

APPROVAL SHEET
样品承認書

Zylux Part Number : 1029-0A00207

Part Description : BT Antenna

Manufactuer Part No. : LDTC114EET1G

Firmware version : NA

Approved date : 2024/2/20

Table with 2 columns: Conditional Approval (限量承認) and Formal Approval (正式承認). Formal Approval is checked with a tick mark.

Table for hazardous material requirements. Includes rows for HALOGEN FREE, RoHS2.0, REACH, PRO65, CARB2 and a section for Detailed Harzardous substances Restriction with items like Zylux QMI-P40-01, Samsung 0QA-2049, and Sony SS-00259.

抗靜電電壓 Antistatic Voltage NA

器件耐熱等級 Device Heat Resistance Level NA

Table for Supplier (供應商) with columns: REPORTED (製作), CHECKED (核對), APPROVED (批准). Rows include WAH, FOUNTAIN, and ROX.

Table for ZYLUX (朝陽) with columns: REPORTED (製作), QC CHECKED (核對), APPROVED (批准).

Supplier Contact point

Table with 2 columns: Company Address (地址) and TEL (電話). Address: 东莞市厚街镇环岗工业区新保威工业城. TEL: 0769-38858188.

RoHS Compliant

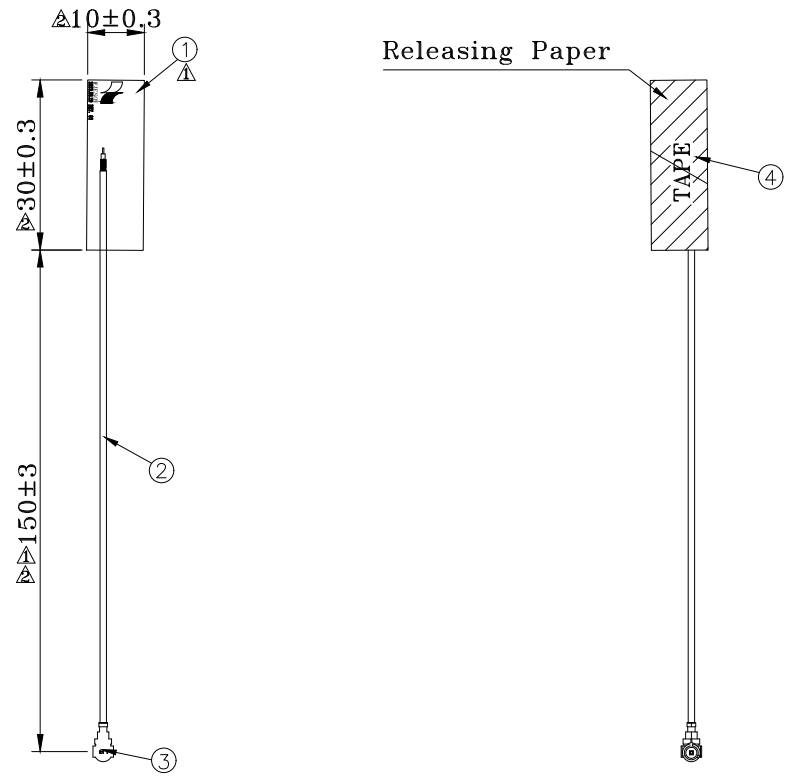
| REV | DATE | DESCRIPTION | ECN NO. | NAME |
|-----|----------|-------------------------------|---------|-------|
| A1 | 23.06.16 | PROPOSAL | | DAVID |
| A2 | 23.07.06 | △ Modify layout, cable length | | DAVID |
| A3 | 23.08.29 | △ Modify layout, cable length | | DAVID |

A

B

C

D



CUST NO.:

WIESON TECHNOLOGIES CO., LTD
WIESON

PART NO.:
ARY196-4044-003-00

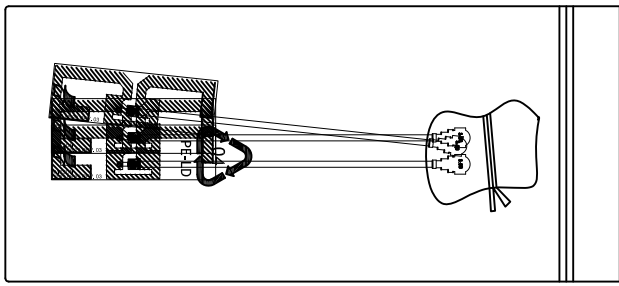
| | | | | |
|------------|--------------------|-------------------|---------------------|--------------------|
| TITLE: | | BT Antenna | | |
| 1 | DRAWN BY | DAVID(WST) | DRAWING NO. | ARY196-4044-003-00 |
| 1 | CHECKED BY | | DRAWING SIZE | A4 |
| 1 | APPROVED BY | | UNIT | mm |
| QTY | SORTING NO. | WSC | PAGE | 1 OF 1 |

| NO. | ITEM | DESCRIPTION | QTY |
|-----|-----------|--|-----|
| ④ | Tape | 3M9448HK , Size: 30 x 10mm△△ | 1 |
| ③ | Connector | MHF I Plug For 1.13mm Cable , Gold Plated | 1 |
| ② | Cable | 1.13mm Normal Coaxial Cable , FEP Black Jacket | 1 |
| ① | FPC | Size: 30 x 10 mm△△ | 1 |

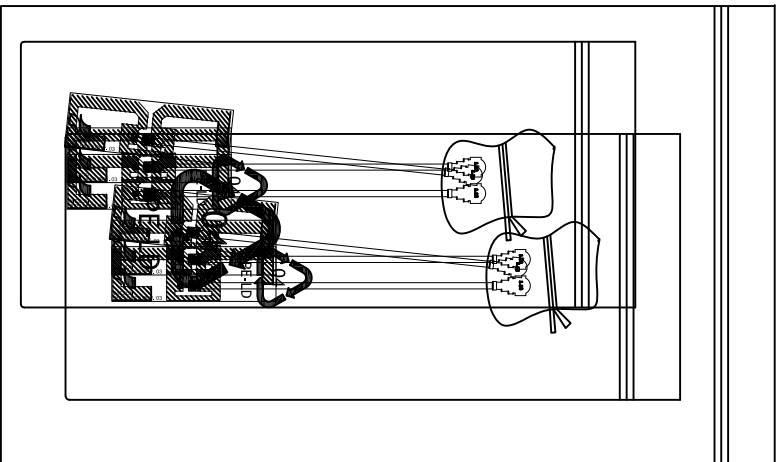
E

RoHS Compliant

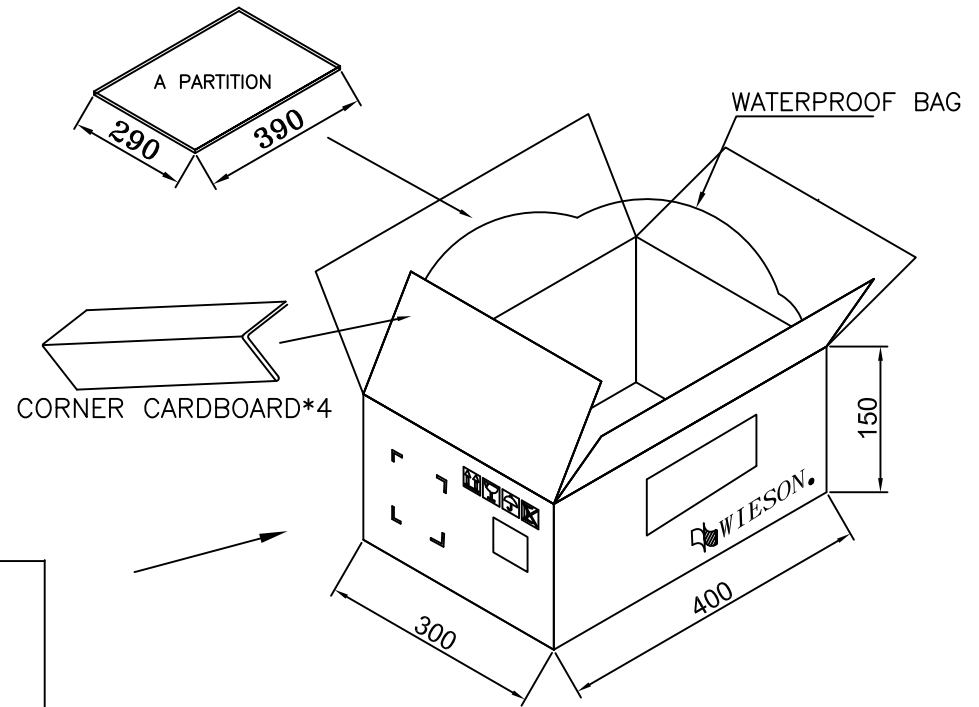
| REV | DATE | DESCRIPTION | ECN NO. | NAME |
|-----|----------|-------------|---------|--------|
| A | 24.02.20 | PROPOSAL | | JINGYI |



