



WM150 RFID Module

Hardware Datasheet

Product Overview

1.1 General Description

The WM150 is a HF RFID read/write module for use with industry standard 13.56MHz RFID tags and smart labels. The WM150 supports ISO14443A/B, ISO15693, ISO18000-3 mode-1 standard protocol. The device can be to a PC or other host system easily. The built in boot-loader enables firmware field upgrades.

1.2 Technical Specifications:

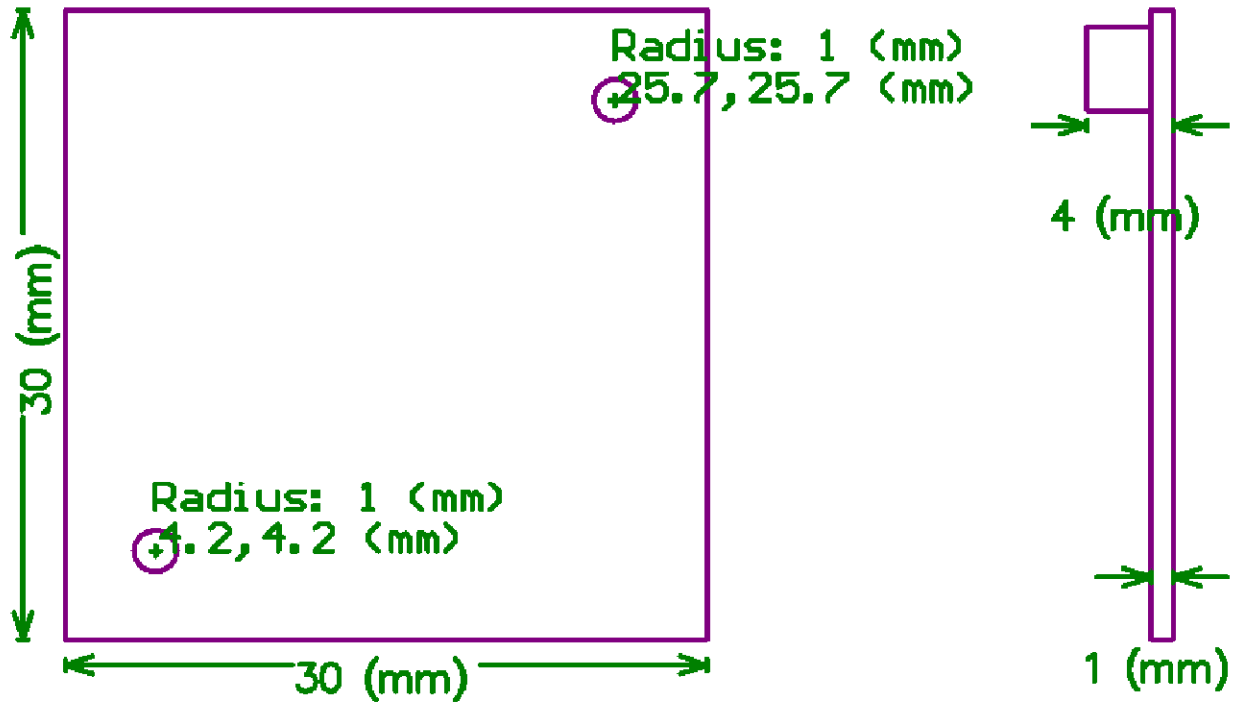
Operating Frequency	13.56MHz \pm 7KHz
Support Protocol	ISO14443A/B, ISO15693, ISO18000-3 mode-1, NXP Mifare (S50/S70) & SONY Felica Card UID Only
Antenna	Integrated
Interface	USB or UART
LED indicators	2 LED (Green = active, Red = reading)
Operating Distance	Up to 30mm (depend on the transponder and reader antenna size)
Supply Voltage	VDC +5V(USB Power or UART Power Source)
Supply Current	150mA
Operating Temperature	0 °C ~ 50 °C
Storage Temperature	-10 °C ~ 60 °C
Dimensions	30mm(L) x 30mm(W) x 4mm(H)
Weight	2.5 grams
Operating System Support	Windows 2000, 2003, XP, Vista
Firmware Boot-Loader	Supported via USB Interface
Standards / Certifications	RoHS Compliant
Support Tag ICs	Support ISO14443A
	✧ NXP Mifare Ultralight
	✧ NXP S50/S70 UID Only
	Support ISO14443B
	✧ ST SRI4K
	✧ ST SR1X4K
	✧ Atmel AT88RF020
	✧ Atmel AT88SC3216CRF
	Support ISO15693
	✧ NXP I-CODE SLI
	✧ Tag-it™ HF-I Standard
	✧ Tag-it™ HF-I Pro
	✧ Tag-it™ HF-I Plus
	✧ Fujitsu FerVID™ family MB89R118
	✧ Fujitsu FerVID™ family MB89R119
	✧ MStar MSR3200 Lyra

