

客戶名稱  
CUSTOMER

神達電腦(股)有限公司

Doc No.: ENS000005720

Rev.: A0

# 承認書

## APPROVAL SHEET

產品品名/Product Model No. : **EAMS03002**  
: 型號 : 313002000159

發行日期/ Issue Date : 2006/3/10

承認日期/ Approved Date :

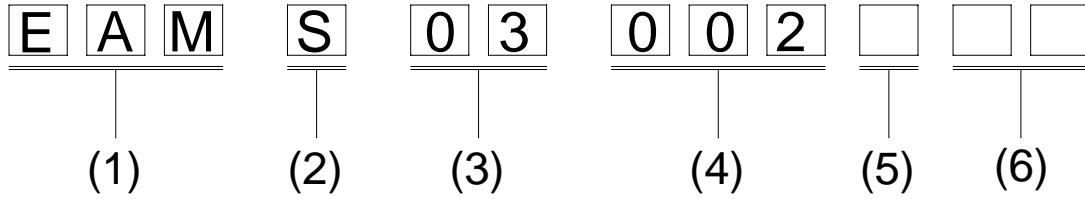
Approved by customer: (signing or stamping here)

 佳邦科技股份有限公司  
**INPAQ TECHNOLOGY Co., Ltd.**

- 300 新竹科學園區工業東四路38號1F  苗栗縣竹南鎮大厝里9鄰59-12號  
1F. N038. Industry E. Rd., No. 59-12, 9 Lin, Ta Tsuo Li,  
Science-Based Industrial Park, Chu Nan Chen, Miao Li Hsien,  
Hsinchu, Taiwan 300 Taiwan, R.O.C.

# Embedded Single-Band Antenna For EAMS03002xxx

## 1. Explanation of part number :



- (1) Product type : Embedded Antenna Module .
- (2) System code : S for Single-Band .
- (3) Customer code :
- (4) Series code :
- (5) Appearance:
- (6) Suffix:

## 2. Electrical Specification :

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

### 2-1. Frequency Band:

Frequency Band	MHz
	2400~2480

UNLESS OTHER SPECIFIED TOLERANCES ON :

X = ±                      X.X = ±                      X.XX =  
 ANGLES = ±                      HOLEDIA = ±



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SCALE : xxxx	UNIT : mm
DRAWN BY : 許倬欣	CHECKED BY: 許倬綱
DESIGNED BY : 張明貴	APPROVED BY: 曾泓璋

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## 2-2. Impedance

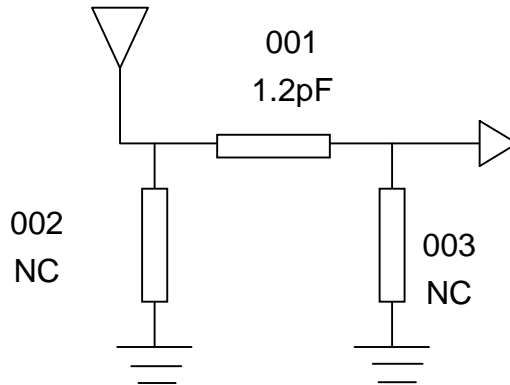
50 ohm nominal

## 2-3. Matching circuit:

The matching on the PCB of the handset is according to VSWR. Optimum matching is highly dependent on the handset and thus, final matching layout and values will be defined when handset is available.

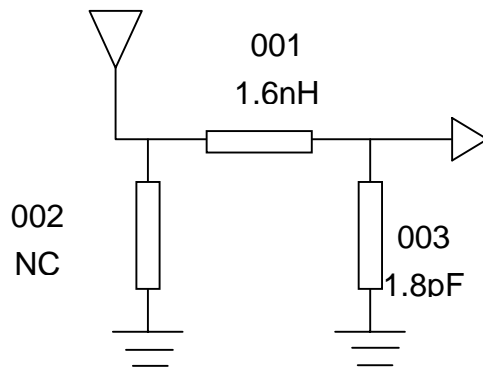
This matching circuit was special for producing tooling revision .

