

User Manual

PRODUCT NAME : 1T1R Wi-Fi Module

MODEL NAME : TWFM-K301D

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.

Table of Contents

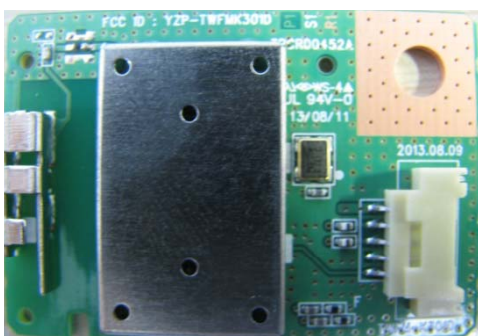
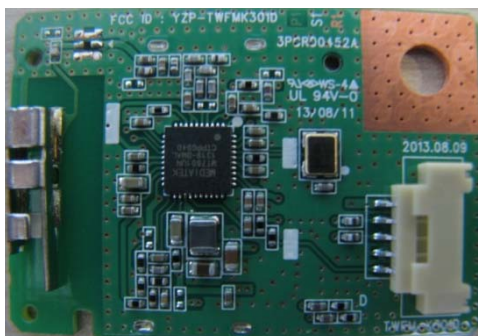
No.	Description	Page
1	Features	2
2	Module Photo	2
3	Block Diagram	3
4	Storage Conditions	4
4	Operating Conditions	4
5	Software Programming	5
6	Pin Description	7
7	Outline Drawing	8
8	Packing Information	9

1. Features

TWFM-K301D is the small size and low power module for IEEE 802.11b/g/n wireless LAN. TWFM-K301D is based on Meatek MT7601U solution.

- IEEE 802.11 b/g/n Single Band WLAN infrastructure
- Size : 38mm x 26mm x 4mm
- Auto-calibration
- 1T1R mode with 150Mbps PHY rate
- Internal ANT : EPA(Embedded and Press Antenna)
- USB 2.0
- Supports drivers for Windows 7, Vista, XP, 2000 and Linux
- Security : WFA, WPA, WPA2, WPS2.0, WAPI
- Application : DTV, DVR, HD DVD Player, Blue-ray Disk Player, STB

2. Module Photo



3. Block Diagram

Confidential

4. Storage Conditions

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
Operating Temperature	0	-	+50	°C
Operating Humidity (40°C)	-	-	85	%
Supply Voltage	3.15	3.3	3.45	Vdc

6. Software Programming

1) Windows Utility

Execute the released windows utility installer.

