

1 Introduction 簡介

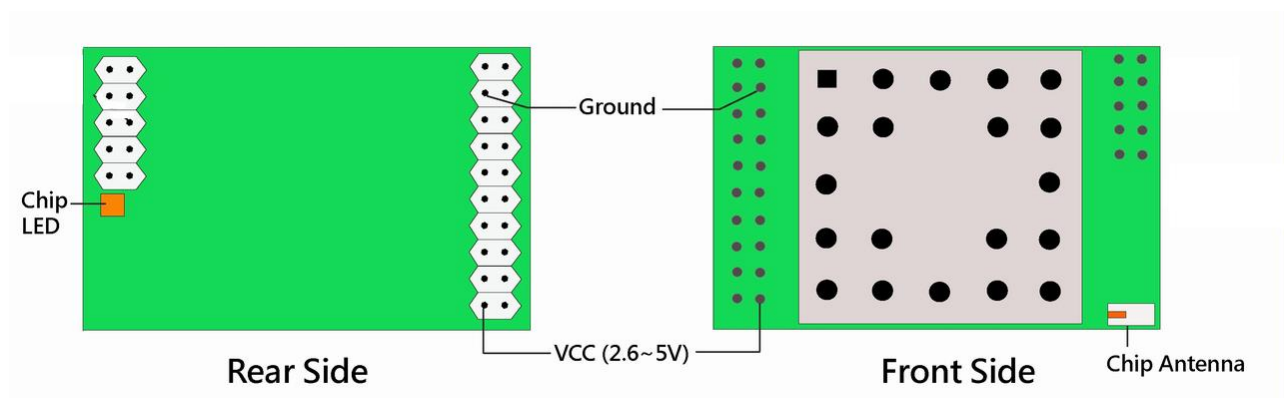
The purpose of this document is to provide details regarding the usage of KYRM-0083 module.

本指南的目的是提供有關KYRM-0083模組使用說明。

2 Module Overview 模組介紹

2.1 Key Feature 主要特性

- 2.4GHz ISM Band RF transceiver. (2.4GHz ISM 頻段 RF 收發器)
- Power supply voltage range 2.6V ~ 5V. (電源電壓輸入範圍 2.6V~5V)
- 30mm x 21mm compact size. (30mm x 21mm 緊緻尺寸)



2.2 Chip LED

KYRM-0083 has a programmable dual color (red and yellow) LED for status indication purpose.

KYRM-0083模組上有一個用來顯示狀態的可程式控制雙色LED。

2.3 Antenna 天線

KYRM-0083 has an on-board chip antenna. i-PEX connector on the module is for test purpose only.

KYRM-0083 模組有一個內建的晶片天線。i-PEX 連接器僅用於測試用途。

2.4 Specification 規格

- 2.4 GHz ISM Band RF transceiver
- Expansions: GPIO, I2C, SPI, UART
- Lithium-ion battery power protection and charging circuit
- Sensitivity: -100 dBm
- Output power: +13.8 dBm
- Emission current: < 200 mA
- Receiving current: < 100 mA
- Sleep current: 0.4 uA
- Operating voltage: 2.6 V – 5 V
- Transmission distance: approx. 1000m
- Operating environment temperature range: 0 °C ~ 60 °C
- Module size: 30 x 21mm

2.5 FCC Compliance Statements

FCC Compliance Statements

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including Interference that may cause undesired operation.

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 equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

Part 15B compliance statements for digital devices:

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 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.

》Note: The end product shall has the words "Contains Transmitter Module **FCC ID: 2AU5WKYRM-0083**"

》OEM statement

The Original Equipment Manufacturer (OEM) must ensure that the OEM modular transmitter must be labeled with its own FCC ID number. This includes a clearly visible label on the outside of the final product enclosure that displays the contents shown below. If the FCC ID is not visible when the equipment is installed inside another device, then the outside of the device into which the equipment is installed must also display a label referring to the enclosed equipment.

The end product with this module may subject to perform FCC part 15 unintentional emission test requirement and be properly authorized.

This device is intended for OEM integrator only; Chip antennas: 0.5 dBi

2.6 國家通訊傳播委員會(NCC)警告

根據「低功率電波輻射性電機管理辦法」第十條：

製造、輸入或販賣低功率射頻電機者，應於低功率射頻電機使用說明書內加印第十二條及第十四條之規定內容。

「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。

「低功率電波輻射性電機管理辦法」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，應立即停用，並改善至無干擾時方得繼續使用。

本模組於取得認證後，將依規定於模組本體標示審驗合格標籤，並要求平台廠商於平台上標示『本產品內含發射器模組：CCXXxxLPyyyZzW』