

Antenna Gain Test Report

Project No.: 4791366726

Client Name: Shenzhen Seauto Technology Co., Ltd.

Client Address: Room 501, Building 1, Phase 1, China Merchants Smart City, Fenghuang Community, Fenghuang Street, Guangming District, Shenzhen.

Product Name: Robotic Pool Cleaner

Product Model: Niya Sonar 50, Niya Tracker 55

Manufacture: Huizhou Seauto Intelligent Technology Co., LTD

Antenna Type: PCB

Antenna Size: Refer to section 6

Project Engineer: James Qin

Test Standards: ANSI/IEEE std 149-2021

Issued Date: 2024.6.13

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Revision History

| Rev. | Issue Date | Revisions | Revised By |
|------|------------|---------------|------------|
| V0 | 2024.6.13 | Initial Issue | \ |

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1 Test Equipment Information

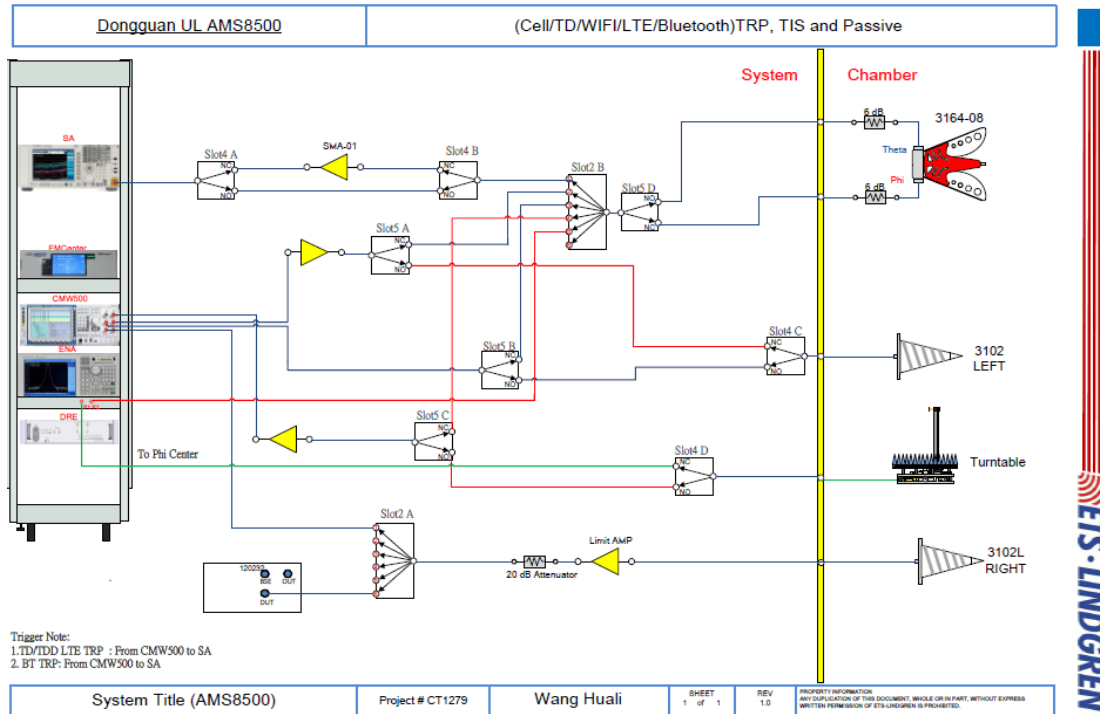
| Equipment | Manufacturer | Mode No. | Serial No. | Cal date | Cal Due |
|---------------------|--------------|------------------|------------|------------|------------|
| Test Chamber | ETS-Lindgren | 8500 | / | / | / |
| Test Software | ETS-Lindgren | EMQuest V1.12 | 1496 | / | / |
| Network Analyzer | Keysight | E5071C | MY46524531 | 2023.10.12 | 2024.10.11 |
| EXA Singal Analyzer | Keysight | N9010A | MY55150514 | 2023.10.12 | 2024.10.11 |

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2 Setup block diagram



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3 Test Temperature and Humidity

