

# Users manual

**PRODUCT NAME : WLAN Module**

---

**MODEL NAME : TWFM-B008D**

---

The information contained herein is the exclusive property of LG Innotek and shall not be distributed, reproduced or disclosed in whole or no in part without prior written permission of LG Innotek.

## Index

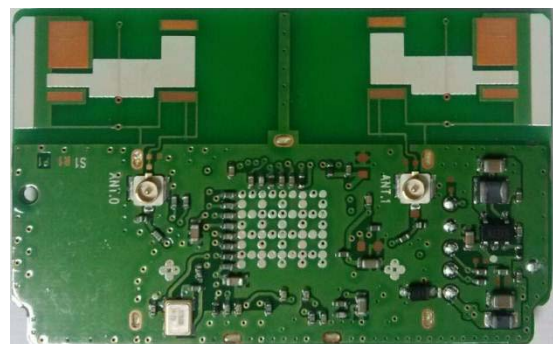
No	Description	Page
1	Features	2
2	Product photo	2
3	Installation	3
4	Block Diagram	4
5	Storage Conditions	4
6	Operating Conditions	5
7	Test Conditions	5
8	Pin Description	6
9	Outline Drawing	7
10	Packing Information	8

## 1. Features

TWFM-B008D is the small size and low power module for IEEE 802.11a/b/g/n wireless LAN. TWFM-B006D is based on Broadcom BCM43236B solution..

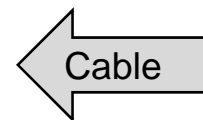
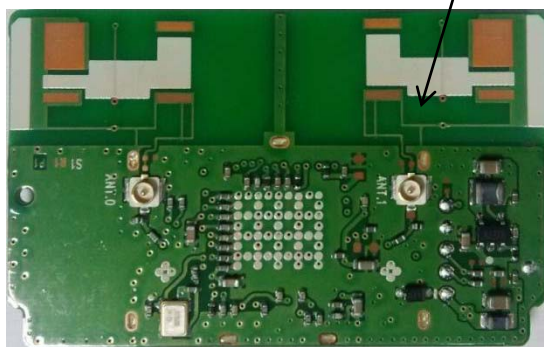
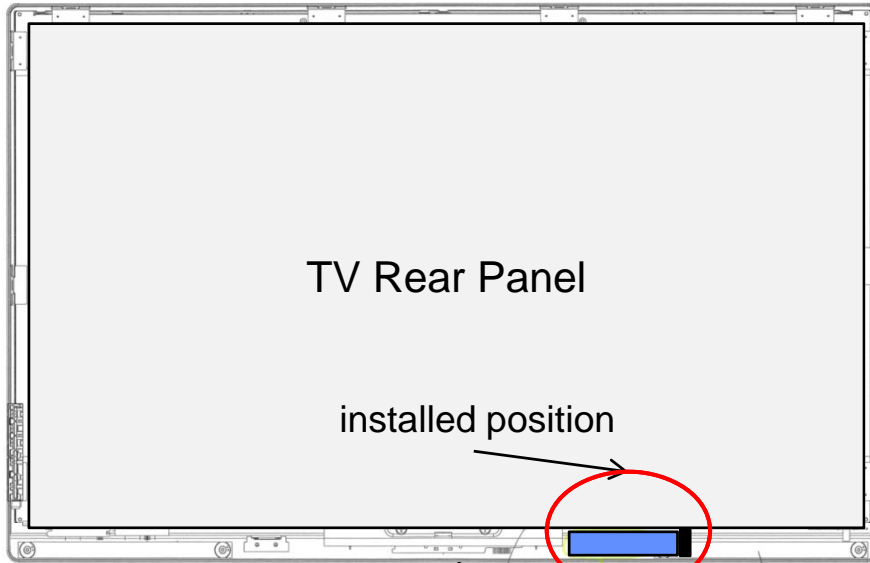
- IEEE 802.11 a/b/g/n Dual Band WLAN infrastructure
- Size : 48.0mm x 30.0mm x 6.7mm
- 2.4GHz and 5GHz Internal PA
- Two stream spatial multiplexing up to 300Mbps(802.11n)
- Use on-chip OTP (One-Time Programmable)
- USB 2.0
- Supports drivers for Linux, Windows
- Security : WPA,WPA2,AES(TKIP), IEEE 802.1X
- Application: DTV, DVR, HD DVD Player, Blue-ray Disk Player, STB

