



MOTOROLA SOLUTIONS

en-US

RF Energy Exposure Training and Product Safety Information for Portable Two-Way Radios

zh-CN

便携式双向对讲机射频能量辐射培训与产品安全信息

ja-JP

携帯型双方向無線機に関する RF エネルギー被爆トレーニングと製品安全情報

ko-KR

휴대용 양방향 무전기에 대한 RF 에너지노출 교육 및 제품 안전 정보

id-ID

Pelatihan Paparan Energi RF dan Informasi Keamanan Produk untuk Pesawat Radio Portabel Dua-Arah

https://learning.motorolasolutions.com/User_Documentation



Caution

Before using this radio, read this booklet which contains important operating instructions.

For information on product details, brochures, user manuals and approved accessories. Please refer to www.motorolasolutions.com.

For Australia and New Zealand users, please visit https://www.motorolasolutions.com/en_xa/products.html

Compliance with RF Exposure Standards

National and international regulations require manufacturers to comply with the RF energy exposure limits for portable two-way radios before they can be marketed. Your Motorola Solutions two-way radio is designed, manufactured, and tested to comply with all applicable national and international regulations for human exposure to radio frequency electromagnetic energy. When two-way radios are used as a consequence of employment, applicable regulations may require users to be fully aware of and able to control their exposure to meet occupational requirements.

RF Energy Exposure Awareness and Control Information and Operational Instructions for Occupational Use



Note: This radio is intended for use in occupational/controlled conditions where users are aware of their exposure and can exercise control over their exposure to meet the requirements in national and international regulations. This radio device is **not** authorized for general population, consumer use.

For more information on what RF energy exposure is, and how to control your exposure to ensure compliance with established RF exposure limits, consult the following websites:

- <https://www.fcc.gov/>
- <https://www.osha.gov/>
- <https://osha.europa.eu/en>
- <http://www.who.int/peh-emf/project/en/>

For additional user training information on exposure requirements, consult the following websites:

- https://www.motorolasolutions.com/en_us/about/company-overview/corporate-responsibility/governance-and-policies/wireless-communication-and-health-faqs.html
- <http://learning.motorolasolutions.com/>

RF Exposure Compliance and Control Guidelines

To control your exposure, and ensure compliance with the relevant RF exposure limits, always adhere to the following guidelines:

- Do not remove any of the RF Exposure Labels if present from this device or its related accessories.
- Attach these instructions to the device when you transfer it to other users.
- Do not use this device if the operational requirements described herein are not met.

Operating Instructions

- Transmit no more than 50% of the time. To transmit (talk), press the **Push-To-Talk (PTT)** button. To receive calls, release the **PTT** button. Transmitting more than 50% of the time may cause RF exposure compliance requirements to be exceeded.
- Hold the radio in a vertical position in front of the face with the microphone (and other parts of the radio including the antenna) at least 1 in. (2.5 cm) away from the nose or lips. Antenna should be kept away from the eye.
- When worn on the body, always place the radio in a Motorola Solutions-approved clip, holder, holster, case, or body harness for this product.
- DO NOT hold the antenna when the radio is transmitting.
- DO NOT use any portable radio that has a damaged antenna. If a damaged antenna comes into contact with your skin, a minor burn can result.
- To ensure continued compliance with applicable RF exposure limits, use only Motorola Solutions approved, supplied or replacement antennas, batteries, and accessories.
- For a list of Motorola Solutions approved accessories please refer to your user manual or visit www.motorolasolutions.com

Hong Kong

5.15–5.35 GHz shall be restricted to indoor operations.

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People (bystanders) outside the vehicle should be kept at least at the recommended minimum lateral distance (as shown in the following table) away from the LXN 505 antennas. This separation will ensure that there is sufficient distance from a properly installed (according to the installation instructions) externally mounted antenna to satisfy the relevant RF exposure limits.

Table 1: Minimum Lateral Distance from People (bystanders) to the Vehicle Body

People (bystander)	Minimum Lateral Distance
General Public	60 cm
Occupational	27 cm

- To ensure continued compliance with applicable RF exposure limits, use only Motorola Solutions approved, supplied or replacement antennas, batteries, and accessories.
- For a list of Motorola Solutions approved accessories please refer to your user manual or visit www.motorolasolutions.com

Vehicular Antenna Installation

Make sure to follow the antenna installation guidelines that are provided in this product installation manual. The antenna installation is limited to metal body motor vehicles or vehicles with appropriate ground planes.

Fixed Antenna Installation (if applicable)

If the product can be installed and operated at a fixed location, the antenna installation must comply with the following requirements to ensure optimal performance and compliance with applicable RF exposure limits.

- The antenna should be mounted outside the building if at all possible.
- As with all fixed site antenna installations, it is the responsibility of the licensee to manage the site in accordance with applicable regulatory requirements. Actions such as site survey measurements, signage, and site access restrictions may be required in order to ensure compliance with RF exposure limits.
- People should be kept at least at the recommended minimum distances from antennas as shown in [Table 1: Minimum Lateral Distance from People \(bystanders\) to the Vehicle Body](#) on page 2.

Acoustic Safety

Exposure to loud noises from any source for extended periods of time may temporarily or permanently affect your hearing. The louder the volume of the radio, the sooner your hearing will be affected. Hearing damage from loud noise is sometimes undetectable at first, and can have a cumulative effect.

To protect your hearing:

- Use the lowest volume necessary to do your job.
- Turn up the volume only if you are in noisy surroundings.
- Turn down the volume before adding headset or earpiece.
- Limit the amount of time you use headsets or earpieces at high volume.

