

PRO A320M-R WI-FI
PRO A320M-R WI-FI/CSM



Motherboard

E14981
First Edition
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Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Ensure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding components, carefully read all the manuals that came with the package.
- Before using the product, ensure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may be exposed to moisture.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

About this guide

This user guide contains the information you need when installing and configuring the motherboard.

How this guide is organized

This guide contains the following parts:

- **Chapter 1: Product introduction**
This chapter describes the features of the motherboard and the new technology it supports. It includes descriptions of the switches, jumpers, and connectors on the motherboard.
- **Chapter 2: BIOS information**
This chapter discusses changing system settings through the BIOS Setup menus.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. ASUS websites

The ASUS website provides updated information on ASUS hardware and software products. Refer to the ASUS contact information.

2. Optional documentation

Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

Conventions used in this guide

To ensure that you perform certain tasks properly, take note of the following symbols used throughout this manual.



DANGER/WARNING: Information to prevent injury to yourself when completing a task.



CAUTION: Information to prevent damage to the components when completing a task.



IMPORTANT: Instructions that you **MUST** follow to complete a task.



NOTE: Tips and additional information to help you complete a task.

Typography

Bold text

Indicates a menu or an item to select.

Italics

Used to emphasize a word or a phrase.

<Key>

Keys enclosed in the less-than and greater-than sign means that you must press the enclosed key.

Example: <Enter> means that you must press the Enter or Return key.

<Key1> + <Key2> + <Key3>

If you must press two or more keys simultaneously, the key names are linked with a plus sign (+).

Package contents

Check your motherboard package for the following items.

Motherboard	ASUS PRO A320M-R WI-FI motherboard
Cables	2 x Serial ATA 6.0 Gb/s cables
Accessories	1 x I/O shield 1 X ANTENNA 2.4/5G
Application DVD	1 x Support DVD
Documentation	1 x User Manual



If any of the above items is damaged or missing, contact your retailer.

PRO A320M-R WI-FI specifications summary

CPU	AM4 socket for AMD Ryzen™ / 7th Generation A-series / Athlon™ processors Supports CPU up to 8 cores* * For limited CPU only, refer to www.asus.com for the AMD CPU support list.
Chipset	AMD A320 chipset
Memory	AMD Ryzen™ processors: 2 x DIMMs, max. 32GB, DDR4 2933/2666/2400/2133 MHz, ECC and non-ECC, un-buffered memory AMD 7th Generation A-series / Athlon™ processors: 2 x DIMMs, max. 32GB, DDR4 2400/2133 MHz, non-ECC un-buffered memory Dual-channel memory architecture * Hyper DIMM support is subject to the physical characteristics of individual CPUs. * Refer to www.asus.com for the Memory QVL (Qualified Vendors List).
Graphics	Integrated AMD Radeon™ Vega Core R Series Graphics in the 7th Generation A-series APU Multi-VGA output support: HDMI, D-Sub, and DisPlay ports - Supports HDMI 1.4b output with a maximum resolution of 4096 x 2160 @24Hz - Supports D-Sub output with a maximum resolution of 1920 x 1200 @60Hz - Supports DisPlay output with a maximum resolution of 4096 x 2304 @60Hz - Maximum shared memory of 2048 MB
Expansion slots	1 x PCI Express 3.0/2.0 x16 slot* 1 x PCI Express 3.0/2.0 x1 slot * The working speed of the PCIe 3.0/2.0 x16 slot varies by CPUs. - AMD Ryzen™ 1st Generation processors: PCI Express 3.0/2.0 x16 slot - AMD Ryzen™ processors/ 7th Generation A-series/Athlon™ processors: PCI Express 3.0/2.0 x16 slot (max. @x8 mode) - AMD: PCIe 3.0/2.0 x16 (max. @ x4 mode)
LAN	Realtek® 8111H Gigabit LAN controller
Audio	Realtek® ALC 887-VD2 8-Channel High Definition Audio CODEC * Use a chassis with HD audio module in the front panel to support an 8-channel audio output.

(continued on the next page)

PRO A320M-R WI-FI specifications summary

Storage	AMD A320 Chipset - 4 x Serial ATA 6.0 Gb/s connectors with RAID 0, RAID 1 and RAID 10 support
USB	- 1 x USB 3.1 Gen 2 port (1 Type-C port at mid-board) - 6 x USB 3.1 Gen 1 ports (2 ports at mid-board, 4 ports at back panel) - 4 x USB 2.0/1.1 ports (4 ports at mid-board)
ASUS unique features	Bespoke Motherboard Design & Business Focused Features : - ASUS Self Recovering BIOS: Automatically recovers BIOS update once crash happens - ASUS Event Log: Records activities of system and provides information in BIOS - ASUS Commercial BIOS kit: Speeds up BIOS update solution by partial BIOS design - Anti-Moisture: Against moisture and corrosion — prolonging the life of your motherboard - -24/7 Reliability: Tested under temperature up to 45°C and humidity up to 80% to ensure handle diverse environment - -Overcurrent Protection: Short circuit prevention, protects your system Easy Assembly Design : - Fixed-position&Color-coded Connectors: Enable easy identification and cable-matching, speeding up the production line - Box Headers: USB headers are box style, enabling fast connector installation and preventing pin damage
Rear panel I/O ports	1 x PS/2 keyboard port (purple) 1 x PS/2 mouse port (green) 1 x HDMI port 1 x D-Sub port 1 x LAN (RJ-45) port 1 x Display port 4 x USB 3.1 Gen 1 ports 2 x Wi-Fi antenna ports 3 x Audio jacks support 8-channel audio output
Internal connectors	1 x USB 3.1 Gen 2 connector (type C) 1 x USB 3.1 Gen 1 connector supports additional 2 USB 3.1 Gen 1 ports (type A) 2 x USB 2.0/1.1 connectors support additional 4 USB 2.0/1.1 ports 4 x SATA 6.0Gb/s connectors 1 x 4-pin CPU Fan connector for 4-pin PWM mode 1 x 4-pin Chassis Fan connector for 4-pin PWM mode 1 x Front panel audio connector(AAFP) 1 x System panel connector 1 x 24-pin EATX power connector 1 x 4-pin ATX 12V power connector 1 x 4-1 pin chassis intrusion connector 1 x Speaker connector 1 x COM connector 1 x 2-pin Clear CMOS header 1 x SPI TPM header 1 x LPC Debug header

(continued on the next page)

PRO A320M-R WI-FI specifications summary

BIOS features	128 Mb Flash ROM, UEFI AMI BIOS, PnP, DMI2.0, WfM2.0, SM BIOS 3.0, ACPI 6.0, Multi-language BIOS, Multi-language BIOS, ASUS smart recovering BIOS, ASUS Event log, ASUS Commercial Kit
Manageability	WfM 2.0, DMI 2.0, WOL by PME, PXE
OS support	Windows® 10 (64-bit)
Form factor	uATX form factor: 8.9" x 7.9" (22.9 cm x 20.3 cm)



Specifications are subject to change without notice.

