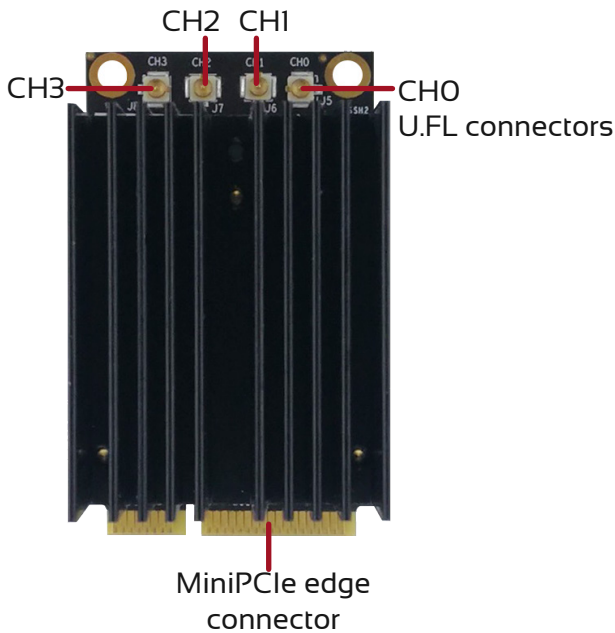


## Component Map



## MiniPCIe Slot Pin Assignment

| Top side         |                | Bottom side |             |
|------------------|----------------|-------------|-------------|
| 1                | PCIE0_WAKE_N   | 2           | VDD_3V3     |
| 3                | NC             | 4           | GND         |
| 5                | NC             | 6           | NC          |
| 7                | PCIE0_CLKREQ_N | 8           | NC          |
| 9                | GND            | 10          | NC          |
| 11               | PCIE0_REFCLK_N | 12          | NC          |
| 13               | PCIE0_REFCLK_P | 14          | NC          |
| 15               | GND            | 16          | NC          |
| Mechanical key E |                |             |             |
| 17               | NC             | 18          | GND         |
| 19               | NC             | 20          | NC          |
| 21               | GND            | 22          | PCIE0_PERST |
| 23               | PCIE0_RX0_N    | 24          | VDD_3V3     |
| 25               | PCIE0_RX0_P    | 26          | GND         |
| 27               | GND            | 28          | NC          |
| 29               | GND            | 30          | NC          |
| 31               | PCIE0_TX0_N    | 32          | NC          |
| 33               | PCIE0_TX0_P    | 34          | GND         |
| 35               | GND            | 36          | NC          |
| 37               | NC             | 38          | NC          |
| 39               | VDD_3V3        | 40          | GND         |
| 41               | VDD_3V3        | 42          | NC          |
| 43               | GND            | 44          | NC          |
| 45               | NC             | 46          | NC          |
| 47               | NC             | 48          | NC          |
| 49               | NC             | 50          | GND         |
| 51               | NC             | 52          | VDD_3V3     |

## Power Requirements

|                   |          |
|-------------------|----------|
| DC Power          | 3.3V     |
| Power Consumption | 9W (max) |

## FCC Statement

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.

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 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 module has been tested and found to comply with Part 15.247 & 407 requirements for Modular Approval.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

### Antenna Placement Within the Host Platform

(1) The module is installed in the host: PCWL-0500, the antenna must be installed such that 55 cm is maintained between the antenna and users.

(2) The module is installed in the host: PCWL-0510, the antenna must be installed such that 65 cm is maintained between the antenna and users.,

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

### **Trace antenna designs**

Not applicable

**Note EMI Considerations**

A host manufacture is recommended to use D04 Module Integration Guide recommending as "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.

For standalone mode, reference the guidance in D04 Module Integration Guide and for simultaneous mode7; see D02 Module Q&A Question 12, which permits the host manufacturer to confirm compliance.

**How to make changes**

Only Grantees are permitted to make permissive changes. If this module will be used differently than granted, please contact us.

