

Intel® WiFi Adapter Information Guide

This version of Intel® PROSet/Wireless WiFi Software is compatible with the adapters listed below. Note that newer features provided in this software are generally not supported on older generations of wireless adapters.

The following adapters are supported in Windows* 10:

- Intel® Wi-Fi 6E AX210
- Intel® Wi-Fi 6 AX201
- Intel® Wi-Fi 6 AX200
- Intel® Wireless-AC 9560
- Intel® Wireless-AC 9462
- Intel® Wireless-AC 9461
- Intel® Wireless-AC 9260
- Intel® Dual Band Wireless-AC 8265
- Intel® Dual Band Wireless-AC 8260
- Intel® Dual Band Wireless-AC 3168
- Intel® Dual Band Wireless-AC 7265
- Intel® Dual Band Wireless-N 7265
- Intel® Wireless-N 7265
- Intel® Dual Band Wireless-AC 3165

With your WiFi network card, you can access WiFi networks, share files or printers, or even share your Internet connection. All these features can be explored using a WiFi network in your home or office. This WiFi network solution is designed for both home and business use. Additional users and features can be added as your networking needs grow and change.

This guide contains basic information about Intel adapters. Intel® wireless adapters enable fast connectivity without wires for desktop and notebook PCs.

- [Adapter Settings](#)
- [Regulatory and Safety Information](#)
- [Specifications](#)
- [Support](#)
- [Warranty](#)

Depending on the model of your Intel WiFi adapter, your adapter is compatible with 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac and 802.11ax wireless standards. Operating at 5GHz or 2.4GHz frequency, you can now connect your computer to existing high-speed networks that use multiple access points within large or small environments. Your WiFi adapter maintains automatic data rate control according to the access point location and signal strength to achieve the fastest possible connection.

Information in this document is subject to change without notice.

Intel Corporation assumes no responsibility for errors or omissions in this document. Nor does Intel make any commitment to update the information contained herein.

IMPORTANT NOTICE FOR ALL USERS OR DISTRIBUTORS:

Intel wireless LAN adapters are engineered, manufactured, tested, and quality checked to ensure that they meet all necessary local and governmental regulatory agency requirements for the regions that they are designated and/or marked to ship into. Because wireless LANs are generally unlicensed devices that share spectrum with radars, satellites, and other licensed and unlicensed devices, it is sometimes necessary to dynamically detect, avoid, and limit usage to avoid interference with these devices. In many instances Intel is required to provide test data to prove regional and local compliance to regional and governmental regulations before certification or approval to use the product is granted. Intel's wireless LAN's EEPROM, firmware, and software driver are designed to carefully control parameters that affect radio operation and to ensure electromagnetic compliance (EMC). These parameters include, without limitation, RF power, spectrum usage, channel scanning, and human exposure.

For these reasons Intel cannot permit any manipulation by third parties of the software provided in binary format

with the wireless LAN adapters (e.g., the EEPROM and firmware). Furthermore, if you use any patches, utilities, or code with the Intel wireless LAN adapters that have been manipulated by an unauthorized party (i.e., patches, utilities, or code (including open source code modifications) which have not been validated by Intel), (i) you will be solely responsible for ensuring the regulatory compliance of the products, (ii) Intel will bear no liability, under any theory of liability for any issues associated with the modified products, including without limitation, claims under the warranty and/or issues arising from regulatory non-compliance, and (iii) Intel will not provide or be required to assist in providing support to any third parties for such modified products.

Note: Many regulatory agencies consider Wireless LAN adapters to be "modules", and accordingly, condition system-level regulatory approval upon receipt and review of test data documenting that the antennas and system configuration do not cause the EMC and radio operation to be non-compliant.

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*Other names and brands may be claimed as the property of others.

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Adapter Settings

The **Advanced** tab displays the device properties for the WiFi adapter installed on your computer.

How to Access

Double-click on the Intel WiFi adapter in the Network adapters section of the Device Manager and select the **Advanced** tab.

A description of the WiFi adapter settings on the Advanced tab can be found here:

<https://www.intel.com/content/www/us/en/support/articles/000005585/network-and-i-o/wireless-networking.html>

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[Trademarks and Disclaimers](#)

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Regulatory Information

This section provides regulatory information for the following wireless adapters:

- [Intel® Centrino® Wireless-N 100](#)
- [Intel® Centrino® Wireless-N 105](#)
- [Intel® Centrino® Wireless-N 130](#)
- [Intel® Centrino® Wireless-N 135](#)
- [Intel® Centrino® Wireless-N 1000](#)
- [Intel® Centrino® Wireless-N 1030](#)
- [Intel® Centrino® Wireless-N 2200](#)
- [Intel® Centrino® Wireless-N 2230](#)
- [Intel® Centrino® Wireless-N + WiMAX 6150](#)
- [Intel® Centrino® Advanced-N 6200](#)
- [Intel® Centrino® Advanced-N 6205](#)
- [Intel® Centrino® Advanced-N 6230](#)
- [Intel® Centrino® Advanced-N 6235](#)
- [Intel® Centrino® Advanced-N + WiMAX 6250](#)
- [Intel® Centrino® Ultimate-N 6300](#)
- [Intel® Dual Band Wireless-AC 7260](#)
- [Intel® Dual Band Wireless-N 7260](#)
- [Intel® Wireless-N 7260](#)
- [Intel® Dual Band Wireless-AC 3160](#)
- [Intel® Dual Band Wireless-AC 3165](#)
- [Intel® Dual Band Wireless-AC 3168](#)
- [Intel® Dual Band Wireless-AC 7265](#)
- [Intel® Dual Band Wireless-N 7265](#)
- [Intel® Wireless-N 7265](#)
- [Intel® Dual Band Wireless-AC 8260](#)
- [Intel® Dual Band Wireless-AC 8265](#)
- [Intel® Wireless-AC 9260](#)
- [Intel® Wireless-AC 9461](#)
- [Intel® Wireless-AC 9462](#)
- [Intel® Wireless-AC 9560](#)
- [Intel® Tri-Band Wireless-AC 17265](#)
- [Intel® Tri-Band Wireless-AC 18260](#)
- [Intel® Tri-Band Wireless-AC 18265](#)
- [Intel® Wireless Gigabit Sink W13100](#)
- [Intel® Wireless Gigabit 11000](#)
- [Intel® Wireless Gigabit Sink W13110VR](#)
- [Intel® Wireless Gigabit 11100VR](#)
- [Intel® Wi-Fi 6 AX200](#)
- [Intel® Wi-Fi 6 AX201](#)
- [Intel® Wi-Fi 6E AX210](#)

NOTE: Due to the evolving state of regulations and standards in the wireless LAN field (IEEE 802.11 and similar standards), the information provided herein is subject to change. Intel Corporation assumes no responsibility for errors or omissions in this document.

Intel WiFi/WiMAX Wireless Adapters

Information in this section supports the following wireless adapters:

- Intel® Centrino® Wireless-N + WiMAX 6150
- Intel® Centrino® Advanced-N + WiMAX 6250

See [Specifications](#) for complete wireless adapter specifications.

NOTE: In this section, all references to the "wireless adapter" refer to all adapters listed above.

The following information is provided:

- [Information for the User](#)
 - [Regulatory Information](#)
 - [Regulatory ID](#)
 - [Information for OEMs and Host Integrators](#)
-

INFORMATION FOR THE USER

Safety Notices

USA FCC Radio Frequency Exposure

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 requirements found in FCC Part 2, 15C, 15E along with guidance from KDB 447498, KDB 248227 and KDB 616217. 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 electronic devices equipped with wireless adapters on airplanes is governed by rules for each commercial airline operator.
 - The use of wireless adapters in hospitals is restricted to the limits set forth by each hospital.

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.

Antenna Warnings



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

Use On Aircraft Caution



Caution: Regulations of commercial airline operators may prohibit airborne operation of certain electronic devices equipped with radio-frequency wireless devices (wireless adapters) because their signals could interfere with critical aircraft instruments.




Caution: 60 GHz/802.11ad equipment is not permitted on aircraft per FCC §15.255. OEM and host integrators should consider this FCC rule in host devices.

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, 802.11d, 802.11g, 802.11n, 802.11ac, and 802.16e Radio Usage

 **Caution:** Due to the fact that the frequencies used by 802.11a, 802.11b, 802.11d, 802.11g, 802.11n, 802.11ac, and 802.16e wireless LAN devices may not yet be harmonized in all countries, 802.11a, 802.11b, 802.11d, 802.11g, 802.11n, 802.11ac, 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 WiFi 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.

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 draft 2.0 compliant 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 situations 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.

REGULATORY INFORMATION

USA - Federal Communications Commission (FCC)

This wireless adapter is restricted to indoor use due to its operation in the 5.15 to 5.25 and 5.470 to 5.75GHz frequency ranges. No configuration controls are provided for Intel® wireless adapters allowing any change in the frequency of operations outside the FCC grant of authorization for U.S. operation according to Part 15.407 of the FCC rules.

- Intel® wireless adapters are intended for OEM integrators only.
- Intel® wireless adapters cannot be co-located with any other transmitter unless approved by the FCC.

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.

Class B 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.

Safety Approval Considerations

This device has been safety approved as a component and 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.

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.

Japan

5GHz 帯は室内でのみ使用のこと

Korea

해당 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없음.
해당 무선 설비는 5150-5250MHz 대역에서 실내에서만 사용할 수 있음.

Mexico

La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo

no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

Taiwan

第十二條

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。

第十四條

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。

在 5.25-5.35 兆赫頻帶內操作之無線資訊傳輸設備 限於室內使用。

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.

Modular Regulatory Certification Country Markings

A list of countries requiring regulatory markings is available. Note that the lists include only countries requiring marking but not all certified countries. To find the regulatory country marking information for your adapter, perform these steps:

1. Open this web site: <http://www.intel.com/content/www/us/en/support/network-and-i-o/wireless-networking/000007443.html>
 2. Click on the link for your adapter.
 3. Click on **Regulatory Marking Document** for your adapter.
-

INFORMATION FOR OEMs and HOST INTEGRATORS

The guidelines described within this document are provided to OEM integrators installing Intel® wireless adapters in notebook and tablet PC host platforms. Adherence to these requirements is necessary to meet the conditions of compliance with FCC rules, including RF exposure. When all antenna type and placement guidelines described herein are fulfilled the Intel® wireless adapters may be incorporated into notebook and tablet PC host platforms with no further restrictions. If any of the guidelines described herein are not satisfied it may be necessary for the OEM or integrator to perform additional testing and/or obtain additional approval. The OEM or integrator is responsible to determine the required host regulatory testing and/or obtaining the required host approvals for compliance.

- Intel® wireless adapters are intended for OEMs and host integrators only.
 - The Intel® wireless adapter FCC Grant of Authorization describes any limited conditions of modular approval.
 - The Intel® wireless adapters must be operated with an access point that has been approved for the country of operation.
 - Changes or modification to Intel® wireless adapters by OEMs, integrators or other third parties is not permitted. Any changes or modification to Intel® wireless adapters by OEMs, integrators or other third parties will void authorization to operate the adapter.
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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* |
|--|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| PIFA | Main | | | | |
| | Aux | 3.24 | 3.73 | 4.77 | 4.77 |
| | MIMO | | | | |
| *All antenna gains include cable loss. | | | | | |

Antenna Placement Within the Host Platform

To ensure RF exposure compliance the antenna(s) used with the Intel® wireless adapters must be installed in notebook or tablet PC host platforms to provide a minimum separation distance from all persons, in all operating modes and orientations of the host platform, with strict adherence to the table below. The antenna separation distance applies to both horizontal and vertical orientation of the antenna when installed in the host system.

| Intel® Wireless Adapter | Minimum required antenna-to-user separation distance |
|--|--|
| Intel® Centrino® Wireless-N + WiMAX 6150 | 18 mm |
| Intel® Centrino® Wireless-N + WiMAX 6350 | 17 mm |

Simultaneous Transmission of Intel® Wireless Adapters with Other Integrated or Plug-In Transmitters

Based upon FCC Knowledge Database publication number 616217 when there are multiple transmitting devices installed in a host device, an RF exposure transmitting assessment shall be performed to determine the necessary application and test requirements. OEM integrators must identify all possible combinations of simultaneous transmission configurations for all transmitters and antennas installed in the host system. This includes transmitters installed in the host as mobile devices (>20 cm separation from user) and portable devices (<20 cm separation from user). OEM integrators should consult the actual FCC KDB 616217 document for all details in making this assessment to determine if any additional requirements for testing or FCC approval is necessary.

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.

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

Local Restriction of 802.11a, 802.11b, 802.11g, 802.11n, and 802.11e 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.

Intel WiFi Adapters, 802.11n and 802.11ac Compliant

The information in this section applies to the following products:

- Intel® Centrino® Wireless-N 100
- Intel® Centrino® Wireless-N 105
- Intel® Centrino® Wireless-N 130
- Intel® Centrino® Wireless-N 135
- Intel® Centrino® Wireless-N 1000
- Intel® Centrino® Wireless-N 1030
- Intel® Centrino® Wireless-N 2200
- Intel® Centrino® Wireless-N 2230
- Intel® Centrino® Advanced-N 6200
- Intel® Centrino® Advanced-N 6205
- Intel® Centrino® Advanced-N 6230
- Intel® Centrino® Advanced-N 6235
- Intel® Centrino® Ultimate-N 6300
- Intel® Dual Band Wireless-AC 7260
- Intel® Dual Band Wireless-N 7260
- Intel® Wireless-N 7260
- Intel® Dual Band Wireless-AC 3160
- Intel® Dual Band Wireless-AC 3165
- Intel® Dual Band Wireless-AC 3168
- Intel® Dual Band Wireless-AC 7265
- Intel® Dual Band Wireless-N 7265
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- Intel® Tri-Band Wireless-AC 17265
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- Intel® Wireless Gigabit Sink W13100
- Intel® Wireless Gigabit 11000
- Intel® Wireless Gigabit Sink W13110VR
- Intel® Wireless Gigabit 11100VR
- Intel® Wi-Fi 6 AX200
- Intel® Wi-Fi 6 AX201
- Intel® Wi-Fi 6E AX210

See [Specifications](#) for complete wireless adapter specifications.

NOTE: In this section, all references to the "wireless adapter" refer to all adapters listed above.

The following information is provided:

- [Information for the User](#)
 - [Regulatory Information](#)
 - [Regulatory ID](#)
 - [Information for OEMs and Host Integrators](#)
 - [Statements of European Compliance](#)
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INFORMATION FOR THE USER

Safety Notices


USA FCC Radio Frequency Exposure

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 requirements found in FCC Part 2, 15C, 15E along with guidance from KDB 447498, KDB 248227 and KDB 616217. 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).
 - The use of wireless adapters in hospitals is restricted to the limits set forth by each hospital.


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.

Antenna Warnings

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

Use On Aircraft Caution


 **Caution:** Regulations of commercial airline operators may prohibit airborne operation of certain electronic devices equipped with radio-frequency wireless devices (wireless adapters) because their signals could interfere with critical aircraft instruments.

 **Caution:** 60 GHz/802.11ad equipment is not permitted on aircraft per FCC §15.255. OEM and host integrators should consider this FCC rule in host devices.

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, 802.11d, 802.11g, 802.11n, and 802.11ac Radio Usage

 **Caution:** Due to the fact that the frequencies used by 802.11a, 802.11b, 802.11d, 802.11g, 802.11n, and

802.11ac wireless LAN devices may not yet be harmonized in all countries, 802.11a, 802.11b, 802.11d, 802.11g, 802.11n, and 802.11ac 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 WiFi 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.

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 draft compliant on Wireless LAN
- Wireless Fidelity certification, as defined by the Wi-Fi Alliance

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 situations 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.

REGULATORY INFORMATION

USA - Federal Communications Commission (FCC)

This wireless adapter is restricted to indoor use due to its operation in the 5.15 to 5.25 and 5.470 to 5.75GHz frequency ranges. No configuration controls are provided for Intel® wireless adapters allowing any change in the frequency of operations outside the FCC grant of authorization for U.S. operation according to Part 15.407 of the FCC rules.

- Intel® wireless adapters are intended for OEM integrators only.
- Intel® wireless adapters cannot be co-located with any other transmitter unless approved by the FCC.

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.

NOTE: The radiated output power of the adapter is far below the FCC radio frequency exposure limits.

Nevertheless, the adapter should be used in such a manner that the potential for human contact during normal operation is minimized. To avoid the possibility of exceeding the FCC radio frequency exposure limits, you should keep a distance of at least 20cm between you (or any other person in the vicinity), or the minimum separation distance as specified by the FCC grant conditions, and the antenna that is built into the computer. Details of the authorized configurations can be found at <http://www.fcc.gov/oet/ea/> by entering the FCC ID number on the device.

Class B 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.

Safety Approval Considerations

This device has been safety approved as a component and 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.

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.

