MT7687MODULE

MT7687MODULE Development board user manual V1.0

April 2016

[The MT7687MODULE board can be used to test the performance of MT7687FN separately.]

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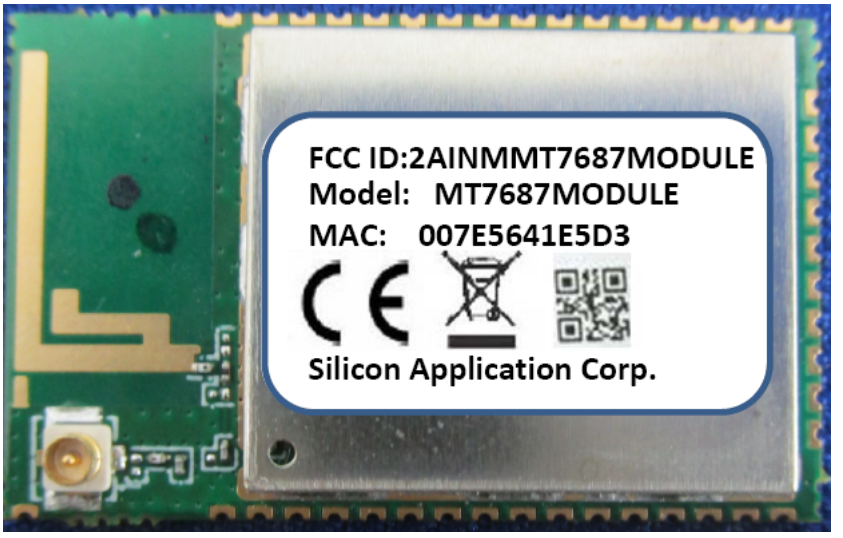
1. .PRODUCTS INTRODUCTION

MT7687MODULE Development board，To assist in the development of product usage. The main chip is Mediatek MT7687FN, Connective MCU integrated solutions for the Internet of things , the chip integrate WiFi+M4 MCU, In addition to meeting the WiFi connection it also can be used inside the M4 core MCU to achieve more application scenarios.

MT7687MODULE Development board is mainly focused on enabling customers to quickly familiar with the IOT WiFi MediaTek chip mt7687fn function as well as the usage. The evaluation board using Arduino specifications, with good hardware interface compatibility. Through this assessment board, customers can quickly familiar with the application of mt7687fn, to achieve product pre verification. and customers can save more time and cost of develop IOT product based WiFi products；

2. PRODUCTS SHOW



End Product Labeling: The Final end product label must contain the following statement on the product label: “Contains FCC ID: 2AINMMT7687MODULE”.

3. PRODUCTS SPECIFICATIONS

- ARM Cortex M4 MCU with FPU with up to 192MHz clock speed
- Embedded 352KB SRAM and 64KB boot ROM
- IEEE 802.11 b/g/n compliant
- Supports 20MHz, 40MHz bandwidth in 2.4GHz band
- Dual-band 1T1R mode with data rate up to 150Mbps
- Supports STBC, LDPC
- Greenfield, mixed mode, legacy modes support
- IEEE 802.11 d/e/h/i/k/r/w support
- Security support for WFA WPA/WPA2 personal, WPS2.0, WAPI
- Supports 802.11w protected managed frames
- QoS support of WFA WMM, WMM PS
- Integrated LNA, PA, and T/R switch
- Optional external LNA and PA support.
- RX diversity support with additional RX input

4. PRODUCTSCHEMATICDIAGRAM

- Please check the module - principle diagram as below：

“HDK”》“MODULE_MT7687F__V30”》 “MT7687F MODULE-V30 sch.pdf”

5. USE STEPS

5.1 MT7687BURNING SOFTWARE INSTALLED

MT7687MODULE Development board burning software in the "tools" > "IOT flash tools” compression package, decompression can be installed. Burning software, user guide please refer to:" tools ">" IOT flash Tools > "IOT flash tool user guide.pdf.

5.2 THE DEVELOPMENT ENVIRONMENT

MT7687MODULE Development board using a Linux environment, you need to install cross-compilation tools, recommend Ubuntu LTS 10.04 development after version.Get started developing, please refer to: "Doc", "Getting_Started_with_SDK_v1.2_on_MT7697.pdf". Of course, you can also use the Keil development SDK folder contains and references please see the Doc the following "LinkIt_for_RTOS_Get_Started_Guide.pdf".

5.3 SDK COMPILE GUIDE

Customers in the product development process to avoid the need to add your own function modules and code, Compile guidance, please refer to: "Doc", "IOT_SDK_build_intro_on_MT7687.pdf", Keil engineering please refer to "LinkIt_for_RTOS_Get_Started_Guide.pdf"; At the same time provide EPT tools, convenient configuration GPIO, refer to the "sdklinkit_sdk_v3.0.0ept_v1.0.2" under "easy_pinmux_tool_v1.0_user_manual.pdf".

6. NOTES

- When burning mt7687, it needs to be short the J25, after the completion of the burning to remove short circuit working in normal mode.
- The RF routing information "Doc" > "mt7687_application_design_notice_v12_20151222 (1).Pdf RF layout.
- Warning

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the 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 (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement: 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. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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.