

# MSA Sordin Bluetooth products description

## 1 Introduction

This document is issued for the Type Approval process, for the different authorities to get a better understanding of the (technical) functions of the Sordin Bluetooth headsets.

Datasheet for the WW Headset and the WW CutOff models is found in the following link:

[http://www.sordin.se/upl\\_media/Broschyr%20Wireless%20World\\_GB.pdf](http://www.sordin.se/upl_media/Broschyr%20Wireless%20World_GB.pdf)

Information about the WW Supreme model with Bluetooth® is found in the following link:

<http://www.sordin.se/en/produkter.asp?rid=197&mld=104>

### 1.1 Block diagram of the Bluetooth products

Figure 1 explains the configuration of the headset. As the headset is a hearing protective device there are one cup for each ear. In the figure it is explain where each part of the electronics design is located.

Different configuration of the Main PCB results in the different headset models. In other words, the Bluetooth® module is identical in all models.

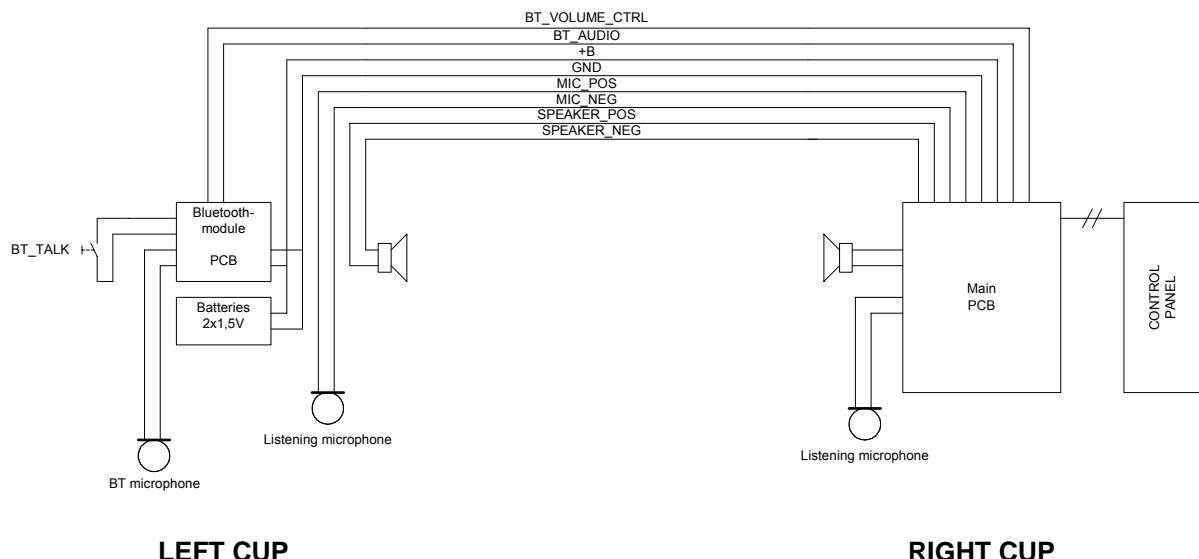


Figure 1

### 1.2 Block diagram of the RF transceiver

Figure 2 explains the configuration of the Bluetooth RF section (left cup in Figure 1), describing the crystal, its frequency and power supply routing.

