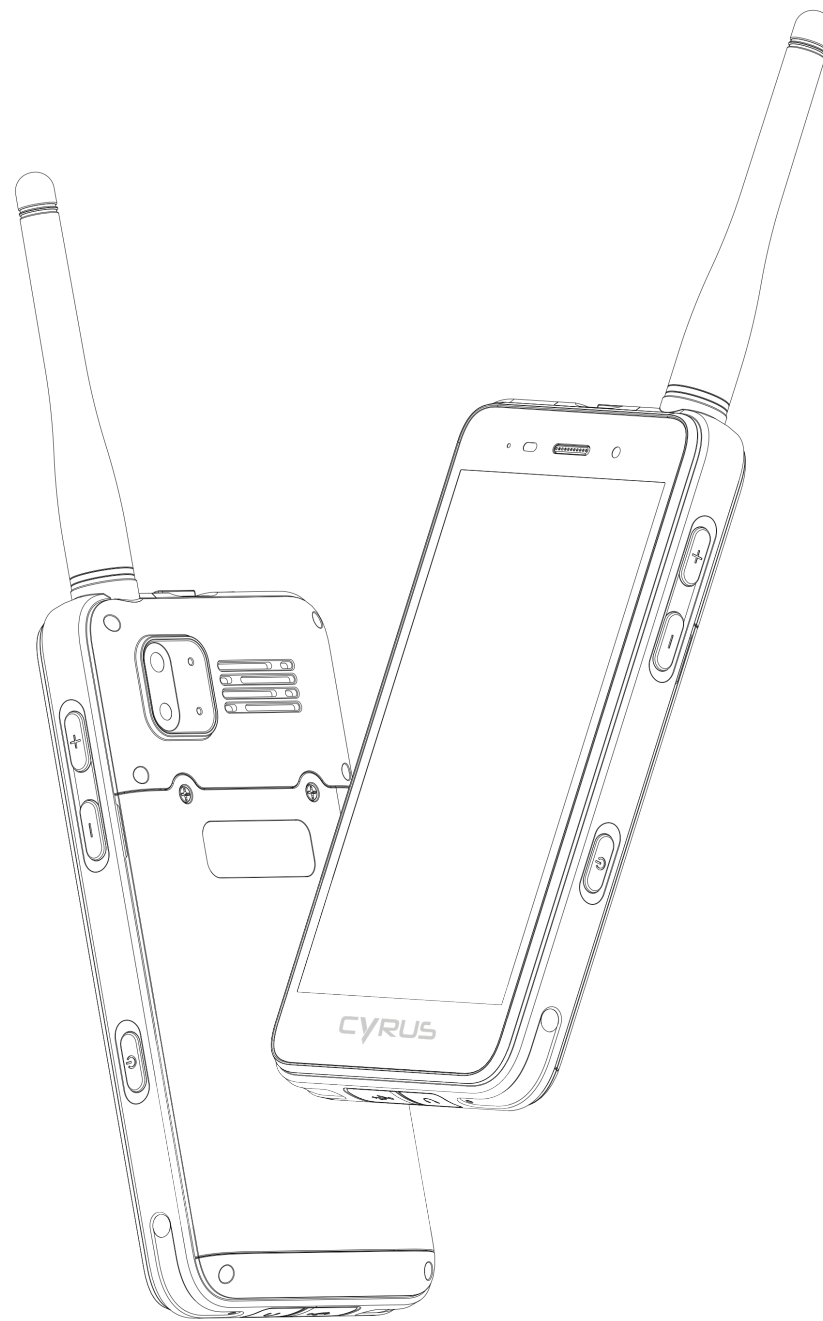


# SETUP GUIDE

## CM450XR



# Thank you very much!

Welcome to your new CM450XA smartphone.

Thank you for choosing the CM450XA smartphone – a rugged communication device specifically designed for use in critical situations and for Mission Critical Push-to-Talk (MCPTT) communication. This manual will guide you step by step through the setup and usage of your new device.

