

User Manual

Product Name : Bluetooth 4.2 Module

Model Name : WB1NB7 (TWBU-Y303D)

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1. Features

- Complied with Bluetooth 4.2 specification with EDR function
- Internal printed antenna on PCB
- UART with maximum rate of 4Mbps interface
- 12pin SMD connector (connected with FFC)
- Size 34 x 19 x 2.9 mm
- Applied Airoha AB1520 for Main chipset
- RoHS compliant

2. Module Photo

< TOP View >



< Bottom View >



4. Storage Conditions

Parameter	Min.	Max.	Unit
Storage Temperature	-10	+80	°C
Storage Humidity (@ 40°C)	-	90	%

Caution : The specifications above the Table define levels at which permanent damage to the device can occur. Function operation is not guaranteed under these conditions. Operating at absolute maximum conditions for extend periods can adversely affect the long-term reliability of the device.

- Other conditions

- 1) Do not use or store modules in the corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are contained.

Also, avoid exposure to moisture.

- 2) Store the modules where the temperature and relative humidity do not exceed 5 to 40°C and 20 to 60%.

5. Operating Conditions

Parameter	Min	Typ	Max	Unit
Ambient Temperature	0	-	+60	°C
Operating Humidity (40°C)	-	-	85	%
Supply Voltage	3.15	3.3	3.45	Vdc

6. Interface Specification

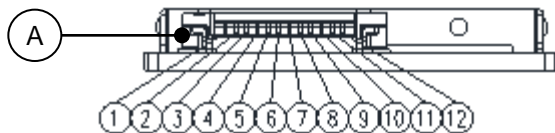
The UART interface supports flexible configuration as listed below.

There are local FIFOs and DMA which can achieve high throughputs serial communications.

Configuration Parameter	Supported Values
Data Length	8 Bits
Flow control	Hardware RTS/CTS None
Parity	Even Odd None
Number of stop bits	1 or 2
Baud rate	1200 2400 4800 9600 19200 38400 57600 76800 115200 230400 460800 921600 1843200

7. Pin Description

PIN No.	Pin Name	Type	Pin Description
1	+3.3V	POWER	+3.3V Supply for BT IC
2	RESET	INPUT,DIGITAL	Power on Reset
3	GND	-	Ground
4	SPDIF_OUT	INPUT/OUTPUT,DIGITAL	Crystal Trim/Digital Audio Output/PIO12
5	GND	-	Ground
6	BT_STANDBY	INPUT/OUTPUT,DIGITAL	BT Standby/PIO24
7	CALIBRATION	INPUT/OUTPUT,DIGITAL	Engineering Test Mode/SDA
8	WAKE	INPUT,DIGITAL	BT Wake
9	MODE_SEL	INPUT/OUTPUT,DIGITAL	Test Mode Selection/PIO3
10	GND	-	Ground
11	UART_TX	OUTPUT,DIGITAL	UART Transmitter
12	UART_RX	INPUT,DIGITAL	UART Receiver

