(MS-6837D)
Bluetooth 2.0+EDR USB Module

User's Guide

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

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CAUTION:

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(2) This device must accept any interference received, including interference that may cause undesired operation.

FCC RF Radiation Exposure Statement

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

Important Note

In the event that these conditions can not be example certain laptop configurations or colocation
with another transmitter), then the FCC authorization is no longer considered valid the FCC ID can not be used on the final product. In these circumstances, OEM integrator will be responsible for re-evaluating the end product (including thetransmitter) and obtaining a separate FCC authorization.

End Product Labeling

This transmitter module is authorized only for use in device where antenna may be installed such that 20 cm may be maintained between antenna and users (for example access points, routers, wireless ADSL and similar equipment). The final end product must be labeled in a area with the following: "Contains TX FCC ID: I4L-MS6837D".

Manual Information for End Users

The end user must not have manual instructions to remove or install device. The user manual for end users must include the following information in a prominent location:

"IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located operating in conjunction with any other antenna or transmitter." as a result of e-mail transmission."

Important Safety Precautions

Always read and follow these basic safety precautions carefully when handling any piece of electronic component.

1. Keep this *User's Guide* for future reference.
2. Keep this equipment away from humidity.
3. Lay this equipment on a reliable flat surface before setting it up.
4. The openings on the enclosure are for air convection hence protects the equipment from overheating.
5. All cautions and warnings on the equipment should be noted.
6. Never pour any liquid into the opening that could damage or cause electrical shock.
7. If any of the following situations arises, get the equipment checked by a service personnel:
   - Liquid has penetrated into the equipment
   - The equipment has been exposed to moisture
   - The equipment has not work well or you can not get it work according to User's Manual
   - The equipment has dropped and damaged
   - If the equipment has obvious sign of breakage
8. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT UNCONDITIONED, STORAGE TEMPERATURE ABOVE 70° C OR BELOW -35°C, IT MAY DAMAGE THE EQUIPMENT.

① Introduction

MSI Bluetooth 2.0+EDR USB module, **BT2RM**, is a **USB 1.1 Full Speed** Module **compatible with USB 2.0**, being used to integrate with systems such as notebook, Barebone computer, PDA, portable PC, Smart Phone. With MSI **BT2RM** embedded inside, a system could provide users with the ability and flexibility to link with peripherals wirelessly through **EDR** (Enhanced Data Rate) technology in **Bluetooth v2.0+EDR** speeding up to 3Mbps, advanced **AFH** (Adaptive Frequency Hopping) techniques in **Bluetooth v1.2** to minimize interference and enhance performance when linking with Bluetooth v1.1 devices and **eSCO** (extended SCO) techniques in **Bluetooth v1.2** optional supported for enhancing the audio performance.

1.2.1 In Bluetooth Connection

The term "Bluetooth" refers to a worldwide standard for the wireless exchange of data between two devices.   In order to exchange data, two Bluetooth devices must establish a connection. Before a connection is established, one device must request a connection with another.   The second device accepts (or rejects) the connection.   The originator of the request is known as the client.   The device that accepts (or rejects) the request is known as the server.   Many Bluetooth devices can act as both client and server.   Every Bluetooth device that provides a service must be prepared to respond to a connection request. Bluetooth soft- ware is always running in the background on the server, ready to respond to connection requests.

BT2RM Bluetooth Module
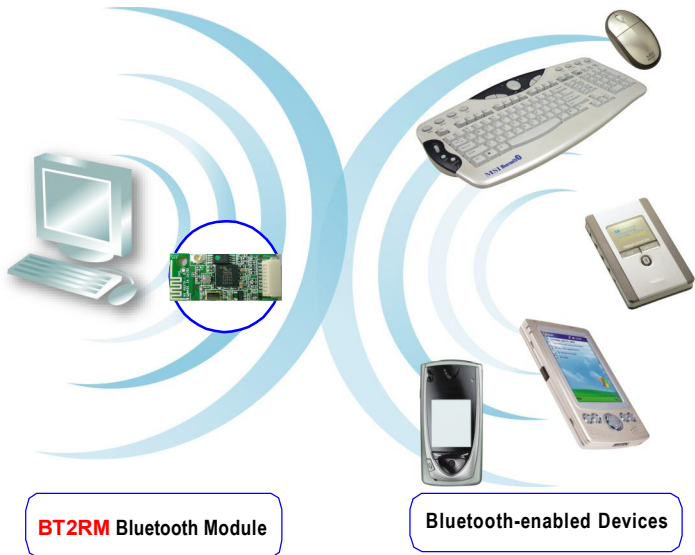
Bluetooth-enabled Devices