## In this manual, you will find:

- **Getting Started:** A detailed guide for the initial setup and commissioning of your CM450XA. **S.3**
- **Device Overview:** Information about the main hardware components and their functions. **S.4**
- **Network and Connectivity:** How to connect your device to WiFi, Bluetooth, and mobile networks. **S.6**
- **Using Third-Party Applications:** Information on integrating and using third-party apps such as PTT, SOS function, and MDM. **S.7**
- **Band Lock Feature** **S.8**
- **Maintenance and Care:** Tips for maintaining and caring for your device, including safe handling of the device and battery to ensure a long lifespan. **S.9**
- **Safety Information:** Important information and instructions for the safe use of the device. **S.10**

Please take the time to read this manual carefully to fully unlock the potential of your CM450XA smartphone and to ensure that you are using all features and safety mechanisms to their fullest extent.

We wish you great success and enjoyment with your new device.

Let's get started!



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# Getting Started – Initial Setup

## 1. UNBOXING AND CONTENTS CHECK

Open the CM450XA packaging and ensure all components are present:

- CM450XA Smartphone
- SMA-Antenna
- USB-C-Cable
- USB-Charger
- Quick Start Guide (QSG)
- Safety instructions
- Phillips screwdriver

## 2. INSERTING THE BATTERY AND SIM CARDS

### Step 1:

Unscrew the battery cover using the provided Phillips screwdriver.

### Step 2:

Remove the battery cover.

### Step 3:

Remove the battery by first releasing the lock mechanism. Push the latch upward to unlock, then gently pull out the battery. Handle the latch carefully to avoid damage.

### Step 4:

Insert the Nano SIM cards into the designated slots. The device supports dual SIM operation:

- SIM-Slot 1: For standard LTE networks (e.g., voice and data communication).
- SIM-Slot 2: For the 450 MHz spectrum (e.g., specialized communication services).

### Step 5:

Reinsert the battery and ensure it is seated correctly.

### Step 6:

Secure the battery cover by fastening the screws.

### Step 7:

Attach the SMA antenna to the device.

## 3. FIRST CHARGING CYCLE

### Step 1:

Connect the USB-C cable to the USB charger.

### Step 2:

Plug the other end of the USB-C cable into the USB-C port of the smartphone.

### Step 3:

Insert the charger into a power outlet and allow the device to fully charge. This may take several hours.

## 4. POWERING ON THE DEVICE:

### Step 1:

Press and hold the power button until the device vibrates and the startup logo appears (hold for approximately 3–5 seconds).

### Step 2:

Release the power button and wait for the device to boot up.

## 5. INITIAL CONFIGURATION

Follow the on-screen prompts to configure your device:

- Language selection:  
Choose your preferred language.
- Wi-Fi connection:  
Select your Wi-Fi network and enter the password.  
Alternatively, use mobile data if a SIM card is already installed.

## 6. ADD GOOGLE ACCOUNT:

### Step 1:

Sign in using your Google account, or create a new account.

### Step 2:

Follow the instructions to verify your identity and accept the terms of use.

## 7. SET UP SECURITY FEATURES

### Screen lock:

Configure a screen lock method to protect your device: Choose between Pattern, PIN, or Password.

## 8. DATA TRANSFER

If switching from another Android device, use the „Transfer Data“ feature to migrate contacts, apps, and other content to your new CM450XA.

## 9. FINALIZING SETUP

### Google Services:

Review and activate desired Google services (e.g., location services, backups).

### Software Updates:

Check for available system updates and install them to ensure optimal performance and security.

