

From XC-AC/ENH4-Bp	Our Reference Daniel Radics	Tel +36 1 879-6276	Leonberg 4 March 2026
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Report

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Topic	User Manual CR1CP
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1 General Product Description

1.1 Description and operation principle

The Cabin Sensing Radar (CSR) is a 60GHz FMCW radar-based sensor solution for detection and classification of living objects in a vehicle through their vital signs. It senses targets by emitting many short frequency modulated waves using the transmit antennas while receiving waves reflected by targets using the receive antennas.

The system is able to detect the following parameters:

- position/location
- movement
- breathing rate

Based on these parameters, it is able to detect and classify living objects in the vehicle interior as well as living objects in its proximity.



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1.2 National Statements

1.2.1 European Union

This device should be installed and operated with minimum distance of 20 cm between the front of device and human body.

1.2.2 Japan

電波法

日本の電波法の遵守。この装置は、日本の電波法（電波法）に基づいて認可されています。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。）

Japanese Radio Law Compliance

This device is granted pursuant to the Japanese Radio Law. This device should not be modified (otherwise the granted designation number will become invalid).

1.2.3 Canada

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device must not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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.

Radiofrequency radiation exposure Information:

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This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un Environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Ce transmetteur ne doit pas être placé au même endroit ou utilisé simultanément avec un autre transmetteur ou antenne.

1.2.4 United States

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 made to this equipment not expressly approved by Robert Bosch GmbH may void the FCC authorization to operate this equipment.

Radiofrequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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1.2.5 Taiwan

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、科學及醫療用電波輻射性電機設備之干擾。

2.0 *General remarks for service, repair and maintenance*

- Repair and maintenance of the product is not allowed.
- Sensor can't be opened without damaging.
- In case of service, the sensor needs to be replaced.

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3.0 Technical Data

Main characteristic (Hardware)	
Operating Frequency	58 – 59.4 GHz
Antenna	AiP 2Tx 4Rx
Antenna field of view (FOV)	115° Az / 110° El
Detection range (min – max)	0.10 – 5m
Range resolution	0.0375 m
Angular accuracy	2° Az / 6° El
Angular resolution	29 ° Az / 38° El
COM interface	CAN-FD
Power consumption	< 1 W average
Operating Range (Tambient)	-40°C to + 85°C full operation
Sensor dimensions	82.4 mm x 42 mm x 16.6 mm including connector