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 5.15GHz to 5.25GHz 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 5.85GHz 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 permmissible 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 lesinterférences 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.

European Union

The low band 5.15 - 5.35GHz is for indoor use only.

| | | | | | | | |
|--|----|----|----|----|----|----|----|
| | AT | BE | BG | CH | CY | CZ | DE |
| | DK | EE | EL | ES | FI | FR | HR |
| | HU | IE | IS | IT | LI | LT | LU |
| | LV | MT | NL | PL | PT | RO | SE |
| | SI | SK | TR | UK | | | |

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 view the European Union Declaration of Conformity for your adapter, perform these steps.

- 1. Open this web site: <http://www.intel.com/content/www/us/en/support/network-and-i-o/wireless-networking/000007443.html>
- 2. Click on "User Guide."
- 3. Scroll to your adapter.

To view additional regulatory information for your adapter, perform these steps:

1. Open this web site: <http://www.intel.com/content/www/us/en/support/network-and-i-o/wireless-networking/000007443.html>
2. Click on the link for your adapter.
3. Click on **Regulatory Marking Document** for your adapter.

Waste Electrical and Electronic Equipment Directive (WEEE)



Restriction of Hazardous Substances Directive (RoHS) Compliant

All products described herein are compliant with the European Union's RoHS Directive.

For CE Mark-Related Questions related to the wireless adapter, contact:

Intel Corporation Attn: Corporate Quality 2200 Mission College Blvd. Santa Clara, CA 95054-1549 USA

Japan

5GHz 帯は室内でのみ使用のこと

Korea

해당 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없음.
해당 무선 설비는 5150-5250MHz 대역에서 실내에서만 사용할 수 있음.

Mexico

La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

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.

Pakistan

"PTA APPROVED MODEL"

Taiwan

第十二條

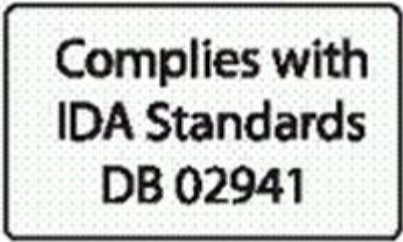
經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條

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。

在 5.25-5.35 兆赫頻帶內操作之無線資訊傳輸設備，限於室內使用。

Singapore



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.

Modular Regulatory Certification Country Markings

A list of countries requiring regulatory markings is available. Note that the lists include only countries requiring marking but not all certified countries. To find the regulatory country marking information for your adapter, perform these steps:

- 1. Open this web site: <http://www.intel.com/content/www/us/en/support/network-and-i-o/wireless-networking/000007443.html>
- 2. Click on the link for your adapter.
- 3. Click on **Regulatory Marking Document** for your adapter.

Regulatory ID

Europe: Models 3160HMW, 3160NGW, 3160SDW, 3165NGW, 7260SDW, 7260NGW, 7260HMW, 7265D2W, 7265NGW, 8260D2W, 8260NGW, 8260NGWH, 18260NGW

| | |
|---|---|
| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions (WiFi/BT) Intel® Wireless Dock Manager 3.x and previous versions (WiGig) |
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE / Bluetooth | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) | 23dBm EIRP max (200mW) |

| | |
|---|--|
| IEEE802.11 a/n/ac mode | The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver. Not supported by the models: 3160HMMW, 3160NGW, 3160SDW, 3165NGW, 7265D2W, 7265NGW |
| (57 - 64 GHz) IEEE802.11 ad mode | 25 dBm EIRP max |

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



Intel® Dual Band Wireless-AC 3165

Due to the very small size of the 3165D2W/3165NGW (12x16), the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 3165D2W, FCC ID: PD93165D2

Canada: Model 3165D2W, IC: 1000M-3165D2

Japan:

Model 3165D2W:

- RF: 003-150155
- TEL: D150112003

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



[R] 003-150155

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

[T] D150112003

Model 3165NGW:

- RF: 003-150009
- TEL: D150008003

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



R 003-150009

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

T D150008003

Korea: Model 3165D2W, MSIP-CRM-INT-7265D2W

Taiwan: Model 3165D2W,

**CCAH15LP1320T9**

China: Model 3165D2W, CMIIT ID: 2015AJ3466 (M)

Europe: Model 3165D2W

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|--|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) Bluetooth/BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

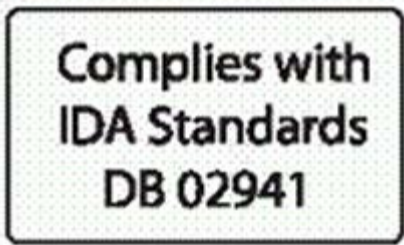
This equipment complies with the essential requirements of the European Union directive 2014/53/EU.



Australia: Model 3165D2W



Singapore: Model 3165D2W



Argentina:

Model 3165D2W,



Model 3165NGW,



Intel® Dual Band Wireless-AC 3168

Due to the very small size of the 3168NGW, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

Japan: Model 3168NGW:

- RF: 003-160024
- TEL: D160013003

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



R 003-160024

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

T D160013003

Europe: Model 3168NGW

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|--|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) Bluetooth/BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

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



Argentina: Model 3168NGW,



Intel® Dual Band Wireless-AC 7265

Due to the very small size of the 7265D2W/7265NGW (12x16), the marking has been placed in this user manual

because the product label on the device is considered too small to be readable.

USA: Model 7265D2W, FCC ID: PD97265D2

Canada: Model 7265D2W, IC: 1000M-7265D2

Japan:

Model 7265D2W:

- RF: 003-140134
- TEL: D140087003

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



[R] 003-140134

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

[T] D140087003

Model 7265NGW:

- RF: 003-140018
- TEL: D140017003

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



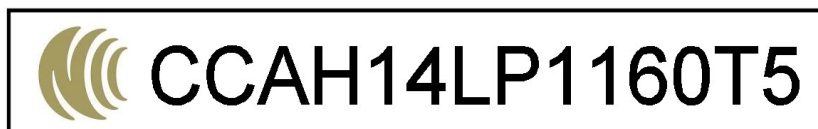
[R] 003-140018

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

[T] D140017003

Korea: Model 7265D2W, MSIP-CRM-INT-7265D2W

Taiwan: Model 7265D2W,



China: Model 7265D2W, CMIIT ID: 2014AJ3467 (M)

Australia: Model 7265D2W,



Argentina: Model 7265D2W,



Intel® Wireless Gigabit Sink W13100

Due to the very small size of the 13100NGW, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

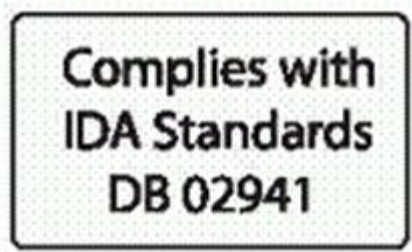
Europe: Model 13100NGW

| | |
|-------------------------------------|--|
| Software Version | Intel® Wireless Dock Manager 3.x and previous versions |
| Maximum Power Output | |
| (57 - 64 GHz) IEEE802.11 ad mode | 25 dBm EIRP max |

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



Singapore: Model 13100NGW



Intel® Tri-Band Wireless-AC 17265

Due to the very small size of the 17265NGW, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

Europe: Model 17265NGW

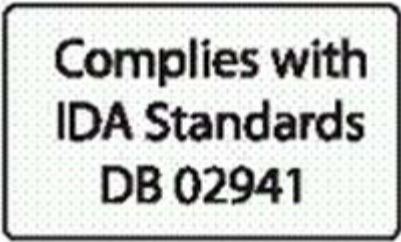
| | |
|------------------|---|
| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|------------------|---|

| | |
|---|---|
| | (WiFi/BT) Intel® Wireless Dock Manager 3.x and previous versions (WiGig) |
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |
| (57 - 64 GHz) IEEE802.11 ad mode | 25 dBm EIRP max |

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



Singapore: Model 17265NGW



Intel® Dual Band Wireless-AC 8260

Due to the very small size of the 8260D2W (12x16), the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 8260D2W, FCC ID: PD98260D2 (FCC ID without suffix "U" denotes factory installation only);

FCC ID: PD98260D2U (FCC ID with suffix "U" denotes user installation or replacement permitted and supported by bios locking feature)

Canada: Model 8260D2W, IC: 1000M-8260D2

Japan: Model 8260D2W:

- RF: 003-150094

- TEL: D150070003

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: Model 8260D2W, MSIP-CRM-INT-8260D2W

Taiwan: Model 8260D2W,



China: Model 8260D2W, CMIIT ID: 2014AJ3467 (M)

Australia: Model 8260D2W,



Argentina: Model 8260D2W,



Due to the very small size of the 8260NGWH/8260NGW, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

Japan:

Model 8260NGW:

- RF: 003-150093
- TEL: D150069003

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



[R] 003-150093

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

[T] D150069003

Model 8260NGWH:

- RF: 003-150154
- TEL: D150111003

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



[R] 003-150154

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

[T] D150111003

Argentina: Model 8260NGWH,



Argentina: Model 8260NGW,



Intel® Dual Band Wireless-AC 8265

Due to the very small size of the 8265NGW (22mm x 30mm x 2.4mm), the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 8265NGW

- FCC ID: PD98265NG (FCC ID without suffix "U" denotes factory installation only)
- FCC ID: PD98265NGU (FCC ID with suffix "U" denotes user installation or replacement permitted and supported by BIOS locking feature)

Canada: Model 8265NGW, IC: 1000M-8265NG

Japan: Model 8265NGW:

- RF 003-160104
- TEL D160055003

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



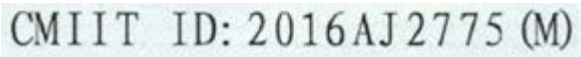
Korea: Model 8265NGW, MSIP-CRM-INT-8265NGW,



Taiwan: Model 8265NGW



China: Model 8265NGW



Europe: Models 8265NGW, 8265D2W

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|---|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |

| | |
|--|---|
| (5150 - 5725 MHz) IEEE802.11 a/n/ac mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |
| (57 - 64 GHz) IEEE802.11 ad mode | 25 dBm EIRP max |

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



Australia: Model 8265NGW,

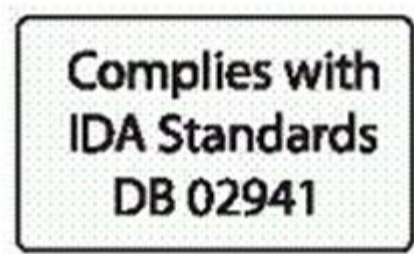


Brazil: Model 8265NGW: ANATEL: XXXXXXXXXX,

Argentina: Model 8265NGW,



Singapore: Model 8265NGW:



Pakistan: Model 8265NGW

"PTA APPROVED MODEL"

Due to the very small size of the 8265D2W (12mm x 16mm x 1.8mm), the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 8265D2W, FCC ID: PD98265D2

Canada: Model 8265D2W, IC: 1000M-8265D2

Japan: Model 8265D2W:

- RF 003-160129
- TEL D160076003

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: Model 8265D2W, MSIP-CRM-INT-8265D2W,



Taiwan: Model 8265D2W



China: Model 8265D2W



Australia: Model 8265D2W,

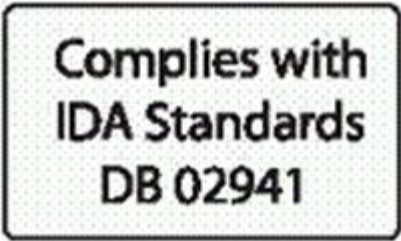


Brazil: Model 8265D2W: ANATEL: XXXXXXXXXX,

Argentina: Model 8265D2W,



Singapore: Model 8265D2W:



Pakistan: Model 8265D2W

"PTA APPROVED MODEL"

Intel® Wireless-AC 9260 (Model 9260NGW)

Due to the very small size of the 9260NGW (22mm x 30mm x 2.4mm), the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 9260NGW, FCC ID: PD99260NG

Canada: Model 9260NGW, IC: 1000M-9260NG

Japan: Model 9260NGW:

- RF 003-170125
- TEL D170079003

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: Model 9260NGW, MSIP-CRM-INT-9260NGW



Taiwan: Model 9260NGW



China: Model 9260NGW

CMIIT ID: 2016AJ2775 (M)

Europe: Model 9260NGW

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|---|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

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



Australia: Model 9260NGW



Singapore: Model 9260NGW



Intel® Wireless-AC 9260 (Model 9260D2WL)

Due to the very small size of the 9260D2WL (12mm x 16mm x 1.8mm), the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 9260D2WL, FCC ID: PD99260D2L

Canada: Model 9260D2WL, IC: 1000M-9260D2L

Japan: Model 9260D2WL:

- RF: 003-190024
- TEL: D190023003

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



Europe: Model 9260D2WL

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|---|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

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



Australia: Model 9260D2WL



Brazil: Model 9260D2WL, ANATEL: 05831-17-04423

Singapore: Model 9260D2WL



Argentina: Model 9260D2WL



Pakistan: Model 9260D2WL

APPROVED BY PTA: 9.9203/2019

Intel® Wireless-AC 9461 (Model 9461NGW)

Due to the very small size of the 9461NGW (22mm x 30mm x 2.4mm), the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 9461NGW, FCC ID: PD99461NG

Canada: Model 9461NGW, IC: 1000M-9461NG

Japan: Model 9461NGW:

- RF 003-170204
- TEL D170127003

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



[R] 003-170204

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

[T] D170127003

Korea: Model 9461NGW

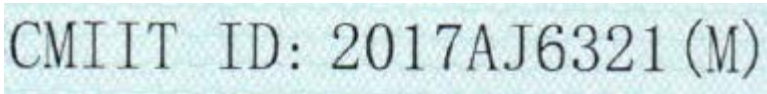


MSIP-CRM-INT-9461NGW

Taiwan: Model 9461NGW



China: Model 9461NGW



Europe: Model 9461NGW

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|---|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

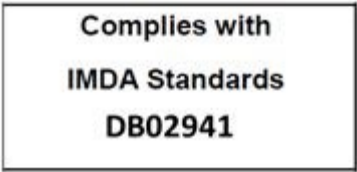
This equipment complies with the essential requirements of the European Union directive 2014/53/EU.



Australia: Model 9461NGW



Singapore: Model 9461NGW



Intel® Wireless-AC 9461 (Model 9461D2W)

Due to the very small size of the 9461D2W (12mm x 16mm x 1.8mm), the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 9461D2W, FCC ID: PD99461D2

Canada: Model 9461D2W, IC: 1000M-9461D2

Japan: Model 9461D2W:

- RF 003-170203
- TEL D170126003

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: Model 9461D2W



Taiwan: Model 9461D2W



China: Model 9461D2W

CMIIT ID: 2017AJ6329 (M)

Europe: Model 9461D2W

| | |
|---|---|
| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

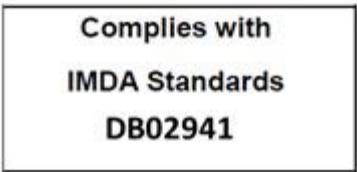
This equipment complies with the essential requirements of the European Union directive 2014/53/EU.



Australia: Model 9461D2W



Singapore: Model 9461D2W



Intel® Wireless-AC 9462 (Model 9462NGW)

Due to the very small size of the 9462NGW (22mm x 30mm x 2.4mm), the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 9462NGW, FCC ID: PD99462NG

Canada: Model 9462NGW, IC: 1000M-9462NG

Japan: Model 9462NGW:

- RF 003-170245
- TEL D170151003

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



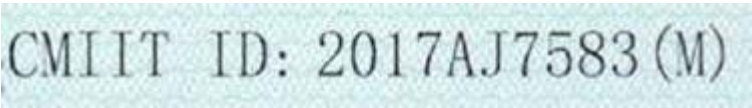
Korea: Model 9462NGW



Taiwan: Model 9462NGW



China: Model 9462NGW



Europe: Model 9462NGW

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|---|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |

| | |
|--|---|
| (5150 - 5725 MHz) IEEE802.11 a/n/ac mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

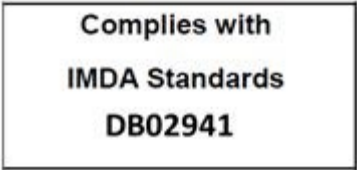
This equipment complies with the essential requirements of the European Union directive 2014/53/EU.



Australia: Model 9462NGW



Singapore: Model 9462NGW



Intel® Wireless-AC 9462 (Model 9462D2W)

Due to the very small size of the 9462D2W (12mm x 16mm x 1.8mm), the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 9462D2W, FCC ID: PD99462D2

Canada: Model 9462D2W, IC: 1000M-9462D2

Japan: Model 9462D2W:

- RF 003-170243
- TEL D170149003

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



R

003-170243

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

T

D170149003

Korea: Model 9462D2W



R-CRM-INT-9462D2W

Taiwan: Model 9462D2W



CCAH17LP4550T5

China: Model 9462D2W

CMIIT ID: 2017AJ7649 (M)

Europe: Model 9462D2W

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|---|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

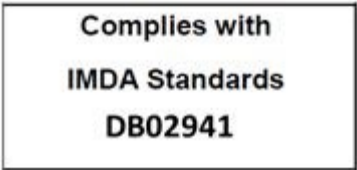
This equipment complies with the essential requirements of the European Union directive 2014/53/EU.



