

TN33MUE002L USER'S MANUAL



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1. Overview

TN33MUE002L is a NFC Reader/Writer module which is capable of acquiring the ID or read/write the data on the ISO/IEC14443-A compliant card, FeliCa card or FeliCa chip installed mobile phone. The module is compliant to the RF regulations of Japan, EU, USA and Canada.

* Enabled operations depend on the type of cards.

2. Product specification

2-1. Product name

Antenna built-in type NFCR/W

2-2. Application

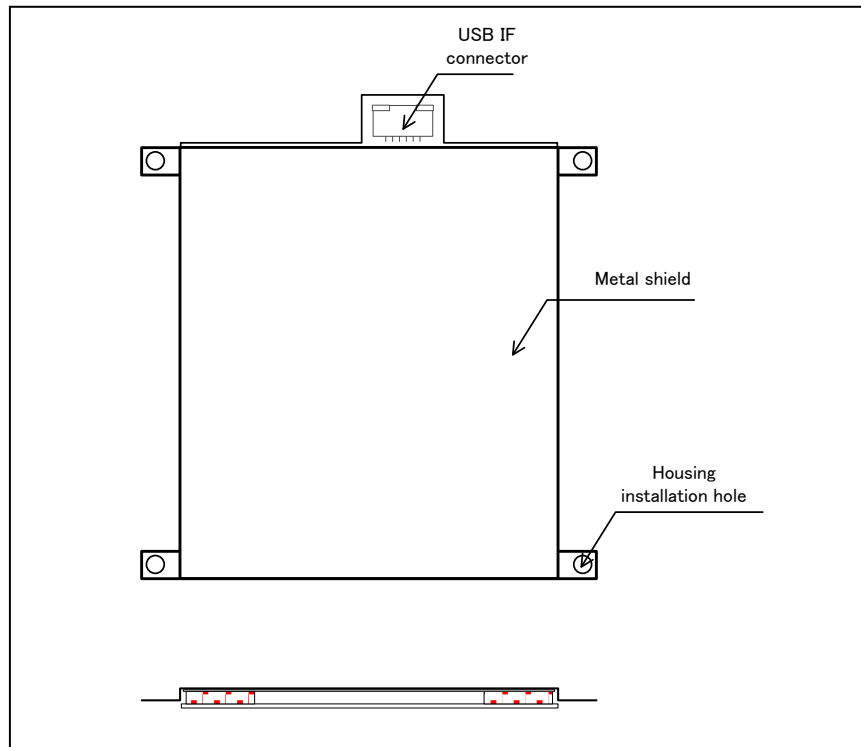
For personal computer

2-3. Electrical characteristics

Item	Specification	Note
Product Number	TN33MUE002L	
D i m e n s i o n	70.6×66.4×3(H)	
W e i g h t	Around 20g	
Power Supply	DC5V (Ripple shall be under 100mVpp)	
Power Consumption	At Standby : around 25mA Maximum : around 90mA *1	*1 Depends on the type of cards
R F F r e q u e n c y	13.56MHz±50ppm	
R F C a t e g o r y	Inductive coupled Read/Write Device (Type Certified)	
Communication Protocol	NFC Protocol(ISO/IEC18092)	
Modulation Scheme	ASK10/100% selectable	
A n t i - c o l l i s i o n	Up to 2 cards *2	*2 Evaluation result will be reported separately
Applicable cards	FeliCa、MobileFeliCa、SLE55R16、Mifare variants (Std1K/4K/Mini/Ultralight/UltralightC/DESfire)、Some kinds of Type-B Card.	
External Interface	•USB I/F connector(06FLH-RSM1-GB-TB)	

Compliant Standards	<ul style="list-style-type: none"> •Japanese RF regulation (Type Designation) •CE declaration (R&TTE, Low power, Safety, Health) •FCC Part15 Subpart C (Certification) Subpart B (declaration) •RSS-310 •All components conform RoHS 	
Operational Environment	Temperature : $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$ Humidity : 10%~80% (RH) *3	*3 Without condensation
Storage Environment	Temperature : $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ Humidity : 10%~80% (RH) *3	*3 Without condensation
S t r u c t u r e	<ul style="list-style-type: none"> •Parts mounted on single surface •Metal casing (For FCC Part15C compliance) •Product Label •On board loop antenna 	
Major Features	<ul style="list-style-type: none"> •Card ID (IDm/USN) acquisition •Memory read/write on user area •H/W Version acquisition •Build in type module 	

3. Module structure



① I/F connector

Type of connector : 06FLH-RSM1-GB-TB(LF)(SN) JST

1	2	3	4	5	6
VCC (+5V)	USB (D-)	USB (D+)	GND	N.C	GND

② Loop antenna

Antenna for the RF communication with IC card and Mobile FeliCa terminal. Since metal located nearby will affect the communication performance, please avoid affixing a metal label around the antenna.

③ Hole for hosing

Four holes for M2 size screw. It is recommended to use screws, nuts or post of resin materials.

④ Metal shield

Shielding for protection of RF circuits (especially for FCC Part15C compliance).

4. Cautions

- This module utilize the sensitive RF communication. RF signals interference might occur with other RF emitting equipments located nearby thus it shall be installed with sufficient distance between these.
- Since this module emits RF signal, special care shall be taken to avoid the use around the medical equipments such as a pacemaker.
- Changes or modifications not expressly approved by the manufacturer for compliance could void the user's authority to operate the equipment.
- The following sentence has to be displayed on the outside of the device in which the transmitter module is installed: "Contains FCC ID: WBGTN33MUE002L..
- This equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
- This Category II radiocommunication device complies with Industry Canada Standard RSS-310.
- *Ce dispositif de radiocommunication de catégorie II respecte la norme CNR-310 d'Industrie Canada.*

Hereby, Zixsys Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

The Declaration of Conformity (DoC) can be downloaded at following. URL

<http://www.zixsys.com/doc/tn33mue002l.pdf>

