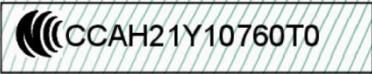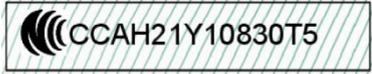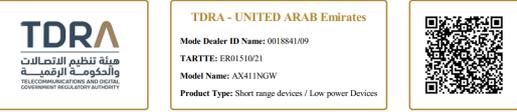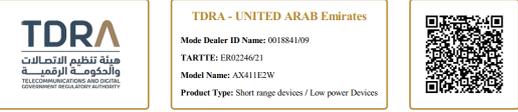|	intel	**Modular Regulatory Certification Country Markings** *(Table lists only countries requiring marking not necessarily all certified countries)*	
Countries/ Regions 🌐	**Marking is on the board label**	**Intel® Wi-Fi 6E AX411** *(11ax / BT)*	
		GfP AX + BT 2X2 – M.2 2230 Model: **AX411NGW**	GfP AX + BT 2X2 – M.2 1216 Model: **AX411E2W**
Argentina 🇦🇷	**No** (Intel will apply CNC marking in the user guide, web flyer and packaging OEMs must put CNC on their system)	Intel / CNC marking / **C-26952** ⓡ RAMATEL	Intel / CNC marking / **C-26953** ⓡ RAMATEL
Australia 🇦🇺	**No See note** (Due to size constraint, marking will be on packaging and User Guide)	(RCM mark)	(RCM mark)
Belarus 🇧🇾	**No** (Due to size constraint, marking will be in this Doc)	TP BY	TP BY
Botswana	**No** (Due to size constraint, marking will be in this Doc)		
Brazil 🇧🇷	**Yes** (OEMs must put ID on their system)	Module Marking: Anatel: **12070-21-04423** Host Labeling: (ANATEL logo) **12070-21-04423**	Module Marking: Anatel: **13291-21-04423** Host Labeling: (ANATEL logo) **13291-21-04423**
Cameroon 🇨🇲	**No See Note**	**Note**: As it is stated in the Approval certificates there is a "vignette" (label) to be purchased by the local representative directly to the Authority and affixed in the host equipment. The procedure is called "Application for Technical Visa". The Application form has to be sent to the General Manager of ART. The number of stickers have to match the quantities of goods to import.	
Canada 🇨🇦	**Yes** (IC ID)	**IC: 1000M-AX411NG**	**IC: 1000M-AX411D2**

intel	**Modular Regulatory Certification Country Markings** *(Table lists only countries requiring marking not necessarily all certified countries)*		
Countries/ Regions 🌐	**Marking is on the board label**	**Intel® Wi-Fi 6E AX411** *(11ax / BT)*	
		GfP AX + BT 2X2 – M.2 2230 Model: **AX411NGW**	GfP AX + BT 2X2 – M.2 1216 Model: **AX411E2W**
China Mainland 🇨🇳	**See note** (Due to size constraint, marking will be on packaging and User Guide	AX411NGW: 2022AJ1573(M)	AX411E2W: 2022AJ1526(M)
Comoros 🇰🇲	**No** (Due to size constraint, marking will be in this Doc)	ANRTIC 21/033/AGR/GF/DG	ANRTIC 21/034/AGR/GF/DG
Congo DR 🇨🇩		Agrée par l'ARPTC N° d'homologation: Date d'homologation:	Agrée par l'ARPTC N° d'homologation: Date d'homologation:
Djibouti 🇩🇯	**Yes** (OEMs must put ID on their system)	The Regulatory Marking is to be printed in a label ("vignette") by the importer or its local representative and affixed on the host equipment: **AGREE PAR LE MCPT (REPUBLIQUE DE DJIBOUTI) Numéro d'agrément : 143/DDTIC/2021 Date d'agrément : 06/10/2021**	The Regulatory Marking is to be printed in a label ("vignette") by the importer or its local representative and affixed on the host equipment: **AGREE PAR LE MCPT (REPUBLIQUE DE DJIBOUTI) Numéro d'agrément : 144/DDTIC/2021 Date d'agrément : 06/10/2021**
Europe/ Radio Equipment Directive (RED) 🇪🇺	**Yes** (Due to size constraint, full marking shall be on the packaging label)	CE	CE
Ghana 🇬🇭	**No** (Due to size constraint, marking will be in this Doc)	NCA APPROVED: 7E5-7M-1CD-RDR	NCA APPROVED: 7E5-7M-X3C-RDR
India 🇮🇳	**No** (Due to size constraint, marking will be in this Doc)	ETA-SD-20210806393	ETA-SD-20210906784
Indonesia 🇮🇩	**No** (Due to size constraint, marking will be in this Doc)	⚠ 102859/SDPPI/2024 7965	⚠ 77788/SDPPI/2021 7965

Modular Regulatory Certification Country Markings
(Table lists only countries requiring marking not necessarily all certified countries)

