

# WA-F-LA-03-295 Specification

## 1. Explanation of part number :

WA - F - LA - 03 - 295  
(1) (2) (3) (4) (5)

(1) Product Type : Wireless Antenna

(2) Material: FPC+Cable

(3) Frequency : 2.4GHz-2.5GHz

(4) Coaxial Cable Type : 03

(5) Suffix :295

## 2. Storage Condition:

Temperature -40 to +70 °C  
Humidity 65±20 % RH

## 3. Operating Condition:

Temperature -40 to +70 °C  
Humidity 65±20 % RH

## 4. Electrical Specification :

*Those specifications were specially defined for 佳德 Norteck ITP8, ITP12 BT model, and all characteristics were measured under the model's handset testing.*

### 4-1. Frequency Band:

Frequency Band	MHz
BT	2400-2500

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±

ANGLES=± HOLEDIA=±

SCALE : UNIT : mm

DRAWN BY : 靳静 CHECKED BY : 赵付辉

DESIGNED BY : 董明辰 APPROVED BY : 赵付辉

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## 4-2. Impedance

50 ohm nominal

## 4-3. Matching circuit

None

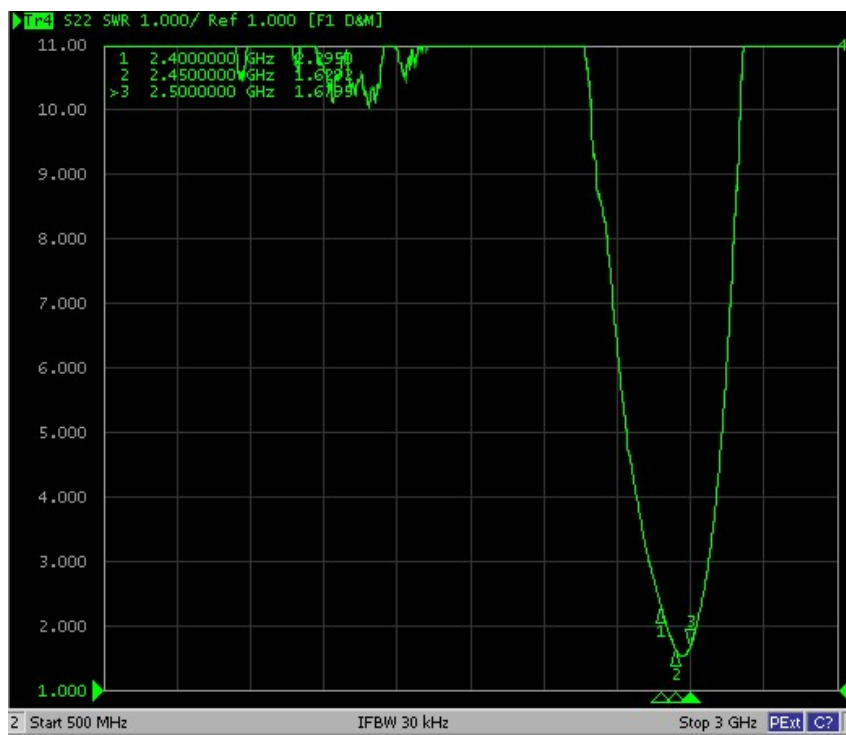