Limited modular

The module will be restricted on these host (Detail information show as below)

Manufacturer: PicoCELA Inc

Model No.: PCWL-0510, PCWL-0500

RF exposure considerations

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Antenna Type and Gain

The following antennas have been certified for use with this module.

Only antennas of the same type with equal or lower gain may also be used with this module.

Other types of antennas and/or higher gain antennas may require the additional authorization for operation.

Antenna Specification list below:

| <b>Antenna No</b> | <b>Antenna Type</b> | <b>Frequency Band (GHz)</b> | <b>TX Paths</b> | <b>Max Antenna Gain (dBi)</b> |
|-------------------|---------------------|-----------------------------|-----------------|-------------------------------|
| <b>1</b>          | <b>Omni</b>         | <b>2412 ~ 2462</b>          | <b>4</b>        | <b>6</b>                      |
|                   |                     | <b>5150 ~ 5850</b>          | <b>4</b>        | <b>7</b>                      |
| <b>2</b>          | <b>Directional</b>  | <b>2412 ~ 2462</b>          | <b>4</b>        | <b>13.5</b>                   |
|                   |                     | <b>5150 ~ 5850</b>          | <b>4</b>        | <b>15.5</b>                   |

## End Product Labeling

When the module is installed in the host device, the FCC ID label must be visible through a window on the final device or it must be visible when an access panel, door or cover is easily re-moved. If not, a second label must be placed on the outside of the final device that contains the following text: "Contains FCC ID: TK4WLE3000HX". The FCC ID can be used only when all FCC compliance requirements are met.

The end product shall bear the following 15.19 statement: 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.

## Information on test modes and additional testing requirements

This transmitter is tested in a standalone mobile RF exposure condition and any co-located or simultaneous transmission with other transmitter(s) class II permissive change re-evaluation or new certification.

## Part 15 Subpart B disclaimer

This transmitter module is tested as a subsystem and its certification does not cover the FCC Part 15 Subpart B rule requirement applicable to the final host. The final host will still need to be reassessed for compliance to this portion of rule requirements if applicable.

As long as all conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

## Important Note

In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for reevaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

## Manual Information to the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The host integrator must follow the integration instructions provided in this document and ensure that the composite-system end product complies with the requirements by a technical assessment or evaluation to the rules and to KDB Publication 996369 .

The host integrator installing this module into their product must ensure that the final composite product complies with the requirements by a technical assessment or evaluation to the rules, including the transmitter operation and should refer to guidance in KDB 996369.

### **OEM/Host manufacturer responsibilities**

OEM/Host manufacturers are ultimately responsible for the compliance of the Host and Module. The final product must be reassessed against all the essential requirements of the FCC rule such as FCC Part 15 Subpart B before it can be placed on the US market. This includes reassessing the transmitter module for compliance with the Radio and EMF essential requirements of the FCC rules.

### **IC Statement**

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de classe B est conforme à la norme canadienne ICES-003

This device complies with Industry Canada licence-exempt RSS standard(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.

Le présent appareil est conforme aux CNR d'Industrie 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, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

### **RF Radiation Exposure Statement:**

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

### **Déclaration d'exposition aux radiations:**

Cet appareil est conforme aux limites d'exposition aux rayonnements définies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à une distance minimale de 20 centimètres entre le radiateur et votre corps.

**Caution:**

(i) the device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems.

(ii) for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit;

(iii) for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits as appropriate;

**Attention:**

(i) les dispositifs fonctionnant dans la bande de 5150 à 5250MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

(ii) pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis pour les dispositifs utilisant les bandes de 5250 à 5350MHz et de 5470 à 5725MHz doit être conforme à la limite de la p.i.r.e.;

(iii) pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5725 à 5850MHz) doit être conforme à la limite de la p.i.r.e. spécifiée, selon le cas;

**IMPORTANT NOTE**

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the Canada authorization is no longer considered valid and the IC cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate Canada authorization.

