

**DWWB001 User's Manual**

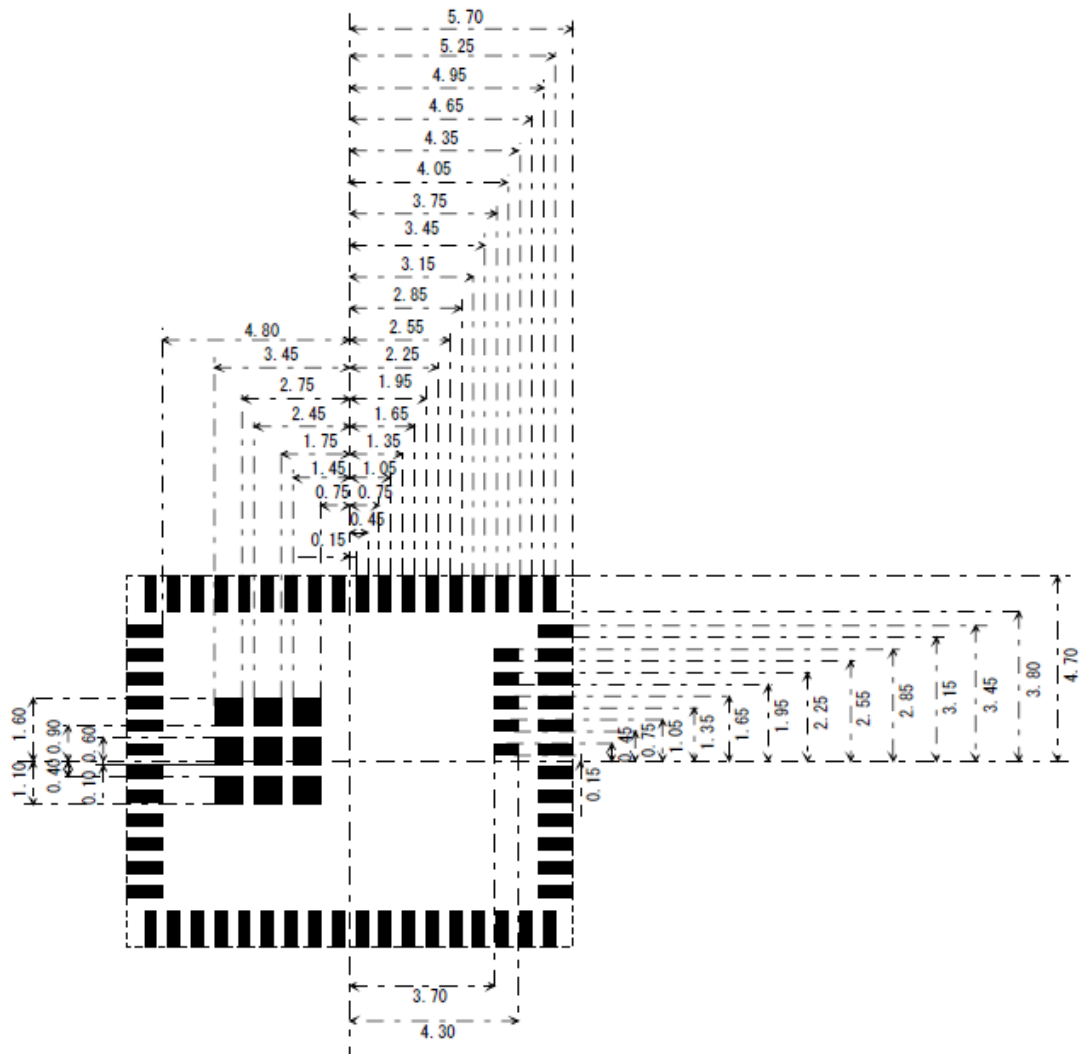
## LBEH5Z9UWC Installation Manual

For OEM integration only – device cannot be sold to general public.  
Therefore we will ask OEM to include the following statements required by FCC on the product and in the Installation manual Notice.

### Contents

- 1.Land Pattern(Recommended)
- 2.Supply Voltage
3. Dimensions, Marking And Pin configuration
- 4.Notice

1.Land Pattern(Recommended Unit:mm)

