# APPROVAL SHEET

**Customer Name:** Wistron

**Date:2021/12/13** **Doc. Version:** A01

| | | | |
|---|---|---|---|
| **OEM P/N** | **260-29106** | | |
| **Wistron P/N** | **2348-05574-001$AA** | | |
| **Description** | **Antennas Type：PCB Antenna for WLAN 802.11a/b/g/n/ac**<br>**application: VOIP**<br>**Connector Type：IPEX4**<br>**Cable Type：1.13 white normal cable**<br>**Impedance：50Ω**<br>**Polarization：Linear**<br>**Radiation pattern：Omni-directional** | | |
| **Version** | | | |

| Provided By Wistron NeWeb Corp | Reviewed By Wistron NeWeb Corp | Approved By Customer |
|---|---|---|
| | | |

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# 1. Introduction

## Antenna for 802.11 a/b/g/n/ac system

### Main antenna (PCB)

1. Location: Below of the Panel
2. Cable length of Main antenna: 110mm, White

| | Main Antenna | |
|---|---|---|
| Position | Below of the panel | |
| Antenna Type | PCB Antenna | |
| Cable | 1.13 Normal white cable | |
| Photos | 正面 背面 | |
| | | |
| Position | | |
| Antenna Type | | |
| Cable | | |
| Photos | | |

# 2. Revision History

| Date | Version | Revision History |
|---|---|---|
| 01/28/2021 | **A01** | New Release |

# 3. Product Specifications

## 3.1 Specifications of Antenna Design

3.1.1 VSWR

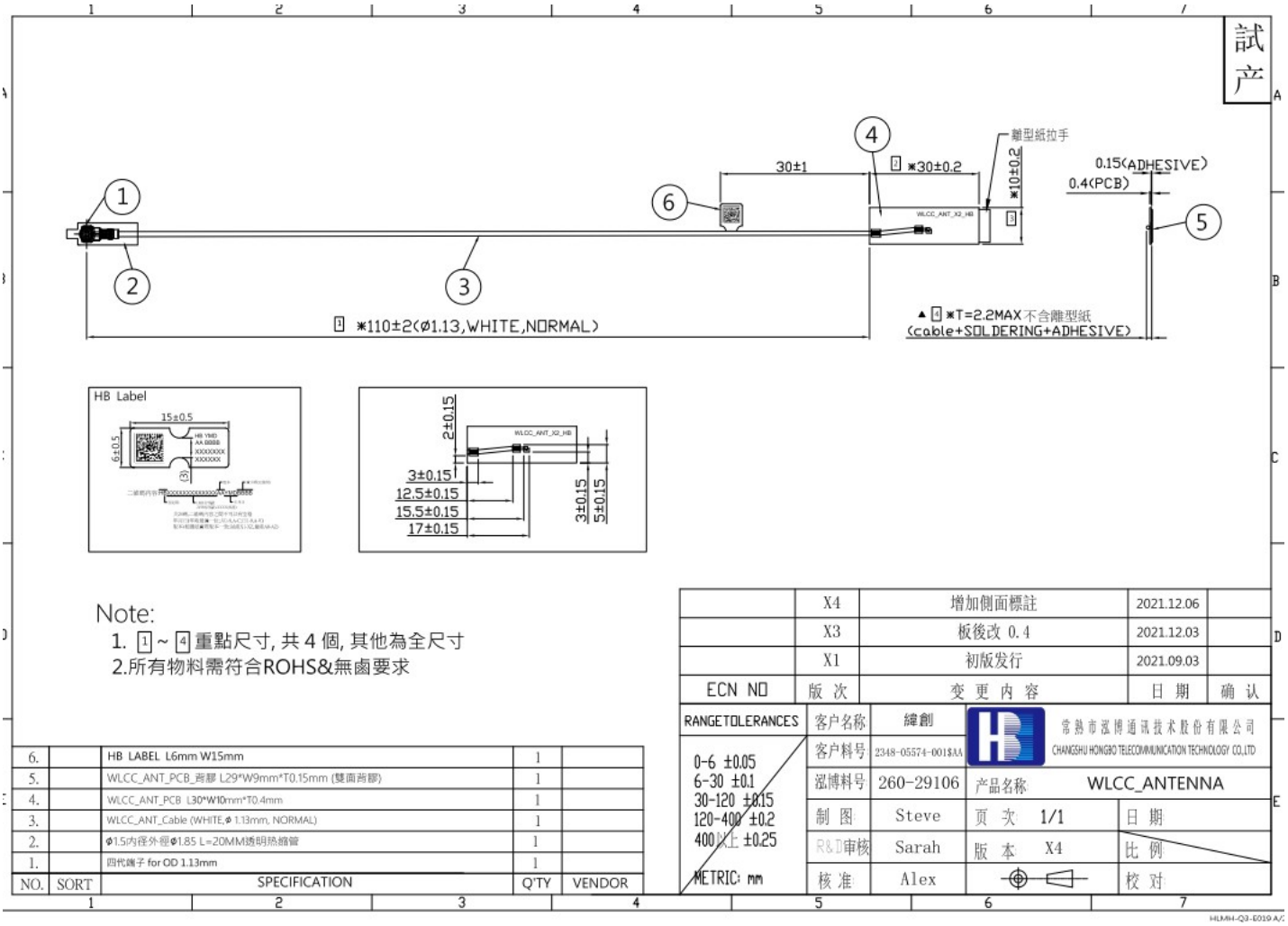
| VSWR | 2G4 ISM (2.400 GHz - 2.4835 GHz) | | | U-NII (5.150 GHz - 5.350 GHz) | | | HyperLAN (5.470 GHz - 5.85 GHz) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2.40 GHz | 2.45GHz | 2.50GHz | 5.15 GHz | 5.25GHz | 5.35 GHz | 5.47 GHz | 5.5975 GHz | 5.725 GHz | 5.785 GHz | 5.85 GHz |
| MAIN | 1.50 | 1.52 | 1.86 | 1.69 | 1.57 | 1.43 | 1.17 | 1.32 | 1.46 | 1.21 | 1.28 |

