



User Manual

Infinea X[®]

For iPhone[®] 6s / 7 / 8 / SE





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Legal Notice

"Made for iPhone" (MFi) means an electronic accessory is designed to connect specifically to the iPhone and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.

Note

The use of this accessory with an iPhone may affect wireless performance.

Compatible Devices

iPhone is trademarks of Apple Inc., registered in the U.S. and other countries. Lightning™ is a trademark of Apple Inc.

Made for these mobile digital devices:

- iPhone 6s / 7 / 8

Infinea X Accessories

Contact your Infinite Peripherals account representative for information about current and future product accessory offerings.



Overview

The Infinea X for iPhone allows you to scan barcodes and read RFID tags or cards.

Infinea X Features

Before using the Infinea X, the battery should be fully charged. These are the key features of the Infinea X.

Note

Use of the barcode scanner or contactless card reader requires the installation of special software. Contact your Infinite Peripherals account executive for compatible third-party software solutions.

Feature	Description
Barcode Scanner	Supports one-dimensional (1D) and two dimensional (2D) barcode symbols, which can be read in any direction (omni-directional). The effective reading distance of the barcode reader varies depending on the barcode size. The barcode scanner is capable of reading barcodes on a LCD screen.
RFID	Radio Frequency Identification (RFID) tag/card reader with read and write capability at 13.56 MHz.
Audio	Built-in, front and rear amplified speakers, which are programmable through the Universal SDK.
Battery	User-replaceable, Li-ion battery.
Indicators	Three programmable indication features: audible, visual and haptic. An Internal electro-magnetic buzzer provides the audible indicator. For visual indications, there are 4 multi-color SDK programmable LEDs (blue, green, red and orange). These LEDs also provide battery status. The haptic indicator is a programmable vibration motor.
Power Monitoring	Onboard fuel gauge facilitating accurate monitoring of significant battery attributes using the SDK.
Bluetooth	Available Bluetooth 2.0 SPP compatibility, which allows connection to a Bluetooth peripheral such as a printer.
Case	The case is IP54 rated for protection against dust and fluid ingress. The case material is antimicrobial, which inhibits growth of bacteria on the product.

Getting Started

Infinea X scans barcodes and passes that data into compatible iOS applications. To get you up and running with your new Infinea X, review these sections.

Note

Observe any notes, cautions, or warnings throughout this guide for additional information, special care required, or important points to prevent injury or adverse affects.

What	Why	Where
Install the battery	The Infinea X battery is shipped with approximately 30% of the full charge capacity.	Installing the Infinea X Battery Pack
Charge the Infinea X	Ensure the battery is fully charged before first use.	Charging Your Infinea X
Install Software	To use the barcode scanner, RFID reader, and LED status indicators require the installation of software on your iOS device.	Developing Applications
Turn on the Infinea X	Initialize the scanner and reader functionality for use.	Powering On Your Infinea X



Technical Specifications

Mechanical

Compatibility

iPhone 6s / 7 / 8 / SE

Dimensions

164mm x 83mm x 27.7mm (5.83" x 2.84" x 1.22")

Weight

213g with battery (7.52oz.) without iOS device

Connectivity

- Apple Lightning™ connector
- Pass-through sync via iOS device

Buttons

- iOS ON/OFF
- Scan
- Battery Status
- Programmable button
- Volume

Port

- Mini USB for charging and syncing
- Charging cup is recommended for charge/sync functionality

Processor

32-bit ARM Cortex - M3 MCU

Environment

Operating Temperature

+10° to +40°C / 50°F to +104°F

Storage Temperature

-20° to +50°C / -4°F to +122°F

Relative Humidity

5% to 90%

Electrical

Barcode Scanner

- High-speed imager supports all major 1D/2D barcodes.

Battery Capacity

- Rechargeable Li-ion Battery 3.7V /1900 mAh
- Precise battery management by Fuel Gauge microcontroller for remaining battery capacity

Power Consumption

- Deep sleep -20uA

Indicators

- Four (4) programmable colorful LEDs—Green/Blue/Red/Orange
- Audio via electromagnetic buzzer and loudspeaker

Contactless Card Reader (RFID)

- ISO/IEC 14443 Type A/MIFARE
 - * MIFARE MINI
 - * MIFARE CLASSIC-1K, MIFARE CLASSIC-4K
 - * MIFARE ULTRALIGHT, ULTRALIGHT-C
 - * MIFARE PLUS 2K/4K
 - * DESFire card
 - * FeliCa
- ISO/IEC 14443 Type B
 - * - Supports most cards
- ISO/IEC 15693
 - * - Supports most cards

Certifications

- CE, FCC, Apple MFi
- Drop Rating – IP54 / 1.22m (4ft)



Before Using Infinea X

- Remove the device and any included accessories from the shipping carton and verify contents against your packing list.
- Retain all packing materials, invoice, and bill of lading. These may be required to return the device for servicing later, or to process a claim with the shipping carrier.
- Carefully inspect the contents inside of the packaging for any signs of damage.
- If there are signs of damage, do not attempt to use the unit. Notify your account executive or contact Infinite Peripherals technical support, <https://ipcmobile.com/support>.
- Ensure the battery is fully charged.
- If the battery is fully discharged, the charging time is approximately 3 hours and 30 minutes.

Developing Applications

Software Developers Kit (SDK)

Software is not automatically provided with your Infinea X. Integrating the Infinea X into your iOS application requires the use of the Infinite Peripherals Universal SDK. The SDK incorporates an API specifically for developing applications to use Infinea X functionality.

For additional details on using the Infinite Peripheral Universal SDK, please refer to the appropriate SDK documentation. You can contact your Infinite Peripherals account representative for Third-Party software solutions.

For the latest Infinite Peripheral Universal SDK please visit our developer portal:

developer.ipcmobile.com/

Programmable Options

Optional settings for the Infinea X are configured via the SDK

Option	Description
Set Charging	To enable/disable battery backup sharing capability to charge the iOS device from the IX removable battery.
Charging Current	Set to 500mA or 1A (default).
Scan Mode	<ul style="list-style-type: none"> • Single Scan: Single barcode by pressing the Scan button. • Multi-Scan: Multiple barcodes by pressing and holding the Scan button. • Motion-Detect: Scanner is activated automatically when barcode is placed near the barcode engine. • Multi-Scan without Duplicates.
Pass Through Sync	When enabled with USB cable plugged in, the iOS device can be synced via a PC or MAC. Default is off. iOS device does not charge when plugged into an external charger.
Time Out	Timeout is set for 60 up to 64800 seconds (18 hrs). Default setting is subject to change based on specific use or configuration.

Box Contents

Your Infinea X ships with these items.



Infinea X (1)



Standard Battery (1)
(inside)



Charging Cup (1)



Flat-head shoulder socket cap
T6 Torx screws (6)

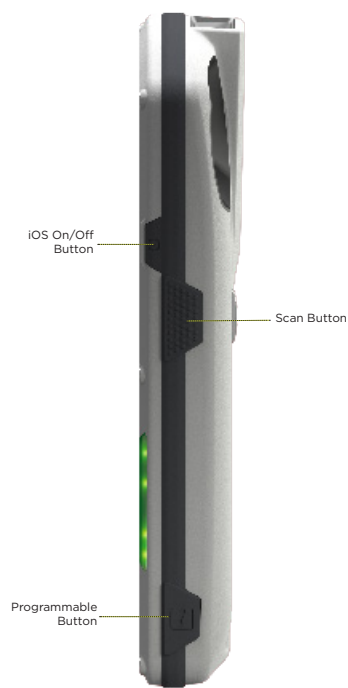
Note:

Contents in your shipment and SKUs vary based on your order.



