

# **Regulatory WWAN Antenna Information TMZ001 (Primary Antenna)**

**Toshiba Corporation**

Section 1. Antenna Assembly Specifications

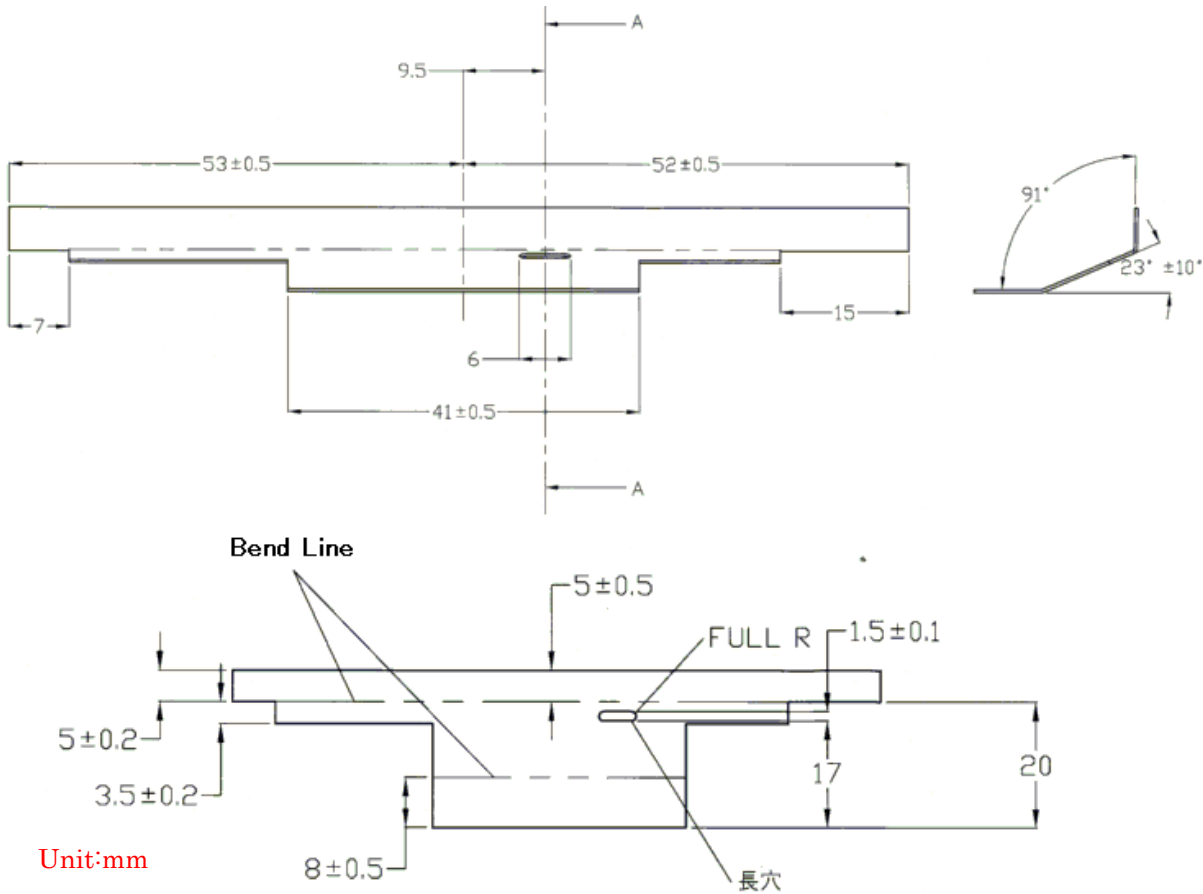
Antenna Assembly Summary:

| 1A<br>Antenna Part<br>Number | 1B<br>Manufacture               | 1C<br>Antenna Type | 1D<br>Cable Assembly<br>Part Number<br>and Information                                     | 1E<br>Peak Gain W/<br>Cable loss (dBi) |
|------------------------------|---------------------------------|--------------------|--------------------------------------------------------------------------------------------|----------------------------------------|
| TMZ001                       | Tyco<br>Electronics<br>AMP K.K. | Monopole           | P/N: TMZ001-***<br>50 ohm Coaxial.<br>length: 470mm<br>diameter: 1.33mm<br>Connector: U.FL | 824-848MHz<br>0.8 dBi (peak)           |
|                              |                                 |                    |                                                                                            | 869-893MHz<br>-0.3 dBi (peak)          |
|                              |                                 |                    |                                                                                            | 1850-1909MHz<br>1.6 dBi (peak)         |
|                              |                                 |                    |                                                                                            | 1931-1988MHz<br>1.3 dBi (peak)         |

