

## Oticon Radio Model - Quick Installation Guide

### Radio Model Name: Audio Streaming Module

The Audio Streaming Module is an accessory board completely equipped with both a microcontroller host and two radio systems on board the same Printed-Circuit-Board (PCB). Besides the host and the radio systems the module also includes a Digital-Signaling-Processor (DSP), an audio codec, a power management circuit, flash memory, a tele coil and small discrete components.

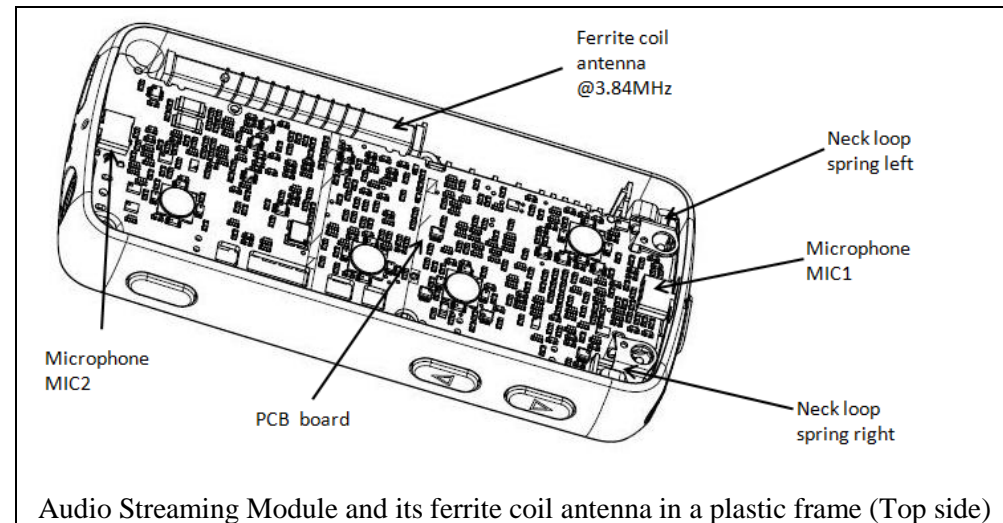
The two radio systems are

- a low power, inductive radio transmitter working at 3.84 MHz (including no active receiver) and
- a 2.4GHz radio transceiver, which is intended both for proprietary use and compatible with Bluetooth enabled wireless accessories, such as wireless headsets and mobile phones.

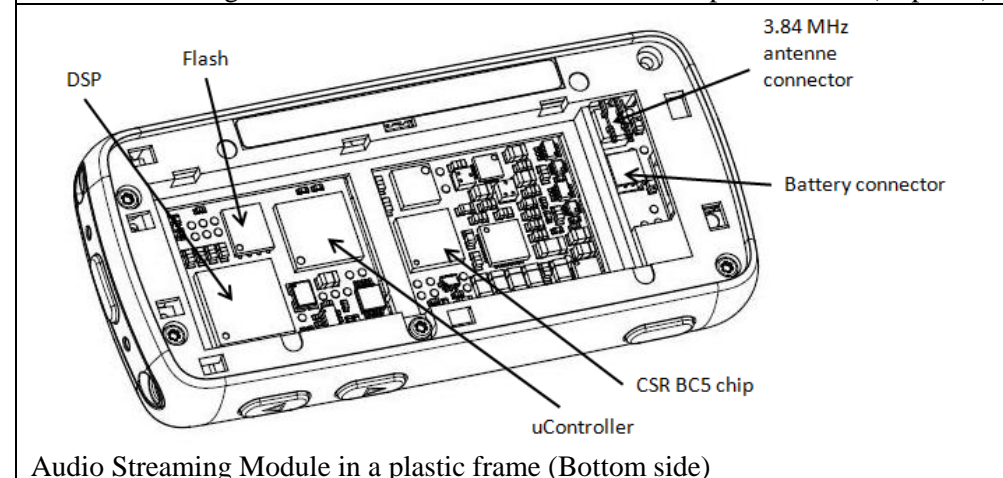
The low power, inductive radio transmitter is consisting of a Complex Programmable Logic Device (CPLD) fed with data from the host, an RC clock oscillator and two H-bridges feeding the modulated RF signal at 3.84MHz to a dedicated ferrite coil antenna (its connector can be seen in the bottom side drawing to the right). The CPLD can also transmit the RF signal via an external and dedicated neck loop antenna in stead of the internal coil antenna. (The neck loop is attached through two holes in the plastic frame to dedicated springs on the PCB, which can be seen in the top side drawing to the right).

The 2.4 GHz transceiver is consisting of a completely integrated radio transmitter and receiver inside a Bluetooth chip from Cambridge Silicon Radio (CSR). The BT chip feeds its RF signal to a dedicated PCB antenna onboard (see drawings next page). The Bluetooth chip is controlled by the  $\mu$ controller host, and audio data between the two chips is handled by the DSP.