Temperature: 23.1°C

Humidity: 59.4%

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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 | 17.25 | -1.12 |
| 2410 | 16.49 | -1.26 |
| 2420 | 16.07 | -1.34 |
| 2430 | 15.89 | -1.30 |
| 2440 | 15.68 | -1.28 |
| 2450 | 14.97 | -1.42 |
| 2460 | 14.27 | -1.64 |
| 2470 | 13.69 | -1.78 |
| 2480 | 12.83 | -1.96 |
| 2490 | 12.16 | -2.22 |
| 2500 | 11.90 | -2.20 |

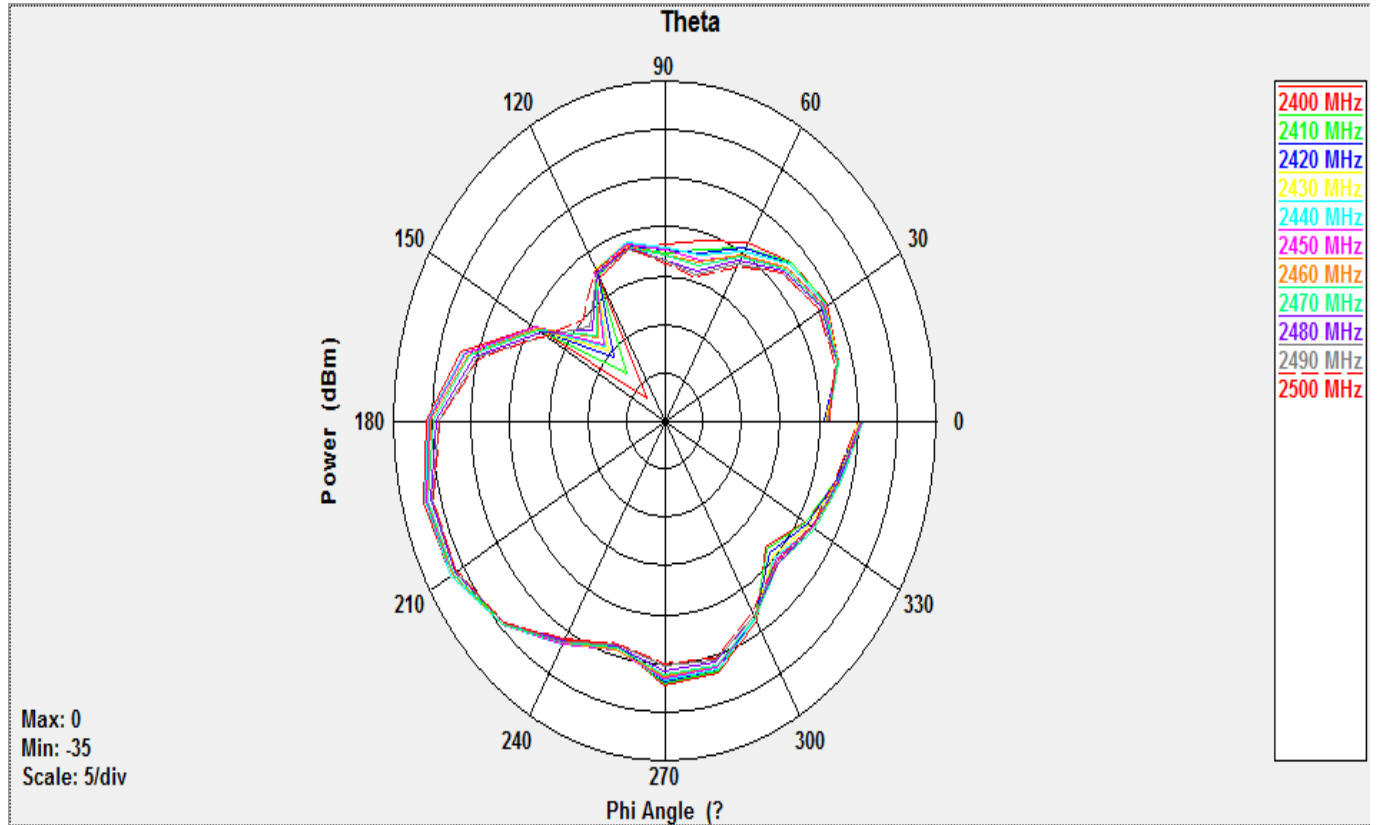
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Polarization Pattern Photos