## 2. Module Photo

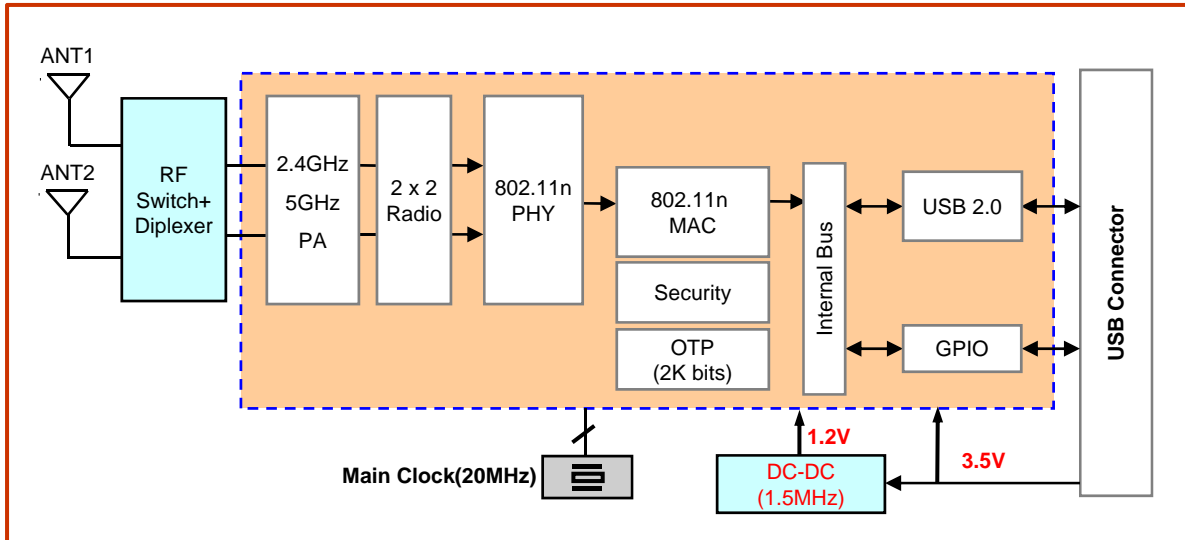


### 3. Installation

This Wi-Fi module will be installed inside TV.



## 4. Block Diagram



## 5. Storage Conditions

**Caution :** The specifications above the Table define levels at which permanent damage to the device can occur. Function operation is not guaranteed under these conditions. Operating at absolute maximum conditions for extend periods can adversely affect the long-term reliability of the device.

Parameter	Min	Max	Unit
Storage Temperature	-10	+80	°C
Storage Humidity (@ 40°C)	-	90	%

- Other conditions

- 1) Do not use or store modules in the corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are contained.  
Also, avoid exposure to moisture.
- 2) Store the modules where the temperature and relative humidity do not exceed 5 to 40°C and 20 to 60%.
- 3) Assemble the modules within 6 months.  
Check the soldering ability in case of 6 months over.

## 6. Operating Conditions

Parameter	Min	Typ	Max	Unit
Operating Temperature	0	-	+60	°C
Operating Humidity (40°C)	-	-	85	%
Supply Voltage	3.325	3.5	3.675	Vdc

## 7. Test conditions

### 7-1. Macro-environment

Temperature	$25 \pm 5^{\circ}\text{C}$
Humidity	$65 \pm 5\%$

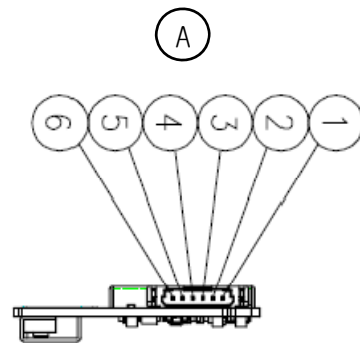
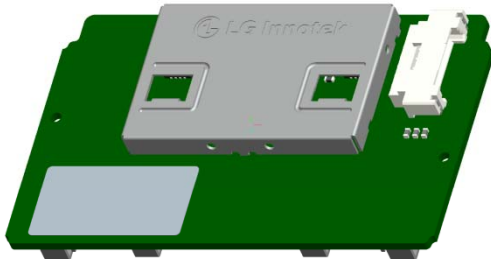
### 7-2. Voltage conditions