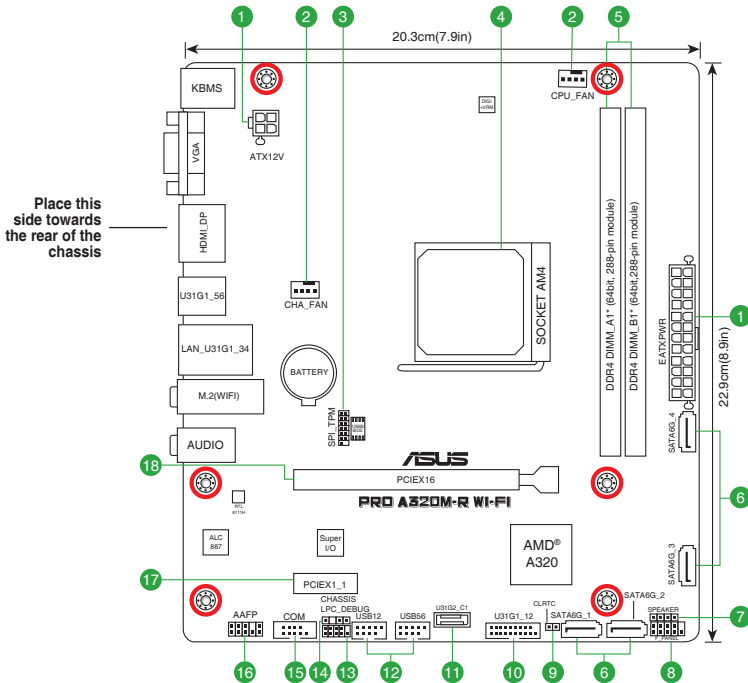
Product introduction

1

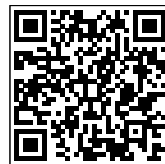
Motherboard overview



- Unplug the power cord from the wall socket before touching any component.
- Before handling components, use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, to avoid damaging them due to static electricity.
- Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, or components.
- Unplug the power cord before installing or removing the motherboard. Failure to do so can cause you physical injury and damage to motherboard components.



Scan the QR code to get the detailed pin definitions.



1 ATX power connectors (24-pin EATXPWR, 4-pin ATX12V)

These connectors are for ATX power supply plugs. The power supply plugs are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.



- For a fully configured system, we recommend that you use a power supply unit (PSU) that complies with ATX 12 V Specification 2.0 (or later version) and provides a minimum power of 300 W. This PSU type has 24-pin and 4-pin power plugs.
- DO NOT forget to connect the 4-pin ATX +12V power plug. Otherwise, the system will not boot up.
- We recommend that you use a PSU with higher power output when configuring a system with more power-consuming devices or when you intend to install additional devices. The system may become unstable or may not boot up if the power is inadequate.

2 CPU and chassis fan connectors (4-pin CPU_FAN, 4-pin CHA_FAN)

Connect the fan cables to the fan connectors on the motherboard, ensuring that the black wire of each cable matches the ground pin of the connector.



Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! Do not place jumper caps on the fan connectors! The CPU_FAN connector supports a CPU fan of maximum 1A (12 W) fan power.

3 TPM connector (14-1 pin SPI_TPM)

This connector supports a Trusted Platform Module (TPM) system with a Serial Peripheral Interface (SPI), allowing you to securely store keys, digital certificates, passwords and data. A TPM system also enhances network security, protects digital identities, and ensures platform integrity.

4 AMD AM4 CPU socket

This motherboard comes with an AMD AM4 socket designed for AMD Ryzen™/7th Generation A-series/Athlon™ Processors.



For more details, refer to **Central Processing Unit (CPU)**.

5 DDR4 DIMM slots

Install 2 GB, 4 GB, 8 GB, and 16 GB unbuffered ECC and non-ECC DDR4 DIMMs into these DIMM sockets.



For more details, refer to **System memory**.

6 AMD A320 Serial ATA 6.0Gb/s connectors (7-pin SATA6G_1~4)

These connectors connect to Serial ATA 6.0 Gb/s hard disk drives via Serial ATA 6.0 Gb/s signal cables.

7 Speaker connector (4-pin SPEAKER)

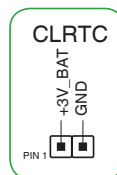
This 4-pin connector is for the chassis-mounted system warning speaker. The speaker allows you to hear system beeps and warnings.

8 System panel connector (10-1 pin F_PANEL)

This connector supports several chassis-mounted functions.

9 Clear RTC RAM (2-pin CLRRTC)

This header allows you to clear the CMOS RTC RAM data of the system setup information such as date, time, and system passwords.



To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Use a metal object such as a screwdriver to short the two pins.
3. Plug the power cord and turn ON the computer.
4. Hold down the key during the boot process and enter BIOS setup to re-enter data.



If the steps above do not help, remove the onboard battery and short the two pins again to clear the CMOS RTC RAM data. After clearing the CMOS, reinstall the battery.

10 USB 3.1 Gen 1 connector (20-1 pin U31G1_12)

This connector allows you to connect a USB 3.1 Gen 1 module for additional USB 3.1 Gen 1 front or rear panel ports. With an installed USB 3.1 Gen 1 module, you can enjoy all the benefits of USB 3.1 Gen 1 including faster data transfer speeds of up to 5Gbps, faster charging time for USB-chargeable devices, optimized power efficiency and backward compatibility with USB 2.0.