20PCS/BAG



200PCS/BAG



CARTON SIZE:400*300*150MM

CUST NO.:

WIESON TECHNOLOGIES CO., LTD
WIESON

PART NO.:
ARY196-4044-003-00

TITLE: **BT Antenna PACKING**

| | | | |
|-------------|--------|--------------|--------------------|
| DRAWN BY | JINGYI | DRAWING NO. | ARY196-4044-003-00 |
| CHECKED BY | YHUA | DRAWING SIZE | A4 |
| APPROVED BY | ROX | UNIT | mm |
| SORTING NO. | WSC | PAGE | 1 OF 1 |



Zhao Yang Elec. (Shenzhen) Co., Ltd
Material Composition Declaration
物料成份清單

| | | | | | | | | | | | | | |
|--|---------------------------|---|--|-------------------------------|----------------------------------|---|--|------------|------------|----|-----------|----|--|
| 一 供應商基本信息(Supplier Basic Information) | | | | | | | | | | | | | |
| 供應商名稱 (Supplier Name) | WIESON | | | | 填寫部門 (Fill in the department) | 無線工程 | | | | | | | |
| 填寫人員 (Fill in the personnel) | WAH | | | | 填寫日期 (Fill in the date) | 2024/2/20 | | | | | | | |
| 公司電話(The phone company) | | | | | 公司傳真(fax) | | | | | | | | |
| E-MALL | | 產品圖樣 | 請將圖樣放於指定表格中 | | | | | | | | | | |
| 二 料件成份信息表(ingredient information table) | | | | | | | | | | | | | |
| 料號 (P/N(Part Number)) | ARY196-4044-003-00 | | 產品名稱 (The name of the Product) | BT Antenna | | 產品重量(g) (Product weight (g)) | 0.69 | | | | | | |
| 零件名稱 Part name | Part mass (mg) 零件重量 | (組成零件的 均一材料名稱)Homogeneous Material Name | 均一材料廠商名稱/生產國 Homogeneous material manufacturer name/country of origin | 材質重量 Material mass (mg) | 構成之化學成份名稱 substance name | CAS 號 (Chemical Abstract System Number) | 化學成份 重量百分比 weight% of substance | 備註(Note) | | | | | |
| MHF | 80 | C5210 | Zijin | 60 | Cu | 7440-50-8 | 91.80% | | | | | | |
| | | | | | Sn | 7440-31-5 | 8% | | | | | | |
| | | | | | P | 7723-14-0 | 0.20% | | | | | | |
| | | PBT | Shinkong | 15 | PBT | 30965-26-5 | 71% | | | | | | |
| | | | | | Flame retardants | NA | 15% | | | | | | |
| | | | | | Glass Fiber | 65997-17-3 | 14% | | | | | | |
| Plating Au | Yongyifa | 5 | Au | 7440-57-5 | 99% | | | | | | | | |
| | | | Co | 7440-48-4 | 1% | | | | | | | | |
| FPC | 150 | 單面基材銅箔 | 中國富邦電子 | 140 | Polyimide film | 25038-81-7 | 20 | | | | | | |
| | | | | | copper foil | 7440-50-8 | 70 | | | | | | |
| | | | | | halogen-free adhesive | NA | 10 | | | | | | |
| | | | | | Epoxy acrylate oligomer | 28064-14-4 | 46 | | | | | | |
| | | 防焊油墨 | 優利寶業 | 10 | 優利寶業 | 10 | Fused silica | 7631-86-9 | 13.5 | | | | |
| | | | | | | | Aromatic solvent | 64742-94-5 | 5 | | | | |
| | | | | | | | Methyl dipropylene glycol | 34590-94-8 | 5 | | | | |
| | | | | | | | Carbon black | 1333-86-4 | 4 | | | | |
| | | | | | | | BaSO4 | 13462-86-7 | 25 | | | | |
| | | | | | | | Photoinitiator and th | 5495-84-1 | 1.5 | | | | |
| Tape | 30 | 9448HK | 3M | 25 | BUTANE | 106-97-8 | 33 | | | | | | |
| | | | | | Naphtha (petroleum), | 92045-53-9 | 15 | | | | | | |
| | | | | | PENTANE | 109-66-0 | 13 | | | | | | |
| | | | | | PROPANE | 74-98-6 | 10 | | | | | | |
| | | | | | Hydrotreated | 64742-49-0 | 15 | | | | | | |
| | | | | | ACRYLATE POLYMER | NA | 5 | | | | | | |
| | | | | | ACETONE | 67-64-1 | 5 | | | | | | |
| | | | | | Polyterpene resin | 31393-98-3 | 4 | | | | | | |
| | | | | | CABLE | 240 | 鍍錫銅線 | 明星精密線材 | 245 | Cu | 7440-50-8 | 99 | |
| | | | | | | | | | | Sn | 7440-31-5 | 1 | |
| FEP | 25067-11-2 | 100 | | | | | | | | | | | |
| | | NEOFLON FEP | DAIKIN FLUORO CHEMICALS | 115 | Carbon black | 1333-86-4 | 5 | | | | | | |
| | | | | | FEP Colormasterbatch | COLORANT CHROMATICS TRADING | 75 | FEP | 25067-11-2 | 95 | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| 三 聲明 | | | | | | | | | | | | | |
| <p>供應商必須保證上述數據真實有效，如果发生变更会将变更后数据及时通知朝陽公司。 The supplier shall ensure that the above data is true and valid and, if any changes are made, notify the Zhao yang company of the changed data in time.</p> | | | | | | | | | | | | | |
| <p>四、說明：</p> <p>1.該表一個表格對應一個料號，請不要多個料號填寫進一個表格，行數不夠的情況下，請自行添加足夠的行數。 1.The table corresponds to a material number. Please don't fill in a form with the numbers.If the number of rows is not enough, please add enough lines yourself.</p> <p>2.該表填寫的時機為：在我司承認之前，作為承認資料之一進行提供。 2.The timing of the form is as follows: prior to our company's recognition, it is provided as one of the acknowledged data.</p> <p>3.該表從2017年8月9日開始填寫電子檔即可，不用填好後打印簽字蓋章，但是必須得到貴司主管人員確認該表的正確性。 3.The table from August 9, 2017 began to fill in the electronic file, you can not fill it, print, signature, seal. However, you must have your supervisor confirm the validity of the statement.</p> | | | | | | | | | | | | | |
| 審核人員： | 職位： | 審核人員聯繫電話： | E-Mail： | | | | | | | | | | |

