**DATE OF ISSUE : 11 / 13 / 2004**

| Digital Module Division WLAN R&D G. | | |
|---|---|---|
| **WRITTEN** | **CHECKED** | **APPROVED** |
|  |  |  |
| **Jeon-Ho Lee** | **Jin-O Yoo** | **Eon Hwang** |

# DATA SHEET

## (Preliminary)

| | |
|---|---|
| **CUSTOMER** | |
| **PRODUCT NAME** | **Embedded Wireless LAN Module** |
| **MODEL NAME** | **SWL-2460C** |
| **Part Number** | |

| ISSUED BY | CHECKED BY | APPROVED BY |
|---|---|---|
| | | |
| | | |

Head Office & Sales Dept.
314, Maetan-3Dong, Yeongtong-Gu
Suwon, Kyunggi-Do, Korea
TEL : +82 (0)31 210 6579
FAX : +82 (0)31 210 5529
Homepage : http://www.sem.samsung.co.kr

# Contents

# 0 Document

## 0.1 Declaration

This specification is intended for Samsung 54Mbps embedded wireless LAN module.

## 0.2 Revision History

10/05/2004 Created
11/13/2004 Current Consumption spec was changed Page 4

# 1 Specification for WLAN CF embedded module

## 1.1 Identification

| | |
|---|---|
| 1.Samsung Product name | 54Mbps WLAN CF embedded module |
| 2.Samsung Model name | SWL-2460C |
| 3.Samsung Part number | |

## 1.2 Hardware Specifications

### 1.2.1 Card standard

| | |
|---|---|
| 1. Interface Standard | Compact Flash Specification electrically compliant |
| 2. Form Factor | Customized Size |
| 3. Operating voltage | VCC : 3.0V ~ 3.6V<br>VCCD : 1.8V ~ 3.3V |

