

Sample size : WH-L1 Base

Substrate size	50mm x 87mm/PCB t=1.0mm
weight	40g (TBD)
Operating temperature range	0°C~45°C
Storage temperature range	-10°C~55°C
Signal connector	JST PH port 9Pin
reveal	Pairing LED (orange)/Power LED (red) not yet in mass production

User interface	Band selector DIP Switch (For shop use)
Radio department	2.4 GHz Hopping/TDMA/FSK modulation
Radio frequency output bandwidth	+16.5 dBm (TYP) 2400MHz to 2480 MHz
Stable access distance	3m
I2S input	48KHz 16position BCLK/LRCK/DATA 3.3V
Analog input	ADC 0dBFS=1.68 Vrms/2passage
Voice transmission	Uncompressed 48KHz 16-bit
Supply voltage	12VDC (11.5 V to 12.5 V)
Current consumption	50 mA (TBD)
Radio authentication	Japan /USA/CANADA/EU/ UK /UZ/NZ
ESD tolerance	Contact ± 4 KV/ air soil 8KV

Audio specification: WH-L1 Base

SNR : 86dB (TYP) I2S Mode
THD+N : 0.06% (TYP) I2S Mode
Pass band : 12.0Hz (-3.0dB) I2S Mode
 : 17.0KHz (-3.0dB) I2S Mode

Outside view

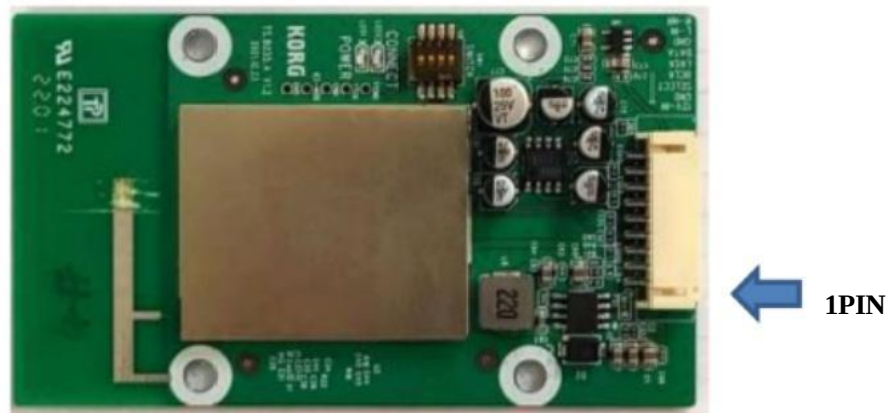


Figure 1-1 ; Basic appearance drawing

Operation instruction

When a 12VDC power supply is provided, the indicator (red) is on. After connecting to the Headphone, the indicator (orange) lights up.

DIP switch Settings with selection (switch in power off state)

General user Settings	0000
Exhibition (Store Setup 1)	1000
Exhibition (Store Setup 2)	0100
Exhibition (Store Setup 3)	0010

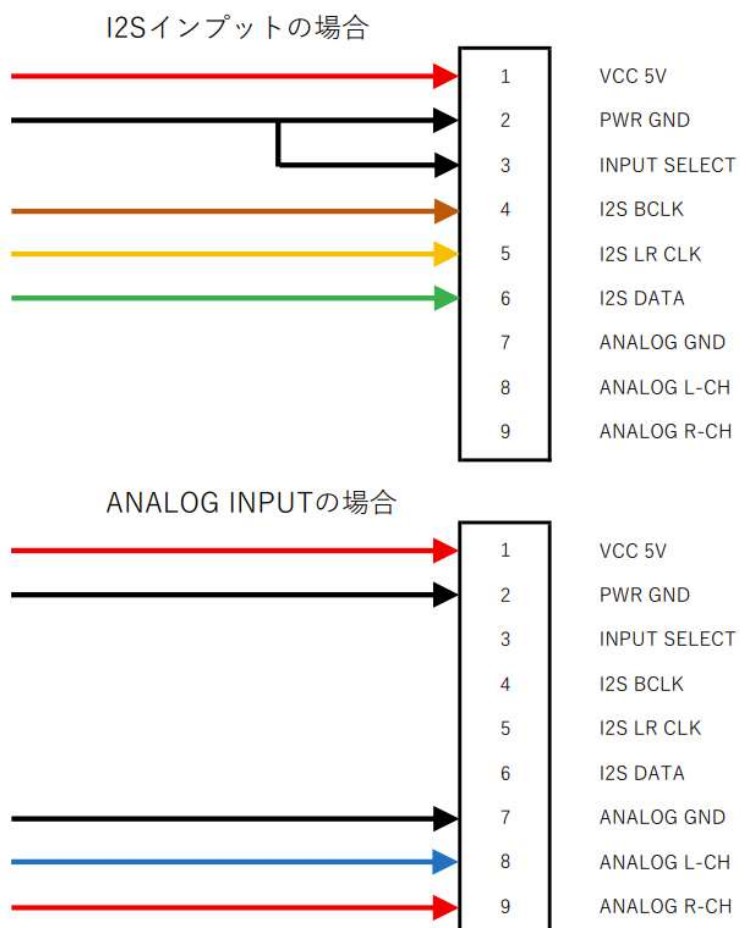
Note: In general sales, the shipment must be set at 0000.

