

## BT module

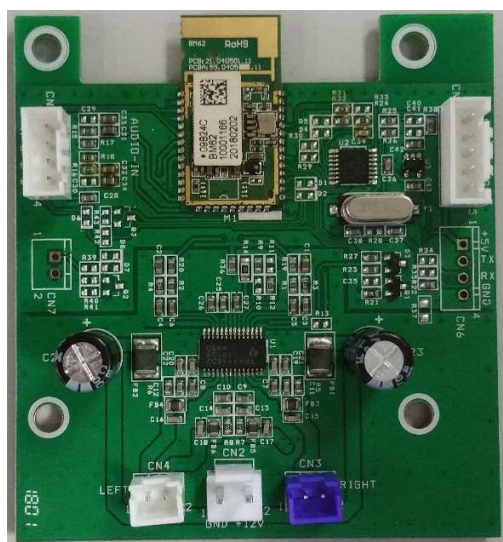
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### Overview

OS-888 is a bluetooth module applied for OSIM Massage chair. This board will be mounted on the side of the Chair. A host device (eg. Android or IOS device) is used to connect and communicate.

\* ESD solutions have to be implemented at the front ends (eg. line-in socket) exposed to ESD generated by consumers.

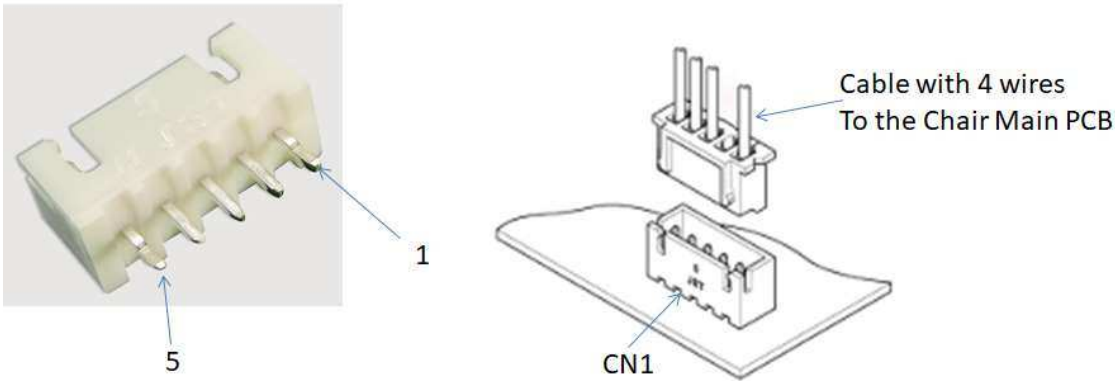
**CAUTION:** Wear proper Electrostatic Grounding Equipment when handling and installing/removing PCBA.



Top View

# Technical Specifications

| CN1 [JST B5B-XH-A] – Top-entry 5 Positions Header, Shrouded Connector, (2.50mm) Through Hole. |     |                                                        |
|-----------------------------------------------------------------------------------------------|-----|--------------------------------------------------------|
| CN1-1                                                                                         | PWR |                                                        |
| CN1-2                                                                                         | NC  | No Connection                                          |
| CN1-3                                                                                         | TX  | UART Data Out [ +3.3V based TTL level ] [To Main PCB]  |
| CN1-4                                                                                         | RX  | UART Data In [ +3.3V based TTL level ] [From Main PCB] |
| CN1-5                                                                                         | GND | Power Supply Return                                    |



| <b>CN3</b> [JST B2B-XH-A] – Top-entry 2Positions Header, Shrouded Connector, (2.50mm) Through Hole. (Purple) |        |                                      |
|--------------------------------------------------------------------------------------------------------------|--------|--------------------------------------|
| CN3-1                                                                                                        | Spkr+  | Right Channel, Audio Output Positive |
| CN3-2                                                                                                        | Spkr - | Right Channel, Audio Output Negative |

| <b>CN4</b> [JST B2B-XH-A] – Top-entry 2Positions Header, Shrouded Connector, (2.50mm) Through Hole. (White) |        |                                     |
|-------------------------------------------------------------------------------------------------------------|--------|-------------------------------------|
| CN4-1                                                                                                       | Spkr+  | Left Channel, Audio Output Positive |
| CN4-2                                                                                                       | Spkr - | Left Channel, Audio Output Negative |



To the Speaker connections on the Chair

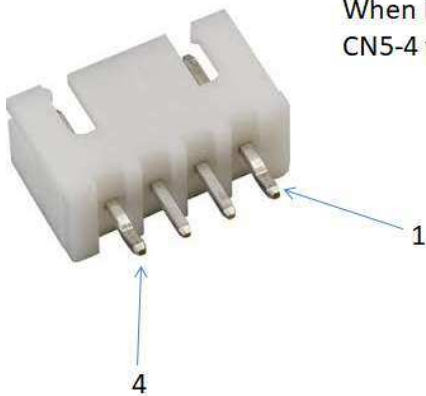
Left



Right



| <b>CN5</b> [JST B4B-XH-A] – Top-entry 4 Positions Header, Shrouded Connector, (2.50mm) Through Hole. |        |                        |
|------------------------------------------------------------------------------------------------------|--------|------------------------|
| CN5-1                                                                                                | Right  | Audio Line –in , Right |
| CN5-2                                                                                                | Gnd    | Audio Common           |
| CN5-3                                                                                                | Left   | Audio Line-in, Left    |
| CN5-4                                                                                                | Detect | Line-in detect         |



When Line-in jack is inserted to the socket,  
CN5-4 will be connected to CN5-2.

