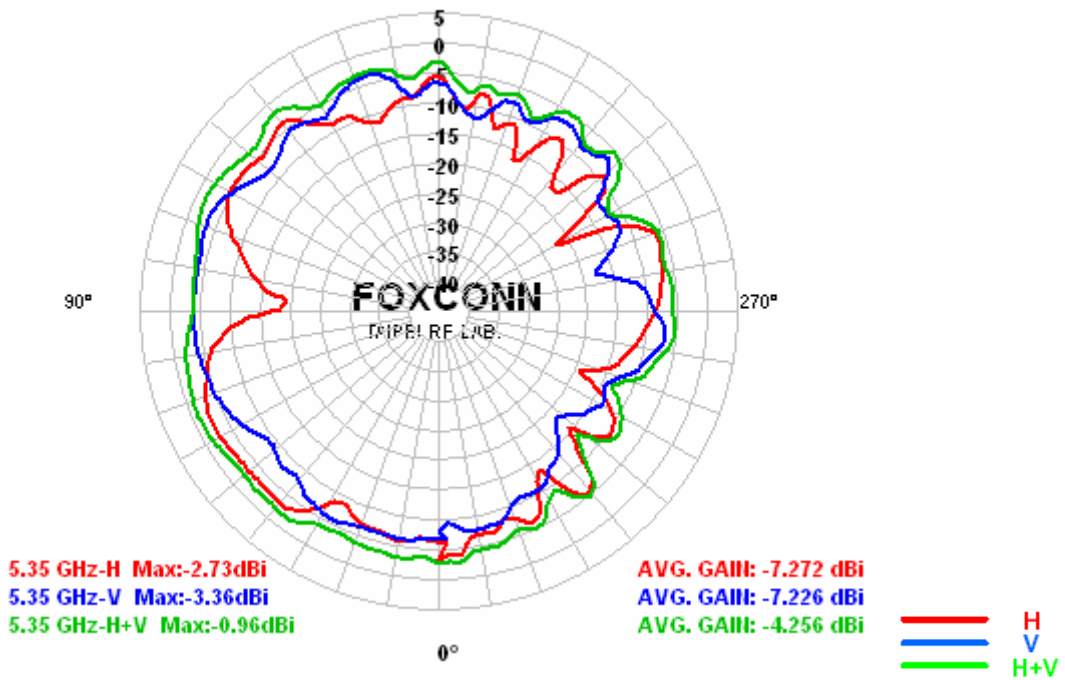
| | |
|-----------------------|-----------------|
| Center Frequency | 4900 MHz |
| Horizontal (dBi) peak | -0.49 |
| Vertical (dBi) peak | -4.84 |
| Horz+Vert (dBi) peak | 0.05 |

Auxiliary antenna: 5125 MHz



| | |
|-----------------------|-----------------|
| Center Frequency | 5125 MHz |
| Horizontal (dBi) peak | -1.33 |
| Vertical (dBi) peak | -2.38 |
| Horz+Vert (dBi) peak | -0.72 |