Power/signal connection connector

The connector uses S9B-PH-SM4-TB produced by JST in Japan. The pin configuration is as follows.

Switching between I2S and analog inputs is determined automatically with 3 pins.

(3PIN HI=ANALOG INPUT/LOW=I2S INPUT. PULL UP inside the substrate completed)



Check content during manufacturing

1. Confirm the internal voltage and current consumption
- 2, RF frequency calibration
- 3, RF TX POWER measurement
- 4, RF RX receiving sensitivity measurement
- 5, LED light confirmation
6. DIP SW action confirmation
- 7, analog input performance confirmation (SNR/THD/LR LEVEL)
- 8, I2S input performance confirmation (SNR/THD/LRLEVEL)
- 9, appearance check 1, internal voltage, current consumption confirmation
- 2, RF frequency calibration
- 3, RF TX POWER measurement
- 4, RF RX receiving sensitivity measurement
- 5, LED light confirmation
6. DIP SW action confirmation
- 7, analog input performance confirmation (SNR/THD/LR LEVEL)
- 8, I2S input performance confirmation (SNR/THD/LRLEVEL)
9. Appearance inspection

After final appearance inspection, packaging is carried out.

When the Base board is mounted on the piano

WH-L1 BASE does not have a plastic shell, and the baseboard and components are exposed, so it is very easy to electrostatic breakdown when electrostatic discharge flies directly to IC and other places. When installing to the piano, the worker handling the substrate should ensure that ESD measures are implemented.

Wireless stability

Since it is wireless communication, it is inevitable that communication will be interrupted due to interference. In addition, the 2.4GHz band is used by devices as diverse as microwave ovens, Wi-Fi, Bluetooth, codeless phones, and more. In the event of interference, only keep your distance from those devices.

FCC STATEMENT

1. 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.

2. Changes or modifications not expressly approved by the party responsible for compliance could 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.

Please notice that if the FCC identification number is 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. This exterior label can use wording such as the following: "Contains FCC ID: KIJ-WHL1B" any similar wording that expresses the same meaning may be used.

The module is limited to OEM installation ONLY.

The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module.

The module is limited to installation in mobile application.

A separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and difference antenna configurations. There is requirement that the grantee provide guidance to the host manufacturer for compliance with Part 15B requirements.

The module complies with FCC Part 15.247 and apply for Single module approval.

IC warning

- English:

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(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.

FCC/ IC Radiation Exposure Statement

This equipment complies with FCC and IC 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. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This radio transmitter [IC: 8689A-WHL1B] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Please notice that if the ISED certification number is 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. This exterior label can use wording such as the following: "Contains IC: 8689A-WHL1B" any similar wording that expresses the same meaning may be used.

The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits as appropriate.

- French:

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences et Développement économique Canada. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radio électrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."

FCC/ IC Déclaration d'exposition aux rayonnements

Cet appareil est conforme à FCC et IC l'exposition aux rayonnements limites fixées pour un environnement non contrôlé. Cet appareil doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps. Cet transmetteur ne doit pas être co-situé ou opérant en liaison avec toute autre antenne ou transmetteur. Cet émetteur ne doit pas être localisé ou fonctionner en conjonction avec une autre antenne ou un autre émetteur.

Cet émetteur radio [IC: 8689A-WHL1B] a été approuvé par Innovation, Science et économique Développement Canada pour fonctionner avec les types d'antennes énumérés ci-dessous, avec le gain maximum autorisé Indiqué. Les types d'antennes non inclus dans cette liste qui ont un gain supérieur au gain maximum indiqué pour tout type listé sont strictement interdits pour une utilisation avec cet appareil.

l'appareil hôte doit porter une étiquette donnant le numéro de certification du module d'Industrie Canada, précédé des mots « Contient un module d'émission », du mot « IC: 8689A-WHL1B » ou d'une formulation similaire exprimant le même sens, comme suit

Les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux; pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5 725 à 5 850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée, selon le cas.