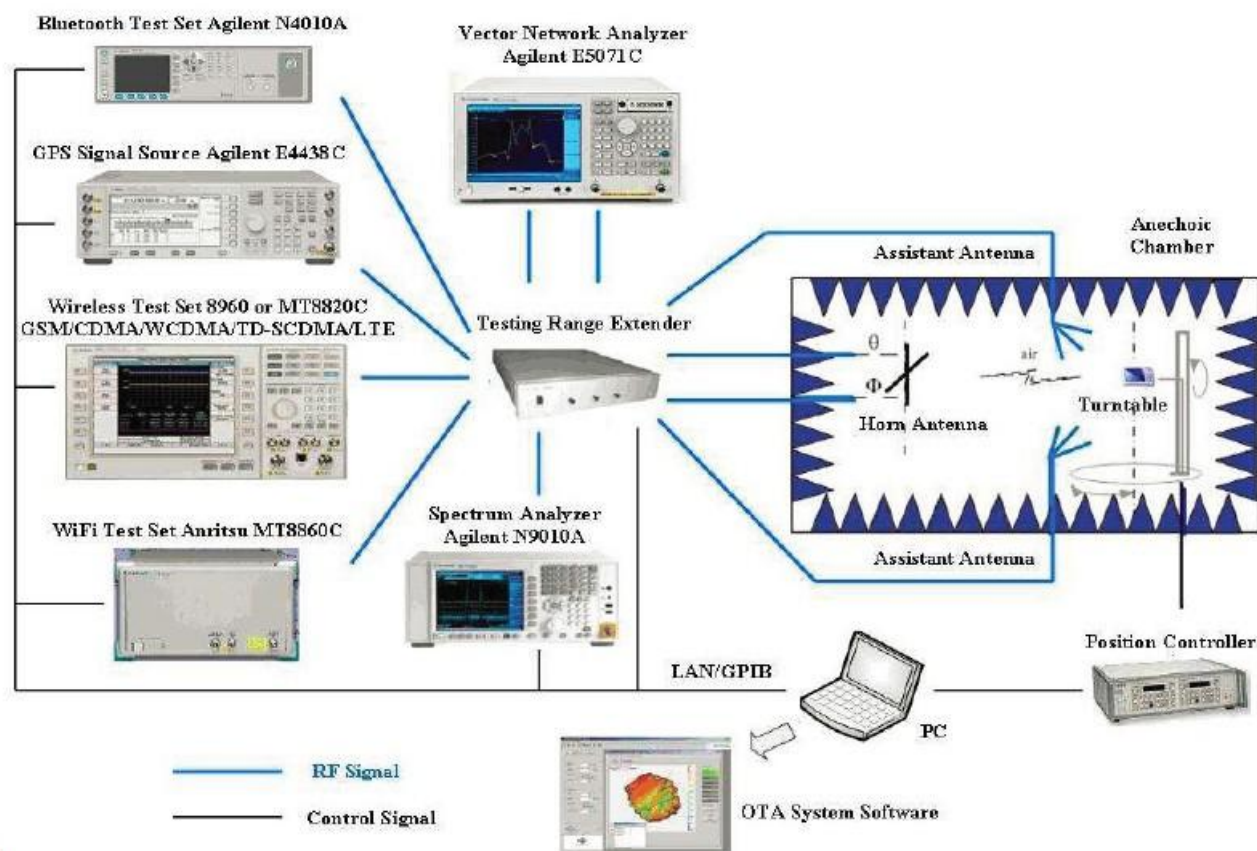


天 线 规 格 书  
Antenna specification for approval

|                                            |                  |                                              |                  |
|--------------------------------------------|------------------|----------------------------------------------|------------------|
| 客户名称<br>Customer name                      |                  |                                              |                  |
| 机型<br>Model                                |                  |                                              |                  |
| 天线频段<br>Antenna band                       | 2. 4-2.5GHZ      |                                              |                  |
| 天线类型<br>Antenna type                       | AQ01-FPC antenna |                                              |                  |
| 天线材质<br>Antenna material                   | FPC              |                                              |                  |
| FPC 颜色<br>FPC color                        | black            |                                              |                  |
| 料号<br>Material number                      | AQ01-FPC天线       |                                              |                  |
|                                            |                  |                                              |                  |
| 厂商 承 认 签 章<br>Baren accepted the signature |                  | 客 户 承 认 签 章<br>Client acknowledges signature |                  |
| 结构<br>structure                            |                  | 采购<br>Purchase                               |                  |
| 品质<br>QC                                   |                  | 结构<br>structure                              |                  |
| 射频<br>radio frequency                      |                  | 工程<br>engineering                            |                  |
| 审核<br>To examine                           |                  | 品质<br>QC                                     |                  |
| 日期 date<br>2024. 9. 6                      | 盖章区<br>Seal area | 日期 date<br>2024. 9. 6                        | 盖章区<br>Seal area |