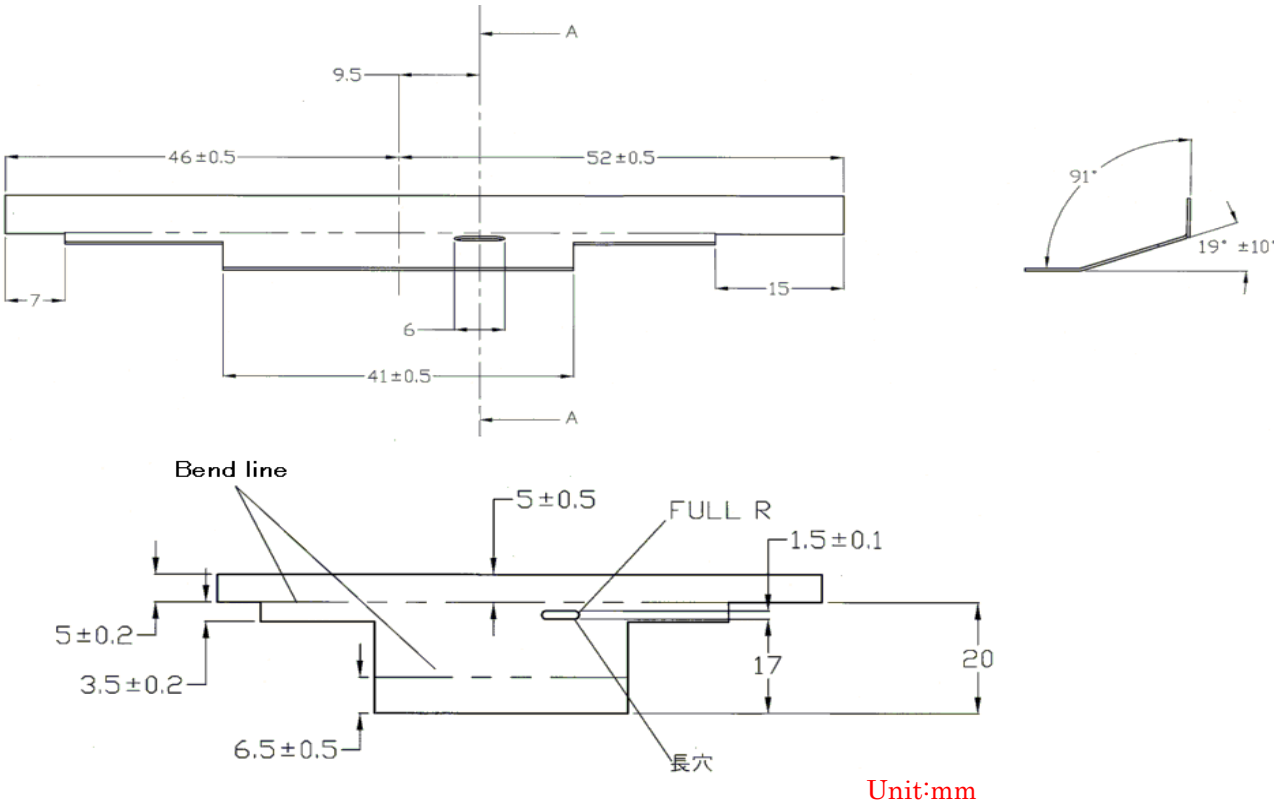
The function of secondary antenna is receiving only. The name of secondary antenna is “TMZ002”.

Section 2. Dimensioned Photos or Drawings of Antennas

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



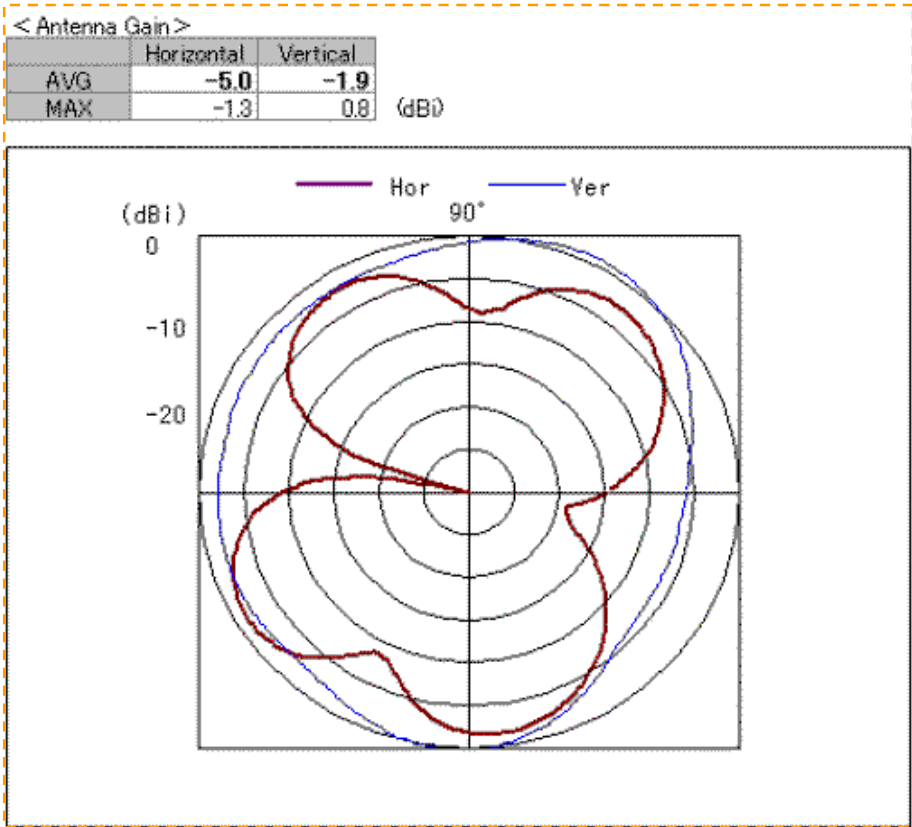
Include a dimensioned photo or dimensioned drawing of AUX antenna here.