- When using the radio without a headset or earpiece, do not place the radio's speaker directly against your ear.

Medical Devices

If you use a personal medical device, such as a pacemaker or hearing aid, consult the manufacturer of your device to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

Holsters Incorporating Magnets

Some Motorola Solutions holsters incorporate strong, neodymium magnets. If you use a personal medical device, such as a pacemaker or hearing aid, consult the manufacturer of your device to determine if it can be used in close proximity to magnets. Your physician may be able to assist you in obtaining this information. Also be aware that magnets can damage other products, including cell phones, computers, hard drives, and other electronic devices, as well as credit cards and magnetic media. Keep the holster away from any mechanical device that could be affected by a magnetic field. Consult the manufacturer of your product to determine if your device or product can be used in close proximity to magnets.

Electromagnetic Interference/Compatibility



Note: Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed, or otherwise configured for electromagnetic compatibility. It may be necessary to conduct compatibility testing to determine if any electronic equipment used in or around vehicles or near fixed sites equipped with the product is susceptible to the RF energy emitted by the mobile radio antenna, and if any measures need to be implemented to eliminate or mitigate the potential for EMI between the product transmitter and the electronic equipment.

Vehicles

To avoid possible interference between the product transmitter and any vehicle electronic control modules, such as ABS, engine, or transmission control modules, your product should be installed only by

an experienced installer, using the following precautions when installing the product:

1. Refer to the manufacturer instructions or other technical bulletins for recommendations on product installation.
2. Before installing, determine the location of the vehicle electronic control modules and their harnesses within the vehicle.
3. Route all wiring, including the antenna cable, as far away as possible from the electronic control units and associated harnesses.

Operational Warnings

The following explains the operational warnings:

For Vehicle With Air Bags



Warning:

- Refer to vehicle manufacturer's manual prior to installation of electronic equipment to avoid interference with air bag wiring.
- DO NOT place a portable radio in the area over an air bag or in the air bag deployment area. Air bags inflate with great force. If a portable radio is placed in the air bag deployment area and the air bag inflates, the radio may be propelled with great force and cause serious injury to occupants of the vehicle.
- Refer to vehicle manufacturer's manual prior to installation of electronic equipment to avoid interference with air bag wiring.
- DO NOT mount or place the product in the area over an air bag or in the air bag deployment area. Air bags inflate with great force. If the product is placed in the air bag deployment area and the air bag inflates, the product may be propelled with great force and cause serious injury to occupants of the vehicle.

Potentially Explosive Atmospheres



Warning:

- Do not carry a product that is not certified for Hazardous Locations into a potentially explosive atmosphere. It could result in a serious injury or death. You should only use a radio transmitter certified for hazardous locations in potentially explosive atmospheres.
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- Explosive atmospheres refer to hazard classified locations that may contain hazardous gas, vapors, dusts, such as fueling areas below decks on boats, fuel or chemical transferor storage facilities, and areas where the air contains chemicals or particles such as grain, dust or metal powders. Areas with potentially explosive atmospheres are often, but not always, posted.
- DO NOT remove, install, or charge batteries in such areas, or remove or install antennas. Sparks in a potentially explosive atmosphere can cause an explosion or fire resulting in bodily injury or even death.

Blasting Caps and Blasting Areas



Warning: To avoid possible interference with blasting operations, turn off your radio when you are near electrical blasting caps, in a blasting area, or in areas posted: "Turn off two-way radio." Obey all signs and instructions.



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Batteries

If your product is equipped with a primary or backup battery, you must follow these instructions:



Caution: Use only Motorola Solutions approved batteries. Risk of explosion if the battery is replaced by an incorrect type.

- Charge your battery using the approved Motorola Solutions charger.
- Connect the charger/power supply to a nearby and easily accessible power outlet.
- Use the battery in accordance with its water and/or dust Ingress Protection (IP) rating.
- Do not discard your battery into a fire.

- Do not replace the battery in any area labeled "Hazardous Atmosphere".
- Do not disassemble, crush, puncture, shred, or otherwise attempt to change the form of your battery.
- Do not dry a wet or damp battery with an appliance or heat source, such as a hair dryer or microwave oven.
- Do not allow conductive material such as jewelry, keys, or beaded chains to touch exposed battery terminals.
- Do not dispose of batteries with household waste.

Repair



Warning:

- Repairs to a Motorola Solutions intrinsically safe radio product certified by, for example, FM, UL, CSA, CENELEC, should only be done at a location that has been audited under the certifying body's repair and service standard.
- Contact Motorola Solutions for assistance regarding repairs and service of Motorola Solutions intrinsically safe equipment.

A repair constitutes something done internally to the unit that would bring it back to its original condition.

Items not considered as repairs are those in which an action is performed on a unit which does not require the outer casing of the unit to be opened in a manner that exposes the internal electrical circuits of the unit.

Do Not Substitute Options or Accessories

The Motorola Solutions communications equipment certified as intrinsically safe by the approving agency (FM, UL, CSA, CENELEC) is tested as a complete system which consists of the listed agency Approved portable, Approved battery, and Approved accessories or options, or both. This Approved portable and battery combination must be strictly observed. There must be no substitution of items, even if the substitute has been previously Approved with a different Motorola Solutions communications equipment unit. Approved configurations are listed by the Approving Agency (FM, UL, CSA, CENELEC).

The Intrinsically Safe Approval Label affixed to radio refers to the intrinsically safe classification of that radio product, and the approved batteries that can be used with that system.

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