Infinea X Layout

SKUs: IX-Z2DBTR-PH7-BK and IX-Z2DBTR-PH7-MG





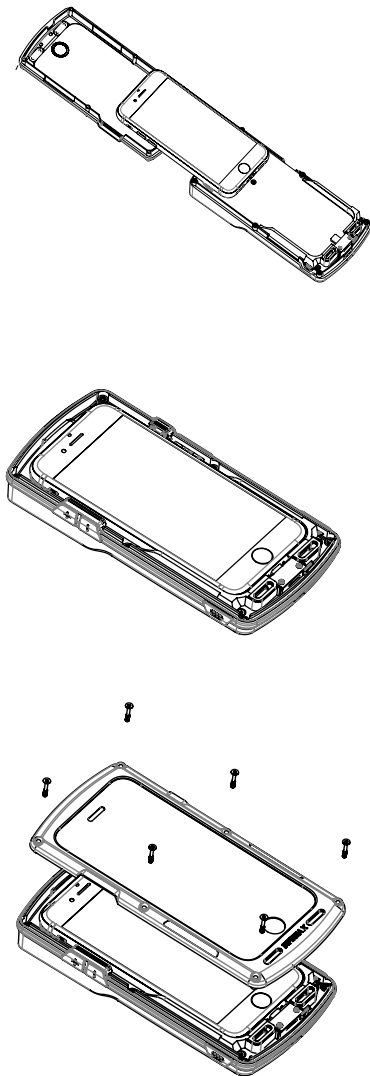
Assemble Your Infinea X

The Infinea X is molded to compatible iOS devices listed on page 3. iOS devices are not interchangeable.

1. Loosen the socket head hex screws to open the unit.
2. Flip open the top cover gently.
3. On your iOS device, set the Ring Silent switch to Ring Mode.
4. Slide the iOS device onto the Lightning connection until you hear a click.
5. Close the top cover while maintaining the position of the protective rubber bumper. Failure to align the top and bottom covers compromises the liquid protection features of the unit.
6. Before closing the top cover, wipe the interior glass clean with a lint-free cloth to ensure your screen is free from moisture.
7. Secure the cover by tightening the six socket head hex screws in the upper enclosure in this order: top left, bottom right, top right, bottom left, center left and right.

Note:

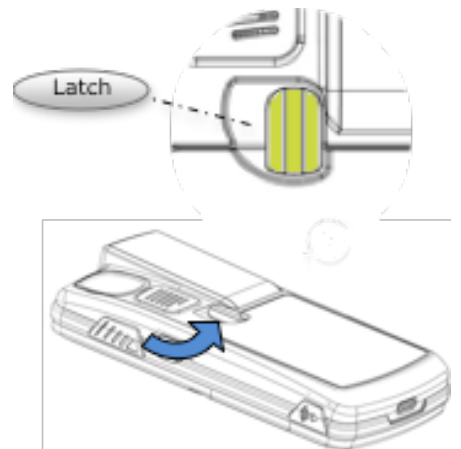
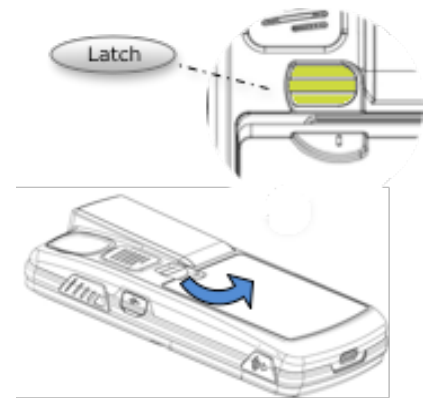
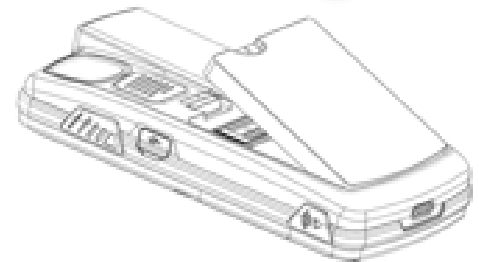
The recommended torque is 2 lbs maximum. Do not over-tighten the screws as that could damage the cover.



Install the Battery Pack

Standard and extended external, swappable battery packs that reduce downtime are available for the Infinea X.

1. Open the battery latch gently.
2. Lower the new battery pack into place so that it sits flat after installation.
3. With slight pressure on the back of the battery pack, rotate the latch counter-clockwise, 90 degrees or until the battery is locked in place securely.





Charge the Infinea X

Charge the Infinea X either by replacing the battery or by an electrical outlet. In addition, pass through charging to an iOS device is supported. Any combination of iOS device and Infinea X can be charged by attaching the charging cup to the bottom of the Infinea X and USB plug into an AC wall adapter or by a station charger.

Note:

The Infinea X and iOS device cannot be charged with a USB cable to personal computer or MAC due to charging requirements.

Battery Specifications



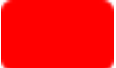
The standard battery capacity is 1,900 mAh. The extended battery pack, which is sold separately offers a capacity of 3,800 mAh.

To charge a fully depleted battery to 100% capacity is approximately 3 hours with or without the standard battery inserted.

