

# USER MANUAL

**PRODUCT NAME : 802.11a/b/g/n/ac + Bluetooth 4.1 Combo Module**

**MODEL NAME : TWCM-K007D**

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			DOCUMENT No.	
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## 1. Features

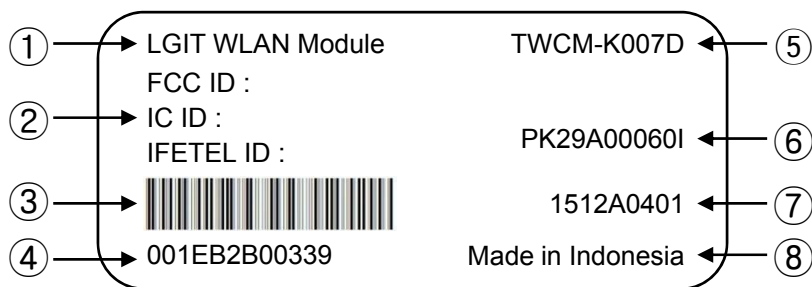
TWCM-K007D is the module for IEEE 802.11a/b/g/n/ac wireless LAN & Bluetooth4.1.  
TWCM-K007D is based on MeidaTek MT7662U solution.

- IEEE 802.11 a/b/g/n/ac Dual Band WLAN infrastructure
- Bluetooth 4.1 + HS
- Size : 40mm x 46.5mm x 8.25mm
- 2.4GHz and 5GHz, internal PA and LNA
- Dual-band 2T2R mode with data rate up to 300Mbps
- Wake on WLAN and Bluetooth
- Two Metal Press antenna for WLAN and One External antenna for Bluetooth
- Host interface : USB 2.0 (WLAN & Bluetooth)
- Security : WAPI, WEP, WPRA, WPA2, WMM, AES, TKIP, CKP
- Application: DTV, DVR, HD DVD Player, Blue-ray Disk Player, STB

## 2. Ordering Information

Model	Description
TWCM-K007D	802.11 a/b/g/n/ac + Bluetooth Combo, Dual Band 2T2R MIMO

## 3. Label Marking



- |                                  |  |
|----------------------------------|--|
| ① Product Information            | ⑦ Product Lot No. : 1512A0401                                |
| ② Regulatory ID(FCC, IC, IFETEL) | - 15 : Year                      - 04 : Date                 |
| ③ MAC Address BAR Code           | - 12: Month                      - 01 : Manufactured Process |
| ④ MAC Address No                 | - A : Revision No  |
| ⑤ LGIT Model No                  | ⑧ Production Factory   |
| ⑥ Customer Model No              |  |

#### 4. Absolute Maximum Ratings

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

**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.

. 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.

## 5. Operating Conditions

Parameter	Min	Typ	Max	Unit
Ambient Temperature	0	-	+60	°C
Ambient Humidity (40°C)	-	-	85	%
Supply Voltage	4.75	5.0	5.25	Vdc

## 6. Standard Test Conditions

The Test for electrical specification shall be performed under the following condition  
Otherwise this following conditions, not guaranteed this performance.

### 6-1. Ambient condition

Temperature	25 ± 5°C
Humidity	65 ± 5%

### 6-2. Power supply voltages

Input power	Supply Voltage
+5.0V	+5.0V ± 0.25V(5%)

### 6-3. Current consumption

Current Consumption	Min	Typ	Max	Unit
TX Mode (11ac, HT80)	-	-	930	mA
RX Mode(11ac, HT80)	-	-	400	
Bluetooth TX Mode	-	-	70	

## 7. Mechanical Characteristics

### 7-1. Outline view

Item	Test Conditions
Assembly	No defects of wiring, soldering and assembling
Appearance	No dirt, rust, corrosion or foreign material

### 7-2. Appearance structure

Item	Test Conditions
Dimension	As assembly drawing
Mounting	As assembly drawing
Weight	9.5 ± 0.5g (with BT Ext. Antenna)

## 8. Software Programming

### 1) Windows Utility

Execute the released windows utility installer.

