

1. User Manual

This user manual gives a brief overview of how to use EBR81777301 ZigBee Module.

2. Product Overview

EBR81777301 ZigBee Module provides the connectivity between two products. This allows a user to manage and control product and monitor product status from the another product.

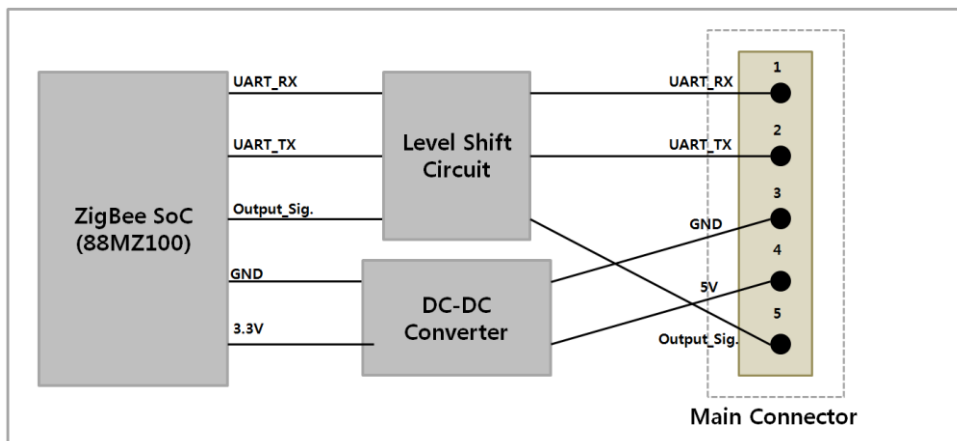
EBR81777301 ZigBee Module is installed in home appliances.

3. Specifications

- ZigBee Standard : 802.15.4
- Host Interface : UART Interface
- Operating Temperature : -10 ~ 70°C
- Operating Voltage : 4.5V ~ 5.5V
- Frequency Range : 2405MHz ~ 2480MHz
- Channels : 16ch.
- Type of Modulation : DSSS(OPQSK)
- Output Power : 1 dBm
- Antenna Type : Pattern Antenna

4. Function Block

- Block Diagram

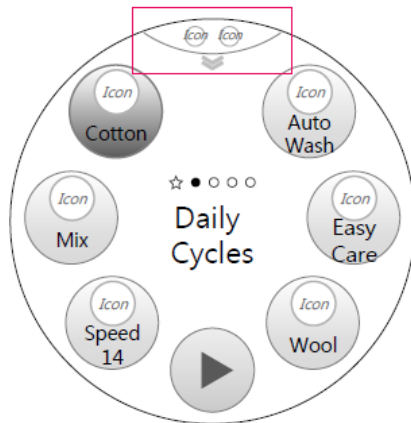


1) ZigBee

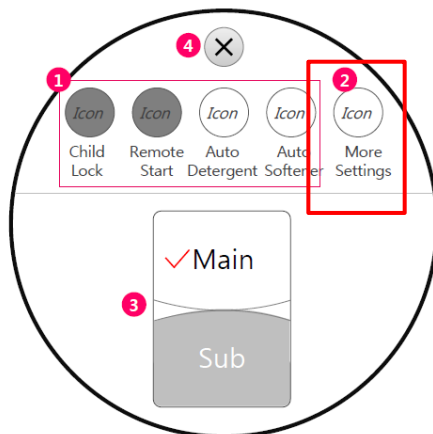
- SoC Module including Microcontroller and ZigBee chipset
- 2) Level shift circuits
 - Signal level shift circuits to communicate between appliance and 81777301 ZigBee module by UART interface and output signal.
- 3) DC-DC Converter
 - DC 5V converted to DC 3.3V
- 4) Main Connector
 - Connect ZigBee Module with appliance

5. ZigBee Setup

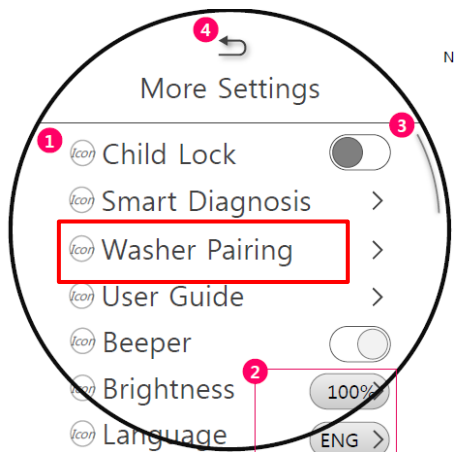
- 1) Enter "Quick Setting" by flicking indicator.



