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## EW5270UM – 802.11ac/b/g/n USB Module Manual

### 1. Product Overview

The EW5270UM is a USB Module that contains the Realtek RTL8812AU chipset for IEEE 802.11ac/b/g/n wireless LAN applications. This USB Module supports key security features like WEP, Wi-Fi Protected Access (WPA), WPA2, TKIP, and AES.

Typical applications of the module is integration into other electronic products to provide wireless communication capability where used distance is 20cm away from the human body.

### Product Specification

Wireless Technology	802.11ac/b/g/n 2x2 MIMO
Wireless Chipset	Realtek RTL8812AU
Bus Interface	USB
Form Factor	USB module
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: up to 300Mbps 802.11ac: up to 867Mbps
Security	WEP, Wi-Fi Protected Access (WPA), WPA2, TKIP, and AES
Frequency	2.412 - 2.484GHz(Subject to Local Regulations) 5.15 - 5.35 GHz, 5.47 - 5.825 GHz
Modulation	802.11b: DSSS(DBPSK, DQPSK, CCK) 802.11a/g: OFDM(BPSK, QPSK, 16-QAM, 64-QAM) 802.11n: OFDM(BPSK, QPSK, 16-QAM, 64-QAM) 802.11ac: OFDM(BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)
Transmit Power	802.11a/g: 14 ± 1.5dBm@54Mbps 802.11b: 17 ± 1.5dBm@11Mbps 802.11gn HT20: 14 ± 1.5dBm@MCS7 802.11gn HT40: 14 ± 1.5dBm@MCS7 802.11an HT20: 14 ± 1.5dBm@MCS7 802.11an HT40: 14 ± 1.5dBm@MCS7 802.11ac HT20: 12 ± 1.5dBm@MCS8 802.11ac HT40: 12 ± 1.5dBm@MCS9 802.11ac HT80: 12 ± 1.5dBm@MCS9
Receive Sensitivity	802.11b:-72dBm ± 2dBm@11Mbps 802.11a/g:-65dBm ± 2dBm@54Mbps 802.11n: -64dBm ± 2dBm @HT20 MCS7 802.11n: -61dBm ± 2dBm @HT40 MCS7 802.11ac: -57dBm ± 2dBm @HT20 MCS8 802.11ac: -54dBm ± 2dBm @HT40 MCS9



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	802.11ac: -51dBm $\pm$ 2dBm @HT80 MCS9
Power Consumption	Standby: 173mA / 5V (Max) Full load: 426mA / 5V (Max)
Dimensions	72.6 mm x 22.6 mm
Antenna Options	2 x U.FL
Software Support	Windows and Linux
Operating Temperature	0C $\sim$ +40C
Operating Humidity	20% to 90% Non-Condensing
Storage Temperature	-30C $\sim$ +70C
Storage Humidity	20% to 95%, Non-Condensing
Operating Voltage	5V $\pm$ 5%

## 2. Packaging Contents

The USB Module package contains the following item(s):

1 x wireless USB Module

## 3. Installation Guide

- Shut down the power of the platform
- Insert the USB module into an available USB Type A Jack
- Connect the antenna(s) on the USB module to the available antenna connectors
- Power on the platform
- Install drivers if necessary

## 4. FCC Interference Statement

This equipment has been tested and found to comply with 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 communication. 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.



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- Consult the dealer or an experienced radio/TV technician for help.

To comply with FCC part 15 rules in the United States, the system must be professionally installed to ensure compliance with the Part 15 certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States. The use of the system in any other combination (such as co-located antennas transmitting the same information) is expressly forbidden.

## 5. 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 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.

For product available in the USA/Canada market, only channel 1 ~ 11 can be operated. Selection of other channels is not possible.

This device and its antenna(s) must not be co-located or in operation in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

## 6. FCC 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.

## 7. Important Notes

This module is intended for OEM integrator. The OEM integrator is still responsible for the FCC compliance requirement of the end product, which integrates this module.

20cm minimum distance has to be able to be maintained between the antenna and the users for the host this module is integrated into. Under such configuration, the FCC radiation exposure limits set forth for a population/uncontrolled environment can be satisfied.



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Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment

Although the authorized antenna is a standard connector, there are authentication protocols and prevention error mechanism software in this module. Only the module authorized antenna could work together with module.

## **8. Label for end product must include**

This module is authorized only for use in device where antenna may be installed such that 20cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following:

"Contains FCC ID: xxx-xxxxxxx" or "A RF transmitter inside, "Contains FCC ID: xxx-xxxxxxx "

