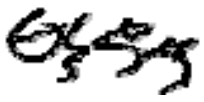
# APPROVAL SHEET

**MODEL: PM250**
**ANTENNA**

## Point Mobile

| Customer | Point Mobile | | |
|---|---|---|---|
| Customer's Approved | EN' GR | CHKD | APPD |
| |  | |  |
| Approval Date | 2008.12. 09 | | 2008.12. 09 |

Date of Issue: 2008. 12. 04

| | Mechanical Part | Electrical Part | Approval |
|---|---|---|---|
| Part Division |  |  |  |
| | 12/4 | 12/4 | 12/4 |
| Part Name | SW0633T0A | | |
| Model Name | PM250 | | |

## CONTENTS --

## 1. Revision History

| NO. | Before | After | Reason | Date |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
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## 2. General Application

This document specifies the chip antenna for the mobile communication terminal.

| Model Number | SW0633T0A |
|---|---|
| Application | WLAN |

## 3. Technical Specification

### 3.1 Electrical Specification

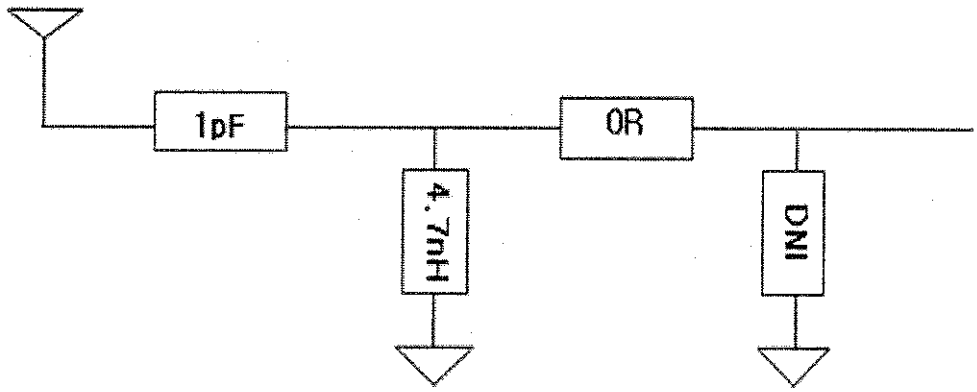
| No | Item | Specification | Remarks |
|---|---|---|---|
| 1 | Frequency Range | 2.4GHz ~ 2.48GHz | |
| 2 | VSWR | 2:1 | |
| 3 | Impedance | 50 Ω | |
| 4 | 3D Efficiency | Board:55%, Set:50% | |
| 5 | Polarization | Linear | |
| 6 | Radiation Pattern | Omni directional | |

### 3.2 Mechanical Specification

| No | Item | Specification | Remarks |
|---|---|---|---|
| 1 | Dimension | 12.5*12.9*2.0 (H) ㎜ | |
| 2 | Operating Temperature | -30℃ ~ +80℃ | |
| 3 | Operating Humidity | 10% ~ 90% | |
| 4 | Weight | 0.5g | |
| 5 | Connector Type | solder | |