**Note.**

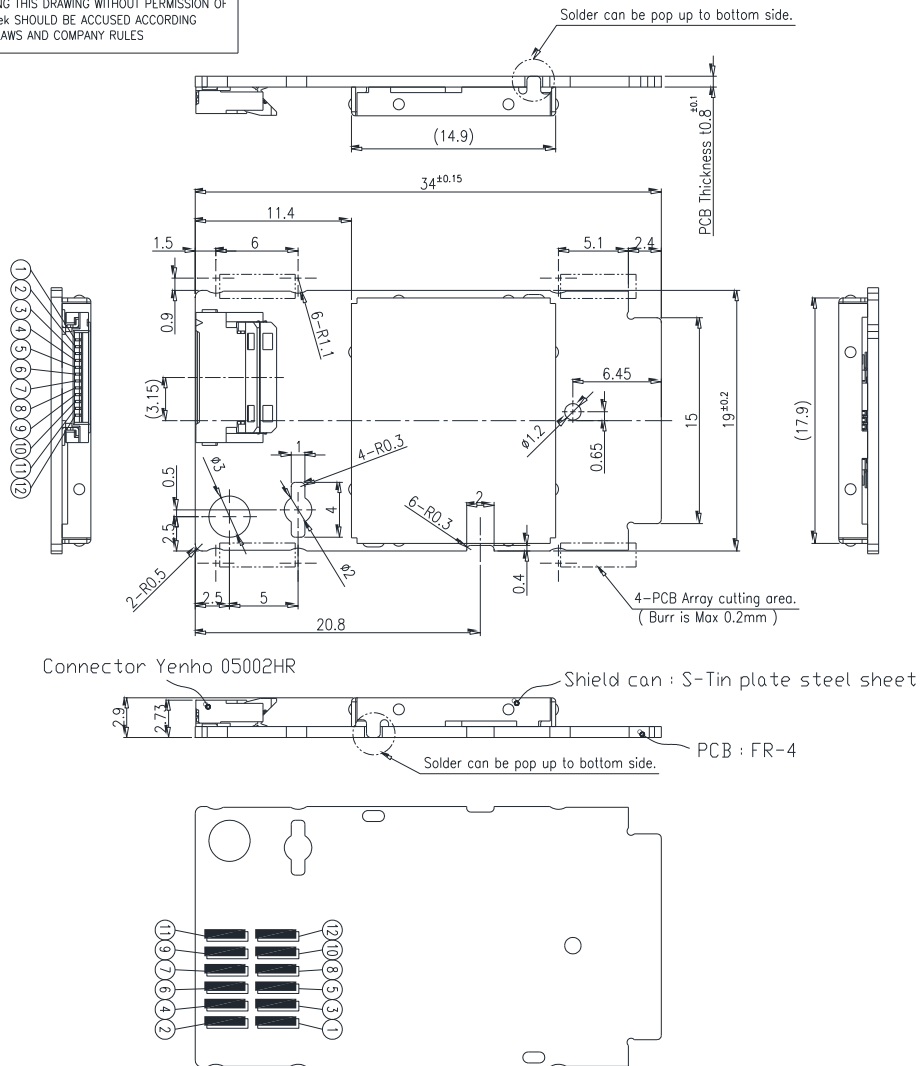
- 1) Recommend a Module install sequence for prevent operation failure
 - Supply 3.3V power
 - Connect to pins
- 2) Connector : 12 Pin SMD Connector A

8. Outline Drawing

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DIMENSIONAL TOLERANCE		C H A N G E S	REV NO.	DATE (YY MM DD)	SIGNATURE	CHANGE CONTENTS
~ up to 6	±0.3				△	
over 6 up to 30	±0.5				△	
over 30 up to 120	±0.5				△	
UNLESS OTHERWISE SPECIFIED						

RELEASING THIS DRAWING WITHOUT PERMISSION OF LG Innotek SHOULD BE ACCUSED ACCORDING TO THE LAWS AND COMPANY RULES



Notes

1. Tolerances are ±0.3, Radii are 0.5, unless otherwise specified.
2. Lot No. shall be conformed to LGIT standard specification.
3. As long as the outer appearance doesn't affect the performance of the product, it can be changed without prior notice.
4. 'x.xx' these dimensions inside of the square are cutting area.
5. PCB Warpages are max. 0.15mm.

RELATED P/N	THIRD ANGLE PROJECT	SCALE	UNIT	DESIGN	2016.8.22	TITLE	Outline Drawing	
		2:1	mm	Jangeun Yang.		PART NO		
				CHECKED	2016.8.22	Heezae Choi.	MODEL	TWBU-Y303D
				APPROVED	2016.8.22	Changsung Kim	DWG NO	