2. Dimensions Description

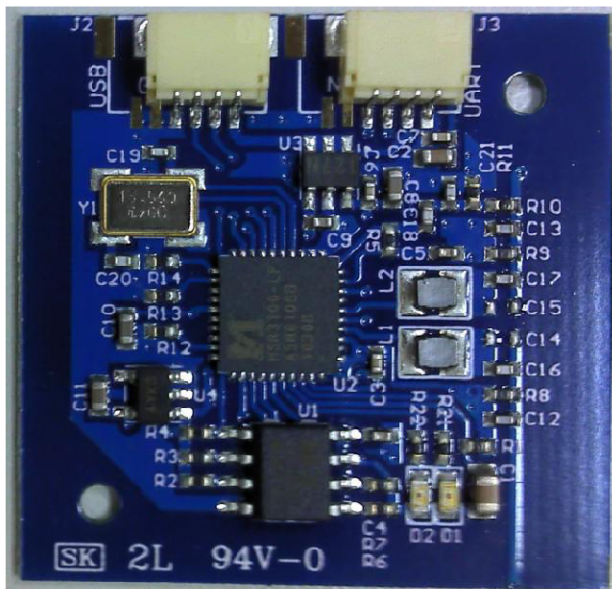
2.1 Dimensions

Units : mm

Tolerance : ± 0.3



2.2 Product Photo



Top Layer



Bottom Layer

3. Host Interface

USB Specification 2.0 compliant; full-speed (12Mbps) data rates

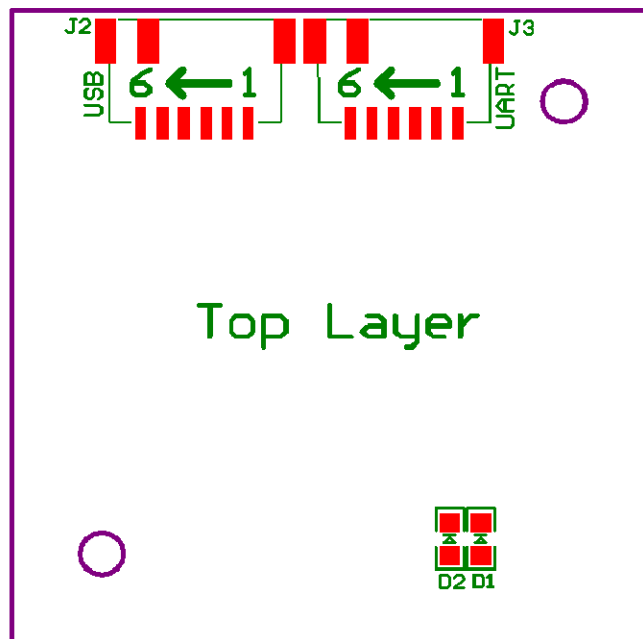
OR

UART

Baud Rates : 115200 bits/sec, N, 8, 1

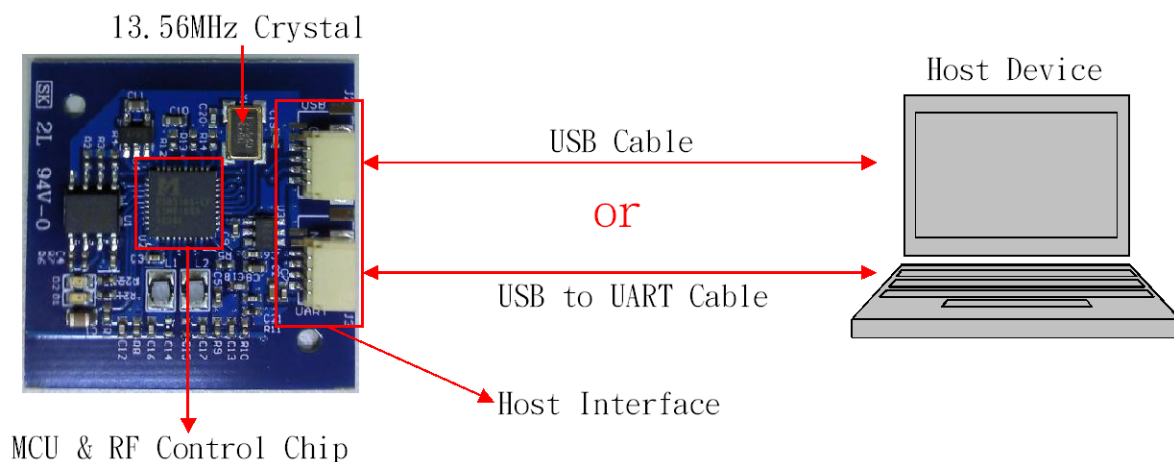
p.s. No Parity Bit, 8 Data Bits, 1 Stop Bit.

4. Interface Connector Pin Define



J3 UART Connector	Pin_1	Gnd	Digital Ground
	Pin_2	VDC +5V	Digital Power Supply
	Pin_3	Rx	UART Serial Data Input (TTL Level)
	Pin_4	Tx	UART Serial Data Output (TTL Level)
	Pin_5	NC	Reserved for future use
	Pin_6	Gnd	Digital Ground
J2 USB Connector	Pin_1	VBus Power	USB Digital Power Supply (VDC +5V)
	Pin_2	DM	USB D- Data Line
	Pin_3	DP	USB D+ Data Line
	Pin_5	Gnd	Digital Ground
	Pin_6		
LED	D1	Green	Device Link Success
	D2	Red	Device Link Read TAG Success

5. Block Diagram



Note :

The buyer of the module who will incorporate this module into his host must submit the final product to the manufacturer of the module, and the MANUFACTURER OF THE MODULE WILL VERIFY that the product is incorporated in the host equipment in a way that is represented by the testing as shown in the test report.

To OEM installer:

1. FCC ID label on the final system must be labeled with "**Contains FCC ID: Y4V-WM150**" or "**Contains transmitter module FCC ID: Y4V-WM150**".
2. In the user manual, final system integrator must ensure that there is no instruction provided in the user manual to install or remove the transmitter module.
3. Transmitter module must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.

The user manual of the final host system must contain the following statements:

USA-Federal Communication Commission (FCC):

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.

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

To comply with the FCC RF exposure compliance requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter, except if installed in compliance with FCC Multi-Transmitter procedures.

To inherit the modular approval, the antennas for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Revision History

Revision	Date	Description	By
1.0	2010/12/08	Initial creation	Ta Hsiang Chen
1.1	2011/01/07	Block Diagram	CTH