

**Sonim® H500 5G**

**Mobile Hotspot**

**User Guide**

**DRAFT**

# Getting Started

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**Using the Sonim H500 5G Mobile Hotspot, you can access the 5G network for faster applications, uploads, and downloads. Up to 32 Wi-Fi devices can be connected simultaneously to the Internet. For example, Laptops, Tablets, E-readers, Gaming consoles, and many more.**

## **Package Contents**

**The Sonim H500 5G package includes.**

- Sonim H500 5G Mobile Hotspot
- 6000mAH Li-ion Battery
- Charger
- USB Cable
- User Quick Start Guide
- SIM Card (pre-inserted)

## **System Requirements**

- Supports all major operating systems.
- Compatible with Google Chrome®, Firefox®, Internet Explorer®, Safari™, and Mobile Safari™.
- Need Wi-Fi capability and Internet browser software to use Wi-Fi mode.
- Devices must support Wi-Fi and have an internet browser to use Wi-Fi mode.
- Need a reliable data connection for your Mobile Hotspot to work.

# Hotspot Internet Connection

## 5G

You can get the speed you need to work effectively from home or outside the office,-you can access the Internet, corporate intranet, email, and download attachments.

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## Wi-Fi 6

- Fast Wi-Fi Speeds: Dual concurrent Wi-Fi delivers smooth streaming with 2.4GHz and 5GHz.



1. Test ports
2. Ethernet port (RJ45)
3. USB Type C
4. Status LED
5. Signal strength
6. Display
7. Connections info
8. Battery indicator
9. Menu
10. Wi-Fi info
11. Power button
12. Battery under battery cover
13. SIM (SIM under battery)
14. Battery cover opening

## Charging Your Mobile Hotspot

**Warning!** It is important to fully charge your Mobile Hotspot's battery before using it for the first time.

**To charge the battery,**

1. Connect the USB end of the charger to the charging port of the Mobile Hotspot.
2. Plug the other end of the wall charger into the appropriate electrical outlet.

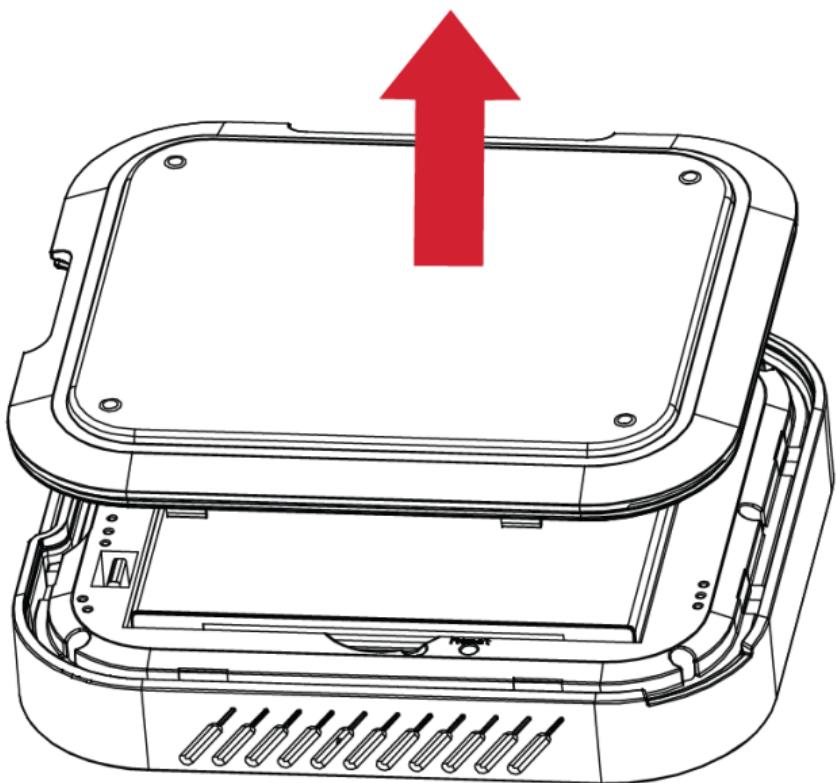
**NOTE: Before using your Mobile Hotspot, read the Battery Safety Information.**

