# Model: KC.IA.00342（TURBO_III_TOP）

# Antenna Specification

## 1. Application:

This application shall apply for antenna unit which shall be used such as automotive, conventional communications, smart home, etc..

## 1. Electrical Specification:

*Those specifications were specially defined for customer's model, and all characteristics were measured under the model's handset testing jig .*

2-1. Frequency Band:

| Frequency Band | MHz |
|---|---|
| GPS/WIFI2.4/5.8G | 1575.42/2400-2500/5150-5850 |

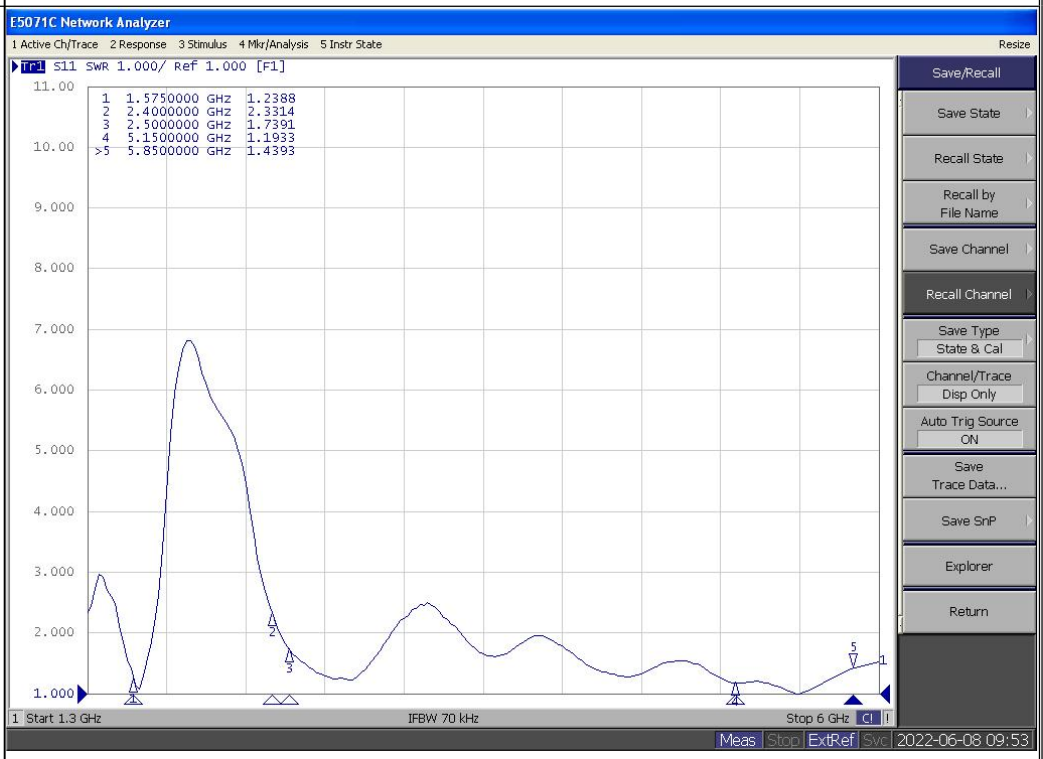
2-2. Impedance

50 ohm nominal

2-3. VSWR

2-3-1.Measurement frequency points and VSWR value

| Frequency Band(MHz) | 1575.42 | 2400 | 2500 | 5150 | 5850 |
|---|---|---|---|---|---|
| 2-3-3. Typical Value: | 1.23 | 2.33 | 1.73 | 1.19 | 1.43 |

| | |
|---|---|
| 2-3-4 Measuring Method | 1. A 50Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR.<br>2. Keeping this jig away from metal at least 20 cm |
| 2-3-5 Picture |  |