朝陽電子(深圳)有限公司/Zhaoyang Elec.(Shen Zhen)Co.,Ltd.

原材(物)料檢驗表/Material Inspect Sheet

| | | | | | | | | | | | | | | | |
|------------------------|------------------------------|-------|------------------|--------------|--|---|--------------|--|--------------|---|---------------------------|-----------|---------------|--------------------|----|
| 品名/Part Name | BT Antenna | | 料號/Part NO. | 1029-0A00207 | | *第/次試模/T__ | *模號/Mold NO. | | / | | *生產設備/Machine | / | | | |
| 規格/Description | MINI COAXIAL1.13 黑色L150mm 環保 | | | | | | | | | | 溫/濕度/Temperature/Humidity | | / | | |
| 廠商 Vendor | WIESON | | *模具廠商 Mold Maker | / | | 檢驗日期 Check Date | 2023/11/1 | | *模穴號 Cav.NO. | / | | 重量 Weight | 0.69 | 生產產地 Produce place | 東莞 |
| 檢查項目/Ins.Item | 出線長 | FPC板長 | PCB板寬 | | | | | | | | 单重/g | | | | |
| 規格/Specification | 150 | 30 | 10 | | | | | | | | 0.69 | | | | |
| 公差/Tolerance | ±3 | ±0.3 | ±0.3 | | | | | | | | ±5% | | | | |
| 測定值 Data | 1 | 151 | 30.00 | 10.00 | | | | | | | 0.69 | | | | |
| | 2 | 150 | 30.00 | 10.00 | | | | | | | 0.69 | | | | |
| | 3 | 150 | 30.00 | 10.00 | | | | | | | 0.69 | | | | |
| | 4 | 151 | 30.00 | 10.00 | | | | | | | 0.69 | | | | |
| | 5 | 152 | 30.00 | 10.00 | | | | | | | 0.69 | | | | |
| | 6 | | | | | | | | | | | | | | |
| | 7 | | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | | |
| | 9 | | | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | | | |
| 判定欄/Judgement | | | | | | | | | | | | | | | |
| 外觀記錄/Appearance Record | OK | | | | | <input checked="" type="checkbox"/> 合格/OK <input type="checkbox"/> 不合格/NG | | | | | 主管/Approval | | 檢驗者/Inspector | | |
| 裝配記錄/Assembly Record | OK | | | | | 備注 Remark | | | | | xlin | | LYQING | | |

