REALTEK RTL8852BE Network Card Module User Manual

Contents

REALTEK RTL8852BE Network Card Module

ENVIRONMENTAL

Operating

- Operating Temperature: -20°C to +70 °C
- Relative Humidity: 5-90% (non-condensing)

Storage

- Temperature:-40°C to +80°C (non-operating)
- Relevant Humidity:5-95% (non-condensing)

MTBF calculation

Over 150,000hours

Warning

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

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. The product comply with the FCC portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.
The SAR test is according to KDB 616217 for test requirements."
The maximum output power is reduced by software to perform SAR evaluation as application.
The SAR evaluation is according to KDB 616217, and the module approach distance restriction is 5 mm for notebook, 10 mm for tablet.
When this module is installed into the host as portable configuration, only PIFA Antenna as described in this use manual is applicable. When other antenna type is used, it is required for a separate reassessment through a class II permissive change application or new certification
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:

1. **List of applicable FCC rules**

   This module has been tested for compliance to FCC Part 15
2. **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.
3. **Limited module procedures**

   Not applicable.
4. **Trace antenna designs**

   Not applicable.
5. **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.
6. **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.

tenna Spec (not for SAR) : *The following forms for modify *(Please note that Cable lose is included or not) -->						with cable	Including cable loss
Antenna Set	Model (NCC必填)	Antenna Net Gain(dBi)	Frequency range	Antenna Type	Connecter Type	*Cable Length	
1	RFA-27-JP326-MHF4300	3.5dBi	2.4~2.4835GHz	PIFA	i-pex(MHF)	300	
		5dBi	5.15~5.85GHz				
2	RFA-27-C38H1-MHF4300	3dBi	2.4~2.4835GHz	Dipole	i-pex(MHF)	300	
		5dBi	5.15~5.85GHz				

7. **Label and compliance information**

   The final end product must be labeled in a visible area with the following: “Contains FCC ID: TX2-RTL8852BE”. The grantee’s FCC ID can be used only when all FCC compliance requirements are met.

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.

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 shown 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

Industry Canada statement:

This device complies with ISED’s license-exempt RSS. 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.

Radiation Exposure Statement

The product comply with the Canada portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.

When this module is installed into the host as portable configuration, only PIFA Antenna as described in this use manual is applicable. When other antenna type is used, it is required for a separate reassessment through a class II permissive change application or new certification

This device is intended only for OEM integrators under the following conditions: (For module device use)

1. The antenna must be installed and operated with greater than 20cm between the antenna and users, and
2. The transmitter module may not be co-located with any other transmitter or antenna.
   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 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 Canada authorization is no longer considered valid and the IC 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 Canada authorization.
End Product Labeling
This transmitter module is authorized only for use in device where the antenna may be installed and operated with greater than 20cm between the antenna and users. The final end product must be labeled in a visible area with the following: “Contains IC: 6317A-RTL8852BE”.

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.
Caution :

1. the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;
2. for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit;
3. for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits as appropriate;
4. where applicable, antenna type(s), antenna models(s), and worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in section 6.2.2.3 shall be clearly indicated.

Japan Statement

Host system must be labeled with “Contains MIC ID:xxxxxx“, MIC ID displayed on label.
HK Statement
5.15 – 5.35 GHz shall be restricted to indoor operations.
This device complies with Directive 2014/53/EU and UK Radio Equipment Regulations 2017 SI 2017/1206. issued by the Commission of the European Community.
Declaration of Conformity

We, **Realtek Semiconductor Corp.**
(name of manufacturer or authorized representative)
Of **No. 2, Innovation Road II, Hsinchu Science Park, Hsinchu, Taiwan, 300**
(address)
declare under our sole responsibility that the product

Product Description: **11ax RTL8852BE Combo module**
Brand Name: **REALTEK**
Model No.: **RTL8852BE**
(detailed description of product including name, type, model and supplementary information such as lot, batch or serial number, sources and number of items)
to which this declaration relates, is conformity with the following relevant UK legislation, standards and/or other normative documents.