The module mounted with its dedicated ferrite coil antenna in a plastic frame is depicted to the right:



Audio Streaming Module and its ferrite coil antenna in a plastic frame (Top side)



Audio Streaming Module in a plastic frame (Bottom side)

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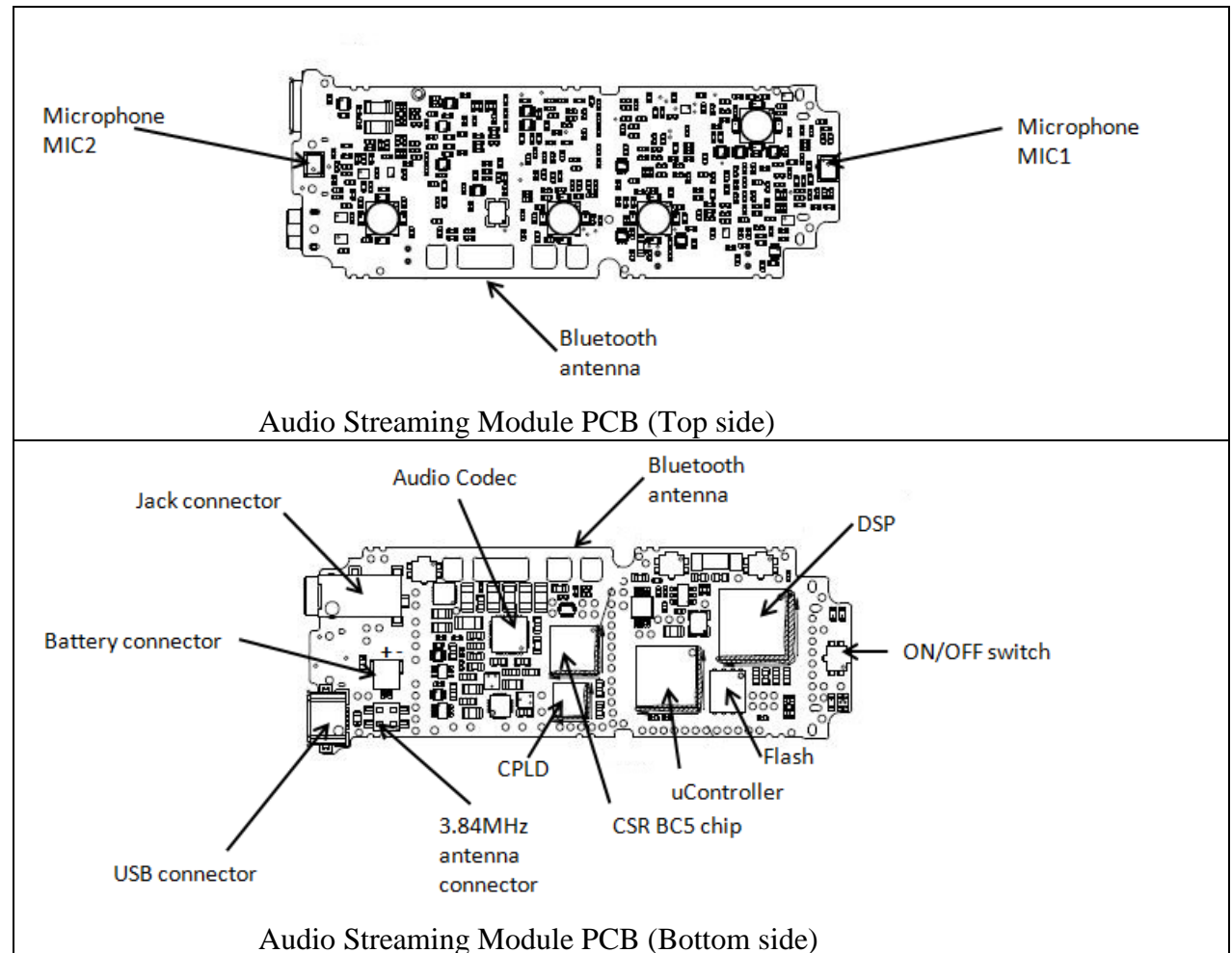
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The Audio Streaming Module with all its mounted components is intended to be installed as a module into Oticons wireless accessory devices, commonly referred to as the ConnectLine products (e.g. the Streamer Pro).

The module requires only a battery to be mounted together with its ferrite coil antenna in an external plastic shell (as shown on the previous page). The two microphones of the module are mounted onboard its PCB and the module requires no speaker as all sound is streamed wirelessly to any connected devices (e.g. Oticons wireless hearing aids and/or mobile phones).

The module has its power management subsystem including all voltage regulators and the charging circuit on board. Also all data interfaces (input-output) on the board are buffered.

The module PCB is depicted to the right with its main components and connections:



## Oticon Radio Model - Regulatory Label Information

**Radio Model Name: Audio Streaming Module**

**Contains: FCC ID: U28CL2STRM**  
**IC: 1350B-CL2STRM**

### **NOTICE:**

This device complies with Part 15 of the FCC Rules and with the license exempt standard RSS-210 of Industry Canada.

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 made to this equipment not expressly approved by Oticon A/S may void the FCC authorization to operate this equipment.

*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'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*