Input voltage	Voltage range
VDD_3.3V	$+3.5\text{V} \pm 0.175\text{V}$

## 8. Pin Description

Pin No.	Pin Name	I/O	Pin Description
1	VCC	I	VDD 3.5V
2	D-	I/O	USB Communication signal USB_DN
3	D+	I/O	USB Communication signal USB_DP
4	GND	-	GND
5	WOW	I	Wake On WLAN
6	NC	I	NC

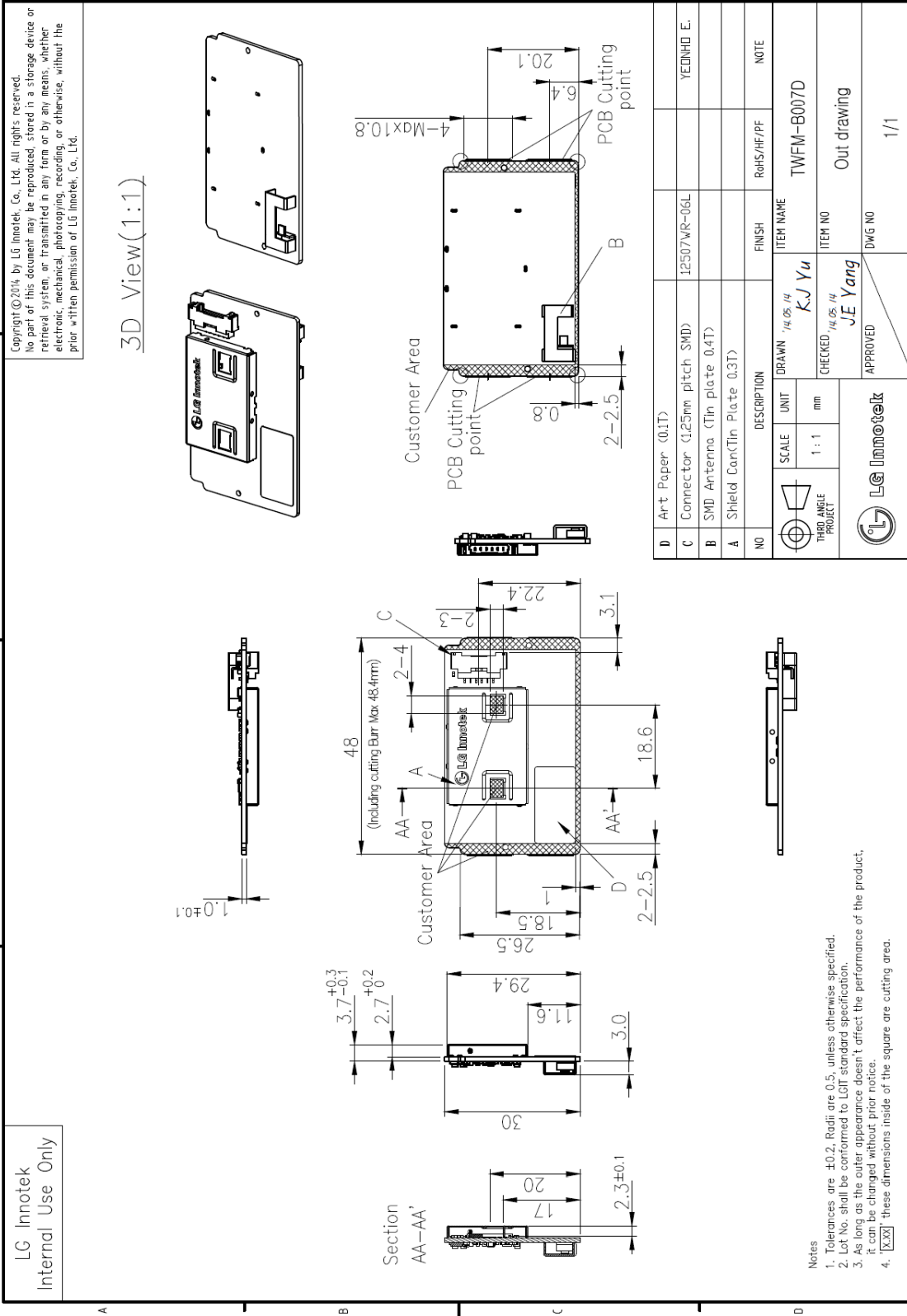
### < TOP View >



### Note.

- 1) Recommend a Module install sequence for prevent USB device failure
  - Supply 3.5V power
  - Connect to data signal (USB\_DP, USB\_DN)
- 2) If remove the module, proceed in reverses sequence
- 3) Connector A : (CONN 12507WR-06L, YEONHO ELECTRONICS CO., LTD.)