EN 300 328 V2.2.2 , EN 301 893 V2.1.1 , EN 300 440 V2.1.1

Draft EN 301 893 V2.1.44 ,

EN 62311:2008 , EN 50665:2017

EN 301 489-1 V2.2.3 , EN 301 489-17 V3.2.4

EN 55032:2015+A11:2020

IEC 62368-1:2018

We hereby declare that the above named product is conformity to all the essential requirements of the UK Radio Equipment Regulations 2017 SI 2017/1206.
The conformity assessment procedure under the provisions of Regulation 41 and Schedule 3 of the Radio Equipment Regulations 2017 (SI 2017/1206) has been followed with the involvement of the following Approved Body:

Timco Engineering, Inc.

and issued the UK-type examination certificate: (Cert. No.)

The accessories of this equipment which will be sold and used with the equipment together are listed at:

The software version of this equipment: N/A

Signed for and on behalf of:

Place of issue	**September 13, 2021** Date of issue	Judy Hsu / Engineer

The frequency and maximum transmitted power in EU are listed as belows,

EIRP Power	**For 2TX** **CDD Mode:** 2.4 GHz : 19.90 dBm 5.18 ~ 5.24 GHz : 22.77 dBm 5.26 ~ 5.32 GHz : 22.77 dBm 5.50 ~ 5.70 GHz : 22.87 dBm 5.745 ~ 5.825 GHz : 13.91 dBm **Beamforming Mode:** 2.4 GHz : 19.86 dBm 5.18 ~ 5.24 GHz : 22.75dBm 5.26 ~ 5.32 GHz : 22.74dBm 5.50 ~ 5.70 GHz : 22.86dBm 5.745 ~ 5.825 GHz : 13.79 dBm **For 1TX** 2.4 GHz : 19.90 dBm 5.18 ~ 5.24 GHz : 22.87 dBm 5.26 ~ 5.32 GHz : 22.88 dBm 5.50 ~ 5.70 GHz : 22.92 dBm 5.745 ~ 5.825 GHz : 13.90 dBm

For UK 5725~5825

EIRP Power (Measured Max. Average)	For 2TX CDD Mode: 28.96 dBm Beamforming Mode: 28.83 dBm For 1TX: 27.5 dBm

WLAN 5GHz:
Operations in the 5.15-5.35GHz band are restricted to indoor usage only.

Installing the Wireless PCIe NGFF2230 module

Hardware
Installing PCIe NGFF2230 module to PCIe NGFF2230 connector and connect two external Wi-Fi antennas on I-PEX connectors.

Un-installing the Wireless PCIe NGFF2230 module
Hardware
Remove 2 external Wi-Fi Antennas from the Wireless PCIe NGFF2230 module board and remove the Wireless PCIe NGFF2230 module board from PCIe NGFF2230 connector port

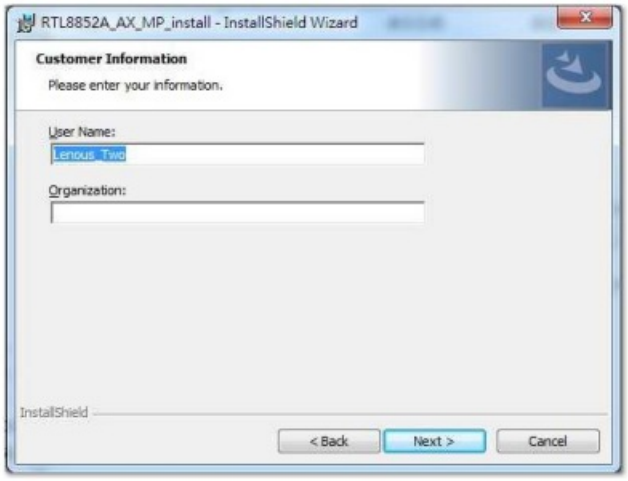
Installing the WLAN PCIe & Bluetooth USB NGFF2230 module Software

Before you proceed with the installation, please notice the following descriptions. Note1: The following installation was operated under Windows 7. Note2: If you have installed the WLAN driver & utility before, please uninstall the old version first.

