



875-0386-0

User Guide

Revision: A1

February 13, 2018

IronOne

OEM Hardware for
Machine Control Systems

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Chapter 1: Introduction

Product Overview

Key Features

Front Components

Chapter 1: Introduction

This User Guide provides information to help you quickly set up your IronOne OEM Hardware for Machine Control Systems display.

Note: Throughout the rest of this User Guide, the IronOne OEM Hardware is referred to simply as IronOne.

Product Overview

IronOne is a next generation rugged display and computer designed for tough and extreme conditions. Ideal for machine control environments requiring an easy to read display, powerful I/O, and flexible adoption into multiple applications.

IronOne is equipped with an 8" LCD display containing a high-sensitivity touchscreen. Providing an IP67 rating, IronOne is designed to function in challenging environments including machine control. Showcasing an outstanding image quality with a 1280x720 resolution, the IronOne is easy to read and use in low or high visibility scenarios.

With the processing power of an Intel dual-core processor, the IronOne handles large file transfers and complex file formats. IronOne includes 32GB of flash memory with the option to extend the storage capabilities up to 128GB with a MicroSD card.

IronOne runs on a fully functional Windows 10 platform; allowing complete Windows support with the ruggedness to stand up to the extreme environments of heavy machinery.

Key Features

- Windows 10 operating system
- Bluetooth and Ethernet support
- Cellular modem (optional) allows for full connectivity in the field
- IP67 certified

