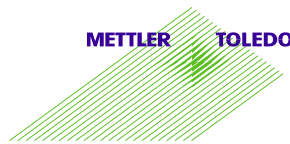


MT-UHF-RFID01





FCC&IC Notice

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, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement

This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This modular can be installed and operated in a portable condition.

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme aux CNR exemptes de licence d'Industrie Canada . Son fonctionnement est soumis aux deux conditions suivantes :

- (1) Ce dispositif ne peut causer d'interférences ; et
- (2) Ce dispositif doit accepter toute interférence , y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

IC Radiation Exposure Statement

This modular complies with IC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This modular can be installed and operated in a portable condition. Ce module peut être installé et utilisé dans des conditions portables.

If the IC 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.

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

1. This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

2. Cet appareil est conforme aux CNR exemptes de licence d'Industrie Canada . Son fonctionnement est soumis aux deux conditions suivantes :

- (1) Ce dispositif ne peut causer d'interférences ; et
- (2) Ce dispositif doit accepter toute interférence , y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

The devices 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 SAR limit adopted by USA and Canada is 1.6 watts/kilogram (W/kg) averaged over one gram of tissue. The highest SAR value reported to the Federal Communications Commission (FCC) the Industry Canada (IC) for this device type when it is tested for the properly worn on the body is under 1g 1.6W/Kg.

The device complies with the RF specifications when the device is used near your at a distance of 0 mm from your body. Ensure that the device accessories such as a device case and a device holster are not composed of metal components. Keep your device 0 mm away from your body to meet the requirement earlier mentioned.



This radio transmitter [25883-MT24104] has been approved by Innovation, Science and Economic Development Canada 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.

Le présent émetteur radio [25883-MT24104] a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué pour tout type figurant sur la liste, sont strictement interdits pour l'exploitation de l'émetteur.

The antenna (type / gain / impedance) which can be used with the transmitter is:

L'antenne (type / gain / impédance) qui peut être utilisée avec l'émetteur est :

Model number	Type	Connector	Frequency	Peak Gain
			MHz	dBi
868/915 MHz Flexible Antennna	Flex	IPEX	860-870MHz/900-930MHz	-27
ARRKP5062-S915B	Dielectric Ceramics	MMCX-JW	902-928 MHz	3

List of applicable FCC rules:
FCC Part 15.247

RF exposure considerations

The application complies with FCC RF radiation exposure limits set forth for an uncontrolled environment and can be installed and operated in a portable condition. If this conditions cannot provided, a separate approval is required, and host product manufacturer should take responsibility of it.

Label and compliance information

The host product must be labeled in a visible area with the following "Contains FCC ID: 2ALAI24MT107" and "Contains IC: 25883-MT24104".

Information on test modes and additional testing requirements

The host manufacturer can use the software of "Universal Reader Assistant" to make RFID transmit.

Additional testing, Part 15 Subpart B disclaimer

The module is only FCC authorized for the specific rule parts 15.247 listed on the grant. The host product manufacturer is responsible for the compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification.



1. Introduction

RFID technology is becoming more and more popular recent years. The RFID module MT-UHF-RFID01 independently developed by METTLER TOLEDO is mainly used in printers. Combined with METTLER TOLEDO's electronic scales, complete weighing solutions are provided to customers.



2. Specification

Model	MT-UHF-RFID01
Physical Characteristics	
Dimensions	50mm*40mm*9.5mm
Weight:	15g
RFID Features	
Air Interface Protocol	EPCglobal Gen2 (ISO18000-6C)
Working Frequency	865-868 / 920-925 / 902-928 MHz (custom-design for frequency band)
Output Power	0-24dBm adjustable
Antenna Interface	50 Ω connector Ipex
Regions Supported:	FCC 902-928 MHz; ETSI 865.6-867.6 MHz; China 920-925MHz; Others for customization (865-868, 902-928MHz)
Communication Interface	
Serial Interface	Connector: 6PIN Molex PicoBlade Connector Input voltage: 24V/5V Host : UART 3.3V TTL Baud Rate: 115200bps
USB	Connector: Type C; Input voltage: 5V.