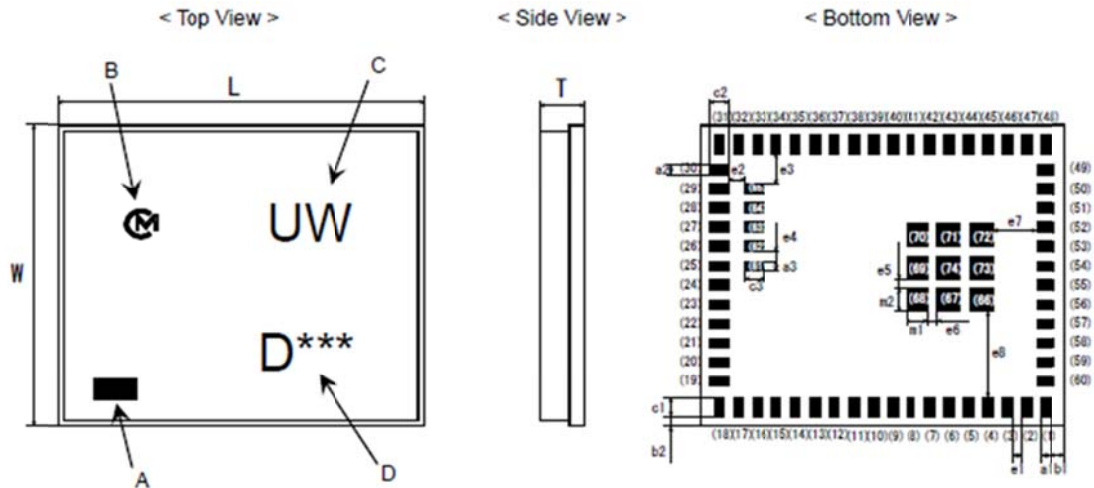


## 2. Supply Voltage

	Typ.[V]	Min.[V]	Max.[V]
VBAT	3.6	3.0	4.2
VIO	1.8	1.65	1.92

Please supply a stabilized power supply voltage through the VBAT And VIO.

### 3. 1 Dimensions, Marking



Marking	Meaning
A	Pin 1 Marking
B	Murata Logo
C	Module Type
D	Production control number

Dimensions (unit : mm)

Mark	Dimensions	Mark	Dimensions	Mark	Dimensions
L	11.4 +0.3/- 0.2	W	9.40 +/- 0.2	T	1.40 max.
a1	0.30 +/- 0.1	a2	0.30 +/- 0.1	a3	0.30 +/- 0.1
b1	0.45 +/- 0.2	b2	0.30 +/- 0.2	c1	0.60 +/- 0.1
c2	0.60 +/- 0.1	c3	0.60 +/- 0.1	e1	0.30 +/- 0.1
e2	0.50 +/- 0.1	e3	0.95 +/- 0.1	e4	0.30 +/- 0.1
e5	0.30 +/- 0.1	e6	0.30 +/- 0.1	e7	1.35 +/- 0.1
e8	2.70 +/- 0.1	m1	0.70 +/- 0.1	m2	0.70 +/- 0.1

### 3. 2 Pin configuration

No.	Terminal Name	Type	System	Description
1	GND	-	-	Ground
2	5G_ANT	I/O	WLAN	RF transmitter output and RF receiver input
3	GND	-	-	Ground
4	HOST_WAKE	I/O	BT	HOST Wake Up
5	CLK_REQ	I/O	-	CLK_REQ_positive polarity
6	GND	-	-	Ground
7	1V8_PRE_REG	P	-	Monitor pin for feed back voltage from DCDC converter
8	VDD_LDO_IN_CLASS1P6	P	-	For choosing BT operation mode. Details are described on reference schematic.
9	VBAT	P	-	Power supply input
10	VIO	P	-	Power supply input
11	GND	-	-	Ground
12	BT_RESETX	I	BT	BT_RST
13	WLAN_IRQ	O	WLAN	WLAN interrupt request
14	GND	-	-	Ground
15	WL_RS232_Tx	I/O	WLAN	RS232_Rx or I2C_M_SDA
16	WL_RS232_Rx	I/O	WLAN	RS232_Tx or I2C_M_SCL
17	WLANENABLE	I	WLAN	WL_RST
18	GND	-	-	Ground
19	SDIO_D2	I/O	WLAN	SDIO mode: DATA 2
20	SDIO_D1	I/O	WLAN	SDIO mode: DATA 1
21	SPI_CSX	I/O	WLAN	SDIO mode :DATA 3 SPI mode: SPI_CSX
22	SPI_DIN	I/O	WLAN	SDIO mode: CMD SPI mode: SPI_DIN
23	SPI_CLK	I	WLAN	SDIO mode: CLK SPI mode: SPI_CLK
24	SPI_DOUT	I/O	WLAN	SDIO mode: DATA 0 SPI mode: SPI_DOUT
25	GND	-	-	Ground
26	SLEEP_CLK	I	-	SLEEP_CLK input
27	GND	-	-	Ground
28	NC	-	-	NC
29	GND	-	-	Ground
30	GND	-	-	Ground
31	GND	-	-	Ground
32	GND	-	-	Ground
33	GND	-	-	Ground
34	GND	-	-	Ground
35	NC	-	-	NC
36	NC	-	-	NC
37	GND	-	-	Ground
38	XTALP	-	-	FREF input
39	XTALM	-	-	FREF input
40	GND	-	-	Ground
41	BT_WAKEUP	IO	BT	BT_WU/BT DC2DC or BT_IRQ
42	UART_TX	I/O	BT	BT UART I/F or BT SPI_DOUT
43	UART_CTS	I/O	BT	BT UART I/F or BT SPI_CS
44	UART_RX	I/O	BT	BT UART I/F or BT SPI_DIN
45	UART_RTS	I/O	BT	BT UART I/F or BT SPI_IRQ
46	GND	-	-	Ground
47	2.4G_ANT	I/O	BT/WLAN	RF transmitter output and RF receiver input
48	GND	-	-	Ground
49	GND	-	-	Ground
50	GND	-	-	Ground
51	PCM_SYNC	I/O	BT	PCM I/F
52	PCM_CLK	I/O	BT	PCM I/F
53	PCM_OUT	I/O	BT	PCM I/F
54	PCM_IN	I/O	BT	PCM I/F
55	NC	-	-	NC
56	NC	-	-	NC
57	NC	-	-	NC
58	NC	-	-	NC
59	GND	-	-	Ground
60	GND	-	-	Ground
61	NC	-	-	NC
62	NC	-	-	NC
63	NC	-	-	NC
64	UART_DBG	I/O	WLAN	WL_UART_DBG
65	BT_UART_DBG	-	-	BT_UART_DBG Should be connected to TP for software debug.
66	GND	-	-	Ground
67	GND	-	-	Ground
68	GND	-	-	Ground
69	GND	-	-	Ground
70	GND	-	-	Ground
71	GND	-	-	Ground
72	GND	-	-	Ground
73	GND	-	-	Ground
74	GND	-	-	Ground