Australia: Model 9462D2W



Singapore: Model 9462D2W



Intel® Wireless-AC 9560 (Model 9560NGW)

Due to the very small size of the 9560NGW (22mm x 30mm x 2.4mm), the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 9560NGW, FCC ID: PD99560NG

Canada: Model 9560NGW, IC: 1000M-9560NG

Japan: Model 9560NGW:

- RF 003-170126
- TEL D170080003

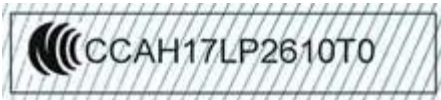
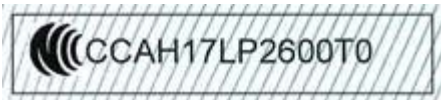
5.2GHz帯高出力データ通信システム基地局又は陸上移動中継局と通信する場合を除く



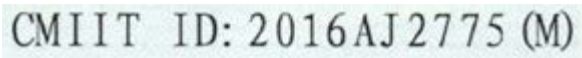
Korea: Model 9560NGW, MSIP-CRM-INT-9560NGW



Taiwan: Model 9560NGW and 9560NGW R:



China: Model 9560NGW



Europe: Model 9560NGW

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|---|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

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



Australia: Model 9560NGW



Singapore: Model 9560NGW

Complies with
IMDA Standards
DB02941

Intel® Wireless-AC 9560 (Model 9560D2W)

Due to the very small size of the 9560D2W (12mm x 16mm x 1.8mm), the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 9560D2W, FCC ID: PD99560D2

Canada: Model 9560D2W, IC: 1000M-9560D2

Japan: Model 9560D2W:

- RF 003-170244
- TEL D170150003

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



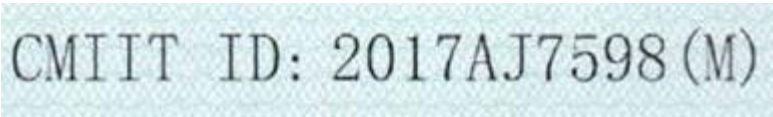
Korea: Model 9560D2W



Taiwan: Model 9560D2W



China: Model 9560D2W



Europe: Model 9560D2W

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|---|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

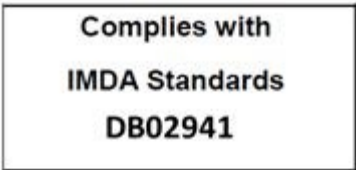
This equipment complies with the essential requirements of the European Union directive 2014/53/EU.



Australia: Model 9560D2W



Singapore: Model 9560D2W



Intel® Wireless-AC 9560 (Model 9560D2WL)

Due to the very small size of the 9560D2WL (12mm x 16mm x 1.8mm), the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 9560D2WL, FCC ID: PD99560D2L

Canada: Model 9560D2WL, IC: 1000M-9560D2L

Japan: Model 9560D2WL:

- RF 003-180060
- TEL D180033003

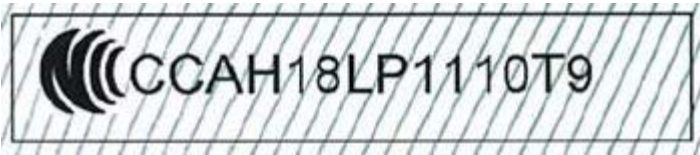
5.2GHz帯高出力データ通信システム基地局又は陸上移動中継局と通信する場合を除く



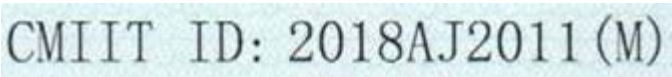
Korea: Model 9560D2WL



Taiwan: Model 9560D2WL



China: Model 9560D2WL



Europe: Model 9560D2WL

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|---|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |

| | |
|--|---|
| mode | |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

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



Australia: Model 9560D2WL



Singapore: Model 9560D2WL



Intel® Tri-band Wireless AC 18265

Due to the very small size of the 18265NGW module, the regulatory marking has been placed in this user manual because the product label on the device is considered too small to be readable

USA: Model 18265NGW, FCC ID: PD918265NG (This module is for factory installation only)

Canada: Model 18265NGW, IC : 1000M-18265NG

Japan: Model 18265NGW



Korea: Model 18265NGW, MSIP-CRM-INT-18265NGW



Taiwan: Model 18265NGW



China: Model 18265NGW, CMIIT ID: 2016AJ7066 (M)

Europe: Model 18265NGW,

| | |
|---|---|
| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions (WiFi/BT) Intel® Wireless Dock Manager 3.x and previous versions (WiGig) |
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |
| (57 - 64 GHz) IEEE802.11 ad mode | 25 dBm EIRP max |

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

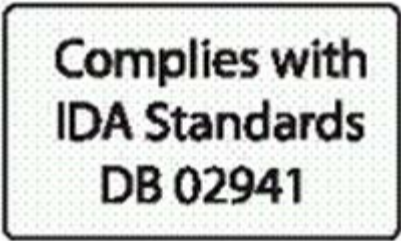


Australia: Model 18265NGW,



Brazil: Model 18265NGW, ANATEL: XXXXXXXXXXXXX

Singapore: Model 18265NGW,



Intel® Wireless Gigabit 11000

Due to the very small size of the 11000D2W/11000D2W LC, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 11000D2W and 11000D2W LC, FCC ID: PD911000D2

Canada: Model 11000D2W, IC: 1000M-11000D2

Japan: Model 11000D2W:



Korea: Model 11000D2W, MSIP-CRM-INT-11000D2W

Taiwan: Model 11000D2W and 11000D2W LC,



China: Model 11000D2W, CMIIT ID: 2016DJ0267 (M); Model 11000D2W LC, CMIIT ID: 2016DJ0268 (M)

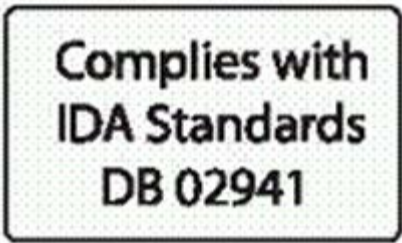
Europe: Model 11000D2W

| | |
|-------------------------------------|--|
| Software Version | Intel® Wireless Dock Manager 3.x and previous versions |
| Maximum Power Output | |
| (57 - 64 GHz) IEEE802.11 ad mode | 25 dBm EIRP max |

Australia: Model 11000D2W,



Singapore: Model 11000D2W/11000D2W LC:



Intel® Wireless Gigabit Sink W13110VR

Due to the very small size of the 13110NGW, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model 13110NGW, FCC ID: PD913110NG

Canada: Model 13110NGW, IC: 1000M-13110NG

Korea: Model 13110NGW, R-CRM-INT-13110NGW

Taiwan: Model 13110NGW



Europe: Model 13110NGW

| | |
|------------------------------------|----------------------------------|
| Software Version | Intel® Wireless VR dashboard 4.x |
| Maximum Power Output | |
| (57 - 64 GHz) IEEE802.11ad mode | 25 dBm EIRP max |

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



Singapore: Model 13110NGW



Intel® Wireless Gigabit 11100VR

Due to the very small size of the 11100D2W, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

- USA:** Model 11100D2W, FCC ID: PD911100D2
- Canada:** Model 11100D2W, IC: 1000M-11100D2
- Korea:** Model 11100D2W, R-CRM-INT-11100D2W
- Taiwan:** Model 11100D2W



Europe: Model 11100D2W

| | |
|------------------------------------|----------------------------------|
| Software Version | Intel® Wireless VR Dashboard 4.x |
| Maximum Power Output | |
| (57 - 64 GHz) IEEE802.11ad mode | 26 dBm EIRP max |

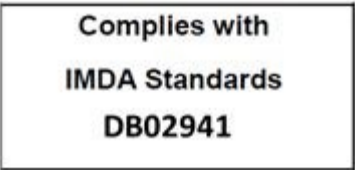
This equipment complies with the essential requirements of the European Union directive 2014/53/EU.



Australia: Model 11100D2W



Singapore: Model 11100D2W



Intel® Wi-Fi 6 AX200 (Model AX200D2WL)

Due to the very small size of the AX200D2WL, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model AX200D2WL, FCC ID: PD9AX200D2L

Canada: Model AX200D2WL, IC: 1000M-AX200D2L

Japan: Model AX200D2WL:

- RF: 003-190023
- TEL: D190022003

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: Model AX200D2WL



Taiwan: Model AX200D2WL



China: Model AX200D2WL, CMIIT ID: 2019AJ2493 (M)

Europe: Model AX200D2WL

| | |
|--|---|
| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n/ax mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) | 10dBm EIRP max (10mW) |

| | |
|---|---|
| BLE | |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac/ax mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac/ax mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

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



Australia: Model AX200D2WL



Brazil: Model AX200D2WL, ANATEL: XXXXXXXXXXXXX

Singapore: Model AX200D2WL



Argentina: Model AX200D2WL



Pakistan: Model AX200D2WL

APPROVED BY PTA: 9.9202/2019

Intel® Wi-Fi 6 AX200 (Model AX200NGW)

Due to the very small size of the AX200NGW, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model AX200NGW, FCC ID: PD9AX200NG

Canada: Model AX200NGW, IC: 1000M-AX200NG

Japan: Model AX200NGW:

- RF: 003-190022
- TEL: D190021003

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: Model AX200NGW



Taiwan: Model AX200NGW



China: Model AX200NGW, CMIIT ID: 2019AJ2274 (M)

Europe: Model AX200NGW

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|--|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n/ax mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac/ax mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac/ax mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

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



Australia: Model AX200NGW



Brazil: Model AX200NGW, ANATEL: XXXXXXXXXXXXXXX

Singapore: Model AX200NGW



Argentina: Model AX200NGW



Pakistan: Model AX200NGW

APPROVED BY PTA: 9.9211/2019

Intel® Wi-Fi 6 AX201 (Model AX201NGW)

Due to the very small size of the AX201NGW, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model AX201NGW, FCC ID: PD9AX201NG

Canada: Model AX201NGW, IC: 1000M-AX201NG

Japan: Model AX201NGW:

- RF: 003-180232
- TEL: D180131003

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



**003-180232**

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

**D180131003**

Korea: Model AX201NGW



R-C-INT-AX201NGW

Taiwan: Model AX201NGW



CCA-H18LP3520T2

China: Model AX201NGW

CMIIT ID: 2018AJ7550 (M)

Europe: Model AX201NGW

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|--|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n/ax mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac/ax mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac/ax mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

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

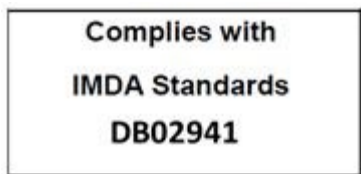


Australia: Model AX201NGW



Brazil: Model AX201NGW, ANATEL: 06970-18-04423

Singapore: Model AX201NGW



Argentina: Model AX201NGW



Pakistan: Model AX201NGW

APPROVED BY PTA: 9.9116/2019

Intel® Wi-Fi 6 AX201 (Model AX201D2W)

Due to the very small size of the AX201D2W, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model AX201D2W, FCC ID: PD9AX201D2

Canada: Model AX201D2W, IC: 1000M-AX201D2

Japan: Model AX201D2W:

- RF: 003-180233
- TEL: D180132003

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



R

003-180233

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

T

D180132003

Korea: Model AX201D2W



R-C-INT-AX201D2W

Taiwan: Model AX201D2W



CCA-H18LP3410T5

China: Model AX201D2W

CMIIT ID: 2018AJ7553 (M)

Europe: Model AX201D2W

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|--|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n/ax mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac/ax mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac/ax mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

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

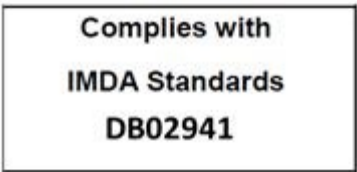


Australia: Model AX201D2W



Brazil: Model AX201D2W, ANATEL: 07039-18-04423

Singapore: Model AX201D2W



Argentina: Model AX201D2W



Pakistan: Model AX201D2W

APPROVED BY PTA: 9.9115/2019

Intel® Wi-Fi 6 AX201 (Model AX201D2WL)

Due to the very small size of the AX201D2WL, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

USA: Model AX201D2WL, FCC ID: PD9AX201D2L

Canada: Model AX201D2WL, IC: 1000M-AX201D2L

Japan: Model AX201D2WL:

- RF: 003-180234
- TEL: D180133003

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



[R] 003-180234

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

[T] D180133003

Korea: Model AX201D2WL

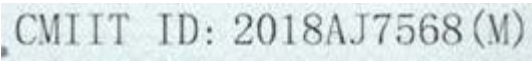


R-C-INT-AX201D2WL

Taiwan: Model AX201D2WL



China: Model AX201D2WL



Europe: Model AX201D2WL

| Software Version | Intel® PROSet/Wireless WiFi Software 20.x and subsequent versions |
|--|---|
| Maximum Power Output | |
| (2400 - 2483.5 MHz) IEEE802.11 b/g/n/ax mode Bluetooth | 20dBm EIRP max (100mW) |
| (2400 - 2483.5 MHz) BLE | 10dBm EIRP max (10mW) |
| (5150 - 5725 MHz) IEEE802.11 a/n/ac/ax mode | 23dBm EIRP max (200mW) The low band 5.15 - 5.35 GHz is for indoor use only |
| (5725 - 5875 MHz) IEEE802.11 a/n/ac/ax mode | 13.98 dBm EIRP Max (25mW) For the standard EN 300 440, the device operating in 5.8 GHz is considered a category 2 receiver |

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

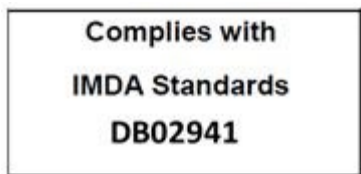


Australia: Model AX201D2WL



Brazil: Model AX201D2WL, ANATEL: 07271-18-04423

Singapore: Model AX201D2WL



Argentina: Model AX201D2WL



Pakistan: Model AX201D2WL

APPROVED BY PTA: 9.9110/2019

Intel® Wi-Fi 6E AX210 (Model AX210NGW)

Due to the very small size of the AX210NGW, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

TBD

Intel® Wi-Fi 6E AX210 (Model AX210D2W)

Due to the very small size of the AX210D2W, the marking has been placed in this user manual because the product label on the device is considered too small to be readable.

TBD

INFORMATION FOR OEMS and HOST INTEGRATORS

The guidelines described within this document are provided to OEM integrators installing Intel® wireless adapters in notebook and tablet PC host platforms. Adherence to these requirements is necessary to meet the conditions of compliance with FCC rules, including RF exposure. When all antenna type and placement guidelines described herein

are fulfilled the Intel® wireless adapters may be incorporated into notebook and tablet PC host platforms with no further restrictions. If any of the guidelines described herein are not satisfied it may be necessary for the OEM or integrator to perform additional testing and/or obtain additional approval. The OEM or integrator is responsible to determine the required host regulatory testing and/or obtaining the required host approvals for compliance.

- Intel® wireless adapters are intended for OEMs and host integrators only.
- The Intel® wireless adapter FCC Grant of Authorization describes any limited conditions of modular approval.
- The Intel® wireless adapters must be operated with an access point that has been approved for the country of operation.
- Changes or modification to Intel® wireless adapters by OEMs, integrators or other third parties is not permitted. Any changes or modification to Intel® wireless adapters by OEMs, integrators or other third parties will void authorization to operate the adapter.