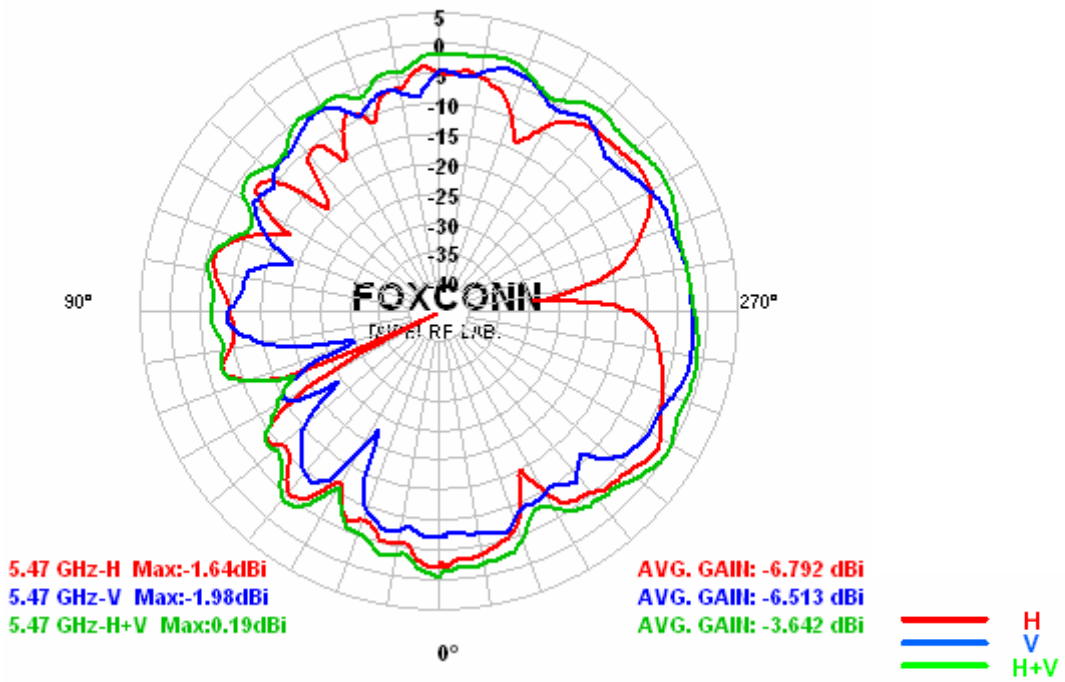
Auxiliary antenna: 5350 MHz



| | |
|-----------------------|-----------------|
| Center Frequency | 5350 MHz |
| Horizontal (dBi) peak | -2.73 |
| Vertical (dBi) peak | -3.36 |
| Horz+Vert (dBi) peak | -0.96 |

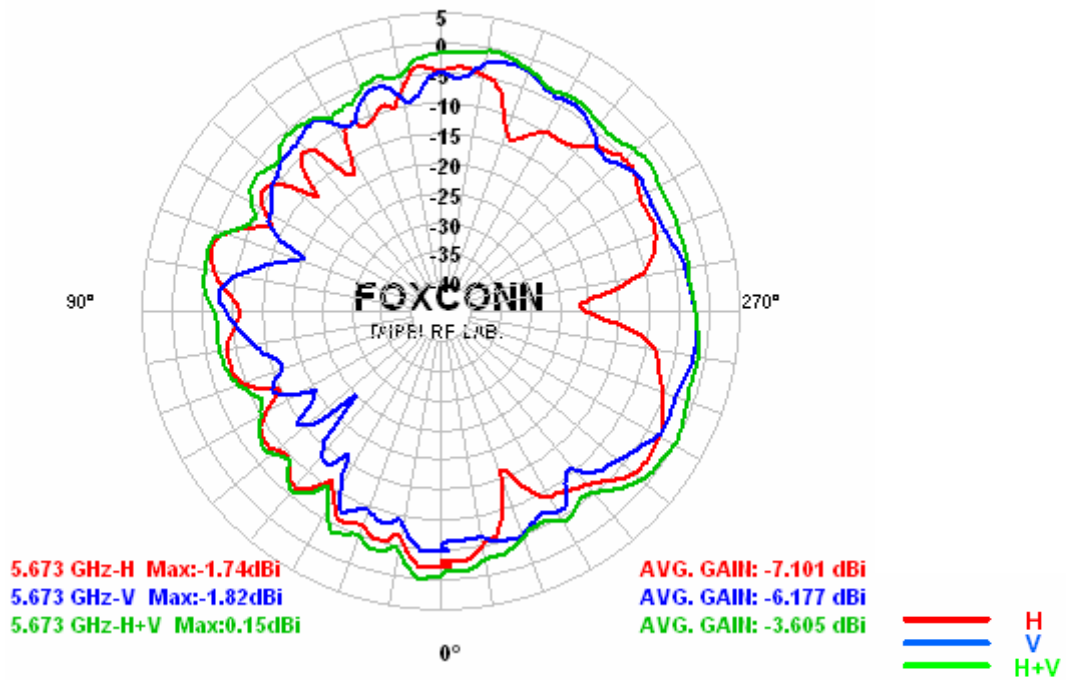
5470-5875MHz radiation characteristic

Main antenna: 5470 MHz



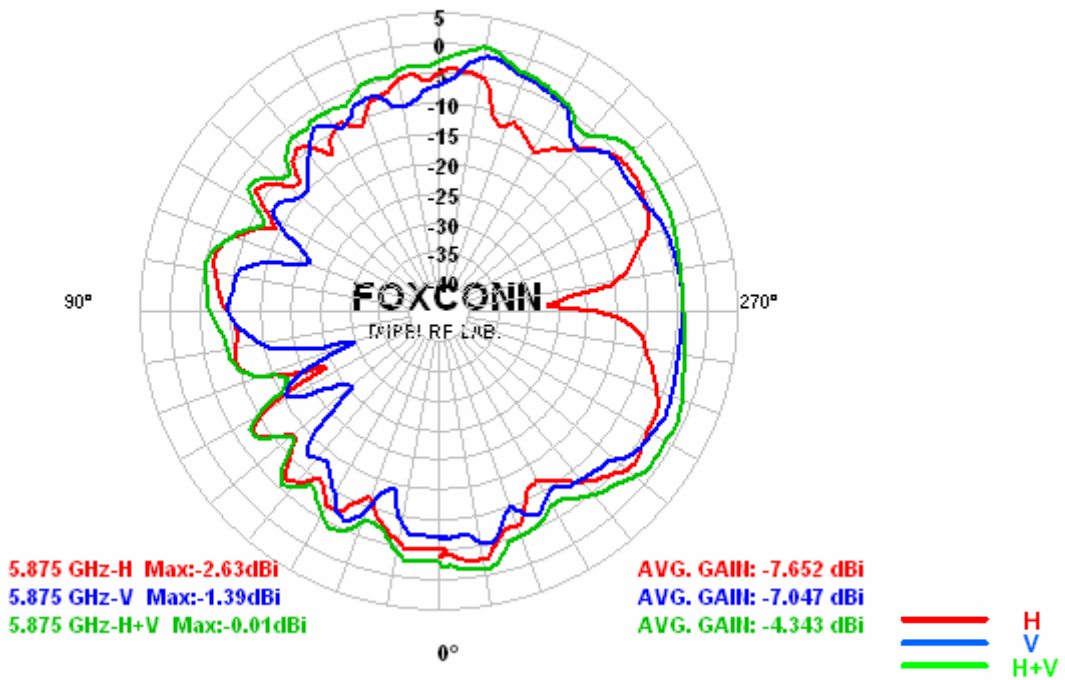
| | |
|-----------------------|-----------------|
| Center Frequency | 5470 MHz |
| Horizontal (dBi) peak | -1.64 |
| Vertical (dBi) peak | -1.98 |
| Horz+Vert (dBi) peak | 0.19 |