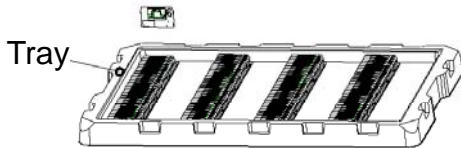
## 9. Outline Drawing



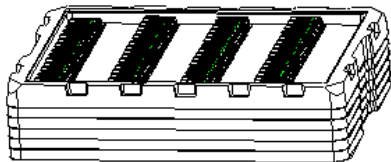
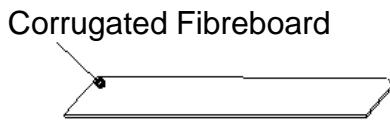


## 10. Packing Information

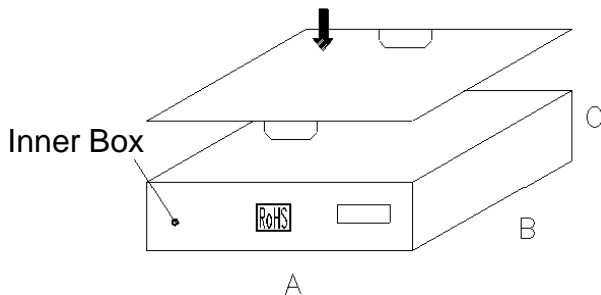
- 1 Tray Package Q'ty : 120EA
- Tray Material : Antistatic PET or Antistatic PS
- 1 Tray Weight : 0.2kg  
(1 Module Weight :  $6.4 \pm 0.5g$ )



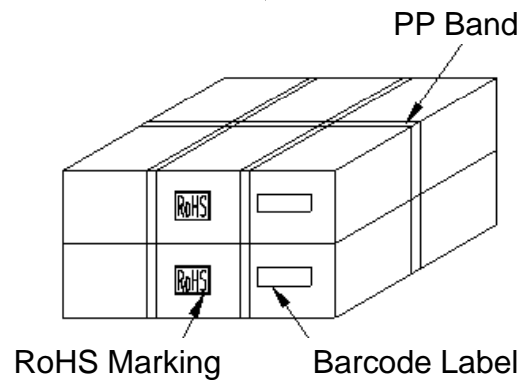
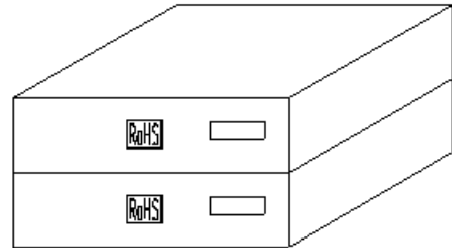
- Tray Stacking Q'ty : 6 Stack (Zigzag stack)



- 1 Box Package Q'ty : 720EA
- Box Size : A x B x C (512 x 377 x 121.5)
- Box Material : Corrugated Fibreboards
- 1 Box Packing Weight :  $6.3 \pm 0.4kg$

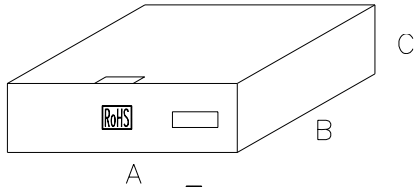


- Total Packing Q'ty : 1,440EA
- Total Packing Weight :  $12.6 \pm 0.8kg$

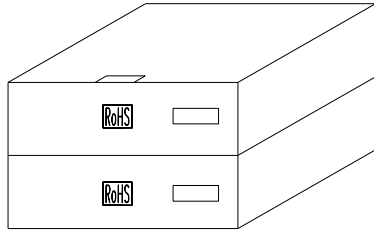


- RoHS Marking :  
Label, Stamp, Printing
- Marking Color :  
Gray or Red for Stamp, Label,  
Printing on the board and etc.  
Black only for Printing on Label.