Countries/ Regions	Marking is on the board label	Intel® Wi-Fi 6E AX411 *(11ax / BT)*	
		GfP AX + BT 2X2 – M.2 2230 Model: **AX411NGW**	GfP AX + BT 2X2 – M.2 1216 Model: **AX411E2W**
Japan	**See note** (Due to size constraint, marking will be on packaging and User Guide)	AX411NGW : • **RF: 003-210221** • **TEL: D210157003** (dspr) Ⓡ003-210221 5.15-5.35 GHz: Indoor use only (Except communicate to high power radio) Ⓣ D210157003 **6E Upgrade:** • **RF: 003-220252** • **TEL: D220161003** (dspr) Ⓡ003-220252 5.15-5.35 GHz & 6GHz LPI: Indoor use only (Except communicate to high power radio) Ⓣ D220161003	AX411E2W : • **RF: 003-210222** • **TEL: D210158003** (dspr) Ⓡ003-210222 5.15-5.35 GHz: Indoor use only (Except communicate to high power radio) Ⓣ D210158003 **6E Upgrade:** • **RF: 003-220253** • **TEL: D220162003** (dspr) Ⓡ003-220253 5.15-5.35 GHz & 6GHz LPI: Indoor use only (Except communicate to high power radio) Ⓣ D220162003
		5GHz band (W52, W53) and 6GHz (LPI): Indoor use only (Except communicate to W52 high power radio)	
Jordan	**No** (Due to size constraint, marking will be in this Doc)		
Malaysia	**No** (OEMs must put ID on their system)	*Note*: Every importer (ie. OEM) must have a valid SIRIM certificate of the Intel module in the name of their local representative in order to sell their laptops in the Malaysia market. There is a mandatory labeling requirement for Malaysia. OEMs will need to affix the SLP mark on the approved product itself or at the back of their laptops in accordance to the Self Labelling Program (SLP) requirement. △ **MCMC** ABCD12345678	
Mauritania	**No** (Due to size constraint, marking will be in this Doc)	Agréé par l'ARE Mauritanie Numéro d'agrément : 0992/ARE/2021 Date d'agrément : 20/09/2021	Agréé par l'ARE Mauritanie Numéro d'agrément : 1006/ARE/2021 Date d'agrément : 04/10/2021
Mexico	**No** (Due to size constraint,		

Modular Regulatory Certification Country Markings
(Table lists only countries requiring marking not necessarily all certified countries)

Countries/ Regions	Marking is on the board label	Intel® Wi-Fi 6E AX411 (11ax / BT)	
		GfP AX + BT 2X2 – M.2 2230 Model: **AX411NGW**	GfP AX + BT 2X2 – M.2 1216 Model: **AX411E2W**
(Mexico flag)	marking will be in this Doc)		
Moldova	**No** (Due to size constraint, marking will be in this Doc)	(Marking: SM triangle symbol, 024)	(Marking: SM triangle symbol, 024)
Mongolia	**No**	- Label is the responsibility of the local importers/suppliers/host manufacturers who are selling their finished products integrating the approved radio module in the market. - Local companies will need to submit an application form to the CRC approval authority to use the conformity marking. - The label must include (1) Conformity marking, (2) text in Mongolia *"Монгол Улсад баталгаажсан"* or in English *"Approved in Mongolia"* and CRC conformity certificate number ID according to the sample marking below. **Mongolian version** — МОНГОЛ УЛСАД БАТАЛГААЖСАН ID: RYYXXXXX **English version** — APPROVED IN MONGOLIA ID: AYYXXXXX	
Morocco	**No** (Due to size constraint, marking will be in this Doc)	AGREE PAR L'ANRT MAROC Numéro d'agrément : MR00030161ANRT2021 Date d'agrément : 28/09/2021	AGREE par l'ANRT MAROC Numéro d'agrément : MR00030231ANRT2021 Date d'agrément : 05/10/2021
Mozambique	**No** (Due to size constraint, marking will be in this Doc)	Marking is the responsibility of host OEM and not module manufacturer	Marking is the responsibility of host OEM and not module manufacturer
New Zealand	**No** (Due to size constraint, marking will be on packaging)	R-NZ	R-NZ
Nigeria	**No** (Due to size constraint, marking will be in this Doc)	Connection and use of this communications equipment is permitted by the Nigerian Communications Commission	Connection and use of this communications equipment is permitted by the Nigerian Communications Commission

		AX411NGW	Applicant No. D080001 Approval No. TRA/TA-R/12402/21
Oman	See note (Due to size constraint, marking will be on packaging)	Oman TRA Dealer No. D080001 Approval No. TRA/TA-R/12399/21	Applicant No. **D080001** Approval No. **TRA/TA-R/12402/21**
Pakistan	See note (Marking will be on packaging)	PTA APPROVED by PTA 9.1077/2021	PTA APPROVED by PTA 9.1092/2021
Paraguay	Yes	CONATEL NR 2021-10-I-0612	CONATEL NR 2021-10-I-0643
Saudi Arabia	No	AX411NGW Kingdom of Saudi Arabia CITC TA 2021-2096	AX411E2W Kingdom of Saudi Arabia CITC TA 2021-2097
Senegal	No	AGREE PAR ARTP SENEGAL Numero d'agrément: 072104/AG/ER	AGREE PAR ARTP SENEGAL Numero d'agrément: 072117/AG/ER
Serbia	No (Due to size constraint, marking will be in this Doc)	И011 21	И011 21
Sierra Leone	No	AX411NGW: NATCOM TAN: 2021-002-0100	AX411E2W: NATCOM TAN: 2021-002-0101
Singapore	No (Due to size constraint, marking will be on packaging)	Complies with IMDA Standards DA108442 *It is the responsibility of the OEMs to indicate at the back of their laptop or finished product with a statement & marking as follow:"This system contains the following wireless module: Intel AX411NGW"*	Complies with IMDA Standards DA108442 *It is the responsibility of the OEMs to indicate at the back of their laptop or finished product with a statement & marking as follow: "This system contains the following wireless module: Intel AX411E2W"*

