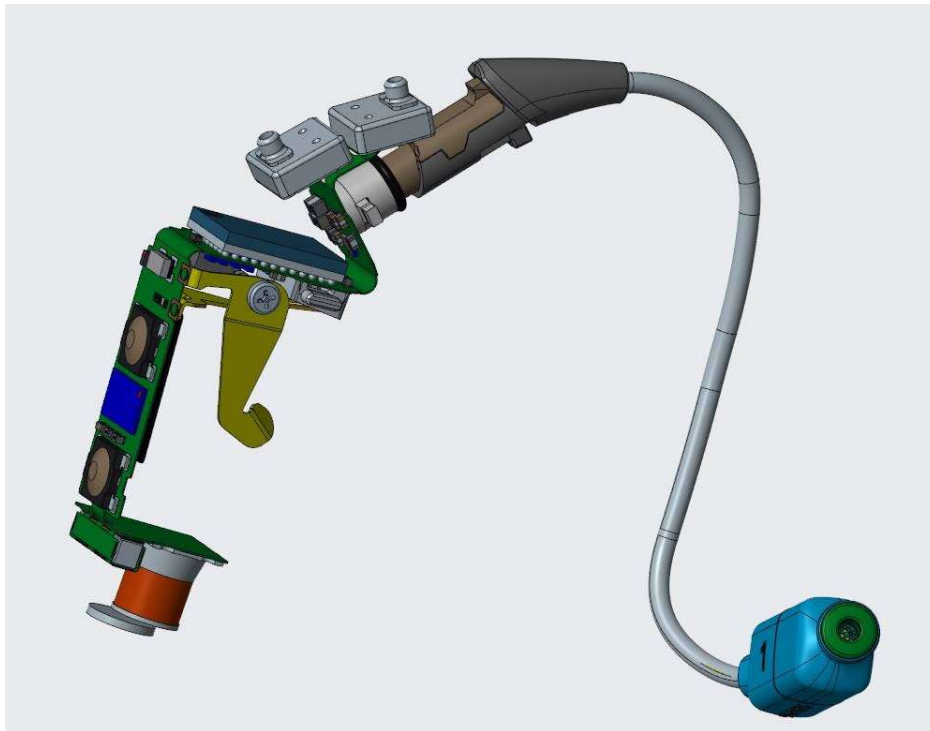


# SBO Hearing A/S

## Radio Model - Quick Installation Guide

Radio Model Name: DA\_AU5\_MNR\_R



**Aurora5 miniRITE T R Radio Model – 3D overview**

The Aurora5 miniRITE T R radio model (DA\_AU5\_MNR\_R) contains two radio transceivers running at 3.84 MHz and 2.4 GHz and both implemented on a single hardware platform.

Additionally, a full featured RFID tag (IC5) operating at 865 MHz – 928 MHz with internal antenna has been glued onto the PCB. The RFID tag has no electrical connections related to the Aurora5 miniRITE T R radio module.

The radio model is implemented in an engine module mounted on the main PCB with connection to the antennas, telecoil, the microphones, the speaker and the battery terminals. The radio model can be seen in 3D overview to the left.

The 3.84 MHz radio is a low power, short range inductive radio transceiver (NFMI – Near Field magnetic Induction) working at a single channel at 3.84 MHz using MSK modulation with 320 kbit/s data rate and connected to a small coil antenna.