11 USB 3.1 Gen 2 front panel connector (U31G2_C1)

This connector allows you to connect a USB 3.1 Gen 2 module for additional USB 3.1 Gen 2 ports. The latest USB 3.1 Gen 2 connectivity provides data transfer speeds of up to 10 Gbps.

12 USB 2.0 connectors (10-1 pin USB12, USB56)

These connectors are for USB 2.0 ports. Connect the USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specifications and support up to 480Mbps connection speed.



Never connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!

13 LPC Debug header

This header allows connection to a LPC debug card.



- Scan the QR code to view the meaning of each debug code.
- Debug codes are only available for ASUS LPC debug card.
- Contact your region sales representative for LPC debug header ordering.



14 Chassis intrusion header (4-1 pin CHASSIS)

This header is for a chassis-mounted intrusion detection sensor or switch. Connect one end of the chassis intrusion sensor or switch cable to this connector. The chassis intrusion sensor or switch sends a high-level signal to this connector when a chassis component is removed or replaced. The signal is then generated as a chassis intrusion event.

By default, the pin labeled “Chassis Signal” and “Ground” are shorted with a jumper cap. Remove the jumper caps only when you intend to use the chassis intrusion detection feature.

15 Serial port connector (10-1 pin COM)

This connector is for a serial (COM) port. Connect the serial port module cable to this connector, then install the module to a slot opening at the back of the system chassis.

16 Front panel audio connector (10-1 pin AAFP)

This connector is for a chassis-mounted front panel audio I/O module that supports HD Audio standard. Connect one end of the front panel audio I/O module cable to this connector.



- We recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboard's high-definition audio capability.
- If you want to connect a high-definition front panel audio module to this connector, set the **Front Panel Type** item in the BIOS setup to [HD Audio]. By default, this connector is set to [HD Audio].

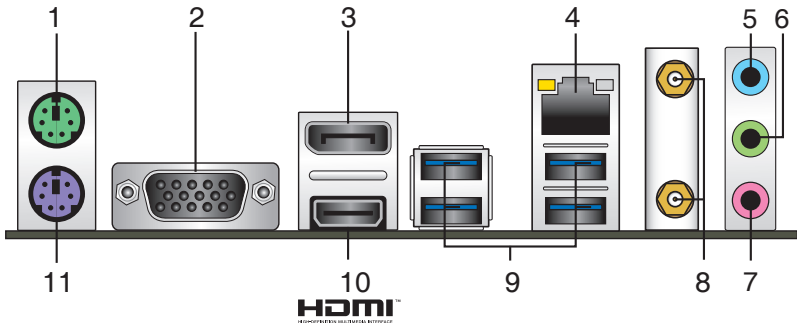
17 PCI Express 3.0/2.0 x1 slot

This motherboard has one PCI Express 3.0/2.0 x1 slot that supports PCI Express x1 network cards, SCSI cards, and other cards that comply with the PCI Express specifications.

18 PCI Express 3.0 / 2.0 x16 slot

This motherboard supports one PCI Express 3.0 / 2.0 x16 graphic card that complies with the PCI Express specifications.

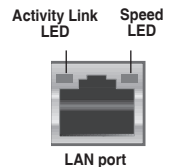
1.2.2 Rear panel connectors



1. **PS/2 Mouse (green) port.** This port is for a PS/2 mouse.
2. **D-Sub port.** This 15-pin port is for a D-Sub monitor or other D-Sub compatible devices.
3. **DisplayPort.** This port is for a DisplayPort-compatible device.
4. **LAN (RJ-45) port.** This port allows Gigabit connection to a Local Area Network (LAN) through a network hub.

LAN port LED indications

Activity/Link LED		Speed LED	
Status	Description	Status	Description
Off	No link	OFF	10Mbps connection
Orange	Linked	ORANGE	100Mbps connection
Orange (Blinking)	Data activity	GREEN	1Gbps connection
Orange (Blinking then steady)	Ready to wake up from S5 mode		



5. **Line In port (light blue).** This port connects to the tape, CD, DVD player, or other audio sources.
6. **Line Out port (lime).** This port connects to a headphone or a speaker. In the 4.1, 5.1 and 7.1-channel configurations, the function of this port becomes Front Speaker Out.
7. **Microphone port (pink).** This port connects to a microphone.



Refer to the audio configuration table for the function of the audio ports in 2.1, 4.1, 5.1, or 7.1-channel configuration.

Audio 2.1, 4.1, 5.1 or 7.1-channel configuration

Port	Headset 2.1-channel	4.1-channel	5.1-channel	7.1-channel
Light Blue (Rear panel)	Line In	Rear Speaker Out	Rear Speaker Out	Rear Speaker Out
Lime (Rear panel)	Line Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink (Rear panel)	Mic In	Mic In	Bass/Center	Bass/Center
Lime (Front panel)	-	-	-	Side Speaker Out

- Wi-Fi ports.** Connect the bundled ASUS 2T2R dual band Wi-Fi antenna connectors to these ports.
- USB 3.1 Gen 1 ports.** These 9-pin Universal Serial Bus (USB) ports connect to USB 3.1 Gen 1 devices.



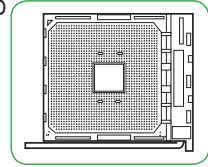
- USB 3.1 Gen 1 devices can only be used for data storage.
 - Due to the design of AMD AM4 series chipset, all USB devices connected to the USB 2.0 and USB 3.1 Gen 1 ports are controlled by the xHCI controller.
 - We strongly recommend that you connect USB 3.1 Gen 1 devices to USB 3.1 Gen 1 ports for faster and better performance from your USB 3.1 Gen 1 devices.
- HDMI port.** This port is for a High-Definition Multimedia Interface (HDMI) connector, and is HDCP compliant allowing playback of HD DVD, Blu-ray, and other protected content.
 - PS/2 keyboard (purple) port.** This port is for a PS/2 keyboard.

Central Processing Unit (CPU)

The motherboard comes with an AMD AM4 socket designed for AMD Ryzen™ / 7th Generation A-series / Athlon™ processors.



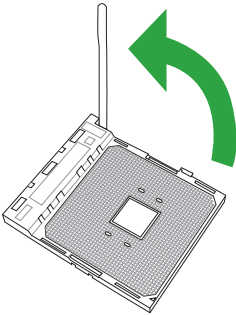
Unplug all power cables before installing the CPU.



