

## IA.0435.LB.3FI

## **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
BT 2.4G	2400-2500

## 2-2. Impedance

50 ohm nominal

#### 2-3. VSWR

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

Frequency Band(MHz)	2400	2500
2-3-3. Typical Value:	1.39	1.57

#### 2-3-2. VSWR

Frequency Band(MHz)	2400	2500
2-3-3. Typical Value:	≪2	≪2

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#### 1. A 50 $\Omega$ coaxial cable is connected to the antenna. Then this cable is 2-3-4 Measuring connected to a network analyzer to measure the VSWR. Method 2. Keeping this jig away from metal at least 20 cm 1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State >[F1] S11 SWR 1.000/ Ref 1.000 [F1] Display >1 2.4000000 GHz 1.3996 2 2.4500000 GHz 1.2873 3 2.5000000 GHz 1.5767 Allocate Channels 9.000 Num of Traces 1 8.000 Allocate Traces 7.000 Display Data 6.000 Data -> Mem 5.000 4.000 Equation Editor... 2-3-5 Picture 3.000 Equation OFF 2.000 Edit Title Label 1.000 Stop 3 GHz C? 1 Start 2 GHz

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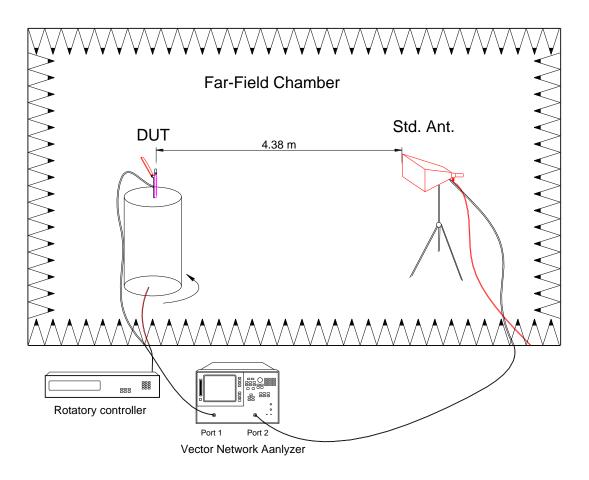


### 2-4. Efficiency and Gain

#### 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



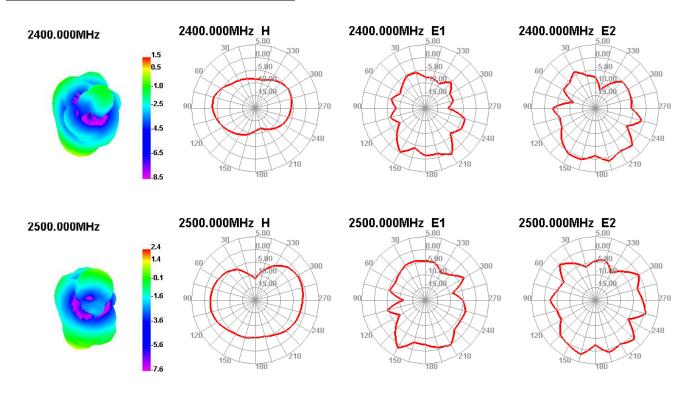
- 1. An anechoic chamber (7mx4mx3m) which satisfied far-field condition was applied to avoid multi-path effect
- 2. The guite room region is 40cmx40cmx40cm at the center of rotator
- 3. The distance between DUT and standard antenna is 4.38 m
- Probing antenna (9120D horn antenna) and standard gain horn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

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# kingretechnology co., Ltd. 2-4-1 Efficiency and Gain

Freq	Effi	Effi	Gain
$(\mathrm{MHz})$	(%)	(dB)	(dBi)
2400	36.03	-4.43	1.52
2410	47. 19	-3.26	2.68
2420	40.1	-3.97	1.55
2430	49.72	-3.03	2.52
2440	41.77	-3.79	1.89
2450	48. 24	-3.17	2.51
2460	45. 48	-3.42	2.36
2470	49.16	-3.08	2.53
2480	48.58	-3.14	2.49
2490	50.96	-2 <b>.</b> 93	2.6
2500	50.31	-2 <b>.</b> 98	2.43



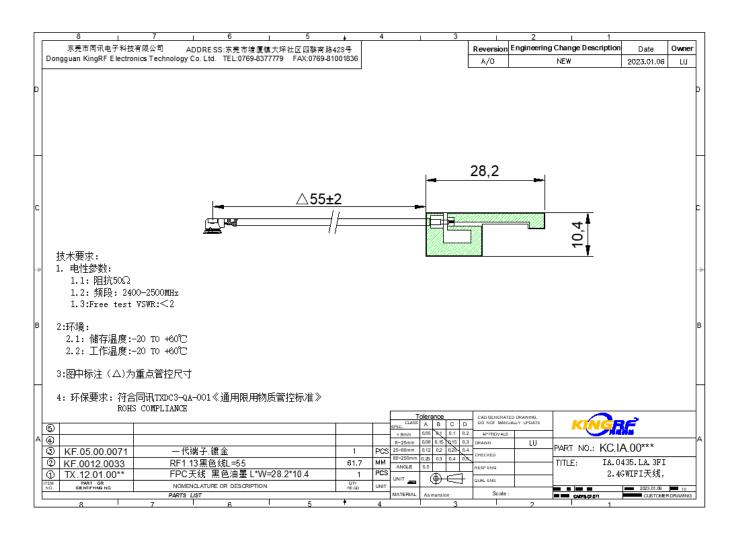
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## 3. Mechanical Specification:

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

The appearance of the antenna is according to drawing



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