* __僅對屬於本廠模具或有指定時方填寫/* __Only for Zylux'mold need

(QMR-P14-09.B)



| ITEM | INDEX | PAGE |
|------|------------------------------|------|
| 1. | THE SPECIFICATION LIST | 1 |
| 2. | BOM..... | 2 |
| 3. | TEST REPORT..... | 3-14 |
| 4. | WIESON ISO APPROVAL..... | 15 |

WIESON



| | | | | Approvals | |
|-----|------------|-------------|-----------|-------------|----------------|
| Rev | Date | Description | Edited by | Prepared : | WAH |
| 01 | 2024/02/20 | ISSUE | WAH | Checked : | FOUNTAIN |
| | | | | Approved : | ROX |
| | | | | Issued No : | 01 |
| | | | | Sheet : | 1 OF 15 |
| | | | | | |
| | | | | | |



WIESON TECHNOLOGIES CO.,LTD

BILL OF MATERIAL

| Cust. | | TITLE | BT Antenna | | | | |
|----------|--|------------|--------------------|--------|-----|----------|--------|
| Cust.P/N | 1029-0A00207 | WIESON P/N | ARY196-4044-003-00 | | | | |
| NO. | DESCRIPTION | SUPPLIER | SUPPLIER PART NO. | UL NO. | AVL | QUANTITY | REMARK |
| 1 | Size: 30 x 10 mm | | | | | PCS | |
| 2 | 1.13mm Normal Coaxial Cable , FEP Black Jacket | | | | | MM | |
| 3 | MHF I Plug For 1.13mm Cable , Gold Plated | | | | | PCS | |
| 4 | 3M9448HK , Size: 30 x 10mm | | | | | PCS | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |

APPROVED BY: ROX

CHECKD BY: FOUNTAIN

DESIGNED BY: WAH



喬暘 AIO

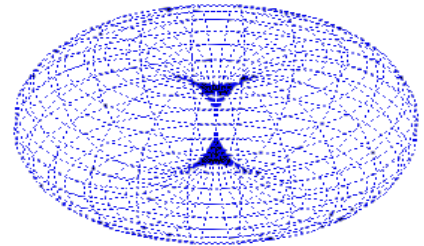
Engineer : Betty

Report date : 2023/12/06 REV.06



Executive Summary

- **Revision History**
- **Antenna Specification**
- **Antenna Photo**
- **Antenna Measurement Vector Network Analyzer**
 - **VSWR**
- **The Antenna Anechoic Chamber Measurement**
 - **Antenna Measurement Photo**
 - **Antenna Measurement**
 - **3D Gain** 、 **3D Radiation Efficiency** 、 **Peak Gain**
 - **2D/3D Antenna Radiation Pattern**



Revision History

| Revision | Date | Engineer | Description |
|----------|------------|----------|---|
| 01 | 2023/06/14 | Ben | New Release |
| 02 | 2023/07/04 | Betty | Antenna Placement Changed and Update 3D Model |
| 03 | 2023/08/25 | Betty | Antenna Changed and Cable Length Adjustment |
| 04 | 2023/10/02 | Betty | Antenna Measurement of EVT Machine |
| 05 | 2023/11/13 | Ting | Add Ant2 |
| 06 | 2023/12/06 | Betty | Antenna Verification |