## 4. Measurement Data

### 4.1 Matching Circuit




### 4.2 VSWR & Smith Chart

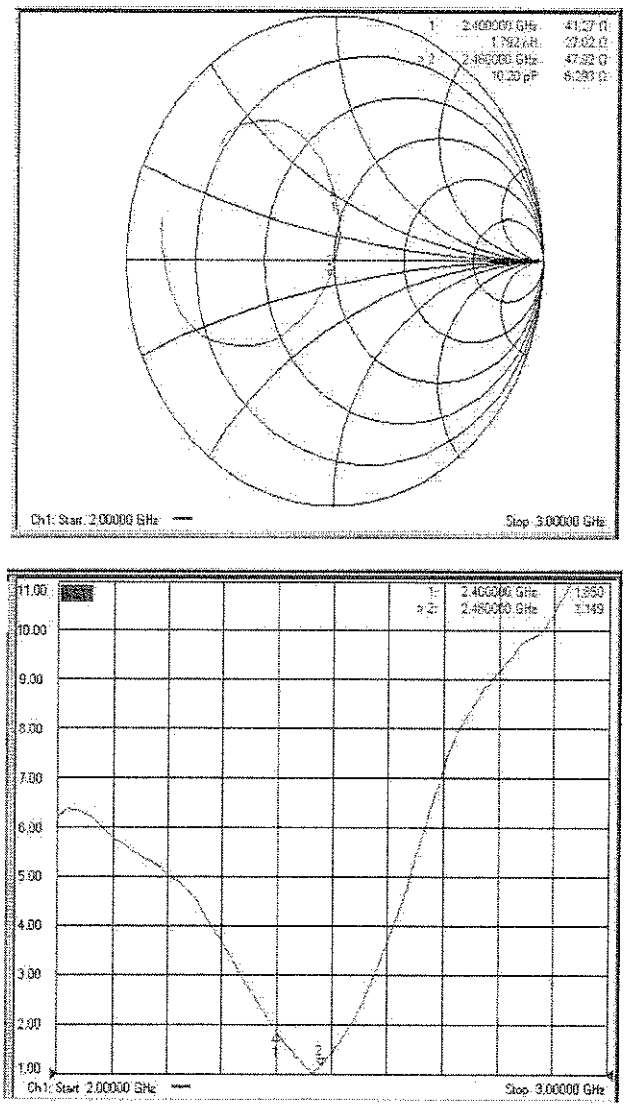



Fig 2. VSWR & Smith Chart

### 4.3 Test Result (3D Efficiency)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency(MHz) | 2400 | 2410 | 2420 | 2430 | 2440 | 2450 | 2460 | 2470 | 2480 | 2490 |
| | | | | | | | | | | |
| Efficiency(dB) | -3.19 | -3.25 | -3.17 | -3.20 | -2.97 | -3.15 | -3.04 | -2.75 | -2.38 | -2.81 |
| Efficiency(%) | 48.00 | 47.27 | 48.22 | 47.85 | 50.43 | 48.43 | 49.67 | 53.07 | 57.85 | 52.31 |
| TRG(dB) | -3.19 | -3.25 | -3.17 | -3.20 | -2.97 | -3.15 | -3.04 | -2.75 | -2.38 | -2.81 |
| $TRG_{Theta}$(dB) | -6.16 | -6.12 | -6.20 | -6.15 | -5.81 | -6.04 | -5.97 | -5.44 | -5.28 | -5.90 |
| $TRG_{Phi}$(dB) | -6.23 | -6.42 | -6.16 | -6.28 | -6.16 | -6.28 | -6.13 | -6.11 | -5.50 | -5.75 |
| UHRG(dB) | -6.94 | -6.99 | -6.88 | -6.91 | -6.84 | -6.75 | -6.81 | -6.32 | -5.87 | -6.21 |
| UHRG/TRG(%) | 42.20 | 42.33 | 42.55 | 42.62 | 43.02 | 43.84 | 43.99 | 44.00 | 44.75 | 45.72 |
| H-Plane | -5.19 | -5.19 | -5.34 | -5.31 | -4.98 | -5.21 | -5.18 | -4.78 | -4.73 | -5.37 |
| E1-Plane, AVG(dB) | -5.49 | -5.62 | -5.83 | -5.92 | -5.69 | -6.02 | -6.06 | -5.60 | -5.54 | -6.22 |
| E2-Plane, AVG(dB) | -6.58 | -6.37 | -6.24 | -5.99 | -5.48 | -5.57 | -5.37 | -4.72 | -4.43 | -4.86 |
| Peak Gain(dB) | 0.63 | 0.57 | 0.64 | 0.68 | 0.85 | 0.87 | 0.76 | 0.91 | 1.02 | 0.41 |
| Directivity(dB) | 3.82 | 3.82 | 3.81 | 3.88 | 3.83 | 3.82 | 3.79 | 3.66 | 3.39 | 3.22 |
| Minimum Gain(dB) | -11.28 | -10.95 | -10.57 | -10.21 | -9.21 | -8.89 | -8.68 | -7.97 | -7.07 | -7.10 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Test Condition | | | | | | | | | | |
| Antenna Type | | | | | | | | | | |

