

1 Overview

This document provides FCC/ISED regulatory information and integration guidance for the 61 GHz FMCW radar sensor module. The module uses fixed PCB antennas and was certified without a housing. Integration into a host product requires careful housing design so that RF performance is not affected. The following mechanical and regulatory guidelines must be followed by the integrator.

2 Mechanical enclosure

It is possible to place the sensor behind a radome (radar dome) for protection or integration into the host device. The radar sensor can transmit through many types of plastic or glass, of any color, provided the material is not metallized. The following rules apply:

- The cover must not be metallic.
- No coatings or pigments containing metallic or carbon particles.
- Maintain a distance of ≥ 2.4 mm between the sensor front and the cover.
- Cover thickness is material-dependent (see application note AN-03-Radome for examples).
- Avoid vibrations between the antenna and cover, as these may trigger false detections.
- The cover material may act as a lens, altering the radiation pattern. Use uniform thickness in the transmission area to minimize distortion.
- Further details on suitable materials and thicknesses can be found in the application note «AN-03-Radome».

3 FCC and ISED Compliance Statements

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's license-exempt RSS standards. 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.

Le présent appareil est conforme aux CNR d'ISDE 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, y compris le brouillage pouvant entraîner un fonctionnement indésirable.

3.1 FCC Part 15.105(b) – Class B Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

3.2 FCC Part 15.21 – Modification Warning

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

3.3 RF Exposure Notice

This device complies with FCC and ISED RF exposure limits for general population/uncontrolled exposure.

- The device is classified as a mobile device.
- A minimum separation distance of 20 cm must be maintained between the antennas and any nearby persons during normal operation.
- This module uses fixed integrated PCB antennas. External antennas, connectors, or lenses are not supported.

3.4 Labelling

The FCC ID and IC ID must be visible on the final product, either on the device housing or in regulatory documentation provided with the product.

Required text:

FCC ID: 2ASYV-KIS-SHLK1

IC: 24358-KISSHLK

3.5 Integrator Responsibility

- This module was certified without a housing. Integration into a host product must ensure that the housing or surrounding structures do not affect RF performance.
- The host manufacturer is responsible for verifying that the final product continues to meet all applicable FCC and ISED requirements, including Part 15 Subpart B emissions testing.
- If the housing or other modifications alter RF emissions or antenna characteristics, a Class II Permissive Change or a new FCC/ISED authorization will be required.
- Any integration outside of this tested configuration (e.g. portable use, co-located transmitters) may also require additional authorization.