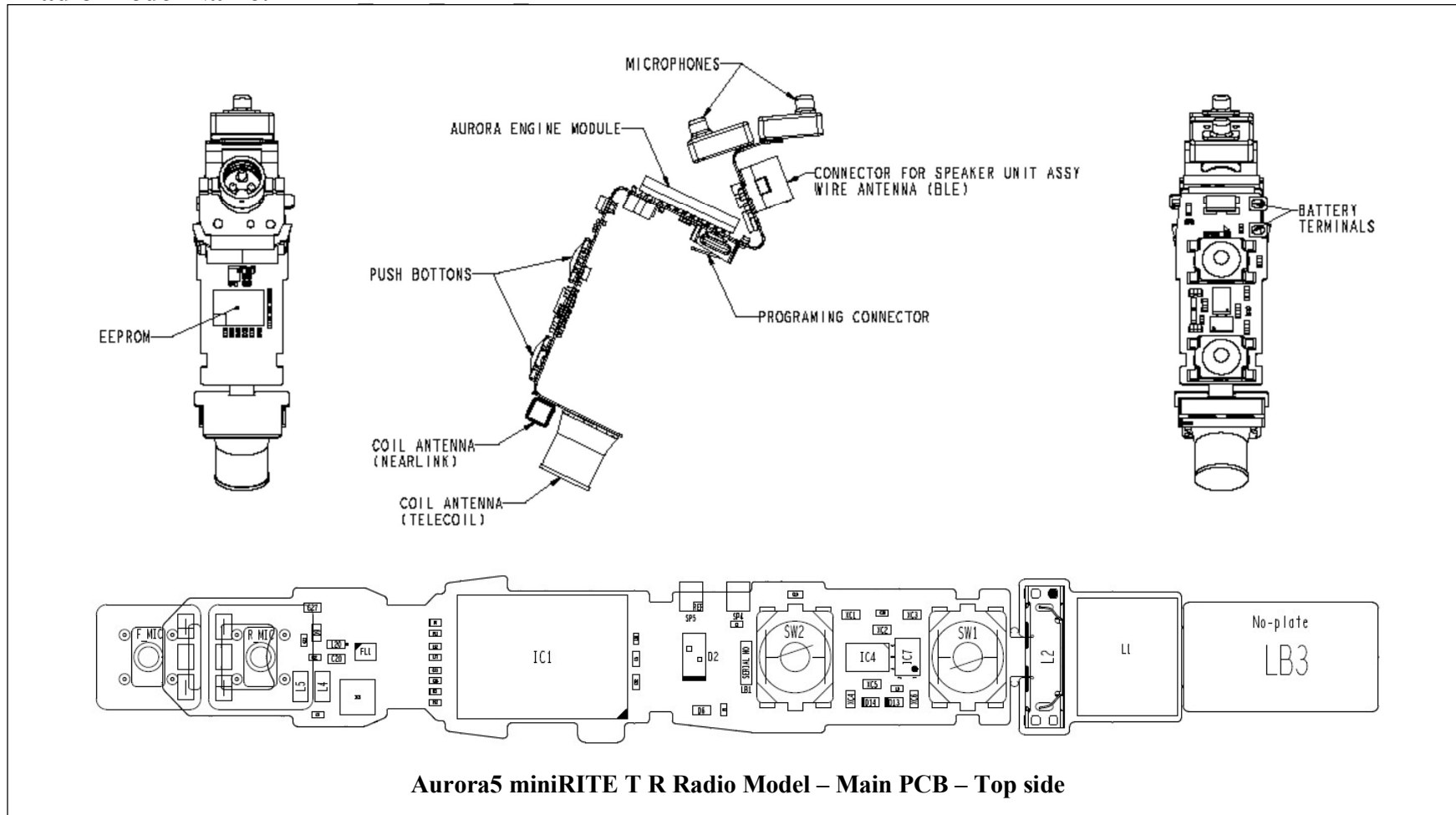
The 2.4 GHz radio is a Bluetooth Low Energy (BLE core 5.0) transceiver using GFSK/2FSK modulation with 1 Mbit/s, 2 Mbit/s data rate also capable of proprietary reception modes (xBLE) with higher data rates (2 Mbit/s, 4 Mbit/s) using 2FSK/4FSK modulation. The 2.4 GHz radio is connected to a short wire antenna with a proprietary antenna connector.

Below the main flex PCB of the Aurora5 miniRITE T R radio model with the most important electrical and electro-mechanical components can be seen:

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## Radio Model - Quick Installation Guide

Radio Model Name: DA AU5 MNR R



The most important part of the radio model is the Engine Module (IC1) mounted on the main flex PCB, which connects it to both the EEPROM memory and all

## Radio Model - Quick Installation Guide

### Radio Model Name: DA\_AU5\_MNR\_R

external connections: On the top side these are the microphones, the battery terminals and the push button and coil antenna for the 3.84 MHz radio (L2). The telecoil (L1) is also used for wireless battery charging.

