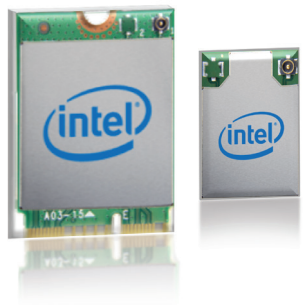
PRODUCT BRIEF

Intel® Wireless-AC 9461
1st Generation Integrated[1] Intel Wireless 802.11ac, Dual Band,
1x1 Wi-Fi + Bluetooth® 5, Single Antenna

Intel® Wireless-AC 9461

Integrated Wi-Fi and Bluetooth®. Optimized Solution for System Design.



Intel® Wireless-AC 9461 adapter is a CRF[2] (Companion RF module) supporting the 1st generation integrated Intel wireless 802.11ac solution comprised of CNVi[3] and a CRF. The solution provides Bluetooth® 5 and 1x1 802.11ac Wi-Fi including wave 2 features such as downlink MU-MIMO. It is a single antenna CRF and more cost-effective than the previous-gen Intel 802.11ac 1x1 products. Combined with Intel® Core™ processors and exceptional Intel wireless innovations, the Intel Wireless-AC 9461 dramatically improves your connected experience at home, work or on the go.

1ST GENERATION INTEGRATED 802.11AC WIRELESS	
Faster Speed **Better Coverage** **Larger Capacity** **802.11ac, 1x1, Dual Band, 80MHz, MU-MIMO**	Delivers up to 3x faster Wi-Fi speed (up to 433 Mbps) than 802.11n, with up to 3x bandwidth for more users and devices.[4] Advanced optional 802.11ac specification features and improved RF KPIs that enhance channel reliability and Wi-Fi performance resulting in better coverage and user experience. Intel® Wireless-AC 9461 enables smooth streaming of high-resolution videos, fewer dropped connections and less congestion, and fast speed farther away from the router. Downlink MU-MIMO allows an access point to simultaneously transmit data to multiple clients and can improve overall downlink network capacity potentially by over 3x.[5]
Bluetooth® 5	Bluetooth® 5 provides 4x[6] range over Bluetooth® 4.2 with the same power, enabling coverage throughout the home. Bluetooth® 5 also doubles the transmit speed for faster transmissions, thereby reducing the overall power.[6] Bluetooth® 5 also adds new enhanced data broadcasting enabling seamless services such as location-based services and simpler pairing for Bluetooth® wireless technology enabled products.
Microsoft Windows* 10 Ready	Full support for latest Microsoft Windows* 10 OS.
Form Factors (M.2 2230 and 1216)	M.2 2230 modules enable system configuration and platform usage flexibility with the use of a standard Key E socket for attaching the module. M.2 1216 modules enable platform design optimization with the use of an Intel® CNVi interface between the integrated MAC and integrated Intel® Wireless-AC 9461 module, providing savings on motherboard space, BOM, PCIe and DP lanes, plus allowing for flexible motherboard routing up to 10".

EXPERIENCE THE INTEL® WIRELESS-AC 9461 DIFFERENCE

Worldwide Regulatory Support Intel® Dynamic Regulatory Solution	Enables worldwide regulatory compliance on a single adapter SKU. The Intel® Wireless-AC 9461 detects its location and automatically optimizes the Wi-Fi settings to local regulatory requirements, maximizing performance in each geography, simplifying travel experience and global enterprise procurement. Future regulatory changes are easily managed during the product life cycle.
Wireless Functionality in Pre-boot Environment	Support for Wi-Fi network and Bluetooth® Low Energy Human Interface Device (HID) connectivity in the platform's Unified Extensible Firmware Interface (UEFI) environment during its boot stage. This capability enables use cases like OS recovery over Wi-Fi and Bluetooth® Low Energy-based keyboard and mouse connectivity in this pre-boot environment.
Wirelessly Project to the Big Screen	Watch your 2 in 1 or laptop content instantly without wires on the big HD screen with stunning image clarity and sound using Wi-Fi Miracast*. Stream movies, videos, games, photos, connect with friends, and more—experience it all, bigger and better than ever before.

INTEL® WIRELESS-AC 9461 TECHNICAL SPECIFICATIONS

GENERAL

Dimensions (W x H x D)	M.2 2230: 22 mm x 30 mm x 2.4 mm [1.5mm Max (Top Side)/0.1mm Max (Bottom Side)] M.2 1216: 12 mm x 16 mm x 1.57 (+-0.08) mm
Weight	M.2 2230: 2.70g M.2 1216: 0.7g
Antenna Diversity	Supported
Radio ON/OFF Control	Supported
Connector Interface	M.2: CNVio
Operating Temperature (Adapter Shield)	0°C to +80°C
Humidity Non-Operating	50% to 90% RH noncondensing (at temperatures of 25°C to 35°C)
Operating Systems	Microsoft Windows* 10, Linux* (limited feature support), Chrome
Wi-Fi Alliance	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[7]	Supports seamless roaming between access points
Bluetooth®	Bluetooth® 5

SECURITY FEATURES[8]

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, TKIP, 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.
U.S. Government	FIPS[9] , FISMA
Product Safety	UL, C-UL, CB (IEC 60950-1)

PRODUCT NAME	MODEL NUMBER	VERSION
Intel® Wireless-AC 9461	9461NGW	802.11ac wave2, 1x1, Bluetooth® 5, PCIe, USB, M.2 2230, Single Antenna
	9461D2W	802.11ac wave2, 1x1, Bluetooth® 5, PCIe, USB, M.2 1216, Single Antenna

For more information on Intel® Wireless products, visit intel.com/wireless

[1] Integrated: Solution comprised of CNVi and a CRF

[2] CRF: Companion RF module in M.2 form factor supporting integrated solution

[3] CNVi: Refers to the integrated wireless IP portion residing in the SOC/PCH

[4] Compared to 802.11n 40MHz channels, 802.11ac 80MHz provides 3x more bandwidth per stream (Max data rate for 802.11n 40MHz channels is 150 Mbps; Max data rate for 802.11ac 80Mhz channels is 433 Mbps).

[5] 802.11ac downlink MU-MIMO technology allows concurrently serving multiple devices simultaneously, in turn increasing network capacity potentially by over 3x while improving per-user throughput based on industry standards.

[6] Bluetooth® 5 Specifications, www.bluetooth.com/~/media/files/specification/bluetooth-5-faq.ashx?la=en

[7] Roaming is supported only within each respective band and mode of access points.

[8] Some security solutions may not be supported by your device operating system and/or by your device manufacturer. Check with your device manufacturer for details on availability.

[9] Microsoft Windows* 10.

Tests document performance of components on a particular test, in specific systems. Differences in hardware, software, or configuration will affect actual performance. Consult other sources of information to evaluate performance as you consider your purchase. For more complete information about performance and benchmark results, visit www.intel.com/benchmarks.

Cost reduction scenarios described are intended as examples of how a given Intel-based product, in the specified circumstances and configurations, may affect future costs and provide cost savings. Circumstances will vary. Intel does not guarantee any costs or cost reduction.

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