3.1.2 Average gain and peak gain

| Antenna Gain | | 2G4 ISM (2.400 GHz - 2.4835 GHz) | | | U-NII (5.150 GHz - 5.350 GHz) | | | HyperLAN (5.470 GHz - 5.85 GHz) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2.40 GHz | 2.45 GHz | 2.50GHz | 5.15 GHz | 5.25 GHz | 5.35 GHz | 5.47 GHz | 5.5975 GHz | 5.725 GHz | 5.785 GHz | 5.85 GHz |
| MAIN | Peak dBi | 1.24 | 1.55 | 1.14 | 2.60 | 2.95 | 2.69 | 2.63 | 2.61 | 0.60 | 0.24 | 0.28 |
| | Avg dBi | -2.44 | -2.64 | -2.79 | -2.10 | -2.12 | -2.06 | -2.09 | -2.02 | -2.23 | -2.14 | -2.09 |

## 3.2 Mechanical Specifications

See the attached drawing.

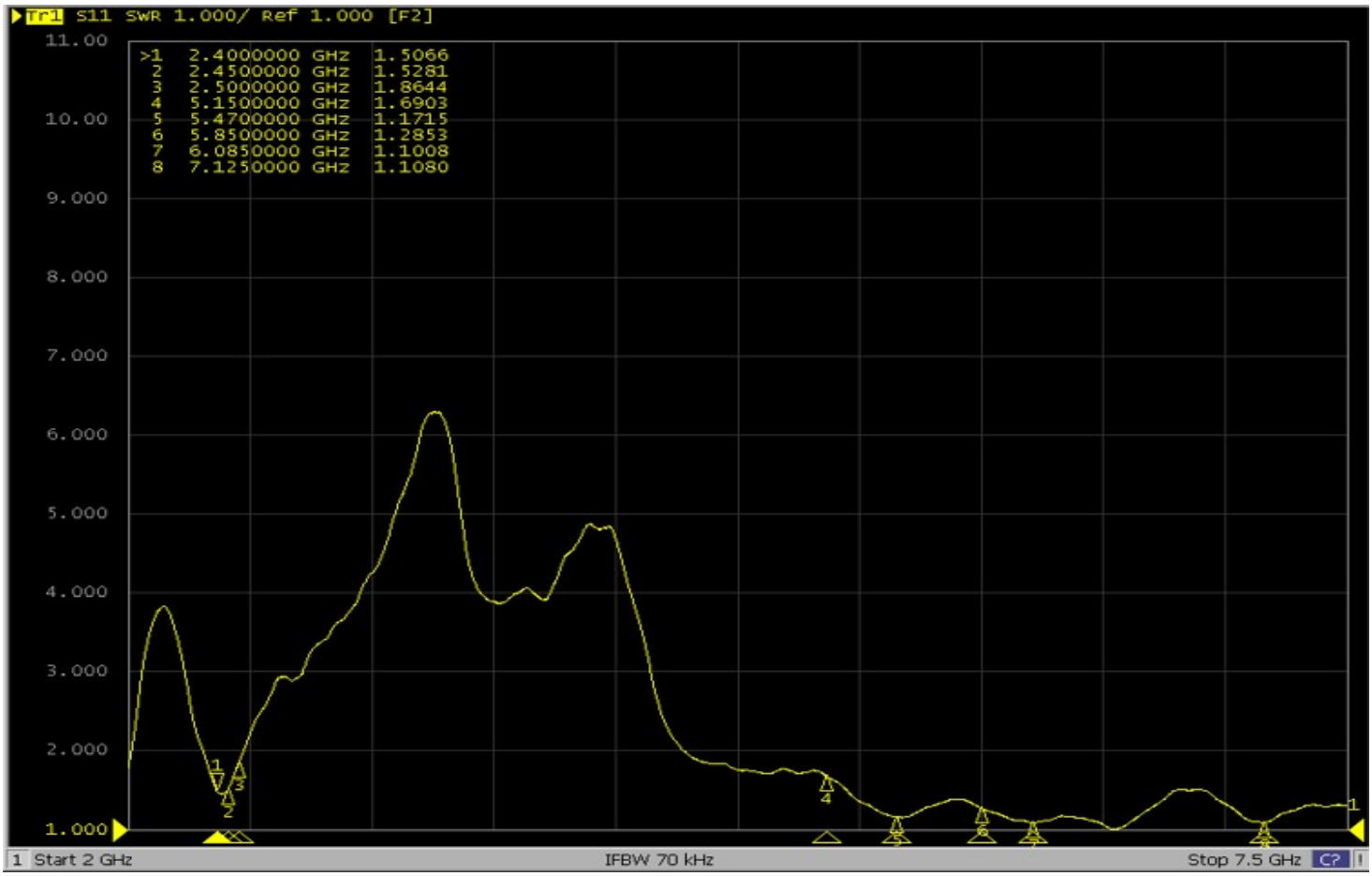


## 3.3 Antenna Material List

| Antenna |
| --- |
| 1. PCB<br>2. Coaxial cable and IPEX NGFF connector<br>3. Label<br>4. Antenna weight: |