(1) Run RaUI.exe



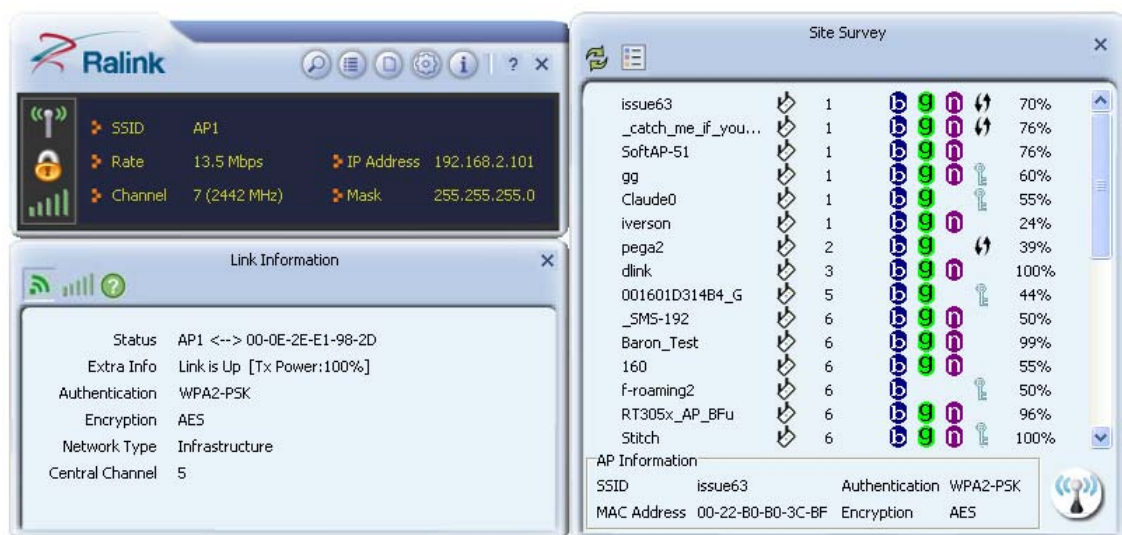
< Fig A.1 RaUI icon >

(2) RaUI can co-exist with WZC. When coexisting with WZC, RaUI only provides monitoring functions, such as surveying the link status, network status, static counters, advanced features status, WMM status and WPS status.



< Fig A.2 Select WZC and RaUI >

(3) When starting RaUI, the system will connect to the AP with best signal strength without setting a profile or matching a profile setting. It will issue a scan command to a wireless NIC. After two seconds, the AP list will be updated with the results of a BSS list scan.



< Fig A.3 RaUI section introduction >


(4) Button section.


- Site survey, Link information, Profile, Advanced, Information, About page.
- Help page.




< Fig A.4 Button section >

(5) When starting RaUI, a small Ralink icon appears in the notifications area of the taskbar, as shown in <Fig A.5>.

 : Indicates the connected and signal strength is good.

 : Indicates the connected and signal strength is normal.

 : Indicates that it is not yet connected.

 : Indicates that a wireless NIC can not be detected.

 : Indicates that the connection and signal strength is weak.

< Fig A.5 Ralink icon in system tray >

\* Please refer to the help page in detail usage manual.

## 2) Linux Device Driver

Before compiling the driver, you should change make file or makefile.inc to meet your target platform.

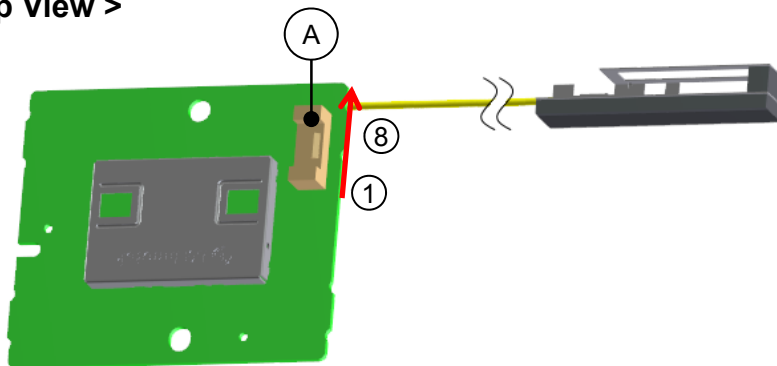
\* Please refer to the release note in detail.



## 9. Pin Description

No.	Name	I/O	Description
1	VDD	I	VDD 5.0V
2	USB_DN	I/O	USB Communication signal USB_DN
3	USB_DP	I/O	USB Communication signal USB_DP
4	GND	-	GND
5	WoWLAN	O	Wake on Wireless LAN
6	GND	-	GND
7	BT_WAKE_HOST	O	Bluetooth wake-up signal
8	Reset	I	Reset controlled by main SOC