Section 3. Radiation characteristics of antennae Loaded in Host Platform

Cellular Transmit Band radiation characteristic

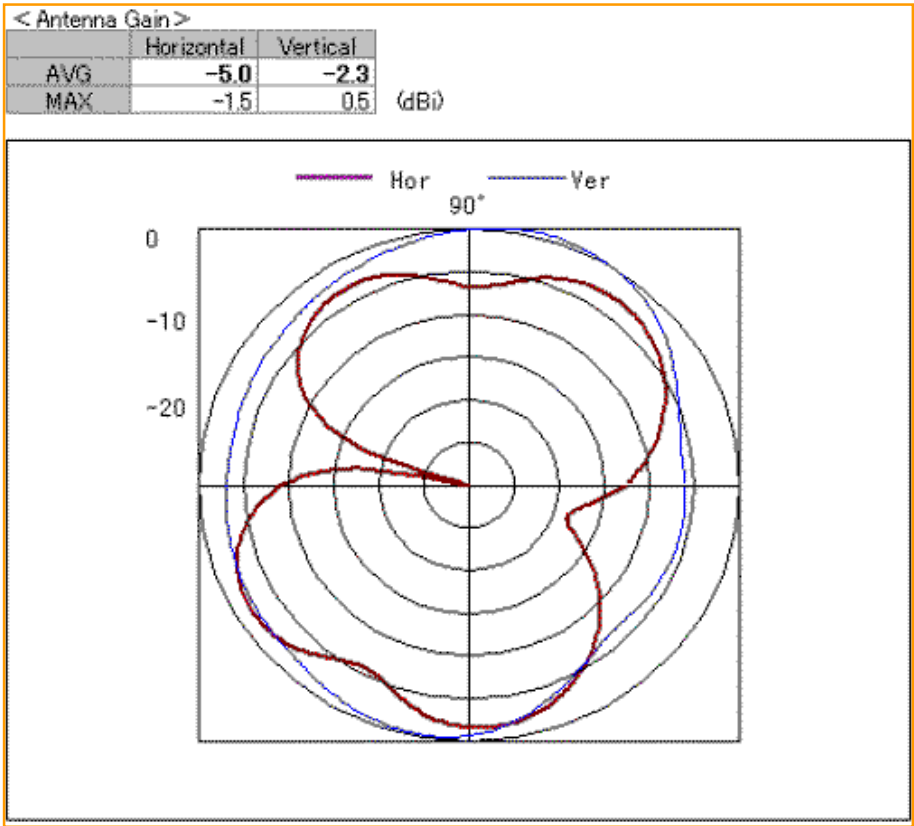
Primary antenna: 824.7 MHz (Low)



|                       |           |
|-----------------------|-----------|
| Center Frequency      | 824.7 MHz |
| Horizontal (dBi) peak | -1.3      |
| Vertical (dBi) peak   | 0.8       |
| Horz+Vert (dBi) peak  | 0.8       |

Cellular Transmit Band radiation characteristic

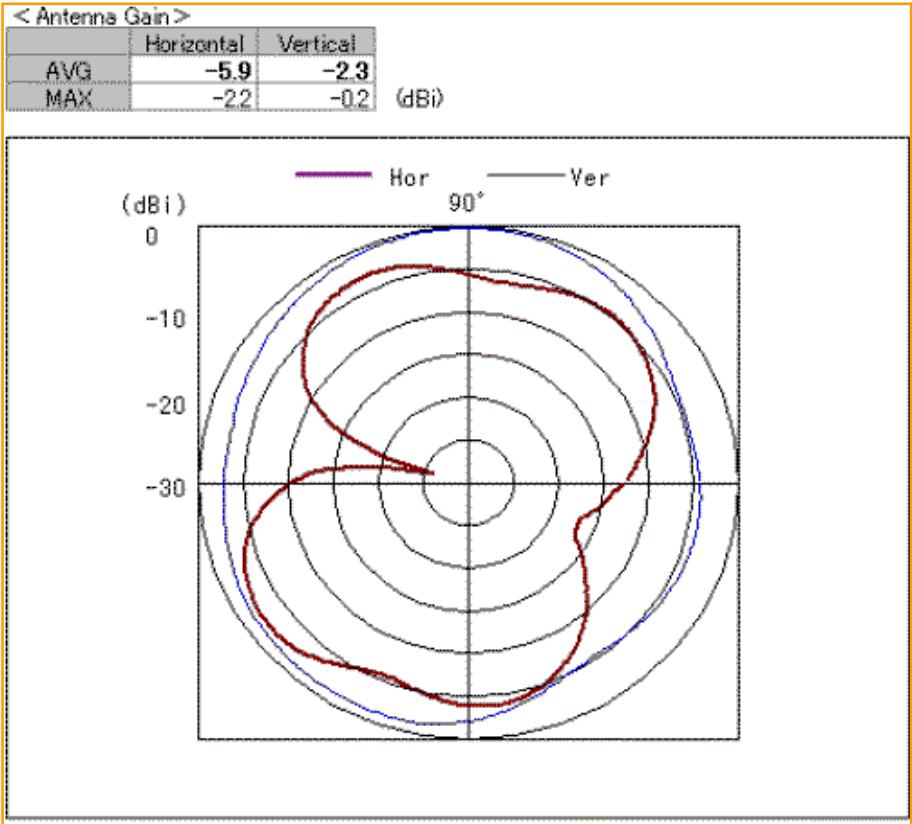
Primary antenna: 836.5 MHz (Mid)



|                       |           |
|-----------------------|-----------|
| Center Frequency      | 836.5 MHz |
| Horizontal (dBi) peak | -1.5      |
| Vertical (dBi) peak   | 0.5       |
| Horz+Vert (dBi) peak  | 0.5       |