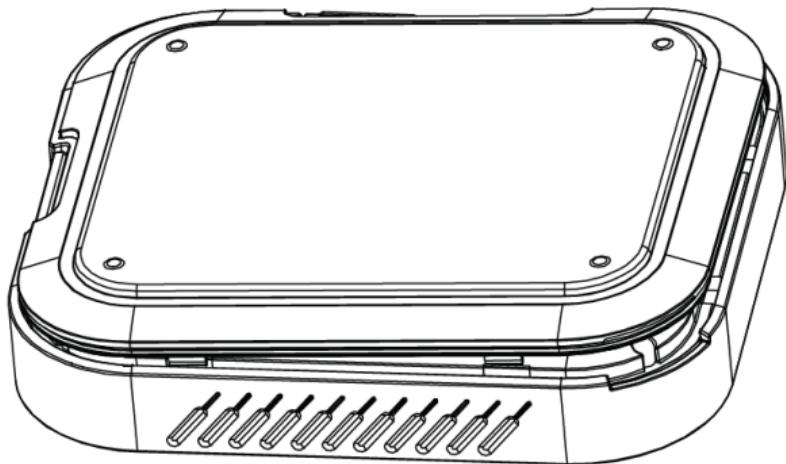
**Caution!** You should use only the batteries and chargers included with your Mobile Hotspot to get optimum performance and safety.



## How to insert the battery

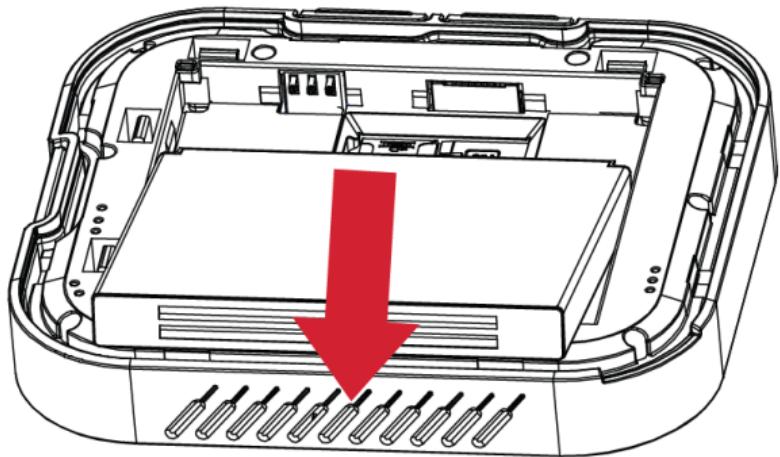
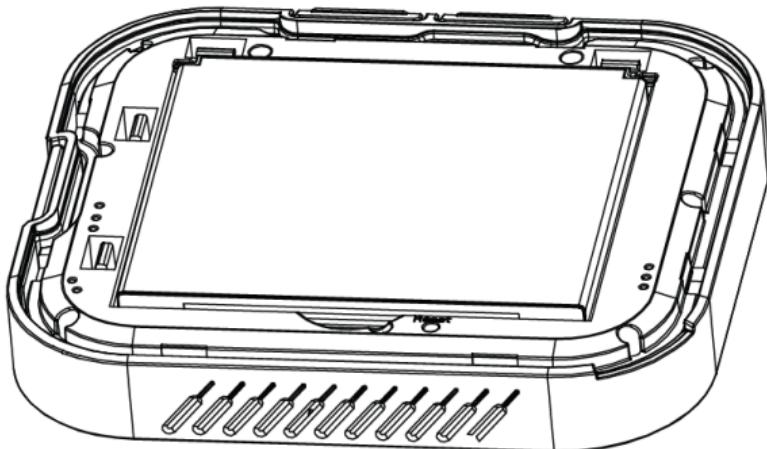
Prior to first use, open the battery door and remove the plastic tab on the battery