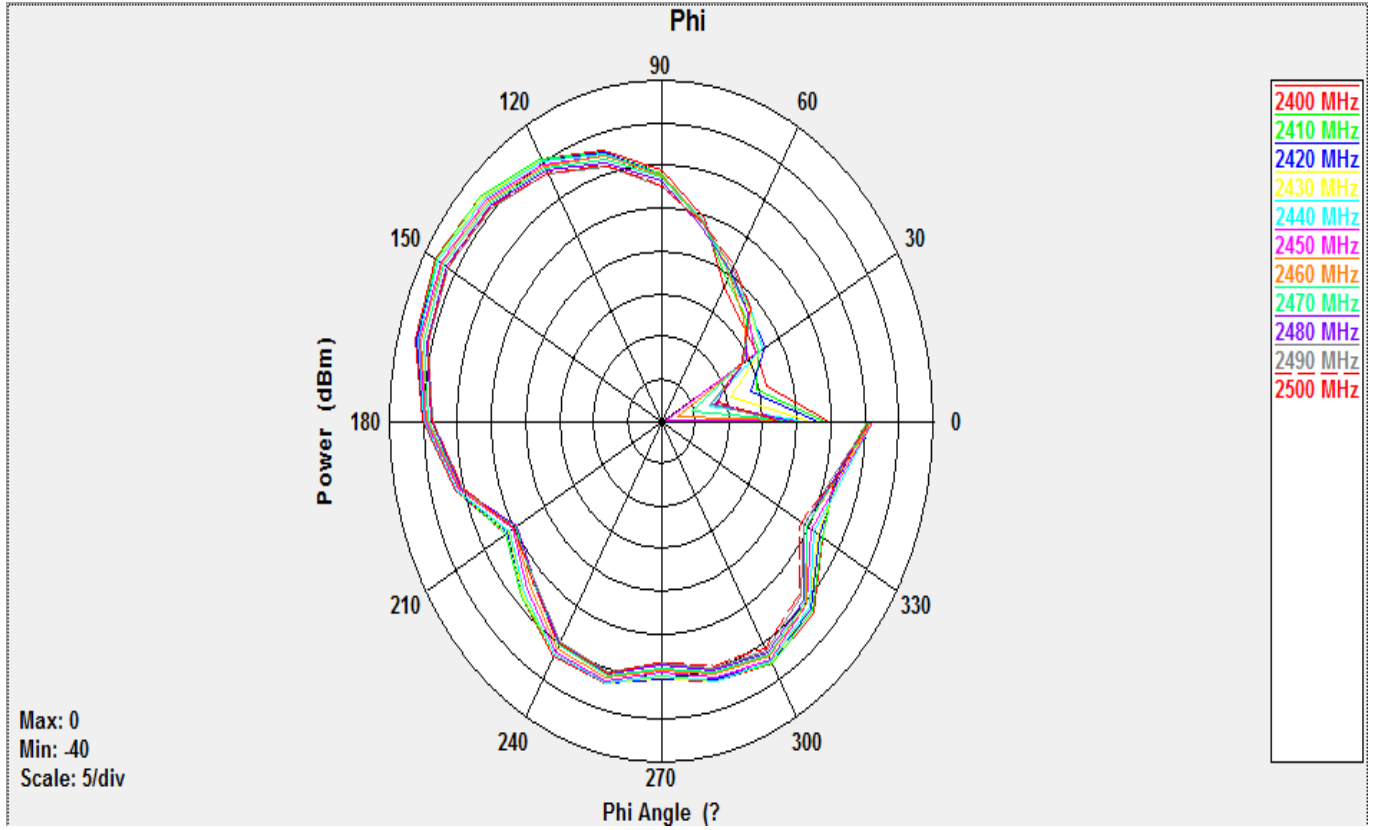
Theta Polarization(Theta Angle=90°)



