

User Manual

MT7922A22M

Industrial Wireless Module

HVIN: WR315GR-GAX

FCC ID: 2AXAMMT7922A

IC: 34378-WR315GRGAX

WR315GR-2C-LTE6-GAX-EC Internal Use Only

WoMaster

MT7922A22M

Industrial Wireless Module

User Manual

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About This Manual

This user manual is intended to guide a professional installer to install and to configure the WoMaster Industrial Secured and Rugged LTE Serial Router. It includes procedures to assist you in avoiding unforeseen problems.



NOTE:

Only qualified and trained personnel should be involved with installation, inspection, and repairs of this router.

Disclaimer

WoMaster reserves the right to make changes to this Manual or to the product hardware at any time without notice. Information provided here is intended to be accurate and reliable. However, it might not cover all details and variations in the equipment and does not claim to provide for every possible contingency met in the process of installation, operation, or maintenance. Should further information be required or should particular problem arise which are not covered sufficiently for the user's purposes, the matter should be referred to WoMaster. Users must be aware that updates and amendments will be made from time to time to add new information and/or correct possible unintentional technical or typographical mistakes. It is the user's responsibility to determine whether there have been any such updates or amendments of the Manual. WoMaster assumes no responsibility for its use by the third parties.

WoMaster Online Technical Services

At WoMaster, you can use the online service forms to request the support. The submitted forms are stored in server for WoMaster team member to assign tasks and monitor the status of your service. Please feel free to write to help@womaster.eu if you encounter any problems.

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your WoMaster MT7922A22M Wi Fi Network Card. This high-performance M.2 NGFF card offers advanced wireless connectivity with Wi-Fi 6 (802.11ax) capabilities, designed to enhance your computing experience with faster speeds and improved network efficiency.

WiFi 6 Wireless Network Card

2400Mbps Gigabit high speed transmission rate
Supports 2.4Ghz 5Ghz frequencies
Supports 802.11ax ac wireless protocol
Made of PCB material, durable, robust and stable
Easy to operate, stable connection
Supported Operating System: for Microsoft for Windows 10 11 64 Bit Only



The MT7922A22M supports dual-band operation (2.4GHz and 5GHz) and leverages MU-MIMO technology for efficient data transfer in multi-device environments. With speeds up to 2400Mbps (when connected to a 160MHz router), it is ideal for demanding applications such as online gaming, 4K video streaming, and large file transfers.

2. Specifications

Below are the technical specifications for the MT7922A22M Wi Fi 6 Network Card:

Feature	Description
Model	MT7922A22M
Interface	M.2 NGFF
Wireless Protocol	802.11a/b/g/n/ac/ax (Wi-Fi 6)
Supported Frequencies	2.4GHz, 5GHz
Maximum Speed	Up to 2400Mbps (Router must support 160MHz)
Supported Operating System	Windows 10 64-bit, Windows 11 64-bit Only
Material	PCB (Printed Circuit Board)
Dimensions	2.76 x 1.97 x 0.39 inches (approx.)
Item Weight	0.141 ounces (approx.)

3. Package Contents

Please verify that all items listed below are included in your package:

- 1 x MT7922A22M Wi Fi 6 Network Card
- 1 x Mounting Screw
- 1 x Bracket Piece (for securing the card)



4. Setup and Installation

4.1 System Requirements

- Operating System: Windows 10 (64-bit) or Windows 11 (64-bit)
- Available M.2 NGFF slot on your motherboard/laptop

4.2 Hardware Installation

Follow these steps to install the network card:

1. **Power Off Your Device:** Completely shut down your computer or laptop and disconnect it from the power source. For laptops, remove the battery if possible.
2. **Open the Chassis:** Carefully open your computer's case or the laptop's back panel to access the motherboard. Refer to your computer's manual for specific instructions on how to do this.
3. **Locate the M.2 Slot:** Identify an available M.2 NGFF slot on your motherboard. These slots are typically labeled.
4. **Insert the Network Card:** Gently align the notch on the MT7922A22M network card with the key in the M.2 slot. Insert the card at a slight angle (approximately 30 degrees) until it is fully seated. Do not force it.
5. **Secure the Card:** Once inserted, push the card down towards the motherboard. Use the provided mounting screw to secure the card in place at the end of the slot. If necessary, use the bracket piece to align the card properly before screwing it down.
6. **Close the Chassis:** Reassemble your computer or laptop by closing the case or back panel.
7. **Power On:** Reconnect the power source and turn on your computer.

5. Operating Instructions

5.1 Driver Installation

The MT7922A22M network card is designed for plug-and-play functionality with Windows 10 (64-bit) and Windows 11 (64-bit). In most cases, your operating system will automatically detect the new hardware and install the necessary drivers upon startup. If drivers are not automatically installed or if you experience issues, you may need to:

- **Check Device Manager:** Open Device Manager (search for it in Windows Start menu). Look for 'Network adapters'. If you see an unknown device or a device with a yellow exclamation mark, the driver may not be installed correctly.
- **Update Drivers:** Right-click on the device in Device Manager and select 'Update driver'. Choose 'Search automatically for updated driver software'.
- **Manual Driver Download:** If automatic updates fail, visit the official website of the chipset manufacturer (e.g., MediaTek for MT7922A22M) or your computer/motherboard manufacturer's support page to download the latest drivers for your specific operating system.

