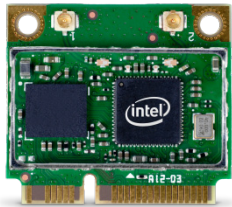


# Intel® Centrino® Wireless-N 1030



## Product Description

The Intel® Centrino® Wireless-N 1030 is a 1x2 IEEE 802.11b/g/n Wi-Fi plus Bluetooth\* wireless adapter that delivers up to 300 Mbps of Wi-Fi receive bandwidth, up to 2x the range<sup>1</sup> and more consistent connectivity<sup>1</sup>. This PCIe Half Mini Card provides a low profile design for existing laptops as well as for newer, thinner, smaller laptops, netbooks and tablets. The Intel® Centrino® Wireless-N 1030 also supports a host of Intel-only features, such as Intel® Wireless Display, to enhance today's mobile lifestyle.

## Features

- Up to 5x faster and 2x range<sup>1</sup>
- Bluetooth\* connectivity
- IEEE standards based 802.11b/g/n WLAN adapter
- Advanced security via 802.11i
- Industry leading power consumption<sup>2</sup>
- Supports Intel® Wireless Display<sup>3</sup>
- Wi-Fi PAN – Intel® My WiFi Technology<sup>4</sup>
- Easy to use Intel® PROSet/Wireless WLAN Software<sup>4</sup>
- Support for Cisco Compatible Extensions\* v4
- Performance-optimized for Connect with Intel® Centrino® certified access points

Features	Benefits
<b>Performance, Flexibility, and Mobility</b>	
<b>Over 5x performance increase<sup>1</sup></b> Up to 300 Mbps <sup>1</sup> receive bandwidth compared to 54 Mbps 802.11a/b/g solutions	Minimizes the time needed to transfer large files and enables applications such as High Definition (HD) video streaming and multi-player gaming.
<b>Up to 2x greater range<sup>1</sup></b> MIMO, diversity, and support for up to two antennas enable better wireless reception at the same distance when compared to 802.11b/g solutions	Reduces the number of "dead zones", network re-connects, and dropped data packets; dramatically improving connectivity throughout the home and enabling more consistent coverage in the enterprise.
<b>Bluetooth* connectivity</b> Bluetooth 2.1, 2.1+EDR, 3.0, 3.0+HS	Enables wireless connectivity to Bluetooth* enabled devices such as mice, keyboards, and headsets.
<b>Intel® Wireless Display<sup>3</sup></b> With a laptop powered by a Intel® Core™ processor	Wirelessly share your videos, photos, music or the Internet from your laptop to your HDTV.
<b>Intel® My WiFi Technology<sup>4</sup></b> Wireless Personal Area Network solution for connectivity to consumer electronic devices	Enables direct wireless connectivity to millions of Wi-Fi enabled devices such as digital cameras, portable media players, game players, and printers without an access point for file sharing, file syncing, or streaming activities. Also supports Intel® Wireless Display.
<b>Industry-leading power consumption<sup>2</sup></b> Optimized power modes (sleep states) reduce power consumption during periods of inactivity	Reduced WLAN power consumption results in potentially longer platform battery life <sup>2</sup> for greater utility, enjoyment, and convenience.
<b>PCIe Half Mini Card form factor</b> Low profile, one sided design	Enables the Intel® Centrino® Wireless-N 1030 to be designed into existing laptops as well as for newer, thinner, smaller laptops, netbooks and tablets.
<b>Validation Leverage</b>	
<b>Common software across all Intel® Centrino® Wireless adapters</b> Intel® PROSet/Wireless Software and drivers	Reduces the time spent validating Intel® Centrino® wireless adapters across customer platforms by establishing a single software package for all Wi-Fi drivers and applications.
<b>Broadly validated</b> Supported across most Intel® processors and chipsets	Enables flexible performance pairing of Intel® Centrino® wireless products with Intel® processors and chipsets.
<b>Manageability and Security</b>	
<b>Advanced security via 802.11i</b> Wireless security supporting AES encryption	Ensures wireless networks are protected from unauthorized access via stronger authentication and encryption mechanisms.
<b>Intel® PROSet/Wireless Software<sup>4</sup></b> Intel WLAN management software	Provides a familiar user interface for clients and excellent management tools for business.

## Features

## Benefits

### Interoperability

#### IEEE standards based 802.11b/g/n WLAN adapter

Wi-Fi CERTIFIED\* to 802.11b, 802.11g, and 802.11n standards

Ensures interoperability with other IEEE-based wireless access points and wireless network adapters.

#### Cisco Compatible Extensions\* v4

Cisco Centralized Key Management, Call Admission Control, Unscheduled Automatic Power Save Delivery (U-APSD), and Voice Metrics

Helps prevent delays in VoIP calls when roaming between access points; enables improved network diagnostics.

#### Connect with Intel® Centrino®

Intel certification that focuses on interoperability between IEEE 802.11n devices

Supports access points with the Connect with Intel® Centrino® label to ensure that both the AP and the Intel® Centrino® Wireless-N 1030 equipped laptop has passed rigorous interoperability tests for maximum performance.