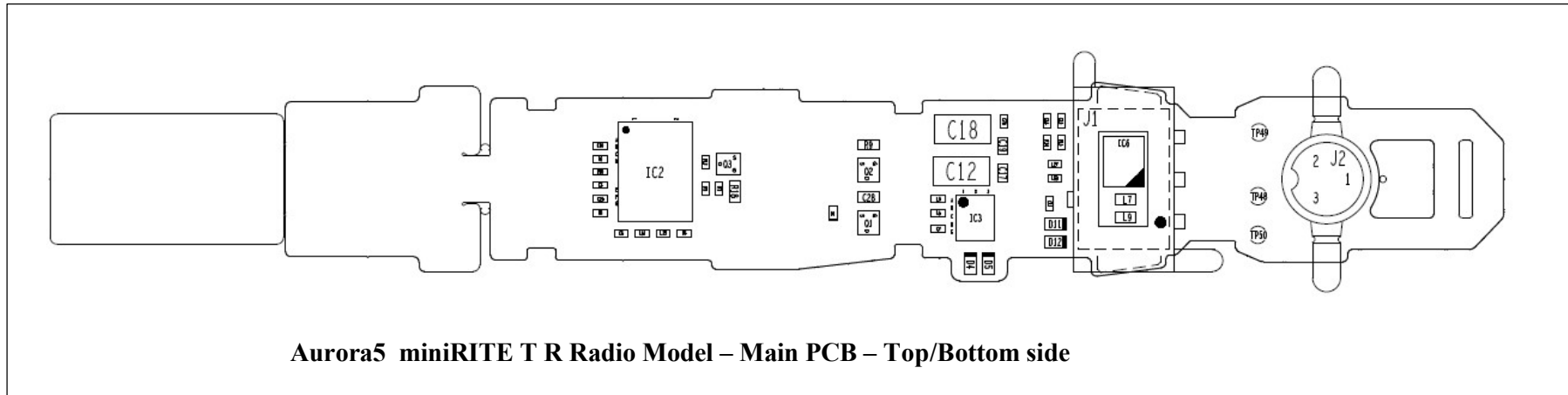
The Aurora5 miniRITE T R radio model requires only a single cell battery and an external speaker (also incl. the wire antenna for the Bluetooth radio part) to be attached and plastic shells, defining the industrial design of a hearing aid end product and holding everything together, in order to be operational.

# SBO Hearing A/S

## Radio Model - Quick Installation Guide

**Radio Model Name: DA\_AU5\_MNR\_R**

On the bottom side of the main PCB of the Aurora5 miniRITE T R radio model the connector for the speaker unit assembly (where the wire antenna for the Bluetooth radio is an integrated part), the programming connector, EEPROM memory can be seen:



**Aurora5 miniRITE T R Radio Model – Main PCB – Top/Bottom side**

The most important parts inside the Engine module are a Digital-Signal-Processor (DSP), a radio Front-End (FE) chip for the 3.84 MHz radio part and an RF chip for the Bluetooth radio part – all mounted on a small rigid PCB again mounted on the main flex PCB. The Aurora5 miniRITE T R radio model also includes all voltage regulators and buffered data programming inputs on board. The DSP is the main processor controlling the functionality of both radios in the Aurora5 miniRITE T R radio model.

The Aurora5 miniRITE T R radio model is intended to be installed in Oticon, Bernafon, Sonic, Philips and affiliated private labels wireless hearing aid devices of the miniRITE T R (Receiver-In-The-Ear) wearing style.

# SBO Hearing A/S

## Radio Model - Regulatory Label Information for USA & Canada

**Radio Model Name:** DA\_AU5\_MNR\_R

**Contains:**      **FCC ID:**      2ACAHAU5MRTRC  
   **IC:**                      11936A-AU5MRTRC

### NOTICE:

This device complies with Part 15, Part 15.223, Part 15.247 of the FCC Rules and with RSS-210 and RSS-247 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 SBO Hearing 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.*

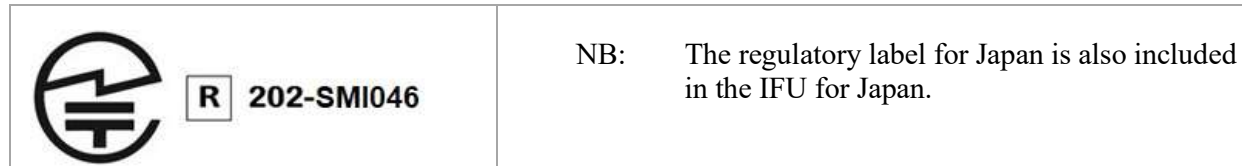
# SBO Hearing A/S

## Radio Model - Regulatory Label Information for Japan

**Radio Model Name:** DA\_AU5\_MNR\_R

**Description:** Radio module with 2.4 GHz low power transceiver to be integrated into various hearing instruments and associated devices.

**Regulatory label:**



This device is granted pursuant to the Japanese Radio Law (電波法) and the Japanese Telecommunications Business Law (電気通信事業法) under the grant ID n° 認証番号: 202- SMI046

This device should not be modified (otherwise the granted designation number will become invalid)  
本製品の改造は禁止されています。(適合証明番号などが無効となります。)

NB: The regulatory label is not shown on the radio module itself or any end products with it, since they are too small for the label to be readable without any optical aids or magnification. Below the radio module is shown, indicating a size of about 6.5x11x28 mm.