**NOTE IMPORTANTE**

Dans le cas où ces conditions ne peuvent être satisfaites (par exemple pour certaines configurations d'ordinateur portable ou de certaines co-localisation avec un autre émetteur), l'autorisation du Canada n'est plus considéré comme valide et IC ne peut pas être utilisé sur le produit final. Dans ces circonstances, l'intégrateur OEM sera chargé de réévaluer le produit final (y compris l'émetteur) et l'obtention d'une autorisation distincte au Canada.

**Required end product labeling:**

This transmitter module is authorized only for use in device where the antenna may be installed and operated with greater than 20cm between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains IC:7849A-WLE3000HX".

**Plaque signalétique du produit final**

Ce module émetteur est autorisé uniquement pour une utilisation dans un appareil où l'antenne peut être installée et utilisée à plus de 20 cm entre l'antenne et les utilisateurs. Le produit final doit être étiqueté dans un endroit visible avec l'inscription suivante: "Contient des IC: 7849A-WLE3000HX".

**Manual Information To the End User**

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

The following text, or an equivalent notice, that shall be displayed in a conspicuous location, either in the user manual or on the device, or both:

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.

## Manuel d'information à l'utilisateur final

L'intégrateur OEM doit être conscient de ne pas fournir des informations à l'utilisateur final quant à la façon d'installer ou de supprimer ce module RF dans le manuel de l'utilisateur du produit final qui intègre ce module. Le manuel de l'utilisateur final doit inclure toutes les informations réglementaires requises et avertissements comme indiqué dans ce manuel.

L'énoncé qui suit, ou l'équivalent, à un endroit bien en vue dans le manuel d'utilisation ou sur l'appareil, ou encore aux deux endroits :

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 toute interférence, y compris toute interférence pouvant entraîner un fonctionnement indésirable du dispositif.

## Antenna

The following antennas have been certified for use with this module; antennas of the same type with equal or lower gain may also be used with this module. The antenna must be installed such that 20 cm can be maintained between the antenna and users.

This radio transmitter 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.

Antenna Specification list below:

| Antenna No | Antenna Type | Frequency Band (GHz) | TX Paths | Max Antenna Gain (dBi) | Impedance (Ω) |
|------------|--------------|----------------------|----------|------------------------|---------------|
| 1          | Omni         | 2412 ~ 2462          | 4        | 5.01                   | 50            |
|            |              | 5150 ~ 5850          | 4        | 6.36                   |               |
| 2          | Omni         | 2412 ~ 2462          | 4        | 0.58                   | 50            |
|            |              | 5150 ~ 5850          | 4        | 3.42                   |               |
| 3          | Omni         | 2412 ~ 2462          | 4        | 3.4                    | 50            |
|            |              | 5150 ~ 5850          | 4        | 3.55                   |               |
| 4          | Omni         | 2412 ~ 2462          | 4        | 6                      | 50            |
|            |              | 5150 ~ 5850          | 4        | 7                      |               |
| 5          | Omni         | 2412 ~ 2462          | 4        | 4.5                    | 50            |
|            |              | 5150 ~ 5850          | 4        | 7                      |               |
| 6          | Omni         | 2412 ~ 2462          | 4        | 2.6                    | 50            |
|            |              | 5150 ~ 5850          | 4        | 5.2                    |               |
| 7          | Omni         | 2412 ~ 2462          | 4        | 2.22                   | 50            |
|            |              | 5150 ~ 5850          | 4        | 4.29                   |               |

## ANTENNE

Les antennes suivantes ont été certifiées pour une utilisation avec ce module; des antennes du même type à gain égal ou inférieur peuvent également être utilisées avec ce module. L'antenne doit être installée de telle sorte que 20 cm puissent être maintenus entre l'antenne et les utilisateurs.

Cet émetteur radio a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous, avec le gain maximal autorisé indiqué. Les types d'antenne non inclus dans cette liste qui ont un gain supérieur au gain maximum indiqué pour tout type répertorié sont strictement interdits pour l'utilisation avec cet appareil.