## 一: Device supports & testable antenna types



| 天线功能                                | 频率范围                                                      | 测试仪器                              | 测试方式                          | 测试标准       |
|-------------------------------------|-----------------------------------------------------------|-----------------------------------|-------------------------------|------------|
| 2G天线 (GSM)                          | 824MHz-960MHz,<br>1710MHz-1990MHz                         | 5071B、8960、<br>OTA暗室              | 有源测试、无源测试                     | 索沃德标准、客户要求 |
| 3G天线 (WCDMA/TDSCDMA/CDMA-EVDO/2000) | 824MHz-960MHz,<br>1710MHz-2170MHz                         | 5071B、8960、<br>OTA暗室              | 有源测试、无源测试                     | 索沃德标准、客户要求 |
| 4G天线 (LTE-FDD/LTE-TDD)              |                                                           | 5071B、CMW500、<br>SP8011、OTA暗室     | 有源测试、无源测试                     | 索沃德标准、客户要求 |
| WIFI天线                              | 2.4GHz-2.48GHz,<br>5.15GHz-5.35GHz,<br>5.725GHz-5.825GHz  | 5071B、CMW500、<br>OTA暗室、路由器<br>、PC | 有源测试、无源测试<br>、APK实测、吞吐量<br>测试 | 索沃德标准、客户要求 |
| BT天线                                | 2.4GHz-2.48GHz                                            | 5071B、OTA暗室<br>、蓝牙音箱              | 无源测试、实测                       | 索沃德标准、客户要求 |
| 定位天线 (GPS、GLONASS、北斗、伽利略)           | 1575.42MHz±10MHz<br>1602MHz±0.5625MHz<br>1561MHz±2.046MHz | 5071B、OTA暗室<br>、APK               | 无源测试、实测                       | 索沃德标准、客户要求 |
| NFC天线                               | 13.56MHz                                                  | 5071B、专用测试<br>治具、OTA暗室、<br>APK    | 无源测试、实测                       | 索沃德标准、客户要求 |
| 遥控天线                                | 433MHz                                                    | 5071B、OTA暗室                       | 无源测试、实测                       | 索沃德标准、客户要求 |

## 二: Overview

### (1)Antenna performance

1. This approval sheet supports for MID project. FPC antennas include in this project. This report is for the performance of BT antenna.
2. Antenna shape size: Meet the requirement of MID
3. Antenna band: 2400MHz~2500MHz
4. Antenna material: Antenna material meet the requirement of MID
5. Adhesive performance: Adhesive performance meet the requirement of MID
6. Antenna performance meet the spec below:

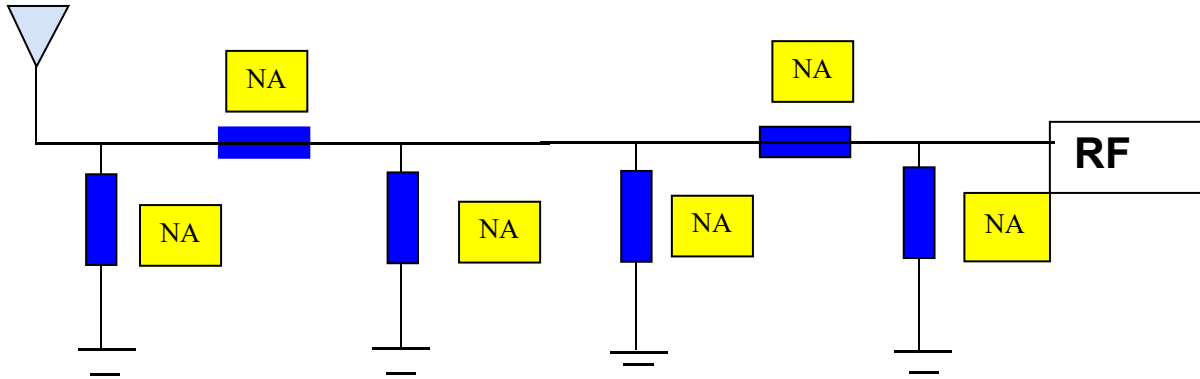
| Description            | 2. 4GHZ~2. 5GHz           | Units |
|------------------------|---------------------------|-------|
| VSWR                   | $\leq 2.0$                |       |
| Average Antenna Gain   | $\geq -4.5$               | dB    |
| Antenna Efficiency     | $\geq 40$                 | %     |
|                        |                           |       |
| Feed Impedance         | 50 ohms                   |       |
| Operating Temperature  | -40 to +85 deg C          |       |
| Polarization / Azimuth | Linear / Omni-directional |       |

### (2)Mechanical Information

| Mechanical Dimension  |                  |
|-----------------------|------------------|
| Cable Length          | NA               |
| Description           | BT antenna       |
| Material              | FPC              |
| Coaxial Cable         | NA               |
| Environmental         |                  |
| Operation Temperature | -40 to +85 deg C |
| Storage Temperature   | -40 to +85 deg C |

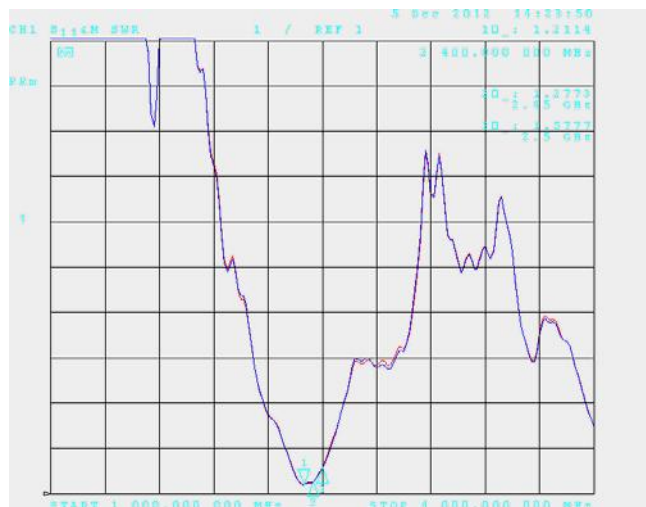
## ≡: Match circuit diagram & machine picture & antenna picture

