

Use restrictions and warnings (FCC / ISED)

Modification statement

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

Les changements ou modifications non expressément approuvés par la partie responsable de la conformité peuvent annuler le droit de l'utilisateur à utiliser l'équipement.

Labeling information

Device model

FCC ID: 2A809-EM2050

IC: 29249-EM2050

FCC compliance

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.

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, which can be determined by turning the equipment off and on, 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.

Cet appareil est conforme à la partie 15 des règlements de la FCC. L'utilisation est soumise 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.

Remarque: Cet équipement a été testé et déclaré conforme aux limites d'un appareil numérique de classe B, conformément à la partie 15 des règlements de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle. Ce produit génère, utilise et peut émettre des ondes radio qui peuvent causer des interférences nuisibles s'il n'est pas installé et utilisé conformément aux instructions. Si néanmoins ce produit cause des interférences nuisibles à la réception de la radio ou de la télévision, ce qui peut être déterminé en éteignant et en rallumant l'appareil, l'utilisateur est encouragé à essayer de corriger l'interférence par une ou plusieurs des mesures suivantes:

- Réorienter ou déplacer l'antenne de réception
- Augmenter la distance entre le produit et le récepteur
- Brancher l'appareil sur une prise de courant différente de celle à laquelle le récepteur est raccordé
- Consulter le revendeur ou un technicien radio/TV expérimenté pour obtenir de l'aide.

Responsible party's contact located in Canada:

Company Name: Canadian Certification Consulting, Inc.

ISED Company No: 10842A

Contact Name: Jon Hughes

Street Address: 2210 Horizon Drive, Suite 17

City/Province/Zip: West Kelowna/BC/V1Z 3L4/Canada

Phone No: 1-250-575-1719

Email: info@can-cert.com

ISED compliance

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license exempt RSS(s). Operation is subject to the following two conditions: (1) This device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation of the device.

This radio transmitter has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

L'émetteur/recepteur 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; (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Le présent émetteur radio a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué pour tout type figurant sur la liste, sont strictement interdits pour l'exploitation de l'émetteur.

ICES-003 Class B Notice -Avis NMB-003 Classe B:

This Class B digital device complies with Canadian ICES-003

Cet appareil numérique classe B est conforme à la norme Canadien NMB-003.

CAN ICES-3(B) / NMB-3(B)

RF Radiation Exposure statement

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

Cet appareil est conforme aux limites d'exposition aux rayonnements de l'ISED pour un environnement non contrôlé. L'antenne doit être installée de façon à garder une distance minimale de 20 centimètres entre la source de rayonnements et votre corps.

Antennas List

The OEM module has no integrated antenna, but it has 3 RF ports in order to connect external antennas for satellite and terrestrial network: S-Band uses separated ports Pin35 for TX, RX Pin41, sub-GHz bands use Pin44.

About Satellite S-band Antenna, due to lack in market, EML has designed and built a PCB omnidirectional antenna (EMAS100), that device Manufacturers can use as reference antenna to build their own products, and it has the following specifications

- Polarization: linear
- Frequency: Tx 1980-2020MHz / Rx 2170-2200MHz
- Tx Gain: 0dBi
- Size: 30 x 67 mm
- coaxial U.FL connectors



About terrestrial LoRa sub-GHz bands in US915 spectrum, there are already a lot of antennas available in the market and choosing the antenna is part of design done by device Makers. The maximum allowed antenna gain is 10 dBi.

Note for both scenarios the device Makers must ensure that the final product with integrated antennas is fully compliant with the Regulations in terms of max EIRP and channel mask requested from the Authority.

IMPORTANT NOTE:

Integration is strictly limited to mobile/fixed categorized end-products where a separation distance of at least 20 cm between the radiating part and any human body can be assured during normal operating conditions.

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter). Then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter). Then the IC authorization is no longer considered valid and the IC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate IC authorization.

This module is intended for OEM integrator only and the OEM integrators are instructed to ensure that the end user has no manual instructions to remove or install the device. The OEM integrator is still responsible for the FCC and/or ISED compliance requirement of the end product, which integrates this module.

LABEL OF THE END PRODUCT:

The final end product must be labeled in a visible area with the following “Contains FCC ID: 2A809-EM2050”. If the size of the end product is smaller than 8x10cm, then additional FCC part 15.19 statement is required to be available in the users manual:

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.

The host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed. The end user manual shall include all required regulatory information/warning as shown in this manual, include: This product must be installed and operated with a minimum distance of 20 cm between the radiator and user body.

If the IC number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: “Contains IC: 29249-EM2050”. If the size of the end product is smaller than 8x10cm, then additional IC statement is required to be available in the users manual:

Cet appareil contient un ou des émetteurs/récepteurs exempts de licence conformes aux RSS exempts de licence d'Innovation, Sciences et Développement économique Canada. Le fonctionnement est soumis 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. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.