

USER MANUAL

PRODUCT NAME : Single Band 1T1R Wi-Fi Module

MODEL NAME : TWFM-K311D

This module is using VIZIO's MAC address provided by TPV

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			Document No.	
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1. Features

TWFM-K311D is the module for IEEE 802.11b/g/n wireless LAN.

TWFM-K311D is based on MTK MT7601U solution.

- IEEE 802.11 b/g/n single band WLAN infrastructure
- Size : 38.0mm x 26.0mm x 3.8mm
- External Antenna
- Auto-calibration
- 1T1R mode with 150Mbps PHY rate
- USB 2.0 interface
- 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. Ordering Information

Model	Description
TWFM-K311D	Wi-Fi Module, Single Band , 1T1R

3. Label Marking(IC)



- | | |
|--|----------------------------------|
| ① Customer P/N | ④ Product Lot No. : 1512A0401 |
| ② MAC Address BAR Code | - 15 : Year - 04 : Date |
| ③ LGIT Model No. | - 12 : Month - 01 : Manufactured |
| | - Revision No. : A Process |
| ⑤ IC ID(7414C-TWFMK301D) | ⑥ IFETEL ID(RCPLGTW14-1843) |
| ⑦ MAC Address will be applied which TPV provided | |

4. Storage Test Conditions

Parameter	Min	Max	Unit
Storage temperature	-20	+80	°C
Storage humidity (@ 40°C)	-	90	%

Caution : The specifications above 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 Test Conditions

Parameter	Min	Typ	Max	Unit
Operating temperature	0	-	+50	°C
Operating 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	$25 \pm 5^{\circ}\text{C}$
Humidity	$65 \pm 5\%$

6-2. Power supply voltages

Input power	Supply Voltage
+5V	$+5.0\text{V} \pm 0.25\text{V}(5\%)$

6-3. Current consumption

Current consumption	Min.	Typ.	Max.	Unit
TX Mode (MCS7 HT40)	-	210	320	mA
RX Mode (MCS7 HT40)	-	151	220	
Sleep mode	-	1.1	20	

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7. Mechanical Characteristics

8-1. Outline view

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

8-2. Appearance structure

Item	Test conditions
Dimension	As assembly drawing
Mounting	As assembly drawing
Weight	Approximately $5.88 \pm 0.6g$

8. Software Programming

1) Windows Utility

Execute the released windows utility installer.