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* |
|--|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| PIFA | Main | | | | |
| | Aux | 3.24 | 3.73 | 4.77 | 4.77 |
| | MIMO | | | | |
| *All antenna gains include cable loss. | | | | | |

Antenna Placement Within the Host Platform

To ensure RF exposure compliance the antenna(s) used with the Intel® wireless adapters must be installed in notebook or tablet PC host platforms to provide a minimum separation distance from all persons, in all operating modes and orientations of the host platform, with strict adherence to the table below. The antenna separation distance applies to both horizontal and vertical orientation of the antenna when installed in the host system.

| Wireless Adapter | Minimum required antenna-to-user separation distance |
|-----------------------------------|--|
| Intel® Centrino® Wireless-N 100 | 9 mm |
| Intel® Centrino® Wireless-N 105 | 9 mm |
| Intel® Centrino® Wireless-N 130 | 8 mm |
| Intel® Centrino® Wireless-N 135 | 9 mm |
| Intel® Centrino® Wireless-N 1000* | 20 mm |
| Intel® Centrino® Wireless-N 1030 | 8 mm |
| Intel® Centrino® Wireless-N 2200 | 9 mm |
| Intel® Centrino® Wireless-N 2230 | 6 mm |
| Intel® Centrino® Advanced-N 6200* | 20 mm |
| Intel® Centrino® Advanced-N 6205 | 12 mm |
| Intel® Centrino® Advanced-N 6230 | 12 mm |
| Intel® Centrino® Advanced-N 6235 | 8 mm |
| Intel® Centrino® Ultimate-N 6300 | 13 mm |
| Intel® Dual Band Wireless-AC 7260 | 8 mm |
| Intel® Dual Band Wireless-N 7260 | 8 mm |

| | |
|--|-------|
| Intel® Wireless-N 7260 | 8 mm |
| Intel® Dual Band Wireless-AC 3160 | 8 mm |
| Intel® Dual Band Wireless-AC 3165 | 8 mm |
| Intel® Dual Band Wireless-AC 7265 | 8 mm |
| Intel® Dual Band Wireless-N 7265 | 8 mm |
| Intel® Wireless-N 7265 | 8 mm |
| Intel® Dual Band Wireless-AC 8260 | 8 mm |
| Intel® Dual Band Wireless-AC 8265 | 8 mm |
| Intel® Wireless-AC 9260 | 14 mm |
| Intel® Wireless-AC 9461 (9161NGW) | 19 mm |
| Intel® Wireless-AC 9461 (9161D2W) | 12 mm |
| Intel® Wireless-AC 9462 (9162NGW) | 14 mm |
| Intel® Wireless-AC 9462 (9162D2W) | 15 mm |
| Intel® Wireless-AC 9560 (9560NGW) | 18 mm |
| Intel® Wireless-AC 9560 (9560D2W) | 15 mm |
| Intel® Wireless-AC 9560 (9560D2WL) | TBD |
| Intel® Tri-Band Wireless-AC 17265 | 8 mm |
| Intel® Tri-Band Wireless-AC 18260 | 8 mm |
| Intel® Tri-Band Wireless-AC 18265 | 8 mm |
| Intel® Wireless Gigabit Sink W13100 | 8 mm |
| Intel® Wireless Gigabit 11000 | 8 mm |
| Intel® Wireless Gigabit Sink W13110VR | 8 mm |
| Intel® Wireless Gigabit 11100VR | 8 mm |
| Intel® Wi-Fi 6 AX201 | TBD |
| Intel® Wi-Fi 6 AX200 | TBD |
| Intel® Wi-Fi 6E AX210 | TBD |
| * This wireless adapter may be installed in mobile devices only (requires > 20 cm antenna separation from the body of user). | |

For WiFi/Bluetooth combination adapters it is recommended that a 5 cm separation distance between transmitting antennas be provided within the host system to maintain an adequate separation ratio for simultaneous WiFi and Bluetooth transmission. For less than 5 cm separation the separation ratio must be verified according to FCC publication KDB 447498 for the specific adapter.

Additional regulatory authorization process may be required if wishing to place the 60 GHz/802.11ad RFEM (antenna array) closer than 20 cm to the user.

Simultaneous Transmission of Intel® Wireless Adapters with Other Integrated or Plug-In Transmitters

Based upon FCC Knowledge Database publication number 616217, when there are multiple transmitting devices installed in a host device, an RF exposure transmitting assessment shall be performed to determine the necessary application and test requirements. OEM integrators must identify all possible combinations of simultaneous transmission configurations for all transmitters and antennas installed in the host system. This includes transmitters installed in the host as mobile devices (>20 cm separation from user) and portable devices (<20 cm separation from user). OEM integrators should consult the actual FCC KDB 616217 document for all details in making this assessment to determine if any additional requirements for testing or FCC approval is necessary.

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 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. For country-specific approvals, see [Radio Approvals](#). 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.

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

Local Restriction of 802.11a, 802.11b, 802.11g, 802.11n, and 802.11ad 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, 802.11n, and 802.11ad products.

 **Caution:** Due to the fact that the frequencies used by 802.11a, 802.11b, 802.11g, 802.11n, and 802.11ad wireless LAN devices may not yet be harmonized in all countries, 802.11a, 802.11b, 802.11g and 802.11n 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 permissible settings and restrictions in the country of use could be an infringement of national law and may be punished as such.

Statements of European Compliance

Each of the adapters listed below comply with the essential requirements of the European Union directive 2014/53/EU.

- Intel® Centrino® Wireless-N 100
- Intel® Centrino® Wireless-N 105
- Intel® Centrino® Wireless-N 130
- Intel® Centrino® Wireless-N 135
- Intel® Centrino® Wireless-N 1000
- Intel® Centrino® Wireless-N 1030
- Intel® Centrino® Wireless-N 2200
- Intel® Centrino® Wireless-N 2230
- Intel® Centrino® Advanced-N 6200
- Intel® Centrino® Advanced-N 6205
- Intel® Centrino® Advanced-N 6230
- Intel® Centrino® Advanced-N 6235
- Intel® Centrino® Ultimate-N 6300
- Intel® Dual Band Wireless-AC 7260
- Intel® Dual Band Wireless-N 7260
- Intel® Wireless-N 7260
- Intel® Dual Band Wireless-AC 3160
- Intel® Dual Band Wireless-AC 3165
- Intel® Dual Band Wireless-AC 7265
- Intel® Dual Band Wireless-N 7265

- Intel® Wireless-N 7265
- Intel® Dual Band Wireless-AC 8260
- Intel® Dual Band Wireless-AC 8265
- Intel® Wireless-AC 9260
- Intel® Wireless-AC 9560
- Intel® Tri-Band Wireless-AC 17265
- Intel® Tri-Band Wireless-AC 18260
- Intel® Tri-Band Wireless-AC 18265
- Intel® Wireless Gigabit Sink W13100
- Intel® Wireless Gigabit 11000
- Intel® Wireless Gigabit Sink W13110VR
- Intel® Wireless Gigabit 11100VR
- Intel® Wi-Fi 6 AX201
- Intel® Wi-Fi 6 AX200
- Intel® Wi-Fi 6E AX210

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[Trademarks and Disclaimers](#)

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Specifications

This section provides specification information for the family of Intel® wireless adapters. The following list may not be all inclusive.

- [Intel® Centrino® Wireless-N 100](#)
- [Intel® Centrino® Wireless-N 105](#)
- [Intel® Centrino® Wireless-N 130](#)
- [Intel® Centrino® Wireless-N 135](#)
- [Intel® Centrino® Wireless-N 1000](#)
- [Intel® Centrino® Wireless-N 1030](#)
- [Intel® Centrino® Wireless-N 2200](#)
- [Intel® Centrino® Wireless-N 2230](#)
- [Intel® Centrino® Wireless-N + WiMAX 6150](#)
- [Intel® Centrino® Advanced-N 6200](#)
- [Intel® Centrino® Advanced-N 6205](#)
- [Intel® Centrino® Advanced-N 6230](#)
- [Intel® Centrino® Advanced-N 6235](#)
- [Intel® Centrino® Advanced-N + WiMAX 6250](#)
- [Intel® Centrino® Ultimate-N 6300](#)
- [Intel® Dual Band Wireless-AC 7260](#)
- [Intel® Dual Band Wireless-N 7260](#)
- [Intel® Wireless-N 7260](#)
- [Intel® Dual Band Wireless-AC 3160](#)
- [Intel® Dual Band Wireless-AC 3165](#)
- [Intel® Dual Band Wireless-AC 3168](#)
- [Intel® Dual Band Wireless-AC 7265](#)
- [Intel® Dual Band Wireless-N 7265](#)
- [Intel® Wireless-N 7265](#)
- [Intel® Dual Band Wireless-AC 8260](#)
- [Intel® Dual Band Wireless-AC 8265](#)
- [Intel® Wireless-AC 9260](#)
- [Intel® Wireless-AC 9461](#)
- [Intel® Wireless-AC 9462](#)
- [Intel® Wireless-AC 9560](#)
- [Intel® Tri-Band Wireless-AC 17265](#)
- [Intel® Tri-Band Wireless-AC 18260](#)
- [Intel® Tri-Band Wireless-AC 18265](#)
- [Intel® Wireless Gigabit Sink W13100](#)
- [Intel® Wireless Gigabit 11000](#)
- [Intel® Wireless Gigabit Sink W13110VR](#)
- [Intel® Wireless Gigabit 11100VR](#)
- [Intel® Wi-Fi 6 AX200](#)
- [Intel® Wi-Fi 6 AX201](#)
- [Intel® Wi-Fi 6E AX210](#)

Intel® Centrino® Wireless-N 100, Intel® Centrino® Wireless-N 105, Intel® Centrino® Wireless-N 130 and Intel® Centrino® Wireless-N 135

| | |
|-----------------------------|--|
| Form Factor | PCI Express* Half-Mini Card |
| Dimensions | Half-Mini Card: Width 1.049 in x Length 1.18 in x Height 0.18 in (26.64 mm x 30 mm x 4.5 mm) |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 |
| | |

| | | |
|---|--|-------------------|
| Antenna Diversity | On-board diversity | |
| Connector Interface | 52-pin Mini Card edge connector | |
| Voltage | 3.3 V | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 95% non-condensing (at temperatures of 25 °C to 35 °C) | |
| WiFi | | |
| Frequency Modulation | 2.4 GHz (802.11b/g/n) | |
| Frequency band | 2.400 - 2.4835 GHz (dependent on country) | |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) | |
| Channels | All channels as defined by the relevant specification and country rules. | |
| IEEE 802.11n Data Rates | MIMO Configuration: 1X1 Tx/Rx: 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |
| Bluetooth Support | <ul style="list-style-type: none">• Intel® Centrino® Wireless-N 100: None• Intel® Centrino® Wireless-N 105: None• Intel® Centrino® Wireless-N 130: Bluetooth 2.1, 2.1 + EDR, 3.0, 3.0+HS• Intel® Centrino® Wireless-N 135: Bluetooth 4.0 (Bluetooth Low-Energy and Bluetooth 3.0 +HS) | |
| General | | |
| Operating Systems | Windows* 7 (32-bit and 64-bit), Windows* 8 (32-bit and 64-bit), Windows* 8.1 (32-bit and 64-bit) | |
| Wi-Fi Alliance* certification | Wi-Fi* certification for 802.11b, 802.11g, 802.11n, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WMM, WPS | |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 | |
| IEEE Feature Sets | IEEE 802.11b, 802.11g, 802.11n, 802.11e, 802.11i, 802.11d, 802.11h | |
| Architecture | Infrastructure or ad hoc (peer-to-peer) operating modes | |
| Security | WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, AES-CCMP 128-bit, WEP 128-bit and 64-bit; 802.1X: EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA | |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) | |

Intel® Centrino® Wireless-N 1000

| | |
|-------------|---|
| Form Factor | PCI Express* Mini Card and Half-Mini Card |
| SKUs | Intel® Centrino® Wireless-N 1000 - 1X2 MC/HMC |
| Dimensions | Mini Card: Width 2.0 in x Length 1.18 in x Height 0.18 in (50.80 mm x 30 mm x 4.5 mm) |

| | |
|---|--|
| | Half-Mini Card: Width 1.049 in x Length 1.18 in x Height 0.18 in (26.64 mm x 30 mm x 4.5 mm) |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 |
| Antenna Diversity | On-board diversity |
| Connector Interface | 52-pin Mini Card edge connector |
| Voltage | 3.3 V |
| Operating Temperature | 0 to +80 degrees Celsius |
| Humidity | 50% to 90% non-condensing (at temperatures of 25 °C to 35 °C) |
| WiFi | |
| Frequency Modulation | 2.4 GHz (802.11b/g/n) |
| Frequency band | 2.41-2.474 GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, CCK, DQPSK, DBPSK |
| Wireless Medium | 2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. |
| IEEE 802.11n Data Rates | 300, 270, 243, 240, 180, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps |
| General | |
| Operating Systems | Microsoft Windows* XP (32 and 64 bit) and Windows Vista* (32 and 64 bit), Ubuntu Linux* |
| Wi-Fi Alliance* certification | Wi-Fi* certification for 802.11b, 802.11g, 802.11n, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WMM, WPS |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 |
| WLAN Standard | IEEE 802.11g, 802.11b, 802.11n, 802.11d, 802.11e, 802.11i, |
| Architecture | Infrastructure or ad hoc (peer-to-peer) operating modes |
| Security | WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, 802.1X: EAP-SIM, LEAP, PEAP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA |
| Encryption | AES-CCMP 128-bit, WEP 128-bit and 64-bit, CKIP, TKIP |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) |

Intel® Centrino® Wireless-N 2200 and Intel® Centrino® Wireless-N 2230

| | |
|-----------------------------|--|
| Form Factor | PCI Express* Half-Mini Card |
| Dimensions | Half-Mini Card: Width 1.049 in x Length 1.18 in x Height 0.18 in (26.64 mm x 30 mm x 4.5 mm) |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 |
| Antenna Diversity | On-board diversity |
| Connector Interface | 52-pin Mini Card edge connector |
| Voltage | 3.3 V |

| | | |
|---|---|-------------------|
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 95% non-condensing (at temperatures of 25 °C to 35 °C) | |
| WiFi | | |
| Frequency Modulation | 2.4 GHz (802.11b/g/n) | |
| Frequency band | 2.400 - 2.4835 GHz (dependent on country) | |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) | |
| Channels | All channels as defined by the relevant specification and country rules. | |
| IEEE 802.11n Data Rates | MIMO Configuration: 2X2 Tx/Rx: 300, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |
| Bluetooth Support | <ul style="list-style-type: none">Intel® Centrino® Wireless-N 2200: NoneIntel® Centrino® Wireless-N 2230: Bluetooth 4.0 (Bluetooth Low-Energy and Bluetooth 3.0 +HS) | |
| General | | |
| Operating Systems | Windows* 7 (32-bit and 64-bit), Windows* 8 (32-bit and 64-bit), Windows* 8.1 (32-bit and 64-bit) | |
| Wi-Fi Alliance* certification | Wi-Fi* certification for 802.11b, 802.11g, 802.11n, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WMM, WPS | |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 | |
| IEEE Feature Sets | IEEE 802.11b, 802.11g, 802.11n, 802.11e, 802.11i, 802.11d, 802.11h | |
| Architecture | Infrastructure or ad hoc (peer-to-peer) operating modes | |
| Security | WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, AES-CCMP 128-bit, WEP 128-bit and 64-bit; 802.1X: EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA | |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) | |

Intel® Centrino® Wireless-N 1030 and Intel® Centrino® Advanced-N 6230

| | |
|-----------------------------|--|
| Form Factor | PCI Express* Half-Mini Card |
| Dimensions | Half-Mini Card: Width 1.049 in x Length 1.18 in x Height 0.18 in (26.64 mm x 30 mm x 4.5 mm) |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 |
| Antenna Diversity | On-board diversity |
| Network Standards | 802.11a/b/g/n (varies by adapter) and Bluetooth 3.0 + HS |

| | | |
|---|---|--|
| Connector Interface | 52-pin Mini Card edge connector | |
| Voltage | 3.3 V | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 95% non-condensing (at temperatures of 25 °C to 35 °C) | |
| WiFi Network Standards | Intel® Centrino® Wireless-N 1030: 802.11b/g/n Intel® Centrino® Advanced-N 6230: 802.11a/g/n | |
| Frequency Modulation | 5 GHz (802.11a/n) | 2.4 GHz (802.11b/g/n) |
| Frequency band | 5.15 GHz - 5.85 GHz (dependent on country) | 2.400 - 2.4835 GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5 GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| IEEE 802.11n Data Rates | Intel® Centrino® Advanced-N 6230: Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| | Intel® Centrino® Wireless-N 1030: Rx (Mbps): 300, 270, 243, 240, 180 Tx/Rx (Mbps): 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |
| Bluetooth | Bluetooth Version 3.0 + HS | |
| General | | |
| Operating Systems | <ul style="list-style-type: none">• Microsoft Windows* XP (32-bit and 64-bit)• Windows Vista* (32-bit and 64-bit)• Windows* 7 (32-bit and 64-bit)• Windows* 8 (32-bit and 64-bit)• Windows* 8.1 (32-bit and 64-bit) | |
| Wi-Fi Alliance* certification | Wi-Fi* certification for 802.11b, 802.11g, 802.11a, 802.11h, 802.11d, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WPS, WMM, WMM Power Save, EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA, P2P | |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 | |
| WLAN Standard | IEEE 802.11g, 802.11b, 802.11a, 802.11n | |
| Architecture | Infrastructure or ad hoc (peer-to-peer) operating modes | |
| Security | WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, AES-CCMP 128-bit, WEP 128-bit and 64-bit; 802.1X: EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA | |

| | |
|----------------|-------------------------------|
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) |
|----------------|-------------------------------|