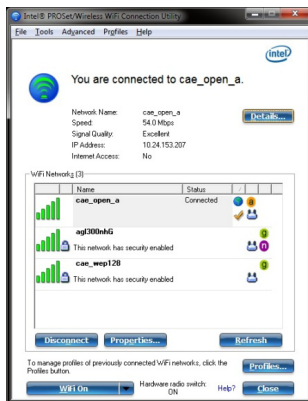
## Intel® Wireless Display<sup>2</sup>



Enjoy all of your laptop, network and online content on a big screen. With the Intel® Centrino® Wireless-N 1030, Intel® Wireless Display and Intel® Core™ processor based laptop, wirelessly share your videos, photos, music or the Internet from your laptop to your HDTV with great image quality and sound. Intel® Wireless Display delivers these features:

- HD supported at full motion frame rate for clarity and smooth-natural motion
- 128kb/s AAC audio to take advantage of A/V receiver for stereo sound
- Intel® My WiFi Technology enables simultaneous Internet access while connected to HDTV
- Intuitive user interface for simple connectivity to your big screen
- Supported on Microsoft Windows 7\*
- Supports latest Wi-Fi security features including WPA2

## Intel® PROSet/Wireless WiFi Software<sup>3</sup>



Intel® PROSet/Wireless WiFi Software is available for users of Intel® WLAN hardware. The latest version of the software helps enable a superior experience by providing enhancements for end users as well as IT administrators who deploy and manage wireless networks. Features include:

- Simplified, consistent user interface design
- Includes IT Administrator Toolkit for remote client management
  - Create self-extracting administrator packages
  - Central control over driver and application settings
  - Single Sign On for Microsoft Windows networks
- Persistent connection profiles for client maintenance
- Advanced security support including WPA2 and AES-CCMP
- Intelligent troubleshooting and diagnostics tools
- Interoperability across IEEE 802.11 standards

## Intel® Centrino® Wireless-N 1030 Technical Specifications

### General

Dimensions (H x W x D)	PCIe Half MiniCard: 1.06 in x 1.18 in x 0.12 (26.80 mm x 30.00 mm x 3.10 mm)
Weight	PCIe Half MiniCard: 3.4g
Receive Diversity	On-board diversity support for systems designed with two antennas
Radio ON/OFF Control	Supported in both hardware and software
Connector interface	Half Mini Card form factor based on PCIe electrical interface
LED Output	On/Off
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 XP*, Microsoft Windows Vista*, Microsoft Windows 7*, Linux*
Wi-Fi Alliance	Wi-Fi CERTIFIED* for 802.11b, 802.11g, 802.11n, WMM*, WPA*, WPA2*, and WPS
Microsoft WHQL	YES
IEEE WLAN Standard	IEEE 802.11b/g/n, 802.11d, 802.11e, 802.11i, 802.11h
Architecture	Infrastructure or ad hoc (peer-to-peer)
Roaming <sup>5</sup>	Supports seamless roaming between respective access points (802.11b, 802.11g, 802.11b/g, and 802.11b/g/n)
Bluetooth*	Bluetooth* 2.1, 2.1+EDR, 3.0, 3.0+HS

### Security<sup>6</sup>

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

### Compliance

Retail (Credit Card Processing)	PCI, CISP
Government	FIPS <sup>7</sup> , FISMA

Products Available	Model Code	Version
Intel® Centrino® Wireless-N 1030	11230BNHMW	11230BNHMW (supports 802.11b/g/n)
	11230BGHRU	11230BGHRU (supports 802.11b/g)

For more information on Intel® Centrino® wireless products, visit <http://www.intel.com/go/wifi>

<sup>1</sup> Based on the theoretical bandwidth maximum enabled by 1x2 802.11n implementations with 1 transmit and 2 receive spatial streams. Actual wireless throughput and/or range will vary depending on your specific operating system, hardware and software configurations. Check with your PC manufacturer for details.

<sup>2</sup> References to improved battery life as measured by MobileMark\* 2005, refer to platform comparisons versus competing 802.11n<sup>1</sup> WLAN solutions. Actual platform battery life savings will vary depending on your specific operating system, hardware and software configurations. Check with your PC manufacturer for details.

<sup>3</sup> Intel® Wireless Display requires a compatible Intel®-based laptop PC, a third-party TV adapter featuring Intel® Wireless Display, and a TV with an available HDMI or Composite AV input. Compatible laptop PCs require a select Intel® Core™ processor family CPU. For a complete list of requirements, visit [www.intel.com/go/wirelessdisplay](http://www.intel.com/go/wirelessdisplay). Content requiring output protection, such as Blu-ray\* and DVD movie playback, is not supported. Check with your PC manufacturer for specific details.

<sup>4</sup> Intel® My WiFi Technology and/or PROSet for Wireless software may not be supported by your PC manufacturer. Check with your PC manufacturer for details on availability. Intel® My WiFi Technology is designed to work with Microsoft Windows 7\* operating system. Wi-Fi Personal Area Network refers only to Wi-Fi enabled devices connecting to the PC via Intel® My WiFi Technology. Wi-Fi devices must be certified by the Wi-Fi Alliance for 802.11b/g/n. Check with your PC manufacturer for more details.

<sup>5</sup> Roaming is supported only between each respective band and mode of access points.

<sup>6</sup> Some security solutions may not be supported by your PC's operating system and/or by your PC manufacturer. Check with your PC manufacturer for details on availability.

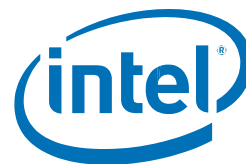
<sup>7</sup> Microsoft Windows Vista and Microsoft Windows 7 only.

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