(1) Run RaUI.exe



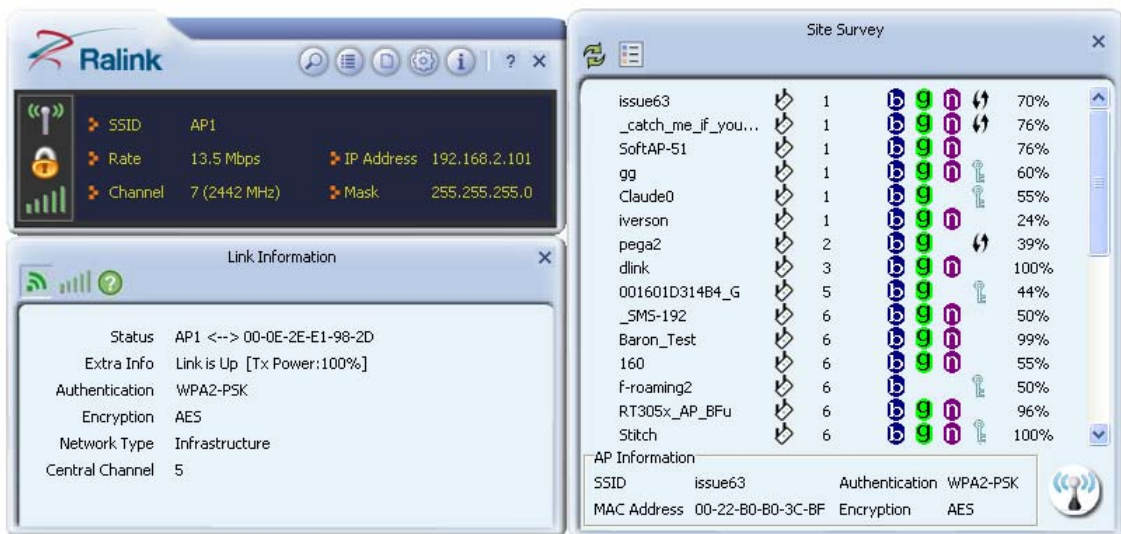
< Fig A.1 RaUI icon >

(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

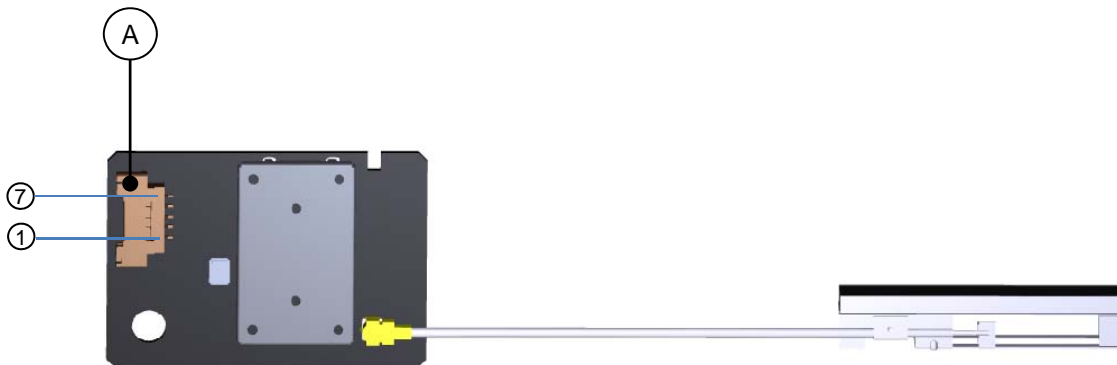
Before compiling the driver, you should change make file or makefile.inc to meet your target platform.

* Please refer to the release note in detail.

9. Pin Description

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

< TOP View >



Note.

- 1) Recommend module install sequence for preventing USB device failure
 - 1st step : Supply +5V power
 - 2nd step : Connect to data signal (USB_DP, USB_DN)
- 2) Connector : A

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10. Outline Drawing

3D VIEW(2:1)

ITEM NO.

1 2 3 4

Connector Pin No. ① ② ③ ④ ⑤ ⑥ ⑦

Dimensions: 34, 22.5, 28, 33, 38, 26, 21, 14.6, 0.45, 36.5, 3, 0.86, 22.96, 22.86, 14.70, 0.8, 2.7, 0.8

(Cutting Burr + 0.8mm)

NOTE:

1. TOLERANCES REFER TO THE LOWER END OF LEFT TABLE 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.

ITEM NO.	DESCRIPTION	QTY	UNIT
G	Label White Ploy (17x3mm)		
F	HFF Connector Receptacle	20279-00IE-01	
E	Double Coated Taper Cushion	9475LEB 01t	
D	Double Coated Taper(release paper) -2Bx5.6x11.4x0.1+0.1T(4.05T)	GmInnotek	GMC 400R
C	Double Coated Taper(release paper) -Conductive Sponge L3x4x0.6x0.2		
B	Double Coated Taper(release paper) -Conductive Sponge L3x4x0.6x0.2		
A	11.9mm Coaxial Cable	Young Cheng Silicone	SV-113# -B-C
	Metal Antenna(SUS301 0.2T)		
	Shield Can(Tin Plate 0.3T)		

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SCALE	UNIT	TITLE
1:1	mm	Outline Drawing
DRAWN Lee S. H.		
CHECKED Yu K. J.		
APPROVED Lee K. S.		
DATE 2015.10.26		
DRAWN 2015.10.26		
CHECKED 2015.10.26		
APPROVED 2015.10.26		

QUANTITY

RELATED P/N

CHANGE CONTENTS

ISSUE NO.

DATE

SIGNATURE

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11. Warning

FCC

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

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 device 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.

This device complies with FCC/IC 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.

To 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**

IC

This device complies with Industry Canada license-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.

The host device must be labeled to display the Industry Canada certification number of the module.

Contains transmitter module IC: **7414C-TWFMK301D**

Le dispositif d'accueil doit être étiqueté pour afficher le numéro de certification d'Industrie Canada du module. Contient module émetteur IC : **7414C-TWFMK301D**

This radio transmitter has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Cet émetteur radio a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous avec le gain maximal admissible indiqué. Les types d'antennes ne figurant pas dans cette liste, ayant un gain supérieur au gain maximum indiqué pour ce type, sont strictement interdits pour une utilisation avec cet appareil.