South Africa 🇿🇦	**See note**	**AX411NGW:** TA-2021/2241 **ICASA** APPROVED	**AX411E2W:** TA-2021/2277 **ICASA** APPROVED
		Note: The approval labels must be purchased by the customer's local representative directly from the approval authority ICASA	
South Korea 🇰🇷	**Yes** **See note** **(Due to size constraint, marking will be on packaging)**	KC R-C-INT-AX411NGW 1.상 호 명: INTEL CORPORATION 2.기자재의 명칭 (모델명): 특정소출력 무선기기(무선랜을 포함한 무선접속시스템용 무선기기(5925~7125MHz 주파수 대역)) AX411NGW 3.제조시기: 2021/09 4.제 조 자/제 조 국 : INTEL CORPORATION / China, Taiwan	KC R-C-INT-AX411E2W 1.상 호 명: INTEL CORPORATION 2.기자재의 명칭 (모델명): 특정소출력 무선기기(무선랜을 포함한 무선접속시스템용 무선기기(5925~7125MHz 주파수 대역)) AX411E2W 3.제조시기: 2021/10 4.제 조 자/제 조 국 : INTEL CORPORATION / China, Taiwan
Sri Lanka 🇱🇰	**No** **See note** **(The Regulatory Marking will need to be placed on Intel's Reg. Web flyer and packing.** **All Type Approved RTTE shall have a label permanently affixed on the packaging of RTTE.)**	**Appendix G - Type Approval Label** Telecommunications Regulatory Commission of Sri Lanka 1. Name of Vendor: 2. Type of Equipment: 3. Make & Model: 4. Type Approval Number: 5. Date of Approval to Release the Equipment to the Market: Ref No: IMIE/Serial No: **TRCSL/RTTE-6/1/21-184**	**Appendix G - Type Approval Label** Telecommunications Regulatory Commission of Sri Lanka 1. Name of Vendor: 2. Type of Equipment: 3. Make & Model: 4. Type Approval Number: 5. Date of Approval to Release the Equipment to the Market: Ref No: IMIE/Serial No: **TRCSL/RTTE-6/1/21-183**
		Note: Label (purchase from TRCSL) is mandatory, place on the product (SIM product)	
Taiwan 🇹🇼	**Yes** **See note** **(Due to size constraint, marking will be on packaging and User Guide)**	CCAH21Y10760T0	CCAH21Y10830T5
UAE 🇦🇪	**No** **(Due to size constraint, marking will be on packaging** **OEMs must put Intel's Dealer number on their system)**	**TDRA** هيئة تنظيم الاتصالات والحكومة الرقمية GOVERNMENT REGULATORY AUTHORITY **TDRA - UNITED ARAB Emirates** Mode Dealer ID Name: 0018841/09 TARTTE: ER01510/21 Model Name: AX411NGW Product Type: Short range devices / Low power Devices	**TDRA** هيئة تنظيم الاتصالات والحكومة الرقمية TELECOMMUNICATIONS AND DIGITAL GOVERNMENT REGULATORY AUTHORITY **TDRA - UNITED ARAB Emirates** Mode Dealer ID Name: 0018841/09 TARTTE: ER02246/21 Model Name: AX411E2W Product Type: Short range devices / Low power Devices
UK 🇬🇧	**Yes**	UKCA	UKCA

Ukraine	No (Recommended) (Due to size constraint, marking will be in this Doc)	UA.TR.028	UA.TR.028
USA	Yes (FCC ID)	**FCC ID: PD9AX411NG**	**FCC ID: PD9AX411D2**
Zambia	No (Due to size constraint, marking will be in this Doc)		

Note on product label:

Due to the very small size of the **Intel® Wi-Fi 6E AX411** product (Model **AX411NGW** & Model **AX411E2W**), and as agreed with corresponding country authorities: some Regulatory markings have been placed on Package box and/or in product User manual document mainly because marking affixed on the device itself is too small to be readable.