(1) Run RaUI.exe



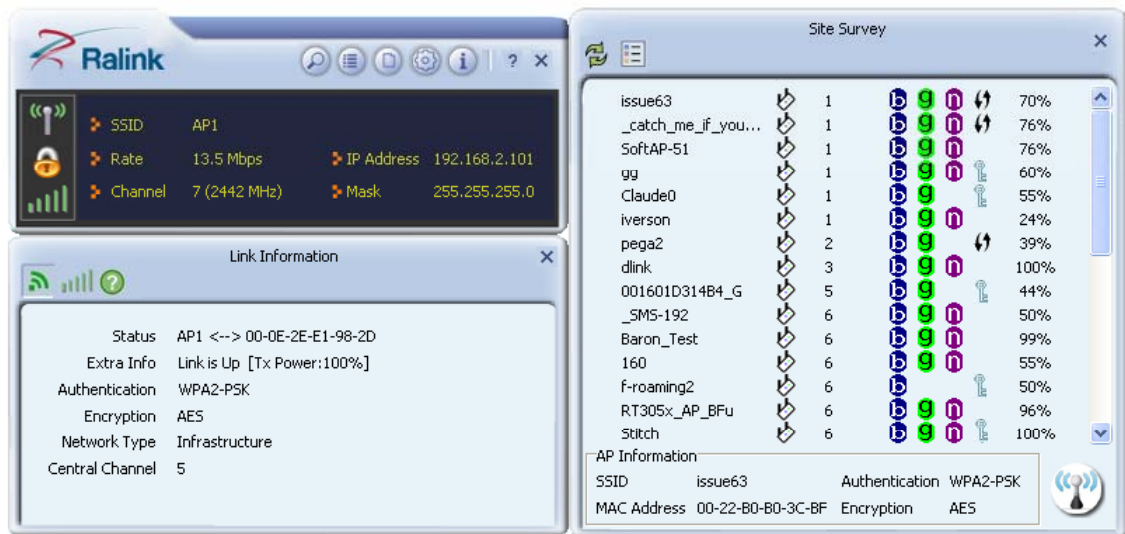
< Fig A.1 RaUI icon >

(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

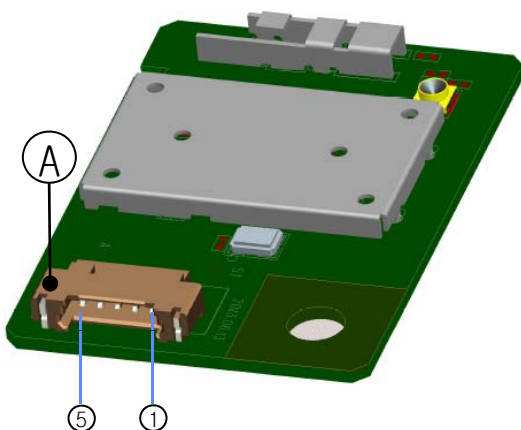
Before compiling the driver, you should change make file or makefile.inc to meet your target platform.

* Please refer to the release note in detail.

7. Pin Description

Pin No.	Pin Name	I/O	Pin Description
1	VDD	I	VDD 3.3V
2	USB_DN	I/O	USB Communication signal USB_DN
3	USB_DP	I/O	USB Communication signal USB_DP
4	GND	-	GND
5	GPIO	O	Wi-Fi IC reset controlled by TV main chip

