

October 15, 2013

BABT FCB  
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KT12 2TD

Attn: Director of Certification

RE: FCC ID: GDI-506241001 / IC: 889B-506241001 submittal as modular device

1. The modular transmitter must have its own RF shielding. This is intended to ensure that the module does not have to rely upon the shielding provided by the device into which it is installed in order for all modular transmitter emissions to comply with FCC Part 15 and Industry Canada limits. It is also intended to prevent coupling between the RF circuitry of the module and any wires or circuits in the device into which the module is installed. Such coupling may result in non-compliant operation.

*The RFID module radio transmitter complies with the FCC and Industry Canada requirements in a stand-alone configuration. The RFID module has shielding over the processor.*

2. The modular transmitter must have buffered modulation/data inputs (if such inputs are provided) to ensure that the module will comply with Part 15 and Industry Canada requirements under conditions of excessive data rates or over-modulation.

*The RFID module uses a CLRC663 IC is used to control the transmission of data, the Modulation, Data rate, and data buffer. The CLRC663 chip contains a FIFO Buffer that holds the data values and a value for the AM modulation.*

3. The modular transmitter must have its own power supply regulation. This is intended to ensure that the module will comply with Part 15 and Industry Canada requirements regardless of the design of the power supplying circuitry in the device into which the module is installed.

*The RFID module radio transmitter is to be supplied with 5 VDC, the CLRC663 IC has an internal watchdog to evaluate supplied power. If power to the RFID module increases or decreases the CLRC663 IC will cease RF transmission. The module provides RF filtering for the 5VDC VDC power to ensure compliance with the Part 15 requirements and Industry Canada RSS-Gen requirements.*

4. The modular transmitter must comply with the antenna requirements of FCC Sections 15.203 and 15.204(c) and Industry Canada requirements. The antenna must either be permanently attached or employ a "unique" antenna coupler (at all connections between the module and the antenna, including the cable). Any antenna used with the module must be approved with the module, either at the time of initial authorization or through a Class II permissive change. The "professional installation" provision of FCC Section 15.203 may not be applied to modules.

*The Antenna is a permanent part of the RFID module circuit board, created with circuit traces embedded in the circuit board.*

5. The modular transmitter must be tested in a stand-alone configuration, i.e., the module must not be inside another device during testing. This is intended to demonstrate that the module is capable of

complying with FCC Part 15 and Industry Canada emission limits regardless of the device into which it is eventually installed. Unless the transmitter module will be battery powered, it must comply with the AC line conducted requirements found in FCC Section 15.207. AC or DC power lines and data input/output lines connected to the module must not contain ferrites, unless they will be marketed with the module (see FCC Section 15.27(a)). The length of these lines shall be length typical of actual use or, if that length is unknown, at least 10 centimeters to insure that there is no coupling between the case of the module and supporting equipment. Any accessories, peripherals, or support equipment connected to the module during testing shall be unmodified or commercially available (see FCC Section 15.31(i)).

*The RFID module was tested in a stand-alone configuration. The RF circuit board, ID tag, and Power supply were tested in accordance with FCC part 15 and RSS-210/RSS-Gen.*

6. The modular transmitter must be labeled with its own FCC ID / IC number, and, if the FCC ID / IC number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: XYZMODEL1 / IC: XXX-YYYY" or "Contains FCC ID: XYZMODEL1 / IC: XXX-YYYY." Any similar wording that expresses the same meaning may be used. The Applicant may either provide such a label, an example of which must be included in the application for equipment authorization, or, must provide adequate instructions along with the module which explain this requirement. In the latter case, a copy of these instructions must be included in the application for equipment authorization.

*The RFID module circuit board will be labeled with a label containing the Datacard corporate name and the FCC ID number and IC number. The end product that contains the RFID module will have the same label on the outside of the product. The user manual provides instructions on the host device labeling requirements.*

7. The modular transmitter must comply with any specific rule or operating requirements applicable to the transmitter and the manufacturer must provide adequate instructions along with the module to explain any such requirements. A copy of these instructions must be included in the application for equipment authorization. For example, there are very strict operational and timing requirements that must be met before a transmitter is authorized for operation under FCC Section 15.231 and Industry Canada specifications. For instance, data transmission is prohibited, except for operation under FCC Section 15.231(e), in which case there are separate field strength level and timing requirements. Compliance with these requirements must be assured.

*The 506241 RFID module is a component designed, by Datacard, to be used only in Datacard equipment and will not be offered for sale. The instructions to the design engineers at Datacard are:*

**The 506241 RFID module must be powered by 5.0 VDC  $\pm$  10 % and located within 10 centimeters of the RFID tag for correct operation.**

8. The modular transmitter must comply with any applicable RF exposure requirements. For example, FCC Rules in Sections 2.1091, 2.1093 and specific Sections of Part 15, including 15.319(i), 15.407(f), 15.253(f) and 15.255(g), require that Unlicensed PCS, UHF and millimeter wave devices perform routine environmental evaluation for RF Exposure to demonstrate compliance. In addition, spread spectrum transmitters operating under Section 15.247 are required to address RF Exposure compliance in accordance with Section 15.247(b)(4). Modular transmitters approved under other Sections of FCC Part 15, when necessary, may also need to address certain RF Exposure concerns, typically by providing specific installation and operating instructions for users, installers and other interested parties to ensure compliance. The module shall comply with applicable RSS-102 exposure requirements which are based on intended use / configurations.

*RF Exposure is very low on this module.. The intended range of communications is a maximum of 10 centimeters, and the fundamental frequency of the transmitter is 13.56 MHz. The model 506241 RFID module is exempt from FCC RF Exposure assessment and IC RF Exposure assessment.*

9. The module shall comply with the Category I equipment labeling requirements.

*YES - The module does comply with the Category I equipment labeling requirements.*

- 10 Is the modular device for an Industry Canada licensed exempt service?

*YES - The modular device is for an Industry Canada licensed exempt service.*

Sincerely,



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