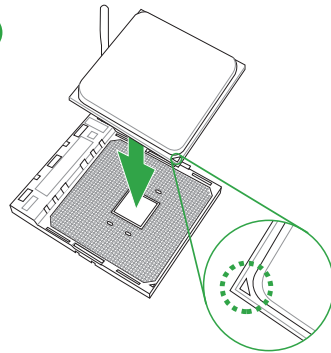
The AM4 socket has a different pinout from the FM2+/FM2 socket. Ensure that you use a CPU designed for the AM4 socket. The CPU fits in only one correct orientation. **DO NOT** force the CPU into the socket to prevent bending the pins and damaging the CPU!

Installing the CPU

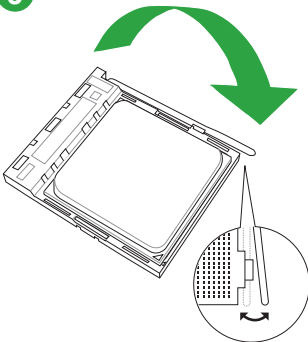
1



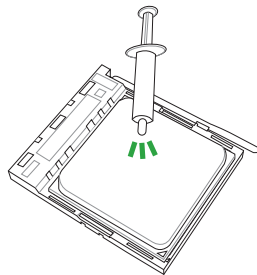
2



3



4



Apply the Thermal Interface Material to the CPU heatsink and CPU before you install the heatsink and fan if necessary.

System memory

Overview

This motherboard comes with two Double Data Rate 4 (DDR4) Dual Inline Memory Module (DIMM) sockets. The figure illustrates the location of the DDR4 DIMM sockets:



Channel	Sockets
Channel A	DIMM_A1*
Channel B	DIMM_B1*

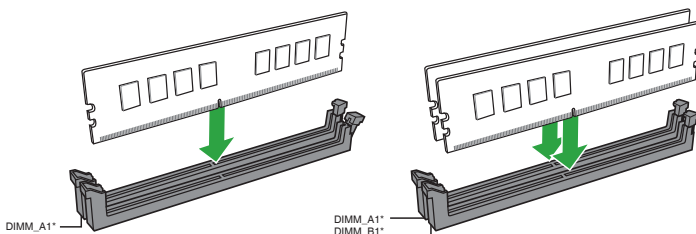


- You may install varying memory sizes in Channel A and Channel B. The system maps the total size of the lower-sized channel for the dual-channel configuration. Any excess memory from the higher-sized channel is then mapped for single-channel operation.
- Always install DIMMs with the same CAS latency. For optimal compatibility, we recommend that you install memory modules of the same version or date code (D/C) from the same vendor. Check with the retailer to get the correct memory modules.

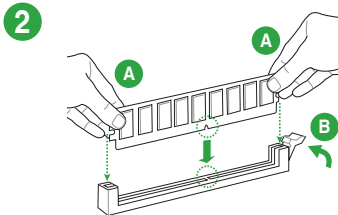
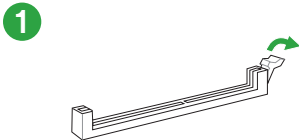


- For system stability, use a more efficient memory cooling system to support a full memory load (2 DIMMs).
- Refer to www.asus.com for the latest Memory QVL (Qualified Vendors List).

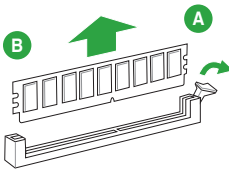
Recommended memory configuration



Installing a DIMM



To remove a DIMM



BIOS information

2



Scan the QR code to view the BIOS update guide.



The system will automatically activate ASUS Self-Recovering BIOS after reboot from the BIOS update failure.

ASUS Self-Recovering BIOS

ASUS-exclusive BIOS protection technology automatically recovers the system's BIOS with a verified backup in the event of an update failure, preventing the need to replace or reinstall your hardware.

- Ensures safe BIOS updates
- Requires no additional software
- Provides automatic update failure detection and recovery
- Reduces maintenance frequency and costs

BIOS setup program

Use the BIOS Setup program to update the BIOS or configure its parameters. The BIOS screens include navigation keys and brief online help to guide you in using the BIOS Setup program.

Entering BIOS Setup at startup

To enter BIOS Setup at startup:

Press <Delete> or <F2> during the Power-On Self Test (POST). If you do not press <Delete> or <F2>, POST continues with its routines.

Entering BIOS Setup after POST

To enter BIOS Setup after POST:

- Press <Ctrl>+<Alt>+ simultaneously.
- Press the reset button on the system chassis.
- Press the power button to turn the system off then back on. Do this option only if you failed to enter BIOS Setup using the first two options.



Using the power button, reset button, or the <Ctrl>+<Alt>+ keys to force reset from a running operating system can cause damage to your data or system. We recommend you always shut down the system properly from the operating system.



- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
- Visit the ASUS website at www.asus.com to download the latest BIOS file for this motherboard.
- If the system becomes unstable after changing any BIOS setting, load the default settings to ensure system compatibility and stability. Select the **Load Optimized Defaults** item under the Exit menu or press hotkey F5.
- If the system fails to boot after changing any BIOS setting, try to clear the CMOS and reset the motherboard to the default value. See section **Motherboard overview** for information on how to erase the RTC RAM.

BIOS menu screen

Menu bar

General Help

Sub-menu item

Menu items

Configuration fields

```
Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
Main  Ai Tweaker  Advanced  Monitor  Boot  Tool  Exit

BIOS Information
BIOS Version           0206 x64
Build Date and Time    11/14/2018

CPU Information
Brand String           AMD Ryzen 3 1200
                       Quad-Core Processor

Speed                  3100MHz
Total Memory           8192MB (DDR4)
Speed                  2133MHz

System Language        [English]
System Date            [Mon 01/09/2017]
System Time            [21:25:25]

Access Level           Administrator
Security

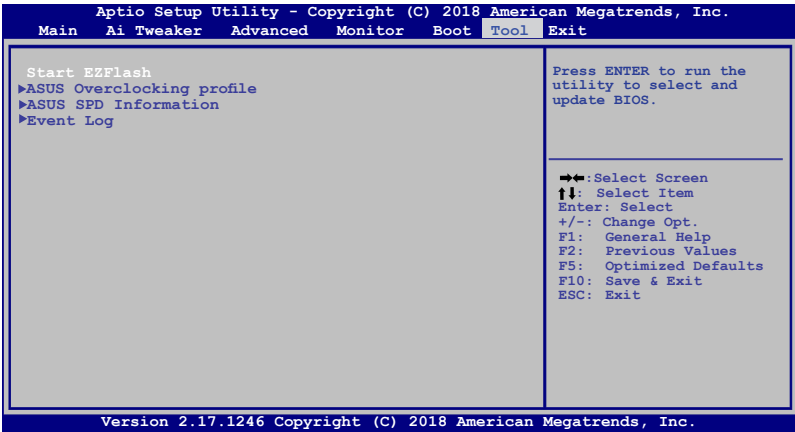
Choose the default language

⬅➡: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F5: Optimized Defaults
F10: Save & Exit
ESC: Exit

Version 2.17.1246 Copyright (C) 2018 American Megatrends, Inc.
```

