

Antenna Gain Test Report

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|-----------------|---|
| Project No.: | DJ-20230424 |
| Client Name: | PRIMAX ELECTRONICS LTD. |
| Client Address: | NO.669, Ruey Kuang Road, Neihu, Taipei, Taiwan, R.O.C |
| Product Name: | HP 650 Rechargeable Wireless Mouse |
| Product Model: | TPA-P007M |
| Manufacture: | Walsin Technology Corporation |
| Antenna Type: | MULTILAYER CERAMIC ANTENNA / RFANT2012090A0T |
| Antenna Size: | Refer to section 6 |
| Test Personnel: | James Qin |
| Test Standards: | ANSI/IEEE std 149-2021 |
| Test Date: | 2023.4.24 |

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Revision History

| Rev. | Issue Date | Revisions | Revised By |
|------|------------|---------------|------------|
| V0 | 2023.4.24 | Initial Issue | \ |

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1 Test Equipment Information

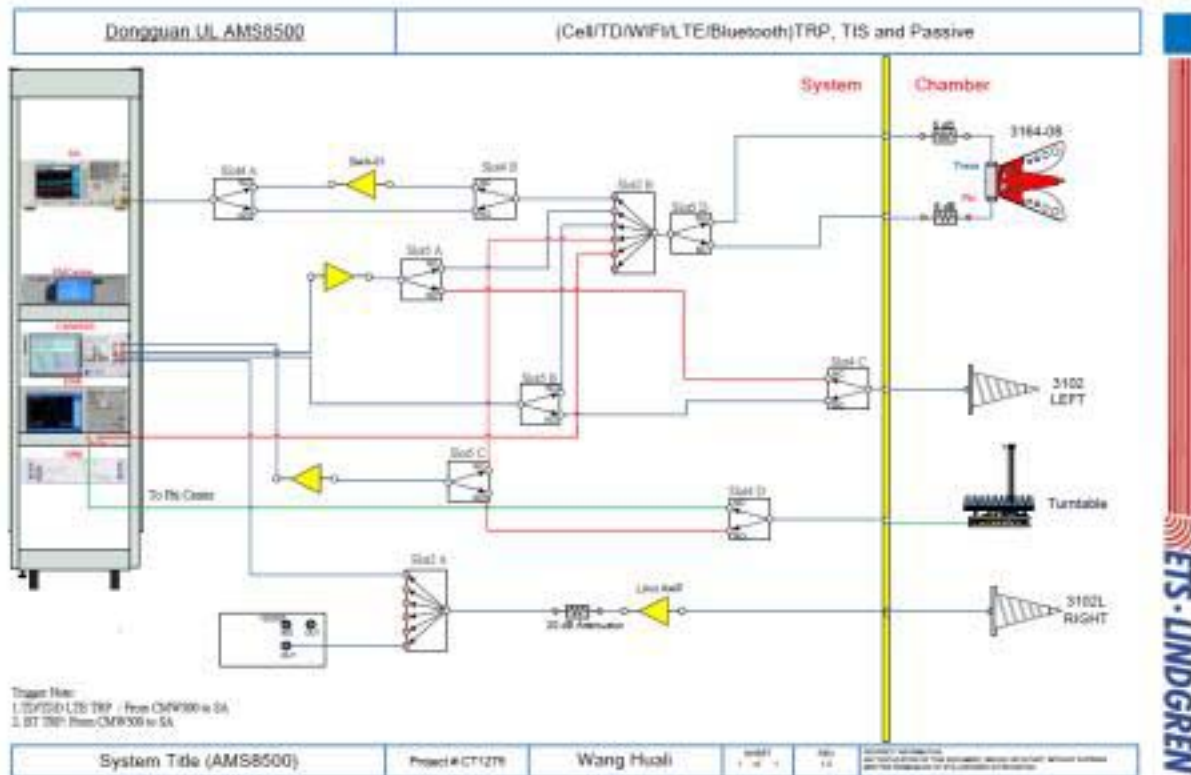
| Equipment | Manufacturer | Mode No. | Serial No. | Cal date | Cal Due |
|------------------------|--------------|------------------|------------|------------|------------|
| Test Chamber | ETS-Lindgren | 8500 | / | / | / |
| Test Software | ETS-Lindgren | EMQuest V1.12 | 1496 | / | / |
| Network Analyzer | Keysight | E5071C | MY46524531 | 2022.10.17 | 2023.10.16 |
| EXA Singal Analyzer | Keysight | N9010A | MY55150514 | 2022.10.17 | 2023.10.16 |

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2 Setup block diagram



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3 Test Temperature and Humidity