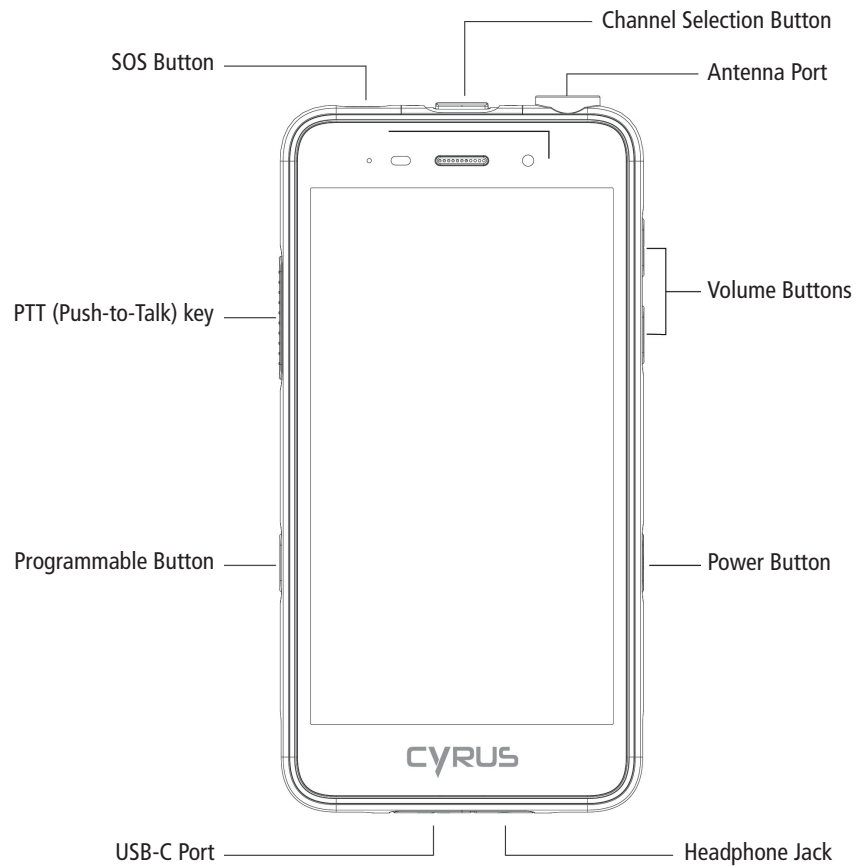


### Note for Enterprise Users:

If Mobile Device Management (MDM) is required for enrollment, please contact your system administrator to ensure the device is properly integrated into your organization's environment.

# Device Overview

## Buttons and Functions:



## DESCRIPTION OF THE BUTTON FUNCTIONS:

### Power Button:

Turns the device on/off and locks/unlocks the screen.

### Volume Buttons:

Adjust the volume.

### SOS Button:

Sends an emergency alert.

### PTT (Push-to-Talk) Button:

Enables push-to-talk communication.

### Channel Selection Button:

Switches between communication channels.

### Programmable Button:

Can be configured as needed.

### USB-C Port:

Used for charging and connecting to other devices.

### Headphone Jack:

Connects to headphones.

### Antenna Port:

Attaches the SMA antenna.

# Main Components and Specifications of the CM450XA

This table provides a comprehensive overview of the key hardware and software specifications of the CM450XA smartphone.

| Design                                    |                                                                       |
|-------------------------------------------|-----------------------------------------------------------------------|
| Dimensions                                | 160,3mm (254,5) x 82,3mm x 20,8mm                                     |
| Weight                                    | 385,1g                                                                |
| Buttons                                   | Power, Volume, SOS, PTT, Channel switch, wechsel, Programmable button |
| Rugged Capabilities                       |                                                                       |
| IP Certification                          | IP68                                                                  |
| Waterproof                                | waterproof up to 1.5 m                                                |
| Dustproof                                 | yes                                                                   |
| Shockproof                                | Shock-resistant up to 1.20m drop height                               |
| Display                                   |                                                                       |
| Material                                  | Asahi Panda Glas                                                      |
| Size                                      | LCD 5,5" (720x1280)                                                   |
| Environmental conditions                  |                                                                       |
| Temperature range                         | -20°C to +50°C                                                        |
| GNSS (Global Navigation Satellite System) |                                                                       |
| GNS                                       | GPS / GLONASS / Galileo, Beidou, QZSS                                 |
| Security Functions                        |                                                                       |
| SOS                                       | Yes                                                                   |
| PTT (Walkie-Talkie Function)              | Yes (via WiFi or mobile network)                                      |

