

# Regulatory WWAN Antenna Information

| Platform information |   |                                  |   |                                  |                                  |                              |
|----------------------|---|----------------------------------|---|----------------------------------|----------------------------------|------------------------------|
| Brand                | ODM   | Platform model name              | Platform type (ex: regular NB, convertible PC, AIO...etc) |                                  |                                  | *SAR minimum separation (mm) |
| HP Inc.              | Inventec  | HSN-I45C-6                       | Notebook PC   |                                  |                                  | 23.55 mm                     |
| Antenna information  |   |                                  |   |                                  |                                  | Maximum Peak gain            |
| Vendor               | Type  | Antenna Part number (Ant5 TX/RX) | Antenna Part number (Ant6 RX)                             | Antenna Part number (Ant7 RX)    | Antenna Part number (Ant8 TX/RX) | 1880MHz                      |
| HONG-BO              | PIFA  | 6036B0309201<br>(00-3302700650)  | 6036B0309101<br>(00-3302700750)                           | 6036B0309401<br>( 00-2602750250) | 6036B0309601<br>(00-2602750350)  | 1.39 dBi                     |
| Module information   |   |                                  |   |                                  |                                  |                              |
| Model                | Form factor and suffixes ( NGW/ HMW AND AN/ NB/ BN....) |                                  |   |                                  |                                  |                              |
| Kavalan 4            | Fibocom FM350-GL WWAN 4x4 5G NR radio module            |                                  |   |                                  |                                  |                              |
|                      |   |                                  |   |                                  |                                  |                              |
|                      |   |                                  |   |                                  |                                  |                              |
|                      |   |                                  |   |                                  |                                  |                              |
|                      |   |                                  |   |                                  |                                  |                              |
|                      |   |                                  |   |                                  |                                  |                              |
|                      |   |                                  |   |                                  |                                  |                              |

| Antenna vendor connect person |   |
|-------------------------------|---|
| Antenna Vendor                | HONGBO Wireless Communication Technology Co., LTD   |
| contact person                | Mirabelle Chou  |
| E-mail                        | <a href="mailto:mirabellechou@hong-bo.com.tw">mirabellechou@hong-bo.com.tw</a>            |
| Tel/Mobile                    | 02-2792-6009 EXT: 683   |
| Web address                   | <a href="https://www.hong-lin.com.cn/index.php">https://www.hong-lin.com.cn/index.php</a> |

## 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 Assembly   | 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      | Tx antenna Gain (Peak Gain W/ cable loss) *  | Required | Required | Required | Required                 | Required                 |
| 2       | Dimensioned Photographs and Drawings of Tx and Rx antennas   | Required | Required | Required | Required                 | Required                 |
| 3       | Radiation patterns of antennas loaded in the host platform.  | N/A      | Required | Required | Required                 | N/A                      |
| 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  | <u>Required (Photos)</u> | <u>Required (Photos)</u> |
| 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, 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                      |

Test location: 1F, No. 8, Alley 15, Lane 120, Sec. 1, NeiHu Road NeiHu District, Taipei City 11493, Taiwan  
 Testing date: 2022/12/20

## Equipment list

| Equipment Description                 | Manufacturer | Identification no.           | Current calibration date | Next calibration date |
|---------------------------------------|--------------|------------------------------|--------------------------|-----------------------|
| Network analyzer                      | Agilent      | E5071C                       | 2022/01/07               | 2023/01/06            |
| Measurement software                  | ETS-Lindgren | EMQuest                      | N/A                      | N/A                   |
| Multi axis positioning system(MAPSTM) | ETS-Lindgren | EMCO 2115                    | N/A                      | N/A                   |
| Multi axis positioning system(MAPSTM) | ETS-Lindgren | EMCO 2110                    | N/A                      | N/A                   |
| MAPSTM controller                     | ETS-Lindgren | EMCO 2090                    | N/A                      | N/A                   |
| Horn antenna                          | ETS-Lindgren | 3164-10                      | 2022/03/03               | 2023/03/03            |
| ETS OTA Chamber                       | ETS-Lindgren | AMS-8500                     | 2022/03/03               | 2023/03/03            |
| Cable                                 | ETS-Lindgren | RFC<br>SMS-100-NMR<br>Series | N/A                      | N/A                   |

Note: Chamber calibration included full set of implement

## Antenna Information

### Section 1. Antenna Assembly Specifications

| Communication System       | Band | Frequency(MHz) from low to high spectrum |      | 1A Part Number for Antenna Assembly | 1B Antenna Manufacturer Name | 1C Description of Antenna Type | 1D Tx Antenna Gain (dBi) Ant5 |
|----------------------------|------|--|------|-------------------------------------|------------------------------|--------------------------------|-------------------------------|
| WCDMA/<br>LTE/5G NR<br>FR1 | 1    | 1920                                     | 1980 | Ant5 :<br>6036B0309201              | 00-3302700650                | PIFA                           | 0.57                          |
| WCDMA/<br>LTE/5G NR<br>FR1 | 2    | 1850                                     | 1910 |                                     |                              |                                | 1.39                          |
| LTE/5G NR<br>FR1           | 3    | 1710                                     | 1785 |                                     |                              |                                | 0.04                          |
| WCDMA/ LTE                 | 4    | 1710                                     | 1755 |                                     |                              |                                | -0.53                         |
| WCDMA/<br>LTE/5G NR<br>FR1 | 5    | 824                                      | 849  |                                     |                              |                                | -3.24                         |
| LTE/5G NR<br>FR1           | 7    | 2500                                     | 2570 |                                     |                              |                                | 0.29                          |
| WCDMA/<br>LTE/5G NR<br>FR1 | 8    | 880                                      | 915  |                                     |                              |                                | -4.61                         |
| LTE                        | 12   | 699                                      | 716  |                                     |                              |                                | -2.29                         |
| LTE                        | 13   | 777                                      | 787  |                                     |                              |                                | -0.94                         |
| LTE                        | 14   | 788                                      | 798  |                                     |                              |                                | -1.30                         |
| LTE                        | 17   | 704                                      | 716  |                                     |                              |                                | -2.29                         |
| LTE                        | 18   | 815                                      | 830  |                                     |                              |                                | -2.44                         |
| LTE                        | 19   | 830                                      | 845  |                                     |                              |                                | -3.24                         |
| LTE/5G NR<br>FR1           | 20   | 832                                      | 862  |                                     |                              |                                | -3.24                         |
| LTE/5G NR<br>FR1           | 25   | 1850                                     | 1915 |                                     |                              |                                | 1.39                          |
| LTE                        | 26   | 814                                      | 849  |                                     |                              |                                | -2.44                         |
| LTE/5G NR<br>FR1           | 28   | 703                                      | 748  |                                     |                              |                                | -1.31                         |
| LTE/5G NR<br>FR1           | 30   | 2305                                     | 2315 |                                     |                              |                                | -0.58                         |
| LTE                        | 34   | 2010                                     | 2025 |                                     |                              |                                | 1.44                          |
| LTE/5G NR<br>FR1           | 38   | 2570                                     | 2620 |                                     |                              |                                | 0.29                          |
| LTE                        | 39   | 1880                                     | 1920 |                                     |                              |                                | 1.39                          |
| LTE/5G NR<br>FR1           | 40   | 2300                                     | 2400 |                                     |                              |                                | -0.58                         |
| LTE/5G NR<br>FR1           | 41   | 2496                                     | 2690 |                                     |                              |                                | 0.29                          |
| LTE                        | 42   | 3400                                     | 3600 |                                     |                              |                                | -1.03                         |
| LTE                        | 43   | 3600                                     | 3800 |                                     |                              |                                | -1.03                         |
| LTE/5G NR<br>FR1           | 66   | 1710                                     | 1780 |                                     |                              |                                | 0.04                          |
| LTE/5G NR<br>FR1           | 71   | 663                                      | 698  | -4.02                               |                              |                                |                               |
| 5G NR FR1                  | 77   | 3300                                     | 4200 | 0.57                                |                              |                                |                               |
| 5G NR FR1                  | 78   | 3300                                     | 3800 | 1.39                                |                              |                                |                               |
| 5G NR FR1                  | 79   | 4400                                     | 5000 | 0.04                                |                              |                                |                               |

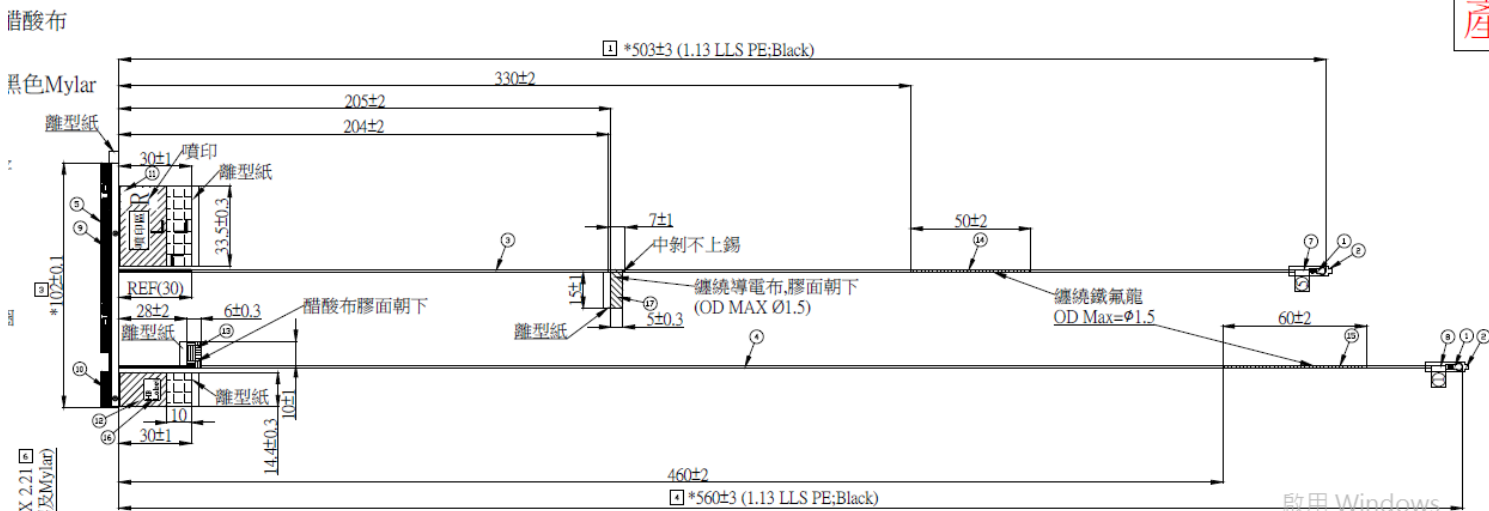
| Communication System | Band | Frequency(MHz) from low to high spectrum |      | 1A Part Number for Antenna Assembly | 1B Antenna Manufacturer Name | 1C Description of Antenna Type | 1D Tx Antenna Gain (dBi) Ant8 |
|----------------------|------|--|------|-------------------------------------|------------------------------|--------------------------------|-------------------------------|
|                      |      |  |      |                                     |                              |                                |                               |
| 5G NR FR1            | 1    | 1920                                     | 1980 | Ant8 :<br>6036B0309601              | 00-2602750350                | PIFA                           | -5.80                         |
| LTE/5G NR FR1        | 2    | 1850                                     | 1910 |                                     |                              |                                | -5.02                         |
| 5G NR FR1            | 3    | 1710                                     | 1785 |                                     |                              |                                | -3.70                         |
| LTE                  | 4    | 1710                                     | 1755 |                                     |                              |                                | -3.70                         |
| 5G NR FR1            | 5    | 824                                      | 849  |                                     |                              |                                | -20.91                        |
| LTE/5G NR FR1        | 7    | 2500                                     | 2570 |                                     |                              |                                | -0.26                         |
| LTE/5G NR FR1        | 25   | 1850                                     | 1915 |                                     |                              |                                | -5.02                         |
| LTE/5G NR FR1        | 30   | 2305                                     | 2315 |                                     |                              |                                | -1.43                         |
| 5G NR FR1            | 38   | 2570                                     | 2620 |                                     |                              |                                | -0.45                         |
| 5G NR FR1            | 40   | 2300                                     | 2400 |                                     |                              |                                | -0.95                         |
| LTE/5G NR FR1        | 41   | 2496                                     | 2690 |                                     |                              |                                | -0.26                         |
| 5G NR FR1            | 48   | 3550                                     | 3700 |                                     |                              |                                | -4.55                         |
| LTE/5G NR FR1        | 66   | 1710                                     | 1780 |                                     |                              |                                | -3.70                         |
| 5G NR FR1            | 77   | 3300                                     | 4200 |                                     |                              |                                | -2.94                         |
| 5G NR FR1            | 78   | 3300                                     | 3800 |                                     |                              |                                | -2.94                         |
| 5G NR FR1            | 79   | 4400                                     | 5000 |                                     |                              |                                | -1.50                         |

