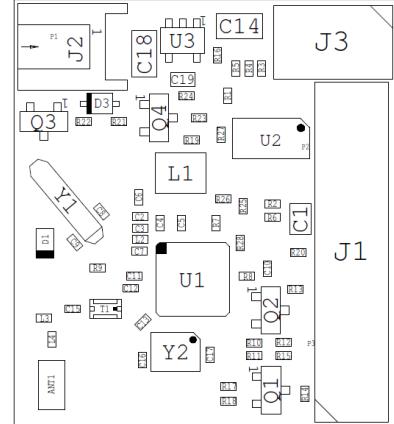


<b>Robomow®</b>		<b>BLE robot board</b>	
<b>Origin date:</b>	23.4.2013	<b>P/N :</b>	<b>ESB6007D</b>
<b>Version:</b>	V01.2	<b>Edit by:</b>	Omer S-T
<b>Last update:</b>	12.09.2013	<b>Approved by:</b>	Eli Levi
K:\Engineering\Hardware\RS engineering files			

## **Production process:**

1. SMT + Reflow at the C.S (C.S)
2. Visual inspection for shortages and stannous wave.
3. Cleaning
4. Separate the panel using V-Cut
5. Marking and labeling.
6. Electrical Test.
7. Packing and Shipment.



## **Appendices:**

1. Changes control table
2. Quality control table

## **Special instructions and emphasize**

### **General**

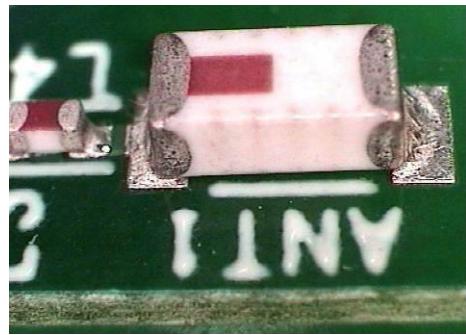
1. This electronic board should match **IPC-A-610D (Class 2)** standards. Those standards define criterions for Lead free board's assembly, SMT and T.H Placing, SMT, T.H, cables and manual soldering, mechanic assembly, cleaning, Coating and boards marking
2. First units test - Test first 2-3 boards electrically at the test station for every new batch

## **Production Process**

1. SMT and Reflow - C.S



**Caution: See direction assembly of ANT1**

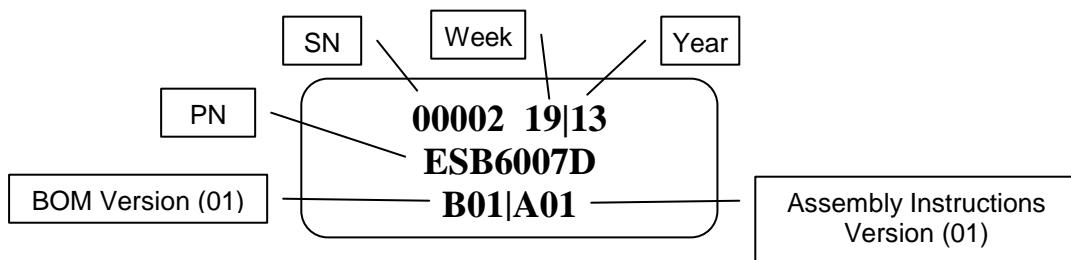


2. Visual inspection for shortages and stannous wave
3. Cleaning
4. Separate the boards from the panel using V-Cut

## 5. Marking and labeling

- a. Stick Product Identification label on P.S
- b. Label size: Sub-Contractor consideration.
- c. Label should include:
  - i. Item PN
  - ii. Board SN
  - iii. Year + Week