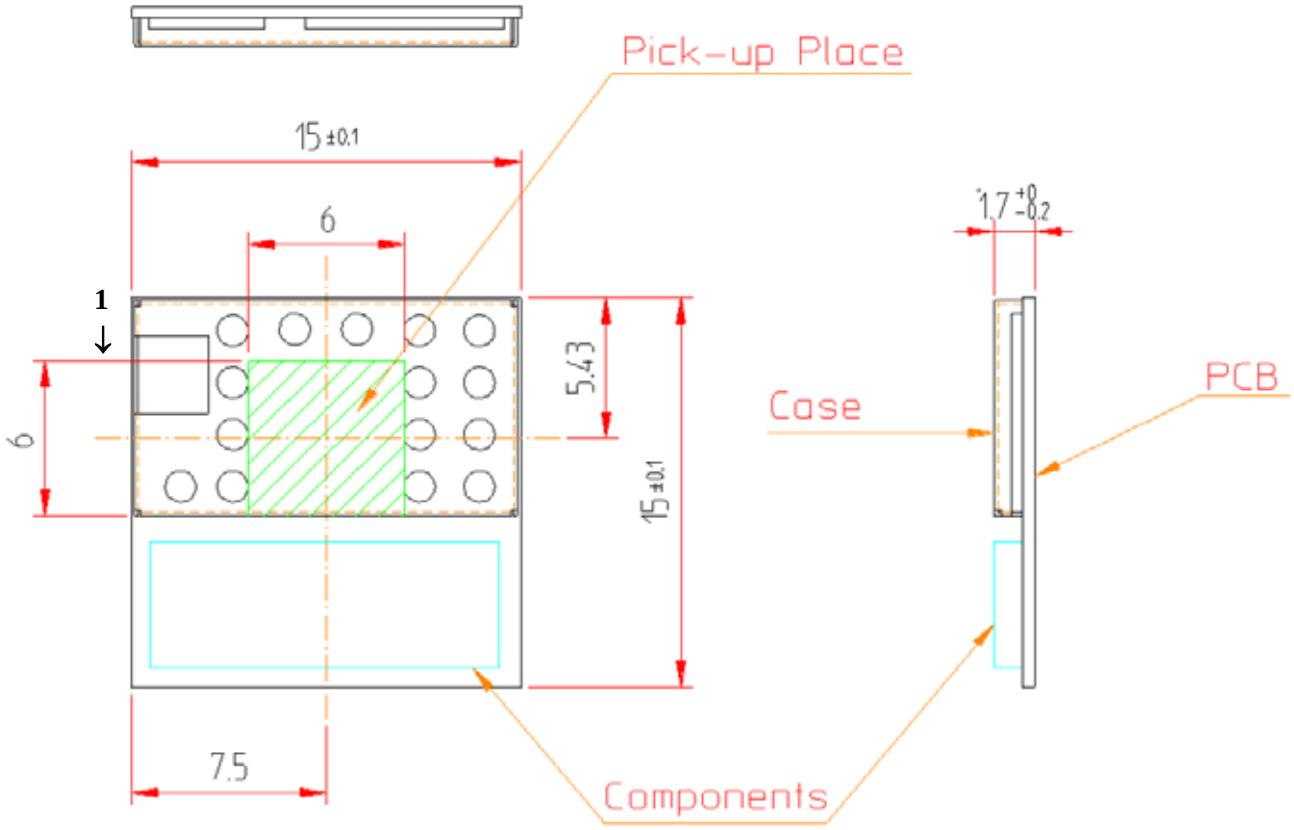
### 1.2.2 RF Characteristics

| RF Characteristics | | Min | Typ | Max |
|---|---|---|---|---|
| 1. Specification Compliance | | IEEE 802.11b/g standard protocol (CSMA/CA) | | |
| 2. Antenna | | External single antenna support | | |
| 3. Frequency Range | | 2.412Ghz~2.484Ghz | | |
| 4. TX output power | 11b | 14dBm | 16dBm | 18dBm |
| | 11g | | 11dBm | |
| 5. Current consumption (At max Throughput) | 11b | | - Transmit : 350mA<br>- Receive : 265mA<br>- Standby : 1mA | - Transmit : 370mA<br>- Receive : 275mA<br>- Standby : 1mA |
| | 11g | | - Transmit : 470mA<br>- Receive : 275mA<br>- Standby : 1mA | - Transmit : 485mA<br>- Receive : 285mA<br>- Standby : 1mA |
| 6. Maximum input level | | -5dBm | | |
| 7. RX sensitivity | 11b | | - 85dBm | - 84dBm |
| | 11g | | -70dBm | |

Note : Sensitivity is based upon 1024 Bytes frame length, 11 Mbps(54Mbps) data rate, 8% (10%) PER

### 1.2.3 Mechanical specification

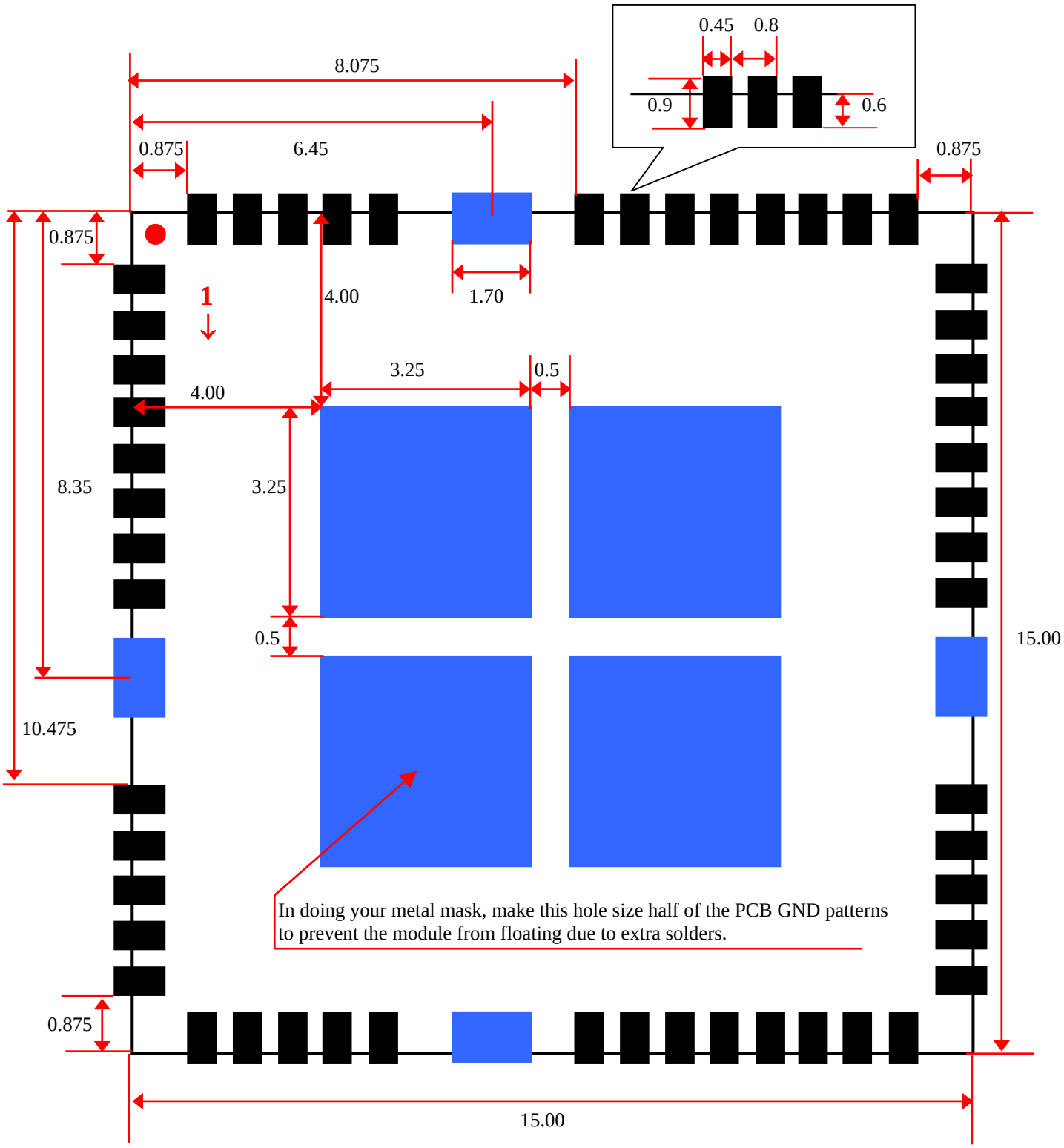
| | |
|---|---|
| 1. Dimension | 15㎜×15㎜×1.7㎜ |
| 2. Weight | 1g |
| 3. Pin outs | 52pin + 8 GND pattern SMT Type |
| 4. Antenna Connector | SMT pads (Pin No.51) |