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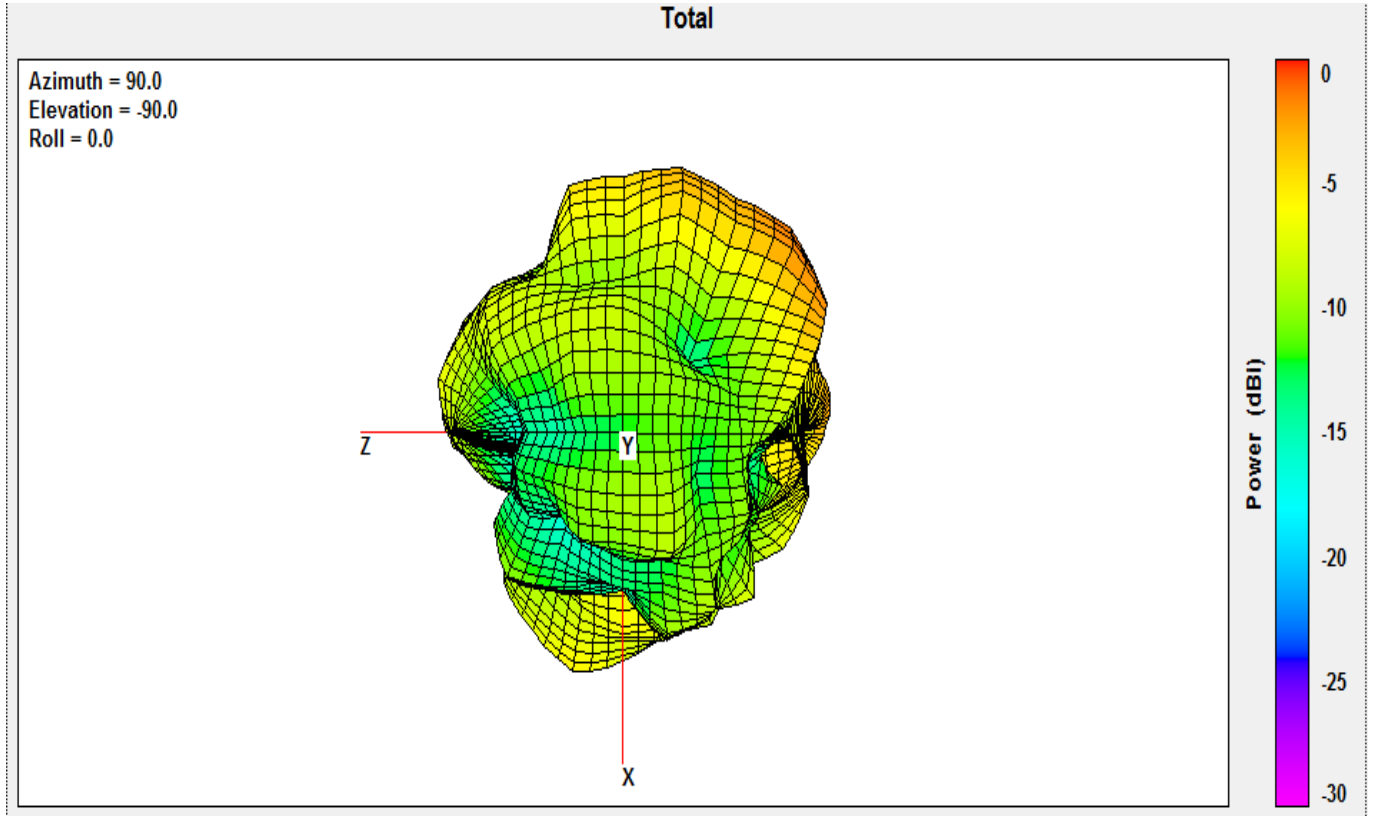
Phi Polarization(Theta Angle=90°)