#### 4. Notice

Please describe the following warning on the final product which contains this module.

Contains Transmitter Mobile FCC ID:???????????

or

Contains FCC ID:???????????

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.

Please describe the following warning to the manual.

**FCC CAUTION**

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

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

When installing it in a mobile equipment

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. This equipment should be installed and operated keeping the radiator at least 20cm or more away from person's body (excluding extremities: hands, wrists, feet and ankles).

When installing it in a portable equipment

The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power Wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used. Whereas high levels of RF can produce health effects (by heating tissue), exposure of low-level RF that does not produce heating effects causes no known adverse health effects. Many studies of low-level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research. [Model Name] has been tested and found to comply with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65.

Note)

Portable equipment : Equipment for which the spaces between human body and antenna are used within 20cm.

Mobile equipment : Equipment used at position in which the spaces between human body and antenna exceeded 20cm.



## Federal Communication Commission Interference 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.

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 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.

**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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

**Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

**FOR COUNTRY CODE SELECTION USAGE (WLAN DEVICES)**

Note: The country code selection is for non-US model only and is not available to all US model. Per FCC regulation, all WiFi product marketed in US must fixed to US operation channels only.

**FCC Radio-Frequency Exposure and Approval Conditions:**

1. Antennas must be installed to provide at least 20cm separation distance from the transmitting antenna to the body of user during normal operating condition.
2. The antenna(s) used for this transmitter must not be collocated or operating in conjunction with any other antenna or transmitter within a host device, except in accordance with FCC multi-transmitter product procedures.
3. Only those antennas with same type and lesser gain filed under this FCC ID number can be used with this device.
4. The regulatory label on the final system must include the statement: "Contains FCC ID:PZWDWWB001 and/or IC:1551C-DWWB001" or using electronic labeling method as documented in KDB784748.
5. The final system integrator must ensure there is no instruction provided in the user manual or customer documentation indicating how to install or remove the transmitter module except such device has implemented two-ways authentication between module and the host system.
6. The final host manual shall include the following regulatory statement:

This equipment has been test and found to comply with the limits for a Class B digital device, pursuant to Part 15 of 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. If not installed and used in accordance with the instructions, it 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 tuning 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 distance between the equipment and the receiver
  - Connect the equipment to 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.

#### Canada – Industry Canada

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 on this device.

L' utilisation de ce dispositif est autorisée seulement aux conditions suivantes (1) il ne doit pas produire de brouillage et (2) l' utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication.

Caution: Exposure to Radio Frequency Radiation.

To comply with RSS 102 RF exposure compliance requirements, for mobile configurations, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons. This device must not be co-located or operating in conjunction with any other antenna or transmitter.


System integrators must include the IC ID on the end product.

### **NCC 警語**

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

本模組於取得認證後將依規定於模組本體標示審合格籤。

系統廠商應於平台上標示「本產品內含射頻模組： XXXyyyLPDzzzz-x (NCC ID)」字樣。