

<b>ASSA ABLOY</b>	Title <b>Installation of BLE Module 681402004</b>			
	Category Installation of BLE Module			Type
Author Susan Jansson	Document number 69 1402 012	Revision 8	Date 20150302	Page (of) 1 (13)

# ASSA ABLOY

## Installation of BLE Module 681402004



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## Installation of BLE Module 681402004

BLE Module 681402004 is only used in Assa Abloy Hospitality AS products. The BLE Module 681402004 is factory mounted in the Assa Abloy Hospitality AS products which in this document are referred to as "The Host System". In addition, the BLE Module can be installed on Assa Abloy Hospitality AS existing installed products at our customer's locations. These updates are solely carried out by Assa Abloy Hospitality Engineers.

The customer or end user of the BLE Module have no contact with the Module as it is unseen to the end user so there are no special precautions the customer needs to take in terms of installing or usage of BLE Module 681402004.

Each manual for the different Assa Abloy Hospitality AS end products, in which the BLE module 681402004 is installed, will contain the FCC and Industry Canada statements given below.

### FCC statements

FCC (Federal Communications Commission) statements

This device comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) The BLE Module may not cause harmful interference, and
- 2) The BLE Module must accept any interference received, including interference that may cause undesired operation.

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. The antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

**Important Note:** 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.

This transmitter must not be co-located or operating in conjunction with any other antennas or transmitters.

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

The concerned end product must be labeled to say  
**"Contains FCC ID: Y7V-681402004"**

## Industry Canada statements

This device comply with Industry Canada licence-exempt RSS standard(s).  
 Operation is subject to the following two conditions:

- 1) The BLE Module may not cause interference, and
- 2) The BLE Module must accept any interference, including interference that may cause undesired operation of the device.

**Important note:** To comply with Industry Canada RF radiation exposure limits for general population, the antennas used for these transmitters are exempted from Routine Evaluation Limits – SAR Evaluation in accordance with RSS-102 section 2.5.1.

The concerned end product must be labeled to say  
**"Contains IC: 9514A-68102004"**

## Déclarations d'Industry Canada

Cet équipement est conforme aux normes d'exemption de licence RSS d'Industry Canada. Son utilisation est soumise aux deux conditions suivantes:

- 1) Le module BLE ne doit pas provoquer d'interférence, et
- 2) Le module BLE doit accepter toute interférence, y compris des interférences susceptibles de provoquer un fonctionnement indésirable de l'équipement.

**Remarque importante :** Pour respecter les limites d'exposition aux radiofréquences d'Industry Canada pour le grand public, les antennes utilisées pour ces émetteurs-transmetteurs sont exemptées des limites d'évaluation de routine – évaluation SAR, conformément à la norme RSS-102 section 2.5.1.

Le produit final concerné doit porter une étiquette avec la mention:  
**"Contient IC: 9514A-68102004"**

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## BLE Module 681402004 Installation

Since the BLE Module 681402004 is not and will not be supplied to the end user on its own and the BLE Module 681402004 will only be installed and or replaced on the Host Systems by Assa Abloy Hospitality AS Engineers; only a quick generic installation guide of the BLE Module 681402004 to the Host System is given.

### Following parts are needed to connect BLE Module to the Host System

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	683081114	Y-Cable Zigbee Endnode Classic Assy.	1
2	4825976	Cable Sleeve	1
3	4825793	Housing BLE	1
4	4825796	Shield BLE	1
5	4825943	Screw Standoff	2
6	681402004	BLE Module	1
7	4826006	Host System label with information of installed BLE	1

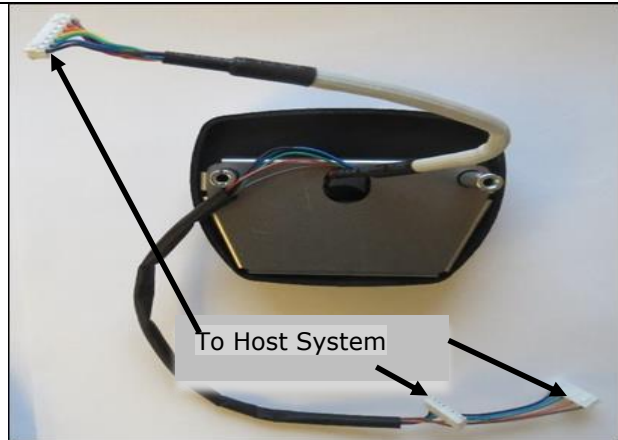
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## Installation Procedure

