

MD-A7105-F11

2.4GHz Transceiver

The MD-A7105-F11 module is designed for 2.4GHz ISM band wireless applications using AMICCOM MD-A7105-F11 (FSK) transceiver. This module features a fully programmable frequency synthesizer by SPI. The maximum data rate is 500Kbps.

Electrical specification

Item	Specification	Remark
Supply voltage	2.5V~3.6V	
Current consumption	1uA (typical) @Sleep mode 0.3mA (typical) @Idle mode 1.7mA (typical) @Stand-by mode 9mA (typical) @PLL Mode 16mA (typical) @Rx mode 20mA (typical) @Tx mode (Pout = 0dBm)	
Frequency	2400 – 2483 MHz	ISM band
Transmit output power	0 dBm @ room temperature	typical
Rx sensitivity	-105 dBm (typical) @ 10Kbps mode, Dev = 40 KHz -100 dBm (typical) @ 250Kbps mode, Dev = 93 KHz -96 dBm (typical) @ 500Kbps mode, Dev = 186 KHz	BER $\leq$ 1E-3
Modulation	FSK	
Transmission distance	18 meter	BER $\leq$ 1E-3
Interface	8 pin (2 x 4) header, Pitch: 2.54m/m	
Dimension	24.5mm(L) x 14mm(W) x 5mm(H)	Not include the connector
Operating temperature	-40 ~ 85 °C	

Application

- ① Telemetry,
- ① Wireless Toys,
- ① Remote Control,
- ① Wireless Speaker,
- ① Wireless Earphone,
- ① Walkie-Talkie,
- ① Wireless House,
- ① Keyboard.

Interface

Pin No.	Symbol	Function Description	Remark
1	GND	Ground	
2	VIN	RF Module Supply Voltage Input	1.9V ~ 3.6V
3	NC	No Connection	
4	SCS	SPI Chip Selection	
5	SCK	SPI Clock	
6	SDIO	SPI Data I/O	
7	GIO1	General Purpose I/O 1	
8	GIO2	General Purp	

Bill of Material

Item	Component	Value	Remark
1	C1	1uF,0402,Y5U	
2	C2	1uF,0402,Y5U	
3	C3	1uF,0402,Y5U	
4	C4	1uF,0402,Y5U	
5	C5	1uF,0402,Y5U	
6	C6	10pF,0402,NPO	
7	C7	120pF,0402,X7R	
8	C8	1.5nF,0402,X7R	
	C9	1.5nF,0402,X7R	
	C10	22pF,0402,NPO	
	C11	0.1uF,0402,Y5U	
	C12	100pF,0402,NPO	
	C13	22nF,0402,X7R	
	C14	33pF,0402,NPO	
	C15	33pF,0402,NPO	
	L2	4.7uH,0402,1%	
	L3	1.2uH,0402,1%	
	R1	10,0402,5%	
	R2	200,0402,5%	
	U1	QFN20(4X4),MD-A7105-F11	AMICOM
	U2	US49,16MHz,20ppm	

Module Photograph



FCC Warning :

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: 2ATRY-A107"

when the module is installed inside another device, the user manual of this device must contain below warning statements;

1. 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.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Compliance Information : 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

Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

"CAUTION : Exposure to Radio Frequency Radiation.

Antenna shall be mounted in such a manner to minimize the potential for human contact during normal operation.

The antenna should not be contacted during operation to avoid the possibility of exceeding the FCC radio frequency exposure limit.

* Antenna Type: PCB Antenna

* Antenna Gain: -3.5 dBi

"This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment."