

User Manual

PRODUCT NAME : Wireless audio Module

MODEL NAME : WL1NB6(TWBI-H002D)

The information contained herein is the exclusive property of LG Innotek and shall not be distributed, reproduced or disclosed in whole or no in part without prior written permission of LG Innotek.

Table of Contents

No.	Description	Page
1	Features	2
2	Module Photo	2
3	Block Diagram	3
4	Storage Conditions	4
5	Operating Conditions	4
6	Interface Specification	5
7	Pin Description	6
8	Outline Drawing	7
9	Packing Information	8

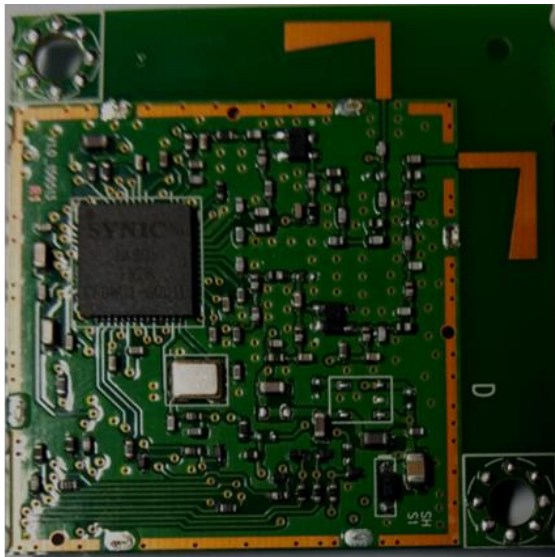
1. Features

TWBI-H002D is the small size and low power module for Wireless Audio.

TWBI-H002D is based on Syncomm IA9Q.

- 5.2/5.8GHz GFSK Modulation
- Size : 35mm x 35mm x 5.03 mm
- Internal PCB Printed Antenna
- I2S digital audio interface
- I2C control with external device
- Low audio delay time < 20ms
- Application : Wireless Speaker, Woofer, TV Theater

2. Module Photo

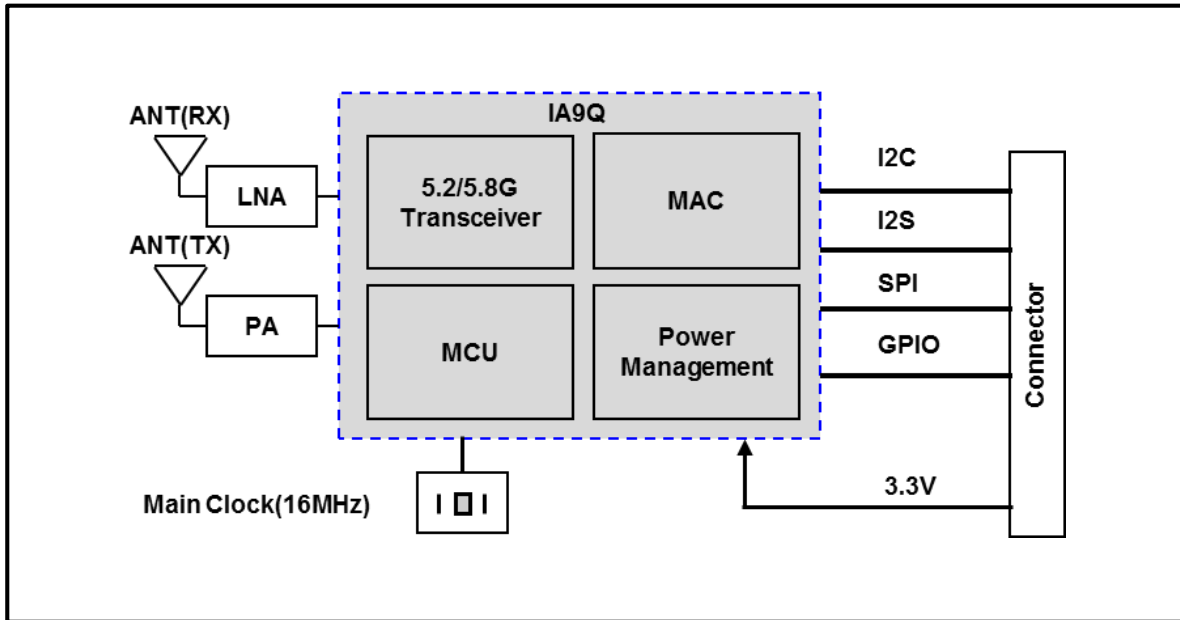


< TOP View >



< Bottom View >

3. Block Diagram



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.

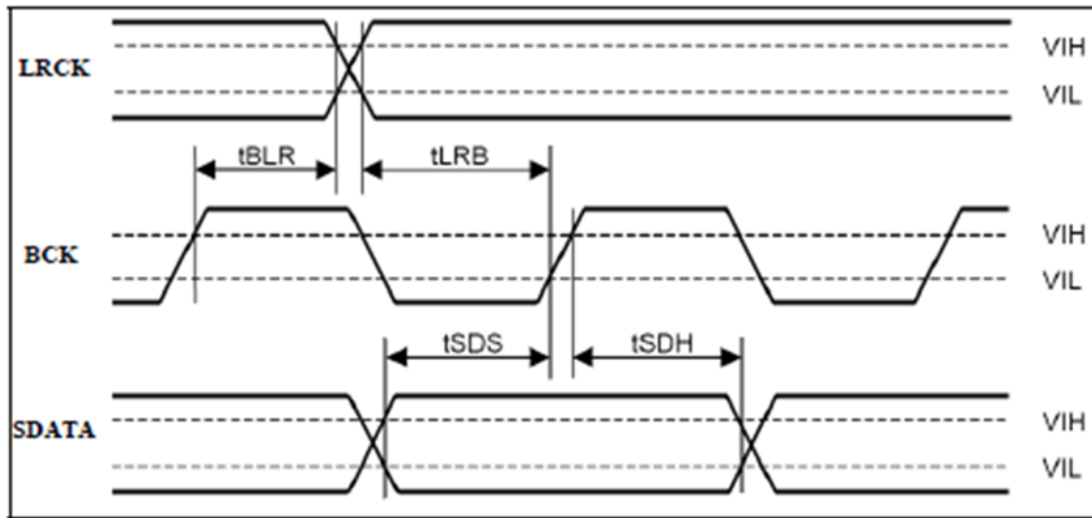
- Other conditions
 - 1) Do not use or store modules in the corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are contained.
Also, avoid exposure to moisture.
 - 2) Store the modules where the temperature and relative humidity do not exceed 5 to 40 °C and 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

1) I2S Timing

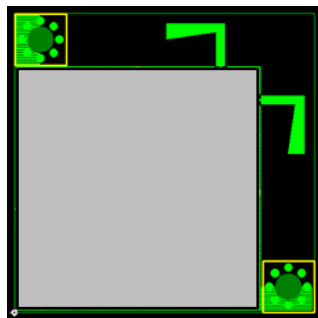


Symbol	Parameter	Min	Typ	Max	Unit
t_{BLR}	BCK rising to LRCK edge	60			ns
t_{LRB}	LRCK edge to BCK rise	60			ns
t_{SDS}	SDATA setup time	60			ns
t_{SDH}	SDATA hold time	60			ns

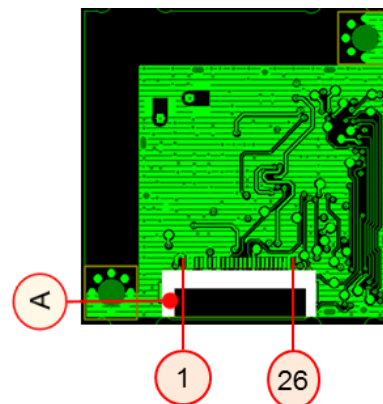
7. Pin Description

Pin No.	Pin Name	I/O	Pin Description	Pin No.	Pin Name	I/O	Pin Description
1	VCCIO	PWR	VCC supply	14	SPI_CLK	I/O	Clock pin of SPI interface
2	GND	GND	Ground	15	SPI_CS	I/O	Chip select pin of SPI interface
3	GND	GND	Ground	16	SPI_WP	I/O	Write protect pin of SPI interface, low active
4	BLUE_LED	I/O	GPIO	17	RESET	I	Reset pin, low active
5	RED_LED	I/O	GPIO	18	P_SENSE	I/O	GPIO
6	GND	GND	Ground	19	P_CTL	I/O	GPIO
7	NC	I/O	Not connect	20	PWM_RST	I/O	GPIO
8	I2S_DATA	I/O	Data pin of I2S signal	21	AMP_PDN	I/O	GPIO
9	GND	GND	Ground	22	AMP_SD	I/O	GPIO
10	I2C_CLK	I/O	Clock pin of I2C control signal	23	PARING_SW	I/O	GPIO
11	I2C_DATA	I/O	Data pin of I2C control signal	24	I2S_BCK	I/O	BCK pin of I2S signal
12	SPI_DI	I/O	Data input pin of SPI interface	25	GND	GND	Ground
13	SPI_DO	I/O	Data out pin of SPI interface	26	I2S_LRCK	I/O	LRCK pin of I2S

< TOP View >



< Bottom View >



Note.

