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User Manual

Bluetooth Low Energy Stamp

Product Name: ***BLE-Stamp***

Type No.: ***77.211.3xx***

Version	Date	Changes
V 1.0	2018-06-27	Initial population
V 1.1	2018-06-27	Chapter 7 added

1. Introduction

BLE-Stamp is basically a Bluetooth Low Energy Module. A microcontroller with integrated Bluetooth Low Energy Technology is the main part of this module. The controller is mounted on the small SMT PCB. An integrated PCB antenna is the radio interface to Bluetooth. Some block capacitors are also fitted on the printed circuit board for EMC purposes. All other ports are routed to the edge of the PCB and can be freely configured. The BLE-Stamp can be soldered like an SMD component on a mother board of the individual E.G.O. appliance controls.

2. Functional Description

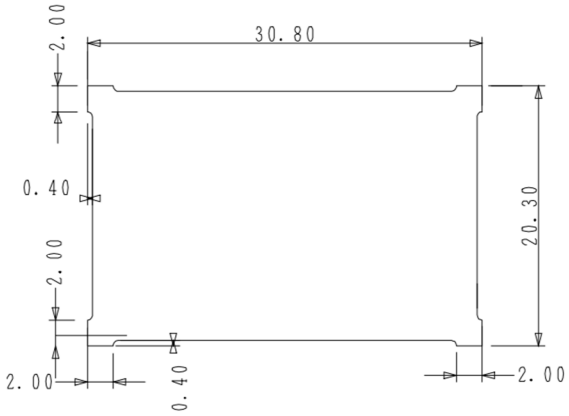
The single chip microcontroller of Cypress PSoC4 BLE Family is supporting the Bluetooth LE Stack. Bluetooth Low Energy is the radio communication standard for the communication between appliance and external mobile device e.g. user App. With special customized Bluetooth profiles for washers, dryers, dishwashers, freezers, refrigerators, ovens, cooktops and many more, can adapt functionality to each individual home appliance. The Controller is basically the main controller of the controls or user interfaces.
The Bluetooth qualification is only required for the stamp. All controls using BLE-Stamp, can be list under same BLE-Stamp Declaration ID.

3. Using BLE-Stamp

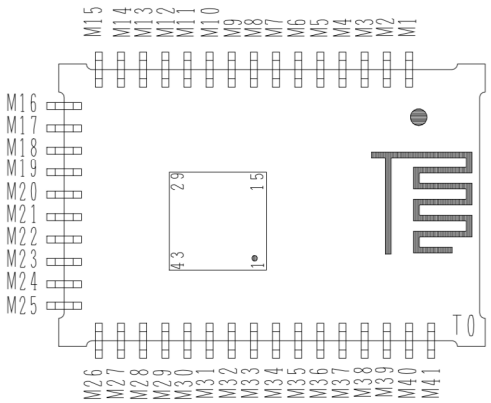
BLE Stamp can be used to several applications when Bluetooth LE is required, can be assembled to e.g. main boards of washing machines, dryer controls or as user interfaces of refrigerators or many other possible appliances. The Microcontroller of BLE-Stamp in controlling the Bluetooth as well as the application functionality of the appliance controls or user interface.

4. PCB

4.1. PCB Size



4.2. Pin assignment



5. Design regulations

Design of solder pin of the main board PCB's has to be according to actual E.G.O. design rules.

6. Soldering regulations

Soldering of BLE-Stamp to main boards has to be according to actual E.G.O. soldering regulations.

7. Notes

7.1. Notes (FCC)

This device complies with Part 15 of the FCC Rules. 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.
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.*

(EN) Radio frequency (RF) Exposure Information
The radiated output power of the Wireless Device is below the Innovation, Science and Economic Development (ISED) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.
This device has also been evaluated and shown compliant with the ISED RF Exposure limits under mobile exposure conditions (antennas at least 20cm from a person‘s body).

7.2. Notes (ISED)

(EN) This Class B digital apparatus complies with Canadian ICES-003 and RSS-210. 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.

(FR) Cet appareil numérique de classe B est conforme aux normes canadiennes ICES-003 et RSS-210. Son fonctionnement est soumis aux deux conditions suivantes: (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

(EN) Radio frequency (RF) Exposure Information
The radiated output power of the Wireless Device is below the Innovation, Science and Economic Development (ISED) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.
This device has also been evaluated and shown compliant with the ISED RF Exposure limits under mobile exposure conditions (antennas at least 20cm from a person‘s body).

(FR) Informations concernant l'exposltion aux fréquences radio (RF)
La puissance de sortie émise par l'appareil de sans fil est inférieure à la limite d'exposition aux fréquences radio d’Innovation, Sciences et Développement économique Canada (ISDE). Utilisez l'appareil de sans fil de façon à minimiser les contacts humains lors du fonctionnement normal. Ce périphérique a également été évalué et démontré conforme aux limites d'exposition aux RF d'ISDE dans des conditions d'exposition à des appareils mobiles (les antennes se situent à moins de 20cm du corps d'une personne).

7.3. Integrator Statement

When the end-product is so small or for such use that it is not practical to place the above statement on it, the information shall be placed in a prominent location in the instruction manual or pamphlet supplied to the user or on the container in which the device is marketed. However, the FCC ID label must be displayed on the device.
If the end-product will be installed in locations where the end-user is not able to see the FCC ID and/or this statement, the FCC ID and the statement shall also be included in the end-product manual. The outside of final products containing the “BLE Stamp” module must display in a user accessible area a label referring to the enclosed module. This exterior label can use wording such as the following:
“Contains Transmitter Module FCC ID:2AK48-BST-0001” or “Contains FCC ID: 2AK48-BST-0001”, where 2AK48 represents the FCC “Grantee Code” and -BST-0001 is the Unique Product Number decided by the grant owner.