WL-166N11

Wireless USB Dongle

Hardware and Driver Reference

CONTENTS

NOTE: Information in this document is subject to change after this document is made available.

INTRODUCTION

SCOPE

The primary purpose of this documentation is to describe the WL-166N11 product specifications, features, and requirements. The WL-166N11 is an IEEE802.11 b/g/n USB dongle. It allows you to easily upgrade your PC-Platform or Laptop to 802.11n Draft 3.0. It provides an access speed of 150Mbps with IEEE802.11n Draft3.0 protocol. It is also officially recommended by Xlink Kai, which is a software that allows PSP or Nintendo DS users to play online games all over the world. WL-166N11 can easily setup a wireless LAN through its integrated WPS button (requires a router with the same WPS button). In addition, The WL-166N11 also provides software WPS functionality that allows you to make connections through its budled utility. Even a first time wireless LAN user can easily setup the WL-166N11.

ACRONYMS AND DEFINITIONS

Acronym	Description
BPSK	Binary Phase Shift Keying
QAM	Quadrature Amplitude Modulation
QPSK	Quadrature Phase Shift Keying
WEP	Wired Equivalent Privacy
WPA	WiFi Protected Access
WPS	WiFi Protected Setup

GENERAL FEATURES

- USB dongle that supports IEEE 802.11b/g/n draft 3.0
- BPSK, QPSK, 16QAM, 64QAM, DBPSK, DQPSK, CCK modulation schemes
- WEP, TKIP, AES, WPA, WPA2 security support

INTRODUCTION

DETAILED FEATURES

Features	Description
Network Standard	IEEE 802.11 b/g/n (Draft-3.0)
Chipset	Ralink RT3070 (Baseband/MAC and RF Transceiver)
Input Voltage	5V
Host interface	USB 1.1/2.0 Interface (Type A Connector)
Dimension	L: 44.33mm*W:20mm*H:7.75mm
Data Rate	802.11b: 1, 2, 5.5, 11Mbps
	802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps
	802.11n-20 MHz: 7.2, 14.4, 21.7, 28.9, 43.3, 57.8, 65, 72.2Mbps
	802.11n-40 MHz: 15, 30, 45, 60, 90, 120, 135, 150 Mbps
Modulation	
802.11b:	DBPSK (1Mbps), DQPSK (2Mbps), CCK (5.5Mbps,11Mbps)
802.11g:	BPSK (6Mbps,9Mbps), QPSK (12Mbps,18Mbps), 16QAM (24Mbps,36Mbps), 64QAM (48Mbps,54Mbps)
802.11n:	BPSK (7.2/15Mbps), QPSK (14.4/21.7/30/45Mbps), 16QAM (28.9/43.3/60/90Mbps), 64QAM (57.8/65/72.2/120/135/150Mbps)
Operating Freq.	802.11b/g/n (2412 ~ 2484 MHz)
Operating Chan.	1~11 for N. America & Taiwan, 1~13 for Europe, 1~14 for Japan
Transceiver/ Receiver Mode	1T1R Mode
Antenna Type	Printed antenna with 2.95dBi gain
RF Output Power	18.00dBm for 802.11b 22.00dBm for 802.11g 22.00dBm for draft 802.11n (20MHz) 22.00dBm for draft 802.11n (40MHz)
Security	WEP 64/128, WPA, & WPA2 coupled with Int. Reg 802.11d+h
Driver OS Support	Windows Vista, XP, 2000, Linux, MAC
Weight	Approx. 7g

INTRODUCTION

HARDWARE INFORMATION

Item	Description
Form Factor	USB Dongle
Host Interface	USB 2.0
Antenna Type	PIFA Antenna
PCB	4 layer

The WL-166N11 is a USB 2.0 Wi-Fi dongle which adopts Ralink RT3070 single chipset solution integrating MAC/Baseband and 2.4GHz RF. It fully complies with IEEE 802.11n draft 3.0 and IEEE 802.11 b/g feature. Its high standard wireless connectivity delivers reliable, cost-effective, higher throughput, and extended wireless cover range. Optimized RF architecture and baseband algorithms provide superb performance and low power consumption.

Intelligent MAC design deploys a high efficient USB engine and hardware data processing accelerators without overloading the host processor. WL-166N11 is designed to support standard based features in the areas of security, quality of service and international regulation, giving end users the greatest performance anytime in any circumstance.

CERTIFICATION

Regulatory

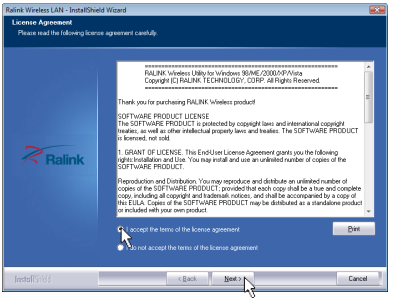
These are pending certifications:

Country	Requirement	Criteria
USA	RF	FCC Part 15. Subpart C
EU	RF	EN300 328/ EN301 489-1&17
Taiwan	RF	LP002

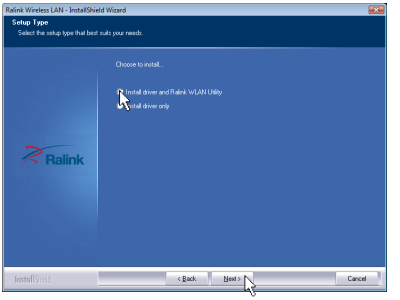
INTRODUCTION

DRIVER INSTALLATION STEPS

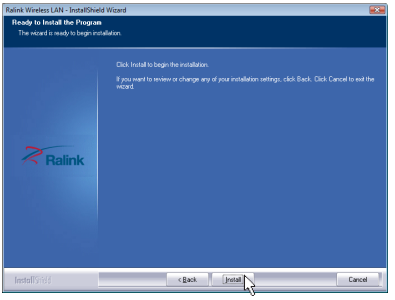
Double-click the driver setup file.



