

# **User Manual**

# **TPURID2100**

## 1. Installation procedure

This Module interface is the Board-to-Board connector as below,

| Pin No | Pin Name   | Pin No | Pin Name |
|--------|------------|--------|----------|
| 1      | VIN        | 2      | VIN      |
| 3      | VIN        | 4      | VIN      |
| 5      | VIN        | 6      | VIN      |
| 7      | 3.3VOUT    | 8      | 3.3VOUT  |
| 9      | ALARM      | 10     | UART_CTS |
| 11     | SPI2_MOSI  | 12     | UART_RTS |
| 13     | SPI2_MISO  | 14     | Reserve1 |
| 15     | SPI2_SCK   | 16     | Reserve2 |
| 17     | SPI2_NSS   | 18     | Reserve3 |
| 19     | UART3_RX   | 20     | Reserve4 |
| 21     | UART3_TX   | 22     | GPIO1    |
| 23     | UART_RX    | 24     | UART2_TX |
| 25     | UART_TX    | 26     | UART2_RX |
| 27     | UART4_TX   | 28     | I2C1_SCL |
| 29     | UART4_RX   | 30     | I2C1_SDA |
| 31     | MCU_RESETh | 32     | MCU_BOOT |
| 33     | GND        | 34     | GND      |
| 35     | GND        | 36     | GND      |
| 37     | GND        | 38     | GND      |
| 39     | GND        | 40     | GND      |

## 2.

This is a user manual for host product manufacturers to use when integrating the module in a host product.

[2.1 General] : Applicable

This user manual describes the integration procedure per Sec. 2.2 to 2.12 of KDB 996369 D03.

[2.2 List of applicable FCC rules] : Applicable

This device complies with below part 15 of the FCC Rules.

Part 15 Subpart C

[2.3 Summarize the specific operational use conditions] : Not Applicable

[2.4 Limited module procedures] : Not Applicable

[2.5 Trace antenna designs] : Not Applicable

[2.6 RF exposure considerations] : Applicable

The following statements must be described on the user manual of the host device of this module;

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This equipment should be installed and operated keeping the radiator at least 20cm or more away from person's body.

[2.7 Antennas] : Applicable

The device is designed to use the antennas listed below. Do not modify the antenna or any other part of the module. Any modifications will invalidate the modular certifications and require new approvals for the host system.

| Model No.                | Antenna Type.           | Antenna Gain | Unit |
|--------------------------|-------------------------|--------------|------|
| CLSXR-RFID-FRONT COUPLER | Printed Pattern Antenna | -15.02dBi    | dBi  |
| CLSXR-RFID-SRA COUPLER   | Printed Pattern Antenna | -26.56dBi    | dBi  |

\*The modular transmitter is installed MMCX connector as “unique” antenna coupler. CLSXR-RFID-FRONT COUPLER connects to CN2. CLSXR-RFID-SRA COUPLER connects to CN3. (CN1 is not connected.)

[2.8 Label and compliance information] : Applicable

Following information must be indicated on the host device of this module.

|                                                   |
|---------------------------------------------------|
| Contains Transmitter Module FCC ID: MMFTPURID2100 |
|---------------------------------------------------|

or

|                                |
|--------------------------------|
| Contains FCC ID: MMFTPURID2100 |
|--------------------------------|

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.

\*If it is difficult to describe this statement on the host device due to the size, please describe in the user's manual and also either describe on the device packaging or on a removable label attached to the device.

The following statements must be described on the user manual of the host device of this module;

#### FCC CAUTION

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

[2.9 Information on test modes and additional testing requirements] : Not Applicable

[2.10 Additional testing, Part 15 Subpart B disclaimer] : Applicable

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

The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

[2.11 Note EMI Considerations] : Applicable

We recommend to use "best practice" RF design engineering testing and evaluation in case non-linear interactions generate additional non-compliant limits due to module placement to host components or properties. The host manufacturer is responsible for ensuring compliance with the applicable FCC rules for the transmitters operating individually and simultaneously. This includes compliance for the summation of all emissions from all outputs occupying the same or overlapping frequency ranges, as defined by the applicable rules.

[2.12 How to make changes] : Applicable

Only the grantee is permitted to make permissive changes.

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Requirements for ISED

Following information must be indicated on the host device of this module.

|                               |
|-------------------------------|
| Contains IC: 4407A-TPURID2100 |
|-------------------------------|

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

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This radio transmitter (ISED Certification Number 4407A-TPURID2100) 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.

| Model No.                | Antenna Type.           | Gain      | Impedance |
|--------------------------|-------------------------|-----------|-----------|
| CLSXR-RFID-FRONT COUPLER | Printed Pattern Antenna | -15.02dBi | 50ohm     |
| CLSXR-RFID-SRA COUPLER   | Printed Pattern Antenna | -26.56dBi | 50ohm     |

Le présent émetteur radio (ISED Numéro de certification 4407A-TPURID2100) 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.

| Numéro de modèle         | Type d'antenne          | Gain      | l'impédance |
|--------------------------|-------------------------|-----------|-------------|
| CLSXR-RFID-FRONT COUPLER | Antenne à motif imprimé | -15.02dBi | 50ohm       |
| CLSXR-RFID-SRA COUPLER   | Antenne à motif imprimé | -26.56dBi | 50ohm       |

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the ISED radio frequency (RF) Exposure rules. This equipment must be installed and operated keeping the radiator at least 20cm or more away from person's body.

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'ISDE. Cet équipement doit être installé et utilisé en gardant une distance de 20 cm ou plus entre le radiateur et le corps humain.