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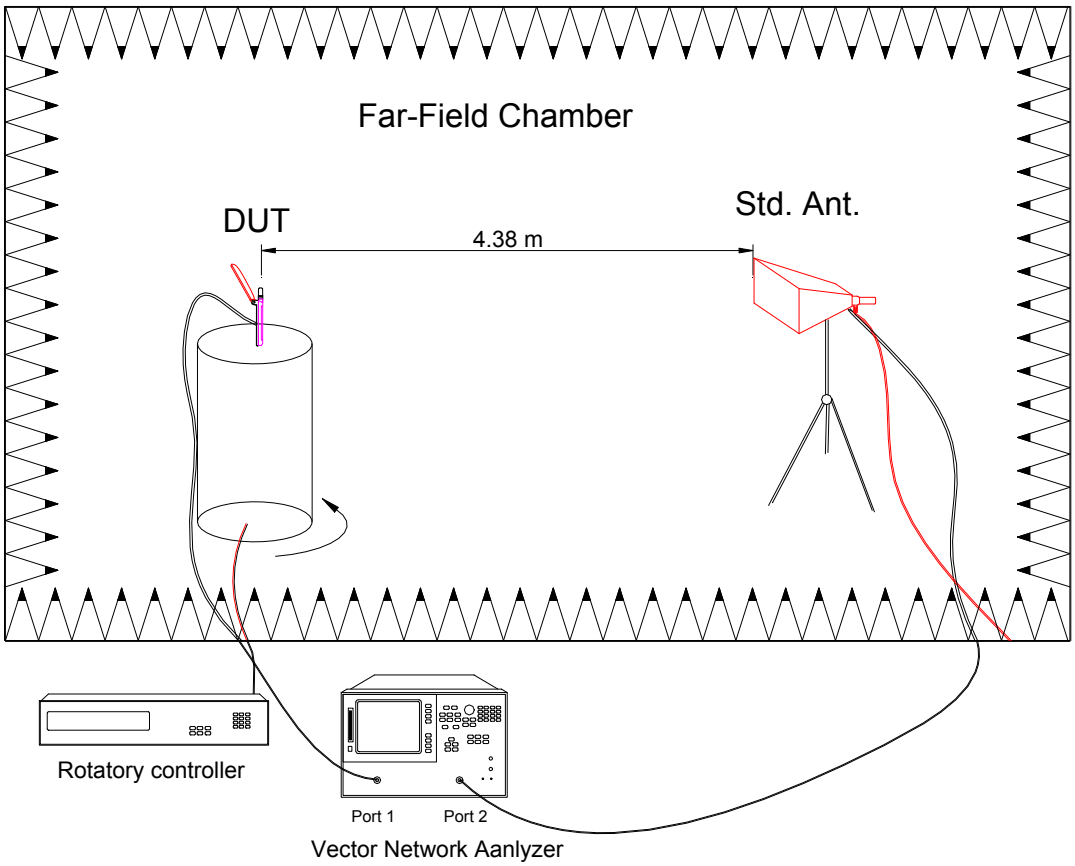
## 2-4. Efficiency and Gain

### 4-5.1 Measure method

1. Using a low loss coaxial cable to link a standard handset jig
2. Fixed this handset jig on chamber's rotator plane
3. Linking jig into network analyzer port and using a probing horn antenna to collect data.
4. Using another standard gain horn antenna to calibrated those data

**4-5.2 Chamber definition**

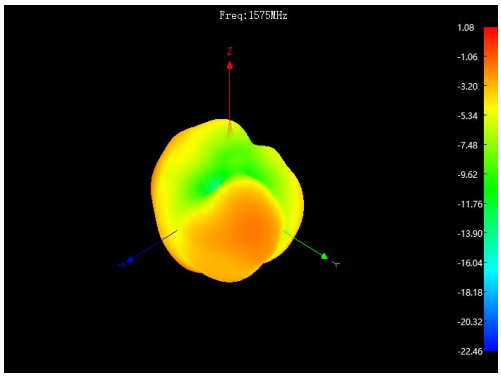


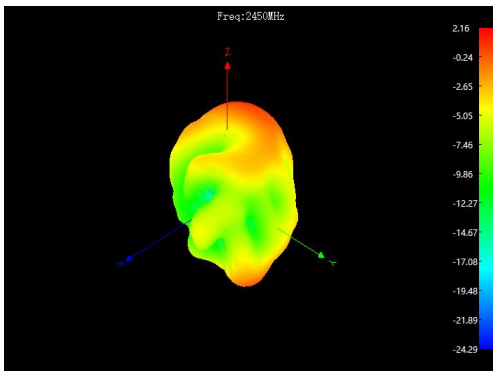

1. An anechoic chamber (7mx4mx3m) which satisfied far-field condition was applied to avoid multi-path effect
2. The quite room region is 40cmx40cmx40cm at the center of rotator
3. The distance between DUT and standard antenna is 4.38 m
4. Probing antenna (9120D horn antenna) and standard gain horn antenna (BBHA9120 LPF 700MHz ~6GHz)