Event Log

You can access Event Log from the Tool menu.



A built-in event log enables easier troubleshooting by capturing useful system information , including:

Event Category	Description	Event Log
BIOS Updates	Update status, latest version and update time	BIOS updated from xxxx to xxxx BIOS update successful
AC Power loss	Abnormal power loss events	AC Power Loss 4S Forced Shutdown
RTC reset	Real-time-clock (RTC) reset time	RTC time reset has occurred
Chassis intrusion	Record of when the chassis has been opened	A chassis intrusion has occurred
Hardware changes	Modifications to the CPU, memory or HDDs	New CPU Installed HDD has been changed! Memory has been changed!
Hardware status	USB current*, CPU temperature**, and CPU voltage events**	USB Over Current occurred CPU Over Heating Error! CPU Over Voltage Error!

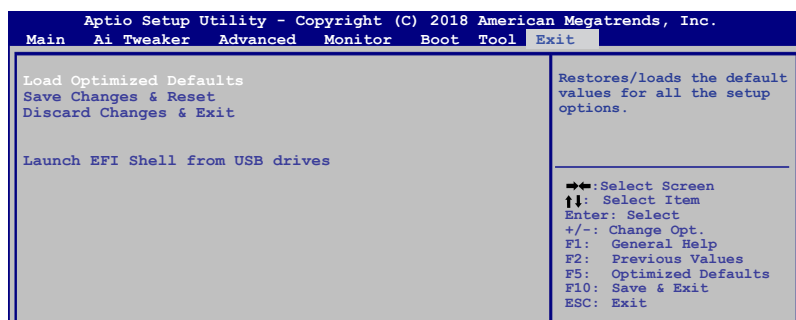
* Record of when USB Over Current occurs

** Record of when CPU temperature rises above 75°C

***Record of when CPU Voltage reaches below 0 mV or above 1550mV

Exit menu

The Exit menu items allow you to load the optimal default values for the BIOS items, and save or discard your changes to the BIOS items.



Load Optimized Defaults

This option allows you to load the default values for each of the parameters on the Setup menus. When you select this option or if you press <F5>, a confirmation window appears. Select OK to load the default values.

Save Changes & Reset

Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved. When you select this option or if you press <F10>, a confirmation window appears. Select OK to save changes and exit.

Discard Changes & Exit

This option allows you to exit the Setup program without saving your changes. When you select this option or if you press <Esc>, a confirmation window appears. Select OK to discard changes and exit.

Launch EFI Shell from USB drives

This option allows you to attempt to launch the EFI Shell application (shellx64.efi) from one of the available USB devices.

Appendix

Notices

FCC Compliance Information

Responsible Party: Asus Computer International
Address: 48720 Kato Rd., Fremont, CA 94538, USA
Phone / Fax No: (510)739-3777 / (510)608-4555

Identification of the assembled product: **RTL8821CE**

Identification of the modular components used in the assembly:

Model Name: **8821CE** FCC ID: **TX2-RTL8821CE**

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 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 technician for help.

RF exposure warning

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

Compliance Statement of Innovation, Science and Economic Development Canada (ISED)

This device complies with Innovation, Science and Economic Development Canada licence 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.

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.

CAN ICES-3(B)/NMB-3(B)

Déclaration de conformité de Innovation, Sciences et Développement économique Canada (ISED)

Le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique 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.

La bande 5150–5250 MHz est réservée uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

CAN ICES-3(B)/NMB-3(B)

VCCI: Japan Compliance Statement

Class B ITE

この装置は、クラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

KC: Korea Warning Statement

B급 기기 (가정용 방송통신기자재)

이 기기는 가정용(B급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

*당해 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없습니다.

REACH

Complying with the REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals) regulatory framework, we published the chemical substances in our products at ASUS REACH website at <http://csr.asus.com/english/REACH.htm>.



DO NOT throw the motherboard in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.



DO NOT throw the mercury-containing button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

ASUS Recycling/Takeback Services

ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components as well as the packaging materials. Please go to <http://csr.asus.com/english/Takeback.htm> for detailed recycling information in different regions.

Regional notice for California



WARNING

Cancer and Reproductive Harm -
www.P65Warnings.ca.gov

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NCC: Taiwan Wireless Statement

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

應避免影響附近雷達系統之操作。

Japan RF Equipment Statement

屋外での使用について

本製品は、5GHz帯域での通信に対応しています。電波法の定めにより5.2GHz、5.3GHz帯域の電波は屋外で使用が禁じられています。

法律および規制遵守

本製品は電波法及びこれに基づく命令の定めるところに従い使用してください。日本国外では、その国の法律または規制により、本製品の使用ができないことがあります。このような国では、本製品を運用した結果、罰せられることがあります。当社は一切責任を負いかねますのでご了承ください。

Précautions d'emploi de l'appareil :

- a. Soyez particulièrement vigilant quant à votre sécurité lors de l'utilisation de cet appareil dans certains lieux (les avions, les aéroports, les hôpitaux, les stations-service et les garages professionnels).
- b. Évitez d'utiliser cet appareil à proximité de dispositifs médicaux implantés. Si vous portez un implant électronique (stimulateurs cardiaques, pompes à insuline, neurostimulateurs...), veuillez impérativement respecter une distance minimale de 15 centimètres entre cet appareil et l'implant pour réduire les risques d'interférence.
- c. Utilisez cet appareil dans de bonnes conditions de réception pour minimiser le niveau de rayonnement. Ce n'est pas toujours le cas dans certaines zones ou situations, notamment dans les parkings souterrains, dans les ascenseurs, en train ou en voiture ou tout simplement dans un secteur mal couvert par le réseau.
- d. Tenez cet appareil à distance du ventre des femmes enceintes et du bas-ventre des adolescents.