- 2) Enter the More Settings.



- 3) Enter the Washer Pairing.



4) Proceed pairing by touching “Pair” button.



5) Two EBR81777301 Modules are connected.

EU CONFORMITY NOTICE

CE 0197

[ENGLISH]

Hereby, LG Electronics European Shared Service Center B.V., declares that this ZigBee module is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. The complete Declaration of Conformity may be requested through the following postal address:

LG Electronics European Shared Service Center B.V.
Krijgsman 1
1186 DM Amstelveen
The Netherlands

or can be requested at our dedicated DoC website:
<http://www.lg.com/global/support/cedoc/cedoc#>

This device is a 2.4 GHz wideband transmission system, intended for use in all EU member states and EFTA countries.

FCC Notice

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 the receiver.
- Connect the equipment to 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.

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 of the device.

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. 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 cm (7.8 inches) between the antenna and your body. Users must follow the specific operating instructions for satisfying RF exposure compliance.

Industry Canada Statement

This device complies with Industry Canada's applicable 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.

Avis d'Industrie Canada

Cet appareil est conforme aux normes CNR d'Industrie Canada applicables aux appareils radio exempts de licence. Son

fonctionnement est sujet aux deux conditions suivantes :

- 1) Cet appareil ne doit pas provoquer d'interférences, et
- 2) Cet appareil doit accepter toutes les interférences, y compris celles pouvant entraîner son dysfonctionnement.

IC Radiation Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with **a minimum distance of 20 cm (7.8 inches)** between the antenna **and** your body.

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

Avis d'Industrie Canada sur l'exposition aux rayonnements

Cet appareil est conforme aux limites d'exposition aux rayonnements d'Industrie Canada pour un environnement non contrôlé. Cet appareil doit être installé de façon à garder une distance minimale de 20 cm (7,8 po) entre la source de rayonnement et votre corps.

REMARQUE : LE FABRICANT N'EST PAS RESPONSABLE DES INTERFÉRENCES

RADIOÉLECTRIQUES CAUSÉES PAR DES MODIFICATIONS NON AUTORISÉES APPORTÉES À CET APPAREIL. DE TELLES MODIFICATIONS POURRAIENT ANNULER L'AUTORISATION ACCORDÉE À L'UTILISATEUR DE FAIRE FONCTIONNER L'APPAREIL.

OEM Responsibilities to comply with FCC and Industry Canada Regulations

The module has been certified for integration into products only by OEM integrators under the following condition:

- The antenna(s) must be installed such that a minimum separation distance of at least 20 cm is maintained between the radiator (antenna) and all persons at all times.
- The transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

As long as the two condition above is met, further transmitter testing will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

End Product Labeling

The module is labeled with its own FCC ID and IC Certification Number. If the FCC ID and IC Certification Number are not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following:

"Contains FCC ID: BEJ-EBR81777301

"Contains IC: 2703N-EBR81777301"

Étiquetage du produit final (IC)

Le module BT111 est étiqueté avec sa propre identification FCC et son propre numéro de certification IC. Si l'identification FCC et le numéro de certification IC ne sont pas visibles lorsque le module est installé à l'intérieur d'un autre dispositif, la partie externe du dispositif dans lequel le module est installé devra également présenter une étiquette faisant référence au module inclus. Dans ce cas, le produit final devra être étiqueté sur une zone visible avec les informations suivantes:

« Contient module émetteur identification FCC ID : BEJ-EBR81777301

« Contient module émetteur IC : 2703N-EBR81777301"