Cellular Transmit Band radiation characteristic

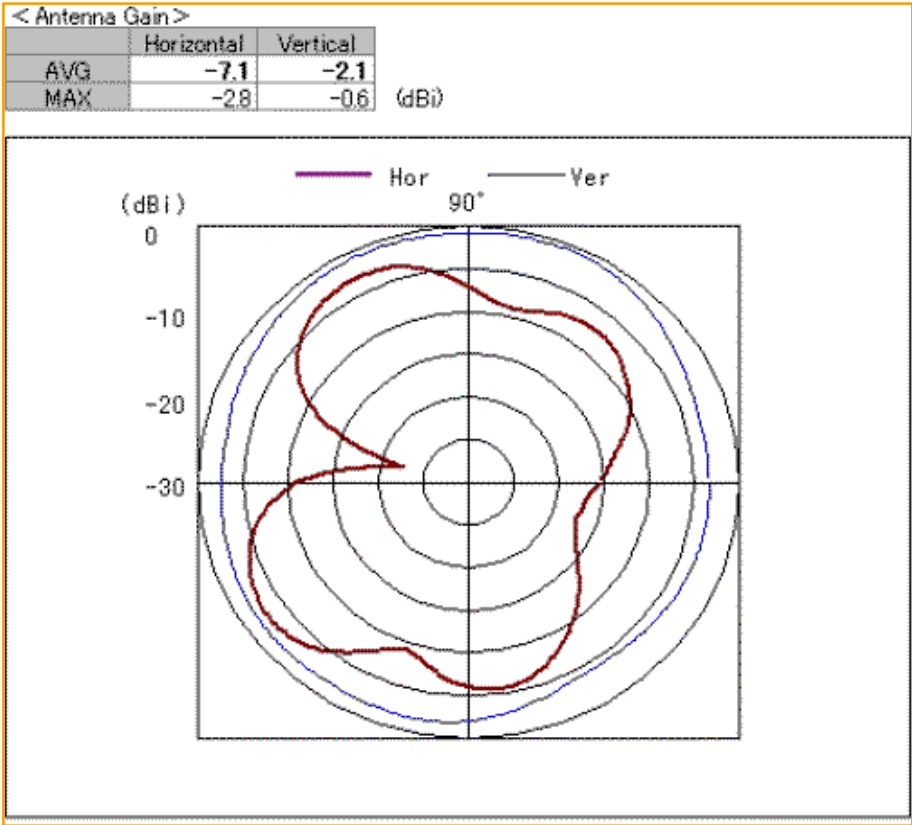
Primary antenna: 848.3 MHz (High)



|                       |           |
|-----------------------|-----------|
| Center Frequency      | 848.3 MHz |
| Horizontal (dBi) peak | -2.2      |
| Vertical (dBi) peak   | -0.2      |
| Horz+Vert (dBi) peak  | -0.2      |

Cellular Receive Band radiation characteristic

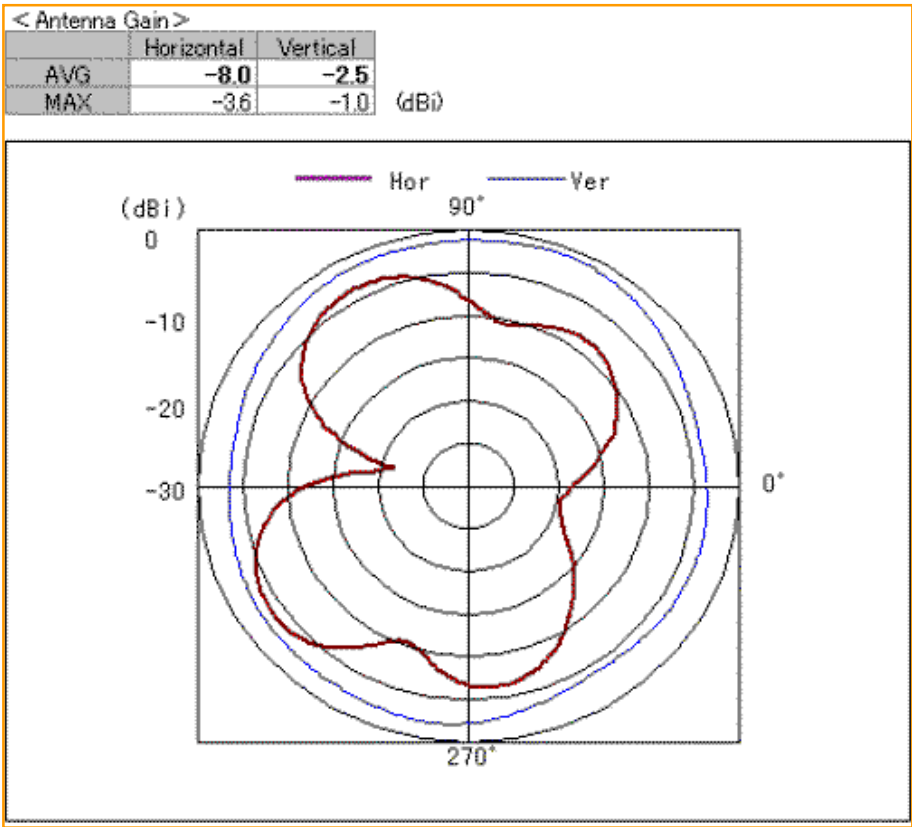
Primary antenna: 869.7 MHz (Low)