### (1) Silver



Location	Description	Vendor
001	C1.2pF ± 0.2	TDK
002	NC	
003	NC	

### (2) Black



Location	Description	Vendor
001	L 1.6nH ± 0.2	TDK
002	NC	
003	C 1.8pF ± 0.2	TDK

## 2-4. VSWR:

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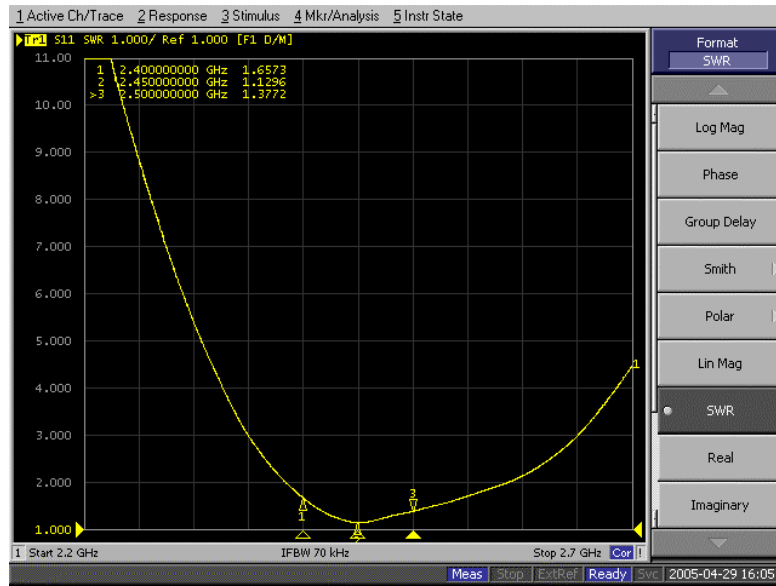
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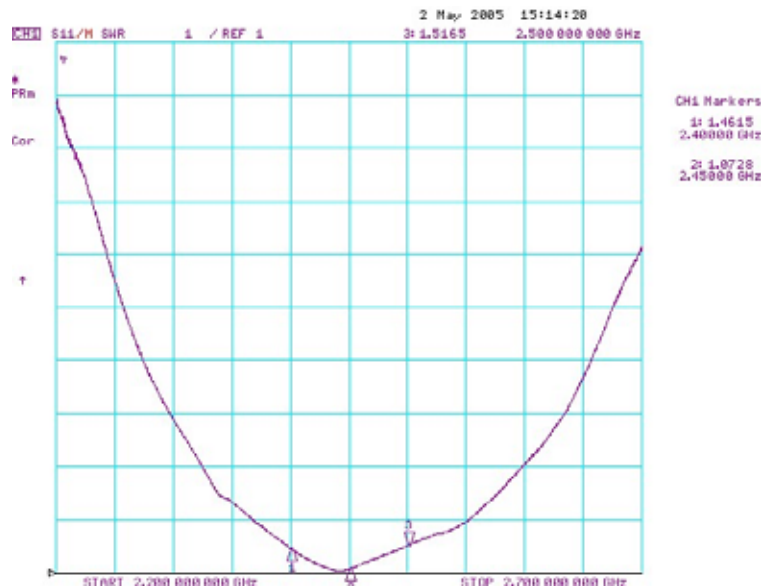
(1) Silver