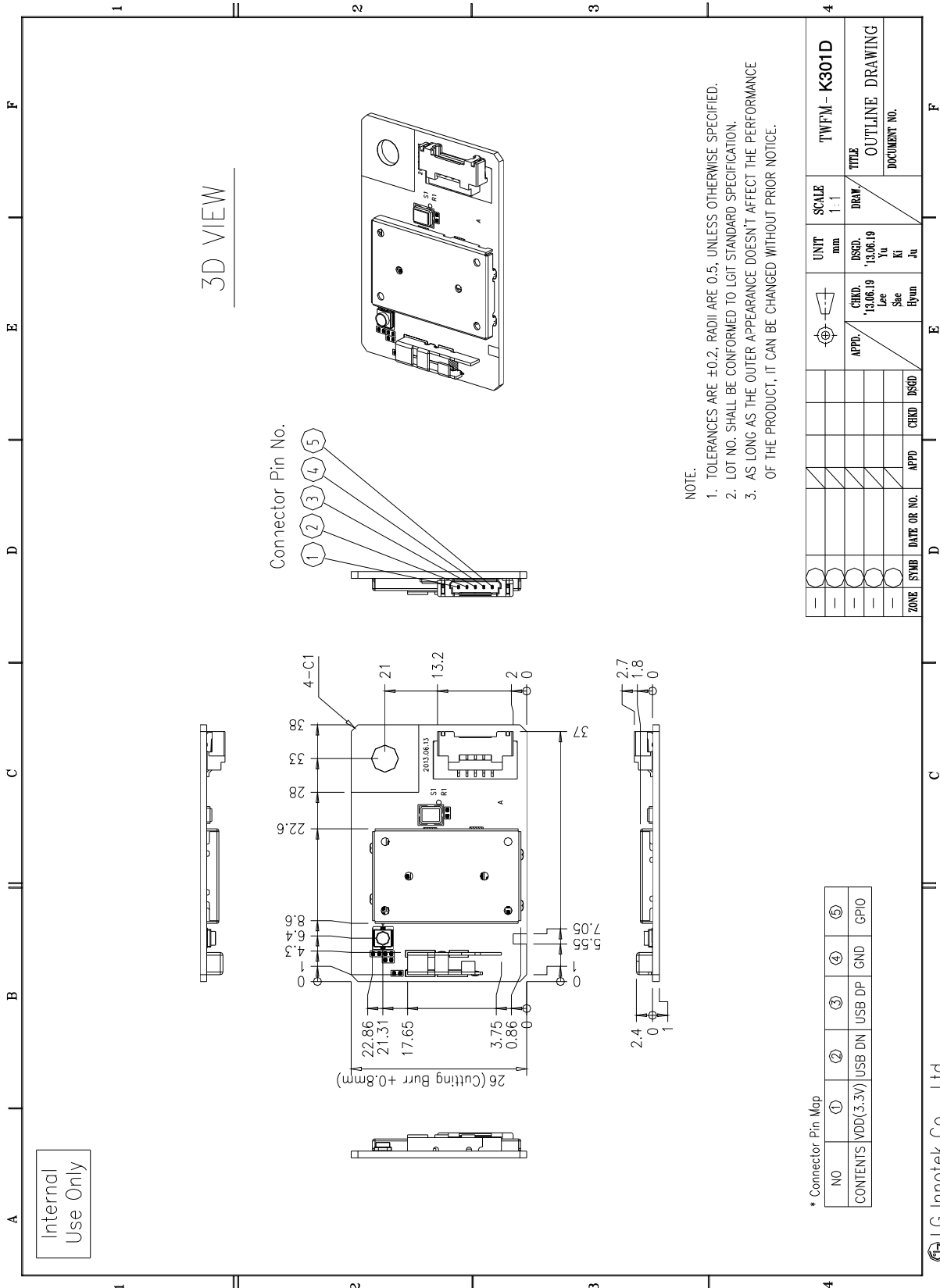
< TOP View >



Note.

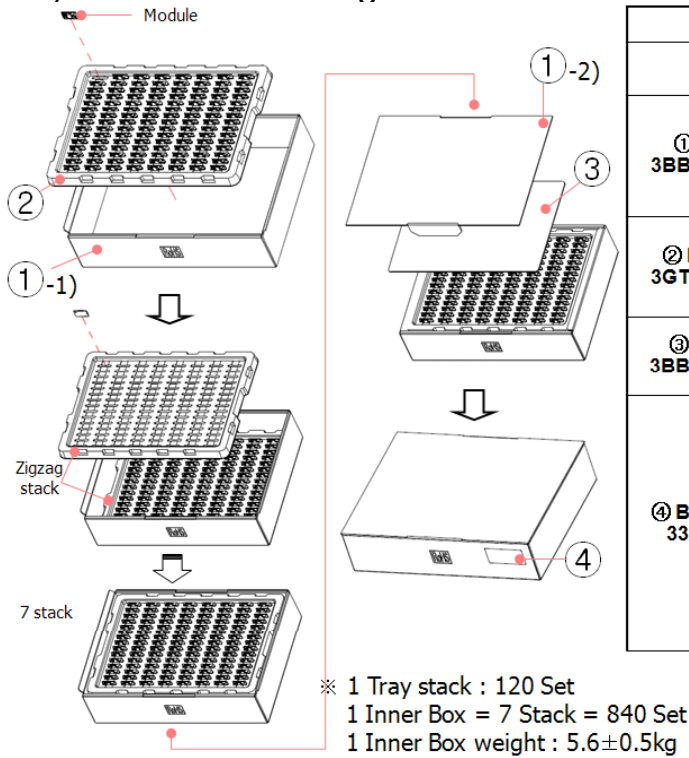
- 1) Recommend a Module install sequence for prevent USB device failure
 - Supply 3.3V power
 - Connect to data signal (USB_DP, USB_DN)
- 2) If remove the module, proceed in reverses sequence
- 3) Connector (A) : 12507WR-05L (YEONHO ELECTRONICS CO., LTD.)