Simplified EU Declaration of Conformity

ASUSTek Computer Inc. hereby declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. Full text of EU declaration of conformity is available at <https://www.asus.com/support/>

The WiFi operating in the band 5150-5350MHz shall be restricted to indoor use for countries listed in the table below:

Déclaration simplifiée de conformité de l'UE

ASUSTek Computer Inc. déclare par la présente que cet appareil est conforme aux critères essentiels et autres clauses pertinentes de la directive 2014/53/UE. La déclaration de conformité de l'UE peut être téléchargée à partir du site internet suivant : <https://www.asus.com/support/>

Dans la plage de fréquence 5150-5350 MHz, le Wi-Fi est restreint à une utilisation en intérieur dans les pays listés dans le tableau ci-dessous:

Vereinfachte EU-Konformitätserklärung

ASUSTEK COMPUTER INC erklärt hiermit, dass dieses Gerät mit den grundlegenden Anforderungen und anderen relevanten Bestimmungen der Richtlinie 2014/53/EU übereinstimmt. Der gesamte Text der EU-Konformitätserklärung ist verfügbar unter: <https://www.asus.com/support/>

Der WLAN-Betrieb im Band von 5150-5350 MHz ist für die in der unteren Tabelle aufgeführten Länder auf den Innenbereich beschränkt:

Dichiarazione di conformità UE semplificata

ASUSTek Computer Inc. con la presente dichiara che questo dispositivo è conforme ai requisiti essenziali e alle altre disposizioni pertinenti con la direttiva 2014/53/UE. Il testo completo della dichiarazione di conformità UE è disponibile all'indirizzo: <https://www.asus.com/support/>

L'utilizzo della rete Wi-Fi con frequenza compresa nell'intervallo 5150-5350MHz deve essere limitato all'interno degli edifici per i paesi presenti nella seguente tabella:

Упрощенное заявление о соответствии европейской директиве

ASUSTek Computer Inc. заявляет, что устройство соответствует основным требованиям и другим соответствующим условиям директивы 2014/53/ЕU. Полный текст декларации соответствия ЕС доступен на <https://www.asus.com/support/>

Работа WiFi в диапазоне частот 5150-5350 MHz должна быть ограничена использованием в помещениях для стран, перечисленных в таблице ниже:
إعلان التوافق المبسط الصادر عن الاتحاد الأوروبي

تقر شركة ASUSTek Computer Inc بهذا الجواز بتوافق مع المتطلبات الأساسية والأحكام الأخرى ذات الصلة الخاصة بتوجيه 2014/53/UE. يتوفر النص الكامل لإعلان التوافق الصادر عن الاتحاد الأوروبي على: <https://www.asus.com/support/>

يوجب حجب استخدام WiFi العاملة بـ 5150-5350 MHz مجازاً على الاستخدام المنزلي للبلدان المدرجة أدناه.

Опростена декларация за съответствие на ЕС

С настоящото ASUSTek Computer Inc. декларира, че това устройство е в съответствие със съществени изисквания и другите приложими постановления на свързаната Директива 2014/53/ЕС. Пълният текст на ЕС декларация за съвместимост е достъпен на адрес <https://www.asus.com/support/>

WiFi, работеща в диапазон 5150-5350MHz, трябва да се ограничи до употреба на закрито за страните, посочени в таблицата по-долу:

Declaração de Conformidade UE Simplificada

ASUSTek Computer Inc. declara que este dispositivo está em conformidade com os requisitos essenciais e outras disposições relevantes relacionadas às diretivas 2014/53/UE. O texto completo da declaração de conformidade CE está disponível em <https://www.asus.com/support/>

O WiFi operando na banda 5150-5350MHz deve ser restrito para uso interno para os países listados na tabela abaixo:

Поједностављена ЕУ изјава о суладности

ASUSTEK Computer Inc. овим изјављује да је овај уређај суладан с битним захтевима и осталим одговарајућим одредбама директиве 2014/53/ЕУ. Цјели текст ЕУ изјаве о суладности доступан је на <https://www.asus.com/support/>.
WiFi који ради на опсегу фреквенција 5150-5350 MHz бит је ограничен на употребу у затвореном простору у земљама на доњем попису:

Zjednodušené prohlášení o shodě EU

Společnost ASUSTEK Computer Inc. tímto prohlašuje, že toto zařízení splňuje základní požadavky a další příslušná ustanovení směrnice 2014/53/UE. Plné znění prohlášení o shodě EU je k dispozici na adrese <https://www.asus.com/support/>

V zemích uvedených v tabulce je provoz sítě Wi-Fi ve frekvenčním rozsahu 5150 - 5350 MHz povolen pouze ve vnitřních prostorech:

Forenklet EU-øverenstemmeserklæring

ASUSTek Computer Inc. erklærer hermed at denne enhed er i øverenstemmelse med hovedkravene og øvrige relevante bestemmelser i direktivet 2014/53/UE. Hele EU-øverenstemmeserklæringen kan findes på <https://www.asus.com/support/>

Wi-Fi, der bruger 5150-5350 MHz skal begrænses til indendørs brug i lande, der er anført i tabellen:

Vereenvoudigd EU-conformiteitsverklaring

ASUSTek Computer Inc. verklaart hierbij dat dit apparaat voldoet aan de essentiële vereisten en andere relevante bepalingen van Richtlijn 2014/53/UE. De volledige tekst van de EU-conformiteitsverklaring is beschikbaar op <https://www.asus.com/support/>

De WiFi op 5150-5350MHz zal beperkt zijn tot binnengebruik voor in de tabel vermelde landen:

Lihustusatud EÜ vastavusdeklaratsioon

Käesolevaga kinnitab ASUSTEK Computer Inc. et seade vastab direktiivi 2014/53/EL olulistele nõuetele ja teistele asjakohastele sätetele. EL vastavusdeklaratsiooni täistekst on saadaval veebisaidil <https://www.asus.com/support/>