<p>Y-Cable Zigbee Endnode Classic Assy. and Cable Sleeve</p>	<p>BLE Housing, Shield BLE, &amp; Screw Standoff</p>
	<p>6) BLE Module</p>
<p>Insert the Cable Sleeve on the side of Y-Cable Zigbee Endnode Classic Assy. cable to be connected to the "BLE Module". Thread the cable via the Shield BLE and Housing BLE; connect the Y-Cable to the BLE Module. Mount the BLE Module in the Housing, and cover it with the Shield. Mount the Screw Standoff.</p>	

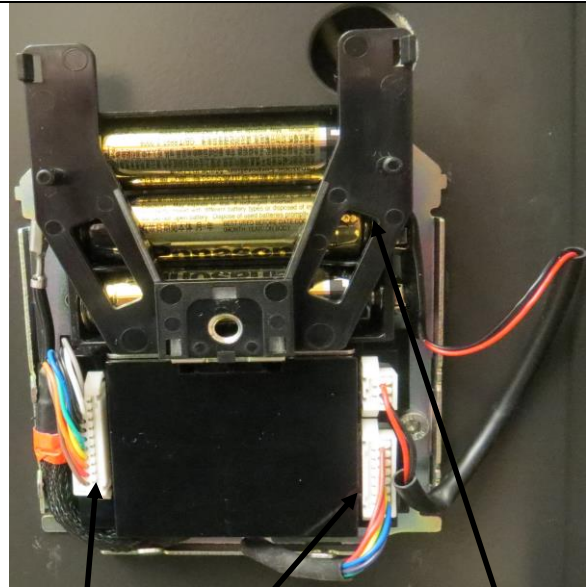
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A mounted BLE Module in the housing and Y-Cable connected



BLE Module with Y-Cable connected and Screw Standoff mounted, covered by the BLE shield.

Thread the rest of Y-cable which will go to the Host System through the door, alien the Screw standoff, connected the Y-cable to the appropriate connectors on the Host system.



Y-Cable connected to the Host System

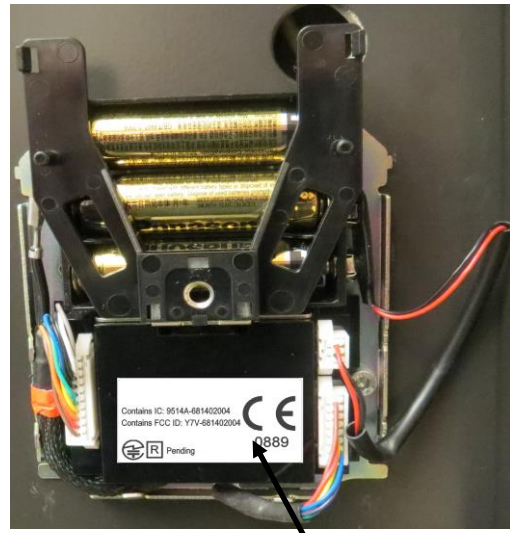
Battery pack 4.5V

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**7) Host system label concerning BLE**



The Host System label indicating the presence of the BLE module in the system should be attached as indicated:



Host Label indicating the presence of BLE module with FCC and IC Identification

**Installed the Back Host System cover**

**Front Host system**



**Back Host System Cover**


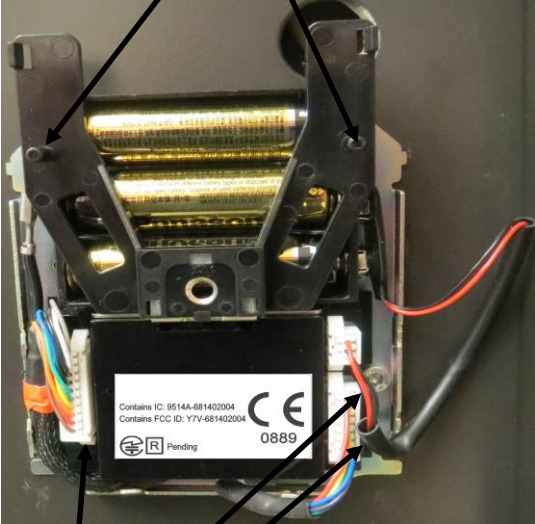




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## BLE Module Replacing Procedure

The only tool need is Screwdriver Torx T20S for removing the screws on the Host System.