Antenna Peak Gain required being test in system basis.

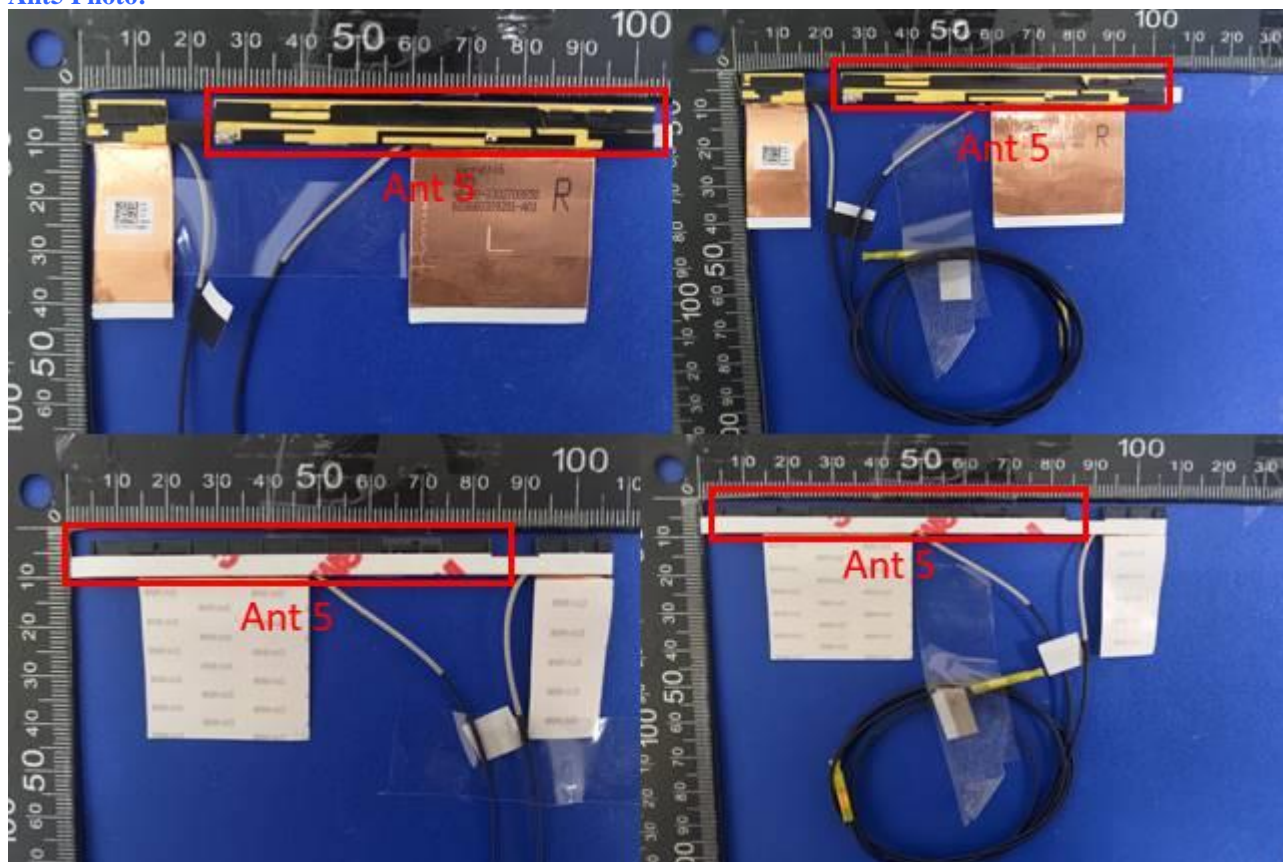
## Section 2. Dimensioned Photos or Drawings of Antennas

|      | Ant supplier | Part number   | Drawing | Photo |
|------|--------------|---------------|---------|-------|
| Ant5 | 6036B0309201 | 00-3302700650 | V       | V     |
| Ant6 | 6036B0309101 | 00-3302700750 | V       | V     |
| Ant7 | 6036B0309401 | 00-2602750250 | V       | V     |
| Ant8 | 6036B0309601 | 00-2602750350 | V       | V     |

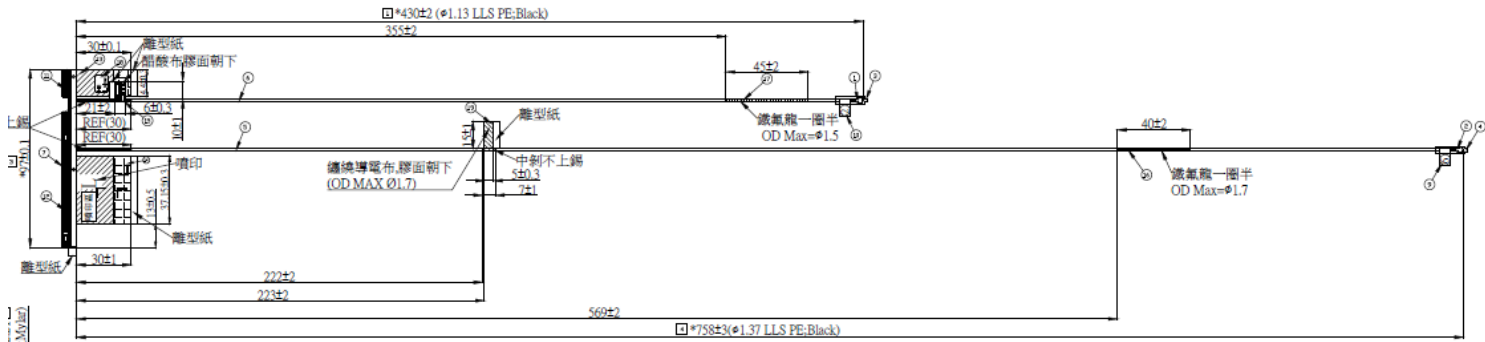
### Ant5 Dimensioned Drawing:



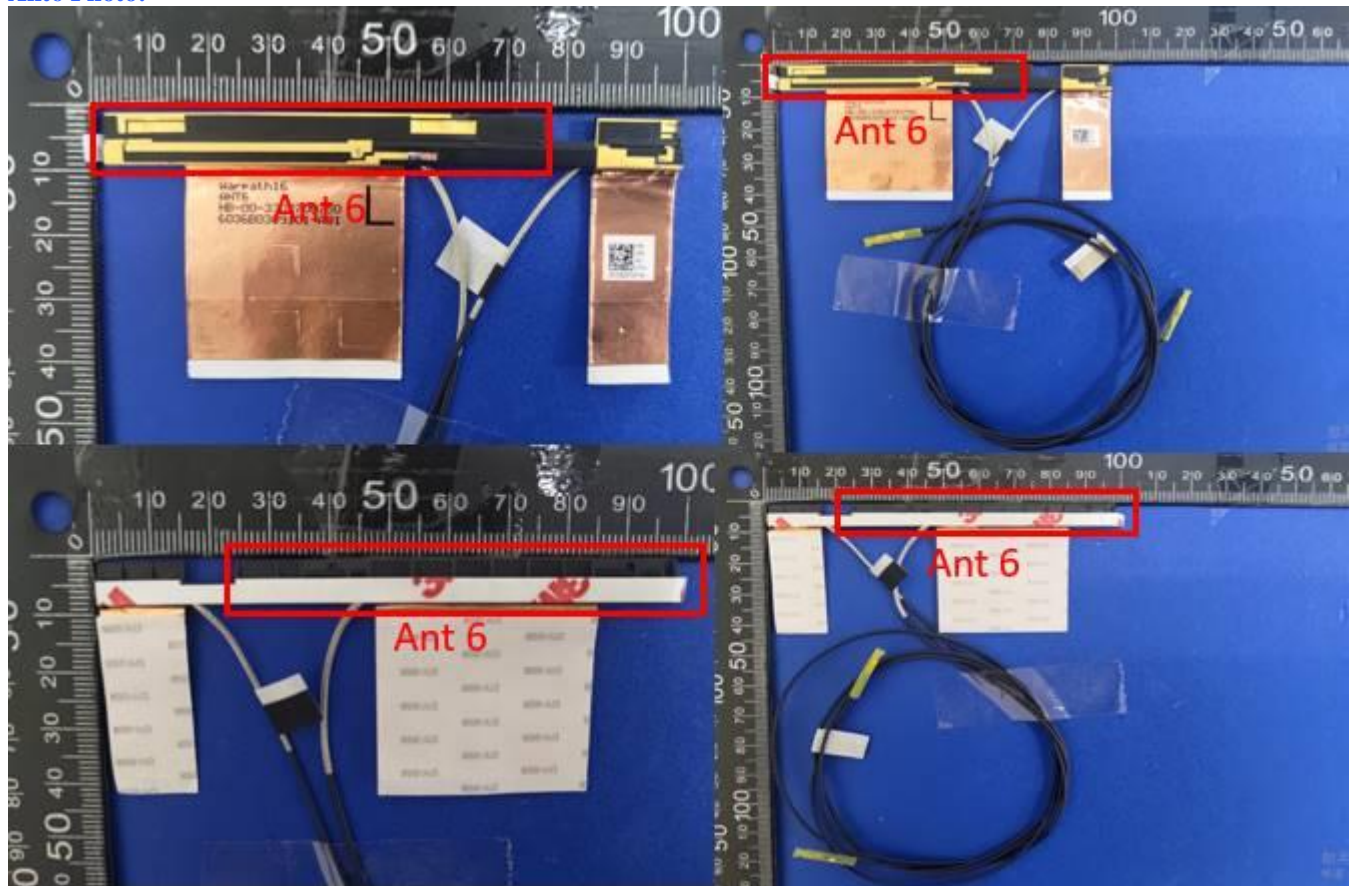
### Ant5 Photo:



**Ant6 Dimensioned Drawing:**

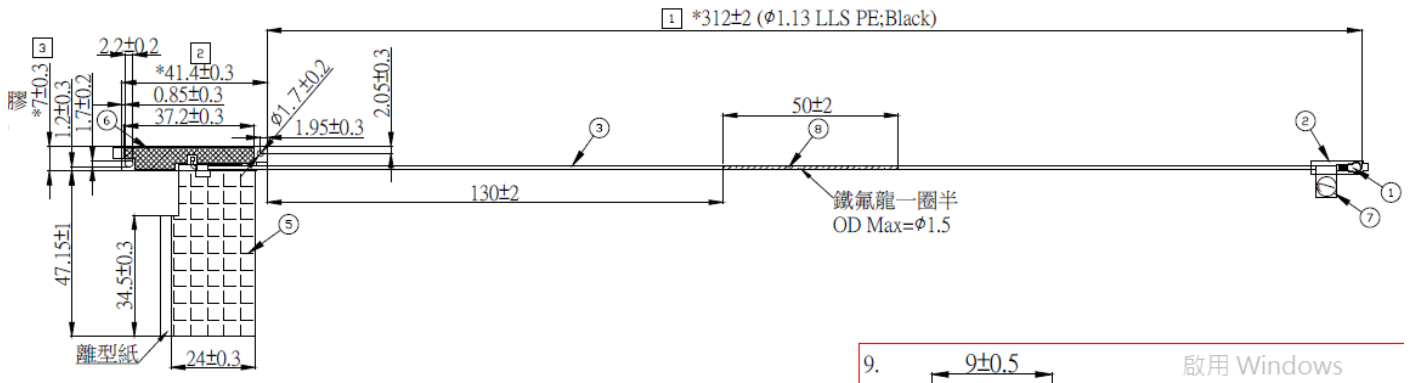


**Ant6 Photo:**



**Ant7 Dimensioned Drawing:**



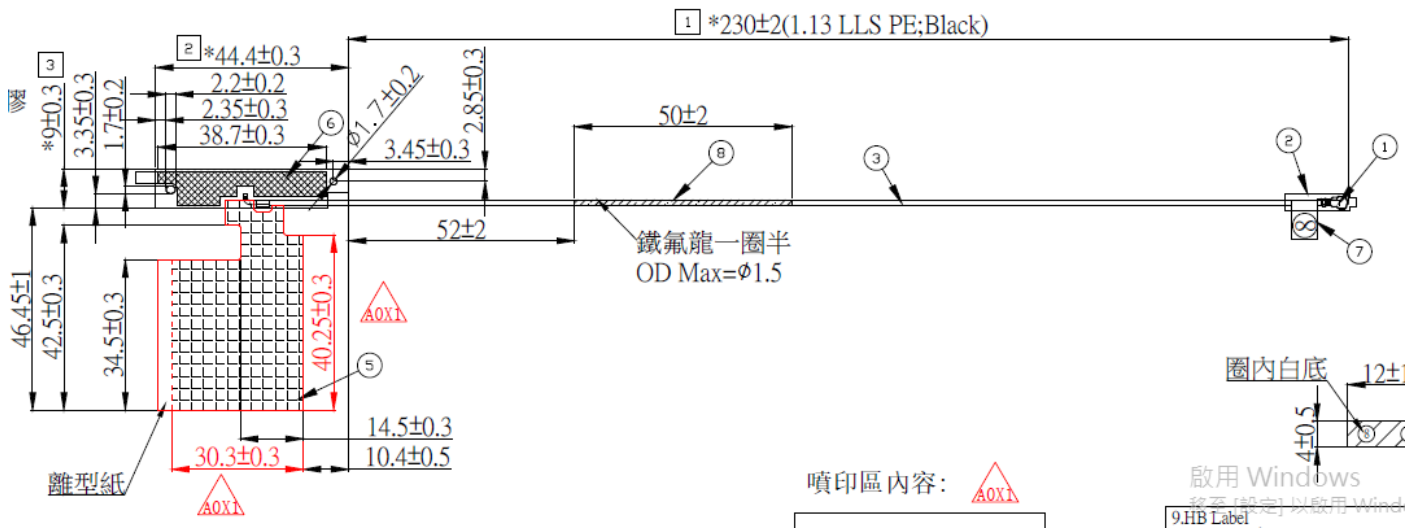


Ant7 Photo:

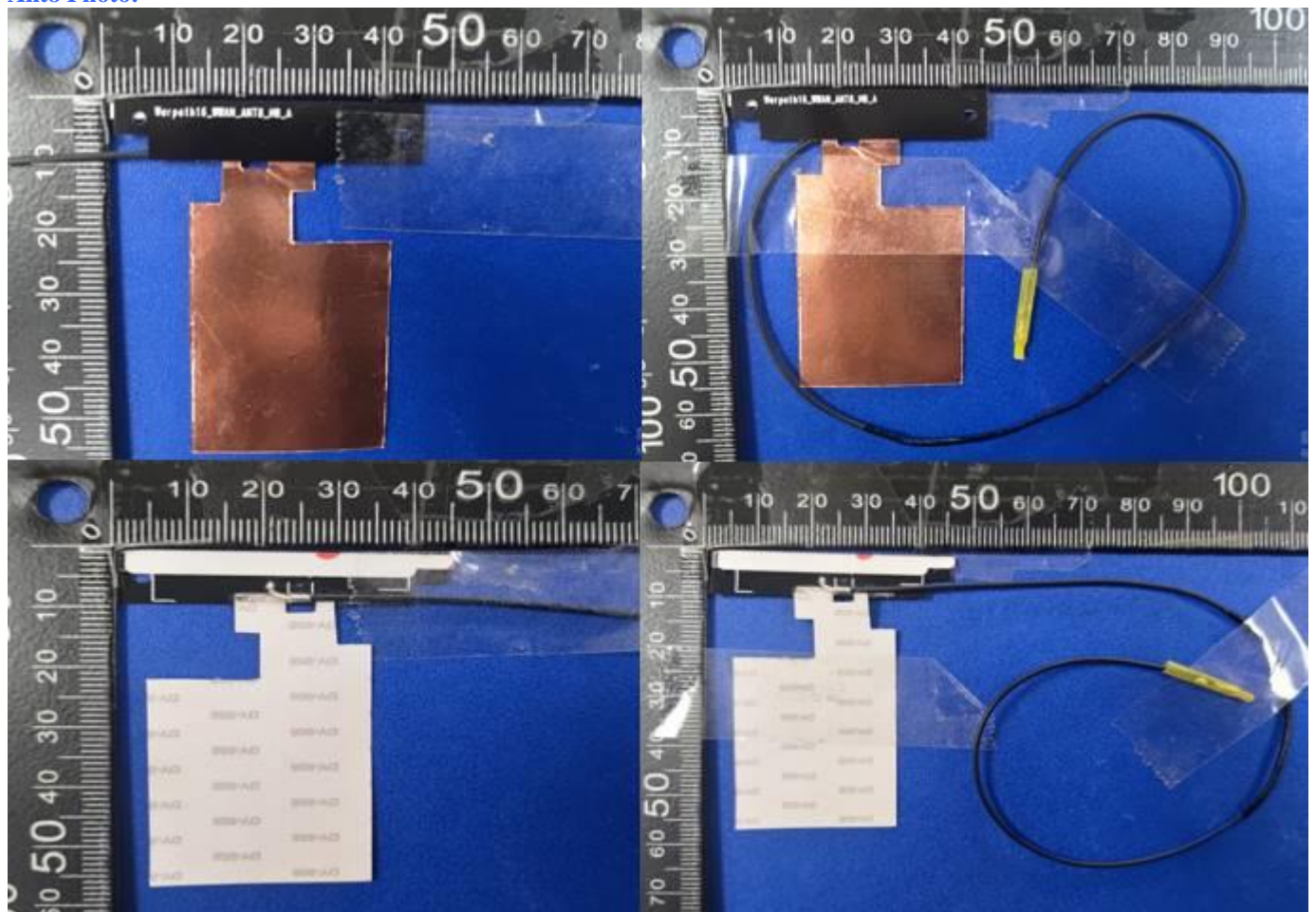


Ant8 Dimensioned Drawing:



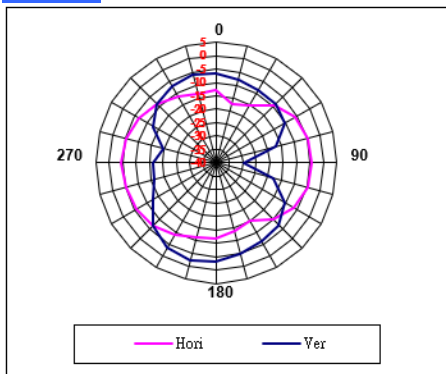


Ant8 Photo:



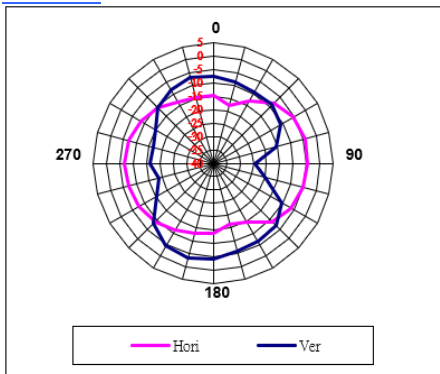
● The listed frequency 2D radiation pattern is required