### **Label Example Only:**



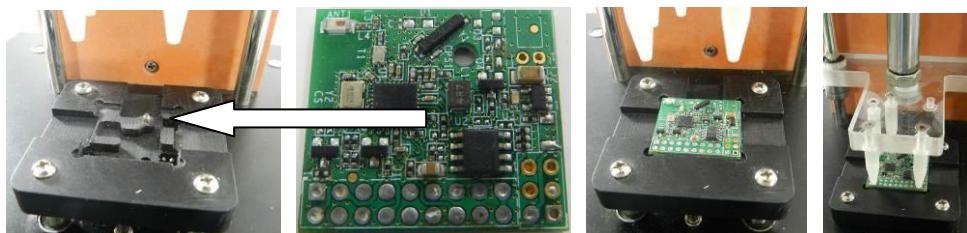
## 6. Electrical Test - TBD



### 6.1 Connect the Test Station to its Laptop (Watch pictures below).



### 6.2 Locate the BLE Board in the device and close it.



6.3 Open Test program by pressing on “PC\_Bluetooth\_Toolkit” icon.



6.4 Press “GO” to start the test.



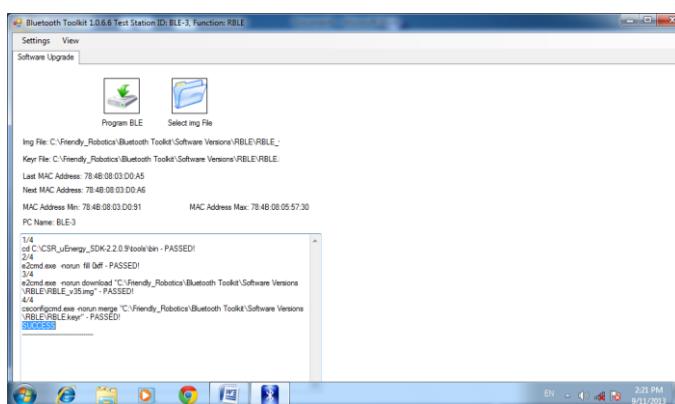
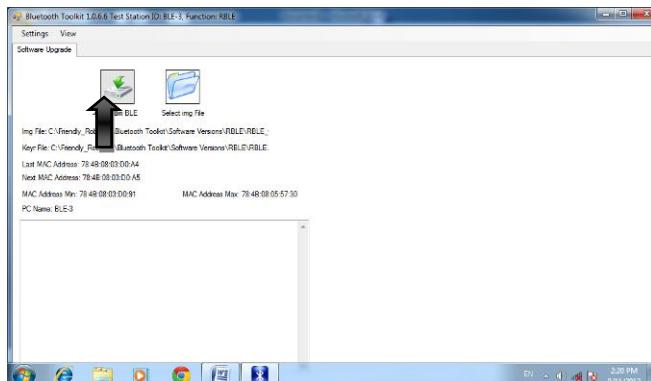
6.5 Press “GO” to upload new software version.



6.6 When LCD is up press “GO”



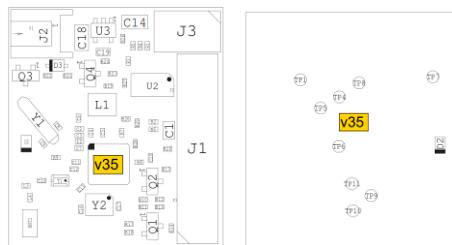
6.7 Press on “**Program BLE**” to upload the software.



“Passed” will appear on LCD for every successful test.



6.8 Attach "v35" labels to board's both sides after passed test.  
(Watch pictures below for labels location.)



## 7. Packing and Shipment - Need Friendly approval for Sub Contractor Packaging proposal

**Appendix 1: Control table for changes**

<b>Change Date</b>	<b>Version</b>	<b>Change Description</b>	<b>Remarks</b>
22.4.2013	V2	1.Adding coating 2. antenna direction instructions 3.CPS1 assembly picture	
02.07.13	B – V02.1	[1] Touch Up soldering updated.	
09.07.13	C – V01	[1] LED,Con J1,Spacer removed from assy. [2] Coating removed from assy. Board will be coated with ESB6100/ESB7000.	
08.07.13	D – V01	[1] CAP0067G removed from C14.	
12.09.13	D – V01.1	[1] Electrical test added to document.	
12.09.13	D – V01.2	[1] x2 v35 labels after passed elec test.	

**Appendix 2: Failure Control table**

#	Date	Failure Description	Remark
1			
2			
3			

## Federal Communications Commission (FCC) Statement

### Radio Frequency Interference (RFI) (FCC 15.105)

This equipment has been tested and found to comply with the limits for Class B digital devices pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, 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 and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the 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.

### Modifications (FCC 15.21)

Changes or modifications to this equipment not expressly approved by F. Robotics Acquisitions Ltd. may void the user's authority to operate this equipment.

Warning: Insertion of a ESB6007D BLE Robot Board/RF Module into any host other than the RC304, RC306, RC306p, RC312, RC312p, CBS01, RS612, RS612p, RS622, RS630, XR2 1000, XR2 1500, XR2 2000, XR3 3000, XR3 4000, XR3 5000 invalidates the FCC ID of the ESB6007D BLE Robot Board/RF Module.

### Labeling Requirements (FCC 15.19)

This device complies with Part 15 of 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.

The host product must be labelled to refer to the enclosed module:

Contains FCC ID: 2ABHE-RB-2

Contains IC: 23524-RB2

### RF Exposure info (FCC 2.1093) - for module radio

This equipment has been approved for mobile applications where the equipment should be used at distances greater than 20cm from the human body (with the exception of hands, wrists, feet and ankles). Operation at distances less than 20 cm is strictly prohibited.

# Canadian Compliance

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.

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 2.5 de RSS 102 et la conformité à l'exposition de RSS-102 rf, utilisateurs peut obtenir l'information canadienne sur l'exposition et la conformité de rf.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Cet émetteur ne doit pas être co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ou émetteur. Cet équipement devrait être installé et actionné avec une distance minimum de 20 centimètres entre le radiateur et votre corps.

This radio transmitter with model: **ESB6007D** has been approved by Industry Canada to operate with the antenna type listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna type not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio with model: **ESB6007D** a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Antenna	Manufacture	Brand	Module Name	Antenna Type	Connector	Gain (dBi)	Frequency band
Chip P/n 2450AT18B100	Johanson	Johanson Technology	CSR1010	High Frequency Ceramic Antenna	None	0.5dBi	2400 – 2500MHz

## RF Exposure info

“The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website [www.hc-sc.gc.ca/rpb](http://www.hc-sc.gc.ca/rpb).”

## Class B Notice for Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.