Intel® Centrino® Advanced-N 6235

| | | |
|---|--|--|
| Form Factor | PCI Express* Half-Mini Card | |
| Dimensions | Half-Mini Card: Width 1.049 in x Length 1.18 in x Height 0.18 in (26.64 mm x 30 mm x 4.5 mm) | |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 | |
| Antenna Diversity | On-board diversity | |
| Network Standards | 802.11a/b/g/n and Bluetooth 4.0 | |
| Connector Interface | 52-pin Mini Card edge connector | |
| Voltage | 3.3 V | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 95% non-condensing (at temperatures of 25 °C to 35 °C) | |
| Frequency Modulation | 5 GHz (802.11a/n) | 2.4 GHz (802.11b/g/n) |
| Frequency band | 5.15 GHz - 5.85 GHz (dependent on country) | 2.400 - 2.4835 GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5 GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |
| Bluetooth | Bluetooth Version 4.0 (3.0 +HS) | |
| General | | |
| Operating Systems | Windows* 7 (32-bit and 64-bit), Windows* 8 (32-bit and 64-bit), Windows* 8.1 (32-bit and 64-bit) | |
| Wi-Fi Alliance* certification | Wi-Fi* certification for 802.11b, 802.11g, 802.11a, 802.11h, 802.11d, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WPS, WMM, WMM Power Save, EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA, P2P | |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 | |
| WLAN Standard | IEEE 802.11g, 802.11b, 802.11a, 802.11n | |
| | | |

| | |
|----------------|---|
| Architecture | Infrastructure or ad hoc (peer-to-peer) operating modes |
| Security | WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, AES-CCMP 128-bit, WEP 128-bit and 64-bit; 802.1X: EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) |

Intel® Centrino® Advanced-N + WiMAX 6250 and Intel® Centrino® Wireless-N + WiMAX 6150

| | | |
|-----------------------------|--|---|
| Form Factor | PCI Express* Half-Mini Card | |
| Dimensions | Half-Mini Card: Width 1.049 in x Length 1.18 in x Height 0.18 in (26.64 mm x 30 mm x 4.5 mm) | |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 | |
| Antenna Diversity | On-board diversity | |
| Connector Interface | 52-pin Mini Card edge connector | |
| Voltage | 3.3 V | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 95% non-condensing (at temperatures of 25 °C to 35 °C) | |
| WiFi | | |
| Frequency Modulation | Intel® Centrino® Advanced-N + WiMAX 6250 2.4 GHz (802.11b/g/n), 5 GHz (802.11a/n) | Intel® Centrino® Wireless-N + WiMAX 6150 2.4 GHz (802.11b/g/n) |
| Frequency band | 5.15 GHz - 5.85 GHz (dependent on country) | 2.400 - 2.4835 GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5 GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| IEEE 802.11n Data Rates | Intel® Centrino® Wireless-N + WiMAX 6150 MIMO Configuration: 1X2 Rx: 300, 270, 243, 240, 180 Mbps Rx/Tx: 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps | |
| | Intel® Centrino® Advanced-N + WiMAX 6250 MIMO Configuration: 2X2 Tx/Rx: 300, 270, 243, 240, 180, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| | | |

| | | |
|---|---|--|
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |
| General | | |
| Operating Systems | <ul style="list-style-type: none">• Microsoft Windows* XP (32-bit and 64-bit)• Windows Vista* (32-bit and 64-bit)• Windows* 7 (32-bit and 64-bit)• Windows* 8 (32-bit and 64-bit)• Windows* 8.1 (32-bit and 64-bit) | |
| Wi-Fi Alliance* certification | Wi-Fi* certification for 802.11b, 802.11g, 802.11a, 802.11h, 802.11d, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WMM, WMM Power Save, EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA | |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 | |
| IEEE Feature Sets | Intel® Centrino® Wireless-N + WiMAX 6150: IEEE 802.11b, 802.11g, 802.11n, 802.11e, 802.11i, 802.11h, 802.11d Intel® Centrino® Advanced-N + WiMAX 6250: 802.11a, IEEE 802.11b, 802.11g, 802.11n, 802.11e, 802.11i, 802.11h, 802.11d | |
| Architecture | Infrastructure or ad hoc (peer-to-peer) operating modes | |
| Security | WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, AES-CCMP 128-bit, WEP 128-bit and 64-bit; 802.1X: EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA | |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) | |
| WiMAX General | | |
| Operating Systems | <ul style="list-style-type: none">• Microsoft Windows* XP (32-bit and 64-bit)• Windows Vista* (32-bit and 64-bit)• Windows* 7 (32-bit and 64-bit)• Windows* 8 (32-bit and 64-bit)• Windows* 8.1 (32-bit and 64-bit) | |
| Standard Compliance | 802.16e-2005 Corrigenda 2 (D4) | |
| WiMAX System Profile Feature set | Intel® Centrino® Wireless-N + WiMAX 6150: Mobile WiMAX release 1, Wave II. Supports 3A and 1A/B profiles Intel® Centrino® Advanced-N + WiMAX 6250: Mobile WiMAX release 1, Wave II. Supports 3A, 5A/C, 1A/B, and 5BL profiles | |
| Security | Key Management Protocol (PKMv2) | |
| Encryption | 128-bit CCMP (Counter-Mode/CBC-MAC) based on AES encryption | |
| WiMAX | | |
| Frequency band | Intel® Centrino® Wireless-N + WiMAX 6150: 2.3-2.4 GHz / 2.496-2.690 GHz Intel® Centrino® Advanced-N + WiMAX 6250: 2.3-2.4 GHz / 2.496-2.690 GHz / 3.4-3.8 GHz | |
| Modulation | UL - QPSK, 16 QAM DL - QPSK, 16 QAM, 64 QAM | |
| Wireless Medium | Duplex mode: TDD operations | Scalable OFDMA (SOFDMA): 512 and 1024 FFT |
| | sub-carrier permutation: PUSC | Intel® Centrino® Wireless-N + WiMAX 6150: Channel bandwidths: 5 and 10 MHz Intel® Centrino® Advanced-N + WiMAX |

| | | |
|-----------------------------------|--|--|
| | | 6250: Channel bandwidths: 5, 7, 8.75 and 10 MHz |
| WiMAX Network Release Feature set | SPWG/NWG Release 1.5 | |
| Rate Performance | Intel® Centrino® Wireless-N + WiMAX 6150: Up to 10 Mbps DL and 4 Mbps UL @ peak rate (OTA performance, 10MHz channel) Intel® Centrino® Advanced-N + WiMAX 6250: Up to 20 Mbps DL and 6 Mbps UL @ peak rate (OTA performance, 10MHz channel) | |
| RF Transmitter Output Power | Compliance with Power class 2 | |

Intel® Centrino® Advanced-N 6200, Intel® Centrino® Advanced-N 6205 and Intel® Centrino® Ultimate-N 6300

| | | |
|-----------------------------|---|--|
| Form Factor | Intel® Centrino® Advanced-N 6200, Intel® Centrino® Ultimate-N 6300: PCI Express* Full-Mini Card and Half-Mini Card. Intel® Centrino® Advanced-N 6205: PCI Express* Half-Mini Card. | |
| Dimensions | Full-Mini Card: Width 2.00 in x Length 1.18 in x Height 0.18 in (50.95 mm x 30 mm x 4.5 mm) Half-Mini Card: Width 1.049 in x Length 1.18 in x Height 0.18 in (26.64 mm x 30 mm x 4.5 mm) | |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 | |
| Antenna Diversity | On-board diversity | |
| Connector Interface | 52-pin Mini Card edge connector | |
| Voltage | 3.3 V | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 95% non-condensing (at temperatures of 25 °C to 35 °C) | |
| Frequency Modulation | 5 GHz (802.11a/n) | 2.4 GHz (802.11b/g/n) |
| Frequency band | 5.15 GHz - 5.85 GHz (dependent on country) | 2.400 - 2.4835 GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5 GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| IEEE 802.11n Data Rates | Intel® Centrino® Ultimate-N 6300: Tx/Rx: 450, 405, 360, 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps Intel® Centrino® Advanced-N 6200, Intel® Centrino® Advanced-N 6205: | |

| | |
|---|---|
| | Tx/Rx: 300, 270, 243, 240, 180, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps |
| General | |
| Operating Systems | <ul style="list-style-type: none">• Microsoft Windows* XP (32-bit and 64-bit)• Windows Vista* (32-bit and 64-bit)• Windows* 7 (32-bit and 64-bit)• Windows* 8 (32-bit and 64-bit)• Windows* 8.1 (32-bit and 64-bit) |
| Wi-Fi Alliance* certification | Wi-Fi* certification for 802.11b, 802.11g, 802.11a, 802.11h, 802.11d, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WMM, WMM Power Save, EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 |
| WLAN Standard | IEEE 802.11g, 802.11b, 802.11a, 802.11n |
| Architecture | Infrastructure or ad hoc (peer-to-peer) operating modes |
| Security | WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, AES-CCMP 128-bit, WEP 128-bit and 64-bit; 802.1X: EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) |

Intel® Dual Band Wireless-AC 7260

| | | |
|----------------------------------|--|--|
| Form Factors | Half-Mini Card and M.2 (Next Generation Form Factor - NGFF) | |
| Electrical interfaces | PCIe and USB 2.0 for both form factors | |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 | |
| Antenna Diversity | On-board diversity | |
| IEEE 802.11 Networking Standards | <p>Intel® Dual Band Wireless-AC 7260</p> <ul style="list-style-type: none">• Model 7260HMW - 802.11agn, ac, 2x2, Bluetooth 4.0, PCIe, USB, HMC• Model 7260NGW - 802.11agn, ac, 2x2, Bluetooth 4.0, PCIe, USB, M.2 | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 95% non-condensing (at temperatures of 25 °C to 35 °C) | |
| Frequency Modulation | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |

| | | |
|---|--|---|
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | Intel® Dual Band Wireless-AC 7260: 2 X 2 | |
| Data Rates | All data rates are theoretical maximums. | |
| IEEE 802.11ac Data Rates | Intel® Dual Band Wireless-AC 7260: Up to 867 Mbps | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |
| Bluetooth | Dual Mode Bluetooth* 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE) supported by the following adapters <ul style="list-style-type: none">Model 7260HMMWModel 7260NGW | |
| General | | |
| Operating Systems | Windows* 7 (32-bit and 64-bit), Windows* 8 (32-bit and 64-bit), Windows* 8.1 (64-bit) | |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* for 802.11ac, a/b/g, n, WMM*, WPA*, WPA2*, and WPS, WPS 2.0, Protected Management Frames. Wi-Fi Direct* for peer-to-peer device connections. | |
| Architecture | Infrastructure and SoftAP; Supports simultaneous Client and SoftAP modes | |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 | |
| Security | | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA | |
| Authentication Protocols | PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAPv2 | |
| Encryption | 64-bit and 128-bit WEP, AES-CCMP, TKIP | |
| Wi-Fi Direct* Encryption and Authentication | WPA2, AES-CCMP | |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) | |

Intel® Dual Band Wireless-N 7260

Intel® Wireless-N 7260

| | |
|-----------------------------|--|
| Form Factors | Half-Mini Card, M.2 (Next Generation Form Factor - NGFF) |
| Electrical interfaces | PCIe, USB 2.0 for both form factors |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 |
| Antenna Diversity | On-board diversity |
| IEEE 802.11 Networking | Intel® Dual Band Wireless-N 7260 |

| | | |
|--|---|---|
| Standards | <ul style="list-style-type: none">Model 7260HMMW AN - 802.11agn, 2x2, Bluetooth 4.0, PCIe, USB, HMCModel 7260NGW AN - 802.11agn, 2x2, Bluetooth 4.0, PCIe, USB, M.2Model 7260HMMW NB - 802.11agn, 2x2, PCIe, USB, HMCModel 7260NGW NB - 802.11agn, 2x2, PCIe, USB, M.2 Intel® Wireless-N 7260 <ul style="list-style-type: none">Model 7260HMMW BN - 802.11agn, 2x2, Bluetooth 4.0, PCIe, USB, M.2Model 7260NGW BN - 802.11bgn, 2x2, Bluetooth 4.0, PCIe, USB, M.2 | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 95% non-condensing (at temperatures of 25 °C to 35 °C) | |
| Frequency Modulation (See above, not all bands supported by all adapters) | 5GHz (802.11a/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| 802.11n spatial streams | All adapters: 2 X 2 spatial streams | |
| Data Rates | All data rates are theoretical maximums. | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |
| Bluetooth | Dual Mode Bluetooth* 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE) supported by the following adapters <ul style="list-style-type: none">Model 7260HMMW ANModel 7260NGW ANModel 7260HMMW BNModel 7260NGW BN | |
| General | | |
| Operating Systems | Windows* 7 (32-bit and 64-bit), Windows 8 (32-bit and 64-bit), Windows* 8.1 (64-bit) | |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* for 802.11ac, a/b/g, n, WMM*, WPA*, WPA2*, and WPS, WPS 2.0, Protected Management Frames. Wi-Fi Direct* for peer-to-peer device connections. | |
| Architecture | Infrastructure and SoftAP; Supports simultaneous Client and SoftAP modes | |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 | |
| Security | | |

| | |
|---|--|
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA |
| Authentication Protocols | PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAPv2 |
| Encryption | 64-bit and 128-bit WEP, AES-CCMP, TKIP |
| Wi-Fi Direct* Encryption and Authentication | WPA2, AES-CCMP |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) |

Intel® Dual Band Wireless-AC 3160

| | | |
|----------------------------------|--|---|
| Form Factors | Half-Mini Card and M.2 (Next Generation Form Factor - NGFF) | |
| Electrical interfaces | PCIe and USB 2.0 for both form factors | |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 | |
| Antenna Diversity | On-board diversity | |
| IEEE 802.11 Networking Standards | Intel® Dual Band Wireless-AC 3160 <ul style="list-style-type: none">Model 3160HMMW - 802.11agn, ac, 1x1, Bluetooth 4.0, PCIe, USB, HMCModel 3160NGW - 802.11agn, ac, 1x1, Bluetooth 4.0, PCIe, USB, M.2 | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 90% non-condensing (at temperatures of 25 °C to 35 °C) | |
| Frequency Modulation | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | Intel® Dual Band Wireless-AC 3160: 1 X 1 | |
| Data Rates | All data rates are theoretical maximums. | |
| IEEE 802.11ac Data Rates | Intel® Dual Band Wireless-AC 3160: Up to 433 Mbps | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |
| Bluetooth | Dual Mode Bluetooth* 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE) supported by the following adapters <ul style="list-style-type: none">Model 3160HMMWModel 3160NGW | |
| General | | |
| | | |

| | |
|---|---|
| Operating Systems | Windows* 7 (32-bit and 64-bit), Windows 8 (32-bit and 64-bit), Windows* 8.1 (64-bit) |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* for 802.11ac, a/b/g, n, WMM*, WPA*, WPA2*, and WPS, WPS 2.0, Protected Management Frames. Wi-Fi Direct* for peer-to-peer device connections. |
| Architecture | Infrastructure and SoftAP; Supports simultaneous Client and SoftAP modes |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 |
| Security | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA |
| Authentication Protocols | PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAPv2 |
| Encryption | 64-bit and 128-bit WEP, AES-CCMP, TKIP |
| Wi-Fi Direct* Encryption and Authentication | WPA2, AES-CCMP |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) |

Intel® Dual Band Wireless-AC 3165 (Model 3165NGW)

| | | |
|----------------------------------|--|---|
| Form Factors | M.2 (Next Generation Form Factor - NGFF) | |
| Electrical interfaces | PCIe and USB 2.0 | |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 | |
| Antenna Diversity | On-board diversity | |
| IEEE 802.11 Networking Standards | 802.11abgn, 802.11ac, 802.11d, 802.11e, 802.11i, 802.11h, 802.11w | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) | |
| Frequency Modulation | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | Intel® Dual Band Wireless-AC 3165: 1 X 1 | |
| Data Rates | All data rates are theoretical maximums. | |
| IEEE 802.11ac Data Rates | Intel® Dual Band Wireless-AC 3165: Up to 433 Mbps | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data | 11, 5.5, 2, 1 Mbps | |

| | |
|---|---|
| Rates | |
| Bluetooth | Dual Mode Bluetooth* 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE) |
| General | |
| Operating Systems | Windows* 7 (32-bit and 64-bit), Windows* 8 (32-bit and 64-bit), Windows* 8.1 (64-bit) |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* for 802.11ac, a/b/g, n, WMM*, WPA*, WPA2*, and WPS, WPS 2.0, Protected Management Frames. Wi-Fi Direct* for peer-to-peer device connections. |
| Architecture | Infrastructure and SoftAP; Supports simultaneous Client and SoftAP modes |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 |
| Security | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA |
| Authentication Protocols | PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAPv2 |
| Encryption | 64-bit and 128-bit WEP, AES-CCMP, TKIP |
| Wi-Fi Direct* Encryption and Authentication | WPA2, AES-CCMP |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) |

