AW-NU129

IEEE 802.11b/g/n
USB 2.0 Wireless Module

Datasheet
Version 0.2

Document Release	Date	Modification	Initials	Approved
Version 0.1	2009/12/9	1. First release	Timdaway	Eric Lee
Version 0.2	2009/12/22	1. updated General spec	Hannah	Ray Lee

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1. Introduction

AzureWave Technologies, Inc. introduces the pioneer of the IEEE 802.11b/g/n USB 2.0 wireless module ---AW-NU129. The AW-NU129 USB 2.0 wireless module is a highly integrated wireless local area network (WLAN) solution to let users enjoy the digital content through the latest wireless technology without using the extra cables and cords. It enables a high performance, cost effective, low power, compact solution that easily fits onto one side of a USB. Compliant with the IEEE 802.11b/g/n standard, the AW-NU129 uses Direct Sequence Spread Spectrum (DSSS), Orthogonal Frequency Division Multiplexing (OFDM), BPSK, QPSK, CCK and QAM baseband modulation technologies.
A high level of integration and full implementation of the power management functions specified in the IEEE 802.11 standard minimize system power requirements by using AW-NU129.

Longer Range and Faster Speed
Comparing to 802.11g technology, 802.11n standard make big improvement on speed and range.
It Increases wireless range by up to 2 times and reduces dead spots in coverage area. The data rate can up to 150Mbps data rate.

2. Features

- ◆ **USB 2.0**
- ◆ **Compliant with IEEE802.11n standard**
- ◆ **2 antennas to support 1(Transmit) ∗ 1(Receive) Diversity technology**
- ◆ **High speed wireless connection up to 150Mbps**
- ◆ **Low power consumption and high performance**
- ◆ **Cost effective**
- ◆ **Enhanced wireless security**

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3. General Specifications

Model Name	AW-NU129
Product Description	USB wireless module
Wi-Fi Standard	IEEE 802.11 b/g/n, Wi-Fi compliant
Host Interface	USB 2.0
Major Chipset	Ralink RT3070 (MAC/Baseband/Radio)
Dimension	39.4mm X 15 mm x 3.4 mm
Weight	1.8g
Antenna	Printed antenna
Operating Conditions	
Voltage	5V +/- 10%
Temperature	TBD
Electrical Specifications	
Frequency Range	2.4 GHz ISM Bands 2.412-2.472 GHz, 2.484 GHz
Modulation	802.11 g/n: OFDM 802.11b: CCK(11, 5.5Mbps), QPSK(2Mbps), BPSK(1Mbps)
Data Rate	802.11b: 11,5.5,2,1 Mbps 802.11g: 54,48,36,24,18,12,9,6 Mbps 802011n: up to 150Mbps
Output Power	802.11b: 17dBm +/-1.5dBm (11Mbps) 802.11g: 15 dBm +/-1.5dBm (54Mbps) 802.11n: HT20 15 dBm +/-1.5dBm (HT20 MCS7) HT40 15 dBm +/-1.5dBm (HT40 MCS7)
Receive Sensitivity	802.11b: 11M -76 dBm 802.11g: 54M -65dBm 802.11n: HT20 MCS7 -64dBm , HT40 MCS7 -61dBm
Security	WEP 64-bit and 128-bit encryption WPA(Wi-Fi Protected Access) WPA2(Wi-Fi Protected Access)

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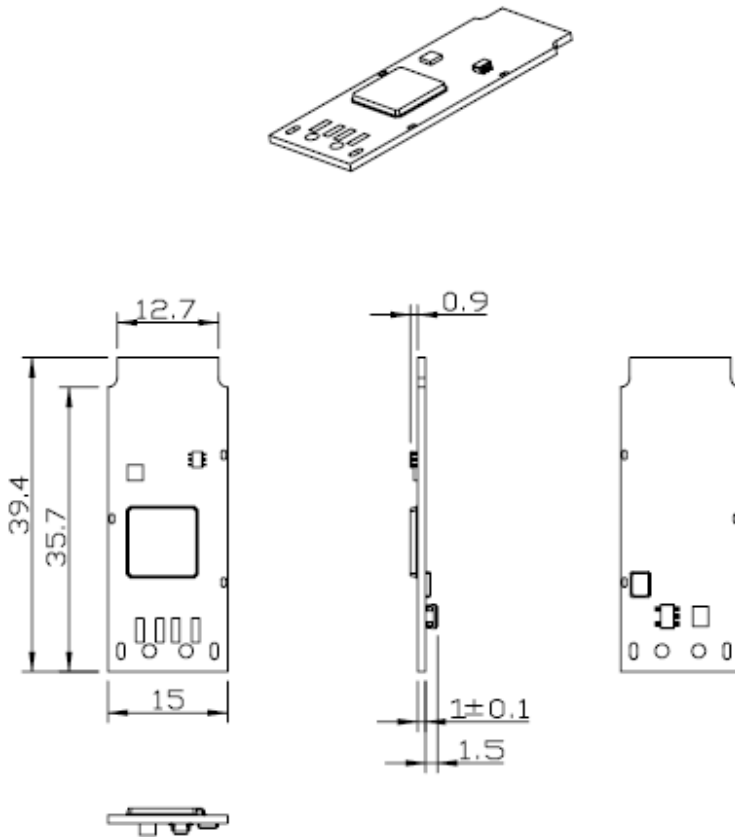
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4. Connector Pin-out Definitions

4.1 Pin assignment
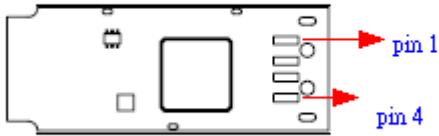
4.2 Pin definition

Pin number	Name	Type	Description
1	Power	Power	5V Power input
2	USB_D-	Digital	USB Differential signal
3	USB_D+	Digital	USB Differential signal
4	GND	Power	Ground

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5. Mechanical Dimensions

Tolerasces unless otherwise specified : ±0.15mm