

User Manual

PRODUCT NAME : Bluetooth 4.0 Module

MODEL NAME : WB2NB8(TWBM-C302D)

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REG. DATE : 2017. 10. 18

SPECIFICATION

REV. NO : 1.0

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1. Features

TWBM-C302D is the small size and low power module for Bluetooth 4.0.

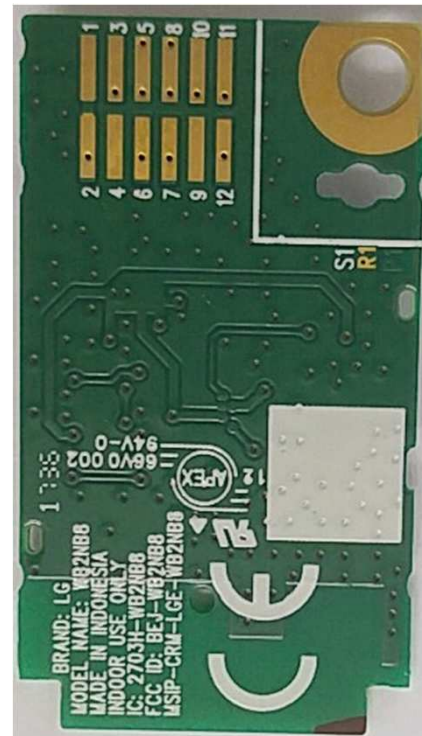
TWBM-C302D is based on Qualcomm CSR8510A10.

- Bluetooth 4.0 specification with EDR function / Class 1
- Size : 34mm x 19mm x 3.1 mm
- Internal PCB Printed Antenna
- USB 2.0 interface
- Application : DTV, DVR, HD DVD Player, Blue-ray Disk Player, STB

2. Picture of Product



< Top >



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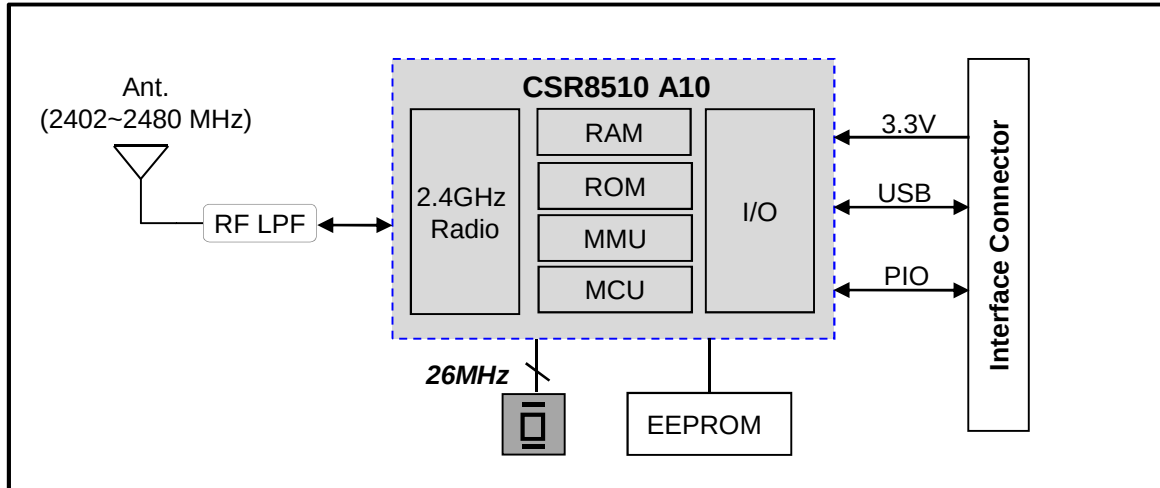
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3. Installation Manual

Install the module like below on the Sound bar



4. Block Diagram



5. Absolute Maximum Ratings

Caution : The specifications below 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.

Parameter	Min	Max	Unit
Storage Temperature	-10	+80	℃
Storage Humidity (40℃)	-	90	%

• 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℃ and 20 to 60%.