Intel® Dual Band Wireless-AC 3168

| | | |
|----------------------------------|--|---|
| Form Factors | M.2 2230 (Next Generation Form Factor - NGFF) | |
| Electrical interfaces | PCIe and USB 2.0 | |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 | |
| Antenna Diversity | On-board diversity | |
| IEEE 802.11 Networking Standards | 802.11abgn, 802.11ac, 802.11d, 802.11e, 802.11i, 802.11h, 802.11w | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) | |
| Frequency Modulation | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | Intel® Dual Band Wireless-AC 3168: 1 X 1 | |
| Data Rates | All data rates are theoretical maximums. | |
| IEEE 802.11ac Data Rates | Intel® Dual Band Wireless-AC 3168: Up to 433 Mbps | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |

| | |
|---|---|
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps |
| Bluetooth | Dual Mode Bluetooth* 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.2 (BLE) |
| General | |
| Operating Systems | Linux, Windows* 8.1 (64-bit), Windows* 10 (64-bit) |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* for 802.11ac, a/b/g, n, WMM*, WPA*, WPA2*, and WPS, WPS 2.0, Protected Management Frames. Wi-Fi Direct* for peer-to-peer device connections. |
| Architecture | Infrastructure and SoftAP; Supports simultaneous Client and SoftAP modes |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 |
| Security | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA |
| Authentication Protocols | PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAPv2 |
| Encryption | 64-bit and 128-bit WEP, AES-CCMP, TKIP |
| Wi-Fi Direct* Encryption and Authentication | WPA2, AES-CCMP |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) |

Intel® Dual Band Wireless-AC 7265 (Model 7265NGW)

| | | |
|----------------------------------|---|---|
| Form Factors | M.2 (Next Generation Form Factor - NGFF) | |
| Electrical interfaces | PCIe and USB 2.0 | |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 | |
| Antenna Diversity | On-board diversity | |
| IEEE 802.11 Networking Standards | Intel® Dual Band Wireless-AC 7265 <ul style="list-style-type: none">Model 7265NGW - 802.11agn, ac, 2x2, Bluetooth 4.0, PCIe, USB, M.2 | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) | |
| Frequency Modulation | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | Intel® Dual Band Wireless-AC 7265: 2 X 2 | |
| Data Rates | All data rates are theoretical maximums. | |

| | |
|---|--|
| IEEE 802.11ac Data Rates | Intel® Dual Band Wireless-AC 7265: Up to 867 Mbps |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps |
| Bluetooth | Dual Mode Bluetooth* 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE) supported by the following adapters <ul style="list-style-type: none">Model 7265NGW |
| General | |
| Operating Systems | Windows* 7 (32-bit and 64-bit), Windows* 8 (32-bit and 64-bit), Windows* 8.1 (64-bit) |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* for 802.11ac, a/b/g, n, WMM*, WPA*, WPA2*, and WPS, WPS 2.0, Protected Management Frames. Wi-Fi Direct* for peer-to-peer device connections. |
| Architecture | Infrastructure and SoftAP; Supports simultaneous Client and SoftAP modes |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 |
| Security | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA |
| Authentication Protocols | PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAPv2 |
| Encryption | 64-bit and 128-bit WEP, AES-CCMP, TKIP |
| Wi-Fi Direct* Encryption and Authentication | WPA2, AES-CCMP |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) |

Intel® Dual Band Wireless-N 7265 (Models 7265NGW AN and 7265NGW NB)

Intel® Wireless-N 7265 (Model 7265NGW BN)

| | |
|----------------------------------|---|
| Form Factors | M.2 (Next Generation Form Factor - NGFF) |
| Electrical interfaces | PCIe, USB 2.0 |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 |
| Antenna Diversity | On-board diversity |
| IEEE 802.11 Networking Standards | Intel® Dual Band Wireless-N 7265 <ul style="list-style-type: none">Model 7265NGW AN - 802.11agn, 2x2, Bluetooth 4.0, PCIe, USB, M.2Model 7265NGW NB - 802.11agn, 2x2, PCIe, USB, M.2 Intel® Wireless-N 7265 <ul style="list-style-type: none">Model 7265NGW BN - 802.11bgn, 2x2, Bluetooth 4.0, PCIe, USB, M.2 |

| | | |
|--|--|---|
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 90% non-condensing (at temperatures of 25 °C to 35 °C) | |
| Frequency Modulation (See above, not all bands supported by all adapters) | 5GHz (802.11a/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| 802.11n spatial streams | All adapters: 2 X 2 spatial streams | |
| Data Rates | All data rates are theoretical maximums. | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |
| Bluetooth | Dual Mode Bluetooth* 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE) supported by the following adapters <ul style="list-style-type: none">Model 7265NGW ANModel 7265NGW NBModel 7265NGW BN | |
| General | | |
| Operating Systems | Windows* 7 (32-bit and 64-bit), Windows 8 (32-bit and 64-bit), Windows* 8.1 (64-bit) | |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* for 802.11ac, a/b/g, n, WMM*, WPA*, WPA2*, and WPS, WPS 2.0, Protected Management Frames. Wi-Fi Direct* for peer-to-peer device connections. | |
| Architecture | Infrastructure and SoftAP; Supports simultaneous Client and SoftAP modes | |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 | |
| Security | | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA | |
| Authentication Protocols | PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAPv2 | |
| Encryption | 64-bit and 128-bit WEP, AES-CCMP, TKIP | |
| Wi-Fi Direct* Encryption and Authentication | WPA2, AES-CCMP | |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) | |

Intel® Dual Band Wireless-AC 8260

| | | |
|---|--|---|
| Form Factors | Half-Mini Card and M.2 (Next Generation Form Factor - NGFF) | |
| Electrical interfaces | PCIe and USB 2.0 for both form factors | |
| Antenna Interface Connector | Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 | |
| Antenna Diversity | On-board diversity | |
| IEEE 802.11 Networking Standards | Intel® Dual Band Wireless-AC 8260 <ul style="list-style-type: none">Model 8260NGW - 802.11agn, ac, 2x2, Bluetooth 4.0, PCIe, USB, M.2 | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 95% non-condensing (at temperatures of 25 °C to 35 °C) | |
| Frequency Modulation | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | Intel® Dual Band Wireless-AC 8260: 2 X 2 | |
| Data Rates | All data rates are theoretical maximums. | |
| IEEE 802.11ac Data Rates | Intel® Dual Band Wireless-AC 8260: Up to 867 Mbps | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |
| Bluetooth | Dual Mode Bluetooth* 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE) supported by the following adapters <ul style="list-style-type: none">Model 8260NGW | |
| General | | |
| Operating Systems | Windows* 7 (32-bit and 64-bit), Windows* 8 (32-bit and 64-bit), Windows* 8.1 (64-bit) | |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* for 802.11ac, a/b/g, n, WMM*, WPA*, WPA2*, and WPS, WPS 2.0, Protected Management Frames. Wi-Fi Direct* for peer-to-peer device connections. | |
| Architecture | Infrastructure and SoftAP; Supports simultaneous Client and SoftAP modes | |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 | |
| Security | | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA | |
| Authentication Protocols | PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAPv2 | |
| Encryption | 64-bit and 128-bit WEP, AES-CCMP, TKIP | |

| | |
|---|-------------------------------|
| Wi-Fi Direct* Encryption and Authentication | WPA2, AES-CCMP |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) |

Intel® Dual Band Wireless-AC 8265 (Models 8265NGWH/8265NGW/8265D2W)

| General | | |
|---|--|--|
| Dimensions (H x W x D) | <ul style="list-style-type: none">M.2 2230: 22 mm x 30 mm x 2.4 mmM.2 1216: 12 mm x 16 mm x 1.8 mm | |
| Weight | <ul style="list-style-type: none">M.2 2230: 2.6gM.2 1216: 0.6g | |
| Antenna Diversity | Supported | |
| Radio ON/OFF Control | Supported | |
| Connector Interface | M.2: PCIe, USB, or UART (M.2 1216 only) | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) | |
| Operating Systems | Microsoft Windows 7*, Microsoft Windows 8.1*, Microsoft Windows 10*, Linux* (limited feature support), Android | |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* a/b/g/n/ac, WMM*, WMM-PS*, WPA*, WPA2*, WPS2*, Protected Management Frames, Wi-Fi Direct* for peer to peer device connections, Wi-Fi Miracast* as Source. | |
| IEEE WLAN Standard | IEEE 802.11a/b/g/n/ac, 802.11d, 802.11e, 802.11h, 802.11i, 802.11w; 802.11r, 802.11k, 802.11v pending OS support; Fine Timing Measurement based on 802.11REVmc | |
| Roaming | Supports seamless roaming between access points | |
| Bluetooth | Dual Mode Bluetooth* 4.2, BLE | |
| Security | | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA, EAP-AKA | |
| Authentication Protocols | PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAPv2 | |
| Encryption | 64-bit and 128-bit WEP, 128-bit AES-CCMP | |
| Wi-Fi Direct* Encryption and Authentication | WPA2-PSK, AES-CCMP | |
| Compliance | | |
| Product Safety | UL, C-UL, CB (IEC 60950-1) | |
| Model Numbers | | |
| Models | Model 8265NGWH | 802.11ac, 2x2, Bluetooth* 4.2, PCIe, USB, LTE Coexistence, eFEM, M.2 2230 HE |
| | Model 8265NGW | 802.11ac, 2x2, Bluetooth* 4.2, PCIe, USB, M.2 2230 MS |
| | | |

| | | |
|--------------------------|--|---|
| | Model 8265D2W | 802.11ac, 2x2, Bluetooth* 4.2, PCIe, LTE Coexistence, M.2 1216 SD |
| Frequency Modulation | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | Intel® Dual Band Wireless-AC 8265: 2 X 2 | |
| Data Rates | All data rates are theoretical maximums. | |
| IEEE 802.11ac Data Rates | Intel® Dual Band Wireless-AC 8265: Up to 867 Mbps | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |

Intel® Wireless-AC 9260 (Models 9260NGW and 9260D2WL)

| General | |
|-------------------------------|--|
| Dimensions (H x W x D) | <ul style="list-style-type: none">M.2 2230: 22 mm x 30 mm x 2.4 mm [1.5 mm max (top side)/ 0.1 mm max (bottom side)]M.2 1216: 12 mm x 16 mm x 1.67 (±0.08) mm |
| Weight | <ul style="list-style-type: none">M.2 2230: 2.9 ±0.3 gM.2 1216: 0.61 ±0.1 g |
| Antenna Diversity | Supported |
| Radio ON/OFF Control | Supported |
| Connector Interface | M.2: PCIe, USB |
| Operating Temperature | 0 to +80 degrees Celsius |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) |
| Operating Systems | Microsoft Windows 10*, Linux* (limited feature support), Chrome* |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* a/b/g/n/ac with wave 2 features, WMM*, WMM-PS*, WPA*, WPA2*, WPS2*, Protected Management Frames, Wi-Fi Miracast* as Source, and Wi-Fi Direct*. |
| IEEE WLAN Standard | IEEE 802.11a/b/g/n/ac, 802.11d, 802.11e, 802.11h, 802.11i, 802.11w; 802.11r, 802.11k, 802.11v pending OS support; Fine Timing Measurement based on 802.11REVmc |
| Roaming | Supports seamless roaming between access points |

| | | |
|---|--|--|
| Bluetooth | Bluetooth* 5 | |
| Security | | |
| Authentication | WPA* and WPA2*, 802.1X (EAP-TLS, TTLS, PEAP, EAP-SIM, EAP-AKA, EAP-AKA) | |
| Authentication Protocols | PAP, CHAP, TLS, MS-CHAP*, MS-CHAPv2* | |
| Encryption | 64-bit and 128-bit WEP, 128-bit AES-CCMP | |
| Wi-Fi Direct* Encryption and Authentication | WPA2-PSK, AES-CCMP | |
| Compliance | | |
| US Government | FIPS, FISMA | |
| Product Safety | UL, C-UL, CB (IEC 60950-1) | |
| Model Numbers | | |
| Models | 9260NGW | 802.11ac wave 2, 2x2, Bluetooth* 5, PCIe, USB, M.2 2230 |
| | 9260D2WL | 802.11ac wave 2, 2x2, Bluetooth* 5, PCIe, USB, M.2 1216 LTE Coex |
| Frequency Modulation | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | Intel® Wireless-AC 9260: 2 X 2 | |
| Data Rates | All data rates are theoretical maximums. | |
| IEEE 802.11ac Data Rates | 1.73 Gbps when using 160MHz channels | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |

Intel® Wireless-AC 9461 (Models 9461NGW/9461D2W)

| | |
|------------------------|---|
| General | |
| Dimensions (H x W x D) | <ul style="list-style-type: none">M.2 2230: 22 mm x 30 mm x 2.4 mmM.2 1216: 12 mm x 16 mm x 1.57 (+-0.08) mm |
| Weight | <ul style="list-style-type: none">M.2 2230: 2.7gM.2 1216: 0.7g |

| | | |
|---|--|---|
| Antenna Diversity | Supported | |
| Radio ON/OFF Control | Supported | |
| Connector Interface | M.2: CNVio | |
| Operating Temperature | 0°C to +80°C | |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) | |
| Operating Systems | Microsoft Windows 10*, Linux* (limited feature support), Chrome | |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* a/b/g/n/ac with wave 2 features, WMM*, WMM-PS*, WPA*, WPA2*, WPS2*, Protected Management Frames, Wi-Fi Miracast* as Source, and Wi-Fi Direct | |
| IEEE WLAN Standard | IEEE 802.11a/b/g/n/ac, 802.11d, 802.11e, 802.11h, 802.11i, 802.11w; 802.11r, 802.11k, 802.11v pending OS support; Fine Timing Measurement based on 802.11REVmc | |
| Roaming | Supports seamless roaming between access points | |
| Bluetooth | Bluetooth* 5 | |
| Security | | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, EAP-SIM, EAP-AKA) | |
| Authentication Protocols | PAP, CHAP, TLS, MS-CHAP*, MS-CHAPv2 | |
| Encryption | 64-bit and 128-bit WEP, 128-bit AES-CCMP | |
| Wi-Fi Direct* Encryption and Authentication | WPA2-PSK, AES-CCMP | |
| Compliance | | |
| Regulatory | For a list of country approvals, please contact your local Intel representatives. | |
| US Government | FIPS, FISMA | |
| Product Safety | UL, C-UL, CB (IEC 60950-1) | |
| Model Numbers | | |
| Models | 9461NGW | 802.11ac wave 2, 1x1, Bluetooth* 5, PCIe, USB, M.2 2230, Single Antenna |
| | 9461D2W | 802.11ac wave 2, 1x1, Bluetooth* 5, PCIe, USB, M.2 1216, Single Antenna |
| Frequency Modulation | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | Intel® Wireless-AC 9461: 1 X 1 | |
| Data Rates | All data rates are theoretical maximums. | |
| IEEE 802.11ac Data Rates | 433 Mbps when using 80MHz channels | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |

| | |
|-------------------------|-----------------------------------|
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps |

Intel® Wireless-AC 9462 (Models 9462NGW/9462D2W)

| | | |
|---|--|--|
| General | | |
| Dimensions (H x W x D) | <ul style="list-style-type: none">M.2 2230: 22 mm x 30 mm x 2.4 mmM.2 1216: 12 mm x 16 mm x 1.57 (+-0.08) mm | |
| Weight | <ul style="list-style-type: none">M.2 2230: 2.7gM.2 1216: 0.7g | |
| Antenna Diversity | Supported | |
| Radio ON/OFF Control | Supported | |
| Connector Interface | M.2: CNVio | |
| Operating Temperature | 0°C to +80°C | |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) | |
| Operating Systems | Microsoft Windows 10*, Linux* (limited feature support), Chrome | |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* a/b/g/n/ac with wave 2 features, WMM*, WMM-PS*, WPA*, WPA2*, WPS2*, Protected Management Frames, Wi-Fi Miracast* as Source, and Wi-Fi Direct | |
| IEEE WLAN Standard | IEEE 802.11a/b/g/n/ac, 802.11d, 802.11e, 802.11h, 802.11i, 802.11w; 802.11r, 802.11k, 802.11v pending OS support; Fine Timing Measurement based on 802.11REVmc | |
| Roaming | Supports seamless roaming between access points | |
| Bluetooth | Bluetooth* 5 | |
| Security | | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, EAP-SIM, EAP-AKA) | |
| Authentication Protocols | PAP, CHAP, TLS, MS-CHAP*, MS-CHAPv2 | |
| Encryption | 64-bit and 128-bit WEP, 128-bit AES-CCMP | |
| Wi-Fi Direct* Encryption and Authentication | WPA2-PSK, AES-CCMP | |
| Compliance | | |
| Regulatory | For a list of country approvals, please contact your local Intel representatives. | |
| US Government | FIPS, FISMA | |
| Product Safety | UL, C-UL, CB (IEC 60950-1) | |
| Model Numbers | | |
| Models | 9462NGW | 802.11ac wave 2, 1x1, Bluetooth* 5, PCIe, USB, M.2 2230, Diversity Antenna |
| | 9462D2W | 802.11ac wave 2, 1x1, Bluetooth* 5, PCIe, USB, M.2 1216, Diversity Antenna |
| Frequency Modulation | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |

| | | |
|--------------------------|--|---|
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | Intel® Wireless-AC 9462: 1 X 1 | |
| Data Rates | All data rates are theoretical maximums. | |
| IEEE 802.11ac Data Rates | 433 Mbps when using 80MHz channels | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |

Intel® Wireless-AC 9560 (Models 9560NGW/9560D2W)

| | |
|-------------------------------|---|
| General | |
| Dimensions (H x W x D) | <ul style="list-style-type: none">M.2 2230: 22 mm x 30 mm x 2.4 mmM.2 1216: 12 mm x 16 mm x 1.8 mm |
| Weight | <ul style="list-style-type: none">M.2 2230: 2.6gM.2 1216: 0.6g |
| Antenna Diversity | Supported |
| Radio ON/OFF Control | Supported |
| Connector Interface | M.2: CNVio |
| Operating Temperature | 0 to +80 degrees Celsius |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) |
| Operating Systems | Microsoft Windows 10*, Linux* (limited feature support), Chrome* |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* a/b/g/n/ac with wave 2 features, WMM*, WMM-PS*, WPA*, WPA2*, WPS2*, Protected Management Frames, Wi-Fi Miracast* as Source, and Wi-Fi Direct* (For Microsoft Windows* only). |
| IEEE WLAN Standard | IEEE 802.11a/b/g/n/ac, 802.11d, 802.11e, 802.11h, 802.11i, 802.11w; 802.11r, 802.11k, 802.11v pending OS support; Fine Timing Measurement based on 802.11-2016 |
| Roaming | Supports seamless roaming between access points |
| Bluetooth | Bluetooth* 5 |
| Security | |
| Authentication | WPA* and WPA2*, 802.1X (EAP-TLS, TTLS, PEAP, EAP-SIM, EAP-AKA, EAP-AKA) |

| | | |
|---|--|---|
| Authentication Protocols | PAP, CHAP, TLS, MS-CHAP*, MS-CHAPv2* | |
| Encryption | 64-bit and 128-bit WEP, 128-bit AES-CCMP | |
| Wi-Fi Direct* Encryption and Authentication | WPA2-PSK, AES-CCMP | |
| Compliance | | |
| US Government | FIPS, FISMA | |
| Product Safety | UL, C-UL, CB (IEC 60950-1) | |
| Model Numbers | | |
| Models | 9560NGW | 802.11ac wave 2, 2x2, Bluetooth* 5, PCIe, USB, M.2 2230 |
| | 9560D2W | 802.11ac wave 2, 2x2, Bluetooth* 5, PCIe, USB, M.2 1216 |
| Frequency Modulation | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | Intel® Wireless-AC 9560: 2 X 2 | |
| Data Rates | All data rates are theoretical maximums. | |
| IEEE 802.11ac Data Rates | 1.73 Gbps when using 160MHz channels | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |

Intel® Tri-Band Wireless-AC 17265 (17265NGW/17265NGW LC)

| | |
|----------------------------------|---|
| Form Factors | M.2 Type 3030 |
| Electrical interfaces | M.2 Key 1-DP: 2xPCIe, USB, DP. Interface to Intel® Wireless Gigabit-Antenna M10041 Module using X-FL, and one dedicated for Bluetooth |
| Antenna Interface Connector | X.FL; Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 |
| Antenna Diversity | On-board diversity |
| IEEE 802.11 Networking Standards | 802.11ac, 802.11ad, 802.11abgn, 802.11a, 802.11d, 802.11e, 802.11i, 802.11h, 802.11w |
| Operating Temperature | 0 to +80 degrees Celsius |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) |

| Frequency Modulation | 60GHz (802.11ad) | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
|---|--|--|---|
| Frequency band | 57GHz - 64GHz (dependent on country) | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | DPSK, BPSK, QPSK, 16 QAM, | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | DMG control PHY, DMG SC PHY | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | 1, 2 and 3, subject to country rules | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | N/A | Intel® Tri-Band Wireless-AC 17265 | |
| Data Rates | All data rates are theoretical maximums. | | |
| IEEE 802.11ac Data Rates | Intel® Tri-Band Wireless-AC 17265: Up to 867 Mbps | | |
| IEEE 802.11ad Data Rates | 4620, 3850, 3080, 2503, 2310, 1925, 1540, 1251, 1155, 963, 770, 385 Mbps | | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | | |
| Bluetooth | Dual Mode Bluetooth* 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE) | | |
| General | | | |
| Operating Systems | Microsoft Windows 7*, Microsoft Windows 8.1* with connected standby | | |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* for 802.11ac, a/b/g, n, WMM*, WPA*, WPA2*, and WPS, WPS 2.0, Protected Management Frames. Wi-Fi Direct* for peer-to-peer device connections. | | |
| Architecture | Infrastructure and SoftAP; Supports simultaneous Client and SoftAP modes | | |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 | | |
| Security | | | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA | | |
| Authentication Protocols | PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAPv2 | | |
| Encryption | 64-bit and 128-bit WEP, AES-CCMP, AES-GCMP, TKIP | | |
| Wi-Fi Direct* Encryption and Authentication | WPA2, AES-CCMP | | |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) | | |

Intel® Tri-Band Wireless-AC 17265 (17265NGW/17265NGW LC)

| | |
|--------------|---------------|
| Form Factors | M.2 Type 3030 |
| | |

| | | | |
|---|--|--|---|
| Electrical interfaces | M.2 Key 1-DP: 2xPCIe, USB, DP. Interface to Intel® Wireless Gigabit-Antenna M10041 Module using X-FL, and one dedicated for Bluetooth | | |
| Antenna Interface Connector | X.FL; Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 | | |
| Antenna Diversity | On-board diversity | | |
| IEEE 802.11 Networking Standards | 802.11ac, 802.11ad, 802.11abgn, 802.11a, 802.11d, 802.11e, 802.11i, 802.11h, 802.11w | | |
| Operating Temperature | 0 to +80 degrees Celsius | | |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) | | |
| Frequency Modulation | 60GHz (802.11ad) | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 57GHz - 64GHz (dependent on country) | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | DPSK, BPSK, QPSK, 16 QAM, | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | DMG control PHY, DMG SC PHY | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | 1, 2 and 3, subject to country rules | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | N/A | Intel® Tri-Band Wireless-AC 17265 | |
| Data Rates | All data rates are theoretical maximums. | | |
| IEEE 802.11ac Data Rates | Intel® Tri-Band Wireless-AC 17265: Up to 867 Mbps | | |
| IEEE 802.11ad Data Rates | 4620, 3850, 3080, 2503, 2310, 1925, 1540, 1251, 1155, 963, 770, 385 Mbps | | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | | |
| Bluetooth | Dual Mode Bluetooth* 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE) | | |
| General | | | |
| Operating Systems | Microsoft Windows 7*, Microsoft Windows 8.1* with connected standby | | |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* for 802.11ac, a/b/g, n, WMM*, WPA*, WPA2*, and WPS, WPS 2.0, Protected Management Frames. Wi-Fi Direct* for peer-to-peer device connections. | | |
| Architecture | Infrastructure and SoftAP; Supports simultaneous Client and SoftAP modes | | |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 | | |
| Security | | | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA | | |
| Authentication | PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAPv2 | | |

| | |
|---|--|
| Protocols | |
| Encryption | 64-bit and 128-bit WEP, AES-CCMP, AES-GCMP, TKIP |
| Wi-Fi Direct* Encryption and Authentication | WPA2, AES-CCMP |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) |

Intel® Tri-Band Wireless-AC 18260 (18260NGW)

| | | | |
|----------------------------------|--|--|---|
| Form Factors | M.2 Type 2230 | | |
| Electrical interfaces | M.2 Key 1-DP: 2xPCIe, USB, DP. Interface to Intel® Wireless Gigabit-Antenna M10041 or M10042 Module using X-FL (single coax cable to carry power, IF and control) | | |
| Dimensions | 22 mm x 30 mm x S3 [1.5mm Max (Top Side)/ 0.1mm max (bottom side)] | | |
| Antenna Interface Connector | X.FL; Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066 | | |
| Antenna Diversity | On-board diversity | | |
| IEEE 802.11 Networking Standards | IEEE 802.11abgn, 802.11ac, 802.11ad, 802.11d, 802.11e, 802.11i, 802.11h, 802.11w | | |
| Operating Temperature | 0 to +80 degrees Celsius | | |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) | | |
| Frequency Modulation | 60GHz (802.11ad) | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 57GHz - 64GHz (dependent on country) | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | DPSK, BPSK, QPSK, 16 QAM, | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | DMG control PHY, DMG SC PHY | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | 1, 2 and 3, subject to country rules | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | N/A | Intel® Tri-Band Wireless-AC 18260 | |
| Data Rates | All data rates are theoretical maximums. | | |
| IEEE 802.11ac Data Rates | Intel® Tri-Band Wireless-AC 18260: Up to 867 Mbps | | |
| IEEE 802.11ad Data Rates | 4620, 3850, 3080, 2503, 2310, 1925, 1540, 1251, 1155, 963, 770, 385 Mbps | | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | | |
| Bluetooth | Dual Mode Bluetooth* 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE), 4.1 | | |

| General | |
|---|---|
| Operating Systems | Microsoft Windows 7*, Microsoft Windows 8.1* with connected standby |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* for 802.11ac, a/b/g, n, WMM*, WPA*, WPA2*, and WPS, WPS 2.0, Protected Management Frames. Wi-Fi Direct* for peer-to-peer device connections. |
| Architecture | Infrastructure and SoftAP; Supports simultaneous Client and SoftAP modes |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 |
| Security | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA |
| Authentication Protocols | PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAPv2 |
| Encryption | 64-bit and 128-bit WEP, AES-CCMP, AES-GCMP, TKIP |
| Wi-Fi Direct* Encryption and Authentication | WPA2, AES-CCMP |
| Product Safety | UL, C-UL, CB (IEC/EN 60950-1) |

Intel® Tri-Band Wireless-AC 18265 (18265NGW)

| General | | | |
|--|---|--|--|
| Dimensions (H x W x D) | M.2 2230: 22 mm x 30 mm x 2.4 mm [1.5mm Max (Top Side)/ 0.1mm Max (Bottom Side)] | | |
| Weight | M.2 2230: 2.4g | | |
| Antenna Diversity | Supported | | |
| Radio ON/OFF Control | Supported | | |
| Connector interface | M.2: PCIe, USB Interface to Intel® Wireless Gigabit-Antenna M10101 Module using X-FL (single coax cable to carry power, IF and control) | | |
| Operating Temperature (Adapter Shield) | 0 to +80 °C | | |
| Humidity Non-Operating | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) | | |
| Operating Systems | Microsoft Windows 7*, Microsoft Windows 8.1*, Microsoft Windows 10, Linux* (limited feature support), Android | | |
| Wi-Fi Alliance | Wi-Fi CERTIFIED* a/b/g/n/ac, WMM*, WMM-PS*, WPA*, WPA2*, WPS2, Protected Management Frames, Wi-Fi Direct* for peer to peer device connections, Wi-Fi Miracast as Source | | |
| IEEE WLAN Standard | IEEE 802.11a/b/g/n/ac, 802.11d, 802.11e, 802.11h, 802.11i, 802.11w; 802.11r, 802.11k, 802.11v pending OS support; Fine Timing Measurement based on 802.11REVmc | | |
| Roaming | Supports seamless roaming between respective access points | | |
| Bluetooth | Dual Mode Bluetooth* 4.2, BLE | | |
| Frequency Modulation | 60GHz (802.11ad) | 5GHz (802.11ac/n) | 2.4GHz (802.11b/g/n) |
| Frequency band | 57GHz - 64GHz (dependent on country) | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| | | | |

| | | | |
|---|--|--|---|
| Modulation | DPSK, BPSK, QPSK, 16 QAM, | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM | CCK, DQPSK, DBPSK |
| Wireless Medium | DMG control PHY, DMG SC PHY | 5GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM) | 2.4GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM) |
| Channels | 1, 2 and 3, subject to country rules | All channels as defined by the relevant specification and country rules. | |
| Spatial streams | N/A | Intel® Tri-Band Wireless-AC 18265 | |
| Data Rates | All data rates are theoretical maximums. | | |
| IEEE 802.11ac Data Rates | Up to 867 Mbps | | |
| IEEE 802.11ad Data Rates | 4620, 3850, 3080, 2503, 2310, 1925, 1540, 1251, 1155, 963, 770, 385 Mbps | | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | | |
| Security | | | |
| Authentication | WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP), EAP-SIM, EAP-AKA | | |
| Authentication Protocols | PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAPv2 | | |
| Encryption | 64-bit and 128-bit WEP, AES-CCMP | | |
| Wi-Fi Direct* Encryption and Authentication | WPA2-PSK, AES-CCMP | | |
| Compliance | | | |
| Product Safety | UL, C-UL, CB (IEC 60950-1) | | |

Intel® Wireless Gigabit Sink W13100

| | |
|----------------------------------|---|
| Form Factors | M.2 Type 3030 |
| Electrical interfaces | M.2 Key 1-DP: 2xPCIe, USB, DP. Interface to Intel® Wireless Gigabit-Antenna M10041 Module using X-FL, and one dedicated for Bluetooth |
| Antenna Interface Connector | X.FL |
| Antenna Diversity | On-board diversity |
| IEEE 802.11 Networking Standards | 802.11ac, 802.11ad, 802.11abgn, 802.11a, 802.11d, 802.11e, 802.11i, 802.11h, 802.11w |
| Operating Temperature | 0 to +80 degrees Celsius |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) |
| Frequency Modulation | 60GHz (802.11ad) |
| Frequency band | 57GHz - 64GHz (dependent on country) |
| Modulation | DPSK, BPSK, QPSK, 16 QAM, |

| | |
|---|--|
| Wireless Medium | DMG control PHY, DMG SC PHY |
| Channels | 1, 2 and 3, subject to country rules |
| Spatial streams | Intel® Wireless Gigabit Sink W13100 |
| Data Rates | All data rates are theoretical maximums. |
| IEEE 802.11ad Data Rates | 4620, 3850, 3080, 2503, 2310, 1925, 1540, 1251, 1155, 963, 770, 385 Mbps |
| Over-the-Air Security | |
| Authentication | WPA2-Personal (WSC - WiFi Simple Configuration) |
| Encryption | 128-bit AES-GCMP |
| Additional Crypto Functions | |
| Public Key Decrypt | RSA-2048 |
| General | |
| Operating Systems | Microsoft Windows 7*, Microsoft Windows 8.1* with connected standby |
| Architecture | Infrastructure and SoftAP; Supports simultaneous Client and SoftAP modes |
| Cisco Compatible Extensions certification | Cisco Compatible Extensions, v4.0 |

Intel® Wireless Gigabit 11000

| | |
|----------------------------------|--|
| Dimensions | 20.5 mm x 14.2 mm x 1.8 mm (shield included) |
| Weight | 2 grams |
| Electrical interfaces | Soldered module has a proprietary land plan. Interface to Intel® Wireless Gigabit Antenna-M 10042R using X-FL (single coax cable to carry power, IF and control) |
| Antenna Interface Connector | X.FL |
| Antenna Diversity | On-board diversity |
| IEEE 802.11 Networking Standards | 802.11ad |
| Operating Temperature | 0 to +80 degrees Celsius |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) |
| Frequency Modulation | 60GHz (802.11ad) |
| Frequency band | 57GHz - 64GHz (dependent on country) |
| Modulation | DPSK, BPSK, QPSK, 16 QAM, |
| Channels | 1, 2 and 3, subject to country rules |
| Data Rates | All data rates are theoretical maximums. |
| IEEE 802.11ad Data Rates | 4620, 3850, 3080, 2503, 2310, 1925, 1540, 1251, 1155, 963, 770, 385 Mbps |
| Over-the-Air Security | |
| Authentication | WPA2-Personal (WSC - WiFi Simple Configuration) |
| Encryption | 128-bit AES-GCMP |
| Additional Crypto Functions | |
| Public Key Decrypt | RSA-2048 |
| General | |

| | |
|-------------------|---|
| Operating Systems | Microsoft Windows 7*, Microsoft Windows 8.1* with connected standby, Microsoft Windows 10* with connected standby |
|-------------------|---|

