R20 PoC Radio
User Manual

Preface

Thank you for purchasing this product. This manual includes a description of the functions and step-by-step procedures for use.

To avoid bodily injury or property loss caused by incorrect operation, please carefully read the *Safety Information Booklet* before use.

This manual is applicable to the following product:

R20 PoC Radio

Contents

Documentation Information

This section describes the conventions of this document.

Documentation Conventions

Instruction Conventions

Icon	Description
TIP	Indicates information that can help you make better use of your product.
NOTE	Indicates references that can further describe the related topics.
CAUTION	Indicates situations that could cause data loss or equipment damage.
WARNING	Indicates situations that could cause minor personal injury.
DANGER	Indicates situations that could cause major personal injury or even death.

Notation Conventions

Item	Description	Example
Boldface	Denotes menus, tabs, parameter names, window names, dialogue names, and hardware buttons.	To save the configuration, click **Apply**.
		The **Log Level Settings** dialogue box appears.
		Press the **PTT** key.
" "	Denotes messages, directories, file names, folder names, and parameter values.	The screen displays "Invalid Battery!".
		Open "PDT_PSS.exe".
		Go to "D:/opt/local".
		In the **Port** text box, enter "22".
>	Directs you to access a multi-level menu.	Go to **File** > **New**.
Italic	Denotes document titles.	For details about using the DWS, refer to *Dispatch Workstation User Guide*.
`Courier New`	Denotes commands and their execution results.	To set the IP address, run the following command: `vos-cmd - m name IP`

1. Packing List

Unpack carefully and check that you have received the following items. If any item is missing or damaged, contact your dealer.

Item	Quantity (PCS)	Item	Quantity (PCS)
Radio	1	Carry Holder	1
Battery	1	Strap	1
Data Cable	1	Documentation Kit	1
Belt Clip	1	/	/

NOTE

- Figures in this manual are only for reference.

- Check the body label inside the battery compartment to ensure that the purchased product is correct.