Revision and Version History

Number	Date	Comments
Rev. 0.0	18/08/2021	• AX411 Web flyer: Initial release Draft version. • Includes "default" Logo and known IDs (Aus/EU/FCC/Can/Taiwan/Singapore/Korea…) • ANATEL ID for NGW
Rev. 0.1	13/09/2021	• FCC, Korea (NGW), Taiwan, Singapore, Japan (NGW, E2W)
Rev. 0.2	23/09/2021	• Indonesia added (NGW)
Rev. 0.3	01/10/2021	• Added Comoros, UAE on NGW
Rev. 0.4	06/10/2021	• Added India on NGW , Indonesia on D2W
Rev. 0.5	11/10/2021	• Added Oman, Djibouti, Ghana, Pakistan
Rev. 0.6	21/10/2021	• India Added (E2W)
Rev. 0.7	09/11/2021	• Paraguay added (E2W)
Rev. 0.8	03/01/2022	• Sri Lanka added
Rev. 0.9	07/02/2022	• China Added (NGW, E2W)
Rev. 1.0	11/02/2021	• UK Logo added
Rev. 1.1.0	29/04/2022	• Argentina corrected
Rev. 1.1.1	13/06/2022	• UAE new marking updates
Rev. 1.1.2	10/20/2022	• Japan 6E update
Rev. 1.1.3	03/21/2023	• Dipole antenna data table updated.
Rev. 1.1.4	01/17/2023	• Japan Marking updated with "LPI" wording.
Rev. 1.1.5	04/16/2024	• ww16'24: Update New Zealand with R-NZ marking
Rev. 1.2	09/16/2024	• ww38'24: Update Indonesia AX411NGW
Rev. 1.3	12/06/2024	• ww49'2024: Oman update
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Information for the User

Safety Notices

USA—FCC and FAA

The FCC with its action in ET Docket 96-8 has adopted a safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC certified equipment. The wireless adapter meets the Human Exposure limits found in OET Bulletin 65, supplement C, 2001, and ANSI/IEEE C95.1, 1992. Proper operation of this radio according to the instructions found in this manual will result in exposure substantially below the FCC's recommended limits.

The following safety precautions should be observed:

- Do not touch or move antenna while the unit is transmitting or receiving.
- Do not hold any component containing the radio such that the antenna is very close or touching any exposed parts of the body, especially the face or eyes, while transmitting.
- Do not operate the radio or attempt to transmit data unless the antenna is connected; this behavior may cause damage to the radio.
- Use in specific environments:
    - The use of wireless adapters in hazardous locations is limited by the constraints posed by the safety directors of such environments.
    - The use of wireless adapters on airplanes is governed by the Federal Aviation Administration (FAA) and as set forth by each airline.
    - The use of wireless adapters in hospitals is restricted to the limits set forth by each hospital.

Safety Approval Considerations:
This device is for use only in complete equipment where the acceptability of the combination is determined by the appropriate safety agencies. When installed, consideration must be given to the following:
It must be installed into a compliant host device meeting the requirement of UL/EN/IEC 60950-1 2nd edition including the general provisions of enclosure design 1.6.2 and specifically paragraph 1.2.6.2 (Fire Enclosure).
The device shall be supplied by a SELV source when installed in the end-use equipment.
A heating test shall be considered in the end-use product for meeting the requirement of UL/EN/IEC 60950-1 2nd edition.

Antenna Use

- To comply with FCC RF exposure limits, it is recommended that for the wireless adapter installed in a host computer, the low gain integrated antennas for this device should be located at a minimum separation distance from the body of all persons as specified according to the FCC modular grant conditions.

Explosive Device Proximity Warning

Warning: Do not operate a portable transmitter (including this wireless adapter) near unshielded blasting caps or in an explosive environment unless the transmitter has been modified to be qualified for such use.

Warning: The wireless adapter is not designed for use with high-gain directional antennas.

Use on Aircraft Caution

Caution: Regulations of the FCC, FAA and individual airlines prohibit airborne operation of some radio-frequency wireless devices (wireless adapters) because their signals could interfere with critical aircraft instruments.

Other Wireless Devices

Safety Notices for Other Devices in the Wireless Network: See the documentation supplied with wireless adapters or other devices in the wireless network.

Local Restrictions on 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac, 802.11ax and 802.16e Radio Usage

Caution: Due to the fact that the frequencies used by 802.11a, 802.11b, 802.11g, 802.11n, and 802.16e wireless LAN devices may not yet be harmonized in all countries, 802.11a, 802.11b, 802.11g, 802.11n, and 802.16e products are designed for use only in specific countries and are not allowed to be operated in countries other than those of designated use. As a user of these products, you are responsible for ensuring that the products are used only in the countries for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country of use. The device transmit power control (TPC) interface is part of the Intel® PROSet/Wireless Wi-Fi Connection Utility Software. Operational restrictions for Equivalent Isotropic Radiated Power (EIRP) are provided by the system manufacturer. Any deviation from the permissible power and frequency settings for the country of use is an infringement of national law and may be punished as such.

For country-specific information, see the additional compliance information supplied with the product.