● Ant5:  
814MHz



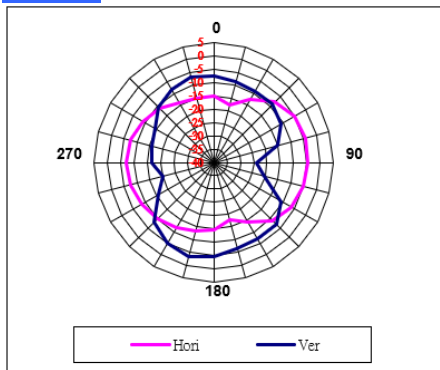
|                       |               |
|-----------------------|---------------|
| Center Frequency      | <b>814MHz</b> |
| Horizontal (dBi) peak | <b>-4.35</b>  |
| Vertical (dBi) peak   | <b>-2.44</b>  |

832MHz



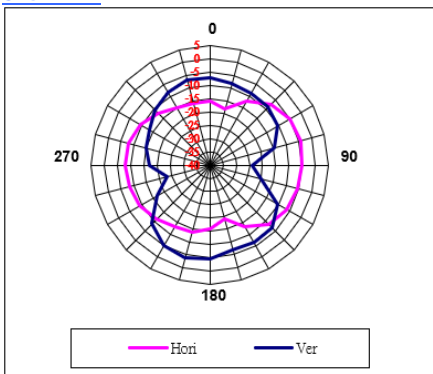
|                       |               |
|-----------------------|---------------|
| Center Frequency      | <b>832MHz</b> |
| Horizontal (dBi) peak | <b>-4.40</b>  |
| Vertical (dBi) peak   | <b>-3.24</b>  |

837MHz



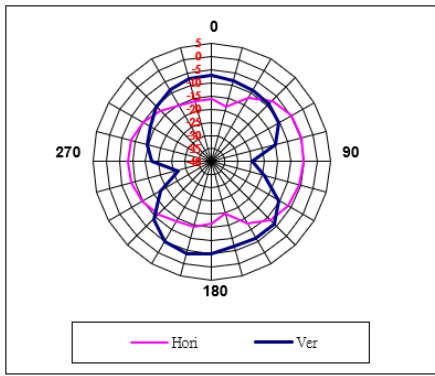
|                       |               |
|-----------------------|---------------|
| Center Frequency      | <b>837MHz</b> |
| Horizontal (dBi) peak | <b>-4.43</b>  |
| Vertical (dBi) peak   | <b>-3.41</b>  |

845MHz



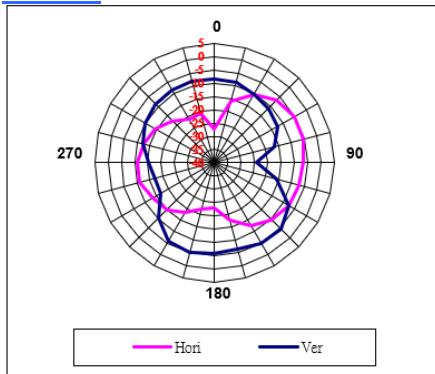
|                       |               |
|-----------------------|---------------|
| Center Frequency      | <b>845MHz</b> |
| Horizontal (dBi) peak | <b>-4.50</b>  |
| Vertical (dBi) peak   | <b>-3.62</b>  |

849MHz



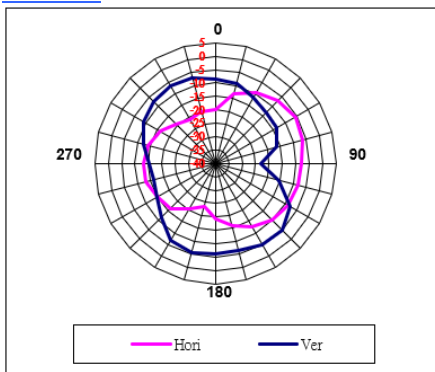
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|-----------------------|---------------|
| Center Frequency      | <b>849MHz</b> |
| Horizontal (dBi) peak | <b>-4.69</b>  |
| Vertical (dBi) peak   | <b>-3.81</b>  |

**880MHz**



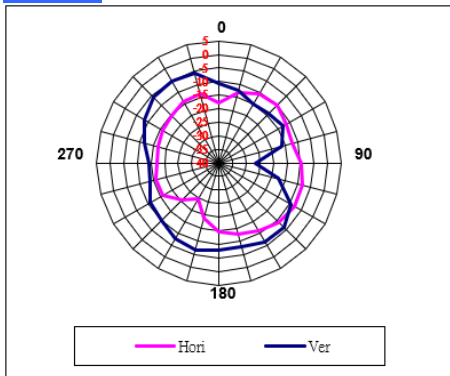
|                       |               |
|-----------------------|---------------|
| Center Frequency      | <b>880MHz</b> |
| Horizontal (dBi) peak | <b>-5.09</b>  |
| Vertical (dBi) peak   | <b>-4.61</b>  |

**894MHz**



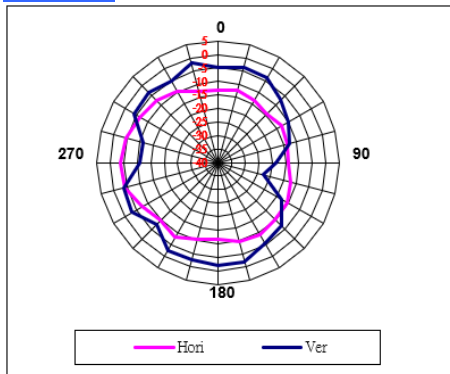
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|-----------------------|---------------|
| Center Frequency      | <b>894MHz</b> |
| Horizontal (dBi) peak | <b>-5.60</b>  |
| Vertical (dBi) peak   | <b>-4.93</b>  |

**915MHz**



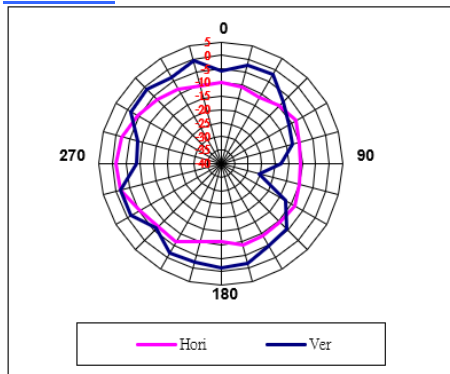
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|-----------------------|---------------|
| Center Frequency      | <b>915MHz</b> |
| Horizontal (dBi) peak | <b>-7.96</b>  |
| Vertical (dBi) peak   | <b>-5.07</b>  |

**1710MHz**



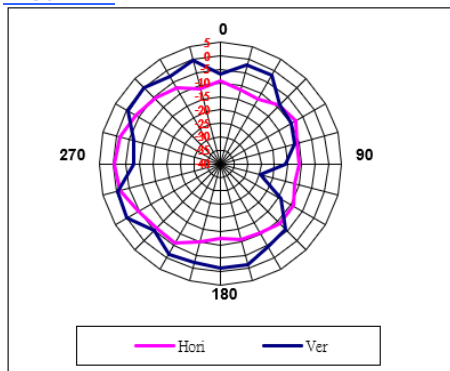
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|-----------------------|----------------|
| Center Frequency      | <b>1710MHz</b> |
| Horizontal (dBi) peak | <b>-3.96</b>   |
| Vertical (dBi) peak   | <b>-1.97</b>   |

**1750MHz**



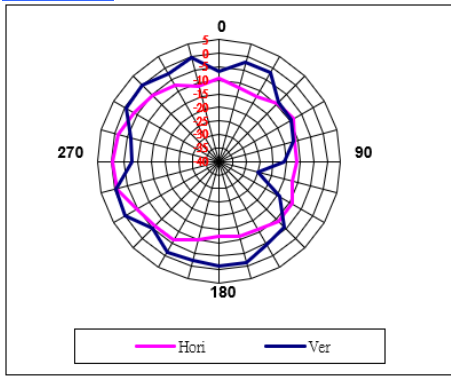
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|-----------------------|----------------|
| Center Frequency      | <b>1750MHz</b> |
| Horizontal (dBi) peak | <b>-1.34</b>   |
| Vertical (dBi) peak   | <b>-0.53</b>   |

**1780MHz**



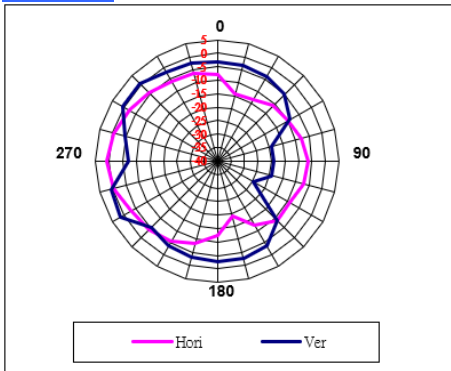
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|-----------------------|----------------|
| Center Frequency      | <b>1780MHz</b> |
| Horizontal (dBi) peak | <b>-0.56</b>   |
| Vertical (dBi) peak   | <b>0.04</b>    |

**1785MHz**



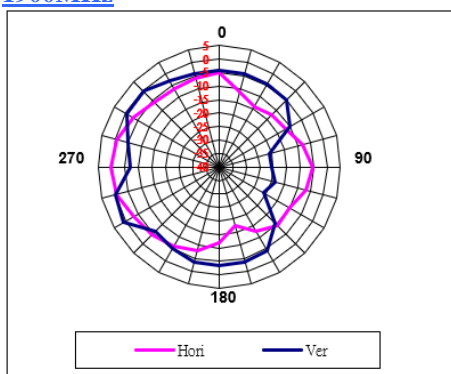
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>1785MHz</b> |
| Horizontal (dBi) peak | <b>-0.42</b>   |
| Vertical (dBi) peak   | <b>0.28</b>    |

**1880MHz**



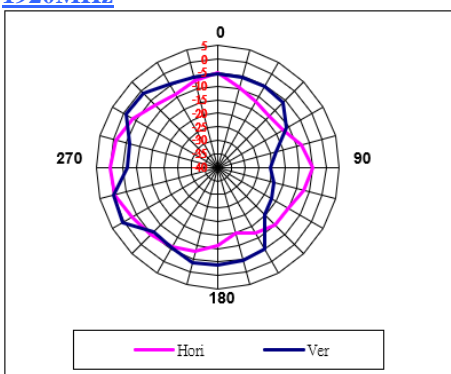
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| Center Frequency      | <b>1880MHz</b> |
| Horizontal (dBi) peak | <b>0.91</b>    |
| Vertical (dBi) peak   | <b>1.39</b>    |

**1900MHz**



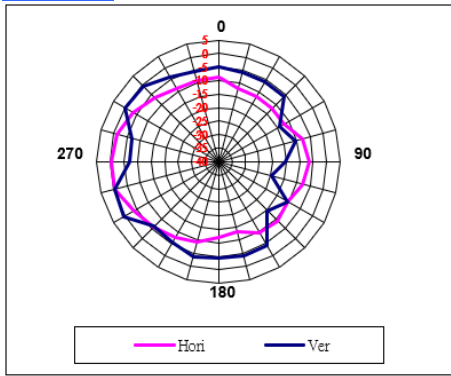
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|-----------------------|----------------|
| Center Frequency      | <b>1900MHz</b> |
| Horizontal (dBi) peak | <b>0.23</b>    |
| Vertical (dBi) peak   | <b>0.91</b>    |