2. Product Layout

Strap Hole

Emergency Key

Microphone

LED Indicator

Antenna

LCD Display

Push-to-Talk
(PTT) Key

3.5 mm Audio Jack

Up Key

On-Off Key

OK/Answer Key

Back/End Key

Volume Key

Battery Cover

Down Key

Speaker

USB Type-C Port
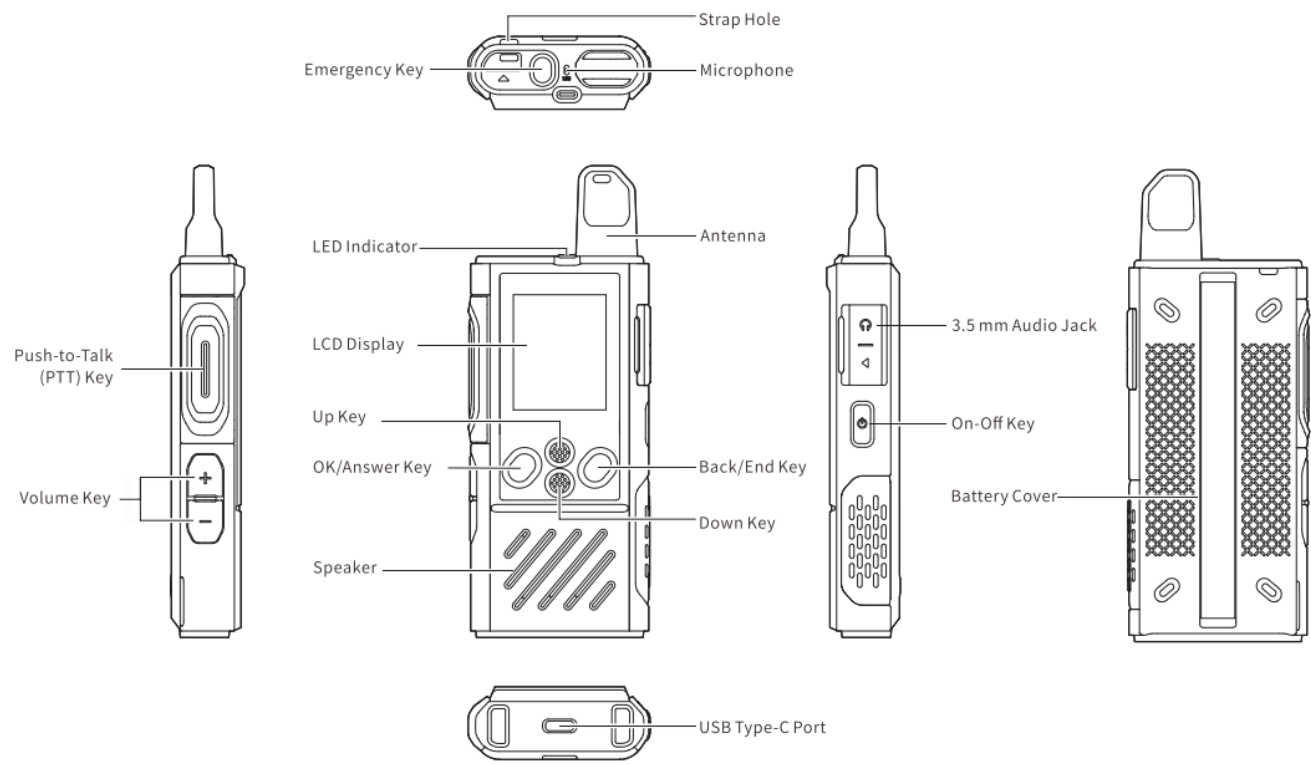
3. Before Use

3.1 Install the Nano SIM Card

1. Use a pry tool to slightly lever the battery cover, and then remove the battery cover.

2. Open the card slot cover.

3. Install the Nano SIM card.

4. Put the card slot cover back in place.
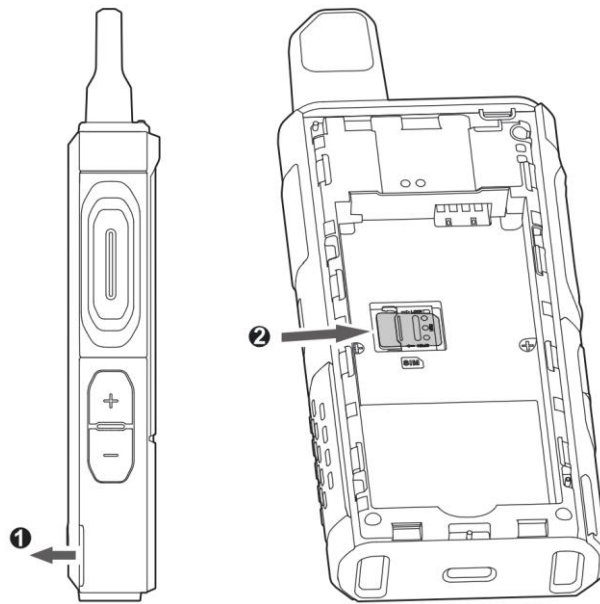
3.2 Attach the Battery

⚠ CAUTION

- Use the approved battery to avoid the risk of explosion.

- Dispose of the used battery according to "Precautions for Disposal" in the *Safety Information Booklet*.

1. Insert the battery into the battery slot.

2. Put the battery cover back in place.
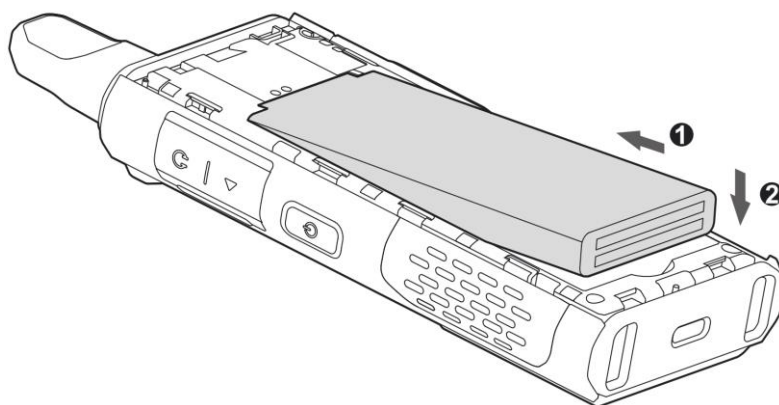
3.3 Attach the Carry Holder and Belt Clip