|                       |           |
|-----------------------|-----------|
| Center Frequency      | 869.7 MHz |
| Horizontal (dBi) peak | -2.8      |
| Vertical (dBi) peak   | -0.6      |
| Horz+Vert (dBi) peak  | -0.6      |

**Cellular Receive Band radiation characteristic**

**Primary antenna: 881.5 MHz (Mid)**

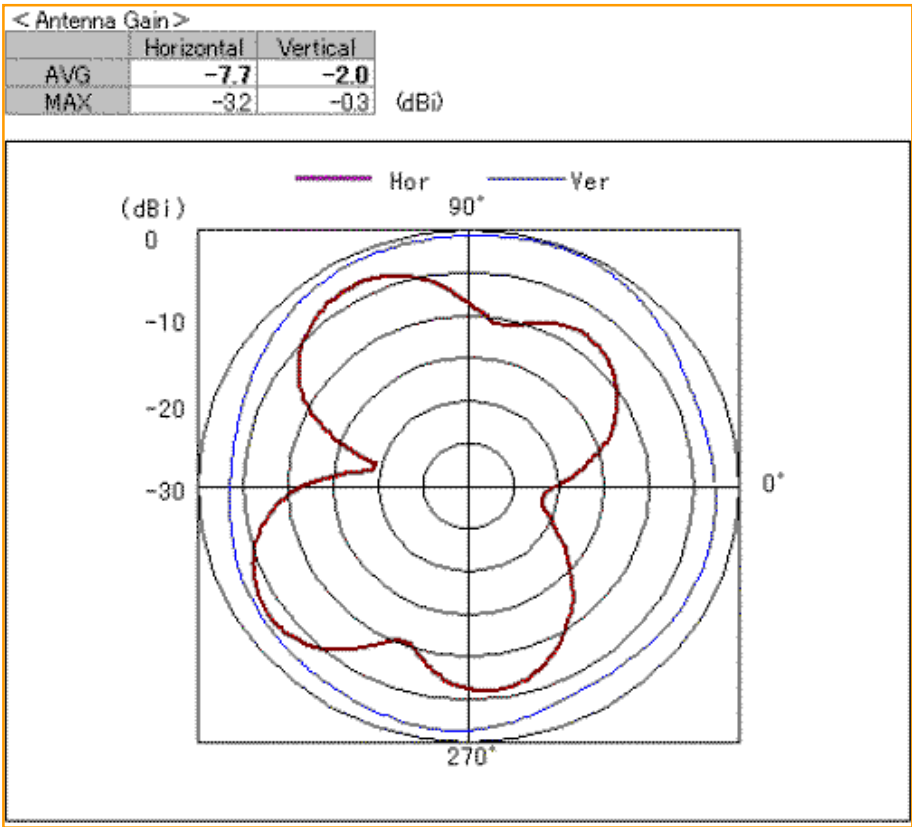


|                       |           |
|-----------------------|-----------|
| Center Frequency      | 881.5 MHz |
| Horizontal (dBi) peak | -3.6      |
| Vertical (dBi) peak   | -1.0      |
| Horz+Vert (dBi) peak  | -1.0      |



Cellular Receive Band radiation characteristic

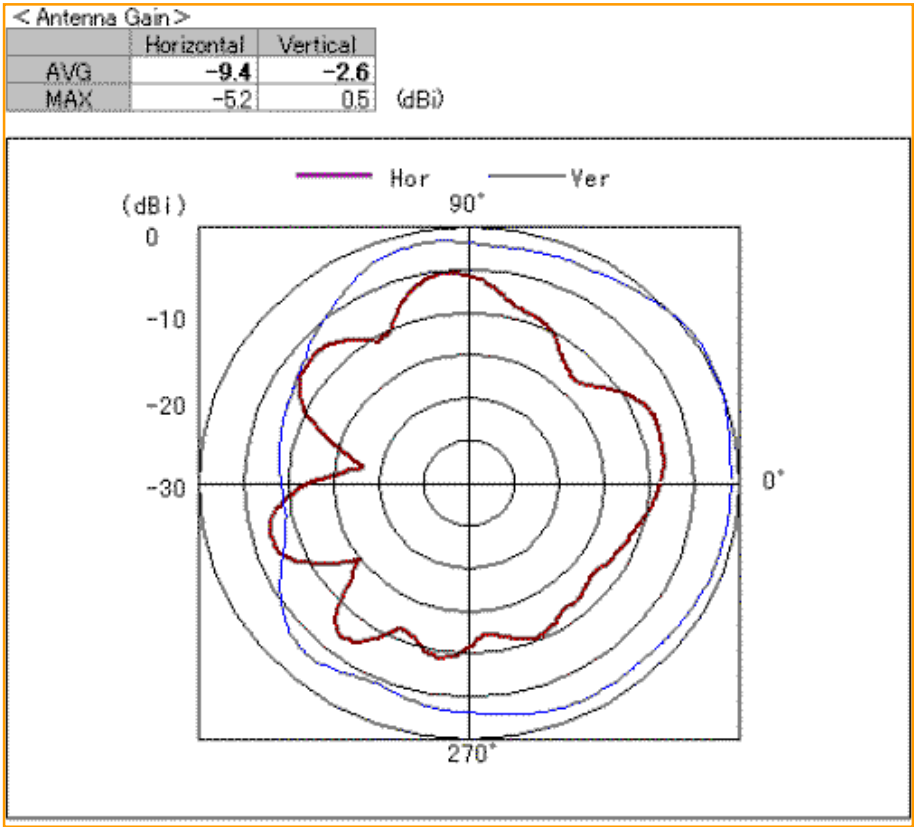
Primary antenna: 893.3 MHz (High)