**1920MHz**



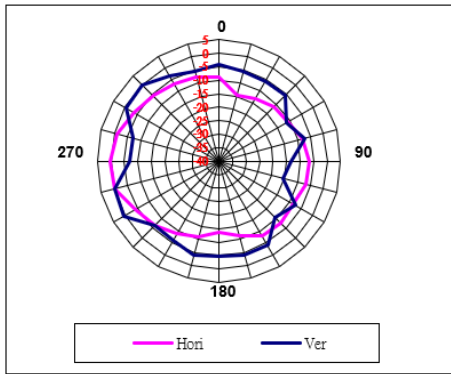
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|-----------------------|----------------|
| Center Frequency      | <b>1920MHz</b> |
| Horizontal (dBi) peak | <b>-0.29</b>   |
| Vertical (dBi) peak   | <b>0.57</b>    |

**1950MHz**



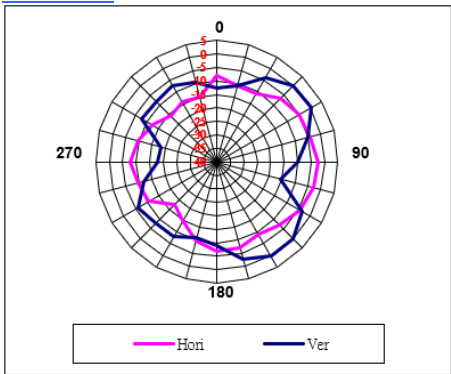
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| Center Frequency      | <b>1950MHz</b> |
| Horizontal (dBi) peak | <b>-0.18</b>   |
| Vertical (dBi) peak   | <b>0.43</b>    |

**1980MHz**



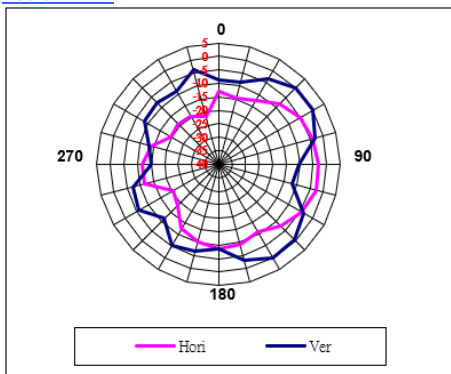
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|-----------------------|----------------|
| Center Frequency      | <b>1980MHz</b> |
| Horizontal (dBi) peak | <b>0.19</b>    |
| Vertical (dBi) peak   | <b>0.54</b>    |

**2496MHz**



|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>2496MHz</b> |
| Horizontal (dBi) peak | <b>-2.55</b>   |
| Vertical (dBi) peak   | <b>0.28</b>    |

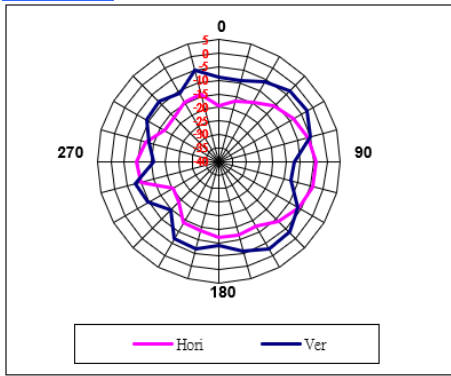
**2595MHz**



|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>2595MHz</b> |
| Horizontal (dBi) peak | <b>-2.55</b>   |
| Vertical (dBi) peak   | <b>0.28</b>    |

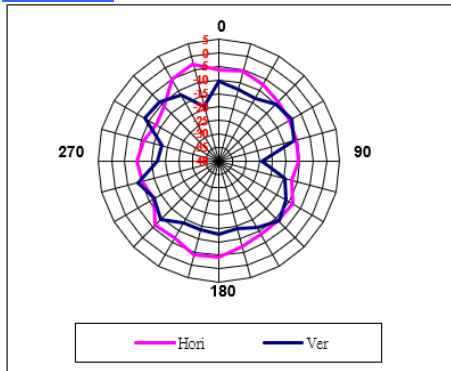


**2690MHz**



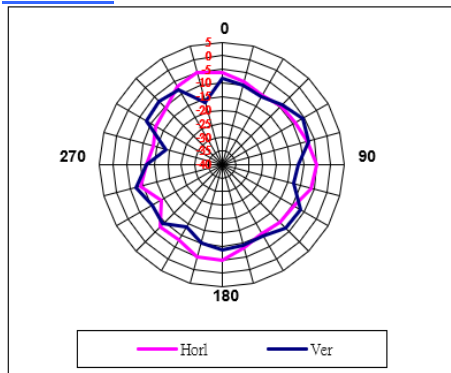
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| Center Frequency      | <b>2690MHz</b> |
| Horizontal (dBi) peak | <b>-4.15</b>   |
| Vertical (dBi) peak   | <b>-2.53</b>   |

**3300MHz**



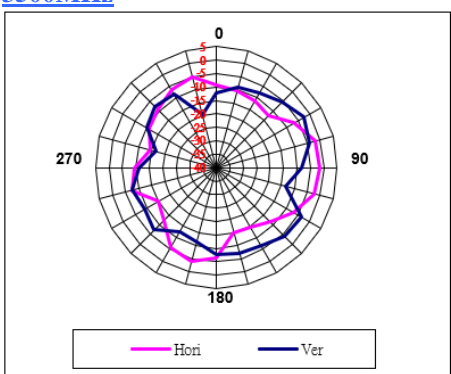
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>3300MHz</b> |
| Horizontal (dBi) peak | <b>-2.95</b>   |
| Vertical (dBi) peak   | <b>-8.08</b>   |

**3400MHz**



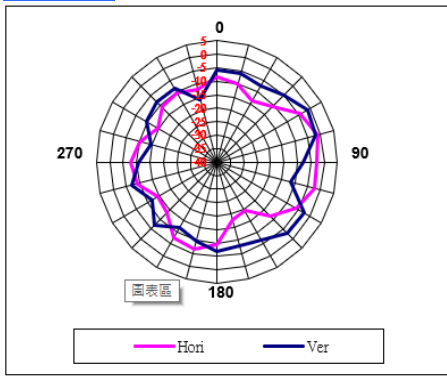
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>3400MHz</b> |
| Horizontal (dBi) peak | <b>-4.67</b>   |
| Vertical (dBi) peak   | <b>-5.82</b>   |

**3500MHz**



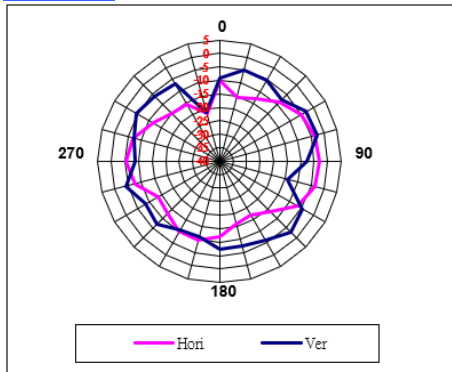
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>3500MHz</b> |
| Horizontal (dBi) peak | <b>-1.73</b>   |
| Vertical (dBi) peak   | <b>-2.43</b>   |

**3600MHz**



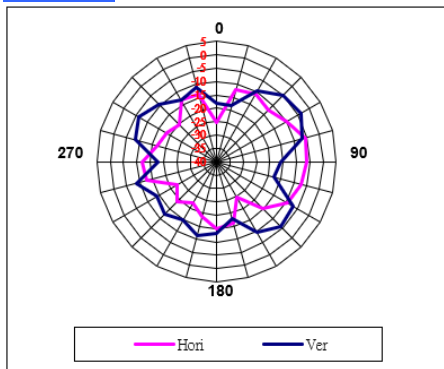
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>3600MHz</b> |
| Horizontal (dBi) peak | <b>-1.20</b>   |
| Vertical (dBi) peak   | <b>-1.03</b>   |

**3750MHz**



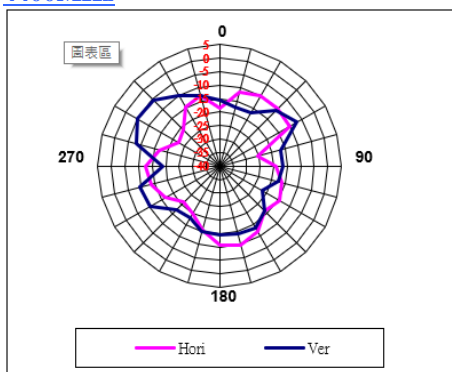
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>3750MHz</b> |
| Horizontal (dBi) peak | <b>-3.13</b>   |
| Vertical (dBi) peak   | <b>-2.51</b>   |

**4200MHz**



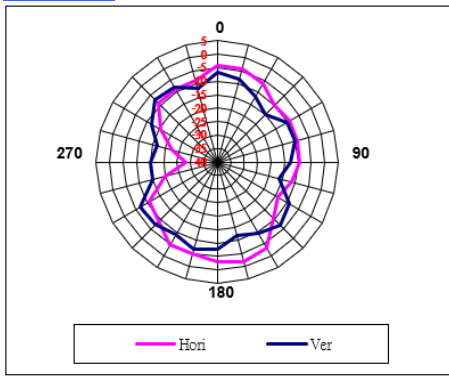
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>4200MHz</b> |
| Horizontal (dBi) peak | <b>-5.57</b>   |
| Vertical (dBi) peak   | <b>-3.56</b>   |

**4400MHz**



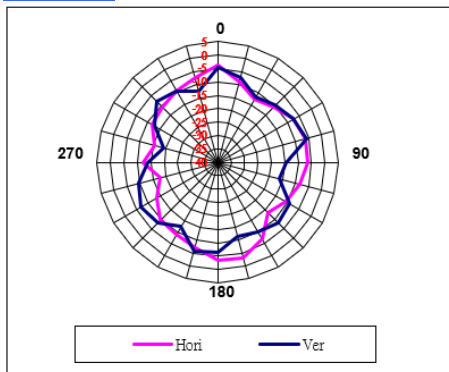
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>4400MHz</b> |
| Horizontal (dBi) peak | <b>-9.51</b>   |
| Vertical (dBi) peak   | <b>-4.80</b>   |