8. Outline Drawing



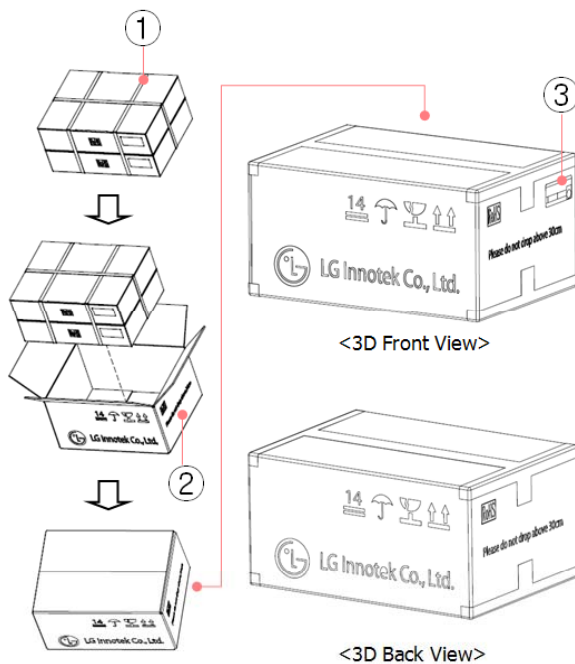
9. Packing Information

1) Inner Box Packing



PART	SPEC.
Product	1. Wi-Fi Module : 4.75±0.4[g]
① Inner Box 3BBCAD0113A-R	1. Part List 1) Body : CORRUGATED PAPER 3T 2) Cap : CORRUGATED PAPER 3T 2. Size : 512 x 378 x 121.5 [mm] 3. Weight : 480g
② Bundle Tray 3GTEEC0039A-H	1. Material : Antistatic PS 1.0T 2. Color : White 3. Size : 503 x 355 x 27 [mm] 4. Weight : 155g
③ Tray paper 3BBCAD0140A-H	1. Material : CORRUGATED PAPER 2. Size : 444 x 313 x 3 [mm] 3. Weight : 80g
④ Barcode Label 3320KP0053A	1. Material : Art Paper 2. Size : 100 x 46 [mm] 3. Color : white (Text : Black)