Frequency (Unit MHz)	2400	2450	2500
VSWR	1.65	1.12	1.37



(2) Black

Frequency (Unit MHz)	2400	2450	2500
VSWR	1.46	1.07	1.51



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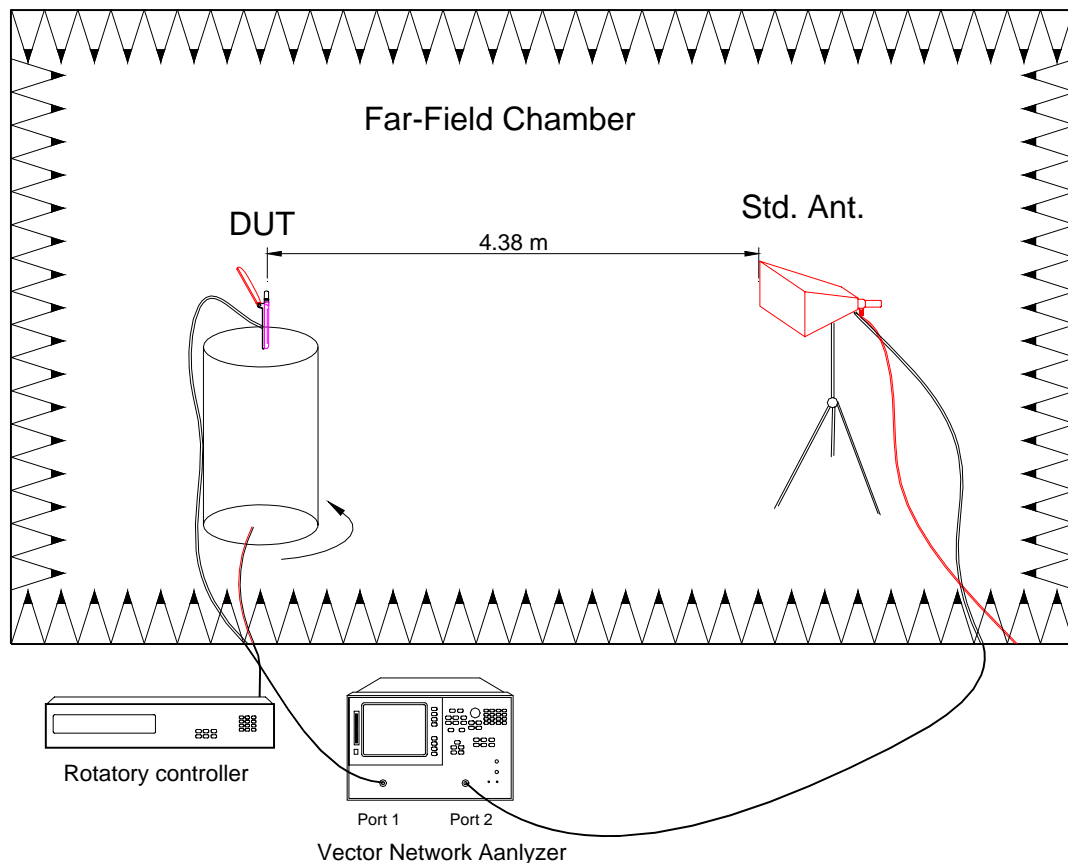
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## 2-5. Gain and Radiation Pattern

### 2-5.1 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

### 2-5.2 Chamber definition



1. An anechoic chamber (8mx4mx3.5m) which satisfied far-field condition was applied to avoid multi-path effect
2. The quiet 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)

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## 2-5.3 Gain data and radiation pattern

Antenna gain is marked [dBi] and is based on STANDARD HORN antenna. The data shows Peak-Gain and Average-Gain.

### (1) Silver

Frequency (MHz)	H Plane Typical		E Plane Typical	
	Max.	Average	Max.	Average
2400	-0.57	-3.89	-1.11	-3.98
2450	-0.22	-3.36	-0.64	-2.66
2500	-0.48	-3.41	-0.02	-2.54

Table2-5-1 Gain data.

### (2) Black

Frequency (MHz)	H Plane Typical		E Plane Typical	
	Max.	Average	Max.	Average
2400	-0.77	-3.23	-0.65	-3.44
2450	-0.22	-2.86	0.03	-2.27
2500	0.64	-3.05	0.12	-2.51

Table2-5-2 Gain data.