## 4-4. VSWR

### 4-4.1 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
- 2.Keeping this jig away from metal at least 20cm

### 4-4.2 Measurement frequency points and VSWR value

Frequency (Unit MHz)		2400	2450	2500
VSWR	BT	2.29	1.62	1.67



## 4-5. Efficiency and Gain

### 4-5.1 Measure method

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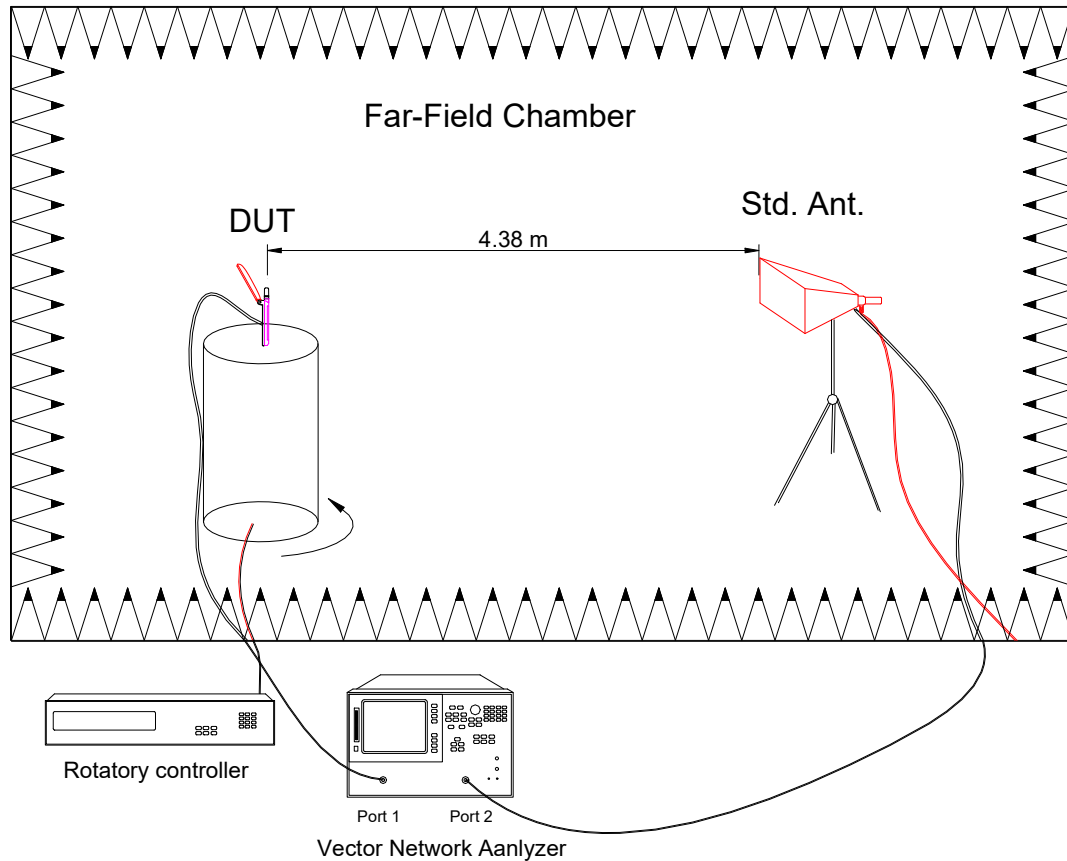
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1. Using a low loss coaxial cable to link a standard handset jig
2. Fixed this handset jig on chamber's rotator plane
3. Linking jig into network analyzer port and using a probing horn antenna to collect data.
4. Using another standard gain horn antenna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

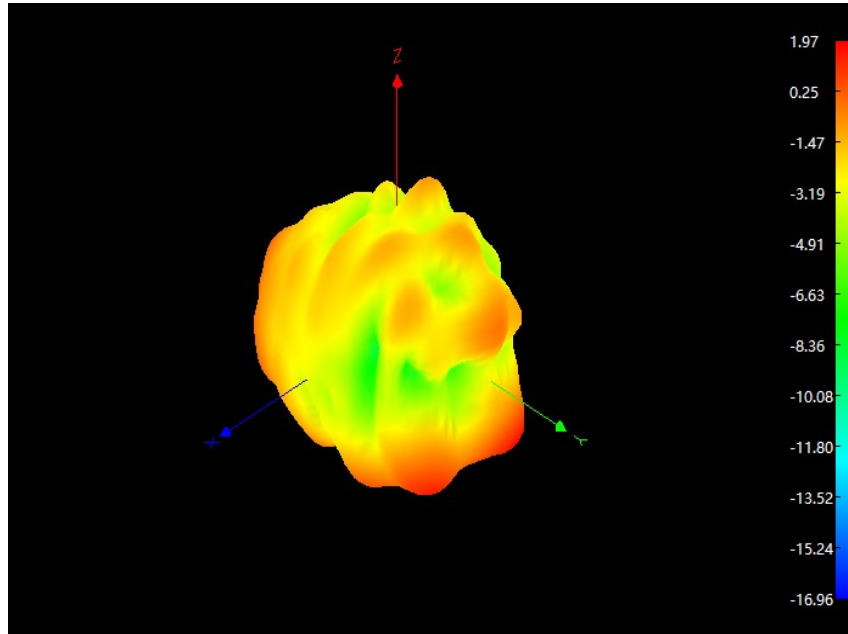
#### 4-5.3 Efficiency and Gain

Antenna gain is marked (dBi) and is based on STANDARD HORN antenna. The data shows Peak Gain and Average Gain.