Sagedusvahemikus 5150-5350 MHz töötava WiFi kasutamise on järgmistes riikides lubatud ainult siseruumides:

Eurooppa - EY:n vaatimustenmukaisuusvakuutus

ASUSTek Computer Inc. ilmoittaa täten, että tämä laite on direktiivin 2014/53/UE olennainen vaatimusten ja muiden asiaankuuluvien lisäysten mukainen. Koko EY:n vaatimustenmukaisuusvakuutuksen teksti on luettavissa osoitteessa <https://www.asus.com/support/>

5 150 - 5 350 MHz:n taajuudella toimiva WiFi on rajoitettu sisäkäyttöön taulukossa luetteluissa maissa:

تبیعت از نسخه ساده شده بیانیته التحاقیه اوروبا

ASUSTek Computer Inc در اینجا اعلام می کند که این دستگاه با نیازهای اساسی و سایر مقررات مربوط به بیانیته 2014/53/UE مطابقت دارد. متن کامل پیروی از این بیانیته التحاقیه اوروبا در این آدرس موجود است:

https://www.asus.com/support/

استفاده از شبکه های بی سیم 5150-5350 مگاهرتز برای WiFi فقط برای استفاده در فضای داخل ساختمان های کشورها فهرست شده در جدول محدود شود.

Απλοποιημένη Δήλωση Συμμόρφωσης ΕΕ

Διά το παρόντος η ASUSTEK Computer Inc. δηλώνει ότι αυτή η συσκευή είναι συμμόρφη με τις βασικές προϋποθέσεις και άλλες σχετικές διατάξεις της Οδηγίας 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης της ΕΕ είναι διαθέσιμο στη διεύθυνση <https://www.asus.com/support/>

To WiFi που λειτουργεί στη ζώνη 5150-5350MHz περιορίζεται για χρήση σε εσωτερικούς χώρους για τις χώρες που αναφέρονται στον παρακάτω πίνακα:

הצהרת האימות הרגולטורית מקוברת עבור האיחוד האירופי

ASUSTEK Computer Inc. מצהירה בראת כי מכשיר זה תואם לדרישות החוקיות ולשאר הסייפים הרלוונטיים של תקנה 2014/53/UE. ניתן לקרוא את הטוס המלא של הצהרת האימות הרגולטורית עבור האיחוד האירופי בכתובת: <https://www.asus.com/support/>

יש להגביל רשתות Wi-Fi הפועלות בהדרגת התדרים 5150-5350MHz לשימוש בתוך מבנים מגורים בארצות המפורטות ברשימה הבאה:

Egyeszerüstett EU megfelelésegi nyilatkozat

Az ASUSTek Computer Inc. ezennel kijelenti, hogy ez az eszköz megfelel az 2014/53/EU sz. irányelv alapvető követelményeinek és egyéb vonatkozó rendelkezésének. Az EU megfelelésegi nyilatkozat teljes szövegét a következő weboldalon tekintheti meg: <https://www.asus.com/support/>

Az 5150-5350 MHz-es sávban működő Wi-Fi beltéri használatra kell korlátozni az alábbi táblázatban felsorolt országokban:

Pernyataan Kesesuaian UE yang Disederhanakan

ASUSTEK Computer Inc. dengan ini menyatakan bahwa perangkat ini memenuhi persyaratan utama dan ketentuan relevan lainnya yang terdapat pada Peraturan 2014/53/UE. Teks lengkap pernyataan kesesuaian UE tersedia di: <https://www.asus.com/support/>

WiFi yang Beroperasi pada 5150-5350 MHz akan terbatas untuk penggunaan dalam ruangan di negara yang tercantum dalam tabel

Vienkāršota ES atbilstības paziņojums

ASUSTEK Computer Inc. ar šo paziņo, ka šī ierīce atbilst Direktīvas 2014/53/ES būtiskajām prasībām un citiem citiem saistošajiem nosacījumiem. Pilns ES atbilstības paziņojuma teksts pieejams šeit: <https://www.asus.com/support/>

Wi-Fi darbība 5150–5350 MHz ir jāierobežo lietošanai telpās valstīs, kuras norādītas tālāk.

Supaprastinta ES atitikties deklaracija

Šiame dokumente bendrovė „ASUSTek Computer Inc.“ pareiškia, kad šis prietaisas atitinka pagrindinius reikalavimus ir kitas susijusias Direktyvos 2014/53/ES nuostatas. Visas ES atitikties deklaracijos tekstas pateikiamas čia: <https://www.asus.com/support/>

Toliau nurodytose šalyse „WiFi“ ryšiu, veikiančiu 5 150–5 350 MHz dažniu juostoje, galima naudotis tik patalpose:
Ovaj uredaj može da se koristi u državama navedenim ispod:

Forenkliu EU-samsvarserklæring

ASUSTek Computer Inc. erklærer herved at denne enhet er i samsvar med hovedsaklige krav og andre relevante forskrifter i direktivet 2014/53/EU. Fullstendig tekst for EU-samsvarserklæringen finnes på: <https://www.asus.com/support/>

Wi-Fi-området 5150–5350 MHz skal begrenses til innendørs bruk for landene som er oppført i tabellen:

Uproszczone deklaracja zgodności UE

Firma ASUSTek Computer Inc. niniejszym oświadcza, że urządzenie to jest zgodne z zasadniczymi wymogami i innymi właściwymi postanowieniami dyrektywy 2014/53/UE. Pełny tekst deklaracji zgodności UE jest dostępny pod adresem <https://www.asus.com/support/>

W krajach wymienionych w tabeli działania sieci Wi-Fi w paśmie 5150–5350 MHz powinno być ograniczone wyłącznie do pomieszczeń:

Declaração de Conformidade Simplificada da UE

A ASUSTek Computer Inc. declara que este dispositivo está em conformidade com os requisitos essenciais e outras disposições relevantes da Diretiva 2014/53/UE. O texto integral da declaração de conformidade da UE está disponível em <https://www.asus.com/support/>

A utilização das frequências WiFi de 5150 a 5350 MHz está restrita a ambientes interiores nos países apresentados na tabela:

Declarație de conformitate UE, versiune simplificată

Prin prezenta, ASUSTek Computer Inc. declară că acest dispozitiv este în conformitate cu regulamentele esențiale și cu celelalte prevederi relevante ale Directivei 2014/53/UE. Textul complet al declarației de conformitate UE este disponibil la adresa <https://www.asus.com/support/>