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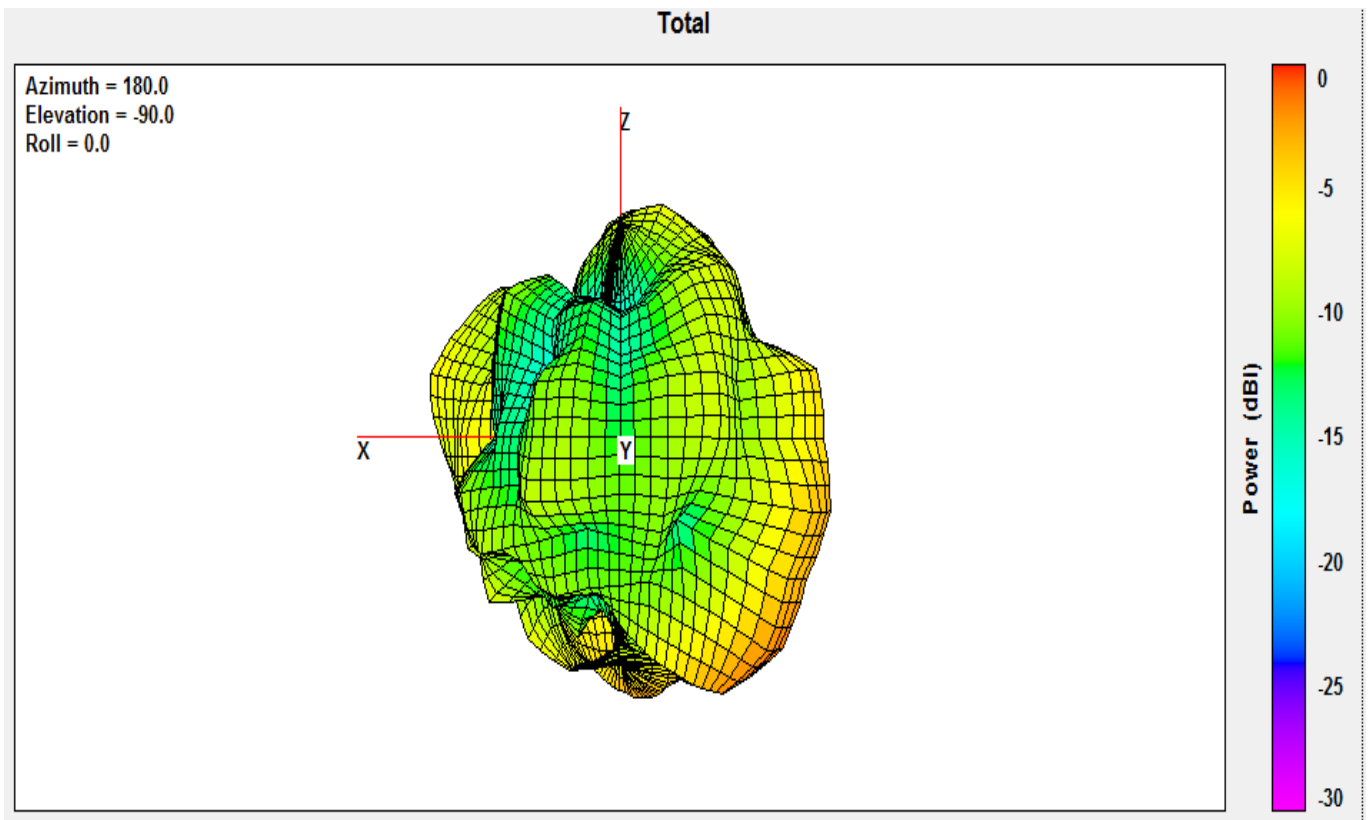
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Total 3D Plot(Fre.2500MHz)



