REVISION FOLLOW UP

REVISION	DESCRIPTION	RELEASED
0.01	First Draft	S.Duguay August 17th, 2015
0.02	Add EIRP information, add change statement, refine information to the user from 15.105 text. Also from RSS-GEN-I4-NOV-14 section 8.4	S.Duguay November 12th, 2015

Goal of the document

The goal of the document is to understand the functionality of the product RF ID.

The system is intended to be installed in a vehicle to keep track of critical accessories within that vehicle. The system detects if specific equipment is located near or far away of the vehicle based on the presence of the RF message received.

The system compromises a reader and many RF ID active tags. The Tags sends periodically their serial number. The reader listen these tags and relay the information on its USB link. Finally, an accessory module gathers the information via the USB link and presents the final information to the user.

Activating a tag (supplied without battery)

Inserting a battery in the tag automatically activates the tag.
Please refer to the battery replacement section

Activating a tag for the first time (supplied with battery)

Connect the PR1023 (reader) into a USB port of a computer
Launch the appropriate software 'RF ID Configurator'
Place physically the tag directly on top of the Reader
The tag information should appears on the screen of the computer
Change the 'mode' to 'active'
The tag is then ready to be used

Deactivating a tag

Connect the PR1023 (reader) into a USB port of a computer
Launch the appropriate software 'RF ID Configurator'
The tag information should appears on the screen of the computer
Change the 'mode' to 'shutdown'
The tag is now placed in shutdown mode, no more RF transmission will take place

Battery replacement for the tag

All PR1024 (tags) are using a single standard CR2450 3V Li-On battery.
Using a Phillips screwdriver, remove the screw under the tag.
Pull gently apart the cover and the back of the tag to open the box.
Using any plastic tool, push on the side of the battery to slide it out of its location.
Insert the new battery; pay attention to the polarity.
Put back the cover and press firmly so both pieces of the box are well seated together.
Screw back the screw until it is secure; do not over torque.
As soon as the new battery is inserted, the tag is resuming its normal operation.

Changing the frequency

Connect the PR1023 (reader) into a USB port of a computer
Launch the appropriate software 'RF ID Configurator'
The tag needs to be already in active mode, refer to the 'Activating a tag' section if not
The tag information should appears on the screen of the computer
Change the channel to another channel using the values listed in the *table-1* below
The tag is then ready to be used
Note that a reader and a tag need to be on the same channel to communicate together.
Changing the frequency of the reader is the same procedure

RF Channel selection	Frequency(MHz)
11	2405
12	2410
13	2415
14	2420
15	2425
16	2430
17	2435
18	2440
19	2445
20	2450
21	2455
22	2460
23	2465
24	2470
25	2475
26	2480

Table-1

Changing the transmit power

Connect the PR1023 (reader) into a USB port of a computer
Launch the appropriate software 'RF ID Configurator'
The tag needs to be already in active mode, refer to the 'Activating a tag' section if not
The tag information should appears on the screen of the computer
Change the transmit power to another value using the values listed in the *table-2* below
The tag is now transmitting with this new parameter
Changing the transmit power of the reader is the same procedure

TX POWER selection	dBm (approx)	
0	+10	maximum power
1	+9.7	
2	+9.4	
3	+9	
4	+8.5	
5	+8	
6	+7	
7	+6	
8	+5	
9	+4	
10	+3	
11	+2	
12	0	
13	-2	
14	-6	
15	-11	minimum power

Table-2

FCC/IC Compliance Statement

As per text 15.105:
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 or more 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.

As per text RSS-GEN-I4-NOV14 section 8.4:
This device complies with Industry Canada's licence-exempt RSSs. 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.

Selon le texte RSS-GEN-I4-NOV14 section 8.4:
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;
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC ID : 2AE3Y-PR1023
IC ID : 10928A-PR1023

Frequency range: 2405MHz to 2480MHz
Power consumption for the PR1023 model on the USB: 5V, less than 50mA
Power consumption for the PR1024 model on the Battery: 3V, less than 50mA
EIRP for RF transmit power: 10.17dBm max (0.01039W)

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