### **Step 1**

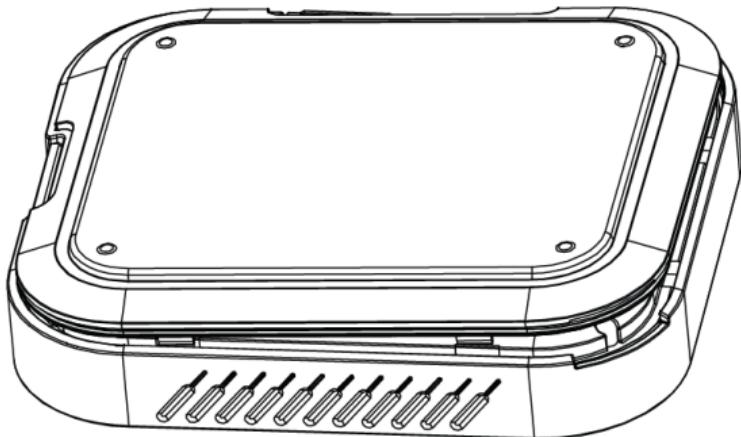
Insert the battery flush into the cavity such that the three metallic contacts on the top of the battery are aligned with the metallic contact point on the H500.



Position the battery in line with the hotspot's gold contacts and slide it gently into place.

**Step 2**

**Close the battery cover ensuring that it is fully closed.**



**Caution!** Dispose of used batteries under local regulations. Risk of explosion if an incorrect type replaces the approved battery. Risk of fire and burns. Do not open, crush, heat above 60°C, or incinerate.

**Warning!** Always use only approved batteries and chargers with your Mobile Hotspot. The warranty does not cover damage caused by non-approved batteries and/or chargers.

**NOTE:**

- Make sure your Mobile Hotspot is not connected to any device or power source before removing or replacing the battery.
- Never attempt to open the door or remove the battery with a knife, a key, a pen, or any other tool. The battery could be destroyed if any of these are used.

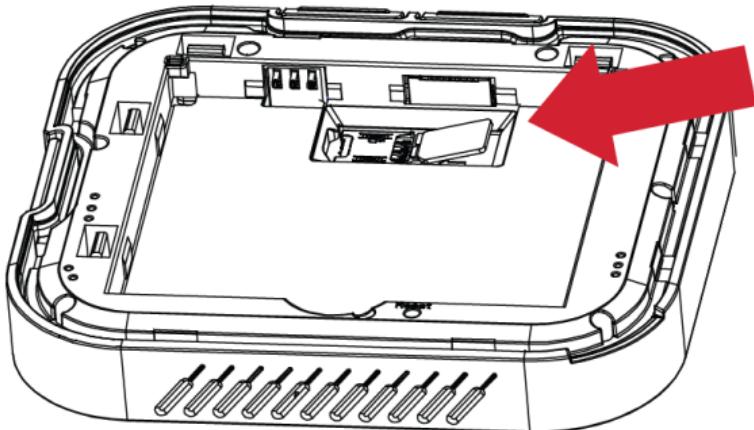
## Installing/Replacing a SIM Card

**The Subscriber Identity Module (SIM) card** is a small rectangular plastic card that stores your phone number and essential wireless service information.

**Your Mobile Hotspot may come with a pre-installed SIM card (depending on your carrier). To replace a SIM card:**

1. Power OFF the Sonim H500, remove the battery cover, and take out the battery.
2. To remove a SIM card, gently slide the SIM out of the SIM card tray.
3. Place the new SIM card with the gold contacts facing down.
4. Gently slide the SIM into the SIM card tray.





**Caution!** Do not bend or scratch your SIM card. Avoid exposing the SIM card to static electricity, water, or dirt.

## Turning the Mobile Hotspot ON/OFF

You need to:

- Press and hold the **Power** button for two seconds to turn it **ON**.
- Press and hold the **Power** button for three seconds to turn it **OFF**.
- Press and release the **Power** button to wake up the display.

**The PIN set up on your SIM,**

- To unlock the PIN set up, go to **Menu > Unlock SIM**.

**If you have a PIN lock on your SIM,**

**The “Unlock SIM” icon will display in the upper left corner of the screen. Clicking on the icon to enter the unlock screen, and then**

**enter the PIN code to unlock.**

## **Setting Up Wi-Fi Connection**

1. Turn the H500 on by pressing the power button for two seconds.
2. Open the Wi-Fi application or controls on your laptop or Wi-Fi-enabled device that you want to connect to your H500.
3. Find your H500's Wi-Fi name (SSID). There are three Wi-Fi names (SSID) in your H500, enter the password to connect any of the three SSIDs for the Internet access.