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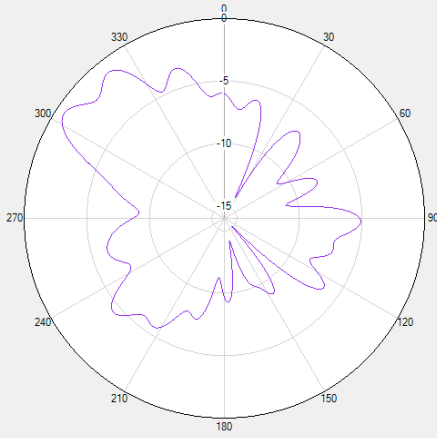
Frequency (MHz)	2400.0	2450.0	2500.0
Efficiency (%)	40.85	45.59	41.8
Gain (dBi)	2.48	3.3	3.26

## 5. 3D Radiation Pattern Results-2450MHz

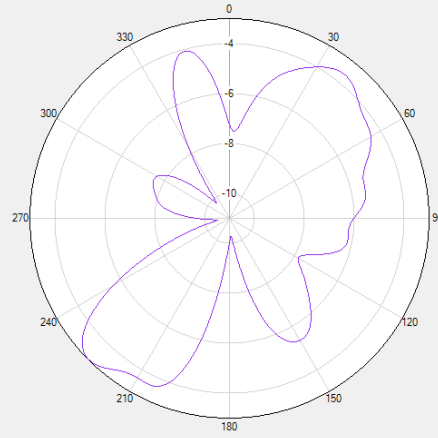


## 6. 2D Radiation Pattern Results-2450MHz

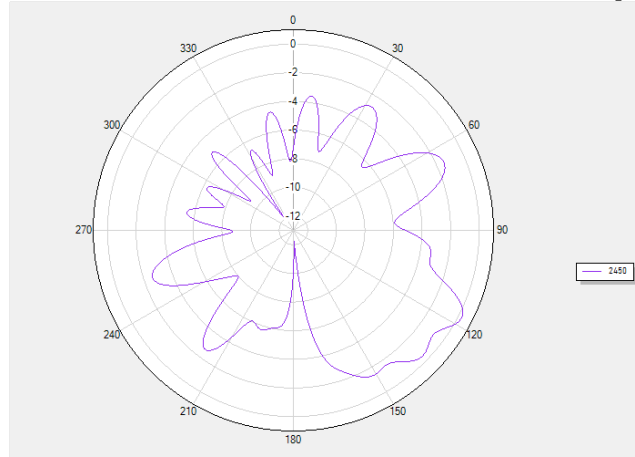
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**XY-H-plane**



**XZ-E1-plane**




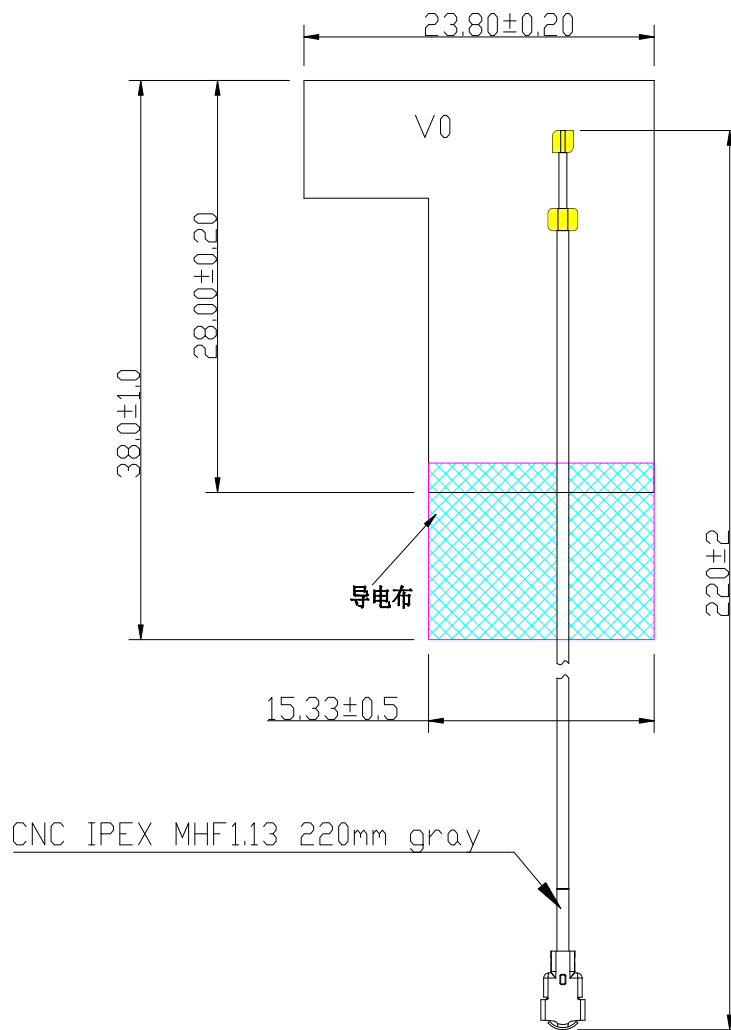
**YZ-E2-plane**

## 7. Mechanical Specification:

### 7-1. Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing Figure 5-1-1

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