# 4 Antenna Performance

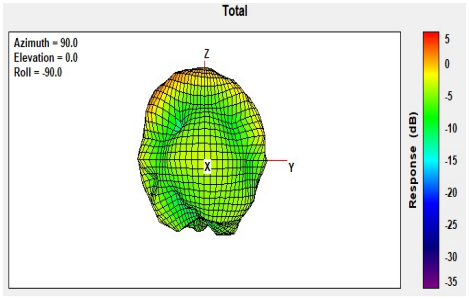
### 4.1 VSWR

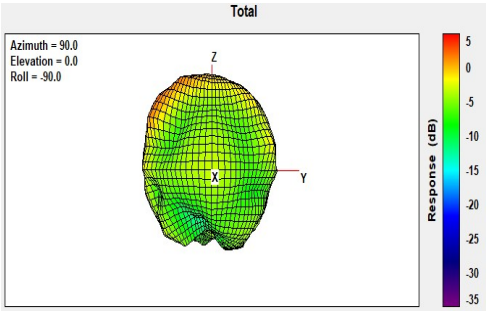


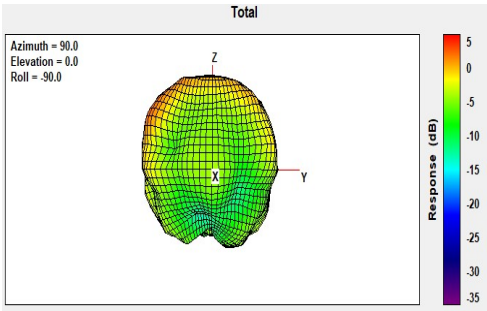
## 4.2 Peak Gain and Average Gain

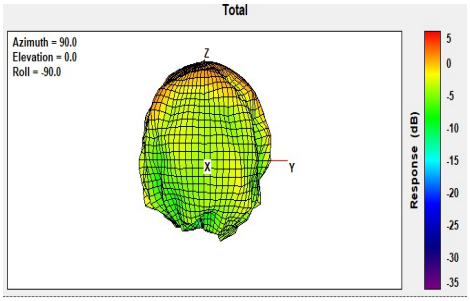
| | Main Antenna Gain | | | | |
|---|---|---|---|---|---|
| Frequency | 2D | | 3D | | |
| | H-peak gain(dBi). | V-peak gain(dBi). | Peak gain(dBi) | Average gain(dBi) | Efficiency(%) |
| 2400 MHz | -2.21 | 1.24 | 1.24 | -2.44 | 57.07% |
| 2450 MHz | -2.82 | 1.55 | 1.55 | -2.64 | 54.48% |
| 2500 MHz | -2.94 | 1.14 | 1.14 | -2.79 | 52.65% |
| 5150 MHz | -2.71 | 2.60 | 2.60 | -2.10 | 61.71% |
| 5250 MHz | -2.91 | 2.85 | 2.95 | -2.12 | 61.37% |
| 5350 MHz | -2.94 | 2.69 | 2.69 | -2.06 | 63.61% |
| 5470 MHz | -2.67 | 2.63 | 2.63 | -2.09 | 64.68% |
| 5600 MHz | -2.20 | 2.61 | 2.61 | -2.02 | 62.74% |
| 5725 MHz | -2.45 | 0.60 | 0.60 | -2.23 | 59.89% |
| 5785 MHz | -2.89 | -0.24 | 0.24 | -2.14 | 61.05% |
| 5850 MHz | -2.91 | 0.28 | 0.28 | -2.09 | 61.80% |

