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## Azurewave AW-NM386

# User Manual: IEEE 802.11b/g/n Wireless LAN USB Module

Brand: Azurewave | Model: AW-NM386

## 1. PRODUCT OVERVIEW

The Azurewave AW-NM386 is an IEEE 802.11b/g/n Wireless LAN USB Module designed for integration into various mobile devices. This includes Personal Digital Assistants (PDAs), Netbooks, TVs, Tablets, and Gaming Devices that require a compact form factor, low power consumption, and support for multiple interfaces and operating systems. This module facilitates easy implementation of Wi-Fi embedded applications, offering high design flexibility, a short development cycle, and quick time-to-market. It complies with the IEEE 802.11b/g/n standard, utilizing Direct Sequence Spread Spectrum (DSSS), Orthogonal Frequency Division Multiplexing (OFDM), DBPSK, DQPSK, CCK, and QAM baseband modulation technologies.

Key features include:

- **Form Factor:** USB Module
- **Wireless Standard:** 802.11nbg / Marvell 88W87xx
- **Interface:** USB 2.0
- **Temperature Range:** Extended Temp.
- **Security:** Supports WPA/WPA2, WEP 64-bit and 128-bit encryption, IEEE 802.11i security standard (AES/CCMP, WEP with TKIP, AES/CMAC, WAPI).
- **Quality of Service (QoS):** Supports 802.11e for video, voice, and multimedia applications.



Figure 1: Azurewave AW-NM386 Wireless LAN USB Module. This image shows a green circuit board with a silver metallic shield covering the main chip, labeled 'AW-NM386'. It features a black connector at the top and two circular mounting holes, one on each side. The AzureWave logo and other technical markings are visible on the board.

## 2. SETUP GUIDE

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This section outlines the general steps for integrating and setting up the AW-NM386 Wireless LAN USB Module. As an embedded component, specific installation procedures may vary depending on the host device.

### 2.1 Hardware Installation

- Identify Connection Port:** Locate the appropriate USB 2.0 interface on your host device (e.g., PDA, Netbook, TV, Tablet, Gaming Device) designed for module integration.
- Module Insertion:** Carefully align the AW-NM386 module with the designated USB port. Ensure proper orientation to avoid damage to the module or the host device.
- Secure Connection:** Gently push the module into the port until it is firmly seated. If applicable, secure the module using any provided mounting screws or clips.
- Antenna Connection (if applicable):** If your host device or module requires an external antenna, connect it to the appropriate antenna connector(s) on the AW-NM386 module.

### 2.2 Driver Installation

After physical installation, the host device will require the appropriate drivers to recognize and utilize the AW-NM386 module. Driver availability and installation methods depend on the host device's operating system and manufacturer.

- Operating System Compatibility:** The module is compatible with various operating systems, including MacOS. Consult your host device's documentation for specific driver requirements.
- Driver Source:** Obtain the necessary drivers from the manufacturer of your host device or from Azurewave's official support channels.
- Installation Procedure:** Follow the instructions provided with the driver package. This typically involves running an installer executable or manually installing drivers through the device manager.
- Verification:** After installation, verify that the module is recognized by the operating system and appears as a functional wireless adapter.

### 3. OPERATING INSTRUCTIONS

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Once the AW-NM386 module is installed and its drivers are configured, it functions as a standard wireless network adapter. The following steps describe general operation for connecting to a Wi-Fi network.

1. **Enable Wi-Fi:** Ensure that the Wi-Fi function is enabled on your host device. This is usually done through system settings or a dedicated hardware switch.
2. **Scan for Networks:** Open the network settings or Wi-Fi utility on your device. The module will automatically scan for available wireless networks (SSIDs) in range.
3. **Select Network:** From the list of available networks, select the desired Wi-Fi network you wish to connect to.
4. **Enter Password:** If the network is secured, you will be prompted to enter the network's security key or password (WPA/WPA2, WEP). Enter the correct credentials.
5. **Connect:** Confirm your selection to connect to the network. The device should indicate a successful connection.
6. **Verify Connection:** Test the internet connection by opening a web browser or an application that requires network access.

#### 3.1 Advanced Settings

Depending on your operating system and driver capabilities, you may be able to configure advanced settings such as:

- **IP Configuration:** Manual IP address, subnet mask, gateway, and DNS server settings.
- **Security Protocols:** Specific WPA/WPA2, WEP, or 802.11i configurations.
- **Power Management:** Settings to optimize power consumption for the wireless module.
- **Ad-hoc Mode:** Creating a peer-to-peer network (if supported by drivers).