**Note:** the Wi-Fi names (SSIDs) and password appear on the screen (under Wi-Fi Info).

# Using your Mobile Hotspot

**The Mobile Hotspot allows you to check the status of your MobileHotspot, view your data usage, view Wi-Fi and connected devicedetails, and much more.**

## **The Home Screen**

**The Mobile Hotspot Home Screen provides a quick overview of itsstatus.**



**The device screen is a 2.4 inch TFT LCD with Capacitive Touch.**

**There are three selectable icons, Connections, Wi-Fi info and Menu, that appear red once selected.**

## **Connections**

This displays the number of connections both primary and guest to the hotspot. Upon selection it is possible to see the names of devices connected as well IP address and MAC address. It is possible to block or unblock a device by selecting block or unblock at the top right of the screen.

## Wi-Fi info

Once selected, Wi-Fi provides details of the primary and guest network names (SSID) and passwords to access the networks.

- Click on **Wi-Fi Info** on the home screen to enter the Wi-Fi information display page.
- Swipe the page to display 2.4GHz/5GHz/Guest Wi-Fi separately.

## Menu

The menu icon allows the user to access additional options including network, messages, data usage, Wi-Fi, help and settings.

The top left icon allows the user to view where they are in the menu, the top right icons take the user either back to the home screen or back one.

## Network

A network connection can be enabled or disabled.

Data roaming can be enabled or disabled.

## Messages

Messages can be viewed and deleted in this section. Note messages cannot be sent from the hotspot.

## Data usage

Data usage information provides information on the amount of data used during the billing period.

## Wi-Fi

Primary and guest Wi-Fi networks can be set up.

The setting tab allows:

- The user to make WPS connection using button or pin method.
- Wi-Fi connections to be enabled or disabled,

## Help

**Admin website** provides help to access the admin website.

**Wi-Fi tutorial** helps users to set up Wi-Fi connections

**Access the user guide** provides a link for users to access this user guide.

## Settings

Settings allows the following selections:

**Airplane mode** can be enabled or disabled

**USB tethering** can be enabled or disabled

**Language** can be selected

**Screen timeout** can be modified

**Sleep mode** for the device can be set up to different time intervals

**Reset and reboot** allows the device to be reset and rebooted

**Ethernet** allows an ethernet connection to be enabled or disabled

**Software update** allows the user to check and make a software update

**About Hotspot** allows users to access the following information

- **Model**
- **Software version**
- **Hardware version**
- **Battery level (%)**
- **Internet status**
- **Technology**
- **Network**
- **Signal strength (dBm)**
- **SNR (dB)**
- **Mobile number**
- **IMEI**
- **ICCID**
- **Roaming status**
- **APN**
- **IP address**

# Managing Your Mobile Hotspot using the Admin Website

You can edit your settings directly on the Mobile Hotspot's screen or through the web user interface.

## **Admin Website Device management**

1. On your Wi-Fi device or laptop that is connected to your H500, type <http://192.168.1.1> or <http://sonim.mobilehotspot/> in the browser bar.

2. Enter the **Username** and **Password**.

3. Click **Login**. You can modify the user credentials if you require.

**Note: The default username is “admin” and the password is the same as the Wi-Fi password (under Wi-Fi Info on the screen or see also in help)**

**For website instructions, including features that can be managed on the website, refer to Help on the device screen**

## Log Out of Device Management Website

**To log out,**

1. Click **Logout** in the upper right corner.
2. Click **OK** on the pop-screen to exit the application and return to the login interface.

## Home screen

The Admin website home screen has Hotspot, messages and configuration tabs. The configuration tab has a menu with the following options:

**Wi-Fi – allows user to set up Wi-Fi**

**Advanced settings – advanced device settings (use with caution)**

**Data usage – data usage information**

**Settings – regular device settings**

**About – details about the Sonim Spot H500**

## Wi-Fi Settings

**You can view the basic device Wi-Fi settings.**

1. From the Device Home screen, click **Configuration > Wi-Fi > Settings**.
2. Modify the settings and click **Save Changes**. You can perform any of the following:
  - Make changes to the Wi-Fi network settings.
  - Hide the password from being visible on the device.
  - Turn off the SSID broadcast.
  - Use separate settings for the 2.4GHz and 5GHz bands.
  - Enter the new Wi-Fi password in the settings box to change the password. This must be done for each band separately.
  - Click **Save Changes** to apply the changes.

