

***Wi-Fi module***  
***WN8122E1***

**August  
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Model # WN8122E1

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# *Wireless Dual-band Network Adapter*

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## Introduction

The Wireless Dual-band Network Adapter (WN8122E 1-19) is another cutting edge introduction in both 5GHz and 2.4GHz wireless communication for digital TV, desktop and notebook computers. Designed for both home entertainment and SOHO environments, this system-embedded wireless network adapter provides the high speed, stable coverage and secure security expected by today's wireless users. WN8122E 1-19 is IEEE 802.11n compliant while maintaining full backwards compatibility with the 802.11a, 802.11b and 802.11g standards. It utilizes advanced MIMO (Multiple-In, Multiple-Out) technology to deliver incredible speed and range. The Wireless Dual-band Network Adapter provides better performance than existing 802.11g technology. Upgrading to wireless 11n network provides an excellent solution for sharing an Internet connection and files such as video, music, photos, and documents.

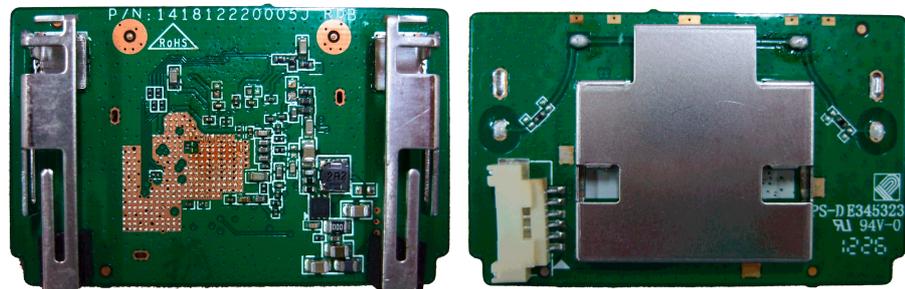
## Features and Benefits

- IEEE802.11n,g,b compliant
- IEEE802.11a compliant
- Wireless speeds up to 300 Mbps
- Increased speed and coverage - up to 5 times the speed of IEEE 802.11g
- Fully backwards compatible with 802.11b/g wireless networks
- Replaces wired LANs at dramatically lower cost than wired alternatives
- Orthogonal Frequency Division Multiplexing (OFDM) and advanced MIMO (Multiple-In, Multiple-Out) technology provides high speed connection

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## Hardware Description

The WN8122E 1-19 adapter can be built in a multi-media entertainment system. This wireless network adapter provides 300 Mbps connections. It is fully compliant with the specification of the IEEE 802.11a/b/g/n standards.



Refer to the user's manual of your media device for configuration details.

# Product Specifications

## Wireless Network

IEEE802.11a: up to 54 Mbps

IEEE802.11b: up to 11 Mbps

IEEE 802.11g: up to 54 Mbps

IEEE802.11n: up to 300 Mbps

### Operating Range

Outdoor: Up to 300 m (984 ft)

Indoor: Up to 100 m (328 ft)

## Radio Signal

### Signal Type

Direct Sequence Spread-Spectrum (DSSS)

DBPSK: 1 Mbps

DQPSK: 2 Mbps

CCK: 5.5/11 Mbps

BPSK: 6/9 Mbps

QPSK: 12/18 Mbps

16-QAM: 24 Mbps

64-QAM: 48/54 Mbps

### Operating Frequency

802.11a Radio: 5 GHz

5.150~5.250 GHz

5.725~5.850 GHz

802.11n Radio, 802.11g Radio, 802.11b Radio: 2.4 GHz

USA (FCC) and Canada (IC): 2.412 ~ 2.462 GHz, 5.180 ~ 5.240 GHz, 5.745 ~ 5.825 GHz

Taiwan (NCC): 2.412 ~ 2.462 GHz, 5.745 ~ 5.825 GHz

**Operating Channels**

IEEE 802.11a/b/g/n compliant:

USA (FCC) and Canada (IC): 11 channels(2.4GHz)/ 4 channels(5.2GHZ)/ 8 Channels(5.8GHz)

**RF Output Power**

802.11a/n: 14 ( $\pm 2$ ) dBm/ 20( $\pm 2$ ) dBm(for 5725-5850MHz)

802.11b: 17 ( $\pm 2$ ) dBm

802.11g/n: 18 ( $\pm 2$ ) dBm

**Rx Sensitivity:**

-69dBm at HT20, MCS7 (2.4GHz)

-87dBm at HT20, MCS0 (2.4GHz)

-69dBm at HT20, MCS7 (5.0GHz)

-87dBm at HT20, MCS0 (5.0GHz)

**Transmit Type**

MIMO (2T2R)

**Physical Characteristics**

**USB Pin Assignment**

Pin 1, VCC (Positive Input Supply Voltage: +5V)

Pin 2, USB\_DN

Pin 3, USB\_DP

Pin 4, GND (Ground)

Pin 5, WOWL

Pin 6, NC

**Dimensions**

48(L)x30(W) mm

**Weight**

8.28 g (0.0177 lb)

Pin 1

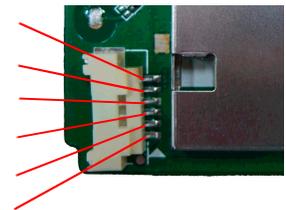
Pin 2

Pin 3

Pin 4

Pin 5

Pin 6



Antenna

Two external antennas on board

Power Voltage

3.3V DC  $\pm$  10%

Power Consumption

Full load: 520 mA

Standards Conformance

Wireless Standard

IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, IEEE 802.11n

Environmental

Temperature

Operating: 0 to 60 °C (32 to 140 °F)

Storage: -20 to 60 °C (-4 to 140 °F)

Humidity: under 85% (non-condensing)

Certification

CE

FCC

Software Drivers

Windows 2000

Windows XP

Windows Vista

Windows 7

# Compliance

## Federal Communication Commission Interference Statement

This equipment 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 equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment 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 one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

For operation within 5.15 ~ 5.25GHz frequency range, it is restricted to indoor use only.

**IMPORTANT NOTE:**

**FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

2.4GHz operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

This module is intended for OEM integrator. The OEM integrator is still responsible for the FCC compliance requirement of the end product, which integrates this module.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

The device must contain the following permanent labeling on the exterior of the device as follows:  
Contains FCC ID: BEJWN8122E1

**CE** **CE0197**

This device can be operated in the EU without restrictions indoor.