**4800MHz**



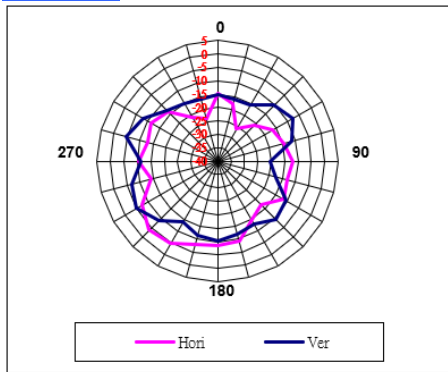
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>4800MHz</b> |
| Horizontal (dBi) peak | <b>-1.85</b>   |
| Vertical (dBi) peak   | <b>-6.63</b>   |

**5000MHz**



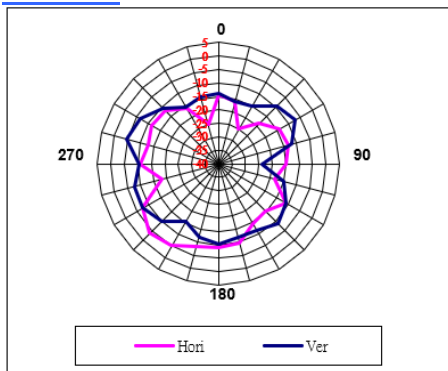
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>3400MHz</b> |
| Horizontal (dBi) peak | <b>-3.17</b>   |
| Vertical (dBi) peak   | <b>-4.40</b>   |

**Ant8:**  
**1710 MHz**



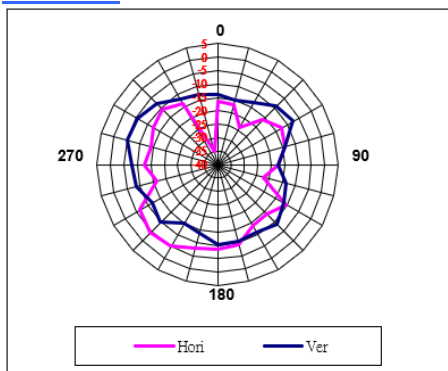
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>1710MHz</b> |
| Horizontal (dBi) peak | <b>-3.70</b>   |
| Vertical (dBi) peak   | <b>-4.68</b>   |

**1750 MHz**



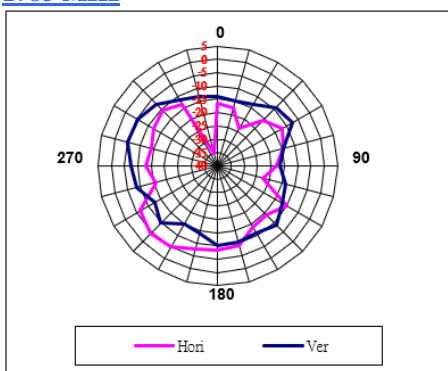
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>1750MHz</b> |
| Horizontal (dBi) peak | <b>-3.85</b>   |
| Vertical (dBi) peak   | <b>-4.59</b>   |

**1780 MHz**



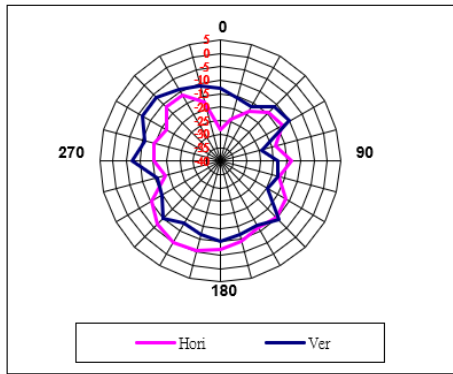
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>1780MHz</b> |
| Horizontal (dBi) peak | <b>-4.26</b>   |
| Vertical (dBi) peak   | <b>-4.85</b>   |

**1785 MHz**



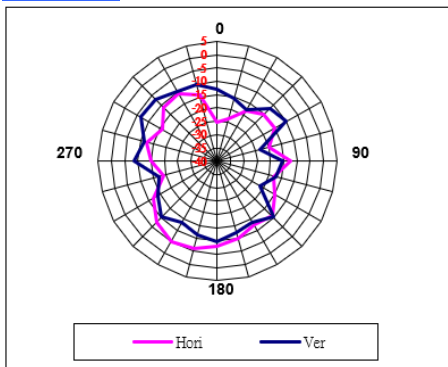
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>1785MHz</b> |
| Horizontal (dBi) peak | <b>-4.38</b>   |
| Vertical (dBi) peak   | <b>-4.95</b>   |

**1880 MHz**



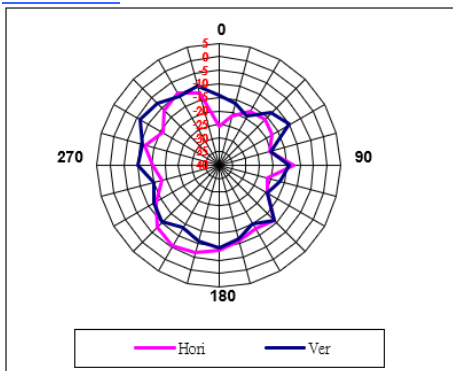
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>1880MHz</b> |
| Horizontal (dBi) peak | <b>-5.02</b>   |
| Vertical (dBi) peak   | <b>-6.48</b>   |

**1900 MHz**



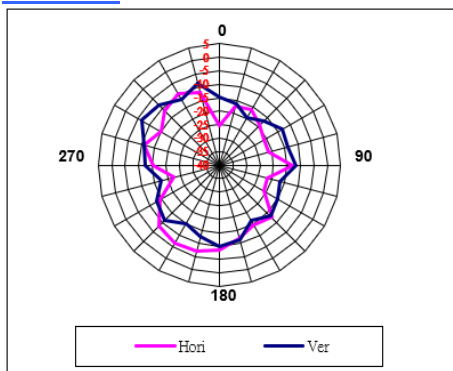
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>1900MHz</b> |
| Horizontal (dBi) peak | <b>-5.18</b>   |
| Vertical (dBi) peak   | <b>-6.76</b>   |

**1920 MHz**



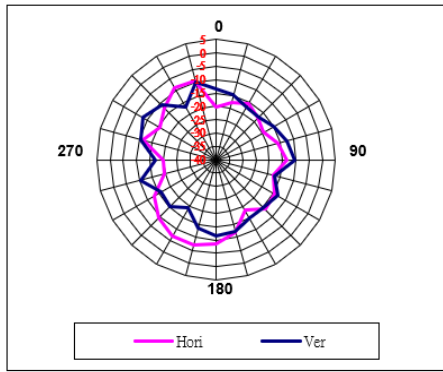
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>1920MHz</b> |
| Horizontal (dBi) peak | <b>-5.80</b>   |
| Vertical (dBi) peak   | <b>-6.49</b>   |

**1950 MHz**



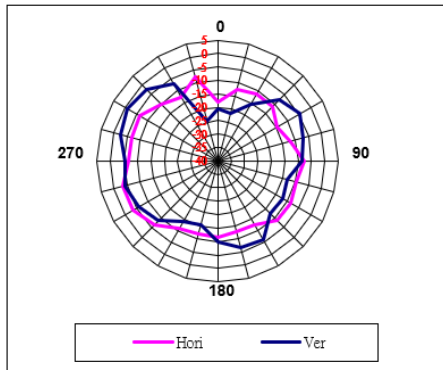
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>1950MHz</b> |
| Horizontal (dBi) peak | <b>-6.69</b>   |
| Vertical (dBi) peak   | <b>-6.61</b>   |

**1980 MHz**



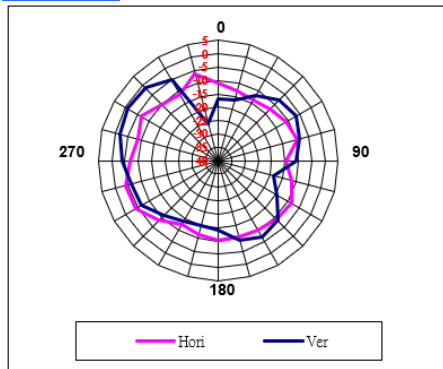
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>1980MHz</b> |
| Horizontal (dBi) peak | <b>-6.95</b>   |
| Vertical (dBi) peak   | <b>-8.39</b>   |

**2496 MHz**



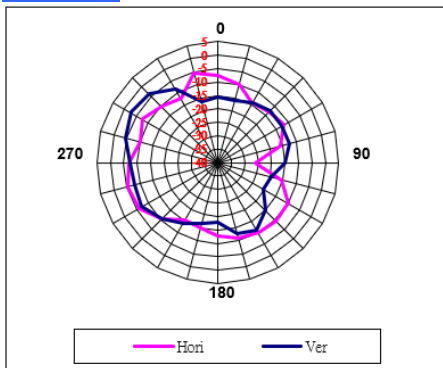
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>2496MHz</b> |
| Horizontal (dBi) peak | <b>-3.10</b>   |
| Vertical (dBi) peak   | <b>-1.22</b>   |

**2595 MHz**



|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>2595MHz</b> |
| Horizontal (dBi) peak | <b>-3.80</b>   |
| Vertical (dBi) peak   | <b>-0.59</b>   |

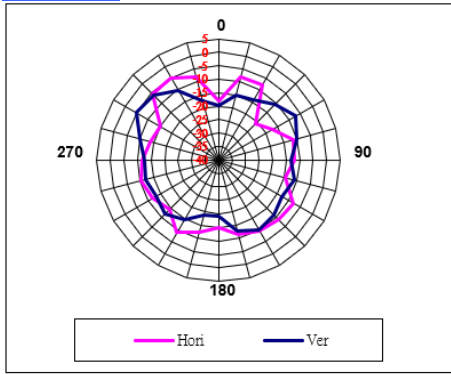
**2690 MHz**



|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>2690MHz</b> |
| Horizontal (dBi) peak | <b>-5.51</b>   |
| Vertical (dBi) peak   | <b>-2.55</b>   |

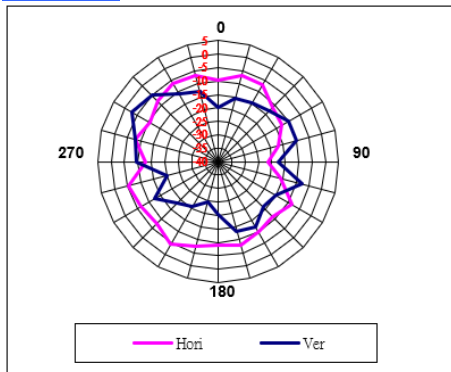


**3300 MHz**



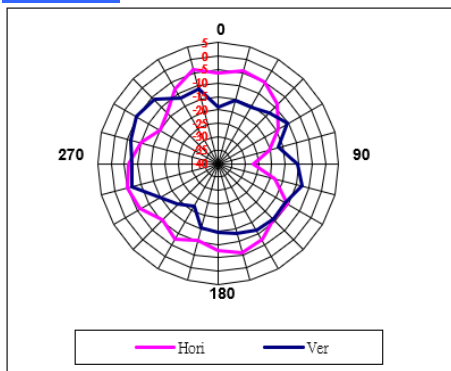
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>3300MHz</b> |
| Horizontal (dBi) peak | <b>-4.82</b>   |
| Vertical (dBi) peak   | <b>-4.74</b>   |