5.2 Connecting to a Wi-Fi Network

Once the drivers are installed:

1. Click on the Wi-Fi icon in the system tray (usually in the bottom-right corner of your screen).
2. Select your desired Wi-Fi network from the list of available networks.
3. Enter the network security key (password) if prompted.
4. Click 'Connect'. Your computer should now be connected to the Wi-Fi network.

6. Maintenance

The WoMaster MT7922A22M Wi Fi 6 Network Card is designed for durability and requires minimal maintenance. To ensure optimal performance and longevity:

- **Keep it Clean:** Ensure the internal environment of your computer is free from excessive dust, which can accumulate on components and affect performance. Periodically clean your computer's interior with compressed air.
- **Avoid Physical Damage:** Handle the network card with care during installation. Once installed, avoid unnecessary physical shocks or vibrations to your computer.
- **Software Updates:** Regularly update your operating system and network card drivers to benefit from performance improvements, bug fixes, and security enhancements.

7. Troubleshooting

If you encounter issues with your MT7922A22M Wi-Fi 6 Network Card, refer to the following common problems and solutions:

Problem	Possible Cause / Solution
No Wi-Fi Connection / Card Not Detected	○ Ensure the card is properly seated in the M.2 slot. ○ Check Device Manager for the network adapter. If it has an error, try updating or reinstalling drivers. ○ Verify that Wi-Fi is enabled in your operating system settings. Restart your computer.
Slow Wi-Fi Speeds	○ Ensure your router supports Wi-Fi 6 and 160MHz channel width for maximum speed. ○ Move closer to your Wi-Fi router to improve signal strength. ○ Check for interference from other electronic devices. Update your router's firmware and network card drivers.
Frequent Disconnections	○ Update network card drivers. ○ Check for Wi-Fi channel congestion using a Wi-Fi analyzer tool and change your router's channel if needed. Ensure your computer's power management settings are not turning off the network adapter to save power.

8. Warranty and Support

Your WoMaster MT7922A22M Wi Fi 6 Network Card comes with a standard manufacturer's warranty. Please refer to the product packaging or the retailer's website for specific warranty terms and conditions. For technical support, driver downloads, or further assistance, please visit the official WoMaster support website or contact their customer service. Keep your purchase receipt or order number handy as it may be required for warranty claims.

9. Module Integration Instructions

2.2 List of applicable FCC rules

This module has been tested for compliance to FCC Part 15 Subpart C (15.247) and Subpart E (15.407).

2.3 Summarize the specific operational use conditions

The module is tested for standalone mobile RF exposure use condition. Any other usage conditions such as co-location with other transmitter(s) will need a separate reassessment through a class II permissive change application or new certification.

This module is authorized for Low Power Indoor Client applications only ; final host product must be for indoor operations only.

Further operation restrictions on the host product include:

*Prohibited for control of or Communications with unmanned aircraft systems.

2.5 Trace antenna designs

Not applicable.

2.6 RF exposure considerations

This equipment complies with FCC mobile radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. A separate SAR/Power Density evaluation is required to confirm compliance with relevant FCC portable RF exposure rule

2.7 Antennas

The following antennas have been certified for use with this module; antennas of the same type with equal or lower gain may also be used with this module except for operations within the 5.925~7.125GHz band. Use of any other antenna with a lower or higher gain in this band will require a separate reassessment through a Class II Permissive Change application or new certification.

Ant. Set	RF Chain No.	Brand	Model	Ant. Net Gain (dBi)	Freq. Range (GHz)	Ant. Type	Connector Type
1	Chain0	PSA	RFMTA340718EMLB302	3.18 4.92	2.4~2.4835 5.15~5.85	PIFA	i-pex(MHF)
	Chain1	PSA	RFMTA340718EMLB302	3.18 4.92	2.4~2.4835 5.15~5.85	PIFA	i-pex(MHF)
2	Chain0	PSA	RFMTA311020EMMB301	1.71 4.82 4.76 4.29 4.61 4.09	2.4~2.4835 5.15~5.85 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	i-pex(MHF)
	Chain1	PSA	RFMTA311020EMMB301	1.71 4.82 4.76 4.29 4.61 4.09	2.4~2.4835 5.15~5.85 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	i-pex(MHF)

IMPORTANT: The final host product must have an integral antenna which is not removable by the end-user.

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following : "Contains FCC ID: 2AXAMMT7922A22M". The grantee's FCC ID can be used only when all FCC compliance requirements are met.

2.9 Information on test modes and additional testing requirements

This transmitter is tested in a standalone mobile RF exposure condition and any co-located or simultaneous transmission with other transmitter(s) class II permissive change re-evaluation or new certification.

2.10 Additional testing. Part15 Subpart B disclaimer

This transmitter module is tested as a subsystem and its certification does not cover the FCC Part15 Subpart B (unintentional radiator) rule requirement applicable to the final host. The final host will still need to be reassessed for compliance to this portion of rule requirements if applicable.

The modular transmitter is only FCC authorized for the specific rule parts (i.e., FCC transmitter rules) listed on the grant, and the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

10.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.

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.

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

The modular transmitter is only FCC authorized for the specific rule parts (i.e., FCC transmitter rules) listed on the grant, and the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.