|                       |           |
|-----------------------|-----------|
| Center Frequency      | 893.3 MHz |
| Horizontal (dBi) peak | -3.2      |
| Vertical (dBi) peak   | -0.3      |
| Horz+Vert (dBi) peak  | -0.3      |

PCS Transmit Band radiation characteristic

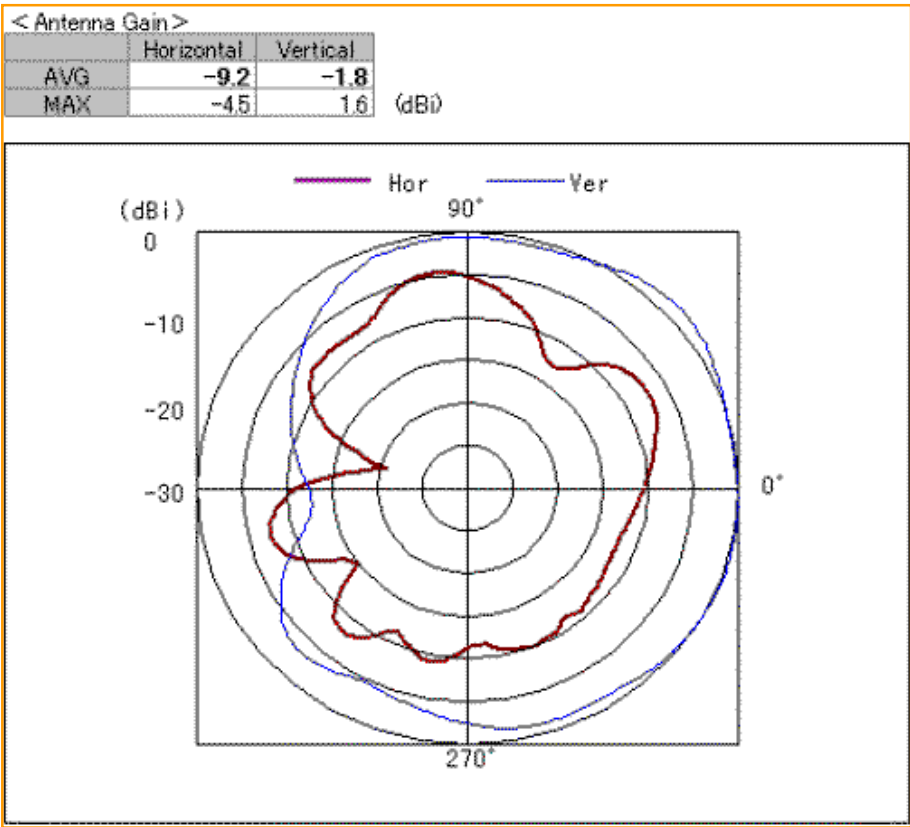
Primary antenna: 1850.2 MHz (Low)



|                       |            |
|-----------------------|------------|
| Center Frequency      | 1850.2 MHz |
| Horizontal (dBi) peak | -5.2       |
| Vertical (dBi) peak   | 0.5        |
| Horz+Vert (dBi) peak  | 0.5        |