- 1) Recommend a Module install sequence for prevent operation failure
- Supply 3.3V power

(A)

- 2) Connector: 26Pin SMD Connector

8. Outline Drawing

LG Innotek
Internal Use Only

3D View(1:1)

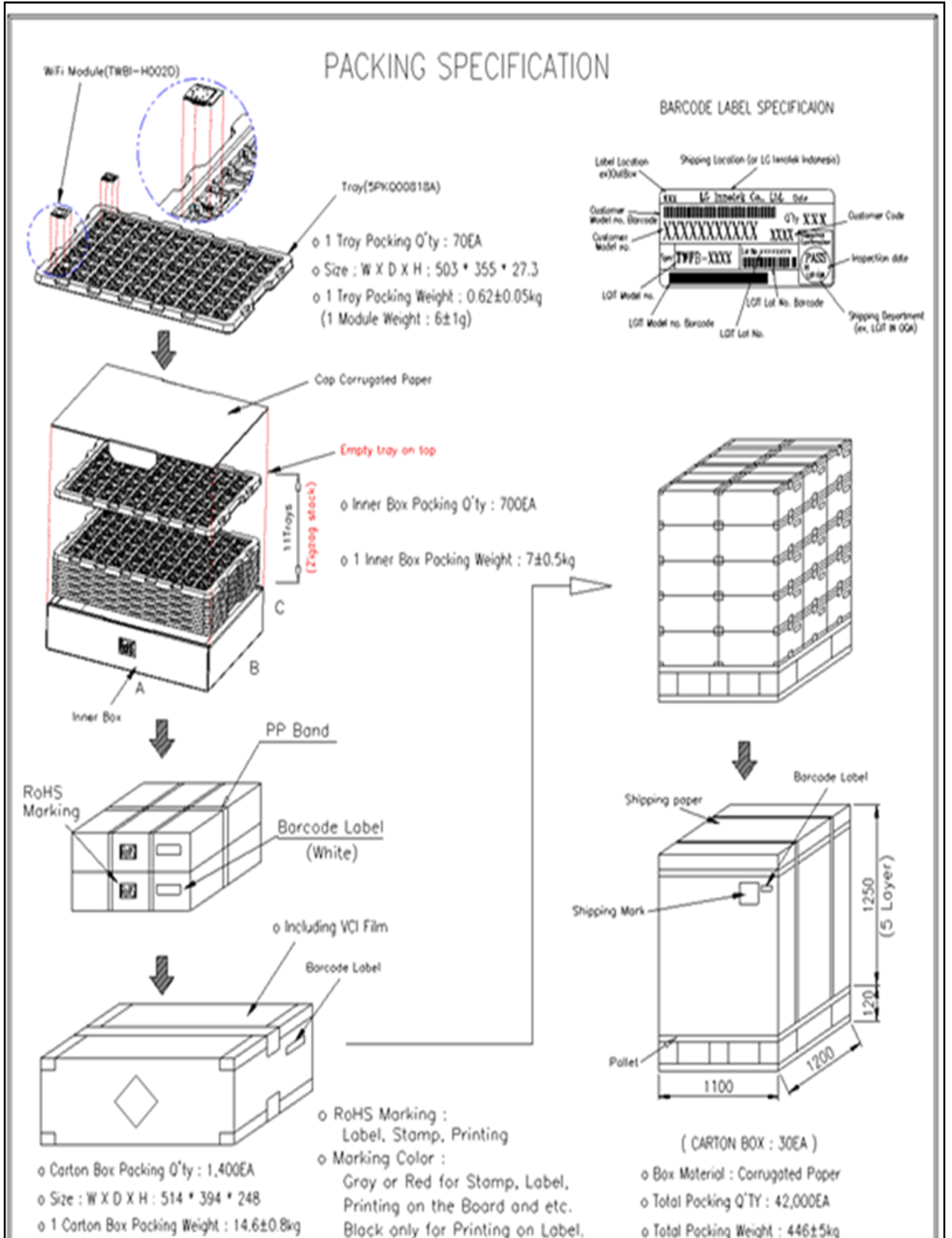
Notes

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 effect the performance of the product, it can be changed without prior notice.
4. [XXX] these dimensions inside of the square are cutting area.

	<p>THIRD ANGLE PROJECT</p>	<p>SCALE</p> <p>3 : 2</p>	<p>UNIT</p> <p>mm</p>						
	<p>APPROVED</p> <p>15.06.10</p> <p>HS Kuk</p>	<p>DRAWN</p> <p>15.06.10</p> <p>KJ Yu</p>	<p>CHECKED</p>	<p>ITEM NO</p> <p>TWBI-H002D</p>	<p>MATERIAL</p>	<p>FINISH</p>	<p>RoHS/RE/PF</p>	<p>NOTE</p>	<p>Outline Drawing</p>
				<p>DMG NO</p> <p>1/1</p>					

Copyright © 2015 by LG Innotek Co., Ltd. All rights reserved.
No part of this document may be reproduced, stored in a storage device or retrieval system, or transmitted in any form or by any means, whether electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of LG Innotek Co., Ltd.

9. Packing Information



Annex I

ANATEL Label