Main antenna: 5673 MHz



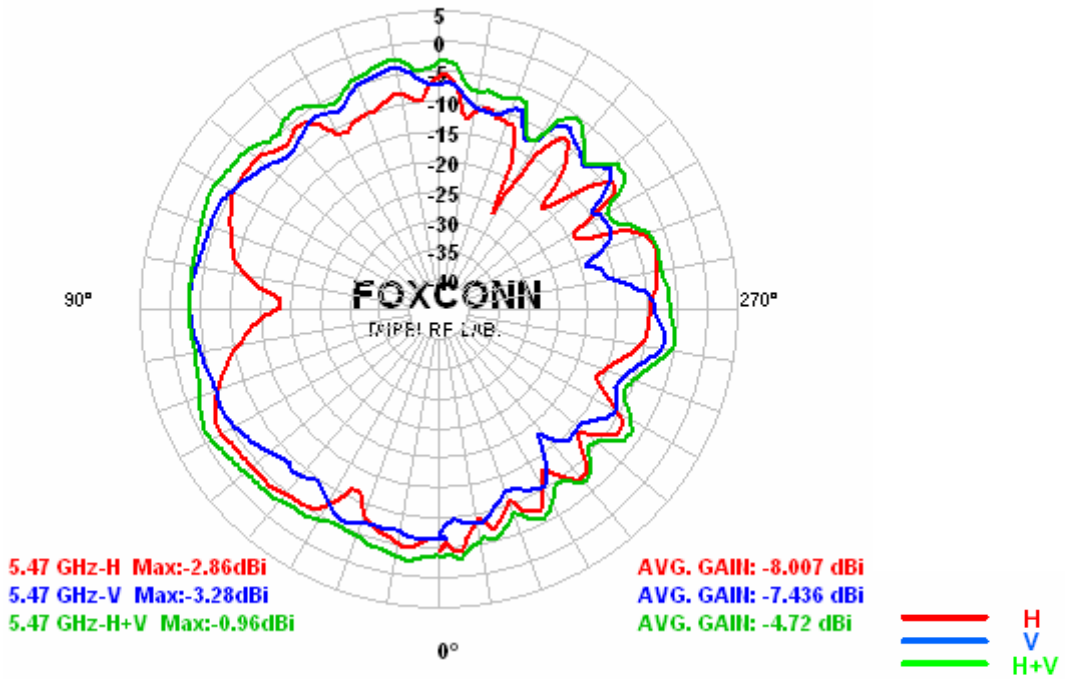
| | |
|-----------------------|-----------------|
| Center Frequency | 5673 MHz |
| Horizontal (dBi) peak | -1.74 |
| Vertical (dBi) peak | -1.82 |
| Horz+Vert (dBi) peak | 0.15 |