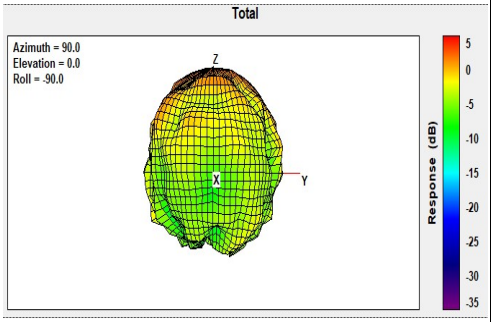
## 4.3 Antenna 3D Pattern

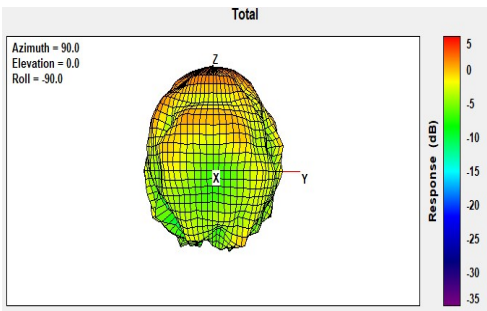


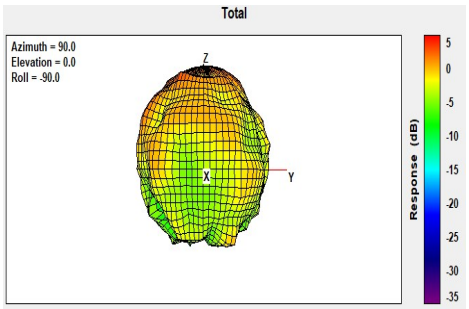



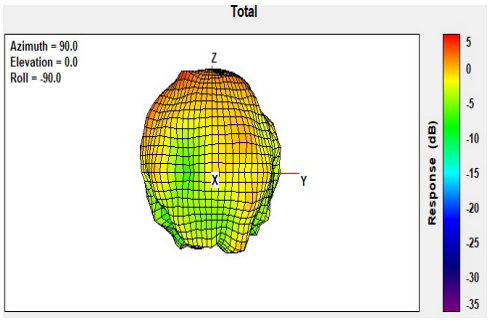



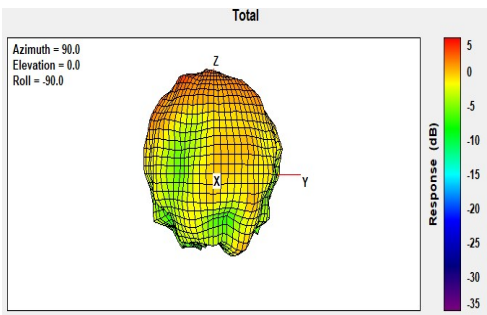



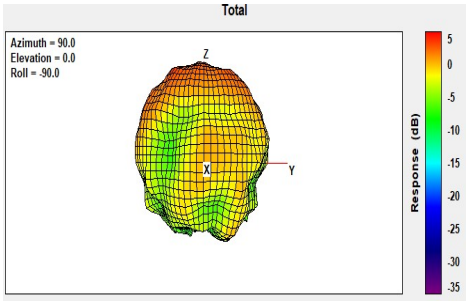
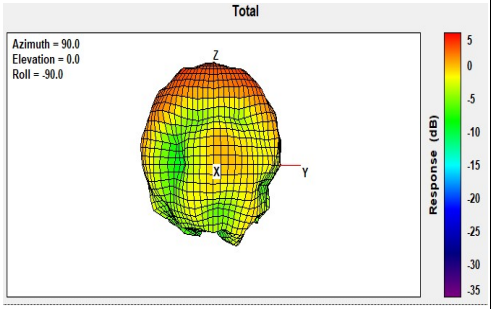



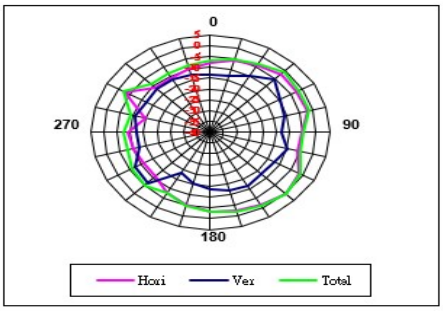



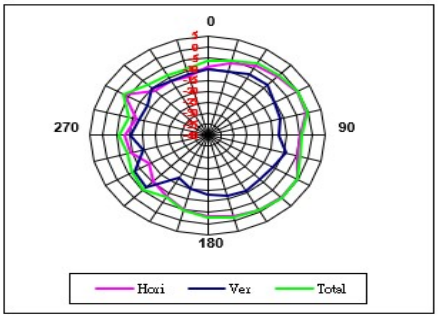



| | | |
|---|---|---|
|  Total<br>Azimuth = 90.0<br>Elevation = 0.0<br>Roll = -90.0<br>Z<br>X<br>Y<br>Response (dB)<br>5<br>0<br>-5<br>-10<br>-15<br>-20<br>-25<br>-30<br>-35 |  Total<br>Azimuth = 90.0<br>Elevation = 0.0<br>Roll = -90.0<br>Z<br>X<br>Y<br>Response (dB)<br>5<br>0<br>-5<br>-10<br>-15<br>-20<br>-25<br>-30<br>-35 | |

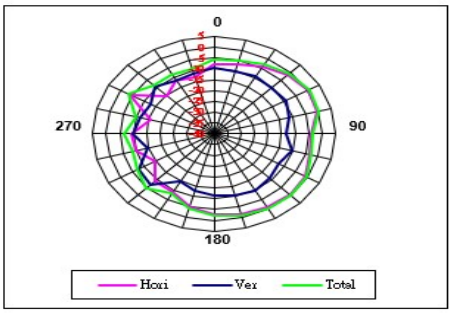
## 4.4 Antenna 2D Pattern



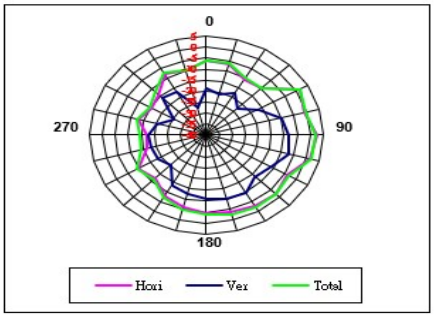

| Frequency (MHz) | 2400 |
|---|---|
| Horizontal peak gain (dBi) | -2.61 |
| Vertical peak gain (dBi) | 1.24 |



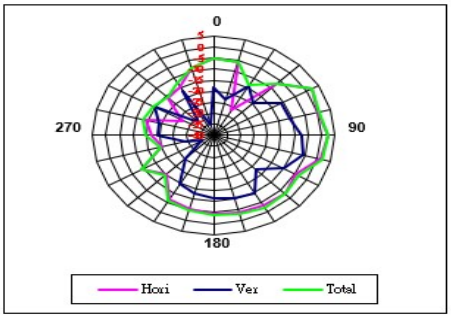

| Frequency (MHz) | 2450 |
|---|---|
| Horizontal peak gain (dBi) | -2.82 |
| Vertical peak gain (dBi) | 1.55 |