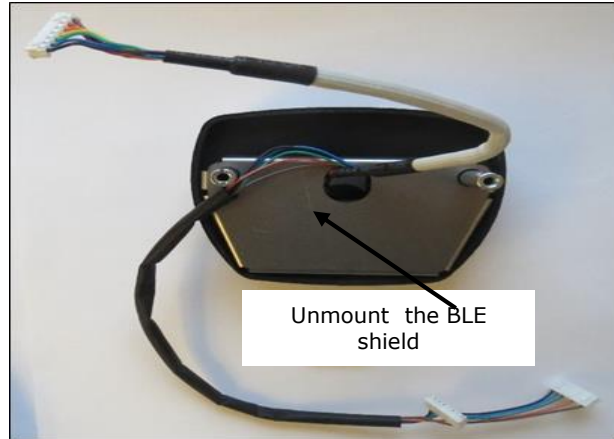
<p>Remove the Host System Cover.</p> 	<p>Disconnect the Y-Cable connectors (coming from the BLE module) from the Host System, and remove the Host System screws connected to BLE module item 5: Screw standoff.</p>  <p>Screws connected to BLE Module Screw standoff.</p> <p>Y-Cable connected to the Host System</p>
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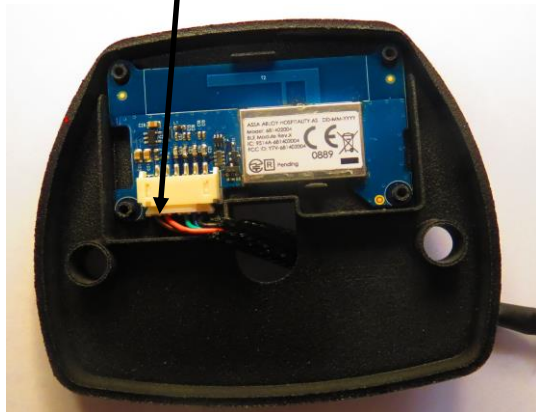
From the front side of the Host system, pull out the unit where BLE module is mounted.



Unmount the BLE shield.



Disconnect the Y-cable from the BLE Module.



Remove the BLE Module from the BLE housing and replace it.


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## Viewing FCC an IC information label on the Host System

All Host Systems where a BLE Module is installed; has an attached label with FCC and IC identities.

To gain access to this label once the module has been installed in the Host System, the only tool need is a **Torx T20s screwdriver**, which is readily available from any hardware store. Following procedure should be followed to gain access to the label:

The Host System



Back Host System

Front Host System

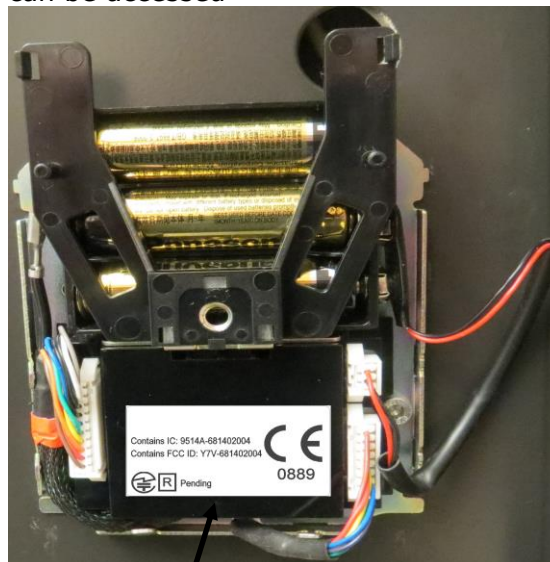
Use Torx T20s screwdriver and open the Host System Back cover to access the label

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Open with Torx T20s screwdriver

After opening the Back Cover, the Label can be accessed




Label on the Host with following statements:  
Contains FCC ID: Y7V-681402004  
Contains IC: 9514A-68102004

## BLE Module 681402004 Operation

BLE Module 681402004 operates only on Assa Abloy Hospitality Host Systems, and is solely installed, maintained, and debugged by Assa Abloy Hospitality Engineers.

### BLE Module Specifications

Radio technologies utilized	 <b>Bluetooth</b> <small>SMART</small> BLE [Bluetooth low energy]
Frequency ranges of operation	2.400 GHz-2.4835 GHz
Channel plan	<b>40</b> 2-MHz channels
Transmitter antenna gain	3.5dBi, Impedance 50 ohm
Antenna Type	Inverted F-antenna (internal PCB)
Maximum expected conducted power	2.51mW
Operating Temperature	-10° C to +50° C
Operating humidity	10% to 90% non-condensed relative humidity
Power supply requirements	+6VDC -5% - +50%

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## Overview functionality of the BLE Module

When a BLE Module comes from the production, it will be in an 'advertise' mode that is always searching for another BLE device.

In a hotel environment the BLE Module is set in 'dormant' mode and it will search for a BLE device when the Host System tells it to go out and search.

When the BLE Module has found a BLE device and started the handshake, the communication between the BLE Module and the BLE device starts, they share information between them and the door opens, then the Host System tells the BLE Module to go to sleep.

If the BLE Module doesn't find any device to do the handshake with, the Host System tells it to go down to sleep and stays in sleep until the Host System tells it to start searching for BLE devices.