COREInsight®

PLT003 User Manual

Specifications, device installation, compliance and safety information

Updated: 2022-10-05

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Revision History

Name	Date	Description	Version
RORIE	2022/01/18	Create document	1.0
RORIE	2022/02/01	Compliance section	1.1
RORIE	2022/02/02	Specifications	1.2
RORIE	2022/02/15	Add FCC ID	1.3
RORIE	2022/06/29	CE, UK, Safety info, instructions	1.4
RORIE	2022/07/01	RF transmit power: 1.8 dBm EIRP	1.5
RORIE	2022/10/05	Specs: -20˚C to +40˚C, IPX0 rating	1.6

Introduction

The PLT003 COREInsight® BLE Beacon tag is an active BLE beacon which utilises the Nordic nRF5810 module encased in a housing. This document explains how to use the PLT003 tag in a production setting. The PLT003 tag advertises at an optimal interval of 7 times every 60seconds. The beacon message is sent on the advertisement channels for BLE: 37 (2402 MHz), 38 (2426 MHz) and 39 (2480 MHz).

The tag has a Theoretical lifetime of 5 years.

Specifications

FCC ID	2A4F8-PLT003
RF specification operating frequency	2402 MHz (low), 2426 MHz (medium), 2480 MHz (high)
Type of modulation	GFSK
RF transmit power	1.8 dBm EIRP
Number of channels	3 channels
Antenna type	Pillar
Antenna gain	-0.4dBi
Specialty	Bluetooth Low Energy
Function	Bluetooth Low Energy
Power supply	N/A
Power cord	N/A
Battery	Three CR1632 lithium metal cell batteries rated at 140mAh each. Total 420mAh
Size:	3.7" x .76" x .35" (94.2mm x 19.2mm x 9mm)
Lifetime	5 years
Temperature Range:	-20˚C to +40˚C
IP Rating	IPX0
Weight	15 grams
Bluetooth Sensitivity:	-95dBm
Transportation:	Meets IATA Dangerous Goods Regulations 2015-2016 Edition (UN3091) Exemption Requirements PI 970 Section 2. Less than 4 lithium metal cells encased in equipment. No declaration required.
Power Consumption - Max:	<7.6mA
Power Consumption - Sleep:	3 uA

Compliance

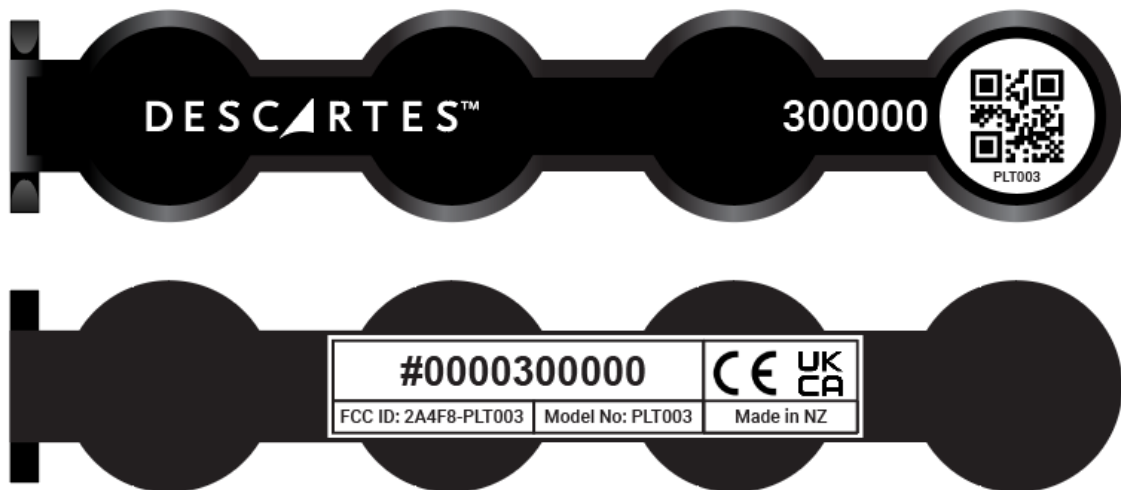## Manufacturer

Descartes Systems Group Inc.
Address: 105 Trafalgar Street, Floor 2, 7011, Nelson, New Zealand
Telephone number: +64 (3) 547-8205 (New Zealand)
E-Mail address: ServiceDesk@descartes.com

Markings

Rear side of the device shows the CE, UKCA, FCC ID, model number and serial number. Front side of the device also has the serial number and a QR code to read the serial number. This information can be used to derive the manufacturing batch number.

FCC

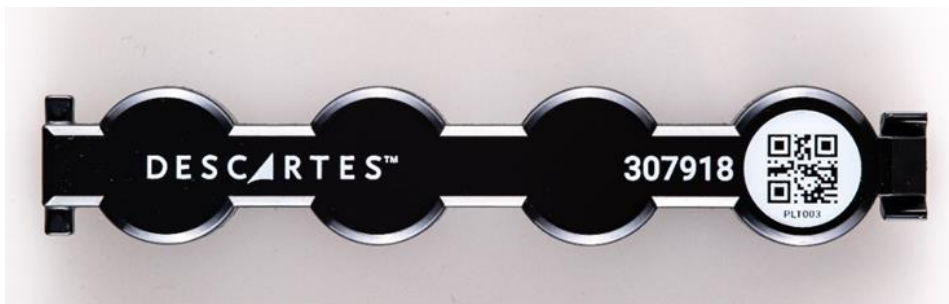FCC covers certification regulations for the United States of America.