Main antenna: 5875 MHz



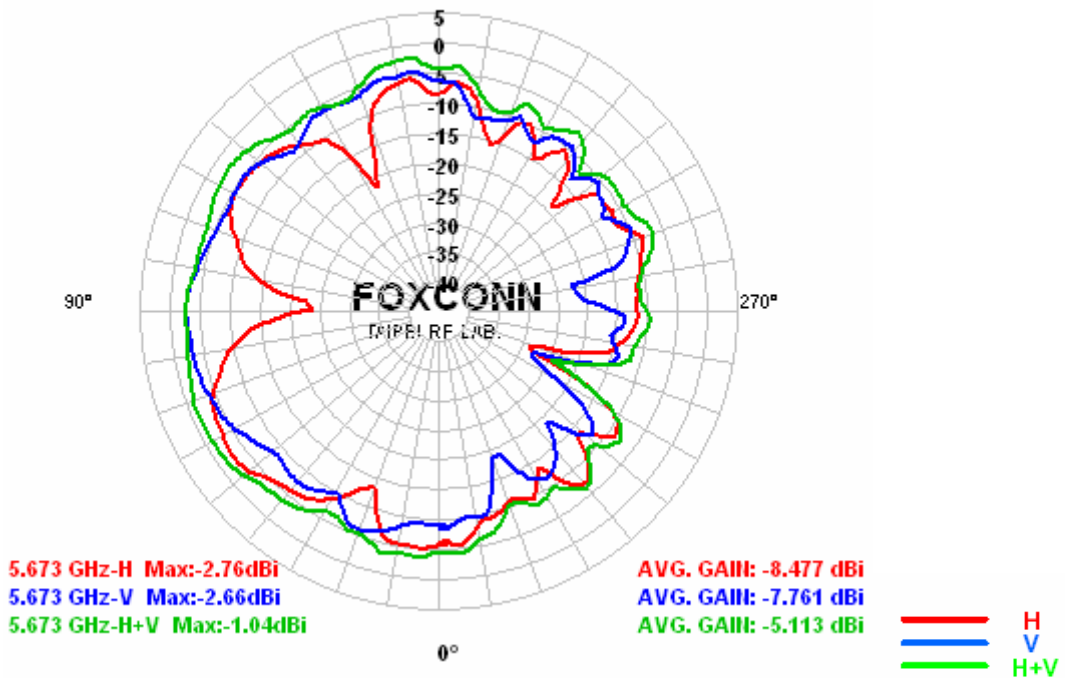
| | |
|-----------------------|-----------------|
| Center Frequency | 5825 MHz |
| Horizontal (dBi) peak | -2.63 |
| Vertical (dBi) peak | -1.39 |
| Horz+Vert (dBi) peak | -0.01 |

Auxiliary antenna: 5470 MHz



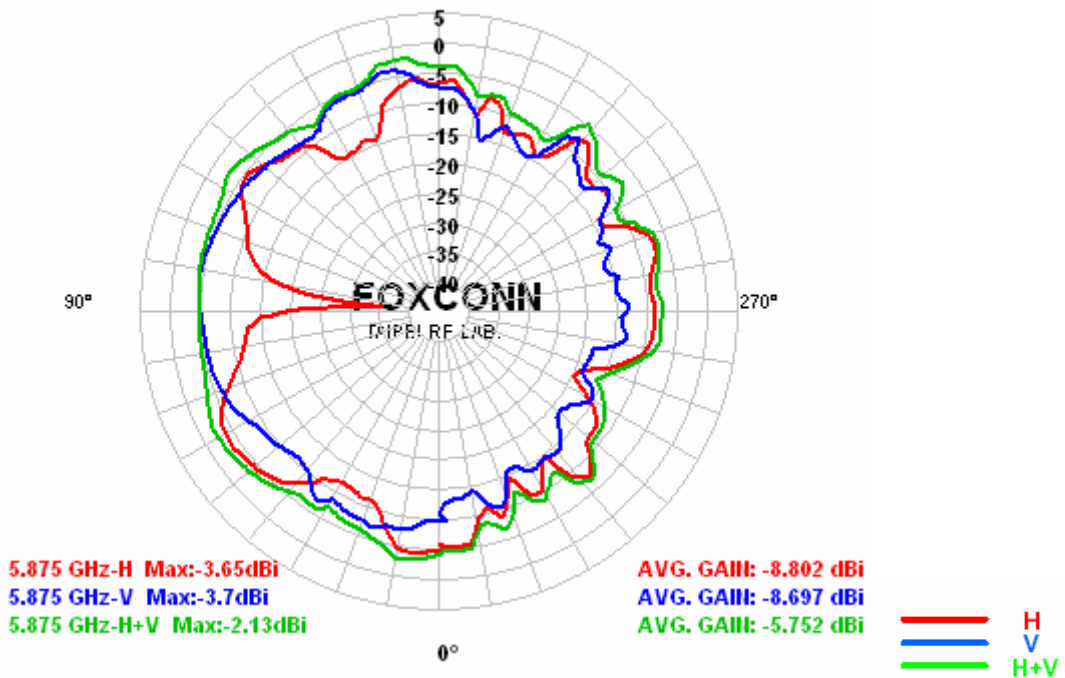
| | |
|-----------------------|-----------------|
| Center Frequency | 5470 MHz |
| Horizontal (dBi) peak | -2.86 |
| Vertical (dBi) peak | -3.28 |
| Horz+Vert (dBi) peak | -0.96 |

