



PassiveBolt

CRCM1101B1

Integrator User Manual

(DRAFT)

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Company Information and Notices

PassiveBolt Inc.
330 E. Liberty St.,
Suite 3D,
Ann arbor, MI 48104
Contact@PassiveBolt.com

1.1 RF Exposure Notice

This equipment complies with FCC and ISED radiation exposure limits set forth for mobile use environment. Users of this device must ensure that the module be installed and/or configured to operate with a separation distance of 20cm or more from all persons. This transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux rayonnements FCC et ISDE établies pour un environnement d'utilisation mobile. Les utilisateurs de cet appareil doivent s'assurer que le module est installé et / ou configuré pour fonctionner avec une distance de séparation de 20 cm ou plus de toutes les personnes. Ce module émetteur ne doit pas être situé à proximité ou fonctionner en conjonction avec une autre antenne ou un autre émetteur.

1.2 FCC Compliance Notices

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.

1.3 FCC Limitations on Changes or Modifications

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

1.4 ISED Canada Notices

This device complies with Industry Canada license-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.

Limitations / Requirements for Host Integration

1.5 List of applicable FCC and IC rules. KDB 996369 D03, Section 2.2

The CRMC1101B1 module is certified under

USA FCC parts 15.247, 15.225, and 15.209

Canada ISED regulations RSS-247, RSS-210, and RSS-GEN.

1.6 Summary of specific operational use conditions. KDB 996369 D03, Section 2.3

- a. Conditions such as limits on antennas, cable loss, reduction of power for point to point systems, professional installation info

The CRMC1101B1 module must comply with the RF exposure and antenna use guidelines detailed in the following subsections.

1.7 Limited Module Procedures. KDB 996369 D03, Section 2.4

- a. Describe alternative means that the grantee uses to verify the host meets the necessary limiting conditions

The CRMC1101B1 device meets the requirements for single modular transmitter approval as detailed in the FCC public notice DA 00-1407. The host Integrator must follow the guidelines set forth in KDB 996369, including EMC testing of final host products to ensure ongoing compliance of each host design into which this module is integrated.

- b. When RF exposure evaluation is necessary, state how control will be maintained such that compliance is ensured, such as Class II for new hosts, etc.

The host integrator must ensure that the module is installed and/or configured to operate with a separation distance of 20cm or more from all persons. This module shall not be co-located with any other radio device.

1.8 Trace antenna designs. KDB 996369 D03, Section 2.5

- a. Layout of trace design, parts list, antenna, connectors, isolation requirements, tests for design verification, and production test procedures for ensuring compliance. If confidential, the method used to keep confidential must be identified and information provided in the operational description.

Only the NFC and LF external antennas (e.g. attached via Molex connectors) listed in section 1.10 below are approved for use with the CRCM1101B1 module.

1.9 RF exposure considerations. KDB 996369 D03, Section 2.6

- a. Clearly and explicitly state conditions that allow host manufacturers to use the module. Two types of instructions are necessary: first to the host manufacturer to define conditions (mobile, portable – xx cm from body) and second additional text needed to be provided to the end user in the host product manuals.

To comply with FCC RF Exposure requirements, integrators of this device must ensure that the module is installed and/or configured to operate with a separation distance of 20cm or more from all persons. Under such configurations, the FCC radiation exposure limits set forth for a population/uncontrolled environment are satisfied. RF exposure must be re-evaluated in any scenario of portable or collocated use.

The host product user's manual must include a statement warning that the end user should remain at least 20cm from the module when operated. The end user must also be informed that any changes or modifications not expressly approved by the module manufacturer could void the user's authority to operate this equipment.

1.10 Antennas. KDB 996369 D03, Section 2.7

- a. List of antennas included in the application and all applicable professional installer instructions when applicable. The antenna list shall also identify the antenna types (monopole, PIFA, dipole, etc – note that “omni-directional” is not considered a type)

The BLE radio in the CRCM1101B1 module employs an integral trace antenna which cannot be changed or substituted. The CRCM1101B1 module has been approved for use with only the following external NFC and LF coil antennas employing unique Molex mating connectors.

NFC Coil Antennas

PassiveBolt Model: Carina-NFC15 Antenna-S3

PassiveBolt Model: Carina-NFC15 Antenna-S2

PassiveBolt Model: Carina-NFC Antenna-S3

LF Coil Antenna

PassiveBolt Model: Carina-LF11 Antenna-B1

Antennas of equal or lesser gain and of the same type may be substituted. Please consult PassiveBolt when considering alternative NFC and LF antennas. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

1.11 Label and compliance information. KDB 996369 D03, Section 2.8

- a. Advice to host integrators that they need to provide a physical or e-label stating

The host device shall be properly labelled to identify the modules within the host device. The FCC certification label of a module shall be clearly visible at all times when installed in the host device, otherwise the host device must be labelled to display the FCC certification number of the module, preceded by the words “Contains transmitter module”, or the word “Contains”, or similar wording expressing the same meaning, as follows:

“Contains FCC ID: 26054-CRCM1101B1”

The Industry Canada certification label of a module shall also be clearly visible at all times when installed in the host device, otherwise the host device must be labelled to display the Industry Canada certification number of the module, preceded by the words “Contains transmitter module”, or the word “Contains”, or similar wording expressing the same meaning, as follows:

“Contains transmitter module IC: 26054-CRCM1101B1”

“Contient le émetteur radio IC: 26054- CRCM1101B1”

1.12 Information on test modes / additional test requirements. KDB 996369 D03, Section 2.9

- a. Test modes that should be taken into consideration by host integrators including clarifications necessary for stand-alone and simultaneous configurations.
- b. Provide information on how to configure test modes for evaluation

Passive bolt provides Test Modes via UART test commands to enable BLE, NFC and LF-RFID radio test modes. To ensure host product compliance when using the CRCM1101B1 module, contact PassiveBolt for detailed test mode command sets and configuration details.

1.13 Additional testing, Subpart B disclaimer. KDB 996369 D03, Section 2.10

While the applicant for a device into which an authorized module is installed is not required to obtain a new authorization for the module, this does not preclude the possibility that some other form of authorization or testing may be required for the host device.

The CRCM1101B1 module is only authorized for the specific rule parts listed on its grant, 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. If the grantee markets their product as being Part 15 Subpart B compliant (when it also contains unintentional-radiator digital circuitry), the final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.