| Battery                 |                                                  |
|-------------------------|--------------------------------------------------|
| Type                    | Lithium-ion                                      |
| Capacity                | 5.000mAh replaceable battery                     |
| Qi (wireless charging)  | yes                                              |
| SIM Cards               |                                                  |
| Dual SIM                | Yes                                              |
| Size SIM Slot 1         | Nano SIM card<br>(for conventional LTE networks) |
| Size SIM Slot 2         | Nano SIM card<br>(for the 450 MHz spectrum)      |
| CPU und Memory          |                                                  |
| CPU                     | 4 x A53 2,2 GHz                                  |
| Chipset                 | MT6765                                           |
| 450 MHz Module          | SIMCOM Module A7676E                             |
| RAM (Memory)            | 4GB                                              |
| ROM (Storage)           | 64GB                                             |
| SD Card                 | yes                                              |
| Camera                  |                                                  |
| Main Camera Resolution  | 13,0 Megapixels                                  |
| Front Camera Resolution | 8,0 Megapixels                                   |
| Video                   | yes                                              |
| Video Resolution        | 1080p (1920x1080)                                |

| Network            |                                                                                               |
|--------------------|-----------------------------------------------------------------------------------------------|
| SIM1               |                                                                                               |
| 2G / GSM           | B2 / B3 / B5 / B8 (Quad Band)                                                                 |
| Network Standard   | GSM / GPRS / EDGE(RX)                                                                         |
| 3G / WCDM          | B1 / B4 / B5 / B8                                                                             |
| Network Standard   | WCDMA / WCDM / HSPA / HSPA+                                                                   |
| 4G / LTE           | B1 / B3 / B4 / B5 / B7 / B8 /<br>B12 / B13 / B17 / B20 / B28 / B29 /<br>B38 / B40 / B66 / B41 |
| Network Standard   | LTE / Category 4                                                                              |
| SIM2               |                                                                                               |
| 450 MHz            | Band 72 / Band 31                                                                             |
| LTE-FDD            | B1/B3/B8/B20/B31/B7                                                                           |
| GSM/GPRS/EDGE      | 900/1800 MHz                                                                                  |
| Network Standard   | LTE / Category 1                                                                              |
| Connectivity       |                                                                                               |
| WiFi               | 802.11 a/b/g/n/ac (2,4GHz/5GHz)                                                               |
| Bluetooth          | 5                                                                                             |
| Sensoren           |                                                                                               |
| Proximity Sensor   | yes                                                                                           |
| Accelerometer      | yes                                                                                           |
| Light Sensor       | yes                                                                                           |
| Magnetometer       | yes                                                                                           |
| Temperature Sensor | yes                                                                                           |

# Network and Connectivity

The CM450XA smartphone runs on Android 14, providing a variety of options for network and connectivity settings. You can easily connect to WiFi, Bluetooth, and mobile networks to ensure you remain connected at all times

## WIFI AND BLUETOOTH:

To connect to a WiFi network, go to your device settings, select „Network & Internet,“ and then „WiFi.“ Choose your preferred network from the list and enter the password to establish a connection. For Bluetooth connections, navigate to „Connected Devices“ and enable Bluetooth to search for available devices and pair with them.

## MOBILE NETWORK:

The CM450XA supports multiple mobile network standards, including 2G, 3G, and 4G LTE. To establish a connection, insert your Nano SIM cards into the appropriate slots (SIM Slot 1 for standard LTE networks and SIM Slot 2 for the 450 MHz spectrum). Then, go to „Network & Internet“ > „Mobile Network“ and enable mobile data.

## MDM UND KIOSK MODE:

Please note that network and connectivity settings may be restricted by Mobile Device Management (MDM) or Kiosk Mode. These management settings may limit functions such as WiFi or mobile data usage to ensure security and productivity. If your device is managed by MDM or is in kiosk mode and you experience connectivity issues, please contact your system administrator. Your administrator can help adjust the necessary settings or clarify any restrictions.

By following these instructions, you can ensure that your CM450XA smartphone remains connected to the required networks and that you can use all available functions optimally.

