

FCC ID: 2A7MD-FM812

FM812

User manual

Product Description

FM812 is adopt the SV6158 chip designed by Shenzhen iComm Semiconductor Co., Ltd. The SV6158 series is a fully integrated SoC with 2.4GHz band 1T1R 11b/g/n Wi-Fi, Bluetooth Low Energy 5.0, and MCU. A single chip MCU SoC targets for applications requiring optimal RF performance, strong security, low power consumption, and small form-factor with minimal external components. Equipped with a proven popular SDK, the SV6158 provides customers a fast time to market solution by leveraging existing software eco system, and still keep possibilities for product differentiation.

Product Features

WLAN

- Working Frequency : 2400MHz-2483.5MHz
- Support 802.11b/g/n
- Support HT20/HT40
- Support STA, SoftAP and Sniffer modes
- Support WEP,WPA/WPA2/WPA3
- Ad-hoc, peer-to-peer and Wi-Fi Direct modes supported

Bluetooth

- Working Frequency : 2400MHz-2483.5MHz
- Support BLE 5.0
- Support for Concurrent slave/advertiser/scanner operations supported
- Support for the SIG Mesh V1.01 protocol
- Support GATT and Mesh protocol

Product Specification

Product model	FM812
Frequency Band	b/g/n20:2412-2462MHz n40:2422-2452MHz BLE:2402-2480MHz
Modulation mode	802.11b: CCK, DQPSK, DBPSK 802.11g: 64-QAM,16-QAM, QPSK, BPSK With OFDM 802.11n: 64-QAM,16-QAM, QPSK, BPSK With OFDM BLE:GFSK
Security mechanism	WEP/WPA/WPA2/WPA3
Operating Voltage	3.3-5V
Antenna Type	PCB Antenna

FCC Caution:

Any Changes or modifications not expressly approved by the party responsible for

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

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with RF radiation exposure limits set forth for an uncontrolled environment.
3. This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

Host product manufacturers that they need to provide a physical or e-label stating, "Contains FCC ID:2A7MD-FM812 with their finished product.

Only those antennas with same type and lesser gain filed under this FCC ID can be used with this device.

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.

The final host integrator must ensure there is no instruction provided in the user manual or customer documentation indicating how to install or remove the transmitter module except such device has implemented two-ways authentication between module and the host system. 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 module has been tested and found to comply with part 15.247 requirements for Modular Approval.

This module is intended for OEM integrator. The OEM integrator is responsible for the compliance to all the rules that apply to the product into which this certified RF module is integrated. Additional testing and certification may be necessary when multiple modules are used.

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**Integration instructions for host product manufacturers according to KDB 996369 D03
OEM Manual v01**

2.2 List of applicable FCC rules

CFR 47 FCC PART 15 SUBPART C has been investigated. It is applicable to the modular transmitter

2.3 Specific operational use conditions

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

2.4 Limited module procedures

This module is Limited single modular without shielding, host manufacturer have to consult with module manufacturer for the module limiting conditions when integrate the module in the host. module manufacturer should reviews detailed test data or host designs prior to giving the host manufacturer approval.

2.5 Trace antenna designs

Not applicable

2.6 RF exposure considerations

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.

2.7 Antennas

This radio transmitter **2A7MD-FM812** has been approved by Federal Communications Commission to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Model	Type	Connector	Peak gain (dBi)				
			2400-2483.5 MHz	5150-5250 MHz	5250-5350 MHz	5470-5725 MHz	5725-5850 MHz
2400-2483.5 MHz	External Antenna	/	2.0dBi	/	/	/	/

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following" Contains FCC ID:2A7MD-FM812".

2.9 Information on test modes and additional testing requirements

Host manufacturer is strongly recommended to confirm compliance with FCC requirements for the transmitter when the module is installed in the host.

2.10 Additional testing, Part 15 Subpart B disclaimer

Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B.