## Advanced settings:

### MAC Filter

#### MAC Filter

You can define a list of devices and only allow those devices on your Wi-Fi network using MAC address filtering.

1. From the Home screen, click **Configuration** > **Advanced Settings** > **MAC Filter**.
2. Enable/disable the ability to add devices to your Whitelist or Blacklist settings.
3. Click **Save Changes** to make the changes take effect.

### Dynamic Host Configuration Protocol

You can view the network management protocol that is used to assign an Internet Protocol (IP) address to any device and configure network devices to communicate across an IP network.

1. From the Home screen, click **Configuration** > **Advanced Settings** > **LAN** > **DHCP**.
2. Enable any DHCP-specific options that your device requires.
3. Click **Save Changes** to make the changes take effect.

### IP Filter

You can manage what IP traffic is allowed into and out of your network based on the rules you define.

1. From the Home screen, click **Configuration > Advanced Settings > IP Filter**.
2. Enable/disable the IP address network packets that need to be filtered.
3. Click **Save Changes** to make the changes take effect.

**NOTE: The IP address filtering must be configured in the Firewall before it can be utilized for Blacklisted or Whitelisted devices.**

## Port Filter

**You can select which programs (for example, HTTP, FTP, and Email servers) can use the Mobile Hotspot to connect to the Internet.**

1. From the Home screen, click **Configuration > Advanced Settings > Port Filter**.
2. Define the type of ports required.
3. Click **Save Changes** to make the changes take effect.

## Manual DNS

**You can specify control settings on the Open DNS website to block specific categories of websites and view the ones that have been accessed from your specific network.**

1. From the Home screen, click **Configuration > Advanced Settings > Manual DNS**.
2. Modify the DNS address as required and apply to filter.
3. Click **Save Changes** to make the changes take effect.

## Firewall

You can make sure that the network connections remain secure.

1. From the Home screen, click **Configuration > Advanced Settings > Firewall**.
2. Enable/disable the key firewall settings.
3. Click **Save Changes** to make the changes take effect.

This screen allows you to control key firewall settings.

## Port Forwarding

You can set up (for example, Web servers, FTP servers, e-mail servers) specialized Internet applications on your networks.

1. From the Home screen, click **Configuration > Advanced Settings > Port Forwarding**.
2. Manage/customize your IP address to send and receive your LAN and internet sides.
3. Click **Save Changes** to make the changes take effect.

## Data Management Zone (DMZ) Settings

You can allow an external network to connect to and communicate with inside LAN devices through this WAN interface.

1. From the Home screen, click **Configuration > Advanced Settings > DMZ Settings**.
2. Click enable to add the desired IP address to manage the DMZ settings.
3. Click **Save Changes** to make the changes take effect.

## Subscriber Identity Module (SIM)

You can enable SIM Personal Identification Number (PIN) security

to allow your device to connect to the Internet.

1. From the Home screen, click **Configuration > Advanced Settings > SIM**.
2. Enter your device's default PIN to enable SIM PIN security.
3. Click **Save Changes** to make the changes take effect.

## Settings

Setting allows the user to perform several useful tasks:

### Software Update

You can check for available updates and view the current software version.

1. From the Home screen > click **Configuration > Settings > Software Updates**.
2. Click **Check for Update** to search for software updates.
3. Click **Install Now**. Follow the prompts to complete the installation process.

### Admin Settings

You can modify/change all the Sonim H500 Mobile Hotspot settings.

1. From the Home screen, click **Configuration > Settings > Admin Settings**.
2. Modify your Password, if required.

3. Click **Save Changes** to make the changes take effect.

## Device Settings

You can view basic information about your device.

1. From the Home screen, click **Configuration > Settings > Device Settings**.
2. Enable/disable the ability of the Mobile Hotspot to support tethered devices.
3. Click **Save Changes** to make the changes take effect.

## Restore and Restart

You can remotely reboot your device or reset it to factory default settings.