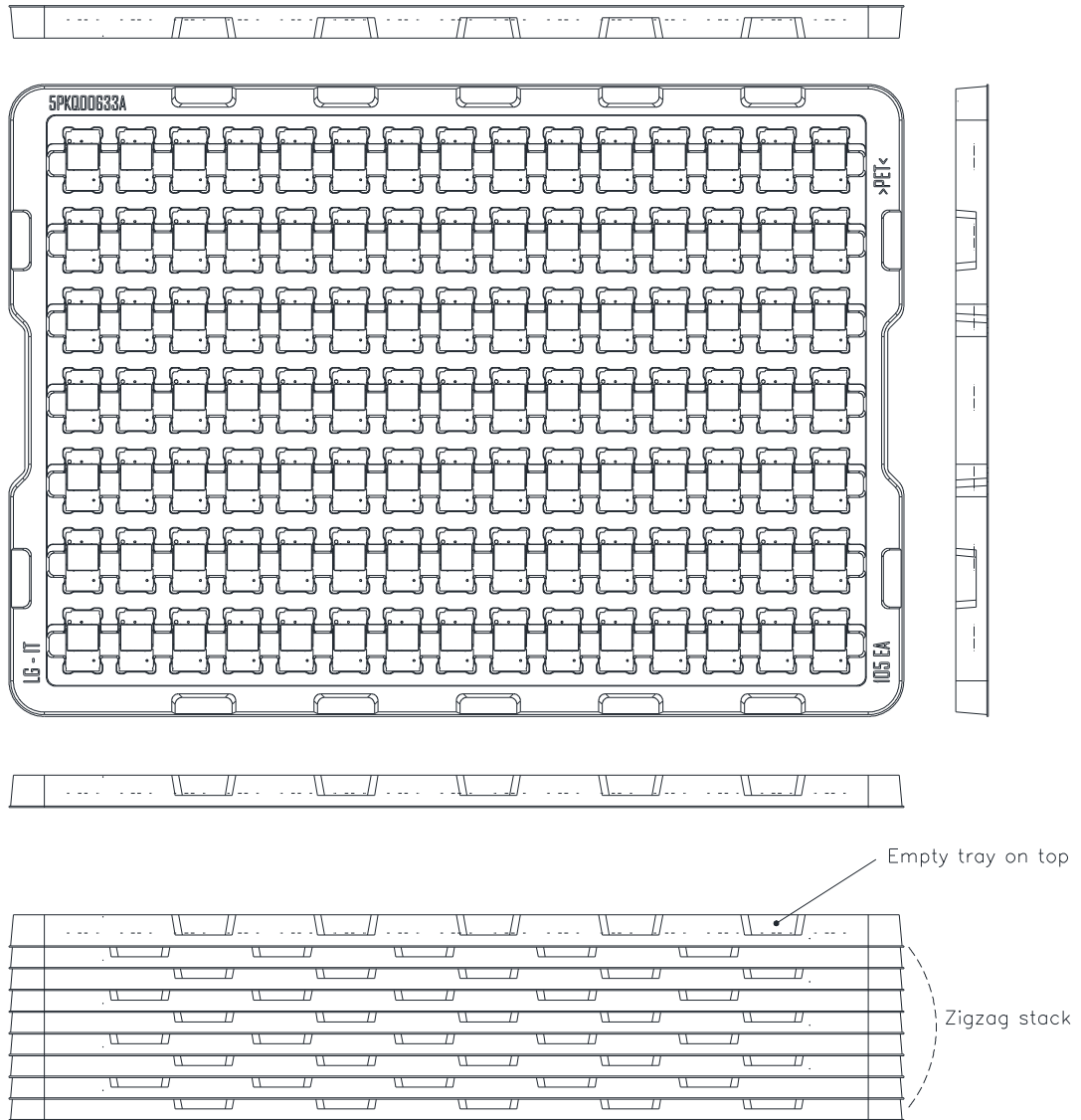


All parts which supply to LG Innotek must not contain prohibited substances including RoHS Hazardous substances and for more details refer to LG Innotek's "Manual for management of hazardous substances in Product"

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9. Packing Information

PACKING SPECIFICATION



PART NO.		NAME		MATERIAL		SPEC.		FINISH		A4 SIZE
						UNIT mm	SCALE N/A	5PKQ00633A		
						DSGD.	DRAW.	TITLE		
						APPD.	CHKD.	Packing Tray		
						'14.09.05 Yang J. E.	'14.09.05 Yu K. J.	DOCUMENT NO.		
								1/1		

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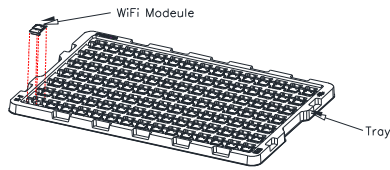
3

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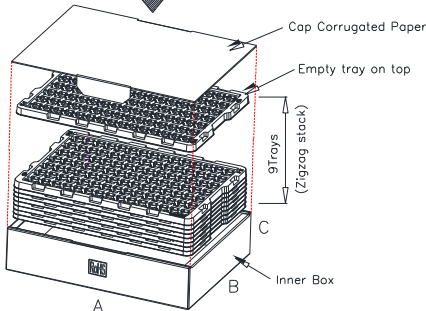
DIMENSIONAL TOLERANCE	C H A N G E S	REV NO.	DATE (YY MM DD)	SIGNATURE	CHANGE CONTENTS
		~ up to 6	±0.3		
		over 6 up to 30	±0.5		
		over 30 up to 120	±0.5		
UNLESS OTHERWISE SPECIFIED					