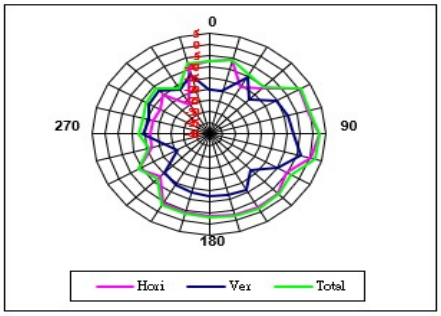

| Frequency (MHz) | 2500 |
|---|---|
| Horizontal peak gain (dBi) | -2.94 |
| Vertical peak gain (dBi) | 1.14 |



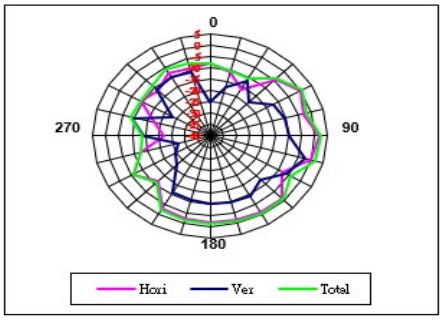

| Frequency (MHz) | 5150 |
|---|---|
| Horizontal peak gain (dBi) | -2.71 |
| Vertical peak gain (dBi) | 2.60 |



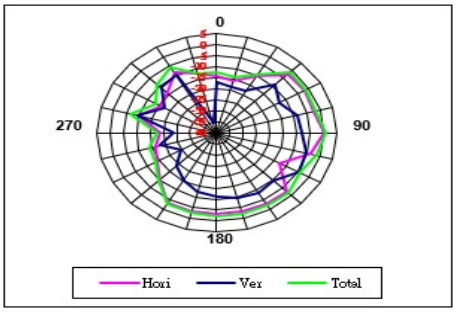

| Frequency (MHz) | 5250 |
|---|---|
| Horizontal peak gain (dBi) | -2.91 |
| Vertical peak gain (dBi) | 2.85 |



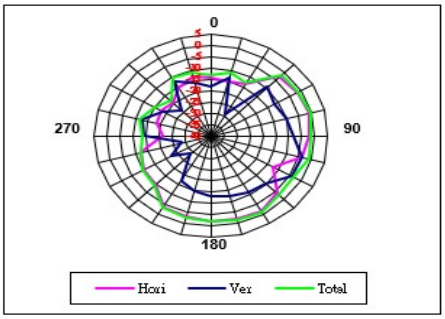

| Frequency (MHz) | 5350 |
|---|---|
| Horizontal peak gain (dBi) | -2.94 |
| Vertical peak gain (dBi) | 2.69 |



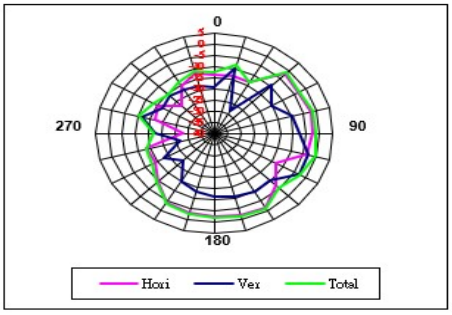

| Frequency (MHz) | 5470 |
|---|---|
| Horizontal peak gain (dBi) | -2.67 |
| Vertical peak gain (dBi) | 2.63 |



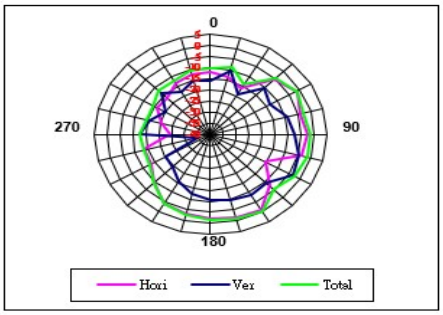

| Frequency (MHz) | 5600 |
|---|---|
| Horizontal peak gain (dBi) | -2.20 |
| Vertical peak gain (dBi) | 2.61 |




| Frequency (MHz) | 5725 |
|---|---|
| Horizontal peak gain (dBi) | -2.45 |
| Vertical peak gain (dBi) | 0.60 |




| Frequency (MHz) | 5785 |
|---|---|
| Horizontal peak gain (dBi) | -2.89 |
| Vertical peak gain (dBi) | -0.24 |




| Frequency (MHz) | 5850 |
|---|---|
| Horizontal peak gain (dBi) | -2.91 |
| Vertical peak gain (dBi) | 0.28 |