Antenna Specification

Cable Type
Normal 1.13
Cable:170mm

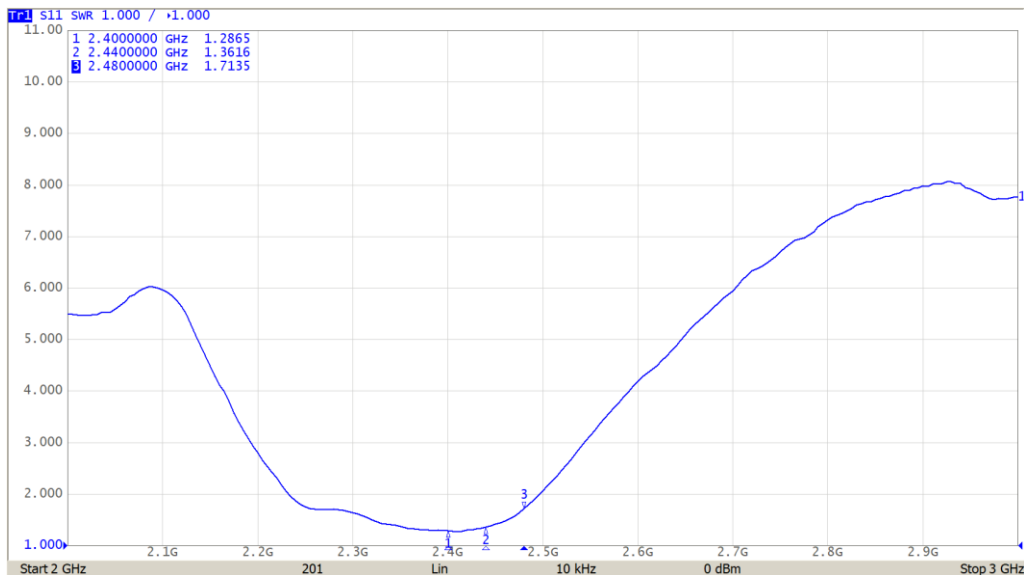
| Item | Specification |
|--------------------------|------------------|
| Operating Frequency(MHz) | 2400-2480 |
| Bandwidth | 80 MHz (Min.) |
| Return Loss | 10 dB (Min.) |
| Polarization | Linear |
| Azimuth Bandwidth | Omni-directional |
| Peak Gain | 2.36dBi (Max.) |
| Impedance | 50Ω |
| Material | FPC |
| Connector | MHF 1 |
| Cable type | O.D. 1.13 |
| Maximum Power | 1W |
| V.S.W.R | 2 : 1 |
| Radiation | Omni directional |
| Efficiency | 48%(Max.) |
| Operating Temperature | -10~60°C |
| Storage temp | -10~70°C |