Wireless Interoperability

The wireless adapter is designed to be interoperable with other wireless LAN products that are based on direct sequence spread spectrum (DSSS) radio technology and to comply with the following standards:

- IEEE Std. 802.11b compliant Standard on Wireless LAN
- IEEE Std. 802.11g compliant Standard on Wireless LAN
- IEEE Std. 802.11a compliant Standard on Wireless LAN
- IEEE Std. 802.11n compliant Standard on Wireless LAN
- IEEE Std. 802.11ac compliant Standard on Wireless LAN
- IEEE Std. 802.11ax compliant Standard on Wireless LAN
- IEEE 802.16e-2005 Wave 2 compliant
- Wireless Fidelity certification, as defined by the Wi-Fi Alliance
- WiMAX certification as defined by the WiMAX Forum

The Wireless Adapter and Your Health

The wireless adapter, like other radio devices, emits radio frequency electromagnetic energy. The level of energy emitted by the wireless adapter, however, is less than the electromagnetic energy emitted by other wireless devices such as mobile phones. The wireless adapter operates within the guidelines found in radio frequency safety standards and recommendations. These standards and recommendations reflect the consensus of the scientific community and result from deliberations of panels and committees of scientists who continually review and interpret the extensive research literature. In some situations, or environments, the use of the wireless adapter may be restricted by the proprietor of the building or responsible representatives of the applicable organization. Examples of such situation may include:

- Using the wireless adapter on board airplanes, or

- Using the wireless adapter in any other environment where the risk of interference with other devices or services is perceived or identified as being harmful.

If you are uncertain of the policy that applies to the use of wireless adapters in a specific organization or environment (an airport, for example), you are encouraged to ask for authorization to use the adapter before you turn it on.

Information to Be Supplied to the End User by the OEM or Integrator

The following regulatory and safety notices must be published in documentation supplied to the end user of the product or system incorporating the Intel® wireless adapter, in compliance with local regulations. Host system must be labeled with "Contains FCC ID: XXXXXXXX", FCC ID displayed on label.

The Intel® wireless adapter must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. Intel Corporation is not responsible for any radio or television interference caused by unauthorized modification of the devices included with the wireless adapter kit or the substitution or attachment of connecting cables and equipment other than that specified by Intel Corporation. The correction of interference caused by such unauthorized modification, substitution or attachment is the responsibility of the user. Intel Corporation and authorized resellers or distributors are not liable for any damage or violation of government regulations that may arise from the user failing to comply with these guidelines.

Local Restriction of 802.11a, 802.11b, 802.11g, and 802.11n Radio Usage

The following statement on local restrictions must be published as part of the compliance documentation for all 802.11a, 802.11b, 802.11g and 802.11n products.

Caution: Due to the fact that the frequencies used by 802.11a, 802.11b, 802.11g, 802.11n, and 802.16e wireless LAN devices may not yet be harmonized in all countries, 802.11a, 802.11b, 802.11g, 802.11n, and 802.16e products are designed for use only in specific countries, and are not allowed to be operated in countries other than those of designated use. As a user of these products, you are responsible for ensuring that the products are used only in the countries for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country of use. Any deviation from the permissible power and frequency settings for the country of use is an infringement of national law and may be punished as such.

FCC Radio Frequency Interference Requirements

This wireless adapter is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range. FCC requires this wireless adapter to be used indoors for the frequency range 5.15 to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems. High power radars are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz bands. These radar stations can cause interference with and /or damage this device.

- This wireless adapter is intended for OEM integrators only.
- This wireless adapter cannot be co-located with any other transmitter unless approved by the FCC based upon FCC Knowledge Database publication number 616217 D03 (Supplement) when there are multiple radios installed in a host device, RF exposure transmitting assessment shall be performed to determine the necessary application and test requirements. Certain criteria can be used in determine the requirement for simultaneous SAR evaluation and whether Class I or Class II permissive change may apply. OEM integrators must consult the actual FCC KDB 616217 Supplement document for details

USA—Federal Communications Commission (FCC)

FC Tested to Comply
with FCC Standards
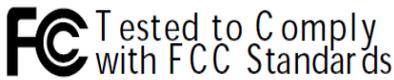
This wireless adapter complies with Part 15 of the FCC Rules. Operation of the device is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference that may cause undesired operation.
- The requirements described within this document are provided to OEM's and system integrators installing the wireless adapter in host platforms. Strict adherence to these requirements is necessary to meet the conditions of compliance with FCC and Industry Canada rules for RF exposure. When all requirements described herein are fulfilled the wireless adapter may be installed in host platforms with no further RF exposure restrictions when integrating. If <u>any</u> of the requirements herein are not fulfilled then additional testing and FCC/IC Permissive Changes may be required with the specific host platform and/or antennas for compliance.

Antenna Type and Gains
- Only antennas of the same type and with equal or less gains as described in Table-1 below may be used with the wireless adapter. Other types of antennas and/or higher gain antennas can only be authorized by Permissive Change.

- Tabel-1: Worst Case Antenna Gain Definition

Antenna Type	Antenna Location (Main/Aux)	2.4GHz Peak Gain in dBi*	5.2GHz Peak Gain in dBi*	5.5GHz Peak Gain in dBi*	5.7GHz Peak Gain in dBi*
PIFA	Main				
	Aux	3.24	3.73	4.77	4.77
	MIMO				
*All antenna gains include cable loss.					

