



一、 WS-SHWIFI-04E 433RF 模組描述 / Module Description

WS-SHWIFI-04E 433 RF 模組專為智慧家居而設計，以降到整個系統的成本為目的。由於 WIFI 的成本較高，所以定向研發了 433 RF 模組。該模組自帶 MCU，能實現雙向通信、自組網、自我調整、資料自動轉發功能。

WS-SHWIFI-04D 433 RF module is designed for smart home, and the purpose is to reduce the cost of the system. As the cost of WIFI is higher, so we decided to development of the 433 RF module. The module comes with MCU, can achieve two-way communication, self-organizing network, self-adjustment, and automatic forwarding information.

此模組根據內部程式的不同，分為主機和從機。將此模組應用於智慧家居中，智慧家居從而大大降低的整體控制系統的成本。此模組有 10 個 IO 可供使用，可以控制繼電器的通斷等。模組所需電流比較小，最大只需 60mA，從而簡化了電源的設計。

This module is divided into host and slave, according to the internal procedure. This module is applied to the smart home, which can greatly reduce the cost of the control system. This module has 10 IO that can control the relays connection or disconnection and so on. The current required for the module is relatively small, and the maximum only 60mA. Thus, it simplifies the design of the power.

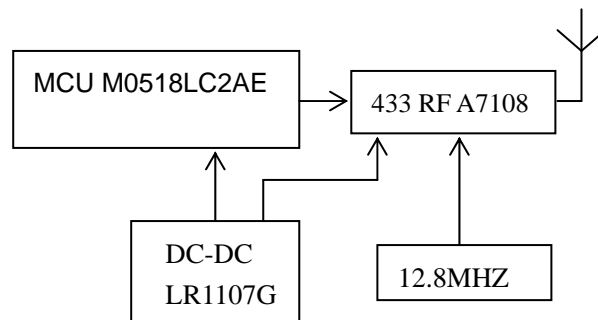
模組插針介面 / Module Interface

號碼 NO.	功能 Function	方向 Direction	說明 Introduction
1	VCC	Power In	5V 電源輸入 / 5V power input
2	GPI00	I/O	通用 GPIO / GPIO
3	GPI01	I/O	通用 GPIO / GPIO
4	GPI02	I/O	通用 GPIO / GPIO
5	GPI03	I/O	通用 GPIO / GPIO
6	GPI04	I/O	通用 GPIO / GPIO
7	GND	GND	電源地 / GND
8	GPI05	I/O	通用 GPIO / GPIO
9	GPI06	I/O	通用 GPIO / GPIO
10	GPI07	I/O	通用 GPIO / GPIO
11	GPI08	I/O	通用 GPIO /GPIO
12	GPI09	I/O	通用 GPIO / GPIO

◆ TX, RX 為串口 / Serial ports: TX, RX



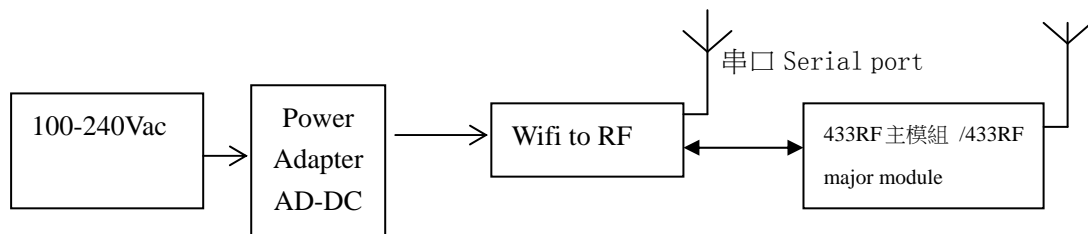
- ◆ RST, MOSI, MISO, 為下載專用介面 / Download interfaces: RST, MOSI, MISO
- ◆ VCC, GND 為 5V 電源 / 5V power supply: VCC, GND
- ◆ GPIO0, GPIO1, GPIO2,,GPIO3 為單片機 IO 口 / Single chip microcomputer IO: GPIO0, GPIO1, GPIO2,,GPIO



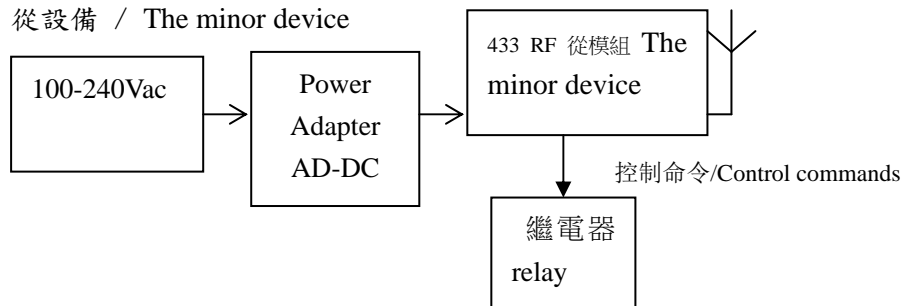
433MHz 模組方框圖 / 433MHz Module Block Diagram

二. 產品模組使用說明方框圖 / Product module block diagram:

主設備 / The major device



從設備 / The minor device



FCC statement

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.

Caution: Changes or modifications not expressly approved by the party responsible for



compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the 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.

For a host manufacture's using a certified modular, if (1) the module's FCC ID is not visible when installed in the host, or (2) if the host is marketed so that end users do not have straightforward commonly used methods for access to remove the module so that the FCC ID of the module is visible; then an additional permanent label referring to the enclosed module: "Contains Transmitter Module FCC ID:QT4-WSSHWIFI04C" or "Contains FCC ID: QT4-WSSHWIFI04C" must be used. The host OEM user manual must also contain clear instructions on how end users can find and/or access the module and the FCC ID.

Notice for Taiwan

低功率電波輻射性電機管理辦法

第十二條

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。