## USB SWITCH: TO SWITCH BETWEEN USING LTE 450 MODULE AND USB DATA TRANSFER

To ensure high-speed communication between the LTE 450 module and the system platform on the CM450XA, the device is designed to utilize the USB interface as channel between them. This design makes it is not possible to use the LTE 450 module and perform data transfer via the USB port at the same time.

To provide flexibility, the device includes a USB Switch feature that allows users to toggle the USB interface between two operating modes:

- LTE450 Mode – Enables mobile network access via the LTE 450 module
- Data Transfer Mode – Enables USB file transfer and communication with external devices (e.g., PCs)

## IMPORTANT NOTES

- After completing file transfers or external USB communication, please switch the USB mode back to “LTE450” to restore mobile network connectivity through the LTE 450 module. Failing to do so will prevent the device from accessing the LTE 450 network.
- As long as you are data transfer mode there will always be a system notification to remind user to switch back to LTE450 Mode.

## ACCESSING THE USB SWITCH

There are several ways to access and change the USB mode:

1: via Settings Menu

1. Open the Settings app
  2. Go to Connected Devices
  3. Tap on USB Mode
  4. Choose one of the following:
- LTE450 – for mobile network access via the LTE 450 module
  - Data Transfer – for USB connectivity with other devices

2: via Quick Settings Panel

1. Swipe down from the top of the screen to open the notification panel
2. Tap the USB Mode tile:
  - Single tap toggles between LTE450 and Data Transfer modes
  - Long press opens the USB Mode page in Settings

3: via USB Connection Notification

Whenever the device is connected to another device via a USB cable, a notification will appear prompting you to change the USB mode if needed.

- Tap the notification to directly access the USB Switch settings screen.
- This allows for quick switching between LTE450 and Data Transfer without navigating through the full settings menu.

# Third-Party Applications

The CM450XA smartphone allows integration with a variety of third-party applications that enhance its capabilities, including Push-to-Talk (PTT), SOS emergency alerts, and Mobile Device Management (MDM).

## **PUSH-TO-TALK (PTT) & MISSION CRITICAL PUSH-TO-TALK (MCPTT)**

PTT and MCPTT applications provide instant and reliable communication, similar to a walkie-talkie. These functions are essential for teams operating in critical or challenging environments that require immediate voice communication. PTT and MCPTT apps should be selected and configured in coordination with your system administrator to meet specific operational needs.

## **SOS FUNCTIONALITY VIA THIRD-PARTY APPS**

The SOS function on the CM450XA is enabled through third-party applications. These apps can be configured to send predefined emergency messages to designated contacts when activated. Since these applications are not pre-installed, users should consult their system administrator to determine the appropriate SOS app for their needs.

## **MOBILE DEVICE MANAGEMENT (MDM)**

The CM450XA supports integration with MDM systems, allowing administrators to enforce security policies, monitor devices, and manage configurations remotely. MDM can also limit the use of features such as WiFi and mobile data to ensure compliance with security and operational requirements. If your device is MDM-managed, contact your system administrator for setup and troubleshooting support.

## **ADDITIONAL SECURITY FEATURES VIA THIRD-PARTY APPS**

Beyond SOS functionality and MDM, various third-party applications provide additional security features, including location tracking, security monitoring, and remote device management. Users should explore available third-party apps and consult their administrator for recommendations.

By using these third-party apps and MDM systems, you can ensure that your CM450XA smartphone is equipped with comprehensive features that guarantee your security and the protection of your data.



Third-party applications are provided by external vendors and are not part of the manufacturer's pre-installed software. Users should refer to the app providers for detailed setup instructions and support.

# Band Lock Feature (SIM2 Only)

The CM450XA is designed to provide robust connectivity for use in demanding and critical communication environments - especially where the LTE 450 network is used. To ensure a fast and stable reconnection after a connection loss, the device offers a band lock function for the SIM2 slot.

In certain scenarios - such as when using LTE 450 exclusively - this function can noticeably speed up the restoration of the network connection.