1. Put the radio into the carry holder.

2. Align the belt clip tab with the groove on the carry holder.

3. Press the belt clip downwards until it locks in place.
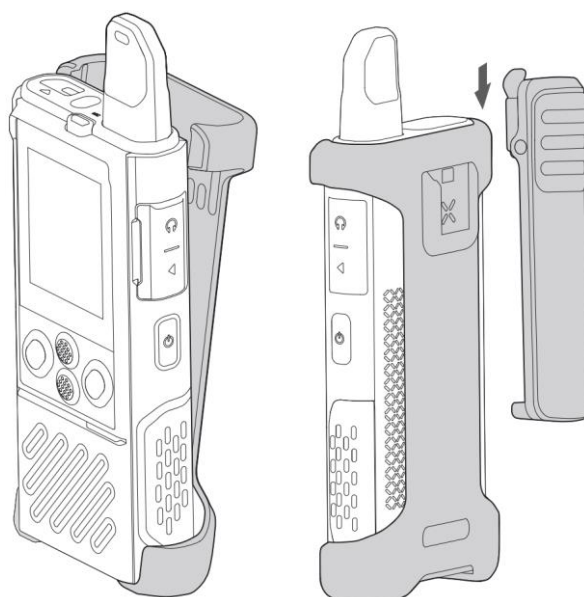
To remove the carry holder, do as follows:
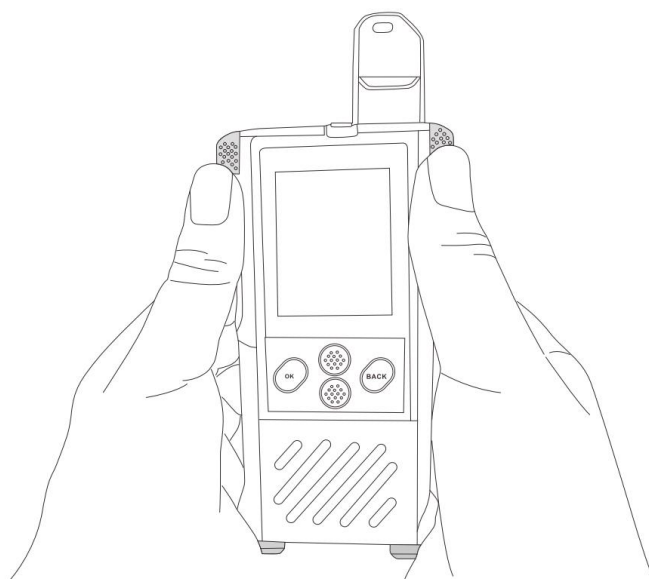
3.4 Attach the Audio Accessory

Open the audio jack cover, and then insert the audio accessory into the audio jack.
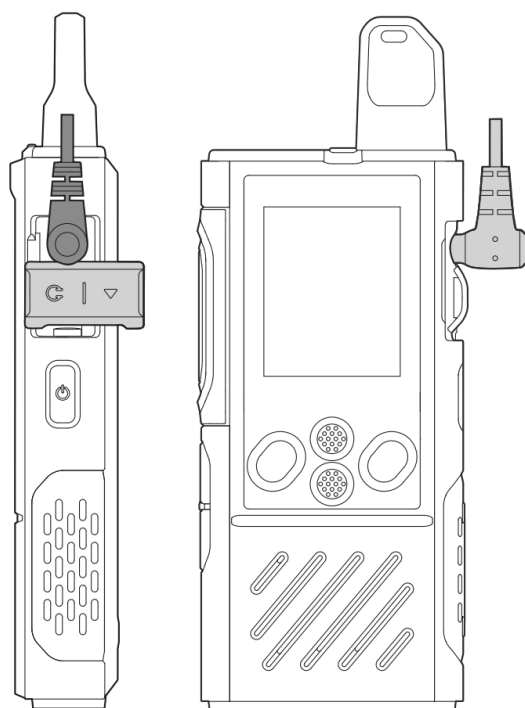
📝 NOTE

To ensure optimum waterproof and dustproof performance, close the audio jack cover after disconnecting the audio accessory.

3.5 Charge the Battery

⚠ CAUTION

- Read *Safety Information Booklet* before charging.

- The remaining lithium-ion battery power is limited to 30% pursuant to the new lithium battery shipment regulation approved by the International Air Transport Association (IATA).

- Use the power adapter that is CE marked.

- Unplug the radio after it is fully charged.

To charge the battery, connect the radio to a power adapter, power bank, or computer with a USB Type-C cable.

To learn about the charging status, check the battery icon shown on the LCD display.

4. Basic Operations

4.1 Turn the Radio On or Off

- To turn on the radio, long press the **On-Off** key for three seconds.