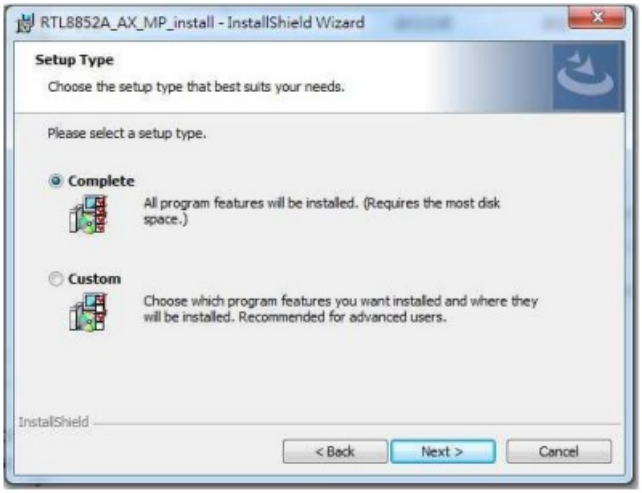
1. Execute the “setup.exe”, Click “Next” to process the installation
2.

select ”I accept the terms in the license agreement” and click “Next” to process the installation

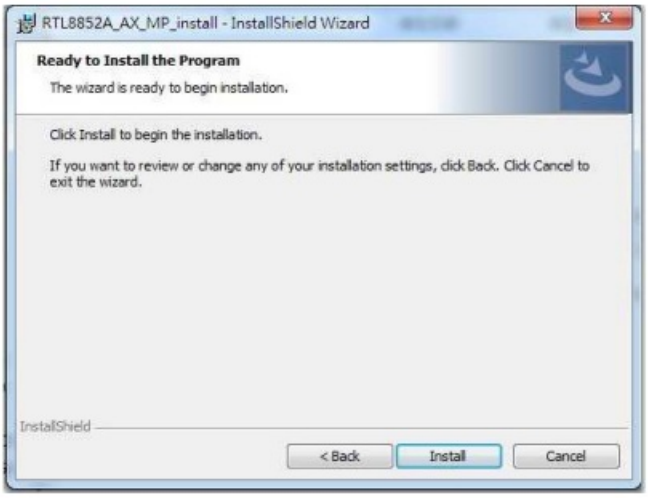
3. Click “Next” button.



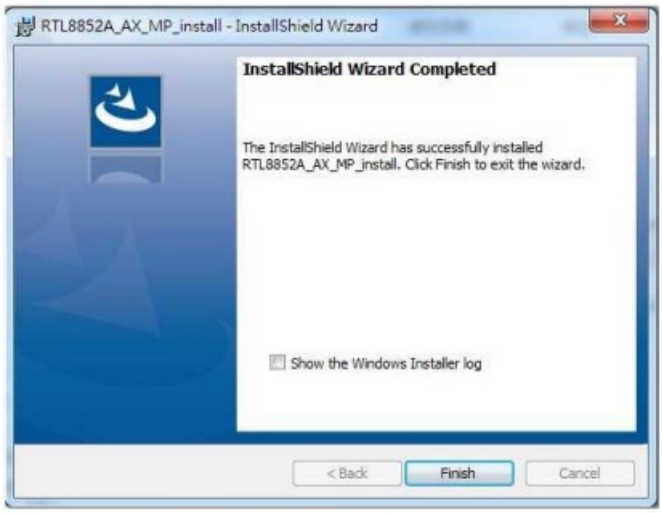
4. Select “Complete” and click “Next” button.



5. Click “Install” button.



6. Click “Finish” button.



Un-installing the Wireless PCIe NGFF2230 module
Software
Uninstall the RTL8852BE WLAN Driver from “Start”→ “Control Panel”→ “Programs”
Please select items as below and click “Uninstall” to remove RTL8852BE WLAN, BT driver and MP UI.

Documents / Resources

	REALTEK RTL8852BE Network Card Module [pdf] User Manual RTL8852BE, TX2-RTL8852BE, TX2RTL8852BE, Network Card Module, RTL8852BE Network Card Module

References

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