PCS Transmit Band radiation characteristic

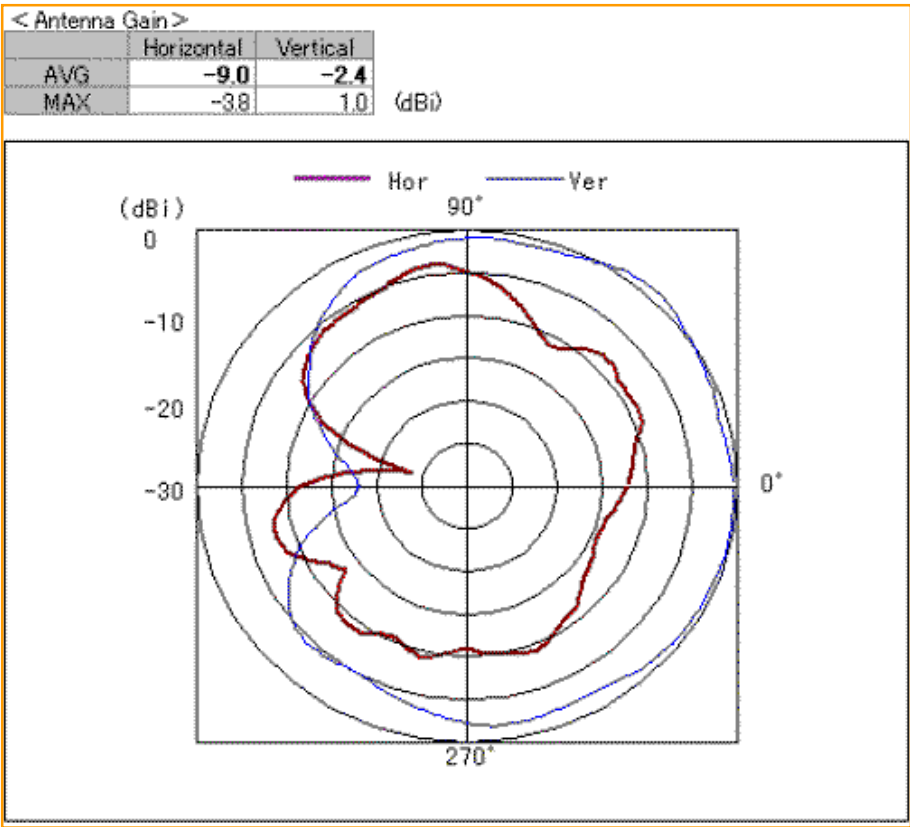
Primary antenna: 1880 MHz (Mid)



|                       |          |
|-----------------------|----------|
| Center Frequency      | 1880 MHz |
| Horizontal (dBi) peak | -4.5     |
| Vertical (dBi) peak   | 1.6      |
| Horz+Vert (dBi) peak  | 1.6      |

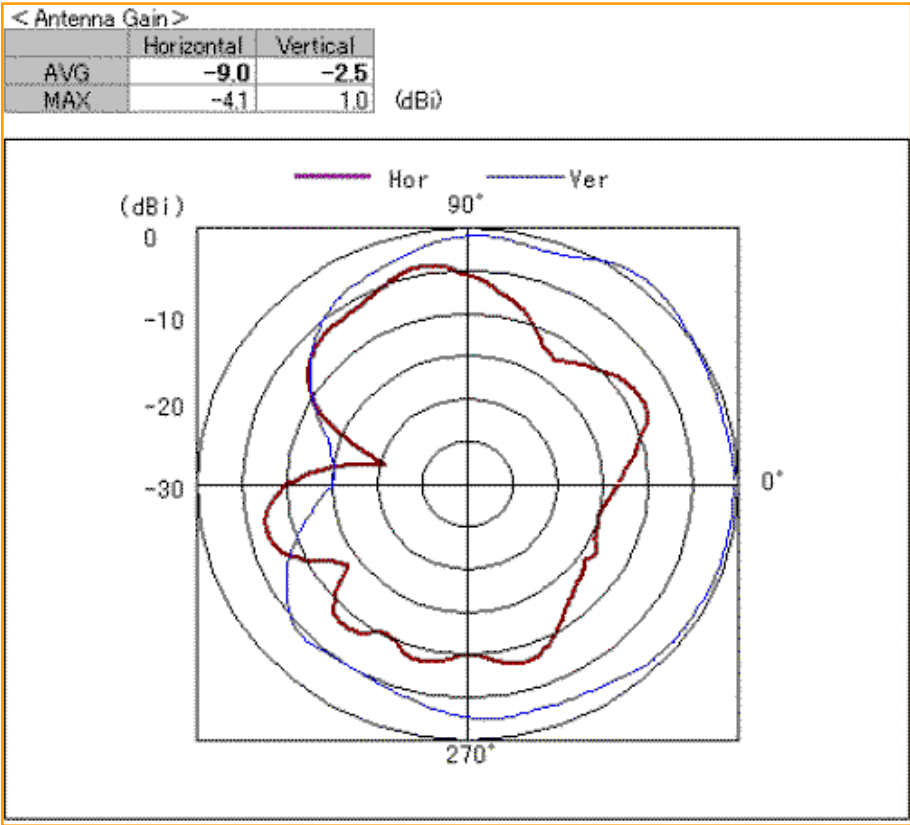
PCS Transmit Band radiation characteristic

Primary antenna: 1909.8 MHz (High)



