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User Guide 

emwicon WMU7212 Series Wi-Fi 802.11ax integrated Bluetooth 5.2 Module User Guide



**WMU7212 / WMU7213 / WMU7214
WMU7215 / WMU7216 / WMU7217**

User Guide

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Product Overview

The devices Wi-Fi 802.11ax integrated Bluetooth 5.2 Module contain a Realtek chip for Wireless LAN applications.

key security features like Wi-Fi Protected Access IEEE 802.11i (WPA, WPA2, WPA3)

Typical application of the card is integration into other wireless products such as AP/ Router

which is used distance 20 cm away human body.

Packaging Contents

The package contains the following item(s):

1 x Wi-Fi 802.11ax integrated Bluetooth 5.2 Module

FCC / IC ID

FCC ID : 2A3G3-WMU721X

Installation guide

- Shut down the power of the platform
- Align the Wi-Fi 802.11ax integrated Bluetooth 5.2 Module with the M.2 E(2230) or Mini PCIe or USB Type-A Type socket on the platform
- Adjust and push down the Wi-Fi module gently until the metal locking levers on the M.2 E(2230) or Mini PCIe or USB Type-A type socket is latched. (Please take note that the Wi-Fi Module can only fit in one direction due to the keyed notch. Wrong orientation will cause improper installation and may damage the socket)

- Connect the antenna(s) on the Wi-Fi Module
(Connector: Reverse I-PEX MHF1 or 4 PLUG)
- Reboot on the platform
- Install drivers if necessary

Frequency

2402 ~ 2480 MHz

5150 ~ 5850 MHz

5850 ~ 5895 MHz

5925 ~ 7125 MHz

** WLAN 5G statement “5GHz band (W52,W53): Indoor use only

** (For wifi 6E) 5GHz band (W52,W53) and 6GHz band (LPI): Indoor use only

Antennas

The following antennas have been certified for use with this module; antennas of the same type with equal or lower gain may also be used with this module. The antenna must be installed such that 20 cm can be maintained between the antenna and users.

- Dipole Antenna Model :

1. RFA-27-H60-B-C1035-1
2. RFA-27-H60-B-C1035-4
3. RFA-27-C2-B-C1035-1
4. RFA-27-C2-B-C1035-4
5. RFA-27-C55-U-B70-1
6. RFA-27-C55-U-B70-4
7. RFA-27-AP152R-C1035
8. RFA-27-AP152R4BC1035
9. ADT7352
10. RFA-27-JP326-C1035
11. RFA-27-JP326-4BC1035

- PCB Antenna Model :

Federal Communication Commission Interference Statement

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.

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 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.

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

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Operations in the 5.15-5.25GHz band are restricted to indoor usage only.

This device meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

Transmitters in the 5.925-7.125 GHz band are prohibited from operating to control or

communicate with unmanned aircraft systems.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This module is intended for OEM integrators only. Per FCC KDB 996369 D03 OEM Manual v01 guidance, the following conditions must be strictly followed when using this certified module:

KDB 996369 D03 OEM Manual v01 rule sections:

2.2 List of applicable FCC rules

This module has been tested for compliance to FCC Part 15

2.3 Summarize the specific operational use conditions

The module is tested for standalone mobile RF exposure use condition. Any other usage conditions such as co-location with other transmitter(s) or being used in a portable condition will need a separate reassessment through a class II permissive change application or new certification.

2.4 Limited module procedures

Not applicable.

2.5 Trace antenna designs

Not applicable.

2.6 RF exposure considerations

This equipment complies with FCC mobile radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. If the module is installed in a portable host, a separate SAR evaluation is required to confirm compliance with relevant FCC portable RF exposure rules.

2.7 Label and compliance information

The final end product must be labeled in a visible area with the following: “Contains FCC ID: **2A3G3-WMU721X**”. The grantee’s FCC ID can be used only when all FCC compliance requirements are met.

2.8 Information on test modes and additional testing requirements

This transmitter is tested in a standalone mobile RF exposure condition and any co-located or simultaneous transmission with other transmitter(s) or portable use will require a separate class II permissive change re-evaluation or new certification.

2.9 Additional testing, Part 15 Subpart B disclaimer

This transmitter module is tested as a subsystem and its certification does not cover the FCC Part 15 Subpart B (unintentional radiator) rule requirement applicable to the final host. The final host will still need to be reassessed for compliance to this portion of rule requirements if applicable.

As long as all 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 required with this module installed.

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

Manual Information To the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user’s manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.


OEM/Host manufacturer responsibilities

OEM/Host manufacturers are ultimately responsible for the compliance of the Host and Module. The final product must be reassessed against all the essential requirements of

the FCC rule such as FCC Part 15 Subpart B before it can be placed on the US market. This includes reassessing the transmitter module for compliance with the Radio and EMF essential requirements of the FCC rules. This module must not be incorporated into any other device or system without retesting for compliance as multi-radio and combined equipment.

Prohibited for control of or communications with unmanned aircraft systems, including drones.

Documents / Resources

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References

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5.2 Module, Bluetooth 5.2 Module, emwicon, integrated Bluetooth 5.2 Module, Wi-Fi 802.11ax integrated Bluetooth 5.2 Module, WMU7212, WMU7212 Series, WMU7212 Series Wi-Fi 802.11ax integrated Bluetooth 5.2 Module, WMU7213, WMU7214, WMU7215, WMU7216, WMU7217

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