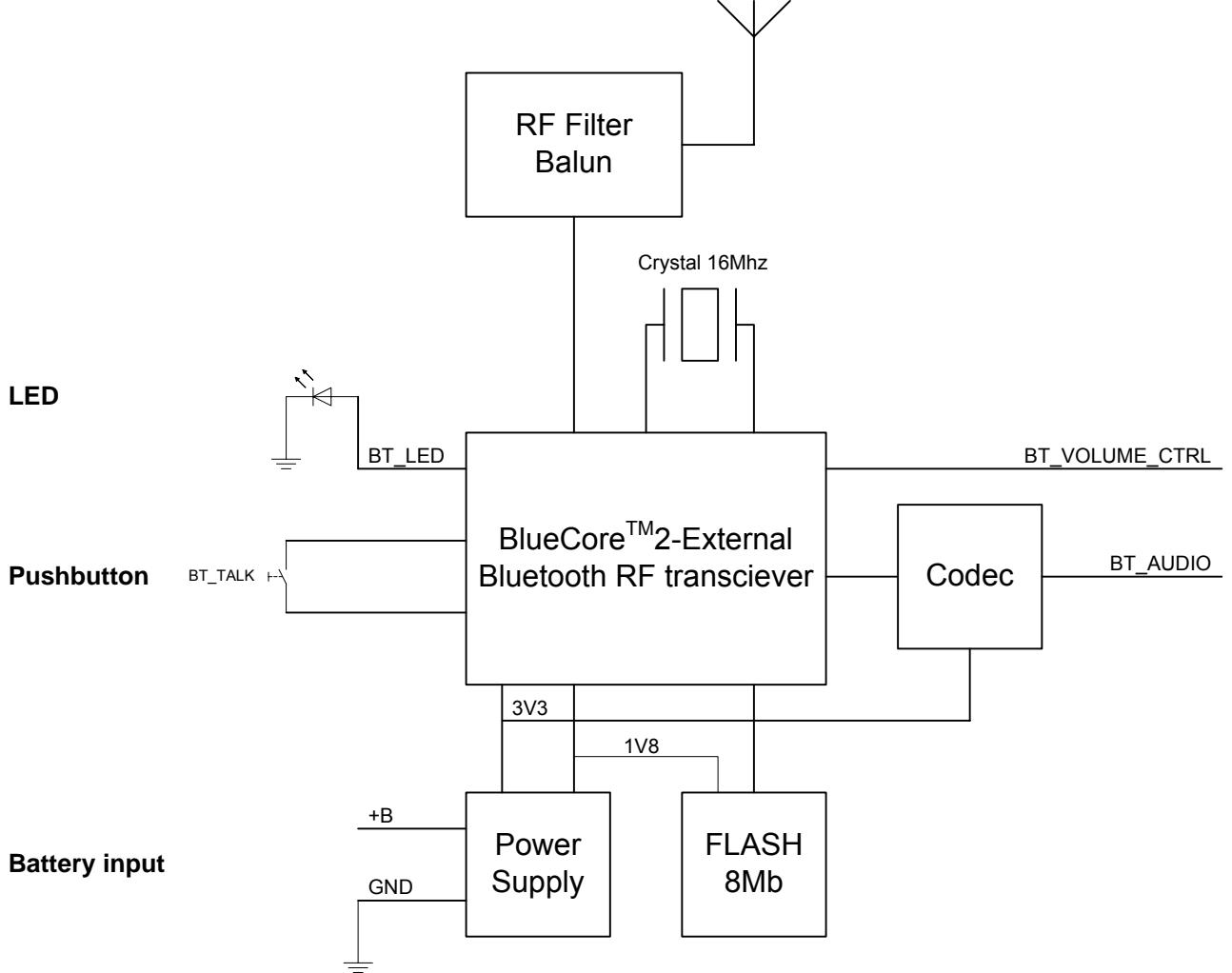


Figure 2

### 1.3 Antenna description

**Antenna type:** Inverted-F antenna integrated as a pattern in the PCB

**Impedance:** 50Ω

**Resonance frequency:** 2441MHz (midband frequency for Bluetooth®). Matching is performed with a shunt capacitor between the antenna input and ground.

**Antenna gain:** 0 dBi

**Mechanical drawing:**

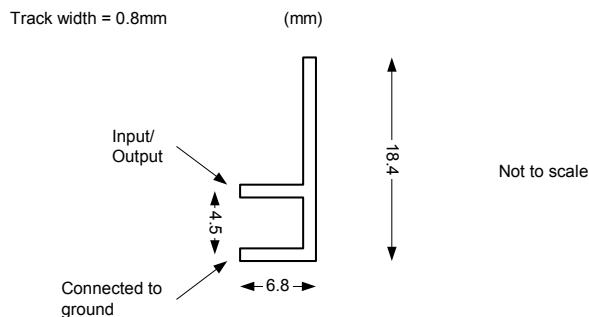


Figure 3

## 1.4 RF parameters

The radio is a Bluetooth® Class 2 device meaning:

- 4dBm, 10mW, output power EIRP
- Operates in the global 2.4 GHz ISM band; 2.4000 – 2.4835 GHz
- Frequency Hopping Spread Spectrum technique (FHSS)
- Uses 79 channels within the ISM band, all channels having the width of 1 MHz
- Hops 1600 times per second