Auxiliary antenna: 5673 MHz



| | |
|-----------------------|-----------------|
| Center Frequency | 5673 MHz |
| Horizontal (dBi) peak | -2.76 |
| Vertical (dBi) peak | -2.66 |
| Horz+Vert (dBi) peak | -1.04 |

Auxiliary antenna: 5875 MHz

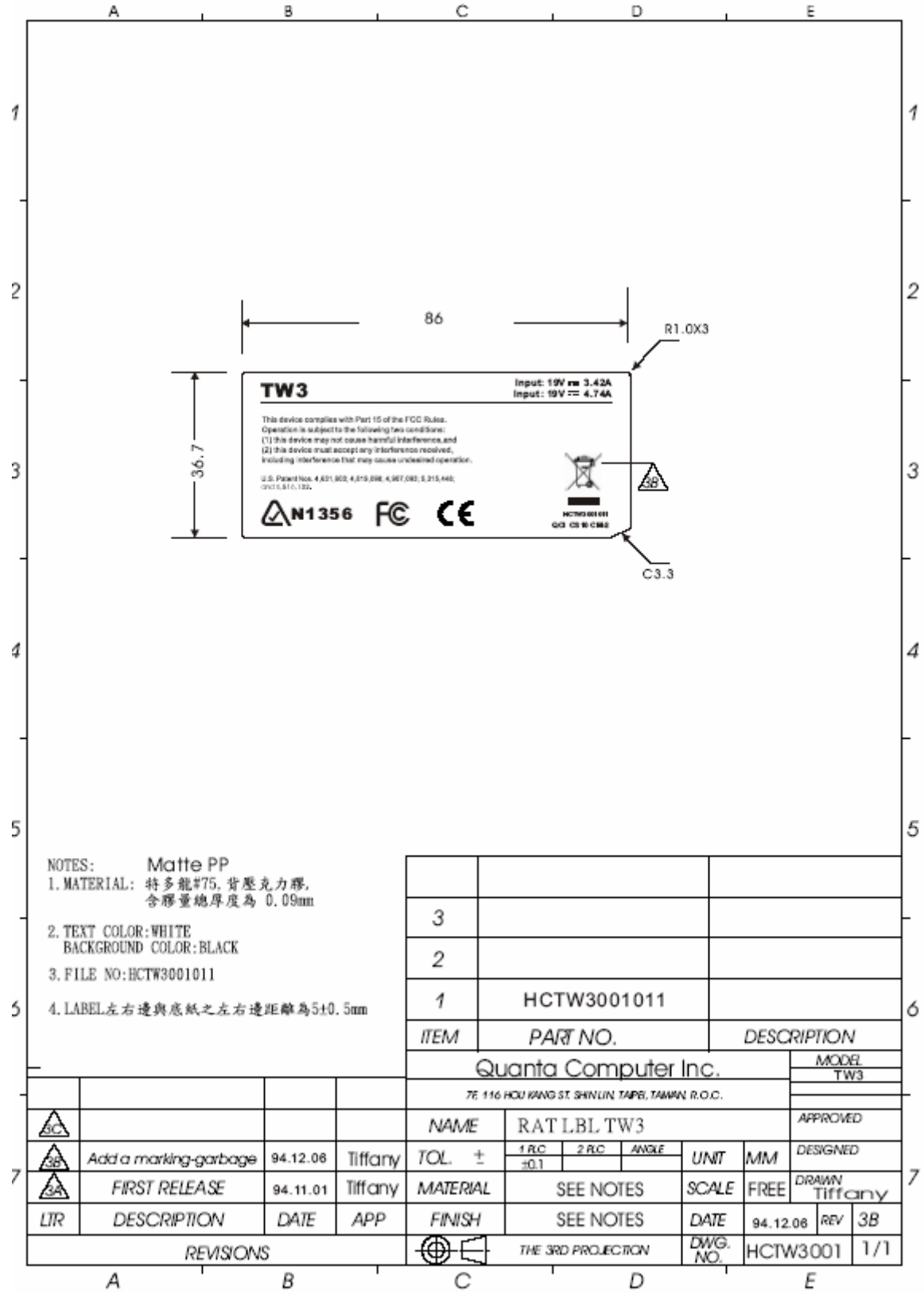


| | |
|-----------------------|-----------------|
| Center Frequency | 5875 MHz |
| Horizontal (dBi) peak | -3.65 |
| Vertical (dBi) peak | -3.7 |
| Horz+Vert (dBi) peak | -2.13 |

Section 4. Host Platform Information

OEM / ODM Host platform: (XXXXXXX) platform correlated to antenna data

Rating Label Photo:

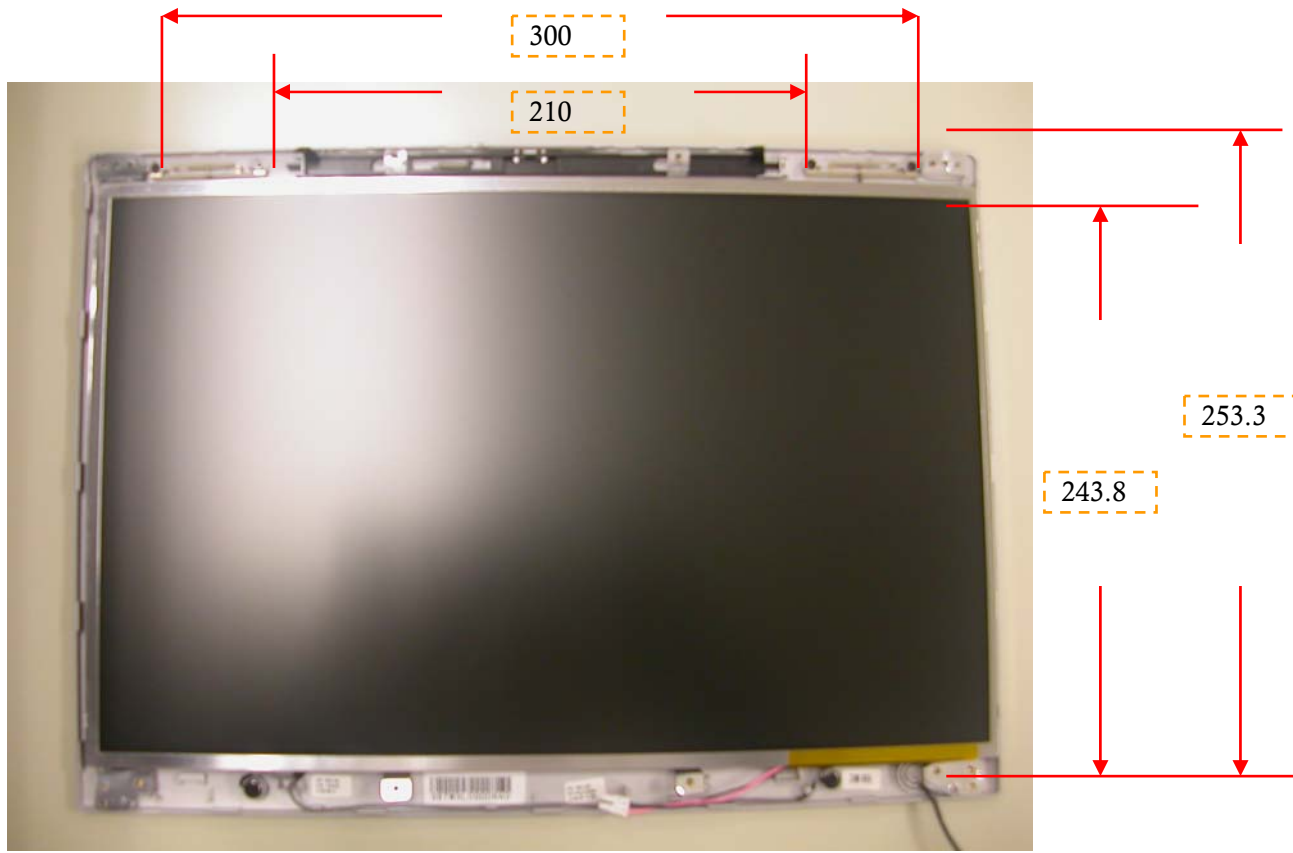
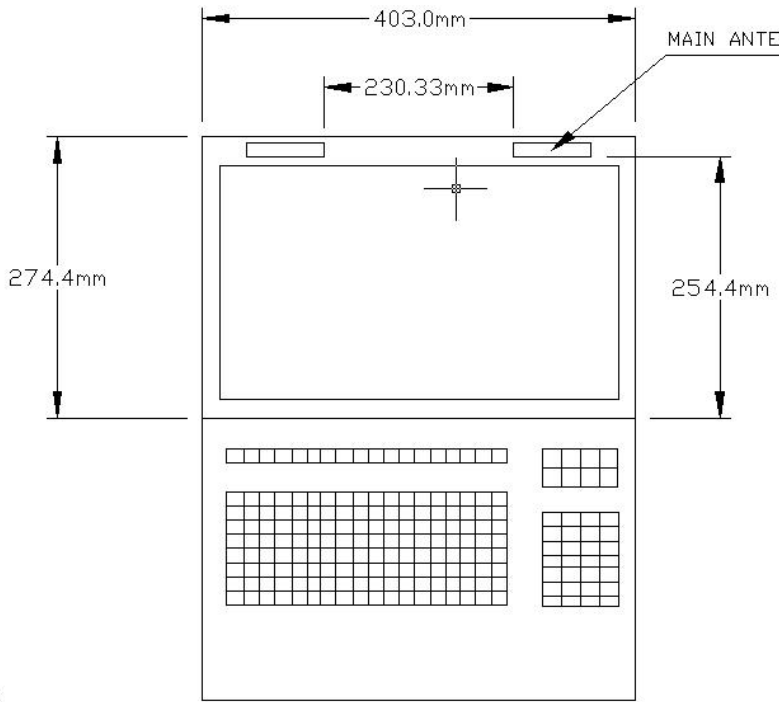