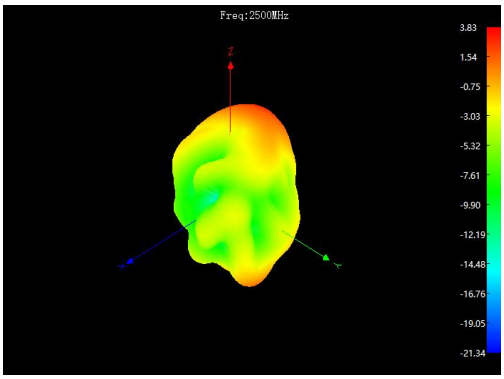
## 2-4-1 Efficiency and Gain

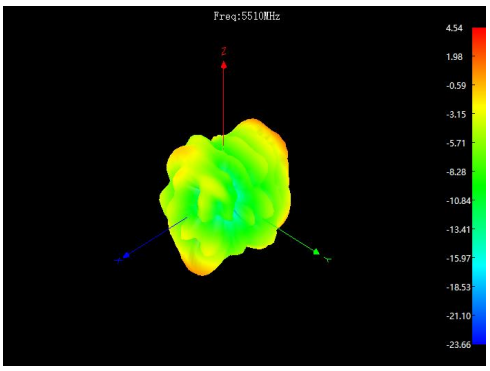
| Frequency/MHz | Efficiency / dB | MaxGain/dBi | Frequency/MHz | Efficiency / dB | MaxGain/dBi |
|---|---|---|---|---|---|
| 1560 | 44.28 | 1.3 | 2400 | 40.46 | 1.72 |
| 1565 | 42.96 | 0.91 | 2410 | 44.16 | 2.11 |
| 1570 | 45.32 | 1.25 | 2420 | 42.36 | 1.95 |
| 1575 | 41.7 | 1.08 | 2430 | 44.36 | 2.15 |
| 1580 | 44.12 | 1.63 | 2440 | 48.53 | 2.63 |
| 1585 | 42.81 | 1.05 | 2450 | 45.6 | 2.16 |
| 1590 | 45.16 | 1.29 | 2460 | 52.36 | 3.09 |
| 1595 | 43.19 | 0.55 | 2470 | 50.93 | 2.71 |
| 1600 | 43.96 | 1.27 | 2480 | 57.94 | 3.64 |
| 1605 | 42.28 | 0.41 | 2490 | 56.23 | 3.12 |
| | | | 2500 | 61.38 | 3.83 |