Per FCC 15.19(a)(3) and (a)(4): 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.

Per FCC 15.21: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Our beacon device falls under FCC rules part 15.247 as it transmits within 2400-2483.5 MHz.

CE: Radio Equipment Directive (RED)

CE covers certification regulations for the European Economic Area (EEA), Turkey and countries that are part of the EU 's single market. This includes EU countries, Iceland, Liechtenstein, Norway and Switzerland.

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:
Radio Equipment Directive 2014/53/EU
RoHS 2011/65/EU

The following harmonised standards and technical specifications have been applied:

ETSI EN 300 328 V2.2.2:2019-07	EN IEC 62311
ETSI EN 301 489-1 v2.2.3:2019-11	EN IEC 61326-1:2021
ETSI EN 301 489-17 V3.2.4:2020-09	EN 60950-1:2005/A2:2013

UKCA: Radio Equipment Regulations (RER)

UKCA covers certification regulations for Great Britain. This includes England, Wales and Scotland.

The object of the Declaration described above is in conformity with the following United Kingdom Regulations:

Radio Equipment Regulations 2017 (SI 2017 No. 1206, as amended)

The following designated standards have been applied:

ETSI EN 300 328 V2.2.2:2019-07	EN IEC 62311
ETSI EN 301 489-1 v2.2.3:2019-11	EN IEC 61326-1:2021
ETSI EN 301 489-17 V3.2.4:2020-09	EN 62368-1:2014
EN 60950-1:2005/A2:2013	

Safety

Per FCC KDB 784748, Section A.8: To satisfy RF exposure requirements, this device and its antenna must operate with a separation distance of at least 20 cm from all persons. Please maintain at least a 20 cm spacing from the antenna and device.

The maximum radio-frequency power transmitted in the frequency band(s) in which the radio equipment operates is BLE, 1 Mbps, GFSK.

To avoid injury to yourself or others, always use radio equipment in accordance with its intended use:

1. Keep fingers and lose objects out of the way when installing tag into a pallet
2. Tag is plug and play: no additional software configuration or accessories are required
3. If tag is significantly damaged, contact Descartes immediately and discontinue use
4. Ensure the tag is sitting flush with the pallet rail otherwise it is not installed correctly
5. Do not operate equipment outside of safe operating temperature range of -20˚C to +60˚C.
6. Do not pierce or puncture case as you may damage the lithium metal cell batteries
7. Do not tamper with tag case or internal components
8. Do not drop or shock tag as this may damage internal components including the antenna

If you have any additional queries, feel free to contact customer support:

Descartes Systems Group Inc.
Address: 105 Trafalgar Street, Floor 2, 7011, Nelson, New Zealand
Telephone number: +64 (3) 547-8205 (New Zealand)
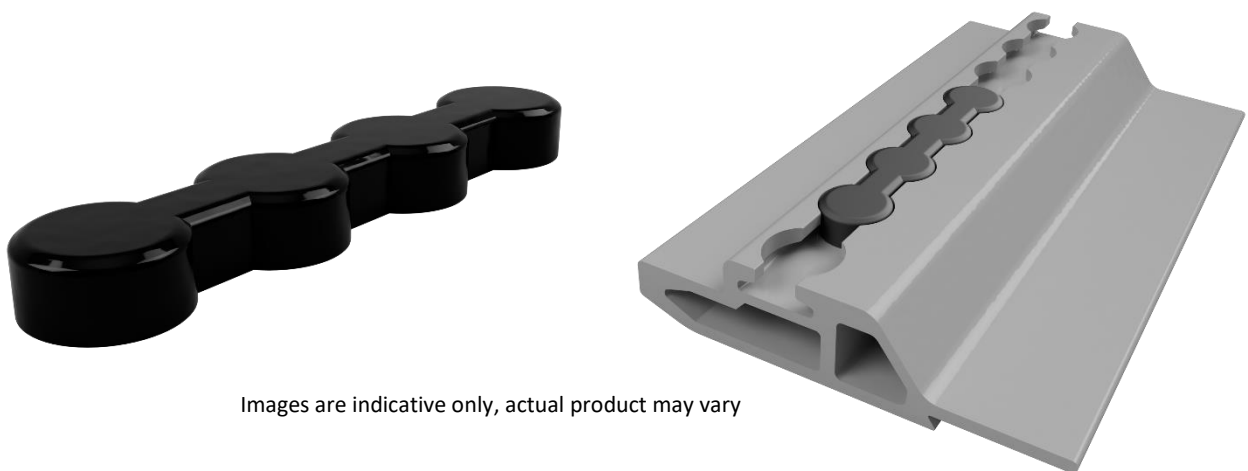E-Mail address: ServiceDesk@descartes.com

PLT003

Production versions of the tag come in a sealed case with the batteries installed. They are already powered on and ready for installation. The tags pass through a quality assurance phase to ensure they are fit for purpose. This includes a range test to ensure the tag performs well at a distance.

Operating Instructions

Please review safety information **before installation to avoid injury to yourself or others.**

The tag is already powered on and ready to install. Simply insert the tag into the rail on the pallet. Ensure that the tag is sitting flush with the pallet rail. It will make an audible click when installed correctly. Once it has been installed, assign the tag into the CORE system.

Images are indicative only, actual product may vary

Usage

The PLT003 COREInsight BLE Beacon tag is an active BLE beacon. The PLT003 tag advertises at an interval of 7 times every 60seconds. COREInsight® Readers listen for special (custom) adverts from the Beacon Tag and when it is in range (approx. 60 meters), the Reader collects these detections.