### 1.2.4 Recommended pad design (top view)

**※ This is not a final version. Please check the latest version in doing your design.**

- The pattern is symmetrical and some numbers are omitted.
- Refer to the appendix 1 for the pin numbering. Blue patterns are ground patterns and should be a part of **main analogue ground** plain. Blue patterns are excluded from pin numbering. **Place thermal through holes on blue patterns to diffuse the heat from the WLAN module**.



### 1.2.5 Regulation

| | |
|---|---|
| 1. Europe | Not yet submitted |
| 2. USA,Canada | Not yet submitted |
| 3. Others | Not yet submitted |

### 1.2.6 Environmental requirements

| | |
|---|---|
| 1. Operating temperature | -10°C ~ +70°C |
| 2. Storage temperature | -20°C ~ +80°C |
| 3. Operating humidity | 0% ~ 90%(RH) |

# 2 Software specifications

## 2.1 OS Support & Driver

### 2.1.1 Available drivers

- Windows XP(Test purpose Only)
- Windows CE.NET 4.2, 5.0
- Pocket PC 2003(SE) and higher
- Linux

## 2.2 Security

- WEP
- AES
- 802.1x
- WPA (TKIP,AES)
- CCX –TBD
- WPA2 -TBD

# 3 RF test results

* Not yet available.

**Appendix 1. Host Interface Pin Map.**

| No. | Compact Flash | | No. | Compact Flash | |
|---|---|---|---|---|---|
| 1 | GND | | 27 | D11 | |
| 2 | D03 | | 28 | D12 | |
| 3 | D04 | | 29 | D13 | |
| 4 | D05 | | 30 | D14 | |
| 5 | D06 | | 31 | D15 | |
| 6 | D07 | | 32 | CE2# | |
| 7 | CE1# | | 33 | **WL_ACTIVE** | |
| 8 | **NC** | | 34 | IORD# | |
| 9 | OE# | | 35 | IOWR# | |
| 10 | A09 | | 36 | WE# | |
| 11 | A08 | | 37 | IREQ# | |
| 12 | A07 | | 38 | VCC | |
| 13 | **VCCD** | | 39 | **PD#** | |
| 14 | A06 | | 40 | **NC** | |
| 15 | A05 | | 41 | RESET | |
| 16 | A04 | | 42 | WAIT# | |
| 17 | A03 | | 43 | INPACK# | |
| 18 | A02 | | 44 | REG# | |
| 19 | A01 | | 45 | **LED_OUT#** | |
| 20 | A00 | | 46 | **NC** | |
| 21 | D00 | | 47 | D08 | |
| 22 | D01 | | 48 | D09 | |
| 23 | D02 | | 49 | D10 | |
| 24 | IOIS16# | | 50 | GND | |
| 25 | **BT_PRIORITY** | | 51 | RF_INOUT | |
| 26 | **BT_STATE** | | 52 | NC | |

* **‘#’ means that the signal is low active.**
* VCCD power voltage range is from 1.8V to 3.3V. Its current consumption has no relation with its voltage. It means that the lower the input voltage is the smaller power it consumes. It may be tied to the VCC, if you want to use the same voltage for both power inputs.
* PD# signal in CF interface is not matched with CF standard pin outs. This signal replaced the CSEL# signal in CF specification, and is used to set the full power down state. When this signal is connected to 0V, the module will be set to the full power down state. If you don’t use this function, just connect this pin to the WLAN module main power.
* LED_OUT# signal in CF interface is not matched with CF standard pin outs. This signal replaced the SPKR signal in CF specification, and is used to control the external LED. Remind this signal is low active.
* Pin No.25,26,33 are for the Bluetooth co-existence interface. If you connect these to the Bluetooth correctly, WLAN and Bluetooth will not conflict each other.
* NC pins are used for test procedure or reserved for future use. This signals replaced the unused signals in CF specification. Just leave them unconnected. **Connect CD1, CD2, VS1 from CF host to GND and leave VS2, SPKR, CSEL, STSCHG, A10 from CF host unconnected.**

## Appendix 2. Block Diagram