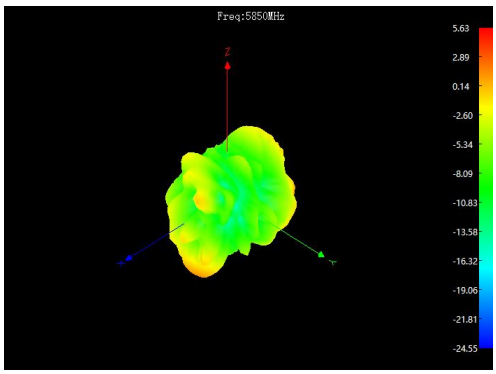
| Frequency/MHz | Efficiency / dB | MaxGain/dBi | Frequency/MHz | Efficiency / dB | MaxGain/dBi |
|---|---|---|---|---|---|
| 5150 | 53.58 | 3.3 | 5510 | 59.02 | 4.54 |
| 5170 | 54.95 | 3.39 | 5530 | 58.88 | 4.57 |
| 5190 | 54.08 | 3.28 | 5550 | 57.94 | 4.59 |
| 5210 | 54.95 | 3.3 | 5570 | 57.15 | 4.6 |
| 5230 | 54.7 | 3.28 | 5590 | 58.34 | 4.73 |
| 5250 | 54.08 | 3.31 | 5610 | 59.16 | 4.78 |
| 5270 | 52.36 | 3.22 | 5630 | 58.75 | 4.85 |
| 5290 | 54.45 | 3.33 | 5650 | 58.61 | 4.94 |
| 5310 | 54.2 | 3.27 | 5670 | 57.81 | 5.1 |
| 5330 | 55.08 | 3.34 | 5690 | 55.59 | 5.06 |
| 5350 | 57.41 | 3.57 | 5710 | 58.61 | 5.42 |
| 5370 | 57.41 | 3.72 | 5730 | 58.21 | 5.49 |
| 5390 | 53.33 | 3.56 | 5750 | 56.1 | 5.46 |
| 5410 | 56.36 | 3.81 | 5770 | 54.45 | 5.49 |
| 5430 | 57.41 | 3.88 | 5790 | 53.33 | 5.46 |
| 5450 | 59.29 | 4.14 | 5810 | 53.58 | 5.53 |
| 5470 | 59.43 | 4.28 | 5830 | 54.2 | 5.58 |
| 5490 | 59.84 | 4.46 | 5850 | 54.7 | 5.63 |

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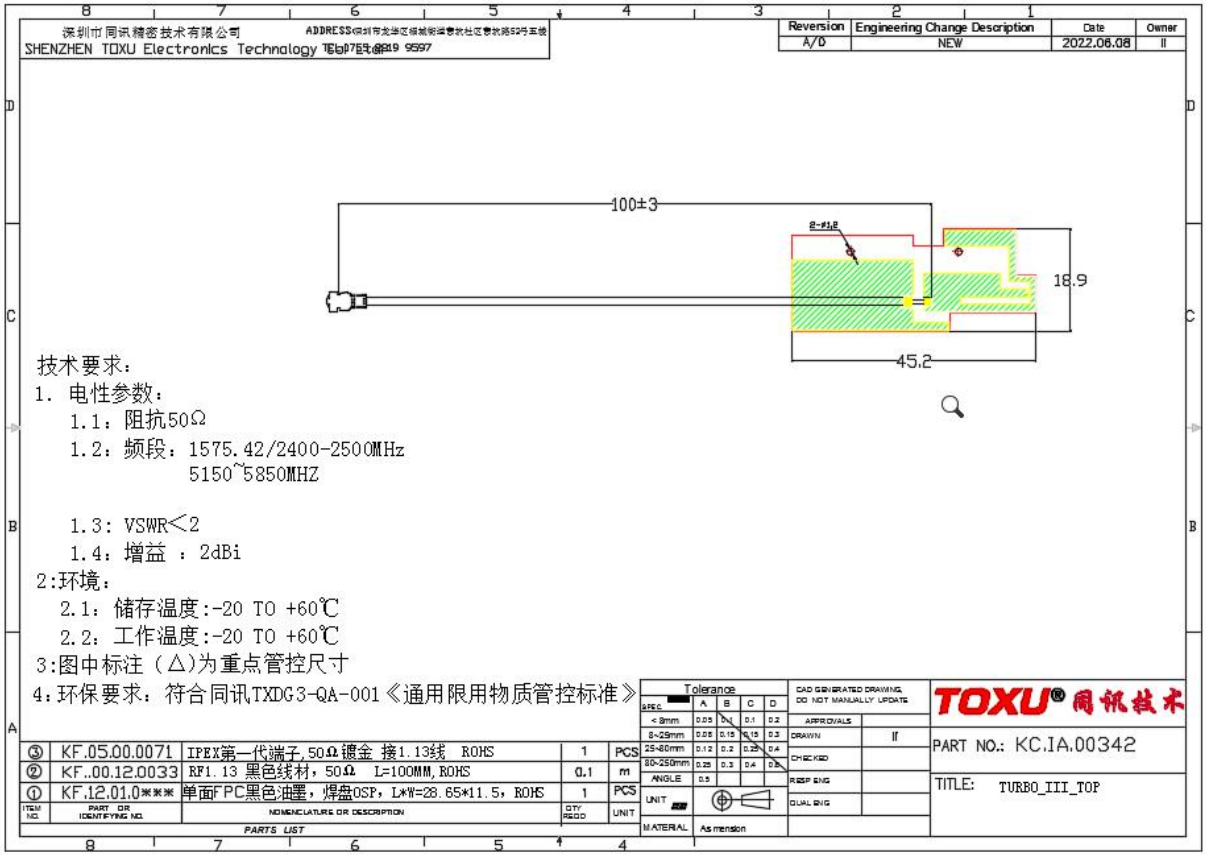
# 3. Mechanical Specification:

## 3-1. Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing

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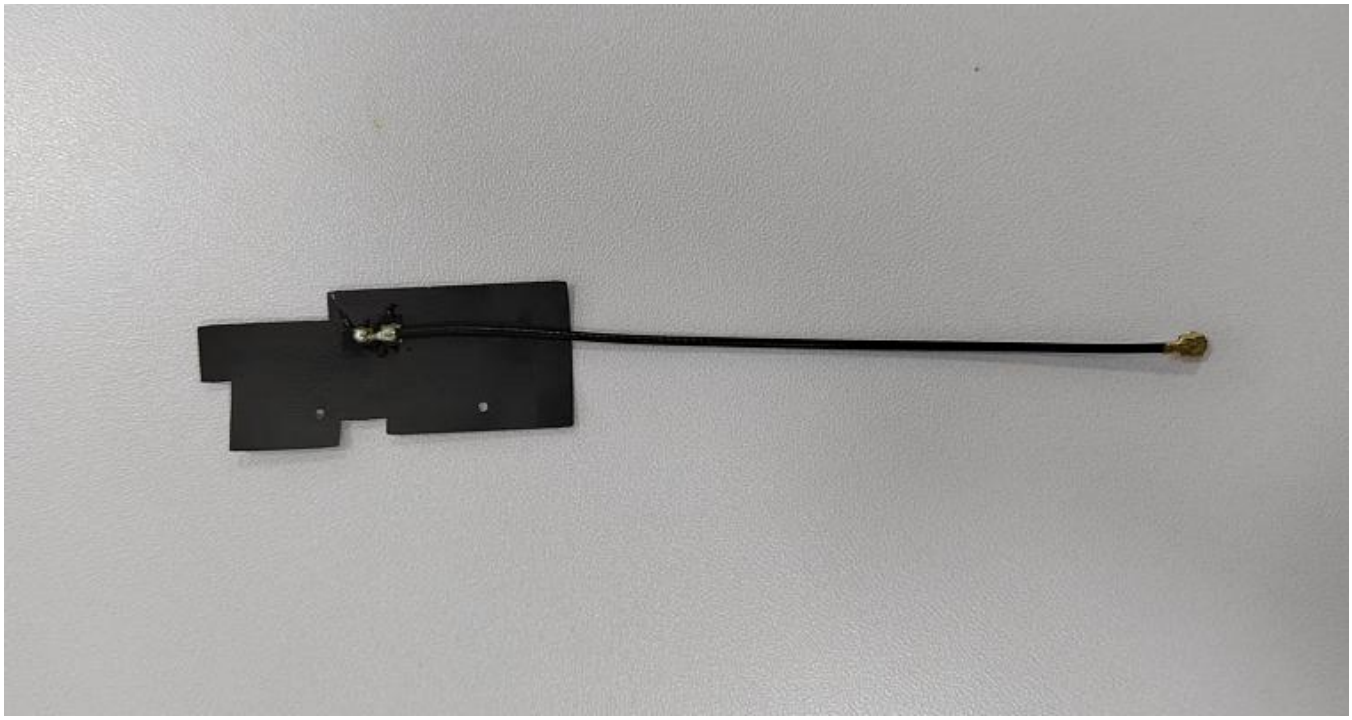
## 3-2. Connector appearance:

IPEX

## 3-3. Product picture：



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