illumina®

RFID Reader Compliance Guide

FOR IN VITRO DIAGNOSTIC USE

The RFID Reader Module, Model # TR-001-44, is a compact module designed for use within a host device for short-range reading of high frequency (HF) tags. The module consists of a radio module, loop antenna, and a UART host interface on a single footprint of 40 mm x 40 mm x 6.5 mm.

Figure 1 RFID Reader, Model # TR-001-44

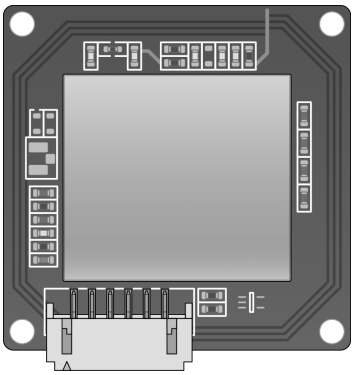
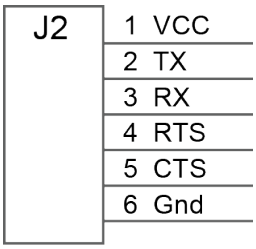


Figure 2 Host UART Interface Connections



RFID Reader Specifications

Power	Specification
Input Voltage	3.3 Volts DC ±5%
Supply Current	120 mA

Electrical	Specification
Operating Temperature	0°C to 35°C (32°F to 95°F)
Storage Temperature	-20°C to 85°C (-4°F to 185°F)

Radio Frequency (RF)	Specification
RF Operating Frequency	13.56 MHz
RF Output Power	200 mW

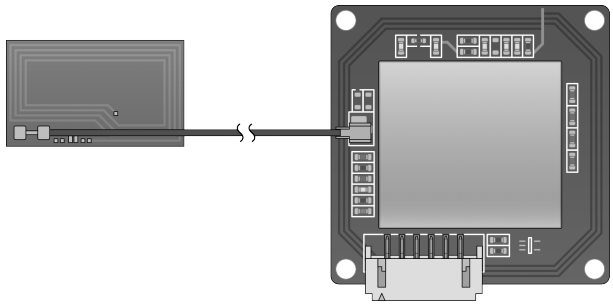
External Antenna

The RFID Reader Module TR-001-44 (part # 15043544) is configured to use an internal loop antenna. When using the external flexible loop antenna (part # 15068220), use RFID Reader Module TR-001-44 (part # 15067940).

The RFID Reader Module TR-001-44 (part # 15067940) is configured with a mini-coaxial connector for attaching the external flexible loop antenna (part # 15068220) and bypassing the internal loop antenna.

Attach the coaxial cable of the loop antenna to J1 of the RFID Reader Module.

Figure 3 RFID Reader Model # TR-001-44 With External Flex Antenna



FCC Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following 2 conditions:

1 This device may not cause harmful interference.

2 This device must accept any interference received, including interference that may cause undesired operation.

CAUTION

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

NOTE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instrumentation manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case users will be required to correct the interference at their own expense.

The antennas used for this transmitter must not be colocated or operating in conjunction with any other antenna or transmitter.

Host Device Labeling

If the RFID Reader is not visible when installed in the host device, the host device must include one of the following exterior labels:

- Contains Transmitter Module FCC ID: ZWF-TR00144
- Contains FCC ID: ZWF-TR00144

IC Compliance

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

This device complies with Industry Canada license-exempt RSS standards. Operation is subject to the following 2 conditions:

1 This device may not cause interference.

2 This device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This radio transmitter (IC ID: 9859A-TR00144) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Product Compliance and Regulatory Statements

Simplified Declaration of Conformity

Illumina, Inc. hereby declares that the RFID Reader Module, Model # TR-001-44 is in compliance with the following Directives:

- EMC Directive [2014/30/EU]
- Low Voltage Directive [2014/35/EU]
- RED Directive [2014/53/EU]

The full text of the EU Declaration of Conformity is available at the following internet address: support.illumina.com/certificates.html.

Human Exposure to Radio Frequency

This equipment complies with maximum permissible exposure (MPE) limits for the general population per Title 47 CFR § 1.1310 Table 1.

This equipment complies with the limitation of human exposure to electromagnetic fields (EMFs) for devices operating within the frequency range 0 Hz to 10 GHz, used in radio frequency identification (RFID) in an occupational or professional environment. (EN 50364:2010 sections 4.0.)

Philippines Compliance

Brazil Compliance

Conformidade ANATEL:

Este equipamento foi testado e está em conformidade com as resoluções da ANATEL 442 e 506.

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

Korea Compliance

MSIP-CRM-ILM-TR-001-44
Equipment for professional use (class A).
Per EMC requirements, use the equipment with caution and only under professional environments.

해당 무선설비는 운용 중 전파혼신 가능성이 있음
Interference is likely to occur during operation of the equipment.

Españoles advertencia-Mexico

Conformidad con Instituto Federal de Telecommunicaciones

La operación de este equipo está sujeta a las siguientes dos condiciones:

1 Es posible que este equipo o dispositivo no cause interferencia perjudicial.

2 Este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

Certificado De Homologacion: IFETEL No.: RCPILEX 13-2029

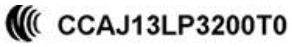
Republic of Serbia RATEL Compliance

И 005 16

United Arab Emirates Compliance

- TRA Registered Number: ER0117765/13
- Dealer Number: DA0075306/11

注意！ Taiwan Compliance



依據 低功率電波輻射性電機管理辦法

第十二條

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

本模組於取得認證後，將依規定於模組本體標示審驗合格標籤，並要求平台廠商於平台上標示。

本器材屬於模組認證, 可適用於各種平台。

Precautions of Use

Read the following precautions before using the RFID Reader and card. Adhere to the precautions to avoid malfunctions and failures caused by misuse.

- **Avoid using the RFID Reader in the presence of strong electomagnetic waves**—The RFID Reader supplies power to the card or tag using an electromagnetic wave to communicate with the card or tag. The presence of strong electromagnetic waves affects communication between the RFID Reader and card or tag, causing reduced access area or inability to access the card. Test the RFID Reader using the actual power source in the installation location environment before use.
- **Keep precision devices that might be affected by electromagnetic waves away from the RFID Reader**—Because the RFID Reader constantly emits an electromagnetic wave of about 13.56 MHz, placing precision devices that might be affected by electromagnetic waves near the reader can cause malfunction or failure of the devices. When operating the reader, keep precision devices away from the RFID Reader. If such precision devices must be located near the RFID Reader, shield the precision devices with a metal cover and test the devices to check for any influence.
- **Avoid using multiple RFID Readers in proximity to each other**—The RFID Reader supplies power to the card or tag using an electromagnetic wave to communicate with the card or tag and constantly emits an electromagnetic wave of about 13.56 MHz. Using multiple readers in proximity to each other causes interference, interrupts communication between the card and reader, and prevents access to the card.

Safety Information

To maintain compliance with the FCC RF exposure guidelines, install and operate this equipment with a minimum distance of 20 cm between the radiator and your body.

Use only with the supplied antenna. Unauthorized antenna, modification, or attachments can damage the transmitter and violate FCC regulations.

Revision History

Document	Date	Description of Change
Document # 1000000030332 v03	August 2021	Updated EU Authorized Representative address.
Document # 1000000030332 v02	December 2019	Updated EU Authorized Representative address. Updated Australian Sponsor address.

Document	Date	Description of Change
Document # 1000000030332 v01	August 2018	Updated regulatory markings.
Document # 1000000030332 v00	November 2017	Initial release.

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