Intel® Wireless Gigabit Sink W13110VR

| | |
|---|--|
| Dimensions (H x W x D) | M.2 4230: 42 mm x 30 mm x 2.6 mm [1.5 mm Max (Top Side)/ 0.1 mm Max (Bottom Side)] |
| Weight | 5.16 grams |
| Radio ON/OFF Control | Hardware Support |
| Electrical interfaces | M.2 Key G (User Defined). Interface to Intel® Wireless Gigabit Antenna-M 10101 Module using X-FL (single coax cable to carry power, IF and control), up to 2 modules |
| LEDs & GPIO Support | Driving 2 LEDs or Multicolor LED with 4 states, Recovery button, Activity button with configurable action |
| Antenna Diversity | On-board diversity |
| IEEE 802.11 Networking Standards | 802.11ad |
| Operating Temperature (Adapter Shield) | 0 to +80 degrees Celsius |
| Humidity Non-Operating | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) |
| Frequency Modulation | 60GHz (802.11ad) |
| Frequency band | 57GHz - 64GHz (dependent on country) |
| Modulation | DPSK, BPSK, QPSK, 16 QAM, |
| Channels | 1, 2 and 3, subject to country rules |
| Data Rates | All data rates are theoretical maximums. |
| IEEE 802.11ad Data Rates | 4620, 3850, 3080, 2503, 2310, 1925, 1540, 1251, 1155, 963, 770, 385 Mbps |
| Operating Systems | None |
| Wi-Fi Alliance* certification | N/A |
| Over-the-Air Security | |
| Authentication | WPA2-Personal (WSC - WiFi Simple Configuration) |
| Encryption | 128-bit AES-GCMP |
| Additional Crypto Functions | |
| Public Key Decrypt | RSA-2048 |
| Intel® Wireless Gigabit Antenna-M 10101R Module | |
| Dimensions (H x W x D) | 7 mm x 19.3 mm x 1.8 mm |
| Weight | 1 gram |
| Antenna Connector Interface | X.FL |
| Operating Temperature (Adapter Shield) | 0 to +80 degrees Celsius |
| | |

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|------------------------|--|
| Humidity Non-Operating | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) |
|------------------------|--|

Intel® Wireless Gigabit 11100VR

| | |
|---|--|
| Dimensions (H x W x D) | 20.5 mm x 14.2 mm x 1.8 mm (shield included) |
| Weight | 2 grams |
| Radio ON/OFF Control | Supported in both hardware and software |
| Electrical interfaces | Soldered module has a proprietary land plan. Interface to Intel® Wireless Gigabit Antenna-M 10042 Module using X-FL (single coax cable to carry power, IF and control) |
| LED Output | On/Off |
| IEEE 802.11 Networking Standards | 802.11ad |
| Operating Temperature (Adapter Shield) | 0 to +80 degrees Celsius |
| Humidity Non-Operating | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) |
| Frequency Modulation | 60GHz (802.11ad) |
| Frequency band | 57GHz - 64GHz (dependent on country) |
| Modulation | DPSK, BPSK, QPSK, 16 QAM, |
| Channels | 1, 2 and 3, subject to country rules |
| Data Rates | All data rates are theoretical maximums. |
| IEEE 802.11ad Data Rates | 4620, 3850, 3080, 2503, 2310, 1925, 1540, 1251, 1155, 963, 770, 385 Mbps |
| Operating Systems | Microsoft Windows 10* with connected standby |
| Over-the-Air Security | |
| Authentication | WPA2-Personal (WSC - WiFi Simple Configuration) |
| Encryption | 128-bit AES-GCMP |
| Additional Crypto Functions | |
| Public Key Decrypt | RSA-2048 |
| Intel® Wireless Gigabit Antenna-M 10042R Module | |
| Dimensions (H x W x D) | 7.5 mm x 24.5 mm x 1.8 mm |
| Weight | 1 gram |
| Antenna Connector Interface | X.FL |
| Operating Temperature (Adapter Shield) | 0 to +80 degrees Celsius |
| Humidity Non-Operating | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) |

Intel® Wi-Fi 6 AX200 (Models AX200NGW/AX200D2WL)

| | | |
|-------------------------------|---|---|
| General | | |
| Dimensions (H x W x D) | <ul style="list-style-type: none">M.2 2230: 22 mm x 30 mm x 2.4 mm [1.5 mm max (top side)/ 0.1 mm max (bottom side)]M.2 1216: 12 mm x 16 mm x 1.65 (±0.08) mm | |
| Weight | <ul style="list-style-type: none">M.2 2230: 2.33 (±0.3) gM.2 1216: 0.61 (±0.1) g | |
| Radio ON/OFF Control | Supported | |
| Connector Interface | M.2: PCIe, USB | |
| Operating Temperature | 0 to +80 degrees Celsius | |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) | |
| Operating Systems | Microsoft Windows 10*, Linux*, Chrome OS* | |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* a/b/g/n/ac with wave 2 features, WMM*, WMM-PS*, WPA*, WPA2*, WPS*, PMF*, Wi-Fi Direct*, Wi-Fi Miracast*, Wi-Fi Agile Multiband*, Wi-Fi Optimized Connectivity*, Wi-Fi Location*, Passpoint*, Wi-Fi Aware*, and Wi-Fi TimeSync* | |
| IEEE WLAN Standard | IEEE 802.11-2016 and select amendments (selected feature coverage) IEEE 802.11a, b, g, n, ac, ax, d, e, h, i, k, r, u, v, w, ai; Fine Timing Measurement based on 802.11-2016 | |
| Bluetooth | Bluetooth* 5 | |
| Security | | |
| Authentication | WPA* and WPA2* Personal and Enterprise; WPA3* (pending OS support) | |
| Authentication Protocols | 802.1X EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2 (EAP-SIM, EAP-AKA, EAP-AKA') | |
| Encryption | 64-bit and 128-bit WEP, TKIP, 128-bit AES-CCMP, 256-bit AES-GCMP | |
| Compliance | | |
| Regulatory | For a list of country approvals, please contact your local Intel representatives. | |
| US Government | FIPS 140-2, FISMA | |
| Product Safety | UL, C-UL, CB (IEC 60950-1) | |
| Model Numbers | | |
| Models | Model AX200NGW | 802.11ax, 2x2, Bluetooth* 5, M.2 2230 |
| | Model AX200D2WL | 802.11ax, 2x2, Bluetooth* 5, M.2 1216; LTE Coexistence |
| Frequency Modulation | 5GHz (802.11a/n/ac/ax) | 2.4GHz (802.11b/g/n/ax) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM, 1024 QAM | CCK, DQPSK, DBPSK, 16 QAM, 64 QAM, 256 QAM, 1024 QAM |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiple Access (OFDMA) | 2.4GHz ISM: Orthogonal Frequency Division Multiple Access (OFDMA) |
| Channels | All channels as defined by the relevant specification and country rules. | |

| | |
|--------------------------|--|
| Data Rates | All data rates are theoretical maximums. |
| IEEE 802.11ax Data Rates | Up to 2.4 Gbps |
| IEEE 802.11ac Data Rates | Up to 867 Mbps |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps |

Intel® Wi-Fi 6 AX201 (Models AX201NGW/AX201D2W/AX201D2WL)

| | |
|-------------------------------|---|
| General | |
| Dimensions (H x W x D) | <ul style="list-style-type: none">M.2 2230: 22 mm x 30 mm x 2.4 mm [1.5 mm max (top side)/ 0.1 mm max (bottom side)]M.2 1216: 12 mm x 16 mm x 1.65 (±0.05) mm |
| Weight | <ul style="list-style-type: none">M.2 2230: 2.33 (±0.3) gM.2 1216: 0.61 (±0.1) g |
| Radio ON/OFF Control | Supported |
| Connector Interface | M.2: CNVio2 |
| Operating Temperature | 0 to +80 degrees Celsius |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) |
| Operating Systems | Microsoft Windows 10*, Linux*, Chrome OS* |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* a/b/g/n/ac with wave 2 features, WMM*, WMM-PS*, WPA*, WPA2*, WPS*, PMF*, Wi-Fi Direct*, Wi-Fi Miracast*, Wi-Fi Agile Multiband*, Wi-Fi Optimized Connectivity*, Wi-Fi Location*, Passpoint*, Wi-Fi Aware*, and Wi-Fi TimeSync* |
| IEEE WLAN Standard | IEEE 802.11-2016 and select amendments (selected feature coverage) IEEE 802.11a, b, g, n, ac, ax, d, e, h, i, k, r, u, v, w, ai; Fine Timing Measurement based on 802.11-2016 |
| Bluetooth | Bluetooth* 5 |
| Security | |
| Authentication | WPA* and WPA2* Personal and Enterprise; WPA3* (pending OS support) |
| Authentication Protocols | 802.1X EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2 (EAP-SIM, EAP-AKA, EAP-AKA') |
| Encryption | 64-bit and 128-bit WEP, TKIP, 128-bit AES-CCMP, 256-bit AES-GCMP |
| Compliance | |
| | |

| | | |
|--------------------------|--|---|
| Regulatory | For a list of country approvals, please contact your local Intel representatives. | |
| US Government | FIPS 140-2, FISMA | |
| Product Safety | UL, C-UL, CB (IEC 60950-1) | |
| Model Numbers | | |
| Models | Model AX201NGW | 802.11ax, 2x2, Bluetooth* 5, M.2 2230 |
| | Model AX201D2W | 802.11ax, 2x2, Bluetooth* 5, M.2 1216 |
| | Model AX201D2WL | 802.11ax, 2x2, Bluetooth* 5, M.2 1216; LTE Coexistence |
| Frequency Modulation | 5GHz (802.11a/n/ac/ax) | 2.4GHz (802.11b/g/n/ax) |
| Frequency band | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM, 1024 QAM | CCK, DQPSK, DBPSK, 16 QAM, 64 QAM, 256 QAM, 1024 QAM |
| Wireless Medium | 5GHz UNII: Orthogonal Frequency Division Multiple Access (OFDMA) | 2.4GHz ISM: Orthogonal Frequency Division Multiple Access (OFDMA) |
| Channels | All channels as defined by the relevant specification and country rules. | |
| Data Rates | All data rates are theoretical maximums. | |
| IEEE 802.11ax Data Rates | Up to 2.4 Gbps | |
| IEEE 802.11ac Data Rates | Up to 867 Mbps | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | |
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps | |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps | |

Intel® Wi-Fi 6E AX210 (Models AX210NGW/AX210D2W)

| | |
|------------------------|--|
| General | |
| Dimensions (H x W x D) | <ul style="list-style-type: none">M.2 2230: 22 mm x 30 mm x 2.4 mm [1.5 mm max (top side)/ 0.1 mm max (bottom side)]M.2 1216: 12 mm x 16 mm x 1.65 (±0.08) mm |
| Weight | <ul style="list-style-type: none">M.2 2230: 2.33 (±0.3) gM.2 1216: 0.61 (±0.1) g |
| Radio ON/OFF Control | Supported |
| Connector Interface | M.2: PCIe, USB |

| | | | |
|-------------------------------|--|--|---|
| Operating Temperature | 0 to +80 degrees Celsius | | |
| Humidity | 50% to 90% RH non-condensing (at temperatures of 25 °C to 35 °C) | | |
| Operating Systems | Microsoft Windows 10*, Linux* | | |
| Wi-Fi Alliance* certification | Wi-Fi CERTIFIED* a/b/g/n/ac, WMM*, WMM-PS*, WPA2*, WPA3*, WPS*, PMF*, Wi-Fi Direct*, Wi-Fi Agile Multiband* and Wi-Fi TimeSync* | | |
| IEEE WLAN Standard | IEEE 802.11-2016 and select amendments (selected feature coverage) IEEE 802.11a, b, g, n, ac, ax, d, e, h, i, k, r, u, v, w; Fine Timing Measurement based on 802.11-2016 802.11-2016, Wi-Fi Location R2 (802.11az) HW readiness | | |
| Bluetooth | Bluetooth* 5.2 | | |
| Security | | | |
| Authentication | WPA2* and WPA3* | | |
| Authentication Protocols | 802.1X EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2 (EAP-SIM, EAP-AKA, EAP-AKA') | | |
| Encryption | 128-bit AES-CCMP, 256-bit AES-GCMP | | |
| Compliance | | | |
| Regulatory | For a list of country approvals, please contact your local Intel representatives. | | |
| US Government | FIPS 140-2 | | |
| Product Safety | UL, C-UL, CB (IEC 60950-1) | | |
| Model Numbers | | | |
| Models | Model AX210NGW | Wi-Fi 6E (6GHz), 2x2, Bluetooth* 5.2, M.2 2230 | |
| | Model AX210D2W | Wi-Fi 6E (6GHz), 2x2, Bluetooth* 5.2, M.2 1216 | |
| Frequency Modulation | 6-7GHz (802.11ax R2) | 5GHz (802.11a/n/ac/ax) | 2.4GHz (802.11b/g/n/ax) |
| Frequency band | FCC: 5.925GHz-7.125GHz EU: 5925GHz- 6.425GHz (dependent on country) | 5.15GHz - 5.85GHz (dependent on country) | 2.400 - 2.4835GHz (dependent on country) |
| Modulation | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM, 1024 QAM | BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM, 1024 QAM | CCK, DQPSK, DBPSK, 16 QAM, 64 QAM, 256 QAM, 1024 QAM |
| Wireless Medium | 6-7GHz: Orthogonal Frequency Division Multiple Access (OFDMA) | 5GHz UNII: Orthogonal Frequency Division Multiple Access (OFDMA) | 2.4GHz ISM: Orthogonal Frequency Division Multiple Access (OFDMA) |
| Channels | All channels as defined by the relevant specification and country rules. | | |
| Data Rates | All data rates are theoretical maximums. | | |
| IEEE 802.11ax Data Rates | Up to 2.4 Gbps | | |
| IEEE 802.11ac Data Rates | Up to 867 Mbps | | |
| IEEE 802.11n Data Rates | Tx/Rx (Mbps): 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 | | |

Specifications

| | |
|----------------------------|-----------------------------------|
| IEEE 802.11a Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps |
| IEEE 802.11g Data Rates | 54, 48, 36, 24, 18, 12, 9, 6 Mbps |
| IEEE 802.11b Data Rates | 11, 5.5, 2, 1 Mbps |

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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

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Network Product Support: <http://www.intel.com/network>

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Warranty Information

One-Year Limited Hardware Warranty

Limited Warranty

In this warranty statement, the term "Product" applies to the wireless adapters listed in [Specifications](#).

Intel warrants to the purchaser of the Product that the Product, if properly used and installed, will be free from defects in material and workmanship and will substantially conform to Intel's publicly available specifications for the Product for a period of one (1) year beginning on the date the Product was purchased in its original sealed packaging.

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If the Product which is the subject of this Limited Warranty fails during the warranty period for reasons covered by this Limited Warranty, Intel, at its option, will:

- **REPAIR** the Product by means of hardware and/or software; OR
- **REPLACE** the Product with another product, OR, if Intel is unable to repair or replace the Product,
- **REFUND** the then-current Intel price for the Product at the time a claim for warranty service is made to Intel under this Limited Warranty.

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Intel does not warrant that the Product, whether purchased stand-alone or integrated with other products, including without limitation, semi-conductor components, will be free from design defects or errors known as "errata." Current characterized errata are available upon request. Further, this Limited Warranty does NOT cover: (i) any costs associated with the replacement or repair of the Product, including labor, installation or other costs incurred by you, and in particular, any costs relating to the removal or replacement of any Product soldered or otherwise permanently affixed to any printed circuit board or integrated with other products; (ii) damage to the Product due to external causes, including accident, problems with electrical power, abnormal, mechanical or environmental conditions, usage not in accordance with product instructions, misuse, neglect, accident, abuse, alteration, repair, improper or unauthorized installation or improper testing, or (iii) any Product which has been modified or operated outside of Intel's publicly available specifications or where the original product identification markings (trademark or serial number) have been removed, altered or obliterated from the Product; or (iv) issues resulting from modification (other than by Intel) of software products provided or included in the Product, (v) incorporation of software products, other than those software products provided or included in the Product by Intel, or (vi) failure to apply Intel-supplied modifications or corrections to any software provided with or included in the Product.

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credit card information; (2) proof of purchase; (3) model name and product identification number found on the Product; and (4) an explanation of the problem. The Customer Service Representative may need additional information from you depending on the nature of the problem. Upon ICS's verification that the Product is eligible for warranty service, you will be issued a Return Material Authorization ("RMA") number and provided with instructions for returning the Product to the designated ICS center. When you return the Product to the ICS center, you must include the RMA number on the outside of the package. Intel will not accept any returned Product without an RMA number, or that has an invalid RMA number, on the package. You must deliver the returned Product to the designated ICS center in the original or equivalent packaging, with shipping charges pre-paid (within the USA), and assume the risk of damage or loss during shipment. Intel may elect to repair or replace the Product with either a new or reconditioned Product or components, as Intel deems appropriate. The repaired or replaced product will be shipped to you at the expense of Intel within a reasonable period of time after receipt of the returned Product by ICS. The returned Product shall become Intel's property on receipt by ICS. The replacement product is warranted under this written warranty and is subject to the same limitations of liability and exclusions for ninety (90) days or the remainder of the original warranty period, whichever is longer. If Intel replaces the Product, the Limited Warranty period for the replacement Product is not extended.

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WEEE



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