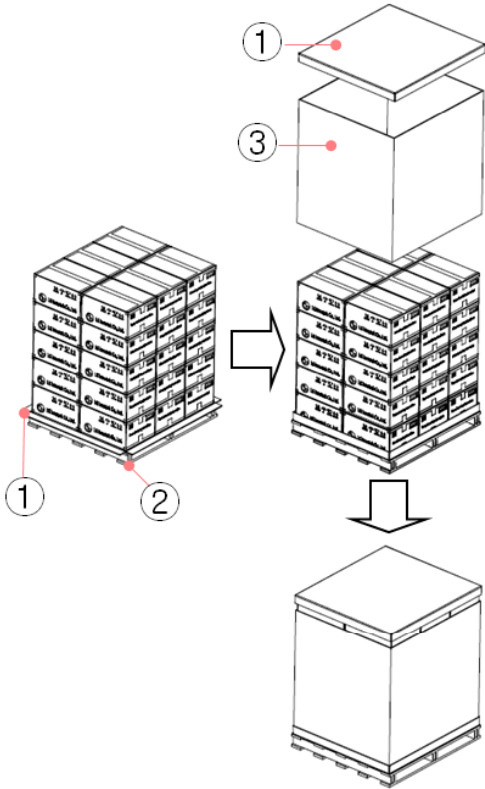
2) Carton Box Packing



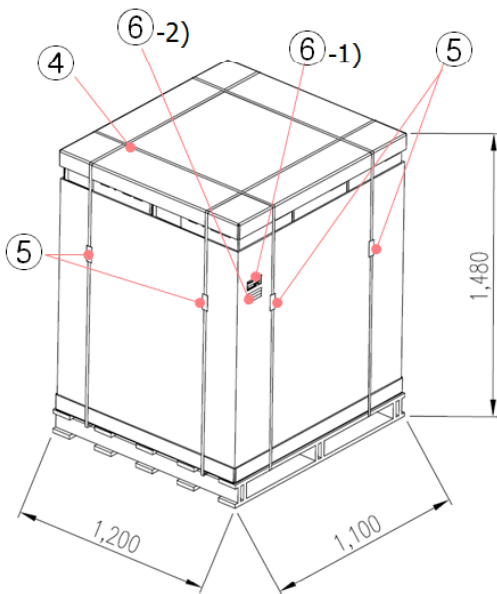
※ 1 Carton = 2 Inner Box = 1,680EA
1 Carton Packing Weight : 12.0±1.0kg

PART	SPEC.
① PP Band 3340KB0001A	1. Material : PP 2. Size : 15mm 3. Color : Yellow
② Carton Box 3300KC0090D	1. Material : CORRUGATED PAPER, 5T 2. Size : 514 x 397 x 268 [mm] 3. Weight : 0.7kg
③ Barcode Label 3320KP0053A	1. Material : Art Paper 2. Size : 100 x 46 [mm] 3. Color : white (Text : Black)

3) Pallet Packing



PART	SPEC.
① Cap Box 3300KC0348B	1. Material : Paper (BA Flute Double-wall) 2. Size : 8T 3. Weight : 1.5kg
② Pallet 1) 3390KZ0073C 2) 3ZDNB00025A-R	1. Material & Weight 1) Steel 10.3kg 2) Ply Wood 12.5kg 2. Size : 1100 x 1200 x 120 [mm]
③ Shipping Box 3300KC0348A	1. Material : Paper (BA Flute Double-wall) 2. Size : 8T 3. Weight : 6kg



1 Pallet = 6x5 = 30 Carton
 = 1,680 Module x 30 = 50,400 Module
 ※ 1 Pallet Packing Weight : 382±30 kg

PART	SPEC.						
④ PP Band 3340KB0001A	1. Material : PP 2. Size : 15mm 3. Color : Yellow						
⑤ Clip 3220KC0004A	1. Material : Steel						
⑥ Barcode Label 3320KP0053A	1. Material : Art Paper 2. Size : 100 x 46 (mm) 3. Color : white (Text : Black) 4. Print 1) for Barcode 2) for Ship Information <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Destination</td> <td>TPV</td> </tr> <tr> <td>No./Total No.</td> <td>Pallet No : 1/3</td> </tr> <tr> <td>Country of Orizin</td> <td>MADE IN INDONESIA</td> </tr> </table>	Destination	TPV	No./Total No.	Pallet No : 1/3	Country of Orizin	MADE IN INDONESIA
Destination	TPV						
No./Total No.	Pallet No : 1/3						
Country of Orizin	MADE IN INDONESIA						

User Information

This satisfy FCC exterior labeling requirements, the following test must be placed on the exterior of the end product.
Contains Transmitter module FCC ID: **YZP-TWFMK301D**

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. This device should be installed and operated with minimum distance 20cm between the radiating element of this device and the user. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

This device is intended only for OEM integrators and following statements shall be included to host user manual

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

As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any

additional compliance requirements with this module installed. In the event that these conditions cannot be met, then the FCC authorizations are no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product including this module and obtaining separate FCC authorizations.

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 technical for help.
- 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 technical for help.

This device complies with Part 15 of the FCC`s 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 undesirable operation.

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made