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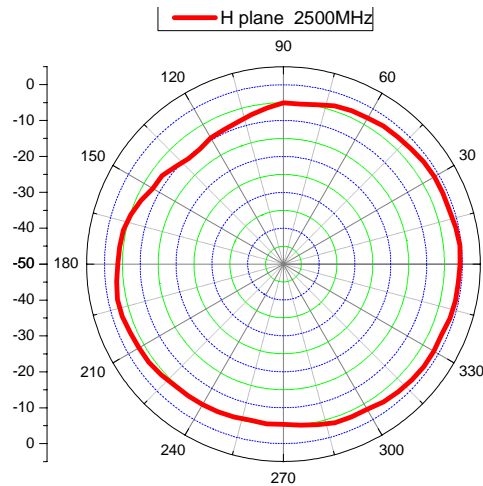
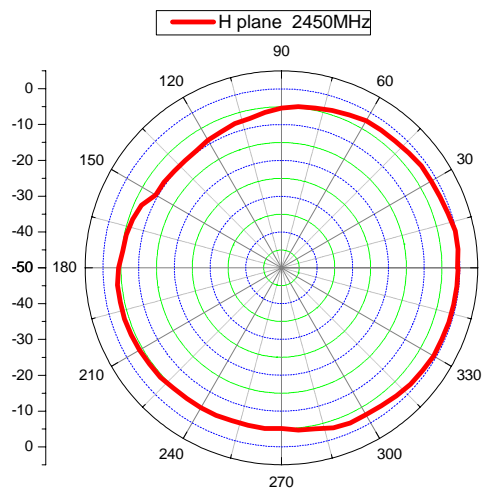
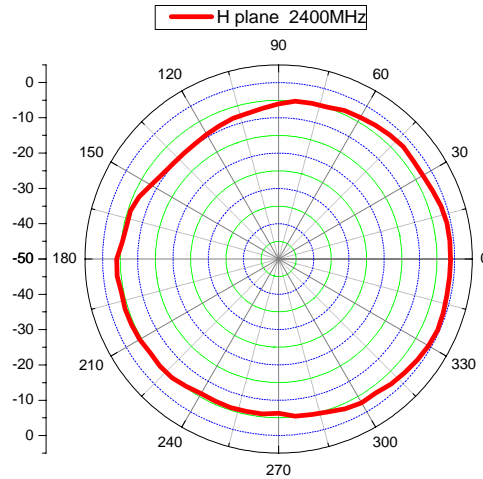
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**(1) Silver Radiation Patterns:**

**H plane pattern**



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ANGLES = ±	HOLEDIA = ±
SCALE : xxxx	UNIT : mm
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DESIGNED BY : 張明貴	APPROVED BY: 曾泓璋
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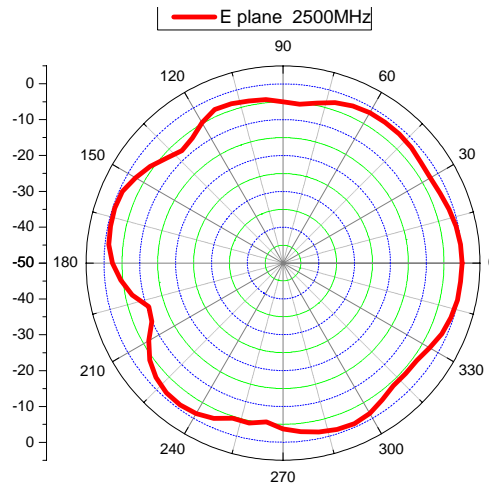
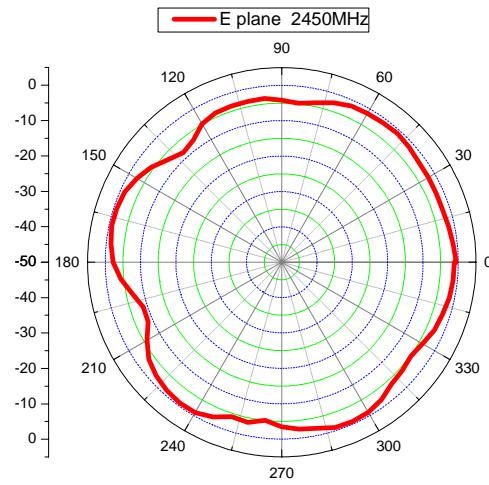
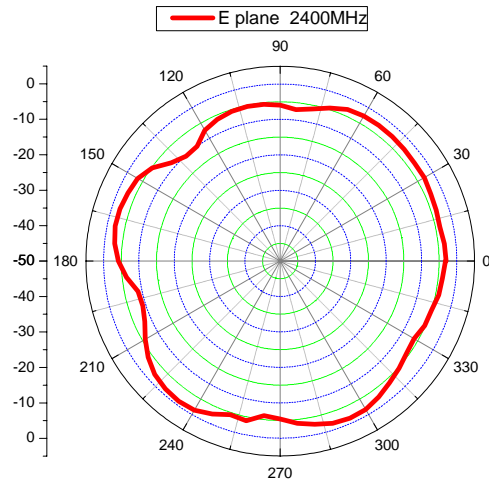


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# E plane pattern



UNLESS OTHER SPECIFIED TOLERANCES ON :