6. Operating Test Conditions

Parameter	Min	Typ	Max	Unit
Ambient Temperature	0	-	60	℃
Operating Humidity (40℃)	-	-	85	%
Supply Voltage	3.135	3.3	3.465	Vdc

7. Standard Test Conditions

The Test for electrical specification shall be performed under the following condition
Otherwise this following conditions, not guaranteed this performance.

7-1. Ambient condition

Temperature	25 ± 5℃
Humidity	65 ± 5%

7-2. Power supply voltages

Input power(VDD)	Supply Voltage
+3.3V	+3.3V ± 0.165V(5%)

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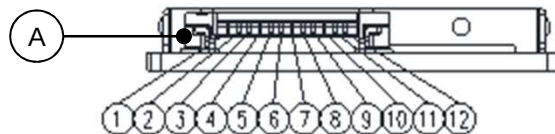
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8. Pin Description

PIN No.	Pin Name	Type	Pin Description
1	3.3VA	Input	3.3V Power Supply
2	3.3VA	Input	3.3V Power Supply
3	NC	-	-
4	GND	-	Ground
5	GND	-	Ground
6	USB+	Input / Output	USB Communication signal USB D+
7	USB-	Input / Output	USB Communication signal USB D+
8	GND	-	Ground
9	GND	-	Ground
10	RESET	Input	Bluetooth Reset
11	BT_WAKEUP	Output	Bluetooth Host Wake
12	MCU_STBY	Input / Output	MCU Standby


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)

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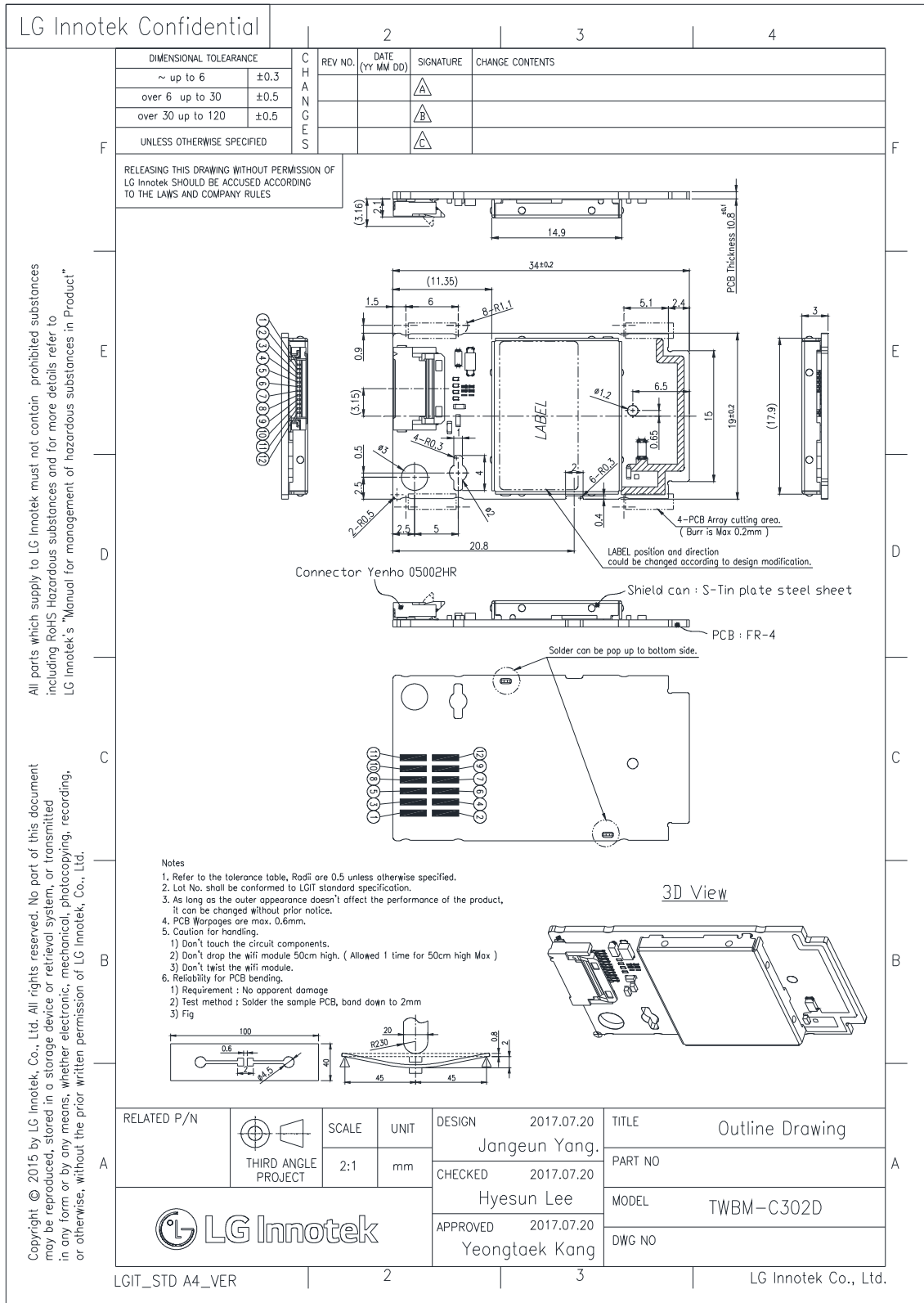
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9. Outline Drawing