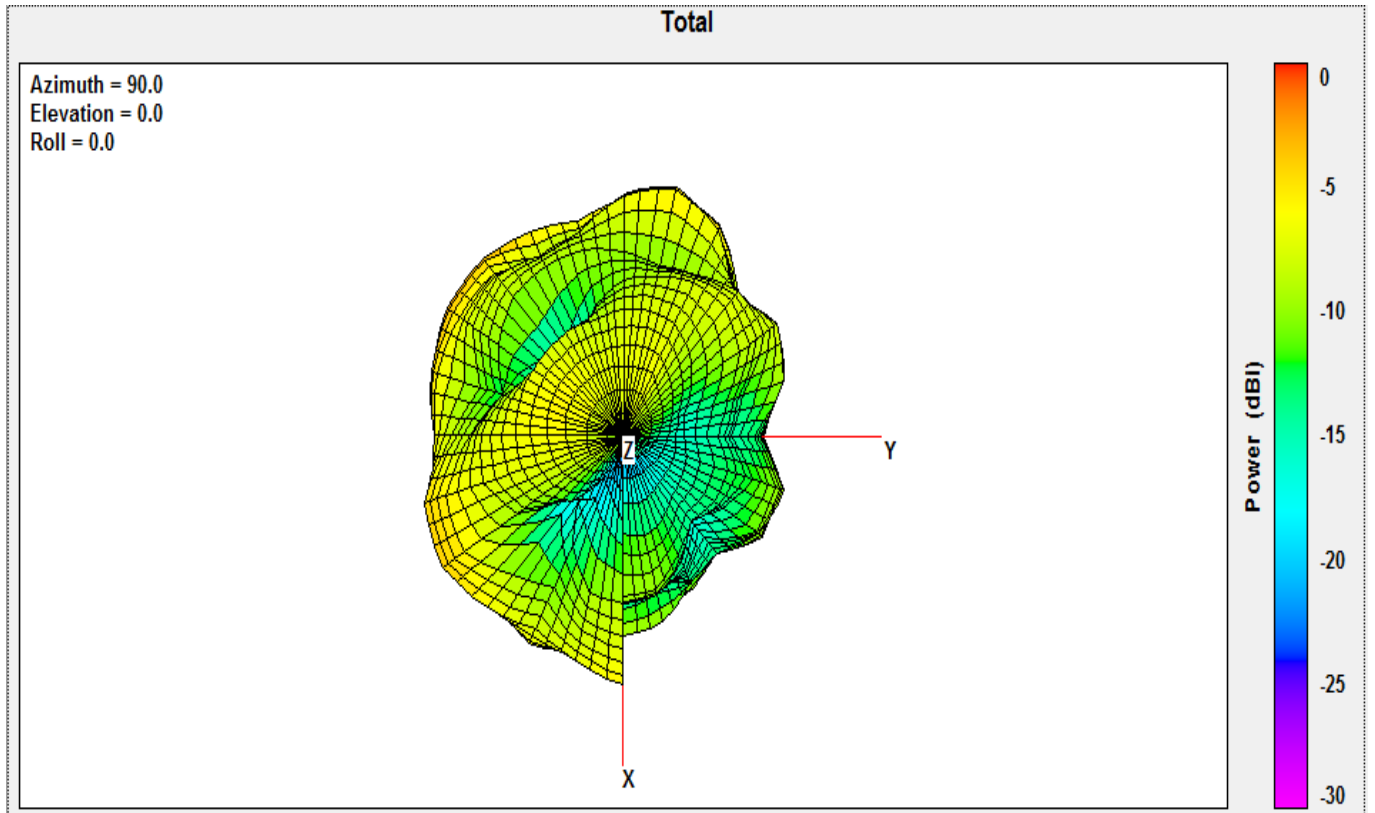
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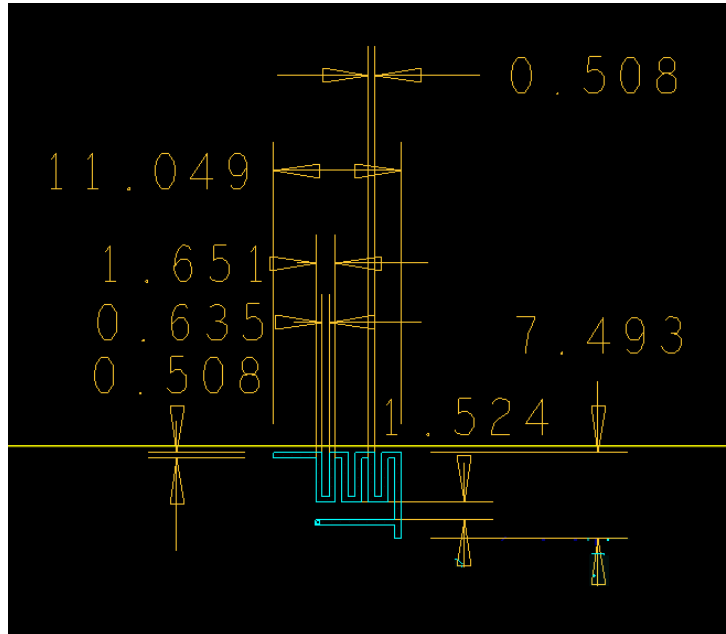
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6 Antenna Dimension



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7 Photo



END OF REPORT

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