Antenna Photo



Antenna Measurement Vector Network Analyzer

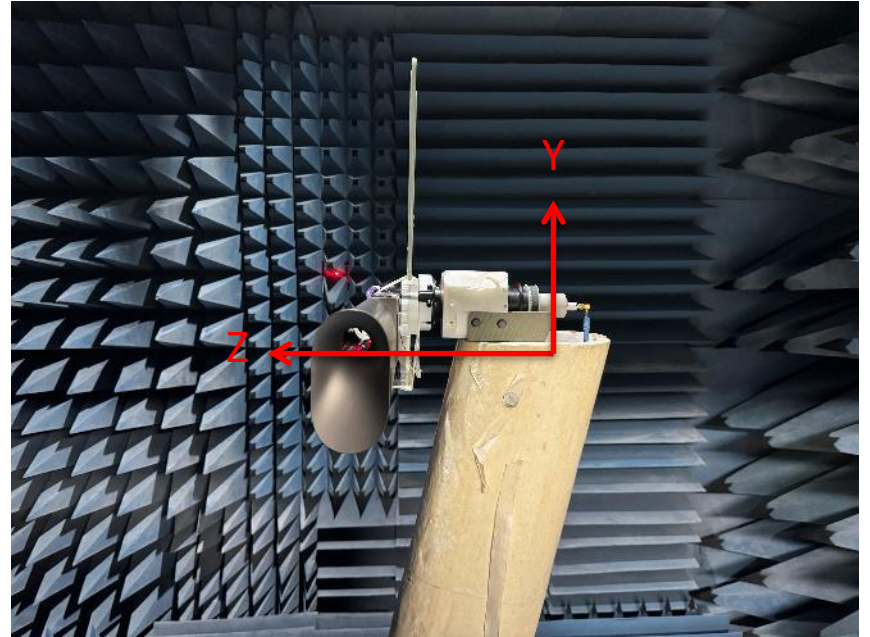
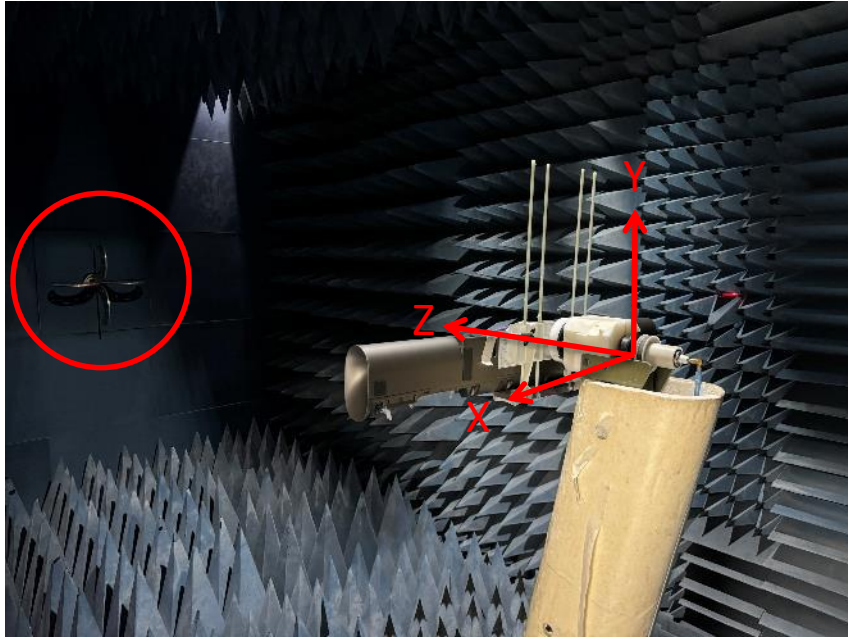
VSWR



| Freq.(MHz) | 2400 | 2440 | 2480 |
|------------|------|------|------|
| VSWR | 1.2 | 1.3 | 1.7 |