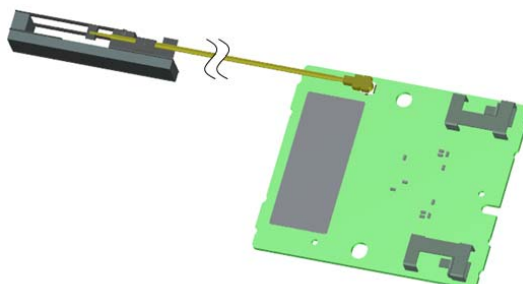
### < Top View >



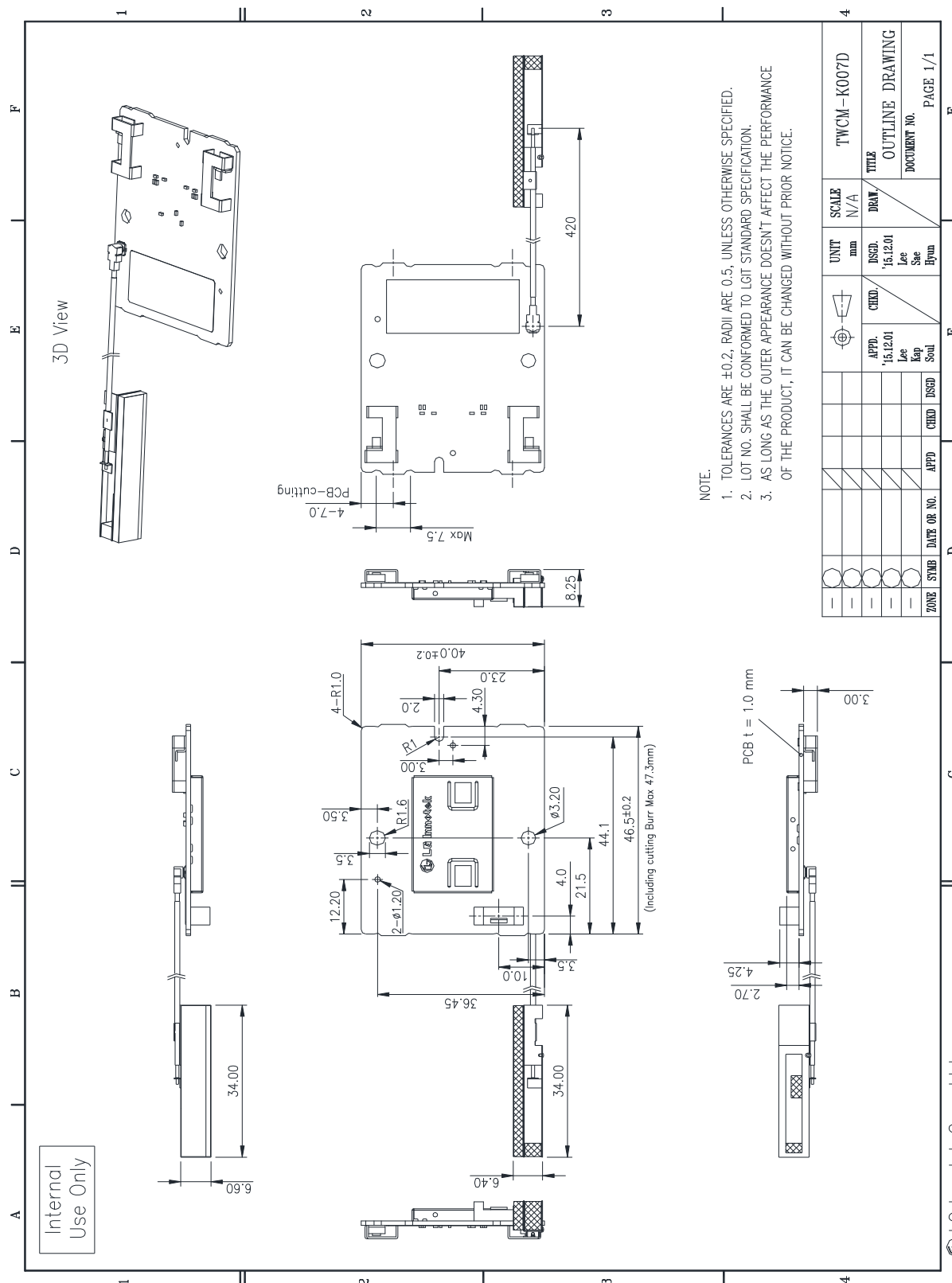
#### Note.

- 1) Recommend a Module install sequence for prevent USB device failure
  - Supply 5.0V power
  - Connect to data signal (USB\_DP, USB\_DN)
- 2) Connector (A) : Connector 12532WR-H08C

### < Bottom View >



## 10. Outline Drawing



NOTE.

1. TOLERANCES ARE  $\pm 0.2$ , RADII ARE 0.5, UNLESS OTHERWISE SPECIFIED.
2. LOT NO. SHALL BE CONFORMED TO LGIT STANDARD SPECIFICATION.
3. AS LONG AS THE OUTER APPEARANCE DOESN'T AFFECT THE PERFORMANCE OF THE PRODUCT, IT CAN BE CHANGED WITHOUT PRIOR NOTICE.

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REV.NO :

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**FCC Information**

This device complies with part 15 of the FCC Results. Operation is subject to the following two conditions :

- (1) This device may not cause harmful interface, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for CLASS B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. 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 correct the interference by one or more of the following measures:

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

**WARNING**

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

**Information for OEM Integrator**

This device is intended only for OEM integrators under the following conditions:

- 1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and
- 2) The transmitter module may not be co-located with any other transmitter or antenna.

**End product labelling**

The label for end product must include "Contains FCC ID: YZP-TWCMK007D".

"CAUTION : Exposure to Radio Frequency Radiation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment must be installed and operated with minimum distance of 20cm between the radiator and your body. This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users."