Refer to your host device's operating system documentation or the module's driver documentation for detailed instructions on configuring advanced settings.

### 4. MAINTENANCE

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The AW-NM386 Wireless LAN USB Module is designed for durability and requires minimal maintenance. However, following these guidelines can help ensure its longevity and optimal performance.

- **Keep Dry:** Avoid exposing the module to moisture or liquids, as this can cause short circuits and permanent damage.
- **Clean Gently:** If cleaning is necessary, use a soft, dry, lint-free cloth. Do not use harsh chemicals, solvents, or abrasive cleaners. Ensure the module is disconnected from power before cleaning.
- **Avoid Physical Stress:** Do not bend, drop, or apply excessive force to the module. Handle it by its edges to prevent damage to components.
- **Temperature Control:** Operate and store the module within its specified temperature range. Extreme temperatures can affect performance and lifespan.
- **Firmware/Driver Updates:** Periodically check for updated drivers or firmware from Azurewave or your host device manufacturer. Updates can improve performance, add features, or fix bugs.

### 5. TROUBLESHOOTING

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This section provides solutions to common issues you might encounter with the AW-NM386 Wireless LAN USB Module.

| Problem                                      | Possible Cause   | Solution  |
|--|--|---|
| Module not detected by host device.          | <ul style="list-style-type: none"> <li>Improper installation.</li> <li>Missing or incorrect drivers.</li> <li>Faulty USB port.</li> </ul>                                      | <ul style="list-style-type: none"> <li>Ensure the module is securely seated in the USB port.</li> <li>Install or reinstall the correct drivers for your operating system.</li> <li>Try a different USB port on the host device.</li> <li>Restart the host device.</li> </ul>                                      |
| Cannot connect to Wi-Fi network.             | <ul style="list-style-type: none"> <li>Incorrect Wi-Fi password.</li> <li>Out of range of the Wi-Fi network.</li> <li>Network interference.</li> <li>Router issues.</li> </ul> | <ul style="list-style-type: none"> <li>Verify and re-enter the Wi-Fi password.</li> <li>Move closer to the wireless router/access point.</li> <li>Check for other devices causing interference (e.g., microwaves, cordless phones).</li> <li>Restart your wireless router.</li> </ul>                             |
| Slow Wi-Fi speed or intermittent connection. | <ul style="list-style-type: none"> <li>Weak signal strength.</li> <li>Network congestion.</li> <li>Outdated drivers.</li> <li>Interference.</li> </ul>                         | <ul style="list-style-type: none"> <li>Ensure good signal strength (move closer to router).</li> <li>Reduce the number of devices on the network or activities consuming high bandwidth.</li> <li>Update the module's drivers.</li> <li>Change the Wi-Fi channel on your router to avoid interference.</li> </ul> |

If the problem persists after trying these solutions, consult the support resources for your host device or contact Azurewave customer support.

## 6. SPECIFICATIONS

| Feature                                   | Detail   |
|---|--|
| <b>Brand</b>                              | Azurewave  |
| <b>Model Number</b>                       | AW-NM386   |
| <b>ASIN</b>                               | B00MHYQGSC   |
| <b>Hardware Interface</b>                 | USB  |
| <b>Data Link Protocol</b>                 | IEEE 802.11n, IEEE 802.11b, IEEE 802.11g             |
| <b>Data Transfer Rate</b>                 | Up to 150 Megabits Per Second (1.5E+2 Mbps)          |
| <b>Compatible Devices</b>                 | Laptop, PDAs, Netbooks, TVs, Tablets, Gaming Devices |
| <b>Compatible Operating System Family</b> | MacOS (and other OS with appropriate drivers)        |
| <b>UPC</b>                                | 795945993080   |
| <b>First Available Date</b>               | August 7, 2014                                       |

## 7. WARRANTY INFORMATION

Specific warranty terms for the Azurewave AW-NM386 module are typically provided by the manufacturer of the end-product in which it is integrated, or by Azurewave directly for bulk purchases. As an embedded component, its warranty may be covered under the warranty of the larger device it is part of.

For detailed warranty information, please refer to:

- The documentation provided with your host device (e.g., laptop, tablet, smart TV).
- Azurewave's official website or support portal for general product warranty policies.
- Your point of purchase for specific return or replacement policies.