Module Location Photo: (if Singapore required)



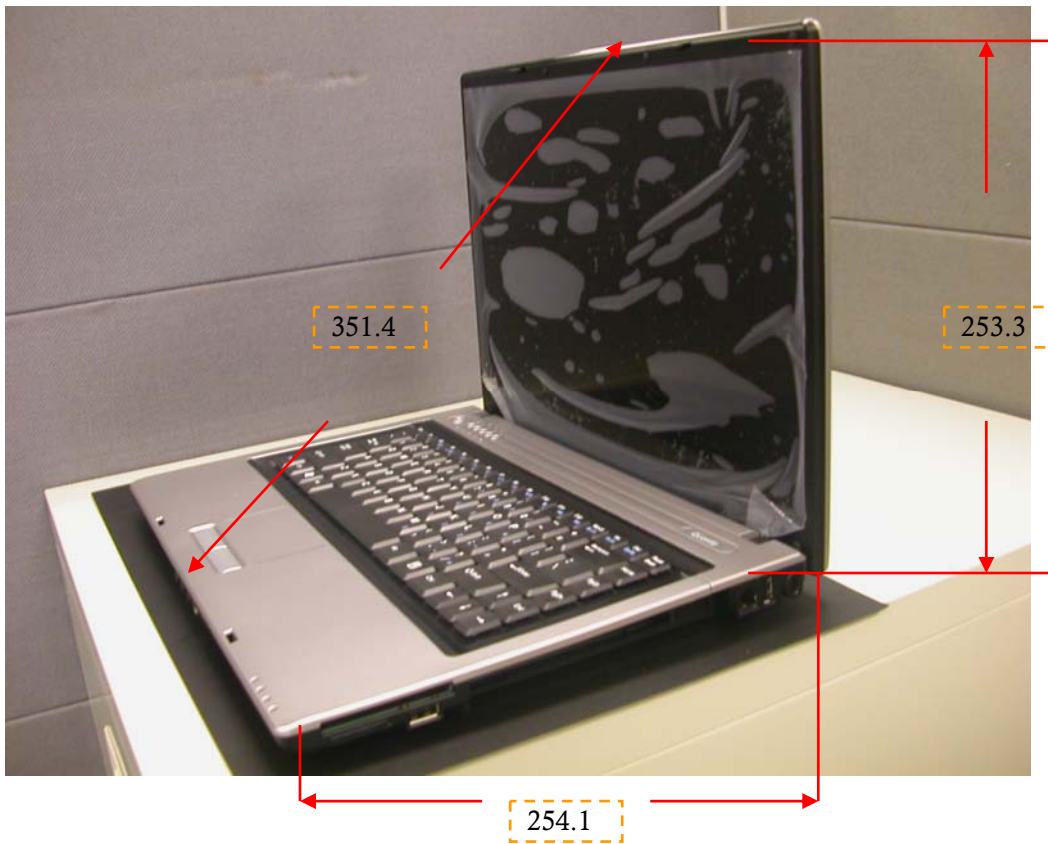
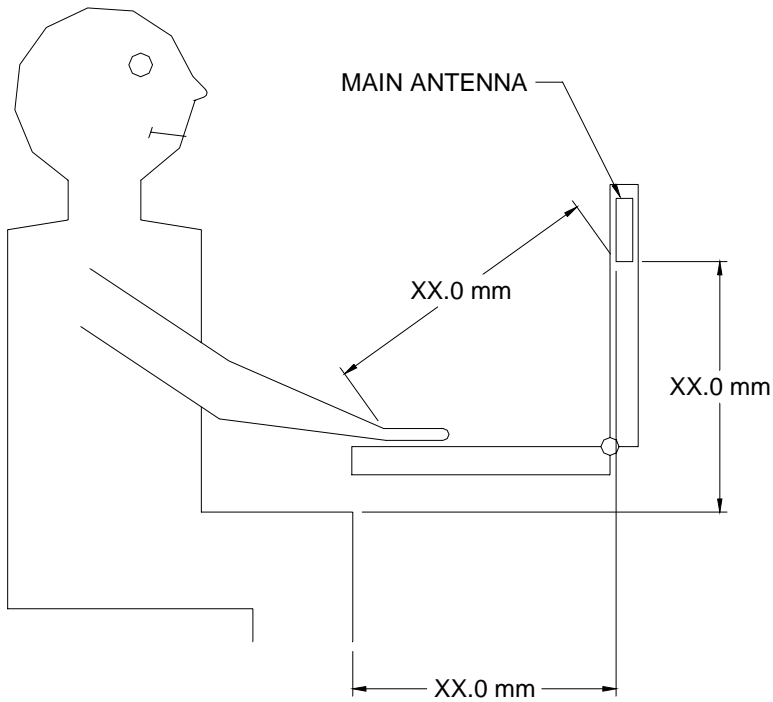
Section 5. Antenna Host Platform Location Information

Include a **dimensioned photo or dimensioned drawing** of main and auxiliary antenna placements.