Line-In 3.5mm Socket  
(4 connectors)  
Mounted on Chair

**CN5**

R 1  
G 2  
L 3  
D 4

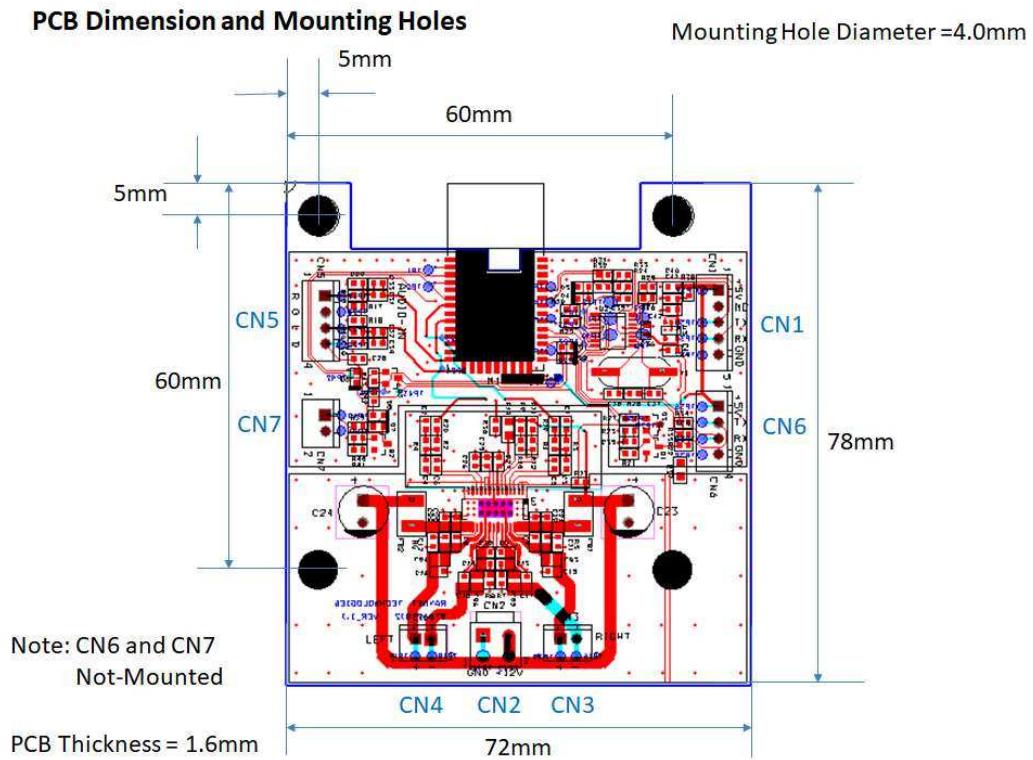
| Schematic |        |
|-----------|--------|
|           |        |
| PIN       |        |
| 1         | sleeve |
| 2         | tip    |
| 3         | ring 1 |
| 4         | ring 2 |

| Bluetooth Specifications |                        |             |
|--------------------------|------------------------|-------------|
| Bluetooth (BR/EDR)       |                        |             |
| Power class              | Class 2                |             |
| Frequency Spectrum       | 2.402 GHz to 2.480 GHz |             |
| Peak antenna gain        | 0 dBi                  | PCB antenna |
| Profiles                 | A2DP, SPP              |             |
|                          |                        |             |
| Range                    | 10 meters              |             |

| UART Specifications |             |  |
|---------------------|-------------|--|
| Interface           | RS232       |  |
| Baud Rate           | 38400 [BPS] |  |
| Start Bit           | 1 [BIT]     |  |
| Data Length         | 8 [BIT]     |  |
| Parity Bit          | None        |  |
| Stop Bit            | 1 [BIT]     |  |
| Data I/O Level      | 3.3V TTL    |  |

| Audio Specifications |                               |                                                          |
|----------------------|-------------------------------|----------------------------------------------------------|
| Audio Source         | Bluetooth Wireless or Line-in | Bluetooth Wireless cut off when Line-in plug is inserted |
| No. of Channels      | 2                             | Bridge-Tied Load (BTL) Stereo                            |
| Load Impedance       | 8 $\Omega$                    |                                                          |
| Output Power         | 7 W per channel               | 9 W at 10% THD+N                                         |
| EQ                   | 5 Band                        | Pre-set or customised                                    |
| 3dB bandwidth        | 20KHz                         |                                                          |

## PCB Dimension



- PCBA size (+/- 1mm)
- Mounting hole positions and dimensions (+/- 0.1mm)
- PCB Thickness = 1.6mm
- FR4, 2-layer, 1/1 OZ finished, HASL

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.

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

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.

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.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique 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;
- 2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This device is intended for OEM integrators only. Please see the full grant of equipment document for restrictions.

If this certified module is installed inside the host device, then the outside of the host must be labeled with "Contains FCC ID: ARG-OS-888 and IC: 10142A-OS888".