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 ANGLES = ±            HOLEDIA = ±



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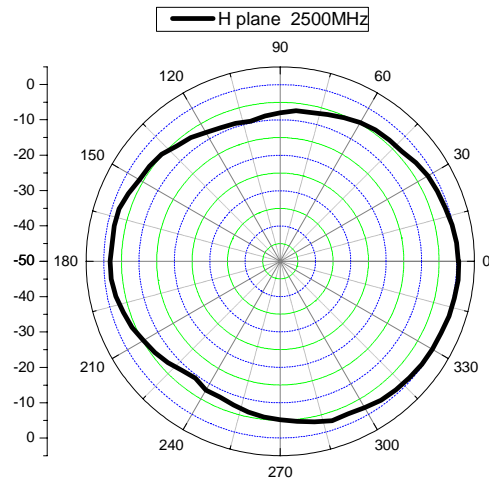
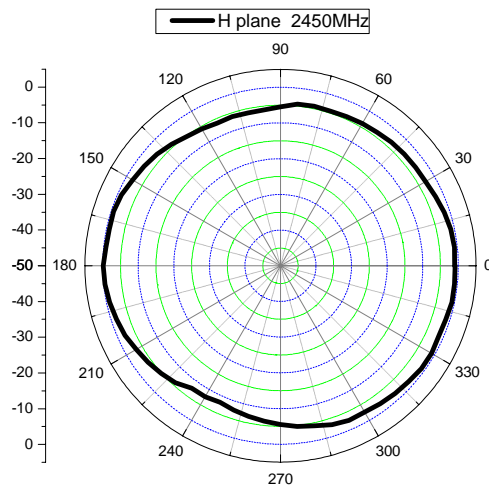
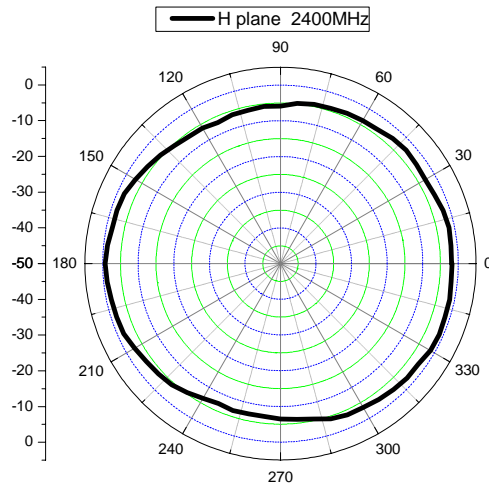
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**(2)Black Radiation Patterns:**

**H plane pattern**



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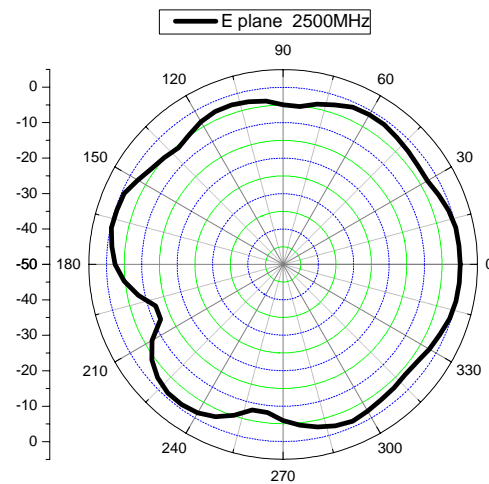
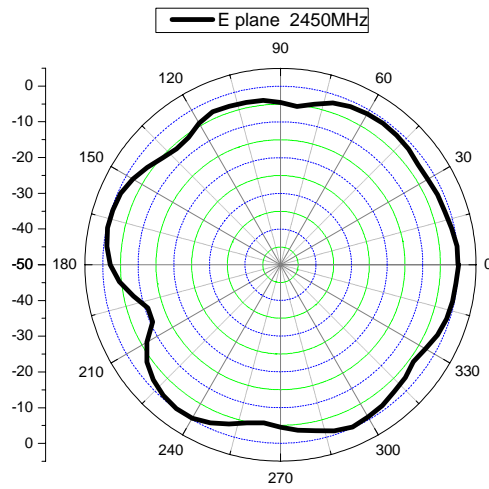
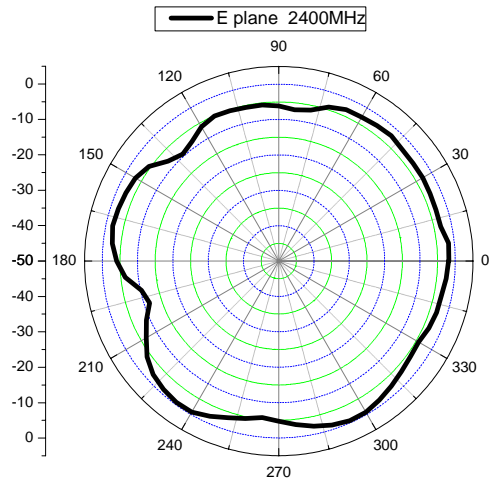
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# E plane pattern