Temperature: 22.8°C

Humidity: 63.6%

4 Test Step Flow

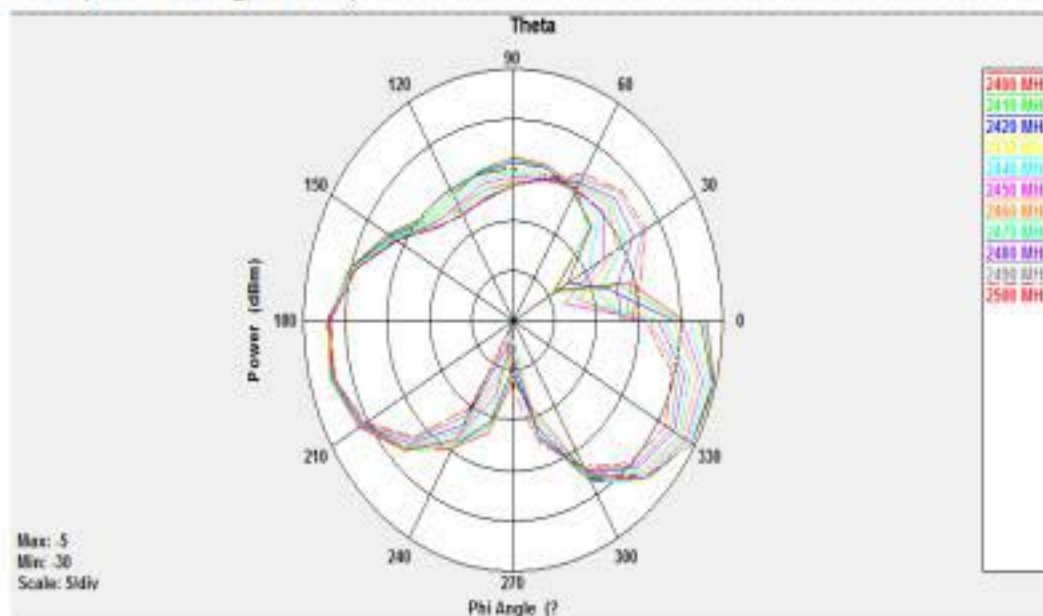
- 1) Maintain the test ambient temperature of 23 ± 2 C, the instrument is powered on and preheated for more than 30 minutes;
- 2) Turn on the darkroom power supply, connect the test cable, and set up the sample according to the standard;
- 3) Outline sets the test content objectives and conducts calibration tests;
- 4) Run the software, when the test is completed, export the corresponding test diagram and test data, and save to the corresponding directory.

5 Test Result

| Frequency (MHz) | Efficiency (%) | Gain (dBi) |
|-----------------|----------------|------------|
| 2400 | 29.97 | 1.75 |
| 2410 | 28.73 | 1.61 |
| 2420 | 27.57 | 1.43 |
| 2430 | 26.14 | 1.17 |
| 2440 | 24.74 | 0.91 |
| 2450 | 23.10 | 0.59 |
| 2460 | 21.41 | 0.28 |
| 2470 | 19.91 | -0.06 |
| 2480 | 18.84 | -0.33 |
| 2490 | 18.10 | -0.70 |
| 2500 | 17.61 | -0.90 |

Polarization Pattern Photos

Theta Polarization(Theta Angle=90°)