Antenna Type	Antenna Location (Main/Aux)	6.2GHz Peak Gain in dBi*	6.5GHz Peak Gain in dBi*	6.6GHz Peak Gain in dBi*	7GHz Peak Gain in dBi*
PIFA	Main				
	Aux	4.83	4.30	5.37	5.59
	MIMO				
*All antenna gains include cable loss.					

Antenna Gain table updated for UNII-4

Antenna Type and Gains

Only antennas of the same type and with equal or less gains as 3dBi for the 2.4GHz band and 5dBi for the 5GHz band shall be used with the Intel® wireless adapters. Other types of antennas and/or higher gain antennas may require additional authorization for operation. For testing purposes the following dual band antenna that approximates closely the above limits was used:

Antenna Type	Antenna Location (Main/Aux)	2.4GHz Peak Gain in dBi*	5.2GHz Peak Gain in dBi*	5.5GHz Peak Gain in dBi*	5.7GHz Peak Gain in dBi*	5.9GHz Peak Gain in dBi*	6.2GHz Peak Gain in dBi*	6.5GHz Peak Gain in dBi*	6.7GHz Peak Gain in dBi*	7GHz Peak Gain in dBi*
PIFA	Main/Aux	3.24	3.73	4.77	4.77	4.97**	4.83	4.30	5.37	5.59

Peak Gain w: cable loss (dBi)

Antenna Type	(Main/Aux)	2.4GHz	5.2GHz	5.5GHz	5.8 GHz	6.2GHz	6.5GHz	6.7GHz	6.9GHz
Dipole	Main/Aux MIMO	3.10	4.11	5.17	5.17	5.06	4.71	4.49	5.34

Antenna Placement

- To comply with RF exposure requirements the antenna(s) used with the wireless adapter must be installed to provide a minimum separation distance from all persons in all operating modes and orientations of the host platform as specified by the FCC grant conditions. The antenna separation distance applies to both horizontal and vertical orientations.

Intel® Wireless Adapter	Minimum required antenna-to-user separation distance (mm)
Intel® Wi-Fi 6E AX411 (AX411NGW)	15 mm
Intel® Wi-Fi 6E AX411 (AX411E2W)	15 mm

NOTE for desktop solution: To avoid the possibility of exceeding the FCC radio frequency exposure limits, a minimum distance of 20 cm separation between persons and the **external antennas** must be maintained. The adapter operates below the FCC limits for radio frequency exposure, but the host system should be installed and operated in such a manner that the potential for human contact is avoided.

Details of the authorized configurations can be found at http://www.fcc.gov/oet/ea/ by entering the FCC ID number on the device.

Interference Statement

This wireless adapter 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 wireless adapter generates, uses, and can radiate radio frequency energy. If the wireless adapter is not installed and used in accordance with the instructions, the wireless adapter may cause harmful interference to radio communications. There is no guarantee, however, that such interference will not occur in a particular installation. If this wireless adapter 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 taking one or more of the following measures:

- Reorient or relocate the receiving antenna of the equipment experiencing the interference.
- Increase the distance between the wireless adapter and the equipment experiencing the interference.
- Connect the computer with the wireless adapter to an outlet on a circuit different from that to which the equipment experiencing the interference is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE: The adapter must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. Any other installation or use will violate FCC Part 15 regulations.

Underwriters Laboratories Inc. (UL) Regulatory Approval

This device is UL Recognized Component for use in UL Listed personal computers or compatible equipment.

Halogen-Free Label

Some adapters are packaged with a Halogen-Free label. This claim applies only to halogenated flame retardants and PVC in components. Halogens are below 900 PPM bromine and 900 PPM chlorine.

Low Halogen: Applies only to brominated and chlorinated flame retardants (BFRs/CFRs) and PVC in the final product. Intel components as well as purchased components on the finished assembly meet JS-709 requirements, and the PCB / substrate meet IEC 61249-2-21 requirements. The replacement of halogenated flame retardants and/or PVC may not be better for the environment.

Radio Approvals

To determine whether you are allowed to use your wireless network device in a specific country, please check to see if the radio type number that is printed on the identification label of your device is listed in the manufacturer's OEM Regulatory Guidance document.

Regulatory Markings

A list of required regulatory markings can be found on the web at
http://www.intel.com/content/www/us/en/support/network-and-i-o/wireless-networking/000007443.html

To find the regulatory information for your adapter, click on the link for your adapter. Then click **Additional Information** > **Regulatory Documents**.

Regulatory statement

Brazil

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

Canada—Industry Canada (IC)

This device complies with Industry 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.

Cet appareil se conforme aux normes Canada d'Industrie de RSS permis-exempt. L'utilisation est assujetti aux deux conditions suivantes: (1) cet appareil ne peut pas causer d'interférences, et (2) cet appareil doit accepter des interférences, y compris des interférences qui peuvent causer desopérations non désirées de l'appareil.