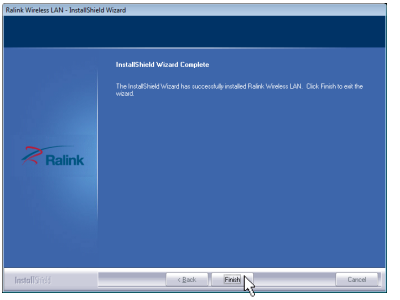
Read the agreement. Select "I accept..." and click Next to continue.



Select "Install driver and Ralink WLAN Utility". Click Next to continue.

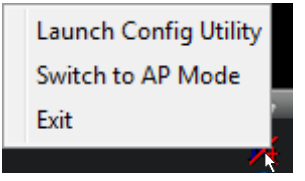


Click Next to begin installation.

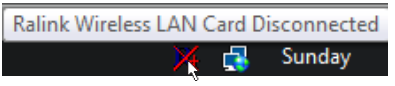


After installation, click Finish to exit.

The Ralink Utility icon will show on the Windows taskbar. A red X will show when there is no connection.



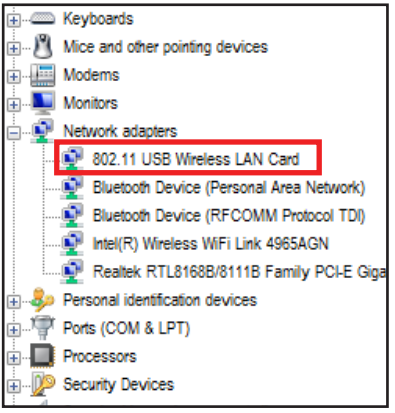
Right click the Ralink Utility icon to bring up a shortcut menu.



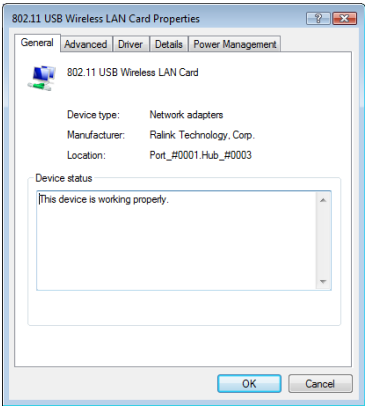
Status will show when your cursor is placed over it.

DRIVER INSTALLATION

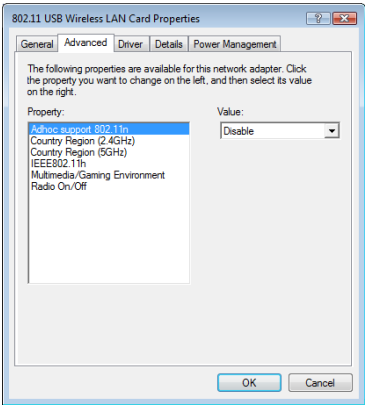
DEVICE AND DRIVER DETAILS



After driver installation, the wireless module shows as "802.11 USB Wireless LAN Card" in Windows Device Manager.



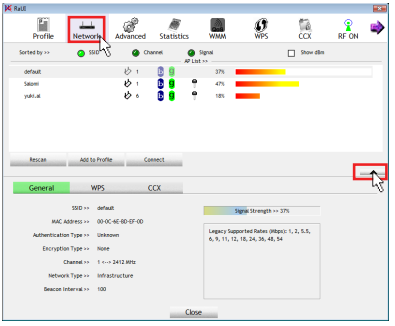
Detailed driver info.



Detailed device info.

DRIVER INSTALLATION

WIRELESS CONNECTION



Connection to a wireless LAN:

When you launch the Config Utility, click the Network icon and you will see a list of detected access points. Double-click the access point name to connect to it. (Extra information may be needed by the access point if security is enabled.)

Click the arrow on the right side of the window to show or hide details. (The above details are shown.)

Learning your device address:

Click the violet right arrow to show more icons. Click the About icon to display information about your wireless device.

You can see the "Phy_Address" in this window. This address is need for connection to access points that has accept/reject security access.

SAFETY STATEMENTS

Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the Federal Communications Commission (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 or more 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.

SAFETY STATEMENTS

FCC Radio Frequency (RF) Exposure Caution Statement

This equipment complies with FCC RF exposure limits set forth for an uncontrolled environment. To maintain compliance with FCC RF exposure compliance requirements, please follow operation instructions in the user's manual.

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. "The manufacturer declares that this device is limited to the channels in the US frequency band by a specified firmware controlled in the USA."

Declaration of Conformity for R&TTE directive 1999/5/EC

Protection requirements for health and safety - Article 3.1a
The protection of the health and the safety of the user and any other person, including the objectives with respect to safety requirements contained in Directive 73/23/EEC, but with no voltage limit applying.

Protection requirements for electromagnetic compatibility (EMC) - Article 3.1b

The protection requirements with respect to electromagnetic compatibility contained in Directive 89/336/EEC.

Effective use of the radio spectrum - Article 3.2

Radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communication and orbital resources so as to avoid harmful interference.

CE Mark Warning

This is a Class B product, in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Hereby that Pegatron Corporation, declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

CE MARK NOTICE: This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.