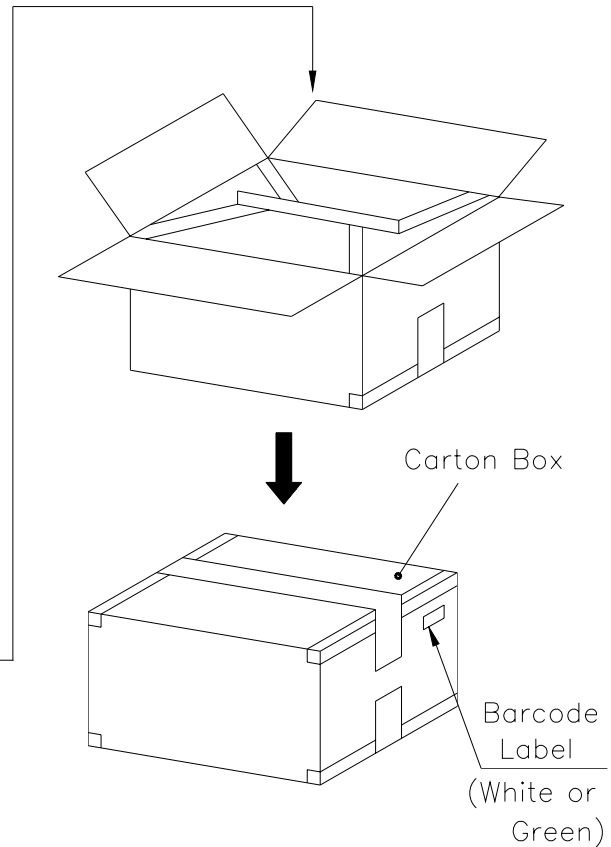
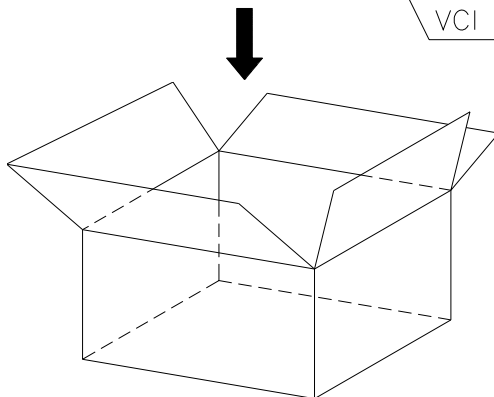
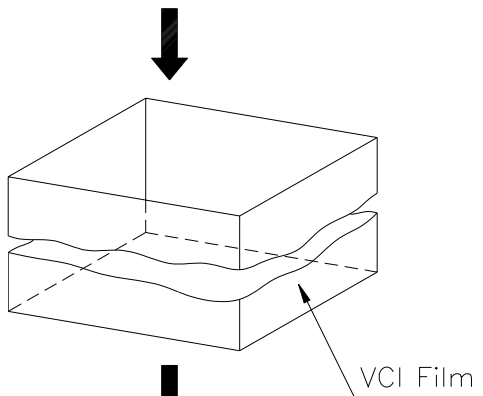
## 10. Packing Information



- o 1 Box Packing Q'ty : 720EA
- o Size : A X B X C  
(512 X 375 X 121.5)
- o 1 Box Packing Weight : 6.3kg±0.4kg



- o Box Material : Corrugated Fibreboards
- o Total Packing Q'TY : 1,440EA
- o Size : 517 x 380 x 248
- o Total Packing Weight : 13.3±1.0kg



## **FCC (Regulatory information/warning)**

### **§15.19**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### **§15.21**

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

### **§15.105**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### **§2.1091**

The antenna(s) must be installed such that a minimum separation distance of at least 20 cm is maintained between the radiator (antenna) and all persons at all times. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

## **IC (Regulatory information/warning)**

### **RSS-GEN Section 7.1.3**

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

*Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

### **RSS-102 RF Exposure**

*L'antenne (ou les antennes) doit être installée de façon à maintenir à tout instant une distance minimum de au moins 20 cm entre la source de radiation (l'antenne) et toute personne physique. Cet appareil ne doit pas être installé ou utilisé en conjonction avec une autre antenne ou émetteur.*