Caution: When using IEEE 802.11a wireless LAN, this product is restricted to indoor use due to its operation in the 5.15- to 5.25-GHz frequency range. Industry Canada requires this product to be used indoors for the frequency range of 5.15 GHz to 5.25 GHz to reduce the potential for harmful interference to co-channel mobile satellite systems. High power radar is allocated as the primary user of the 5.25- to 5.35-GHz and 5.65 to 5.85-GHz bands. These radar stations can cause interference with and/or damage to this device. The maximum allowed antenna gain for use with this device is 6dBi in order to comply with the E.I.R.P limit for the 5.25- to 5.35 and 5.725 to 5.85 GHz frequency range in point-to-point operation. To comply with RF exposure requirements all antennas should be located at a minimum distance of 20cm, or the minimum separation distance allowed by the module approval, from the body of all persons.

Attention: l'utilisation d'un réseau sans fil IEEE802.11a est restreinte à une utilisation en intérieur à cause du fonctionnement dans la bande de fréquence 5.15-5.25 GHz. Industry Canada requiert que ce produit soit utilisé à l'intérieur des bâtiments pour la bande de fréquence 5.15-5.25 GHz afin de réduire les possibilités d'interférences nuisibles aux canaux co-existants des systèmes de transmission satellites. Les radars de puissances ont fait l'objet d'une allocation primaire de fréquences dans les bandes 5.25-5.35 GHz et 5.65-5.85 GHz. Ces stations radar peuvent créer des interférences avec ce produit et/ou lui être nuisible. Le gain d'antenne maximum permissible pour une utilisation avec ce produit est de 6 dBi afin d'être conforme aux limites de puissance isotropique rayonnée équivalente (P.I.R.E.) applicable dans les bandes 5.25-5.35 GHz et 5.725-5.85 GHz en fonctionnement point-à-point. Pour se conformer aux conditions d'exposition de RF toutes les antennes devraient être localisées à une distance minimum de 20 cm, ou la distance de séparation minimum permise par l'approbation du module, du corps de toutes les personnes."

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Selon les règlements de Canada d'Industrie, cet émetteur de radio peut seulement fonctionner en utilisant une antenne du type et de gain maximum (ou moindre) que le gain approuvé pour l'émetteur par Canada d'Industrie. Pour réduire les interférences radio potentielles avec les autres utilisateurs, le type d'antenne et son gain devraient être choisis de façon à ce que la puissance isotrope rayonnée équivalente (P.I.R.E.) ne soit pas supérieure à celle qui est nécessaire pour une communication réussie.

China

模块通过型号核准并不代表嵌入或使用该模块的最终设备

符合相关无线电管理技术规定或标准，最终设备厂商须对

产品的技术特性是否符合无线电管理技术规定或标准负责

European Union

The low band 5.15 -5.35 GHz is for indoor use only.
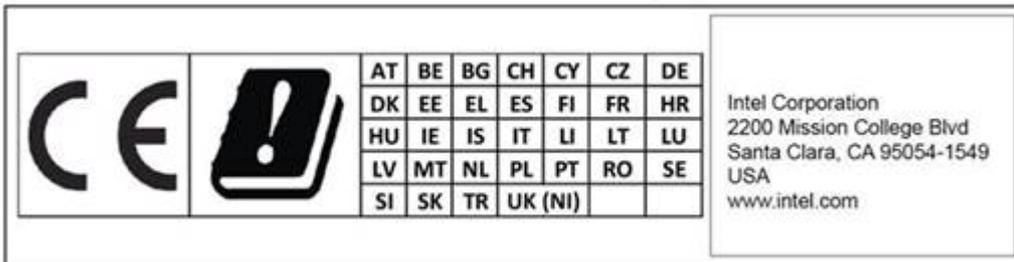
CE	📖	AT	BE	BG	CH	CY	CZ	DE	Intel Corporation
		DK	EE	EL	ES	FI	FR	HR	2200 Mission College Blvd
		HU	IE	IS	IT	LI	LT	LU	Santa Clara, CA 95054-1549
		LV	MT	NL	PL	PT	RO	SE	USA
		SI	SK	TR	UK (NI)				www.intel.com

This equipment complies with the essential requirements of the European Union directive 2014/53/EU. See
[Statements of European Union Compliance](#).
European Union Declarations of Conformity.

To find the European Union Declaration of Conformity for your adapter, click on the link for your adapter.
http://www.intel.com/content/www/us/en/support/network-and-i-o/wireless-networking/000007443.html
Then select and click on the corresponding adapter: you will find Regulatory Documents in PDF format.

Japan

5GHz 帯は室内でのみ使用のこと

5.15-5.35 GHz: Indoor use only. (Except communicate to high power radio)

5.2GHz帯高出力データ通信システム基地局又は陸上移動中継局と通信する場合を除く

Korea

당해 무선설비는 운용 중 전파혼신 가능성이 있음

R-C-INT-AX411E2W

1.상 호 명: INTEL CORPORATION

2.기자재의 명칭 (모델명): 특정소출력 무선기기(무선랜을 포함한 무선접속시스템용 무선기기(5925~7125MHz 주파수 대역)) AX411E2W

3.제조시기: 2021/10

4.제 조 자/제 조 국 : INTEL CORPORATION / China, Taiwan

R-C-INT-AX411NGW

1.상 호 명: INTEL CORPORATION

2.기자재의 명칭 (모델명): 특정소출력 무선기기(무선랜을 포함한 무선접속시스템용 무선기기(5925~7125MHz 주파수 대역)) AX411NGW

3.제조시기: 2021/09

Morocco

The operation of this product in the radio channel 2 (2417 MHz) is not authorized in the following cities: Agadir, Assa-Zag, Cabo Negro, Chaouen, Goulmima, Oujda, Tan Tan, Taourirt, Taroudant and Taza.

