



LG LCWB-003 Wi-Fi and BLE Combo Module User Manual

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LG LCWB-003 Wi-Fi and BLE Combo Module



INSTALLATION INSTRUCTION

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LCWB-003 Overview and Specification

Overview

1. This is a Wi-Fi&BLE Combo module
2. Wi-Fi wireless communication with wired LAN IoT product for protocol and application performance based on IEEE 802.11 b/g/n (HT20) standard technology
3. The RTL8720 series highly integrated Bluetooth Low Energy controller with a UART interface. It combines a BLE Protocol (PHY, LL, L2CAP, SM, ATT, GAP, GATT), BLE Baseband, Modem, and BLE RF in chip, also supports BLE user GATT-based profile application.

Specification

Categories		Details
Model Name		LCWB-003
WIFI	Range of Frequency	2412 MHz ~ 2462 MHz
	Channel	11EA
	Transmission Output	17 dBm (Tolerance ± 2 dBm)
	Reception sensitivity	-88 dBm (802.11b)
		-75 dBm (802.11g)
		-72 dBm (802.11n)
	Modulation	802.11b : DQPSK, DBPSK, CK 802.11g/n : OFDM/64-QAM, 16-QAM, QPSK, BPSK
BLE	Range of Frequency	2402MHz ~ 2480MHz
	Channel	40EA
	Transmission Output	4.5 dBm (Tolerance ± 2 dBm)
	Reception sensitivity	-95 dBm
Antenna		PCB Pattern Antenna
Dimension		L x W x H : 48 x 20 x 11.2 (typical) mm
Power		5V \pm 0.5V / 12V \pm 1.2V

FCC

Part 15.19 Statement

- 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.

Part 15.105 Statement(Class B)

- 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.

Part 15.21 Statement

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

Responsible Party Information (Supplier's Declaration of Conformity)

- LG Electronics USA
- 1000 Sylvan Avenue Englewood Cliffs New Jersey, United States, 07632

Regulatory notice to host manufacturer according to KDB 996369 D03 OEM Manual v01

List of applicable FCC rules

- This module has been granted modular approval as below listed
- FCC rule parts. – FCC Rule parts 15.247
- **Summarize the specific operational use conditions**
- The OEM integrator should use equivalent antennas which is the same type and equal or less gain than an antenna listed in this instruction manual.

RF exposure considerations

- 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 conditions above are met, further transmitter testing will not be required.
- OEM integrators should provide the minimum separation distance to end-users in their end-product manuals.

Antennas List

- This module is certified with the following integrated antenna.

1. **Type:** Pattern Antenna
2. Max. peak Antenna gain : 1.72 dBi (2400 – 2485 MHz)

Any new antenna type, higher gain than listed antenna should be met the requirements of FCC rule 15.203 and 2.1043 as permissive change procedure.

Label and compliance information

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-LCWB003
- **Contains IC:** 2703N-LCWB003

Information on test modes and additional testing requirements

- 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, the additional transmitter in the host, etc.).

Additional testing, Part 15 Subpart B disclaimer

- The final host product also requires Part 15 subpart B compliance testing with the modular transmitter installed to be properly authorized for operation as a Part 15 digital device.

USED

- RSS-GEN, Sec. 7.1.3—(licence-exempt radio apparatus)

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.

RF Exposure

The antenna (or antennas) must be installed so as to maintain at all times a distance minimum of at least 20 cm between the radiation source (antenna) and any individual. This device may not be installed or used in conjunction with any other antenna or transmitter.

l'exposition aux RF


L'antenne (ou les antennes) doit être installée de façon à maintenir à tout instant une distance minimum de au moins 20 cm entre la source de radiation (l'antenne) et toute personne physique.

Étiquetage du produit final (IC)

Le module LAIWB3 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-LCWB003
- Contient module émetteur IC : 2703N-LCWB003

Documents / Resources

	<p>LG LCWB-003 Wi-Fi and BLE Combo Module [pdf] User Manual LCWB003, BEJ-LCWB003, BEJLCWB003, LCWB-003 Wi-Fi and BLE Combo Module, LCWB-003, Wi-Fi and BLE Combo Module, BLE Combo Module, Combo Module, Module</p>
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