## WHAT DOES BAND LOCK DO?

By default, the LTE module searches all supported LTE bands to establish a connection once network coverage has been regained. However, if an LTE 450 SIM card is used in SIM2, it makes sense to restrict the network search to the relevant band (B31 or B72).

The band lock function does this:

- It locks the search to a specific LTE band (B31 or B72).
- This reduces the search time and restores the connection to the LTE 450 network more quickly.
- The function only applies to SIM2, as only this slot is connected to the LTE 450 module.

## HOW TO ENABLE OR MODIFY BAND LOCK

1. Open the Settings app
2. Go to Network & Internet
3. Select Mobile Network
4. Choose your SIM (e.g., 450Connect, which is SIM2)
5. Tap Band Lock
6. Select one of the following options:
  - B31 – Lock to Band 31 only
  - B72 – Lock to Band 72 only
  - BOPEN – No lock (default); the module can scan and connect on all supported bands

## IMPORTANT NOTES

- The band lock function only applies to SIM2. SIM1 is not affected by this.
- If lock for B31 or B72 is activated, the module can only communicate with networks that use exactly this band.
- If you would like to restore full band compatibility (e.g. when changing the network operator or another SIM card), please set the setting back to BOPEN.
- With BOPEN, the module is once again able to actively search all available LTE bands and connect accordingly.

# Maintenance and Care of Your CM450XA Smartphone

Your CM450XA smartphone is a high-quality, rugged device designed for use in demanding environments. With regular maintenance and careful care, you can ensure the longevity and optimal performance of your device. Follow these best practices to keep your CM450XA in top condition at all times.

## Regular Cleaning

### HOUSING AND SCREEN:

- Use a soft, slightly damp cloth to clean the housing and screen.
- Avoid harsh cleaning agents, alcohol, or solvents that may damage the device.
- Remove dust and dirt from buttons and ports regularly to ensure smooth operation.

### PORTS AND CONNECTIONS:

- Ensure that the USB-C port, headphone jack, and SIM slots are free of dust and debris.
- Use compressed air or a specialized cleaning brush if necessary.

## Secure Usage

### WATERPROOF AND DUSTPROOF PROTECTION:

- The CM450XA is IP68 certified, meaning it is dustproof and waterproof.
- Ensure all covers and seals are tightly closed before exposure to water or dust.
- Avoid exposure to saltwater or chlorinated water, as they may damage the seals.

### DROP AND SHOCK RESISTANCE:

- The device is shockproof and can withstand drops from up to 1.2m, but avoid unnecessary impacts to preserve its durability.

## Battery Maintenance

### CHARGING:

- Use only the provided charger and certified accessories.
- Disconnect the device from the charger once fully charged to avoid overcharging.
- Charge the battery regularly and avoid complete depletion

### TEMPERATURE CONSIDERATIONS:

- Do not charge the device in extreme temperatures (below 0°C or above 40°C).
- Store the device in a cool, dry place when not in use.

### REMOVABLE BATTERY HANDLING:

- Ensure that the battery is securely installed and that the battery cover is tightly closed.
- Only use original batteries and avoid third-party replacement

## Storage

### LONG-TERM STORAGE::

- If you do not plan to use the device for an extended period of time, charge the battery to approximately 50% and turn the device off.
- Store the device in a dry, cool environment and avoid direct sunlight and high humidity.

## Security Software

### UPDATES:

- Keep your device updated by checking for software updates regularly. Updates often include security enhancements and performance optimizations.

### SECURITY SOFTWARE:

- Install reliable security software to protect against malware and other threats.
- Perform regular security scans to ensure the device remains secure.

## Additional Tips

### AVOID EXTREME TEMPERATURES:

- Do not expose the device to extreme temperatures, as this may affect battery performance and lifespan.

### USE A SCREEN PROTECTOR AND CASE:

- Apply a screen protector and use a suitable case to protect the display and housing from scratches and other damage.

### REGULAR INSPECTIONS:

- Regularly check the device's condition and the battery cover seals to ensure there are no damages that could compromise its protective features.