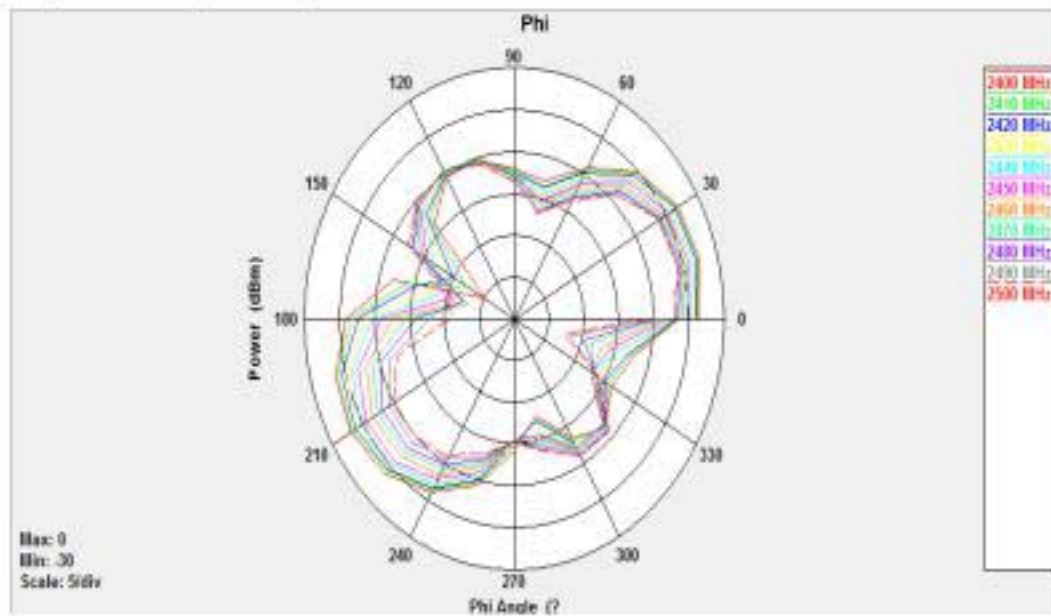


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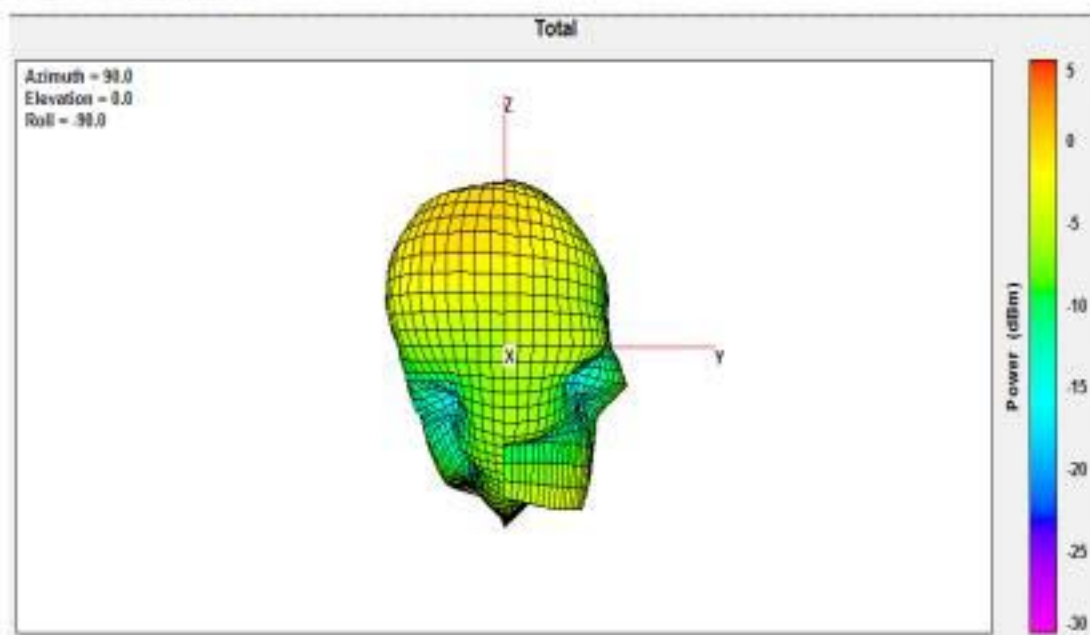
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Phi Polarization(Theta Angle=90°)