UNLESS OTHER SPECIFIED TOLERANCES ON :

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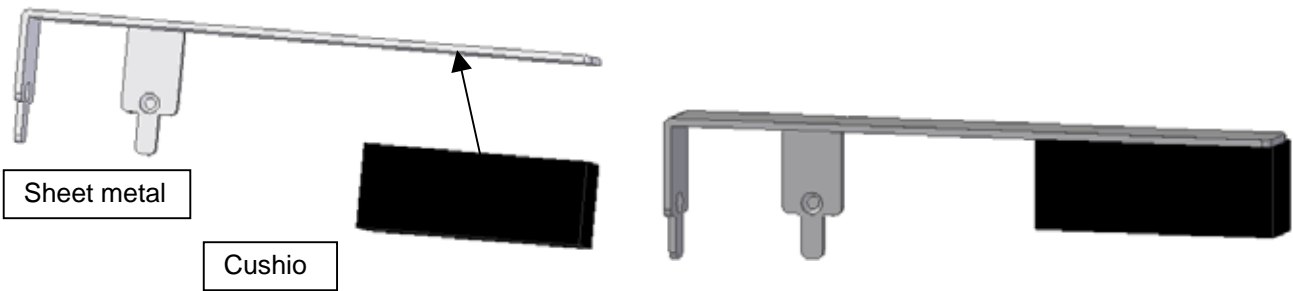
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### 3. Mechanical Specification:

#### 3-1. Mechanical Configuration:

The appearance of the antenna is according to drawing Figure 3-1-1



DESCRIPTION	MATERIAL SPECIFICATION	QUANTIT Y	UNIT
Sheet metal	Phosphor Bronze(Sn)plating C5210SH Thickness:0.3mm	1	PCS
Cushion	CR ,L10xW2.5xH3.7mm	1	PCS