If back-up charging is enabled and both the iOS device and Infinea X are completely discharged, insert a new, fully charged standard battery into the Infinea X. Charge for approximately 10-15 minutes using the charging cup. After 15 minutes, remove the charging cup and the Infinea X can provide back-up charging to the iOS device, if needed.

Battery Status

When the battery capacity is below 15%, the automatic iOS device charge stops.

LED Color	Capacity Percentage Description
	75%-100%: Solid green when you tap the Battery Status button, or 50%-74%: Flashing green.
	24%-49%: Flashing orange when you tap the Battery Status button.
	1%-24%: Flashing red when you tap the Battery Status button, or 1%-9%: Emergency low-battery status.

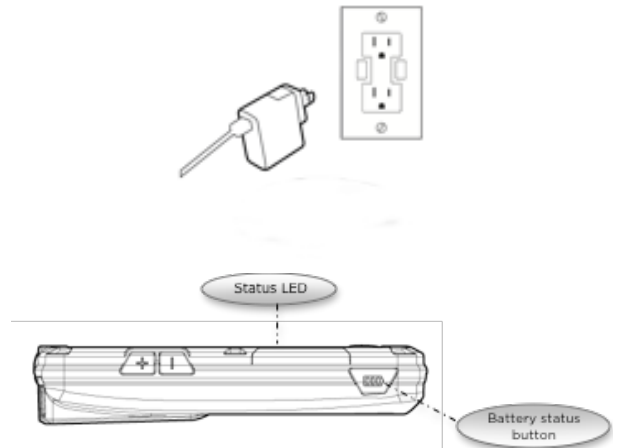
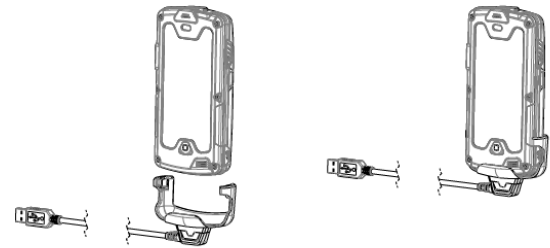
Note:

Ensure used batteries are disposed of in an environmentally friendly way and according to federal law. This may include disposing them at a battery-recycling center or hazardous waste collection site.

Charge Using Electrical Outlet

To prevent electrical damage to the Infinea X or battery, use only the provided charging cup.

1. Insert a standard battery into the Infinea X, and then attach the charging cup to the bottom of the unit. Once you hear a click, the unit is fully seated in the cup.
2. Plug the USB connector end of the charging cup into an AC wall outlet (21.A).
3. Confirm the Infinea X LED status indicator on the left-hand side turns green for active charging. Refer to the Battery Status section for more details.



Charge Replaceable Battery

As an accessory, the multiple bay battery charger can accommodate up to ten batteries at one time. To charge a depleted battery fully takes approximately 2.5 hours for a standard battery and 5 hours for an extended battery.

Note:

This battery charger is intended for charging the Infinea X standard battery and extended battery and not for any other battery types.

An individual LED charge indicator is next to each battery slot:

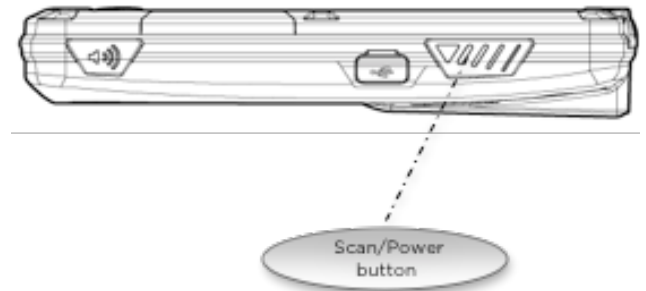
- Red LED indicates charging is in progress.
- Green LED indicates the battery is fully charged.



Power On Infinea X

The Scan/Power button is dual purpose to turn on and scan barcodes. If the unit is left idling for an extended period, the Infinea X achieves sleep mode to preserve the battery.

- When the Infinea X is turned off or in sleep mode, press the Scan/Power button. A single beep indicates the unit is ready for use.



Scan Barcodes

- Once turned on, press the Scan button again to activate the scanner for normal barcode scanning.
- Position the scan head with the red target aimed at the barcode within the width of the red illumination cross-hairs.
- Pull back the Infinea X slowly to increase the distance between the barcode and the scanner, until the entire barcode is read.

Note:

The barcode scanner is a Class 2 laser. Protect your eyes, do not look at or stare into the laser beam.