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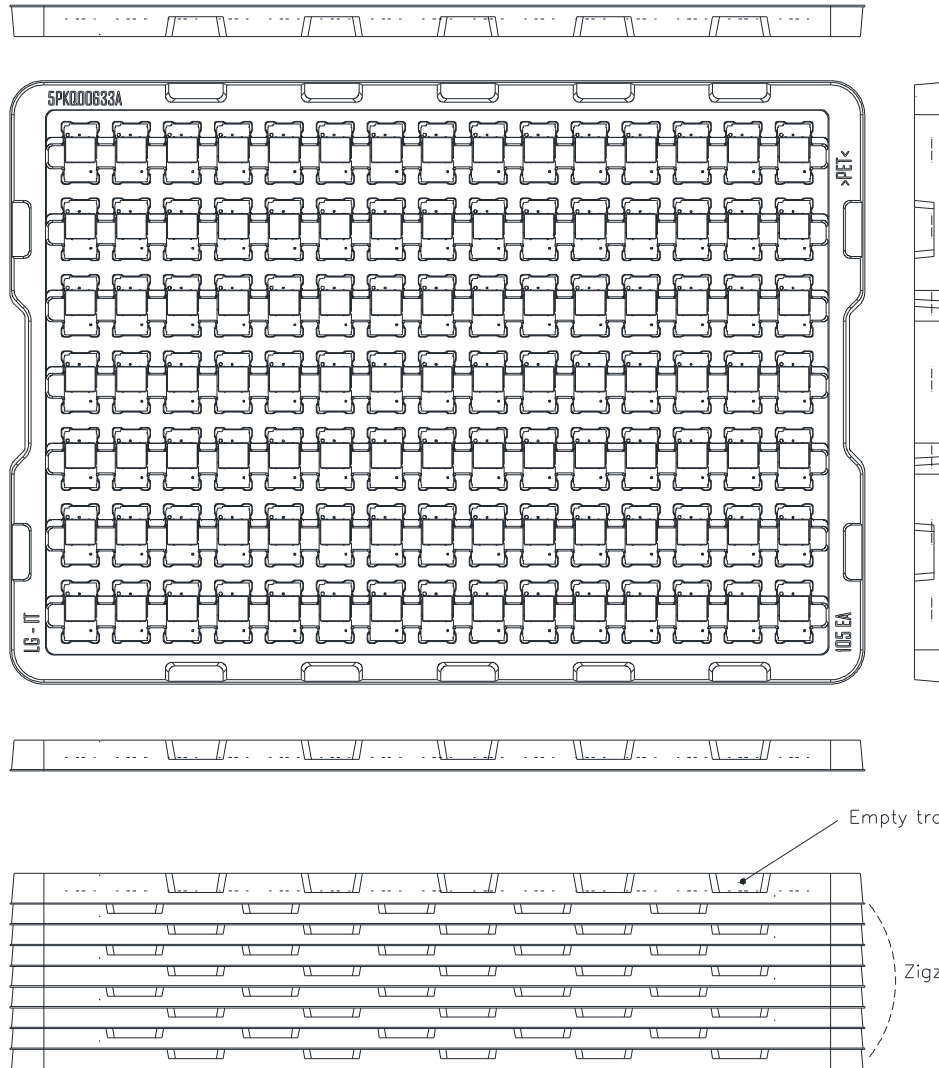
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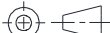
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10. Packing Information