PCS Receive Band radiation characteristic

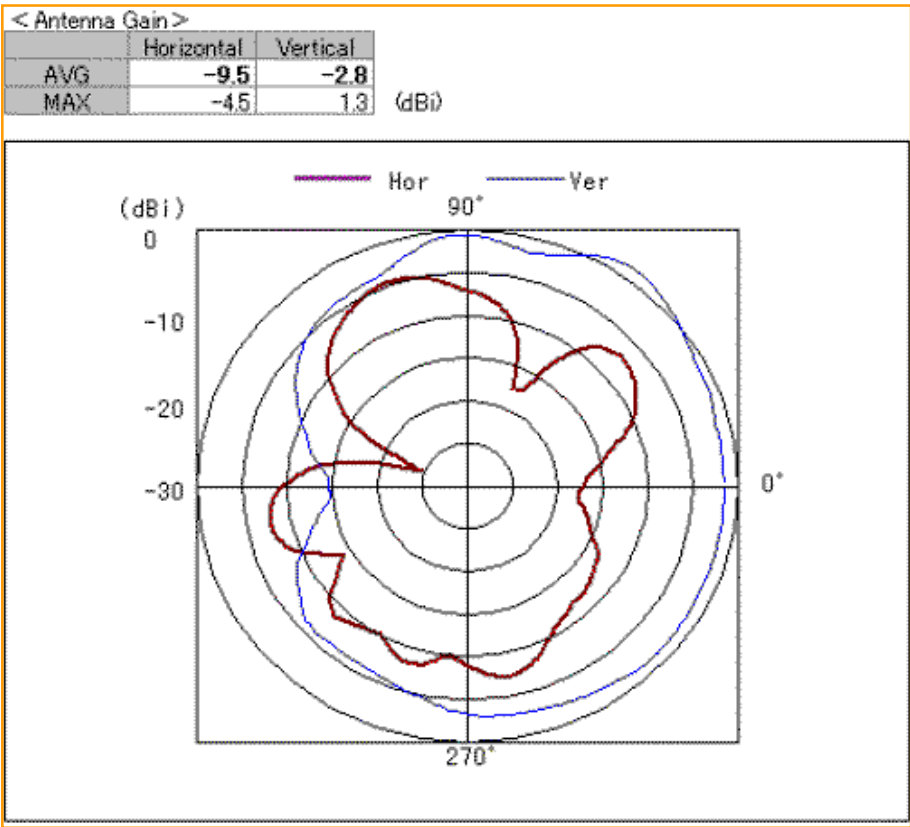
Primary antenna: 1931.2 MHz (Low)



|                       |            |
|-----------------------|------------|
| Center Frequency      | 1931.2 MHz |
| Horizontal (dBi) peak | -4.1       |
| Vertical (dBi) peak   | 1.0        |
| Horz+Vert (dBi) peak  | 1.0        |

PCS Receive Band radiation characteristic

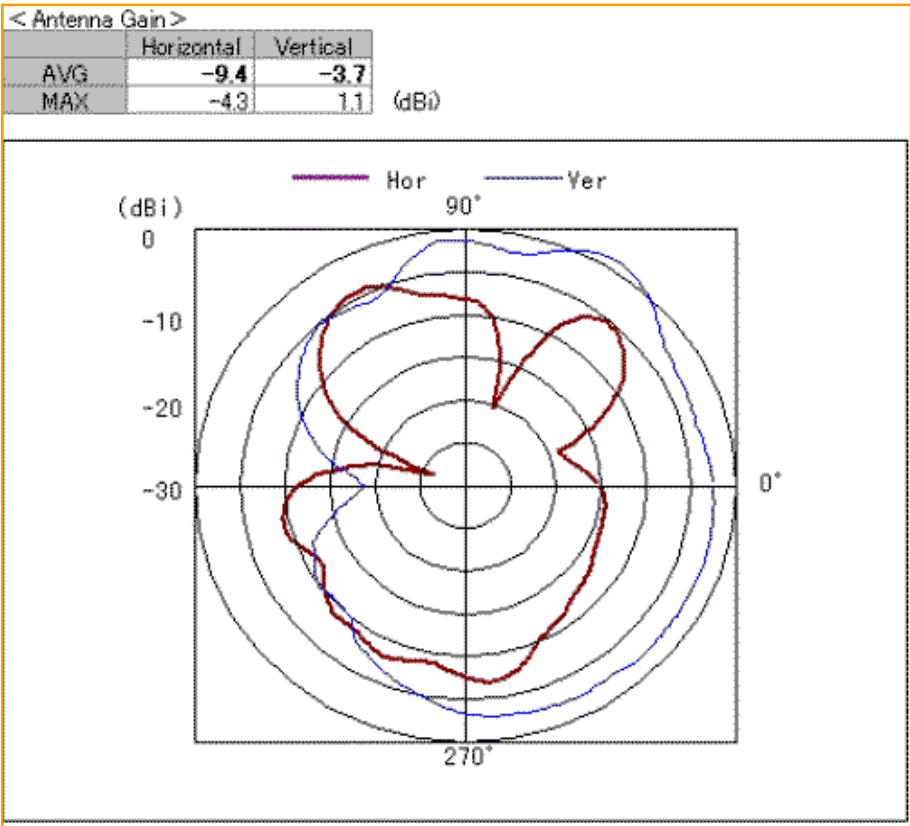
Primary antenna: 1960 MHz (Mid)



|                       |          |
|-----------------------|----------|
| Center Frequency      | 1960 MHz |
| Horizontal (dBi) peak | -4.5     |
| Vertical (dBi) peak   | 1.3      |
| Horz+Vert (dBi) peak  | 1.3      |

PCS Receive Band radiation characteristic

Primary antenna: 1988.8 MHz (High)



|                       |            |
|-----------------------|------------|
| Center Frequency      | 1988.8 MHz |
| Horizontal (dBi) peak | -4.3       |
| Vertical (dBi) peak   | 1.1        |
| Horz+Vert (dBi) peak  | 1.1        |

## Section 4. Antenna Position





Section 5. Module Position