The operation of this product in the radio channels 4, 5, 6 et 7 (2425 - 2442 MHz) is not authorized in the following cities: Aéroport Mohamed V, Agadir, Aguelmous, Anza, Benslimane, Béni Hafida, Cabo Negro, Casablanca, Fès, Lakbab, Marrakech, Merchich, Mohammédia, Rabat, Salé, Tanger, Tan Tan, Taounate, Tit Mellil, Zag.

TAIWAN:

取得審驗證明之低功率射頻器材,非經核准,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。低功率射頻器材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。前述合法通信,指依電信管理法規定作業之無線電通信。低功率射頻器材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。高增益指向性天線只得應用於固定式點對點系統。

Statements of European Compliance

This equipment complies with the essential requirements of the European Union directive 2014/53/EU.

[Bulgarian]:	С настоящото Intel® Corporation декларира, че този процесор Intel® Wi-Fi 6E AX411 е в съответствие със съществените изисквания и други приложими разпоредби на Директива 2014/53 / ЕС.
Česky [Czech]	Intel® Corporation tímto prohlašuje, že tento Intel® Wi-Fi 6E AX411 je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 2014/53/EU.
Dansk [Danish]	Undertegnede Intel® Corporation erklærer herved, at følgende udstyr Intel® Wi-Fi 6E AX411 overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EU.
Deutsch [German]	Hiermit erklärt Intel® Corporation, dass sich das Gerät Intel® Wi-Fi 6E AX411 in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2014/53/EU befindet.
Esti [Estonian]	Käesolevaga kinnitab Intel® Corporation seadme Intel® Wi-Fi 6E AX411 vastavust direktiivi 2014/53/EU põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, Intel® Corporation, declares that this Intel® Wi-Fi 6E AX411 is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.
Español [Spanish]	Por medio de la presente Intel® Corporation declara que el Intel® Wi-Fi 6E AX411 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/EU.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Intel® Corporation ΔΗΛΩΝΕΙ ΟΤΙ Intel® Wi-Fi 6E AX411 ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/EU.
Français [French]	Par la présente Intel® Corporation déclare que l'appareil Intel® Wi-Fi 6E AX411 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/EU.
Italiano [Italian]	Con la presente Intel® Corporation dichiara che questo Intel® Wi-Fi 6E AX411 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/EU.
Latviski [Latvian]	Ar šo Intel® Corporation deklarē, ka Intel® Wi-Fi 6E AX411 atbilst Direktīvas 2014/53/EU būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo Intel® Corporation deklaruoja, kad šis Intel® Wi-Fi 6E AX411 atitinka esminius reikalavimus ir kitas 2014/53/EU Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart Intel® Corporation dat het toestel Intel® Wi-Fi 6E AX411 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU.
Malti [Maltese]	Hawnhekk, Intel® Corporation, jiddikjara li dan Intel® Wi-Fi 6E AX411 jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 2014/53/EU.
Magyar [Hungarian]	Alulírott, Intel® Corporation nyilatkozom, hogy a Intel® Wi-Fi 6E AX411 megfelel a vonatkozó alapvetõ követelményeknek és az 2014/53/EU irányelv egyéb elõírásainak.
Norsk [Norwegian]	Intel® Corporation erklærer herved at utstyret Intel® Wi-Fi 6E AX411 er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 2014/53/EU.
Polski [Polish]	Niniejszym, Intel® Corporation, oświadcza, że Intel® Wi-Fi 6E AX411 jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 2014/53/EU.

Português [Portuguese]	Intel® Corporation declara que este Intel® Wi-Fi 6E AX411 está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/EU.
Română [Romanian]:	Acest echipament Intel® Wi-Fi 6E AX411 este in conformitate cu cerintele esentiale si cu alte prevederi relevante ale Directivei 2014/53/EU.
Slovensko [Slovenian]	Šiuo Intel® Corporation izjavlja, da je ta Intel® Wi-Fi 6E AX411 v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 2014/53/EU.
Slovensky [Slovak]	Intel® Corporation týmto vyhlasuje, že Intel® Wi-Fi 6E AX411 spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 2014/53/EU.
Suomi [Finnish]	Intel® Corporation vakuuttaa täten että Intel® Wi-Fi 6E AX411 tyyppinen laite on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar Intel® Corporation att denna Intel® Wi-Fi 6E AX411 står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/EU.
Íslenska [Icelandic]	Hér með lýsir Intel® Corporation yfir því að Intel® Wi-Fi 6E AX411 er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 2014/53/EU.

Customer Support

Intel support is available online or by telephone. Available services include the most up-to-date product information, installation instructions about specific products, and troubleshooting tips.

Online Support

Technical Support: http://www.intel.com/support
Network Product Support: http://www.intel.com/network
Corporate Web Site: http://www.intel.com

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