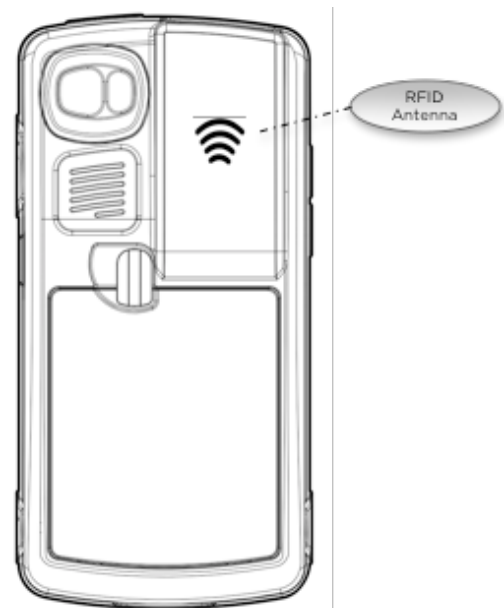


Read Contactless Cards

- With the Infinea X turned on, press the Scan button to capture RFID data.
- Place a RFID tag/card over the receiver/transmitter.
- Keep the face of the tag/card flat with the receiver/transmitter as close as possible.

Note:

Based on the type of RFID tag/card used, you may need to make direct contact with the surface of the RFID receiver/transmitter for proper reading and writing of information.





Status & Operational Modes

The multiple, colorful LEDs give you the status when operating the Infinea X. The colors, which can be programmed via the SDK are:

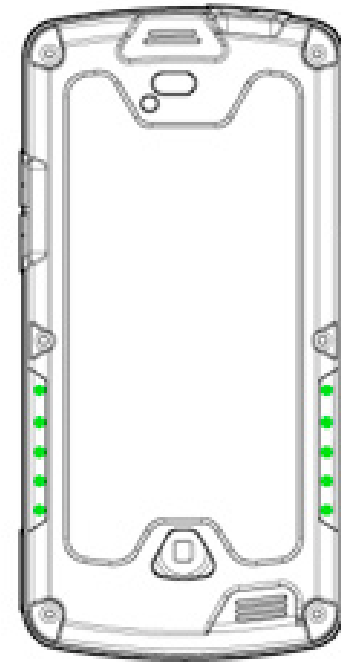
- Blue
- Green
- Orange
- Red

Note:

Refer to the **Developing Applications** section, the Infinite Peripherals Development Portal: <https://developer.ipcmobile.com>, or contact your account executive for details.

Enable Audio

Once the rear speaker and audio are enabled via the SDK, a single blue LED illuminates on the right side of the Infinea X.



Enable Rear Speaker

To enable or disable the rear speaker manually, press the lower, right-hand button to toggle the rear speaker on or off.

- When the speaker/mic are enabled, the LED is ON.
- When the speaker/mic are disabled, the LED is OFF.

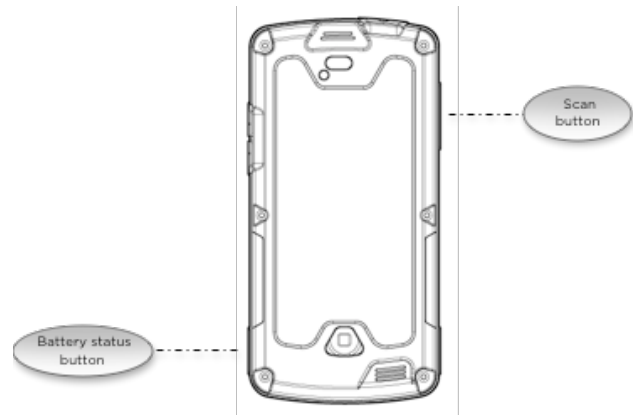


Soft-Reset of Infinea X

You can reboot the Infinea X without removing your iOS device. This functionality cycles the unit's power and restarts your Infinea X.

1. Press the Scan and Battery Status buttons together for three seconds.
2. Once you hear a beep as confirmation the main computer board is reset, release both buttons to restart the Infinea X.