The Antenna Anechoic Chamber Measurement

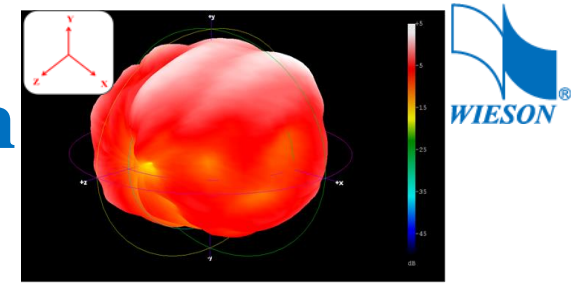
Chamber Measurement Photo



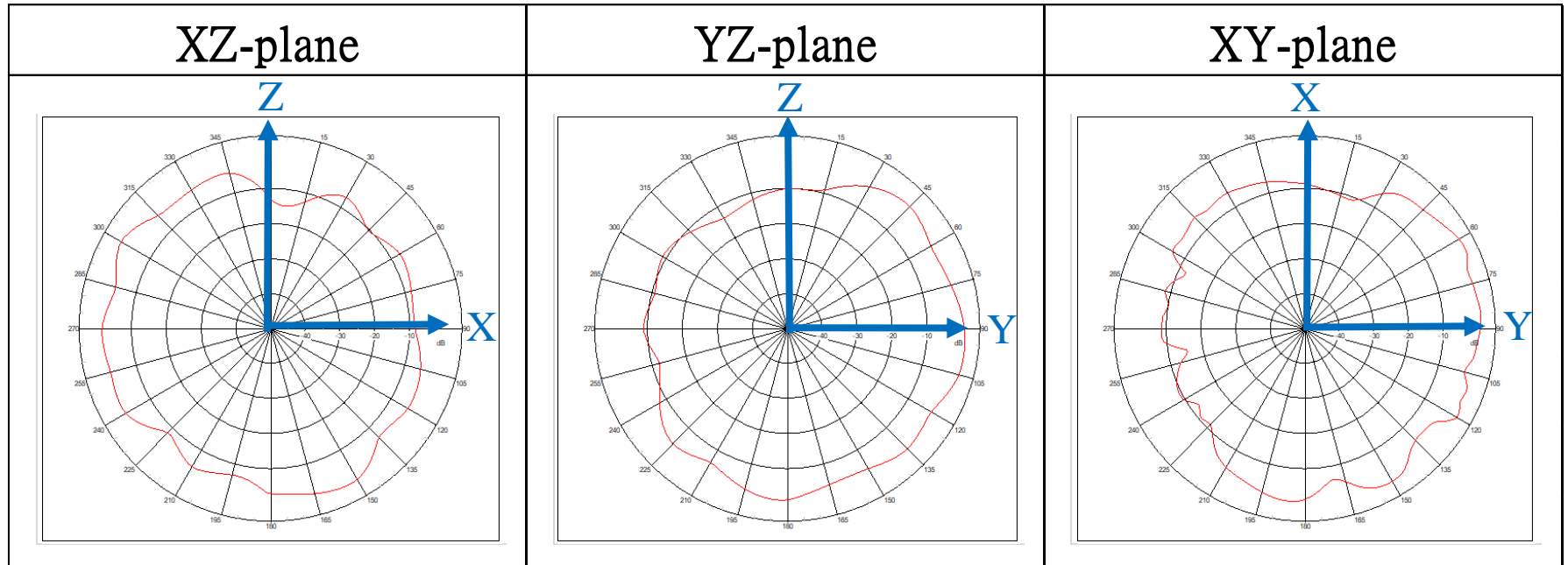
3D Gain Total

| Frequency (GHz) | Gain(dBi) | 3D-avgGain (dBi) | Efficiency(%) |
|-----------------|-----------|------------------|---------------|
| 2.4 | 1.93 | -3.7 | 43 |
| 2.41 | 1.96 | -3.66 | 43 |
| 2.42 | 2.13 | -3.55 | 44 |
| 2.43 | 2.12 | -3.45 | 45 |
| 2.44 | 2.29 | -3.26 | 47 |
| 2.45 | 2.36 | -3.19 | 48 |
| 2.46 | 2.15 | -3.38 | 46 |
| 2.47 | 2.09 | -3.37 | 46 |
| 2.48 | 1.99 | -3.71 | 43 |

2D/3D Antenna Pattern



Frequency : 2440MHz



Far-field amplitude limits:

Max: 5dB

min: -50dB

Antenna Model: ARY196-4044-003-00

Antenna manufacture name: WIESON TECHNOLOGIES (DONG GUAN) CO., LTD.

Antenna manufacture address: XINBAOWEI INDUSTRIAL BUILDING,
HUANGANG INDUSTRIAL ZONE, HOUIE TOWN, DONGGUAN CITY, GUANGDONG
PROVINCE, CHINA



創造完美連結

MAKING THE PERFECT CONNECTION

www.wieson.com



CERTIFICATE

The quality management system of

Unified Social Credit Code: 914419006181620014

WIESON Technologies (Dongguan) Co., Ltd.

Registered Address: Xinbaowei Industrial Building, Huangang Industrial Zone, Houjie Town, Dongguan City | 523946 Guangdong | China

Operation Address: Xinbaowei Industrial Building, Huangang Industrial Zone, Houjie Town (Exclusion of A Building and 4F, B Building), Dongguan City | 523946 Guangdong | China

has been assessed and certified as meeting the requirements of:

ISO 9001:2015

for the following activities:

Design, Manufacture and Sales of Electronic and Automotive Connectors, Cables, Wire Harnesses, RF (Radio Frequency) and Antenna Products, Plastic Injection Parts, Stamping Parts, Plastic & Hardware Molds

This certificate is valid from 26/01/2024 until 25/01/2027

Issued: 26/01/2024

Certificate No CA00525-EN

This registration is subject to the company maintaining a Quality Management System to the above standard, which will be monitored by TÜV Saarland Certification. The validity of this certificate may be verified on both CNCA's website (www.cnca.gov.cn) and the website of TÜV Saarland Certification (www.tuv-saar.cn).

Dipl. Wirtsch.-Ing. (FH) Thorsten Greiner, Managing Director
TÜV @ Saarland Certification GmbH
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T +49 (0) 68 97 506 0 | cert@tuv-saar.com