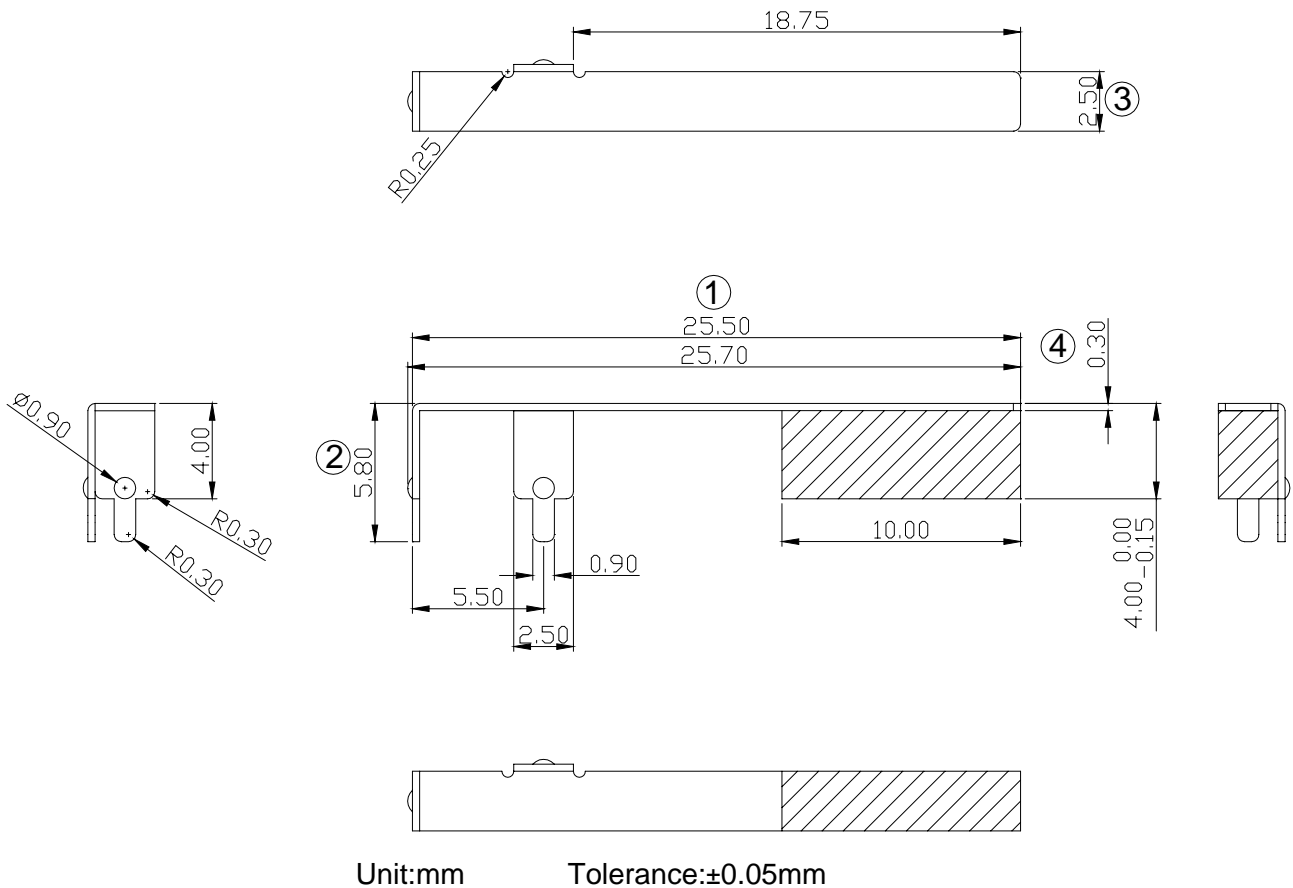


Figure 3-1-1 The antenna drawing

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#### 4.Environmental characteristics:

The reliability test items will be measured only when our customer asked.

NO	ITEM	TEST CONDITION	SPECIFICATION
5-1	High Temperature/Humidity Storage	1.Temperature : +80±2 . 2.Humidity : 90~95u RH 3.Time : 96hrs	Normal functional test must be satisfied after the test.  No material deformation is allowed.
5-2	Low Temperature/Humidity Storage	1.Temperature : -40±2 . 2.Humidity : 0u RH 3.Time : 96hrs	
5-3	Temperature Cycle	1.Temperature : -40~+80 2.Duration : ● 24 Cycles, ● 45min/dwelling@ -40 , ● 10 per min./transition from -40 to 80 , ● 45min/dwelling@80 ,	
5-4	Temperature Shock Test	1.Temperature : -40± ~+80 . 2.Time : 60 minutes/dwelling, 2 minutes/ transition, 24 cycles	

