

PRODUCT BRIEF

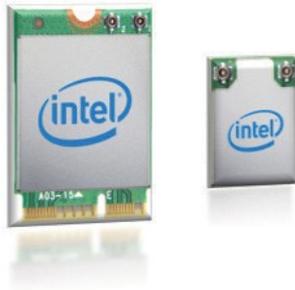
Intel® Wireless-AC 9560

1st Generation Integrated¹ Intel wireless 802.11ac, Dual Band, 2x2 Wi-Fi + Bluetooth® 5.1



Intel® Wireless-AC 9560

Integrated Ultra Wi-Fi. Ultra Features. Optimized Solution for System Design.



The Intel® Wireless-AC 9560 adapter is a CRF² (companion RF module) supporting the first-generation integrated Intel wireless 802.11ac solution, comprised of CNVi³ and a CRF. The solution provides Bluetooth® 5.1 and 2x2 802.11ac Wi-Fi, including wave 2 features such as 160MHz channels, delivering up to 1.73Gbps⁴ and downlink MU-MIMO. These new features deliver a significant increase in user speeds in dense deployments, supporting fast downloads and long battery life compared to legacy 802.11ac devices. Combined with Intel® Core™ processors and exceptional Intel wireless innovations, the Intel® Wireless-AC 9560 can provide Gigabit wireless speed⁴ and dramatically improve your connected experience at home, work, or on the go.

1ST GENERATION INTEGRATED INTEL 802.11AC WIRELESS

Faster Speed
Better Coverage
Larger Capacity

**802.11ac, 2x2, Dual Band,
160MHz, MU-MIMO**

**Wi-Fi/Bluetooth® and LTE
Coexistence Support (Optional)**

Intel® Wireless-AC 9560 enables smooth streaming of high resolution videos, fewer dropped connections, less congestion, and fast speed farther away from the router, enabling DL MU-MIMO and 160MHz channel use.

When using 160MHz channels, Intel® Wireless-AC 9560 can deliver over 5x faster Wi-Fi speeds (up to 1.73Gbps) than 802.11n and double the speed of legacy 802.11ac⁵.

Downlink MU-MIMO allows an Access Point to simultaneously transmit data to multiple clients and can improve overall downlink network capacity potentially by over 3x⁶.

Intel® Wireless-AC 9560 1216 LTE SKU supports Wi-Fi/Bluetooth® and LTE coexistence that improves wireless performance and user experience while both Intel® Wireless-AC 9560 and an Intel LTE modem are being used in the same platform.

Bluetooth® 5.1

Bluetooth® 5.1 provides 4x⁷ range over Bluetooth® 4.2 with the same power, enabling coverage throughout the home. Bluetooth® 5.1 also doubles the transmit speed for faster transmissions thereby reducing the overall power⁷. Additionally, Bluetooth® 5.1 adds new enhanced data broadcasting enabling seamless services such as location-based services and simpler pairing for Bluetooth® devices.

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 CNVio interface between the integrated MAC and integrated Intel® Wireless-AC 9560 module, providing savings on motherboard space, BOM, PCIe and DP lane, plus allowing for flexible motherboard routing up to 10⁸.

EXPERIENCE THE INTEL® DIFFERENCE

Worldwide Regulatory Support Intel® Dynamic Regulatory Solution	Enables worldwide regulatory compliance on a single adapter SKU. The Intel® Wireless-AC 9560 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 UEFI (Unified Extensible Firmware Interface) 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.

BUSINESS-CLASS WIRELESS

Intel® vPro™ Technology⁸	Supports Intel's hardware-based security and management features built into Intel® Core™ vPro™ processors and chipsets that enables IT to manage PCs virtually anywhere, anytime while reducing deployment costs, improving security and ROI.
Intel® Active Management Technology⁹	Using integrated platform capabilities and popular third-party management and security applications, Intel® AMT allows IT or managed service providers to better discover, repair, and help protect their networked computing assets. Intel® AMT is a feature of Intel® Core™ processors with Intel® vPro™ technology.

INTEL® WIRELESS-AC 9560 TECHNICAL SPECIFICATIONS

GENERAL

Dimensions (H x W x D)	M.2 2230: 22mm x 30mm x 2.4mm [1.5mm Max (Top Side)/ 0.1mm Max (Bottom Side)] M.1 1216: 12mm x 16mm x 1.57 (+-0.08)mm
Weight	M.2 2230: 2.8g 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 non-condensing (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*, WPA2*, WPA3*, WPS2*, Protected Management Frames, 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
Roaming¹⁰	Supports seamless roaming between access points
Bluetooth®	Bluetooth® 5.1

SECURITY FEATURES¹¹

Authentication	WPA2* and WPA3*, 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, 128-bit and 256-bit AES-GCMP
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 ¹² , FISMA
Product Safety	UL, C-UL, CB (IEC 60950-1)

PRODUCT NAME	MODEL NUMBER	VERSION
Intel® Wireless-AC 9560	9560NGW	802.11ac wave2, 2x2, Bluetooth® 5.1, PCIe, USB, M.2 2230
	9560D2W	802.11ac wave2, 2x2, Bluetooth® 5.1, PCIe, USB, M.2 1216
	9560D2WL	802.11ac wave2, 2x2, Bluetooth® 5.1, PCIe, USB, M.2 1216, LTE Coex
	9560NGW R	802.11ac wave2, 2x2, 80MHz, Bluetooth® 5.1, PCIe, USB, M.2 2230
	9560D2W R	802.11ac wave2, 2x2, 80MHz, Bluetooth® 5.1, PCIe, USB, M.2 1216



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 Based on the theoretical maximum bandwidth enabled by 2x2 802.11ac 160MHz implementations. Actual wireless throughput and/or range will vary depending on your specific operating system, hardware and software configurations. Check with your device manufacturer for details.

⁵ 802.11ac 160MHz provides 1.73Gbps maximum throughput, 2x more than 802.11ac 80MHz (867Mbps) and 5x more than 802.11n 40MHz (300Mbps) based on industry standards.

⁶ 802.11ac 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.

⁷ Bluetooth® 5.1 Feature Overview, https://3pl46c46ctx02p7rzdsvsg21-wpengine.netdna-ssl.com/wp-content/uploads/2019/03/1901_Feature_Overview_Brief_FINAL.pdf.

⁸ Intel® vPro™ Technology is sophisticated and requires setup and activation. Availability of features and results will depend upon the setup and configuration of your hardware, software and IT environment. To learn more, visit: <http://www.intel.com/technology/vpro>.

⁹ Requires activation and a system with a corporate network connection, an Intel® AMT-enabled chipset, network hardware and software. For notebooks, Intel® AMT may be unavailable or limited over a host OS-based VPN, when connecting wirelessly, on battery power, sleeping, hibernating or powered off. Results dependent upon hardware, setup and configuration. For more information, visit <http://www.intel.com>.

¹⁰ Roaming is supported only within each respective band and mode of access points.

¹¹ 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.

¹² Microsoft Windows 7*, Microsoft Windows 8.1* and Microsoft Windows 10*.

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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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