### (1) Matching circuit



### (2) Machine pictures & antenna pictures

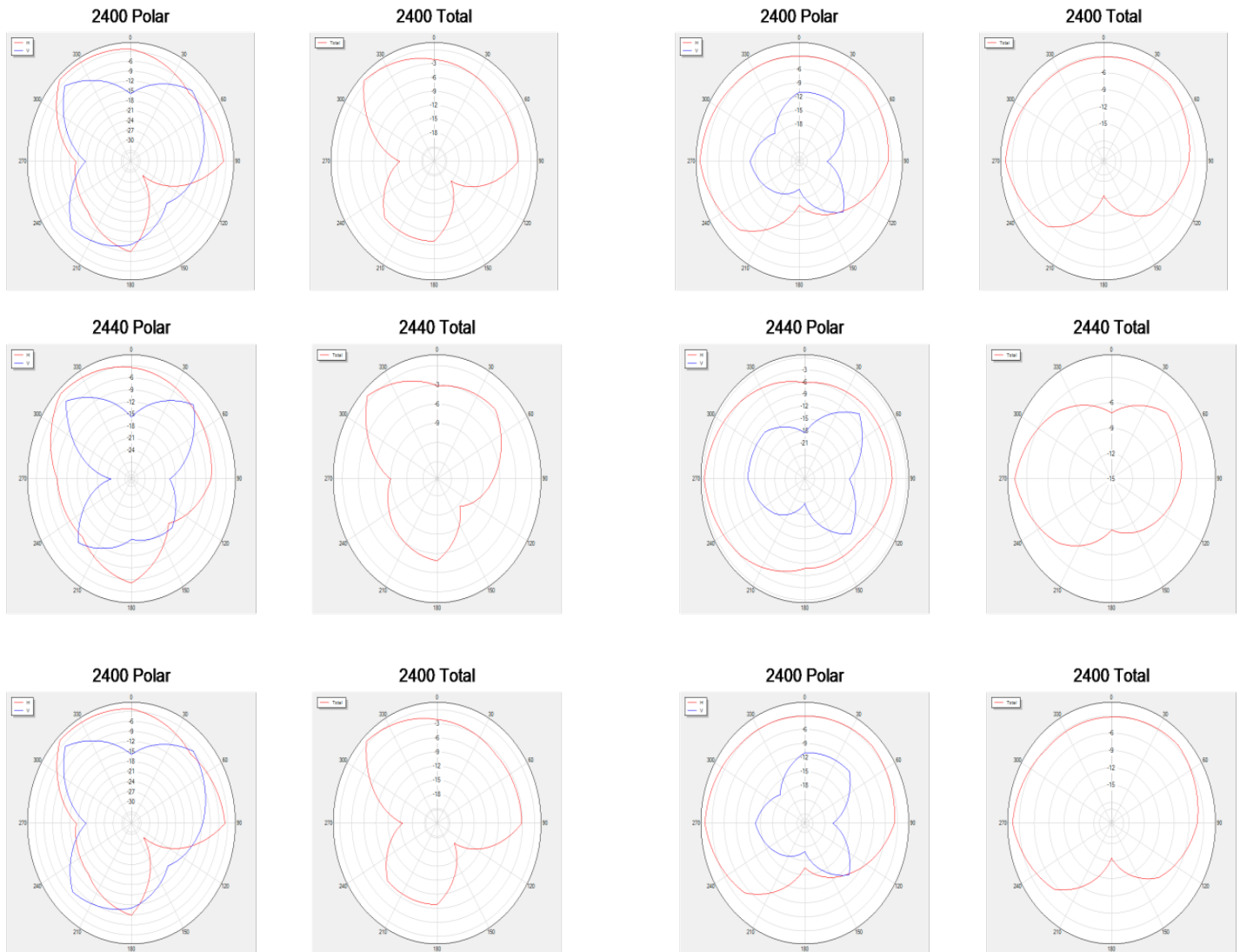
## 四: Antenna VSWR & Antenna efficiency (VSWR)



| Frequency (MHz) | VSWR |
|-----------------|------|
| 2400            | 1.25 |
| 2450            | 1.18 |
| 2500            | 1.16 |

| Frequency | Effic | Perce  | Gain |
|-----------|-------|--------|------|
| 2400      | -3.79 | 41.83% | 1.35 |
| 2410      | -3.6  | 43.7%  | 1.48 |
| 2420      | -3.59 | 43.71% | 1.75 |
| 2430      | -3.49 | 44.8%  | 1.9  |
| 2440      | -3.98 | 40%    | 2.01 |
| 2450      | -3.7  | 42.62% | 2.58 |
| 2460      | -3.95 | 40.31% | 2.7  |
| 2470      | -3.74 | 42.28% | 3.05 |
| 2480      | -3.71 | 42.56% | 3    |
| 2490      | -3.92 | 40.55% | 2.6  |
| 2500      | -4.06 | 39.26% | 2.02 |

## 五:3D pattern



# RAIN

## 六: Structure drawing