All parts which supply to LG Innotek must not contain prohibited substances including RoHS Hazardous substances and for more details refer to LG Innotek's "Manual for management of hazardous substances in Product"

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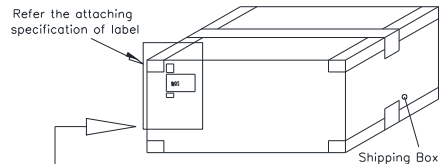
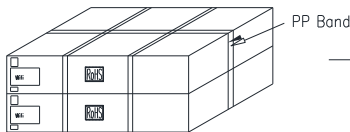
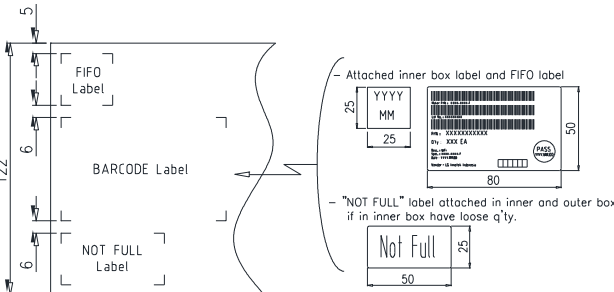


- o 1 Tray Packing Q'ty : 105EA
- o Size : W X D X H : 503 * 355 * 18.2
- o 1 Tray Packing Weight : 0.48±0.1kg (1 Module Weight : 2.62±1g)



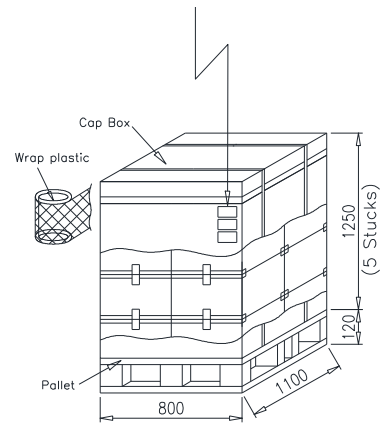
- o Inner Box Packing Q'ty : 840EA
- o 1 Inner Box Packing Weight : 4.6±0.5kg

< Attaching specification of label. >



- o Carton Box Packing Q'ty : 1,680EA
- o Size : W X D X H : 514 * 394 * 248
- o 1 Carton Box Packing Weight : 10.0±0.8kg

- Attached shipping information label



(CARTON BOX : 20EA)

- o Box Material : Corrugated Paper
- o Total Packing Q'TY : 33,600EA
- o Total Packing Weight : 215±5kg

A	RELATED P/N	THIRD ANGLE PROJECT	SCALE	UNIT	DESIGN	2016.09.23	TITLE	EXP. Packing Specification	A
			-	mm	<i>Bebey</i>	CHECKED	2016.09.23	PART NO	
					<i>Jangeun Yang.</i>	APPROVED	2016.09.23	MODEL	
					<i>Changsung Kim.</i>		DWG NO	(1/1)	

LGIT_STD A4_VER

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FCC WARNING 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

Any changes or modifications (including the antennas) to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

Note : 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.

Modifications not expressly approved by the manufacturer could void your authority to operate the equipment under FCC rules.

FCC RF Radiation Exposure Statement

This equipment complies with FCC RF Radiation exposure limits set forth for an uncontrolled environment. This device and its antenna 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 20cm between the radiator and your body.

Information for OEM integrator

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user manual of the end product.

The user manual which is provided by OEM integrators for end users must include the following information in a prominent location.

"To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter." Label for end product must include "Contains FCC ID: BEJ-WB1NB7, IC: 2703H-WB1NB7" or "A RF transmitter inside, FCC ID: BEJ-WB1NB7, IC: 2703H-WB1NB7".

IC WARNING STATEMENT

This device complies with Industry Canada licence-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'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with IC RF Radiation exposure limits set forth for an uncontrolled environment. This device and its antenna 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 20cm between the radiator and your body.

Cet équipement est conforme aux limites établies par Industrie Canada en matière d'exposition aux radiofréquences dans un environnement non contrôlé. Cet appareil et son antenne ne doivent pas être colocalisés ou fonctionner en conjonction avec tout autre antenne ou émetteur.

Cet équipement doit être installé et utilisé avec une distance minimale de 20cm entre le radiateur et votre corps.