By following these maintenance and care instructions, you can ensure that your CM450XA smartphone remains in optimal condition and maintains its full performance.

# Safety Instructions

The safety instructions are essential to ensure the safe use of your CM450XA smartphone and to minimize potential risks. Please read these instructions carefully and follow them at all times.

## General Safety Precautions

### 1. AVOID EXTREME CONDITIONS:

- Do not expose the device to extreme temperatures (under -20°C or over +50°C).
- Even though the device is waterproof, avoid prolonged exposure to saltwater or chlorine.

### 2. USE ONLY APPROVED ACCESSORIES:

- Only use the provided charger and certified accessories to prevent device damage.

### 3. BATTERY SAFETY:

- Use only manufacturer-approved batteries.
- Do not leave the device unattended while charging.
- Avoid metal contact with battery terminals.

## Handling and Usage

### 4. PHYSICAL PROTECTION

- While the device is drop-resistant up to 1.2m, avoid unnecessary impacts.

### 5. CLEANING GUIDELINES:

- Clean the device only with a soft, damp cloth; avoid harsh chemicals.

### 6. SAFE OPERATION

- Do not use the device while charging if overheating occurs.
- Ensure all covers are securely closed to maintain water and dust resistance.



By following these security guidelines, you help ensure the safe use of your CM450XA smartphone and contribute to extending the lifespan of the device. If you have any further questions or encounter any issues, our technical support team and authorized service centers are available to assist you.

## Special Usage Environments

### 7. EXPLOSIVE ENVIRONMENTS:

- Do not use the device near flammable materials or in explosive environments.

### 8. AIR TRAVEL:

- Set the device to airplane mode during takeoff and landing to prevent interference.

### 9. MEDICAL DEVICES:

- Keep the device at least 15 cm away from medical devices such as pacemakers to avoid interference.

## Disclaimer and Legal Notices

### 10. DISCLAIMER:

- The manufacturer is not liable for damages caused by improper use of the device or the use of unauthorized accessories.

### 11. WARRANTY:

- The warranty becomes void in case of damage resulting from improper handling, the use of third-party batteries, unauthorized accessories, or modifications to the device.
- All repairs should only be carried out by authorized service centers; otherwise, the warranty will be voided.

### 12. COMPLIANCE WITH LEGAL REGULATIONS:

- The device complies with international standards and legal requirements for electrical and electronic equipment. For more information, please refer to the enclosed Declaration of Conformity.

## Emergency Procedures

### 13. OVERHEATING:

- If the device overheats, turn it off and allow it to cool before use.

### 14. BATTERY DAMAGE

- If the battery is damaged or leaking, stop using the device and contact support.

### 15. TROUBLESHOOTING:

- If experiencing issues, contact technical support or an authorized service center.

## Battery Safety

### 16. CHARGING:

- Use only the supplied charger or manufacturer-certified chargers to charge the battery.
- Charge the device at room temperature and avoid charging in extreme temperatures (below 0°C or above 40°C).
- Avoid overcharging. Disconnect the device from the charger once it is fully charged.
- Do not leave the device unattended while charging.

### 17. BATTERY STORAGE:

- Store the device and battery in a cool, dry place, away from direct sunlight and heat sources.
- If the device will not be used for an extended period, charge the battery to approximately 50% and power off the device.

### 18. HANDLING THE BATTERY:

- Avoid contact between the battery terminals and metal objects.
- Do not expose the battery to physical damage, such as bending, puncturing, or crushing.
- Do not use the battery if it is damaged or leaking. If this occurs, immediately contact customer support.

### 19. BATTERY DISPOSAL:

- Dispose of the battery according to local environmental regulations. Do not dispose of the battery in household waste.
- Use designated recycling programs or return systems for battery disposal.

## Additional Safety Measures

### 20. SOFTWARE-DOWNLOADS:

- Only download apps and software from trusted sources to minimize the risk of malware infections.

### 21. DATA ENCRYPTION:

- Use built-in security features such as data encryption and screen locks to protect your personal information.

### 22. REGULAR BACKUPS:

- Create regular backups of your data to prevent data loss.