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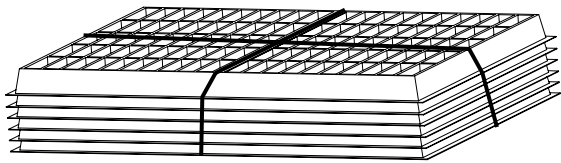
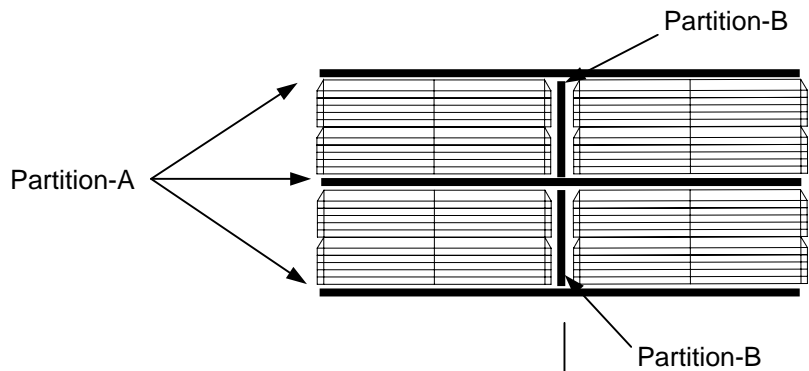
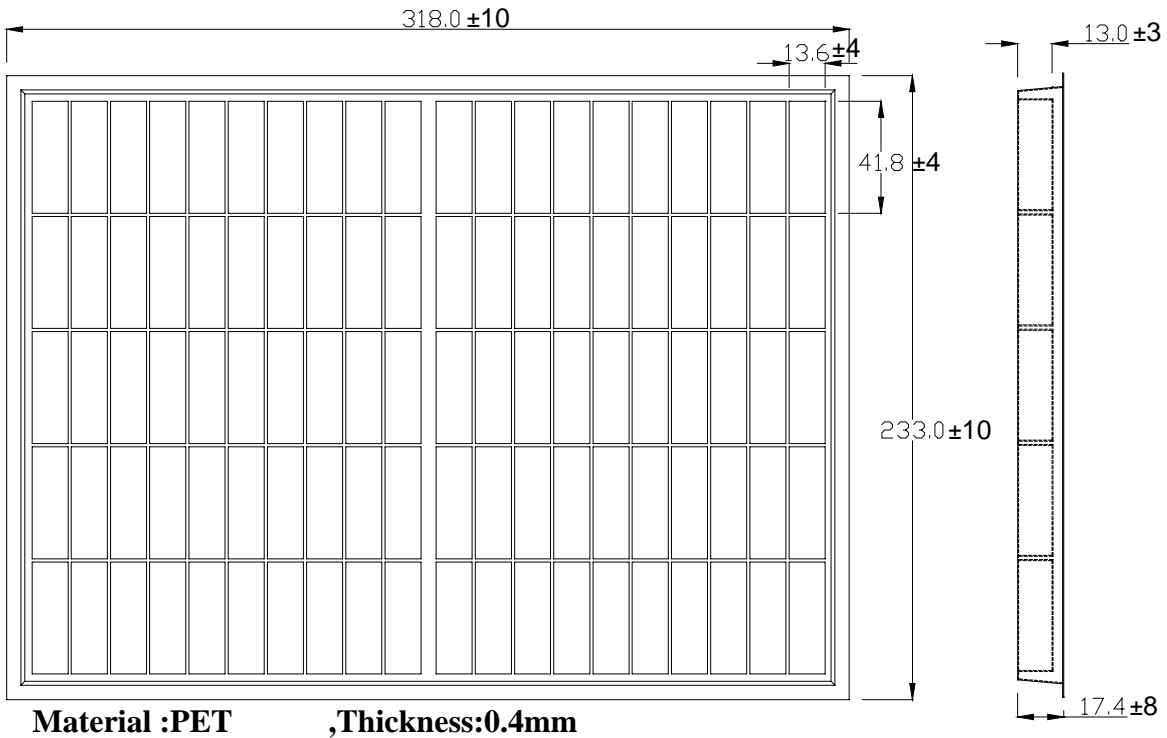
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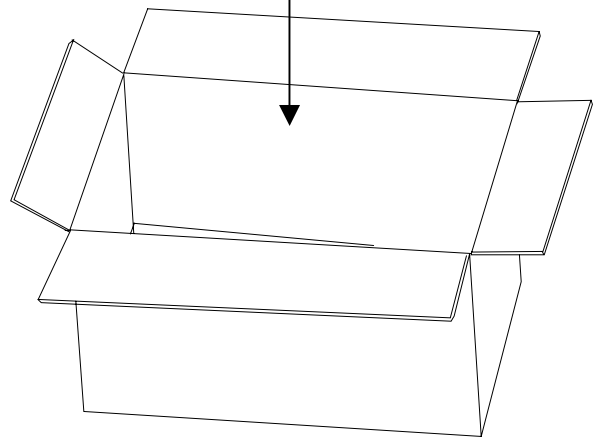
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## 5. Packaging:

1. Antenna to be packed in compartmentalized blisters tray (each 100 pcs per tray).



2. Each carton will contain 4000 pcs antenna



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