Section 6. Antenna dimensional information for SAR evaluation

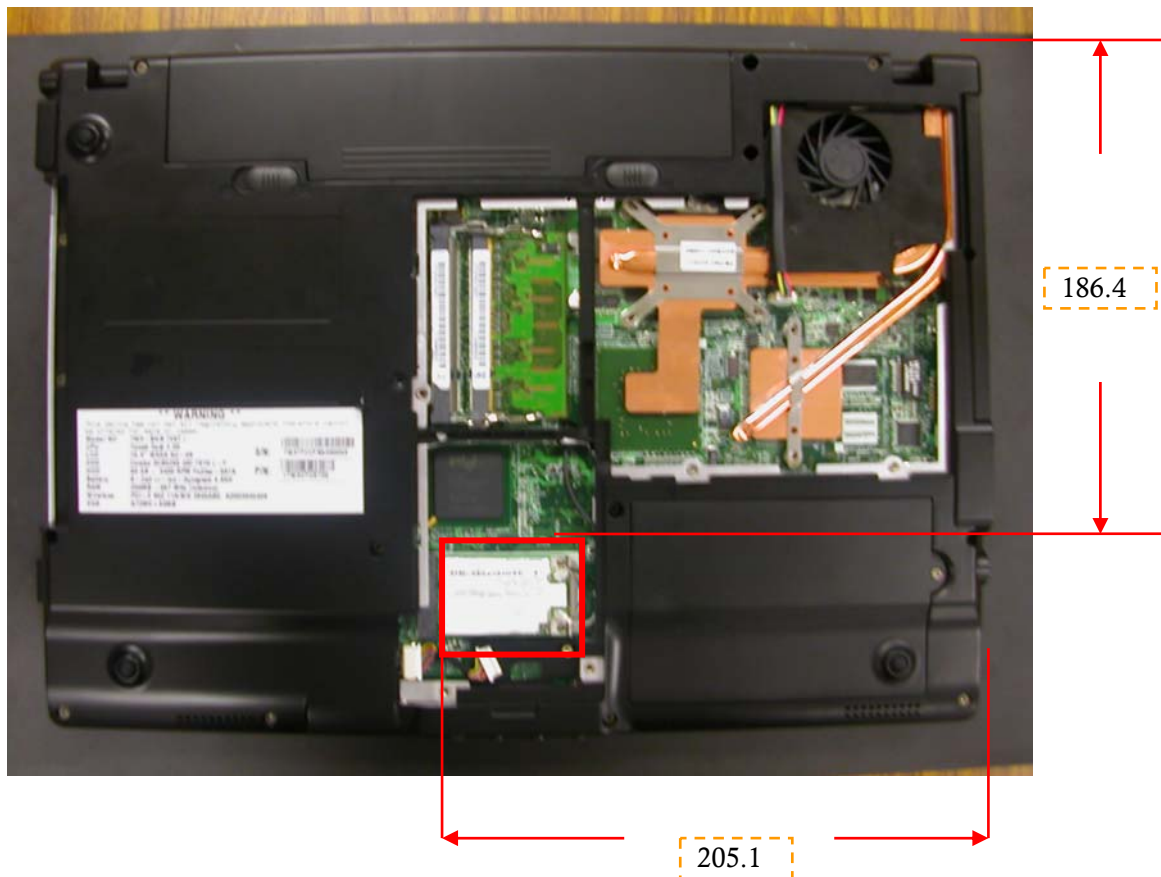
Include a **dimensioned photo or dimensioned drawing** showing the distance (mm) between the transmit (main) antenna and the user (excluding hands, wrist, feet, and ankle)



Section 7. Diagram Example of Co-Location Antenna Separation

Include a **dimensioned photo or dimensioned drawing** showing the distance (mm) between WLAN antenna and 2nd radiator transmit antenna.

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



Section 8. Local representative contact information

Local representative contact information is required for regulatory support for target countries below.

| | Local company name | Contact name | Phone number | FAX Number | e-Mail Address | Notes |
|--------------------|--------------------|--------------|--------------|------------|----------------|---|
| Argentina | | | | | | |
| Brazil | | | | | | |
| Indonesia | | | | | | |
| Israel | | | | | | |
| Malaysia | | | | | | |
| Mexico | | | | | | |
| Singapore | | | | | | Telecommunication Equipment Dealer License Required |
| USA, Canada | | | | | | |