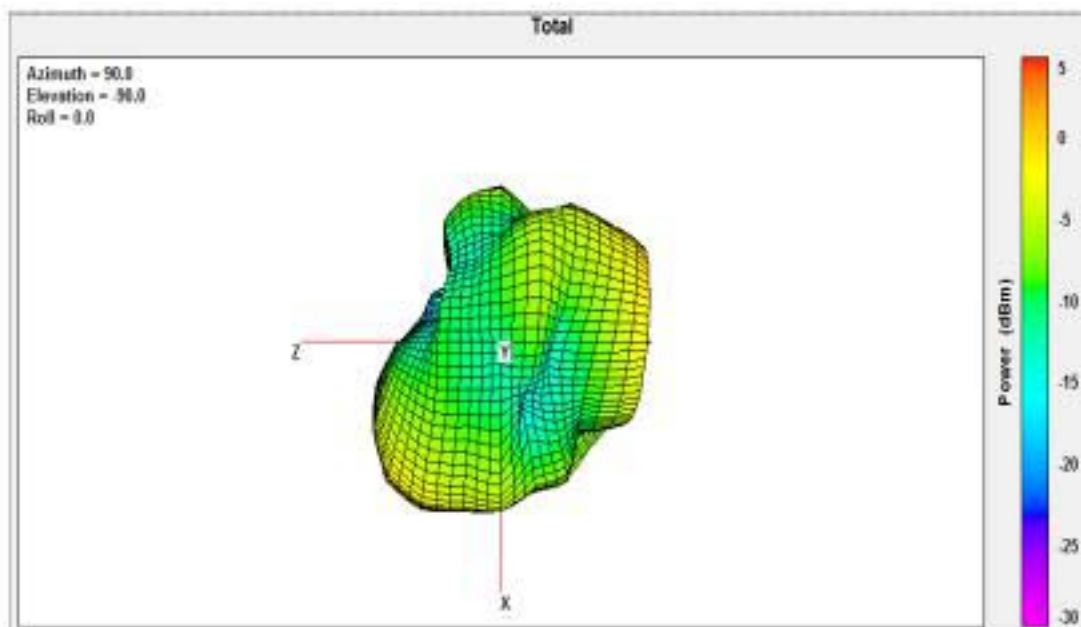
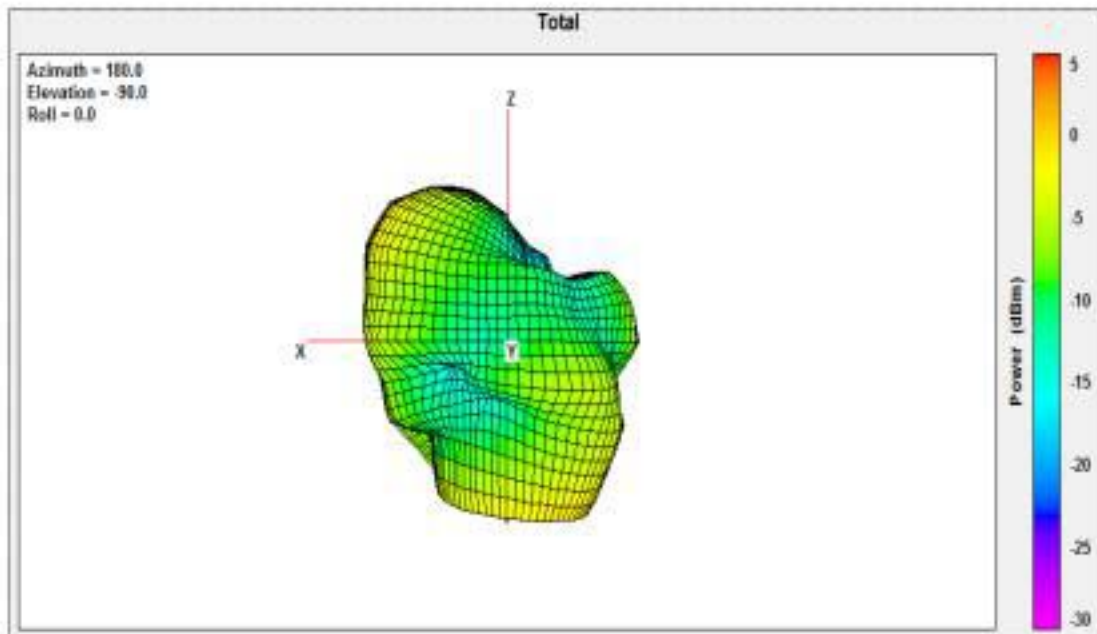


Total 3D Plot(Fre.2500MHz)



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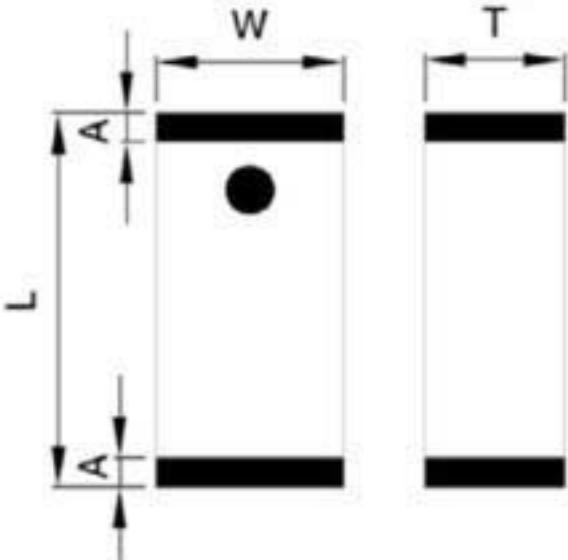


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6 Antenna Dimension

| Figure | Symbol | Dimension (mm) |
|--|--------|-----------------|
|  | L | 2.0 ± 0.20 |
| | W | 1.25 ± 0.20 |
| | T | 0.90 ± 0.10 |
| | A | 0.25 ± 0.15 |

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7 Photo



END OF REPORT

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