| Average Efficiency | -2.98 dB, | 50.31 % |
|---|---|---|

### 4.4 Radiation Pattern

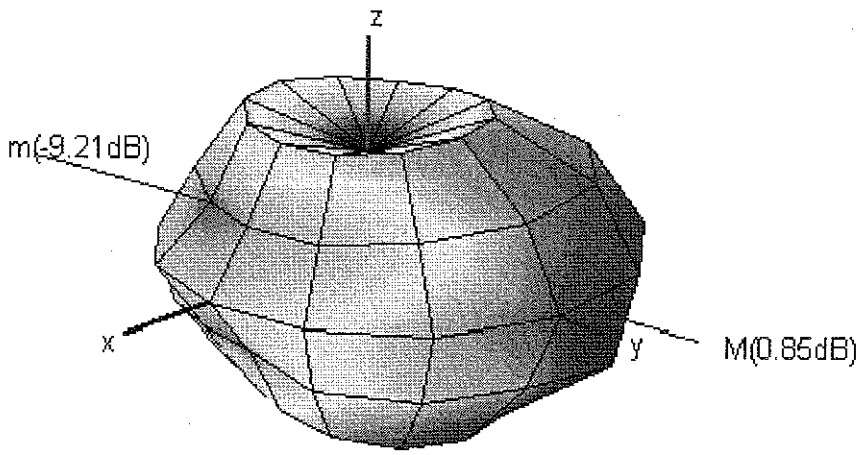



Fig 3. Radiation Pattern

| | Efficiency (%) | Efficiency (dB) | UHRG(dB) | Peak Gain |
|---|---|---|---|---|
| Radiation | 50% | -2.98 | -6.8 | 0.85 |