Bluetooth Specifications		
Radio Standard		Bluetooth Class II v2.0+EDR
Frequency Band		2.400-2.4835 GHz
Data Rate		Up to 2169kbps
Channel		79 sub-channels
Transmission		FHSS (Frequency Hopping Spread Spectrum)
Modulation		GFSK@1Mbps, $\pi/4$ DQPSK@2Mbps, 8DPSK@3Mbps
Antenna Type		Printed Circuit Antenna or One antenna connector support
Temperature	Operating Temperature	-35° to 70°C
	Storage Temperature	-20° to 70°C
Humidity		10%-90% (non-condensing)
Power Consumption		61.37mA in continue Tx 12mA in Standby mode
Output Power		0~4dBm
Max Input Level		0dBm
Receiver Sensitivity		-82 dBm @ BER<0.1%
Range		Up to 10m operating range
Baseband		
Physical Links		Support ACL and SCO link
Network Capabilities		Support piconet point-to-point and point-to-multipoint connections

| Link Manager	
3-slot Packets	Yes
5-slot Packets	Yes
Slot Offset	Yes
Timing Accuracy	Yes
Switch	Yes
Hold Mode	Yes
Sniff Mode	Yes
Test Mode	Yes
Park Mode	Yes
RSSI	Yes
Power Control	Yes
Authentication	Yes
Encryption	Yes
System Support	Windows® 2000/ME/98SE/XP
Profile Support	Generic Access Profile/Service Discovery Profile/Serial Port Profile/Dial-Up Networking Profile/Fax Profile/LAN Access Profile/Generic Object Exchange Profile/File Transfer Profile/Object Push Profile/Synchronization Profile/Personal Area Network Profile/Hard Cable Replacement Profile/Basic Image Profile/Generic Audio Video Distribution Profile/Advanced Audio Distribution Profile/Audio Video Remote Control Profile

>>> 1.4   System Requirements

Before installing BT2RM, your PC should meet the following items:

- One desktop/notebook PC with an available MiniPCI slot.

- Windows® 98SE/ME/2000/XP operating system.

- Minimum 5MB free disk space for installing the driver and utilities.

- One CD-ROM drive, double speed or higher.

>>> 1.5   Package Contents

Unpack the package and check all the items carefully.   If any item contained is damaged or missing, please contact your local dealer as soon as possible.   Also, keep the box and packing materials in case you need to ship the unit in the future. The package should contain the following items:
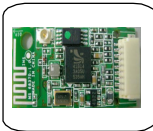
- One Bluetooth module.

Bluetooth antenna Connector

USB Connector
*Connect to yournotebook using the provided USB cable.*

② Hardware Installation

The following diagrams provide you a basic installation for your **BT2RM** . The instruction below is suitable for most computers with USB slot. For more information about the USB module, please refer to your computer's manual.

❑ **Installing BT2RM:**

1. Connect one end of the USB cable to the eight -pin USB connector on **BT2RM** , and the other end to the USB connector located on your notebook.
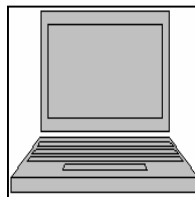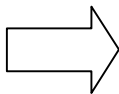
③ Software Installation

This chapter describes the procedures of installing the driver and utility.   Follow the instruction step by step to finish the installation.   If you use Windows® 98SE/ME, please prepare the Windows® Setup CD at hand before installing the driver; because the system will ask you to insert the Setup CD to copy files during the installation.

Please **NOTE** that the **BT2RM** should be installed into your computer before installing the driver and utility. Then, the operating system will detect a new device and start to con- figure the new device.   Click *Cancel* here to start installation from the InstallShield Wizard.

Add New Hardware Wizard

Windows has found the following new hardware:

The adapter model you installed

Windows can automatically search for and install software that supports your hardware. If your hardware came with installation media, insert it now and click Next.

What would you like to do?

◉ Automatic search for a better driver (Recommended)

○ Specify the location of the driver (Advanced)

[< Back] [Next >] [Cancel]

Click

Tip: The **BT2RM** *adapter should be installed into your PC before installing the driver and utility.*

STEP 1 Insert the software CD into your CD-ROM drive, and the Setup program should launch automatically.

If the Autorun program doesn't launch automatically, click **Start** at the taskbar and select **Run...**. Type *E:\setup.exe* (where *E* is your CD-drive) in the Open box and click *OK* to launch the Setup program manually.

The main screen of Setup program will appear as below.

STEP 2 1.Click the **Install Bluetooth Driver** button.

2.The welcome screen of InstallShield Wizard appears. Click *Next*.

3.Read and accept the License Agreement; then, click *Next*.

4.Click *Next* to install the driver in the default destination folder.

5.Click *Install* and the program will copy the necessary files to the system. The progress indicator shows the installing status.

6.Click *Finish* when the bluetooth driver installation is completed.

STEP 3 Click the **Exit** button.

The Wireless LAN icon and Bluetooth icon will appear in the status bar.

Bluetooth icon

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