3. Interface definition

3.1 Serial Interface definition

6 pin MOLEX PicoBlade Header 532610671

Pin No	Name	Type	Dir*	Description
1	+24V	Power	I	24V supply
2	GND	Ground		Ground for signal and power supply
3	+5V	Power	B	5V power in or out
4	GND	Ground		Ground for signal and power supply
5	RXD	Signal	I	RFID module serial receive
6	TXD	Signal	O	RFID module serial transmit



3.2 USB Type-C interface definition

USB Type-C receptacle, JAE DX07S024JJ2R1300

Pin No	Name	Type	Dir*	Description
A1	GND	Ground		Ground for signal and power
A2	nc			
A3	nc			
A4	VBUS	Power	I	USB supply +5V
A5	CC1	Signal	O	Configuration channel
A6	D+	Signal	B	USB 2.0 data +
A7	D-	Signal	B	USB 2.0 data -
A8	nc			
A9	VBUS	Power	I	USB supply +5V
A10	nc			
A11	nc			
A12	GND	Ground		Ground for signal return
B1	GND	Ground		Ground for signal and power
B2	nc			
B3	nc			
B4	VBUS	Power	I	USB supply +5V
B5	CC2	Signal	O	Configuration channel
B6	D+	Signal	B	USB 2.0 data +
B7	D-	Signal	B	USB 2.0 data -
B8	nc			
B9	VBUS	Power	I	USB supply +5V
B10	nc			
B11	nc			
B12	GND	Ground		Ground for signal return



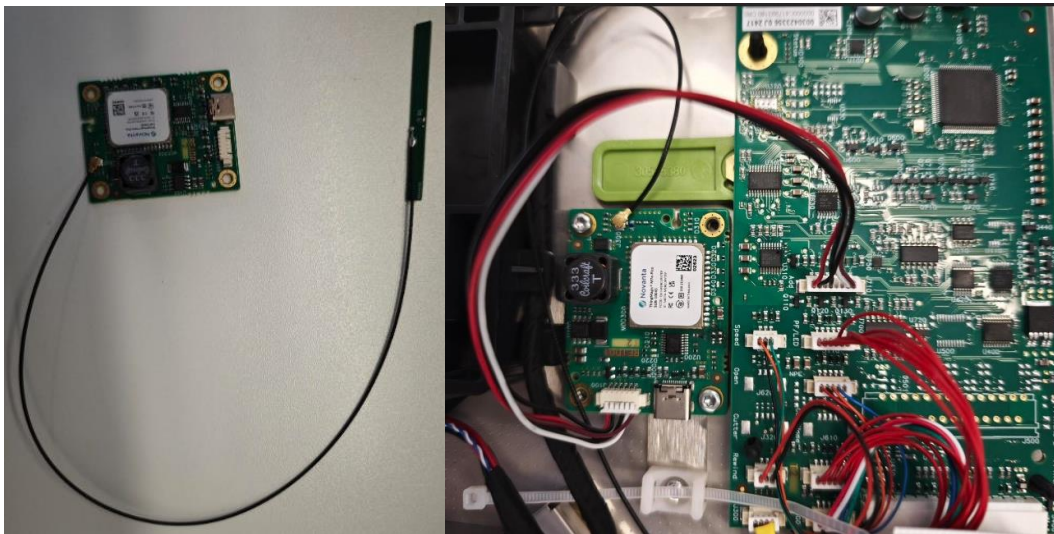
4. Connection

Attention: At the same time, only one connection Type C or Serial interface can be connected.

4.1 Serial interface connection

This connection is commonly used in Mettler Toledo's Retail Printers, often used together with Mettler Toledo's printer driver board PCBA FLP01.

Connected with customized 868/915 MHz Flexible Antenna (Antenna will assemble near print head in actual use), and connect the serial interface to printer driver board PCBA FLP01 corresponding interface by a customized cable.



4.2 Type C interface

MT-UHF-RFID01 module can also be used as an external solution. It is easily connect to PC or other machines/scales by connecting a Type C cable directly. The ARRKP5062-S915B antenna is suggested to be used in this solution.