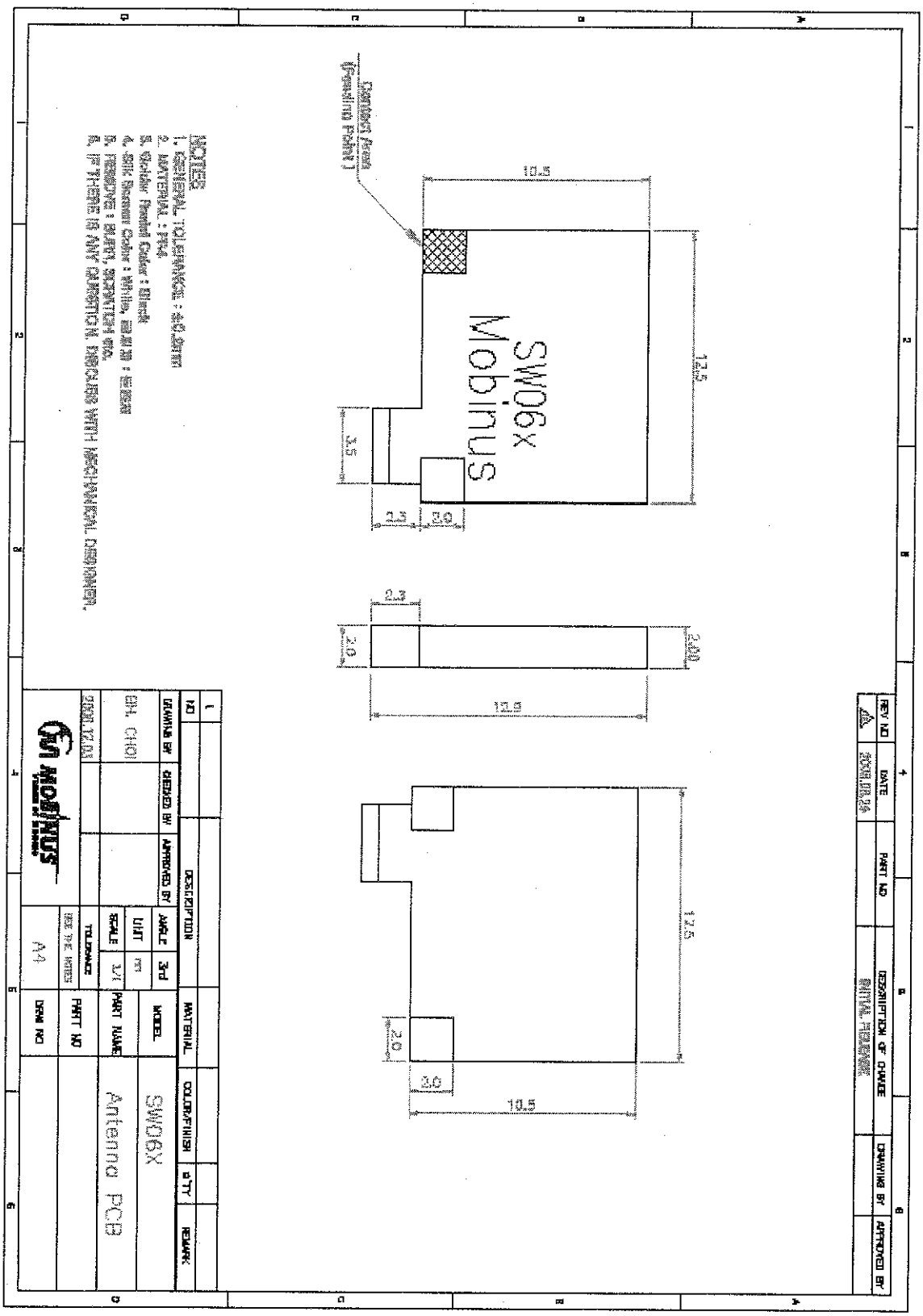
## 5. Reliability Specification

| No | Item | Conditions and Method |
|---|---|---|
| 1 | Temperature Shock | ● Perform 10 cycles as follow<br>■ High Temp.: 30min, +85°C<br>■ Low Temp.: 30min, -40°C<br>■ Repeat : 10 times<br>● Stabilize at room temperature for measurement |
| 2 | Dry Heat Test | ● Dwell in +85°C chamber for 72 hours<br>● Stabilize at room temperature for measurement |
| 3 | Low Temperature Test | ● Dwell in -40°C chamber for 72 hours<br>● Stabilize at room temperature for measurement |
| 4 | Humidity Test | ● Dwell in test chamber at +50C and 95% RH for 24 hours<br>● Stabilize at room temperature for measurement |
| 5 | Drop Test | ● Conditions<br>■ Drop height: 1.5 m<br>■ Drop angle: 45 ° / 90 °<br>■ Drop cycle : Each 5 times<br>■ Weight : 150 g |
| 6 | Salt Spray Test | ● After exposing to 5% sodium atmosphere at +35° C for 72 hours and washing pure water, test within 2 hours |

## 6. Packing Specification

| Item | Quantity | Materials | Remarks |
|---|---|---|---|
| Tray | 100EA | P.S/PET | |
| | | | |
| | | | |

## 7. Drawing


SW06x
Mobinus
10.5
12.5
3.5
2.5
3.0
2.3
2.0
2.40
12.5
17.5
2.0
3.0
10.5
NOTES
1. GENERAL TOLERANCES : ±0.05mm
2. MATERIAL : FR4
3. Golden Finish Color : Black
4. Silk Screen Color : White
5. REMOVE : BURR, SCRATCH etc.
6. IF THERE IS ANY CORRECTION, INFORM US WITH MECHANICAL DRAWING.
REV NO
DATE
PART NO
DESCRIPTION OF CHANGE
DRAWING BY
APPROVED BY
DRAWING BY
CHECKED BY
APPROVED BY
DESCRIPTION
ANGLE
3rd
UNIT
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SCALE
1/1
TOLERANCE
PART NAME
MODEL
MATERIAL
COLOR/FINISH
Q'TY
REMARK
DRAW NO
PART NO
A4
SW06X
Antenna PCB