*Note: The standard return policy for this product when purchased new is typically 30 days for refund/replacement, as per general retail terms. This does not constitute a manufacturer's warranty.*

## 8. SUPPORT AND CONTACT INFORMATION

For technical support, driver downloads, or further inquiries regarding the Azurewave AW-NM386 Wireless LAN USB Module, please utilize the following resources:

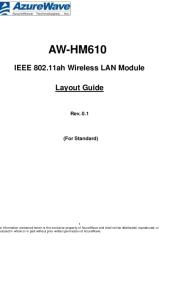
- **Azurewave Official Website:** Visit the official Azurewave website for product documentation, driver updates, and support contact details. [www.azurewave.com](http://www.azurewave.com) (Note: This is a placeholder URL as the exact support page is not provided.)
- **Host Device Manufacturer:** If the module came pre-installed in a device, the primary support channel might be the manufacturer of that device. Refer to their support website or user manual.
- **Retailer Support:** For purchase-related inquiries, contact the retailer from whom you acquired the product.

When contacting support, please have your product model number (AW-NM386) and any relevant host device information readily available.

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### Related Documents - AW-NM386

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|---|---|
|  <p><b>AW-XM553-EVB</b><br/>IEEE 802.11 1X1 a/b/g/n/ac/ax Wireless LAN + Bluetooth 5.2 Combo<br/>12 x 12 LGA Module</p> <p><b>User Guide</b><br/>Rev. 01<br/>(For Standard)</p> <p><small>The information contained in this document is the exclusive property of Azurewave. It is intended for the sole use of the individual recipient. It is not to be reproduced, distributed, or disclosed without the express written permission of Azurewave.</small></p> | <p><a href="#">AzureWave AW-XM553-EVB User Guide: IEEE 802.11ax Wi-Fi &amp; Bluetooth 5.2 Wireless Module</a></p> <p>User guide for the AzureWave AW-XM553-EVB evaluation board, featuring IEEE 802.11ax Wi-Fi and Bluetooth 5.2. Covers system setup, hardware requirements, software installation, RF testing, and schematics.</p>  |
|  <p><b>AW-XM646x Series</b><br/>IEEE 802.11 a/b/g/n/ac/ax Wireless LAN 1T1R and BLE/802.15.4 12x12 LGA Module</p> <p><b>Datasheet</b><br/>Rev. B<br/>(For Standard)</p> <p><small>The information contained in this document is the exclusive property of Azurewave. It is intended for the sole use of the individual recipient. It is not to be reproduced, distributed, or disclosed without the express written permission of Azurewave.</small></p>         | <p><a href="#">AzureWave AW-XM646x Series: IEEE 802.11 a/b/g/n/ac/ax WLAN, BLE/802.15.4 12x12 LGA Module Datasheet</a></p> <p>Detailed datasheet and layout guide for the AzureWave AW-XM646x Series module. This document covers technical specifications, features, electrical characteristics, host interfaces (WLAN, Bluetooth, 802.15.4), pin definitions, and PCB layout recommendations for integrating this 12x12 LGA module into various applications.</p> |

|   |   |
|---|---|
|    | <p><a href="#"><b>Asenware 2188 Series Addressable Fire Alarm Control System</b></a></p> <p>This document provides a comprehensive overview of the Asenware 2188 Series Addressable Fire Alarm Control System, detailing its various components including control panels, smoke detectors, heat detectors, manual call points, hooters/horns, input/output modules, coders, and repeaters. It outlines product features, technical specifications, and applications for each component.</p> |
|    | <p><a href="#"><b>Hisense Window Air Conditioner Manual and Specifications</b></a></p> <p>Comprehensive manual and specifications for Hisense Window Air Conditioners, covering safety, installation, product details, and operation for various models.</p>  |
|   | <p><a href="#"><b>AW-HM610 IEEE 802.11ah Wireless LAN Module Layout Guide</b></a></p> <p>This document provides essential layout guidelines and recommendations for the AzureWave AW-HM610 IEEE 802.11ah Wireless LAN Module. It covers RF trace routing, ground and power planes, digital interfaces, antenna considerations, shielding, and footprint recommendations to ensure optimal performance and prevent EMI issues.</p>   |
|  | <p><a href="#"><b>Panasonic 4K Integrated Camera Operating Instructions</b></a></p> <p>Comprehensive operating instructions for Panasonic's 4K Integrated Cameras (AW-UE50 and AW-UE40 series), detailing features, setup, operation, and maintenance for professional video production. Covers PTZ functionality, IP control, NDI HX compatibility, and advanced camera settings.</p>  |