1. From the Home screen, click **Configuration > Settings > Restore and Restart**.
2. Click **Restart** to restart the device or click **Reset factory defaults** to restore the original factory setting to the device.

## Wi-Fi Hotspot USB Options

You can check and select the available USB options.

1. When USB cable is plugged in, the **USB Options** screen will be prompted
2. Select the required Wi-Fi Hotspot USB options from the list.
3. Click **OK** and return to the Home page.

## About

**In the About screen, you can view the Internet Status, Network Name, Technology (5G/4G/3G) and Time Connected information.**

## Messages

**In the Messages screen, you can view all SMS messages sent to the device MDN from mobile smartphones.**

# Product Specifications

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## General

<b>Name</b>	Sonim H500 Hotspot
<b>Model</b>	H500
<b>Approvals</b>	FCC (US) IC (Canada)
<b>Weight</b>	308g
<b>SIM</b>	4FF removable
<b>Dimension</b>	115x100x22.7mm
<b>Connectivity</b>	3G/4G/5G
<b>Wireless Network (Wi-Fi mode)</b>	Wi-Fi 6 (802.11 a/b/g/n/ac/ax)* *dual concurrent
<b>Location services</b>	GPS L1 & L5 / NMEA 2000 / GPS over Wi-Fi
<b>Ethernet</b>	1 x RJ 45 (1 Gbps)
<b>USB interface</b>	USB C 3.0
<b>Display</b>	2.4 Inch
<b>Battery Size</b>	6000 mAh Li-ion
<b>Time for Full charge</b>	3 hours (when not in use)
<b>Usage without battery installed</b>	Yes, when connected to wall power.
<b>Chipset</b>	Qualcomm SDX62-0
<b>Memory</b>	RAM= 1GB, FLASH=1GB

# Wireless Communication

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**Warning!** Data can occasionally be lost or delayed due to wireless transmission and reception properties.

The data loss can be due to the variation in radio signal strength that results from changes in the characteristics of the radio transmission path. Although data loss is rare, the environment where you operate the modem might adversely affect communications.

Variations in radio signal strength are referred to as Fading, caused by several factors, including signal reflection, the ionosphere, and interference from other radio channels. SONIM® or its partners will not be held responsible for damages of any kind resulting from the delays or errors in data transmitted or received with the Mobile Hotspot device or failure of the Sonim H500 5G Mobile Hotspot device to send or receive such data.

# **Safety Hazards**

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**Do not operate the Mobile Hotspot in an environment that might be susceptible to radio interference resulting in danger, specifically:**

## **AREAS WHERE PROHIBITED BY THE LAW**

**Follow any special rules and regulations and obey all signs and notices. Always turn off the host device when instructed or suspect it might cause interference or danger.**

## **WHERE EXPLOSIVE ATMOSPHERES MIGHT BE PRESENT**

- Do not operate your device in any area where a potentially explosive atmosphere might exist. Sparks in such areas could cause an explosion or fire, resulting in bodily injury or even death. Be aware and comply with all signs and instructions.
- Users are advised not to operate the device at a refueling point or service station.
- Users are reminded to observe restrictions on the use of radio equipment in fuel depots (fuel storage and distribution areas), chemical plants, or where blasting operations are in progress.
- Areas with a potentially explosive atmosphere are often but not always clearly marked.
- Potential locations can include gas stations, below deck on boats, chemical transfer or storage facilities, vehicles using liquefied petroleum gas (such as propane or butane),

**areas where the air contains chemicals or particles, such as grain, dust, or metal powders, and any other area where you would generally be advised to turn off our vehicle engine.**

## **NEAR MEDICAL AND LIFE SUPPORT EQUIPMENT**

**Do not operate your device in any area where medical equipment, life support equipment, or near any equipment that might be susceptible to any form of radio interference. In such areas, the host communications device must be turned OFF and the device can transmit signals that could interfere with this equipment.**

## **ON AN AIRCRAFT, EITHER ON THE GROUND OR AIRBORNE**

**In addition to FAA requirements, many airline regulations state that you must suspend wireless operations before boarding an airplane. Please ensure that the modem is turned off before boarding the aircraft to comply with these regulations. The modem can transmit signals that could interfere with various onboard systems and controls.**

