

## 1.1.1 Frequencies, power

Bluetooth Low Energy f=2402MHz ÷ 2480MHz  
Maximum transmitter output power -1,4dBm

## 1.1.2 Function description

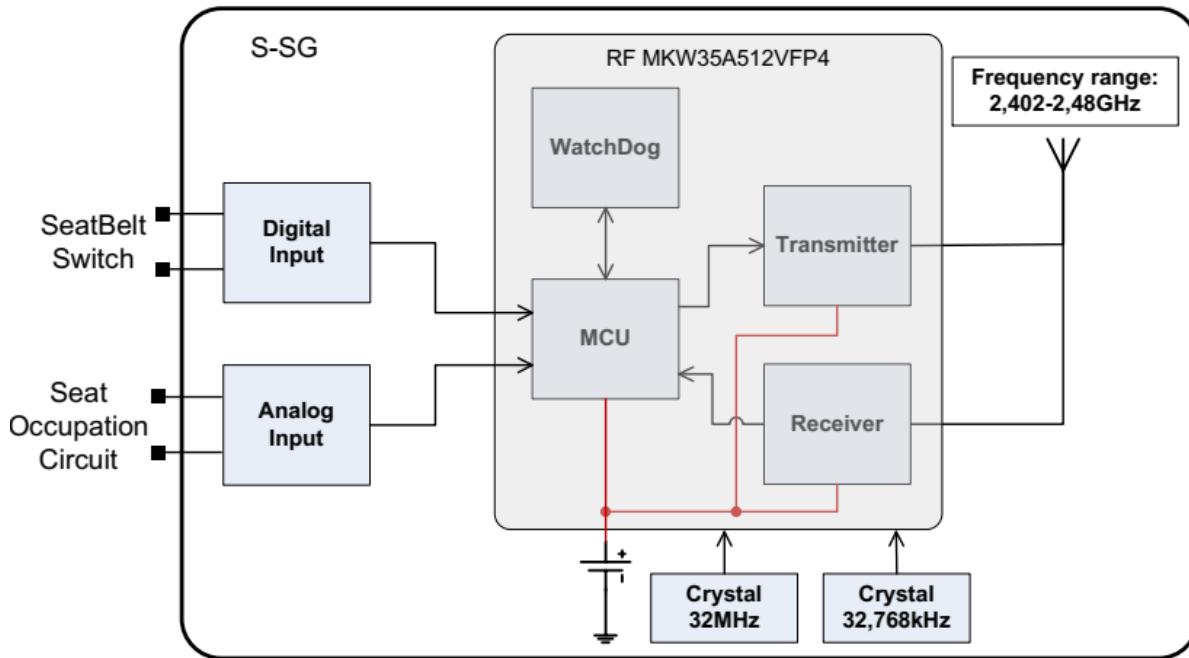


Image1 S-SG

The S-SG in the car seat is powered by a built-in battery. The mechanical construction enabling the exchange of the battery without special tools or soldering. The S-SG sends the status information of the belt buckles and the status of seat occupancy sensors. The information is sent either at the time when a change is detected, or every 25 seconds cyclically. The reading period of the AD value of the resistance circuit in the seat occupancy sensor is 200 ms, it can be changed by software. The battery voltage is read once a day. The algorithm for the evaluation of the battery status then sends the current value in every Bluetooth message. The S-SG is contacted only at the time of data transmission with the F-SG, otherwise it is in the (low power mode) power saving mode.

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## 1.1.3 Error conditions

The device can not detect faulty state of belt buckle, the analog value is not measured at the entrance, there is only detected a logic signal. The device detects error state values at the inputs to determine the seat occupancy. The following error conditions are detected:

**Table1 Limit values of the sitting sensor**

error signal	value	tolerance	description
<b>delivery status</b>			After switching on the device, the value is not read (not used in practice)
<b>Low resistance value</b>	$R < 60 \Omega$	$60 \pm 4 \Omega$	The wires are connected or shorted to GND
<b>Seat occupied</b>	$60 \Omega \leq R \leq 250 \Omega$	$60 \pm 4 \Omega$ $250 \pm 8 \Omega$	Correct value is expected
<b>Average resistance value</b>	Is not used		unexpected invalid resistance
<b>Vacant seat</b>	$250 \Omega < R \leq 620 \Omega$	$250 \pm 8 \Omega$ $620 \pm 15 \Omega$	Expected valid value
<b>High resistance value</b>	$R > 620 \Omega$	$620 \pm 15 \Omega$	Wires broken or high resistance

**Image2 Error detection algorithm on the input of the occupied seat**

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## 1.1.4 Temperature or voltage operating range

temperature: -40°C ÷ +80°C  
voltage: battery 3 V; CR2477

### NOTICE:

This device complies with Part 15 of the FCC Rules [and contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS standard(s)].

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.

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, et
- (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

### NOTICE:

Changes or modifications made to this equipment not expressly approved by (manufacturer name) may void the FCC authorization to operate this equipment.



202-JKM013

### NCC警語:

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫用電波輻射性電機設備之干擾。

Complies with  
IMDA Standards  
DA105282

