



SainSONIC®

DPMR TWO-WAY RADIO

## Instruction Manual

FM-416/416S

## FCC Statement

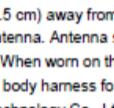
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency 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 can be 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 a outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

1. This device is subject to the following two conditions:

2. This device must accept any interference received, including interference that may cause undesired operation,



**Restricted to occupational use to satisfy FCC RF exposure limits. See user manual for operating requirements.**

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

## EU Regulatory Conformance

As certified by the qualified laboratory, the product is in compliance with the essential requirements and other relevant provisions of the Directive 2014/53/EU. Please note that the above information is applicable to EU countries only.

## Compliance with RF Exposure Standards

Your Guangdong Shangria Networking Technology Co., Ltd 2-way radio is designed and tested to comply with a number of national and international standards and guidelines (listed below) for human exposure to radio frequency electromagnetic energy. This radio complies with the IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environment at operating duty factors of up to 50% transmitting and is authorized by the FCC for occupational use only. In terms of measuring RF energy for compliance with the FCC exposure guidelines, your radio radiates measurable RF energy only while it is transmitting (during talking), not when it is receiving (listening) or in standby mode. Note: The approved batteries supplied with this radio are rated for a 5-50% duty factor (5% talk-5% listen - 90% standby), even though this radio complies with the FCC occupational RF exposure limits and may operate at duty factors of up to 50% talk.

Your Guangdong Shangria Networking Technology Co., Ltd 2-way radio complies with the following RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47 CFR §§ 1.1307, 1.1310, 2.1091 and 2.1093
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95.1-1992
- Institute of Electrical and Electronic Engineers (IEEE) C95.1-1999 Edition
- Operating conditions:
  - Transmit no more than the rated duty factor of 50% of the time. To transmit (talk), push the Push-To-Talk (PTT) button. To receive calls, release the PTT button. Transmitting 50 % of the time, is important because this radio generates measurable RF energy exposure only when transmitting (in terms of measuring for standards compliance).
  - Hold the radio in a vertical position in front of face with the microphone (and the other parts of the radio, including the antenna) at least one inch (2.5 cm) away from the nose. Keeping the radio at the proper distance is important because RF exposures decrease with distance from the antenna. Antenna should be kept away from eyes.
  - When worn on the body, always place the radio in a Guangdong Shangria Networking Technology Co., Ltd approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of Guangdong Shangria Networking Technology Co., Ltd or other manufacturer's non-approved accessories may result in exposure levels, which exceed the FCC's occupational/controlled RF exposure limits.
  - If you are not using a body-worn accessory and are not using the radio in the intended use position in front of the face, then ensure the antenna and the radio are kept at least 2.5 cm (one inch) from the body when transmitting. Keeping the radio at the proper distance is important because RF exposures decrease with increasing distance from the antenna.
  - Use only Guangdong Shangria Networking Technology Co., Ltd approved supplied or replacement antennas, batteries, and accessories. Use of non-manufacturer name approved antennas, batteries, and accessories may exceed the FCC RF exposure guidelines.

## Notice to user

## 1. Copyright

SainSonic and our authorized partners own the intellectual property of all the parts of this product (including accessories). Any design and materials may not be modified, copied, extracted or translated without the authorization of SainSonic or its authorized parties. Due to the update or modification of the product, SainSonic owns the right to change the specifications of software and hardware described in this manual without further notice. Specifications and information contained in this manual are for reference only.

## 2. Safety Information

Compliance with RF Exposure Standards  
Your radio is designed and tested to comply with a number of national and international standards and guidelines (listed below) regarding human exposure to radio frequency electromagnetic energy. This radio complies with the IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environment at operating duty factors of up to 50% transmitting. In terms of measuring RF energy for compliance with the IEEE and ICNIRP exposure limits, your radio radiates measurable RF energy only while it is transmitting (during talking), not when it is receiving (listening) or in standby mode.

Your radio complies with the following of RF energy exposure standards and guidelines

Institute of Electrical and Electronic Engineers (IEEE) C95.1-1992

Institute of Electrical and Electronic Engineers (IEEE) C95.1-1999 Edition

International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998

To realize the best performance of the battery, change the battery once a year.

## Maintenance

Do not disassemble the radio by yourself. This product can only be maintained by the professional technicians.

Contact us or your local dealer for help if you want to re-develop or modify the radio.

## ◆ Operating Instructions to control RF Exposure

To decrease your exposure and ensure compliance with the occupational/controlled environment exposure limits, please always adhere to the following procedures:

- Transmit no more than the rated duty factor of 50% of the time. To transmit, press the PTT button, and to receive calls, release the PTT button. To keep the radio in a vertical position in front of the face with the microphone 5cm away from your mouth while transmit.
- Please keep the antenna 2.5cm away from your body while transmitting, even when you wear it with belt clip on your body.
- Do not transmit when the radio is not equipped with an antenna. Transmitting without an antenna may damage to the product.

## ◆ Use the designated accessories

Use the antenna, battery, adapter or charger supplied or sold by SainSonic only, or otherwise it may cause damage to the product.

If you want to purchase or replace the accessories, please contact your local dealer or SainSonic for confirmation.

## ◆ Area restrictions

Antenna:  
To avoid the problems caused by electromagnetic interference or compatibility, turn off the radio in any facilities where posted notices instruct you to do so, such as hospitals and other health care facilities. Turn off the radio when on board an aircraft, if instructed to do so.

3. In the area with an air bag, do not place the radio in the area over an air bag or in the air bag deployment area.

4. Do not operate the radio, disassemble or charge the battery in the potentially flammable and explosive atmosphere (such as gas station, coal gas station, etc.).

5. Do not place the radio under the direct sunlight or near the area with heating devices.

6. Do not place the radio in the area with great dust, moisture or drops, or on the unstable surface.

## ◆ Operating Attentions

Antenna:  
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.

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