## **WHILE OPERATING A VEHICLE**

**The driver or operator of any vehicle should not operate a wireless data device while in control of a vehicle. Doing so will detract from the driver or operator's control and operation of that vehicle. The countries operating such communications devices while controlling a vehicle are an offense.**

## **ELECTROSTATIC DISCHARGE (ESD)**

**Electrical and electronic devices are sensitive to electrostatic discharge (ESD). Macintosh native connection software might attempt to reinitialize the device should a substantial electrostatic discharge reset the device. Restart your Mobile Hotspot devices if the software is not operational after an ESD occurrence.**

## FCC SAR Warning

This device with FCC ID: WYPH500V meets the government's requirements for exposure to radio waves.

**This mobile hotspot is designed and manufactured not to exceed the emission limits for exposure to radiofrequency (RF) energy set by the Federal Communications Commissioner of the U.S. Government:**

- The exposure standard for wireless mobile hotspots employs a unit of measurement known as the Specific Absorption Rate or SAR. The SAR limit set by the FCC is 1.6W/kg. Tests for SAR are conducted using standard operating positions (10mm) accepted by the FCC, with the mobile hotspot transmitting at its highest certified power level in all tested frequency bands. The SAR guideline includes a considerable safety margin designed to assure the safety of all persons regardless of age and health.
- The FCC has granted an Equipment Authorization for this model mobile hotspot with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model mobile hotspot is on file with the FCC and can be found under the Display Grant section of <https://www.fcc.gov/oet/fccid> after searching on <http://www.Sonim.us/>.

## FCC Statement

**This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:**

1. This product may not cause harmful interference.
2. This product must accept any interference received, including interference that may cause undesired operation.

**NOTE:**

1. This product has been tested and found to comply with the limits for a Class B digital device under part 15 of the **FCC Rules**. These limits are designed to protect reasonably against harmful interference in a residential installation. This product generates uses and can radiate radio frequency energy and, if not installed and used by the instructions, may cause harmful interference to radio communications. How-ever, there is no guarantee that interference will not occur in a particular installation. Suppose this product does cause harmful interference to radio or television reception, which can be determined by turning the product OFF. In that case, 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 the 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.

**Sonim or the manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to the product. Such changes could void the user's authority to operate the equipment.**

**Data transmission is always initiated by software, passed down through the MAC, digital and analog baseband, and finally to the RF chip. The MAC initiates several special packets, the only way the digital baseband portion will turn on the RF transmitter, which then turns off the end of the packet. Therefore, the transmitter will be on only while one of the packets mentioned above is transmitted. In other words, this device automatically discontinues transmission in case of either absence of information to transmit or operational failure.**

### **WIFI warning**

**The operation of this device is prohibited on oil platforms and aircraft, except that operation of this device in 5.925-6.425 GHz is permitted in large aircraft while flying above 10,000 feet.**

- b. Installation on outdoor fixed infrastructure is prohibited.**
- c. Controlling or communications with unmanned aircraft systems, including drones, is prohibited**

## **Safety Warning**

### **1. Temperature**

- Charging temperature 0°C~40°C
- Operation temperature -20°C~+55°C

### **2. Battery and charging usage.**

- Only Sonim BAT-06000-01S Battery can be used for H500B/H500V host.
- Only use Sonim inbox accessory charger model 1-CHUSQ302-097 and USB cable

### **3. Battery Disposal**

#### **DISPOSAL OF BATTERY**



Please check local regulations for disposal of batteries. The battery should never be placed in municipal waste. Use a battery disposal facility if available.

#### 4. Battery IEEE1725 safety statement



Do not disassemble or open, crush, bend or deform, puncture or shred.



Do not modify or re manufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or other hazard.



Only use the battery with a charging system that has been qualified by the system per CTIA Certification Requirements for Battery System Compliant to IEEE 1725. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage or other hazard.



Do not short circuit a battery or allow metallic conductive objects to contact battery terminals.



Promptly dispose of used batteries in accordance with local regulations.



Battery usage by children should be supervised.



Avoid dropping the phone or battery. If the phone or battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.



Improper battery use may result in a fire, explosion or other hazard.