**3400 MHz**



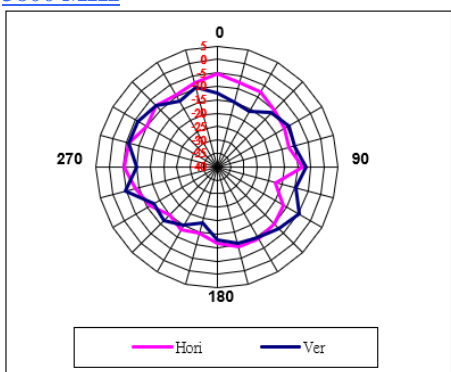
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>3400MHz</b> |
| Horizontal (dBi) peak | <b>-4.64</b>   |
| Vertical (dBi) peak   | <b>-2.94</b>   |

**3500 MHz**



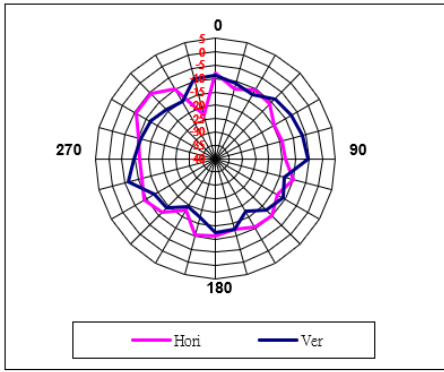
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>3500MHz</b> |
| Horizontal (dBi) peak | <b>-3.79</b>   |
| Vertical (dBi) peak   | <b>-4.60</b>   |

**3600 MHz**



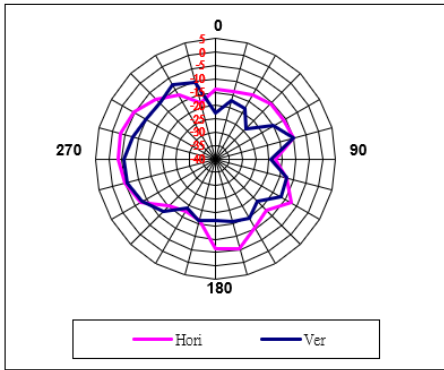
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>3600MHz</b> |
| Horizontal (dBi) peak | <b>-5.49</b>   |
| Vertical (dBi) peak   | <b>-4.71</b>   |

**3750 MHz**



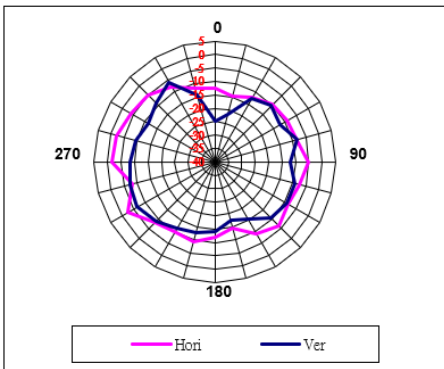
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>3750MHz</b> |
| Horizontal (dBi) peak | <b>-5.55</b>   |
| Vertical (dBi) peak   | <b>-5.29</b>   |

**4200 MHz**



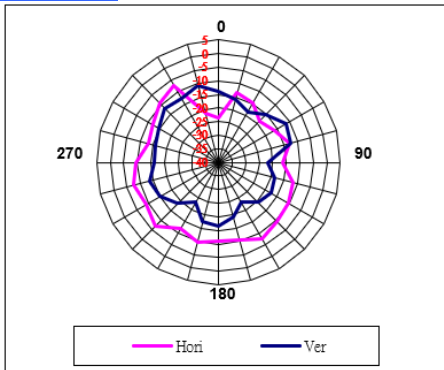
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>4200MHz</b> |
| Horizontal (dBi) peak | <b>-3.03</b>   |
| Vertical (dBi) peak   | <b>-5.78</b>   |

**4400 MHz**



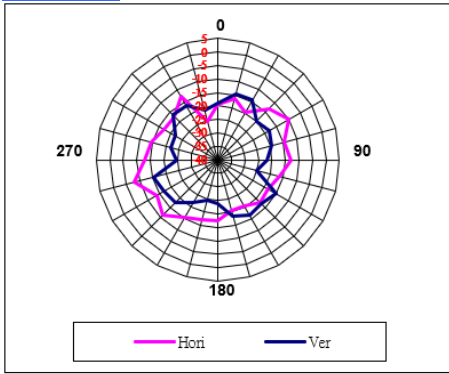
|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>1950MHz</b> |
| Horizontal (dBi) peak | <b>-1.50</b>   |
| Vertical (dBi) peak   | <b>-5.65</b>   |

**4800 MHz**



|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>4800MHz</b> |
| Horizontal (dBi) peak | <b>-7.13</b>   |
| Vertical (dBi) peak   | <b>-10.96</b>  |

**5000 MHz**

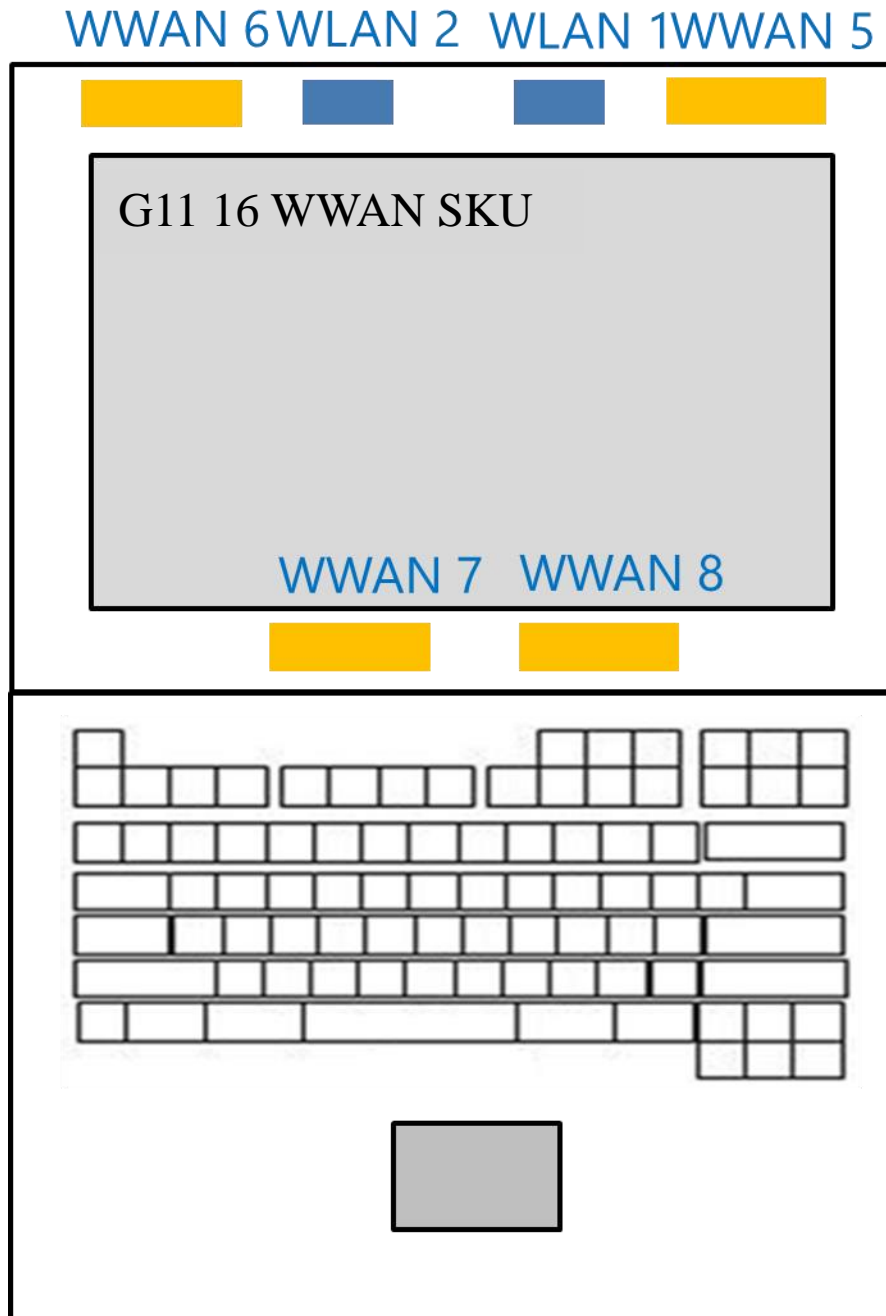


|                       |                |
|-----------------------|----------------|
| Center Frequency      | <b>5000MHz</b> |
| Horizontal (dBi) peak | <b>-8.04</b>   |
| Vertical (dBi) peak   | <b>-14.34</b>  |

## Section 4. Host Platform Information

OEM / ODM Host platform:

Rating Label Photo:

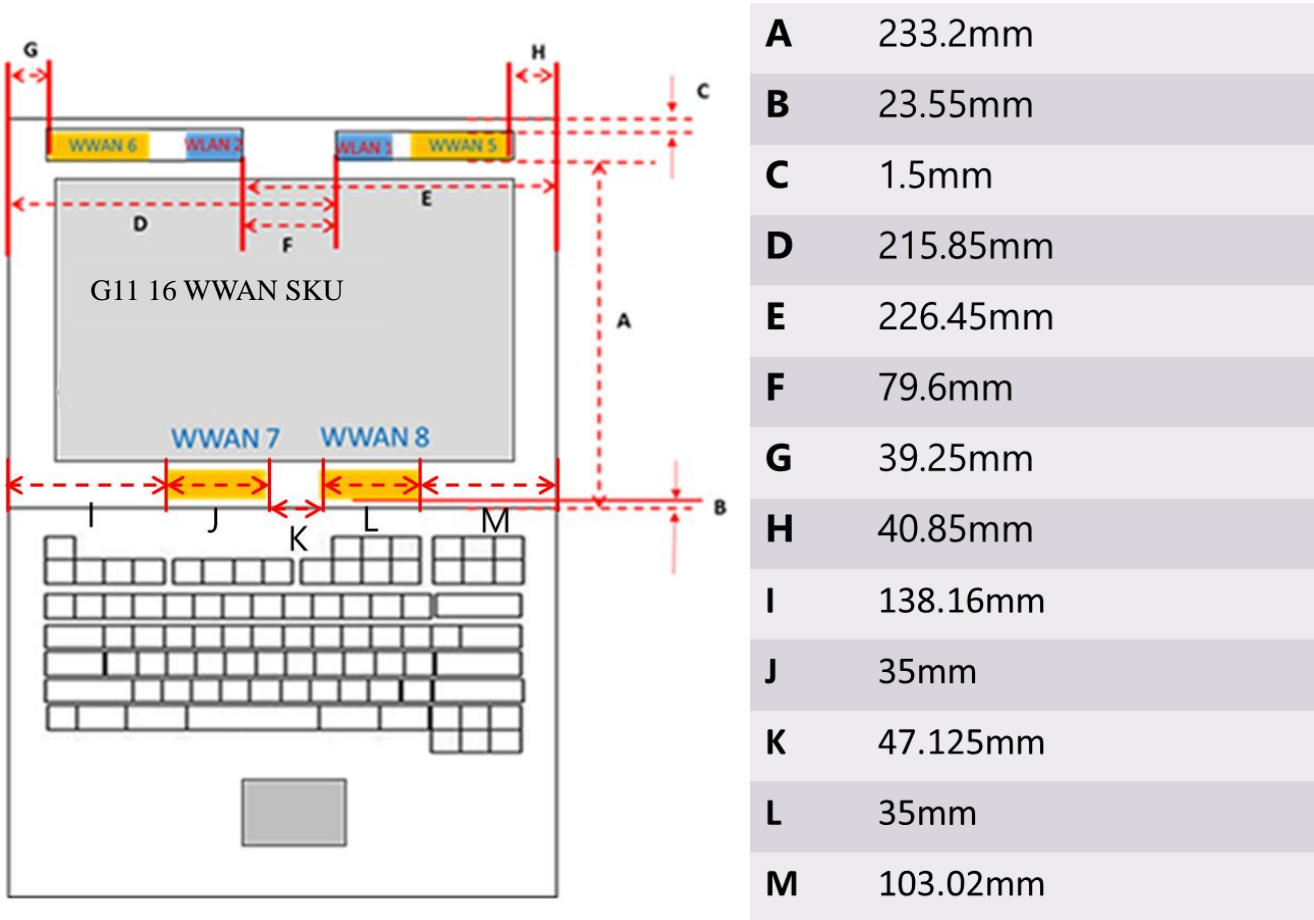


## Section 5. Antenna Host Platform Location Information

Include a **dimensioned photo(s) or dimensioned drawing(s)** of Ant5, Ant6, Ant7, Ant8 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.

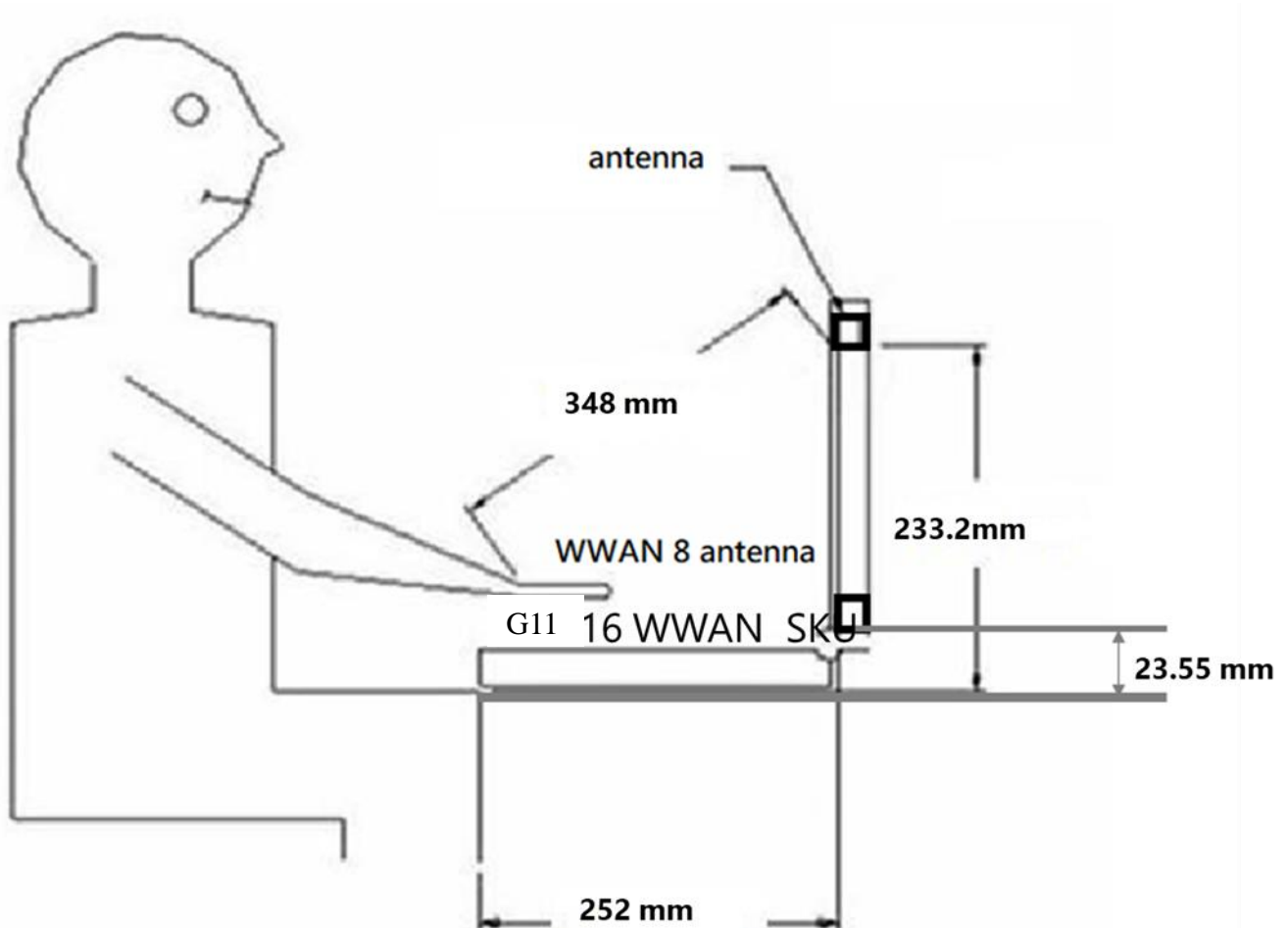
Example:



## Section 6. 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 (excluding hands, wrist, feet, and ankle). 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.

Example:



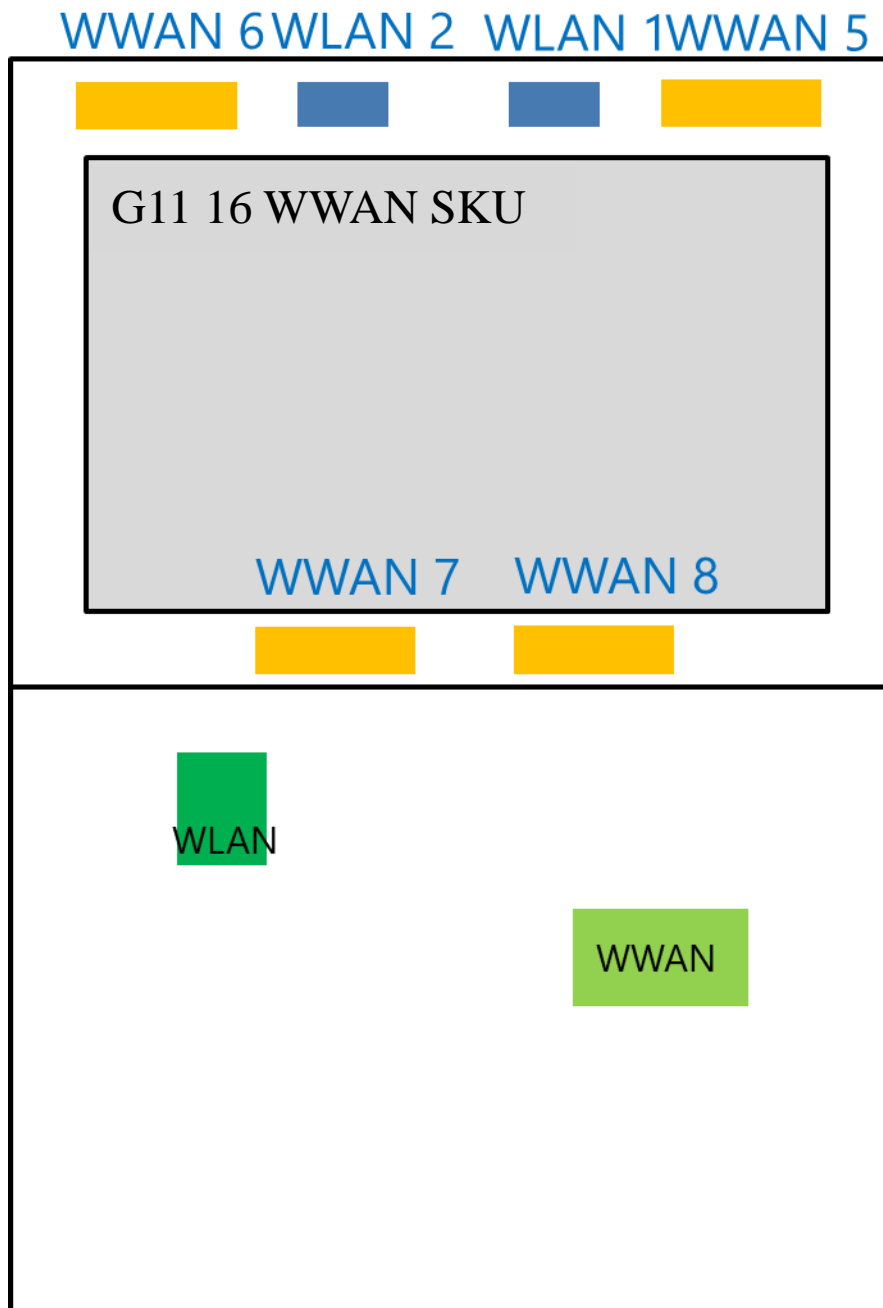


## Section 7. Diagram Example of Co-Location Antenna Separation

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,..

Example:

(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    |                    |              |              |            |                |   |
| Azerbaijan   |                    |              |              |            |                |   |
| Cambodia     |                    |              |              |            |                |   |
| Indonesia    |                    |              |              |            |                |   |
| Israel       |                    |              |              |            |                |   |
| Malaysia     |                    |              |              |            |                |   |
| Philippines  |                    |              |              |            |                |   |
| Singapore    |                    |              |              |            |                | Telecommunication<br>Equipment Dealer<br>License Required |
| South Africa |                    |              |              |            |                |   |
| USA, Canada  |                    |              |              |            |                |   |
| Vietnam      |                    |              |              |            |                |   |