- To turn off the radio, long press the **On-Off** key for three seconds, and then select **Turn Off**.

4.2 Restart the Radio

Long press the **On-Off** key for three seconds, and then select **Restart**.

4.3 Adjust the Volume

- To increase the volume, press the **Volume Up** key.

- To decrease the volume, press the **Volume Down** key.

4.4 Switch the Screen Between Wakeup and Sleep

- To wake up the screen, press any key on the keypad.

- To put the screen to sleep, do either of the following:

  - Manual sleep: Press the **On-Off** key.

  - Auto sleep: Do not operate the radio for preset auto sleep time.

    When the radio remains idle for preset auto sleep time, the screen will automatically turn off.

$\boxed{\text{NOTE}}$
To set the auto sleep time, go to **Menu** > **System Settings** > **Display** > **Sleep**, and then select the time.

4.5 Lock or Unlock the Screen

When the screen is not in use, you can lock it to avoid unintended operations, protect privacy, and save battery power.

To enable or disable Screen Lock, go to **Menu** > **System Settings** > **Screen Lock**.

- To lock the screen, do either of the following:

  - Manual lock: Press the **On-Off** key.

  - Auto lock: Do not operate the radio until the screen automatically turns off.

    When the screen turns off, the screen will be automatically locked.

- To unlock the screen, press the **On-Off** key.

4.6 Check the Radio Information

To check the international mobile equipment identifier(IMEI), model, serial number(SN), and more, go to **Menu** >

About > **Radio Info**.

5. Status Indication

5.1 LCD Icons

Icon	Radio Status
▥	More bars indicate more remaining battery power.
▱	The battery is low.
▤	The Power Saver mode is enabled.
▨	The radio has not registered with the mobile network.
²ᴳ▪ᵢₗₗ³ᴳ▪ᵢₗₗ⁴ᴳ▪ᵢₗₗ	The radio has registered with the 2G/3G/4G network. More bars indicate higher signal strength.
✈	The Airplane mode is enabled.
⊠	No Nano SIM card is detected.
N	The NFC feature is enabled.
⌒	An earpiece is connected.
B	The BT feature is enabled.
·B·	A BT accessory is connected.
♥	The Location feature is enabled, and valid location data has been received.

5.2 LED Indicator

LED Indicator	Radio Status
Glows green	● The battery is fully charged. ● The radio is receiving a half-duplex call. ● The radio is in a full-duplex call.
Glows red	● The radio is transmitting a half-duplex call. ● The radio is being charged.
Flashes orange	The call is on hold.
Flashes red	● The battery is low. Recharge or replace the battery. ● The radio is registering with the Push-to-Talk over Cellular (PoC) services.

LED Indicator	Radio Status
Flashes green	There is/are missed message(s) or call(s).

6. PoC Services

You can use PoC services such as one-to-one or one-to-many voice calls over the public network.

To initiate a call, do either of the following:

Method 1

1. On the home screen, press the **Up** key or the **Down** key to select a group.

2. Press and hold the **PTT** key to speak.

3. After speech, release the **PTT** key.

Method 2

1. On the home screen, go to **Menu** > **Favorite Contacts** or go to **Menu** > **Call Logs**.

2. Select a contact, and then press the **OK/Answer** key to select **Details**.

3. Select a call type, and then press the **OK/Answer** key to initiate a call.

   ➢ For a half-duplex voice call, press and hold the **PTT** key to speak, and then release the **PTT** key after speech.

   ➢ For a full-duplex voice call, speak directly without pressing the **PTT** key.

7. Connectivity

7.1 Mobile Network

To enable the mobile data, go to **Menu** > **System Settings** > **Mobile Data**.

In the **Mobile Data** interface, you also can view the preferred network, APN, network carrier, IMSI, and your number.

NOTE

- Before enabling the mobile network, make sure that the Nano SIM card is installed and has been registered to the carrier networks.

- Before accessing the 4G network service, make sure that the 4G service is activated.

7.2 Airplane Mode

When you are in an airplane or an area with radio restrictions, you may be required to turn off your radio or make your radio enter the airplane mode. In the airplane mode, your radio automatically disables the mobile network. In this case, you cannot use voice or data services.

To enable or disable the airplane mode, go to **Menu** > **System Settings** > **Airplane Mode**.

7.3 BT

You can connect a BT accessory to the radio.