PACKING SPECIFICATION



PART NO.		NAME		MATERIAL		SPEC.		FINISH		A4 SIZE
							UNIT mm	SCALE N/A	5PKQ00633A	
						APPD.	CHKD.	DSGD.	DRAW.	TITLE
							'14. 09. 05 Yang J. E.	'14. 09. 05 Yu K. J.	'14. 09. 05 Muhamad Wiradinata	Packing Tray
ZONE	SYMB	DATE OR NO.	APPD	CHKD	DSGD		DOCUMENT NO.	1/1		

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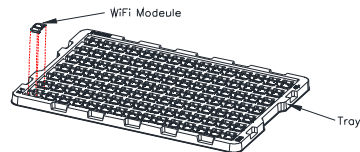
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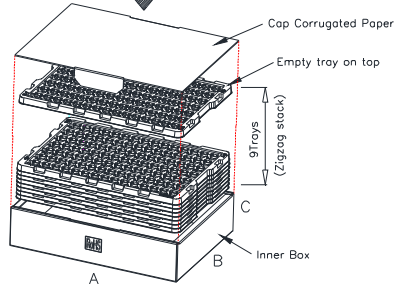
All parts which supply to LG Innotek must not contain prohibited substances including RoHS Hazardous substances and for more details refer to LG Innotek's "Manual for management of hazardous substances in Product"

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DIMENSIONAL TOLERANCE		CHANGES	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						

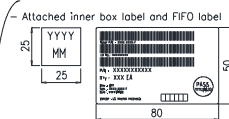
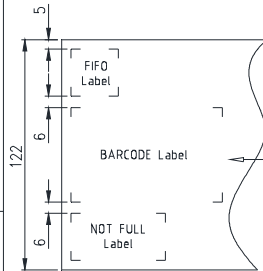


- o 1 Tray Packing Q'ty : 105EA
- o Size : W X D X H : 503 * 355 * 18.2
- o 1 Tray Packing Weight : 0.48±0.1kg
- (1 Module Weight : 2.35±1g)

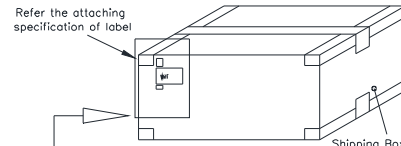
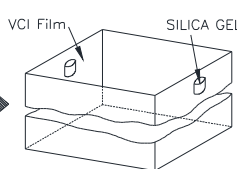
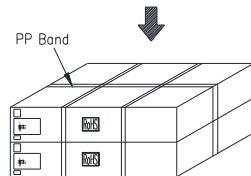


- o Inner Box Packing Q'ty : 840EA
- o A X B X C : 512 X 375 X 121.5
- o 1 Inner Box Packing Weight : 4.6±0.5kg

< Attaching specification of label. >

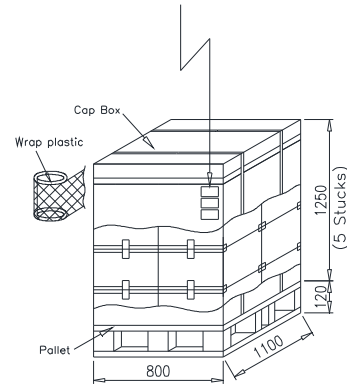


- "NOT FULL" label attached in inner and outer box if in inner box have loose q'ty.



- 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±10kg

RELATED P/N		SCALE	UNIT	DESIGN	2017.08.28	TITLE	EXP. Packing Specification
	THIRD ANGLE PROJECT	-	mm	Wira		PART NO	
				CHECKED	2017.08.28	MODEL	TWBM-C302D
				Jangeun Yang.		DWG NO	(1/1)
				APPROVED	2017.08.28		
				Yeong taek Kang.			

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-WB2NB8, IC: 2703H-WB2NB8" or "A RF transmitter inside, FCC ID: BEJ-WB2NB8, IC: 2703H-WB2NB8".

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.