Pentru țările listate în tabelul de mai jos, rețeaua WiFi care funcționează în banda de frecvență de 5.150-5.350 MHz trebuie utilizată doar în interior:

Pojednostavljena Deklaracija u uslugâšenosti EU

ASUSTek Computer Inc. ovim izjavljuju da je ovaj uređaj uslugâšen sa osnovnim zahtevima i drugim relevantnim odredbama Direktive 2014/53/EU. Ceo tekst Deklaracije u uslugâšenosti EU dostupan je na lokaciji <https://www.asus.com/support/>

WiFi koji radi u frekventnom opsegu od 5150 MHz do 5350 MHz ograničen je isključivo na upotrebu u zatvorenom prostoru za zemlje navedene u tabeli ispod:

Zjednodušené vyhlásenie o zhode platné pre EÚ

Spoločnosť ASUSTek Computer Inc. týmto vyhlasuje, že toto zariadenie je v súlade so základnými požiadavkami a ďalšími príslušnými ustanoveniami smernice č. 2014/53/EÚ. Plné znenie vyhlásenia o zhode pre EÚ je k dispozícii na lokalite <https://www.asus.com/support/>

Činnosť WiFi v pásme 5150–5350 MHz bude obmedzená na použitie vo vnútornom prostredí pre krajiny uvedené v tabuľke nižšie:

Poenostavljena izjava EU o skladnosti

ASUSTek Computer Inc. tukaj izjavlja, da je ta naprava skladna s temeljnimi zahtevami in drugimi relevantnimi določili Direktive 2014/53/EU. Polno besedilo izjave EU o skladnosti je na voljo na <https://www.asus.com/support/>

WiFi, ki deluje v pasovnem območju 5150–5350 MHz, mora biti v državah, navedenih v spodnjem seznamu, omejen na notranjo uporabo:

Declaración de conformidad simplificada para la UE

Por la presente, ASUSTek Computer Inc. declara que este dispositivo cumple los requisitos básicos y otras disposiciones pertinentes de la directiva 2014/53/UE. En <https://www.asus.com/support/>, está disponible el texto completo de la declaración de conformidad para la UE.

La conexión WiFi con una frecuencia de funcionamiento de 5150–5350 MHz se restringirá al uso en interiores para los países enumerados en la tabla:

Förenklad EU-försäkran om överensstämmelse

ASUSTek Computer Inc. deklarerar härmed att denna enhet överensstämmer med de grundläggande kraven och andra relevanta bestämmelser i direktiv 2014/53/EU. Fullständig text av EU-försäkran om överensstämmelse finns på <https://www.asus.com/support/>

WiFi som används 5150–5350 MHz kommer att begränsas för användning inomhus i de länder som anges i tabellen:

ປາກຫາຍົກຄວາມສອດຄ່ອງຂອງສະພາບຜູ້ຮັບແບບຮ່າ

ASUSTek Computer Inc.

ຂອບເຂດການທີ່ຜູ້ຮັບແບບນີ້ມີຄວາມສອດຄ່ອງກັບຄວາມຕ້ອງການຈຳເປັນແລະເງິນໄຮງທີ່ເກືອບຂອງອື່ນ ໆ ຂອງພົບຜູ້ຮັບຮັບກຳນົດ 2014/53/UE ເຖິງຫາທີ່ສູນກາງຂອບເຂດຄວາມສອດຄ່ອງກັບ EU ມີຜູ້ຮັບ <https://www.asus.com/support/>

ການຈຳກັດຂອງ WiFi ທີ່ 5150–5350MHz ຖືກຈຳກັດໃຫ້ໃຊ້ເນື້ອທີ່ສາມາດນຳມາໃຊ້ແຕ່ລະໃນດ້ານ

Basitleştirilmiş AB Uyumluluk Bildirimi

ASUSTek Computer Inc., bu aygıtın 2014/53/UE yönetiminin temel gereksinimlerine ve diğer ilgili hükümlerine uygun olduğunu bildirir. AB uygunluk bildiriminin tam metni şu adreste bulunabilir: <https://www.asus.com/support/>

5150–5350 MHz aralındaki WiFi çalışması, tablodaki listelenen ülkeler için iç mekan kullanımıyla kısıtlanacaktır.

Спрощена декларация про відповідність нормам ЄС

ASUSTek Computer Inc. заявляє, що цей пристрій відповідає основним вимогам та іншим відповідним вимогам Директиви 2014 / 53 / EU. Повний текст декларації відповідності нормам ЄС доступний на <https://www.asus.com/support/>

Робота Wi-Fi на частоті 5150–5350 МГц обмежується використанням у приміщенні для країни, поданих у таблиці нижче:



AT	BE	BG	CZ	DK	EE	FR
DE	IS	IE	IT	EL	ES	CY
LV	LI	LT	LU	HU	MT	NL
NO	PL	PT	RO	SI	SK	TR
FI	SE	CH	UK	HR		

RTL8821CE output power table:

Function	Frequency	Maximum Output Power (EIRP)
WiFi	2400-2483.5 MHz	17.49 dBm
	5150-5350 MHz	17.04 dBm
	5470-5725 MHz	15.87 dBm
Bluetooth	2402-2483.5 MHz	6.87 dBm

For the standard EN 300 440 V2.1.1, if this device operates in 5725–5875 MHz, it will be considered as a receiver category 2.

ASUS Wi-Fi Card
802.11a/b/g/n/ac+bt, 2T1T/2R1T/1R1T/2R2T/1R2T/2R2T/1R2T
Contains CCAFI16LP2410T3

Model: RTL8821CE
EITELE: RCPERR17-0354
FCC ID: T7ACARL8821CE
CMIT ID: 2016A17821M4
IC: 6317ARLRTL8821CE
ANATEL: 09446-16-0476
CNC: C-17250
Jordán: TRC252/2016/556

AGREE FOR TAINEITMARC
Number of Applicant: 048, 2015/09/02 2016
Date of Approval: 05/02/2016

Complies with IMDA Standards DA105282

NTC RAN
Type Approval No. 250-1633016
TRA
Regulation No. 2009/01/16
Date: 03/28/2016

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