7.3.1 Enable or Disable the BT

To enable or disable BT, go to **Menu** > **System Settings** > **BT**.

7.3.2 Connect to a BT Device

- To connect to a paired device, go to **Menu** > **System Settings** > **BT** > **Paired Device**.

- To connect to a new device, go to **Menu** > **System Settings** > **BT** > **New Device**, and then select a BT device from the discovered devices.

7.3.3 Disconnect a BT device

1. Go to **Menu** > **System Settings** > **BT** > **Paired Device**.

2. Press the **Up** key and the **Down** Key to select a paired device.

3. Press the **OK/Answer** key.

4. Select **Disconnect**.

5. Press the **OK/Answer** key.

7.4 (Optional) NFC

Near Field Communication (NFC) is a wireless connection technology that offers easy, secure, and fast communication. This feature allows the radio to recognize nearby NFC-capable devices for data exchange without connecting to a network.

To enable or disable NFC, go to **Menu** > **System Settings** > **NFC**.

8. Personalization

8.1 Shortcuts

1. Go to **Menu** > **System Settings** > **Shortcuts** > **OK Key (long press)**.

2. Do either of the following:

   ➢ To set the **OK/Answer** key as a shortcut, select **Custom**.

   You can long press the shortcut to enable the feature customized by the third party. At present, the custom feature is a quick call to the dispatcher.

   ➢ To stop using the **OK/Answer** key as a shortcut, select **None**.

8.2 Display
Brightness

To adjust display brightness, do as follows:

1. Go to **Menu** > **System Settings** > **Display** > **Brightness**.

2. Press the **Up** key or the **Down** key, then press the **Back/End** key.

Sleep Mode

When the screen is not in use beyond the preset sleep time, the radio will turn off automatically to save battery power.

To set auto sleep time, go to **Menu** > **System Settings** > **Display** > **Sleep**.

8.3 Sound
Call Volume

To adjust the call volume, do as follows:

1. Go to **Menu** > **System Settings** > **Sound** > **Call Volume**.

2. Press the **Up** key or the **Down** key.

Alert Volume

To adjust the alert volume, do as follows:

1. Go to **Menu** > **System Settings** > **Sound** > **Alert Volume**.

2. Press the **Up** key or the **Down** key.

Lock Sound

To enable or disable the lock sound, do as follows:

1. Go to **Menu** > **System Settings** > **Sound**> **Lock Sound**.

2. Press the **OK/Answer** key.

Keypad Sound

To enable or disable the keypad sound, do as follows:

1. Go to **Menu** > **System Settings** > **Sound**> **Keypad Sound**.

2. Press the **OK/Answer** key.

8.4 Location

To set the positioning system, do as follows:

1. Go to **Menu** > **System Settings** > **Location** > **Location**.

2. Select **GPS+BDS**, **GPS+GLONASS**, or **BDS**.

8.5 Power Saver

- Manual Power Saver

   Go to **Menu** > **System Settings** > **Power Saver** > **Power Saver**.

- Auto Power Saver

   a. Go to **Menu** > **System Settings** > **Power Saver** > **Auto Power Saver**.

   b. Select the conditions.

   - **Never**: The Power Saver mode will not be automatically on.

   - **No bar left**: When the battery fuel gauge is no bar left, the Power Saver mode will be automatically on.

   - **Only one bar left**: When the battery fuel gauge is one bar left, the Power Saver mode will be automatically on.

9. System

9.1 Language

To set the system language, do as follows:

1. Go to **Menu** > **System Settings** > **Language**.

2. Select a language.

9.2 Factory Reset

⚠️ **CAUTION**

- Factory Reset will erase all information on the radio such as personal information.

- Ensure that the battery power is above 50% before factory reset the radio.

Go to **Menu** > **System Settings** > **Factory Reset**.

9.3 Software Update

⚠️ **CAUTION**

- Do not update the radio system with unauthorized software to avoid radio failure, data loss, or potential security problems.

- Be sure to back up your data before update the radio.

- Ensure that the battery power is above 50% and the available memory space is above 16 MB before update the radio.

- During the update, do not remove the battery.