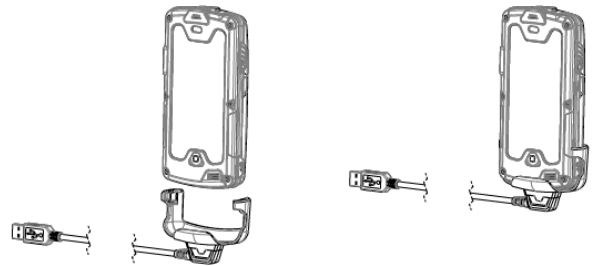
Note:
Repeat the above steps if the unit does not restart.



Enable/Disable Sync Mode

To sync your iOS device with iTunes with the Infinea X, connect the Infinea X to a personal computer or MAC using the charging cup.

1. Once in sync mode, refer to the iTunes documentation for the procedure to sync your iOS device.
2. If syncing does not occur, contact your account executive or <https://developer.ipcmobile.com> as this functionality may not be enabled within your application.
3. To disable sync mode, exit iTunes, and then unplug the unit from the charging cup.



Update Software

1. To update the software with a newer version from the application, tap Update Firmware.
2. Tap Update.
3. To update the barcode engine with a newer version, tap Update Barcode Engine Firmware. The current firmware version and the new firmware version are displayed.
4. Tap Update.



Troubleshooting

General Troubleshooting

Issue	Resolution
iOS device does not sync with iTunes.	<ul style="list-style-type: none"> Infinea X is not configured for sync.
iOS touch screen does not respond to swipe or tap gestures.	<ul style="list-style-type: none"> Top cover is not properly installed. iOS device requires a reboot.
Audio playback is not heard from front speakers.	<ul style="list-style-type: none"> iOS device is not connected to audio jack. Infinea X front speaker cable is disconnect or damaged.
Audio playback is not heard from rear speakers.	<ul style="list-style-type: none"> iOS device is not connected to audio jack. Infinea X rear speaker is not enabled.
iOS device does not charge.	<ul style="list-style-type: none"> AC adapter does not meet charging requirements. Pass-Through sync is enabled.

Barcode Scanning / RFID

If the Infinea X is not scanning barcodes properly or not reading RFID cards tags, refer to these possible causes and resolutions.

Note
If problems persist and not resolved by the resolutions indicated, contact technical support.

Issue	Resolution
Barcode scanner or RFID reader does not power on	<ul style="list-style-type: none"> Infinea X battery is too low Infinea X is not turned on by the software Faulty scan engine
Barcode or RFID card data not returned or partially returned during scanning/reading	<ul style="list-style-type: none"> Unreadable barcode or tag/card Battery is too low Faulty scanning or reader Software decoding incorrectly
Multi-scanning not working	<ul style="list-style-type: none"> Multi-scan mode is not enabled Software does not support multi-scan
Unable to read barcode or RFID card/tag	<ul style="list-style-type: none"> Barcode type or RFID type are not enabled or supported See Technical Data for more information

Warranty

Infinite Peripherals does not warrant, and is not responsible for, any damage to the Infinea X ("Product") or the assembled iOS device as a result of liquid or solid particle intrusion into the Product, or damaged caused by dropping the Product with the assembled iOS device. If a material or workmanship defect arises with regard to any Infinite Peripherals product, and a valid claim is received within the Warranty Period, Infinite Peripherals (at our sole discretion) will repair the Product using new or refurbished parts, or replace the Product with a new or refurbished Product.

For purposes of this limited warranty, "refurbished" means a product or part that has been substantially returned to its original specifications. In the event of a defect, these are your exclusive remedies.

Disclaimer

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Product Returns/Serviceing

Use the link in step 1 to create an account and gain access to our Knowledge Base and online support services. Through our online support center, you'll be able to download files, open a Support Ticket, manage your RMAs, view your account Profile and subscribe to Alerts.

To request a RMA

1. Create a user account in the RMA Support Portal at <http://ipcmobile.com/support/rma/>
2. Login to your user account, and then click Create RMA Request.
3. Read the instructions provided and complete the online request form.
4. Note the assigned RMA number and write it clearly on your shipping carton.
5. Ship your equipment back to us using the address provided.

Symbols

Symbol	Description
	Refer to the instructions before using.
	Manufacturer
	Manufacture Date
	Caution
	Serial Number
	Part Number
	Waste Electrical and Electric Equipment
	Complies with part 15 of the FCC rules
	Near-field communication (NFC)



Federal Communications Commissions

Federal Communications Commission (FCC) Statement

15.21

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)

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.

Operation is subject to the following two conditions:

1. This device may not cause interference and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.