When an update is available, do as follows:

1. Go to **Menu** > **System Settings** > **Software Update**.

2. Select **Download & Install** to download and install the latest package.

10. Troubleshooting

Phenomena	Analysis	Solution
The radio cannot be turned on.	The battery may be improperly installed.	Re-attach the battery.
	The battery may run out.	Recharge or replace the battery.
	The battery may suffer from poor contact caused by dirtied or damaged battery contacts.	Clean the battery contacts.
The keys do not work.	The keys may fail to function temporarily.	Restart the radio.
	The keys may be damaged.	Contact your dealer or technicians of the Company for maintenance.
The LED indicator is abnormal.	The indication may be abnormal.	Restart the radio.
	The LED indicator may be damaged.	Contact your dealer or technicians of the Company for maintenance.
The display does not work.	The display may fail to function temporarily.	Restart the radio.
	The display may be damaged.	Contact your dealer or technicians of the Company for maintenance.
The radio fails to be unlocked.	The keys may be damaged.	Contact your dealer or technicians of the Company for maintenance.
The radio cannot access the mobile network.	The SIM card may be out of service because of unpaid charges.	1. Make sure the SIM card functions properly. 2. Pay the charges to the carrier. 3. Restart the radio.
	The mobile data feature may be not activated for the SIM card.	Contact the carrier to activate the mobile data feature.
	The signal may be weak.	Make sure that the radio is within the signal coverage.

Phenomena	Analysis	Solution
During receiving, the voice is weak, discontinuous, or totally inactive.	The signal may be weak.	Make sure that the radio is within the signal coverage.
	The volume may be low.	Increase the volume.
	The speaker may be blocked or damaged.	Clean the surface of the speaker.
The radio fails to detect the SIM card.	The SIM card may be installed improperly.	Remove the SIM card and attach it again.
	The SIM card may suffer from poor contact caused by dirtied or damaged mental contacts.	Clean the mental contacts of the SIM card.
The GPS cannot locate your position.	The radio may be at unfavorable positions. For example, the signal may be blocked by high-rise buildings or frustrated in the underground areas.	Move to an open area, keep the radio in an upright position, and try again.
The battery fails to be charged.	The power adapter plug may be inserted into the socket improperly.	Reconnect the power adapter to the socket.
	The data cable may be connected improperly.	Reconnect the data cable.

If the above solutions cannot fix your problems, or you may have some other queries, contact us or your local dealer for more technical support.

11. Care and Cleaning

To guarantee optimal performance as well as a long service life of your product, please follow the tips below.

11.1 Radio Care

- Do not pierce or scrape the radio.

- Keep the radio far away from substances that can corrode the circuitry.

- Do not hold the radio by the earpiece cable.

- Close the audio jack cover when no accessory is in use.

11.2 Radio Cleaning

⚠ **CAUTION**

Turn the radio off and remove the battery before cleaning.

- Clean up the dust and fine particles on the radio surface and charging piece with a clean and dry lint-free cloth or a brush regularly.

- Use neutral cleanser and a non-woven fabric to clean the screen, keys, and front case after long-time use. Do not use chemical preparations such as stain removers, alcohol, sprays, or oil preparations, so as to avoid surface case damage.

- Make sure that the radio is completely dry before use.

12. Optional Accessories

⚠️ **CAUTION**

Use the accessories approved by the Company only. Otherwise, we will not be liable for any loss or damage arising out of the use of unauthorized accessories.

Contact your local dealer for the optional accessories used with the radio.

FCC Statement

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 cau undesired operation.

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

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.

SAR tests are conducted using standard operating positions accepted by the FCC with the device transmitting at its highest certified power level in all tested frequency bands, although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. Before a new model device is a available for sale to the public, it must be tested and certified to the FCC that it does not exceed the exposure limit established by the FCC , Tests for each device are performed in positions and locations (worn on the body)as required by the FCC.
For face-up, 25mm was used for test, this equipment should be installed and operated with minimum distance 25mm.
For body worn operation, this device has been tested and meets the FCC RF exposure guidelines when used with an accessory designated for this product or when used with an accessory that Contains no metal.

Non-compliance with the above restrictions may result in violation of RF exposure guidelines.

13. Abbreviations

Abbreviation	Full Name
BDS	Beidou Navigation Satellite System
CE	Certificate CE
GLONASS	Global Navigation Satellite System
GPS	Global Positioning System
IMEI	International Mobile Equipment Identifier
LCD	Liquid-Crystal Display
LED	Light-Emitting Diode
NFC	Near Field Communication
PoC	Push-To-Talk over Cellular
PTT	Push-To-Talk
SN	Serial Number
SIM	Subscriber Identity Module
USB	Universal Serial Bus