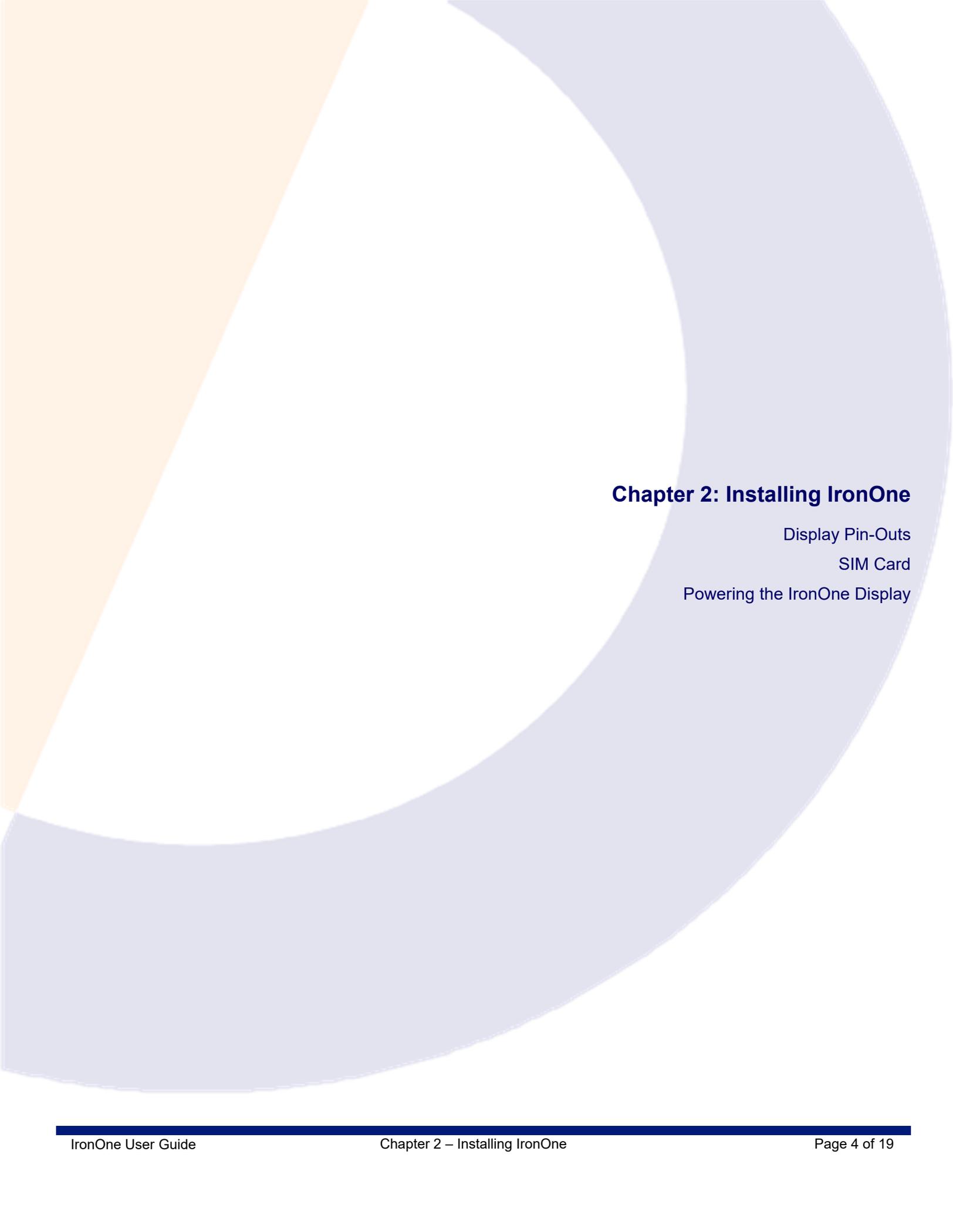
Front Components



Figure 1-1: IronOne front components

Table 1.1: Front components list

Reference	Function
P1	N/A
P2	N/A
Power button	Press and hold for 3 seconds to power on
Display	Touchscreen



Chapter 2: Installing IronOne

Display Pin-Outs

SIM Card

Powering the IronOne Display

Chapter 2: Installing IronOne

Display Pin-outs



Figure 2-1: Display Pin-outs

Table 2-1: Display Pin-outs

Comm 12 Pin	Description	
1	CAN H	COM1 in Win10 device manager
2	RS232 TX 1	COM2 in Win10 device manager
3	RS232 RX 1	
4	GPIO	
5	GND	Signal ground
6	RS422 TX 1	COM4 in Win10 device manager RS232/RS422/RS485 can Switch on BIOS setup: BIOS setup->Advanced->F81216SEC Super I/O Configuration->Serial Port 4 Configuration
7	RS422 TX 2	
8	RS422 RX 1	
9	RS422 RX 2	
10	GND	Power ground
11	V12+ OUT	Power out for serial device
12	CAN L	COM1 in Win10 device manager

Table 2-2: Video Pin-outs

Video 12 Pin	Description
1	V12+ OUT1
2	GND
3	CAN2 L_IN
4	CAN2 H_IN
5	NET 1TX+ IN
6	NET1 TX- IN
7	NET 1RX- IN
8	NET1 RX+ IN
9	GPIO2_IN
10	GND
11	VIDEO2_IN
12	VIDEO1_IN

Table 2-2: Communications

Comm DT15-12PA
CAN x 1
UART (RS232 x 1)
RS422/RS485/RS232 x 1 (Software switch)
GPIO x 1 (Default input pullup 5V)
12V/0.75A Power output

Table 2-3: Power Connector

Power	Description
1	PWR+
2	PWR-
3	ACC
4	NC
5	PWR-
6	PWR+

Table 2-4: Video Communication

Video DT15-12PB
CAN x 1
CVBS video input x 2
10M/100M LAN x 1
GPIO x 1 (Default input pullup 5V)
12V/0.75A Power output

SIM Card

To remove the weather-tight door on the IronOne, you will need a T10 torx screw driver. This is required for all four screws.

After opening the door, press the SIM card tension tab upwards until it clicks. This allows you to insert the standard GSM SIM Card into the slot. Insert the card and secure the tension tab to its original location.

Return the weather-tight door to the original position. Use the T10 torx screw driver to secure the door to the IronOne enclosure. **Note:** Ensure the screws are hand-tight.

For cellular configuration, see [Setting Up a Cellular Connection](#).

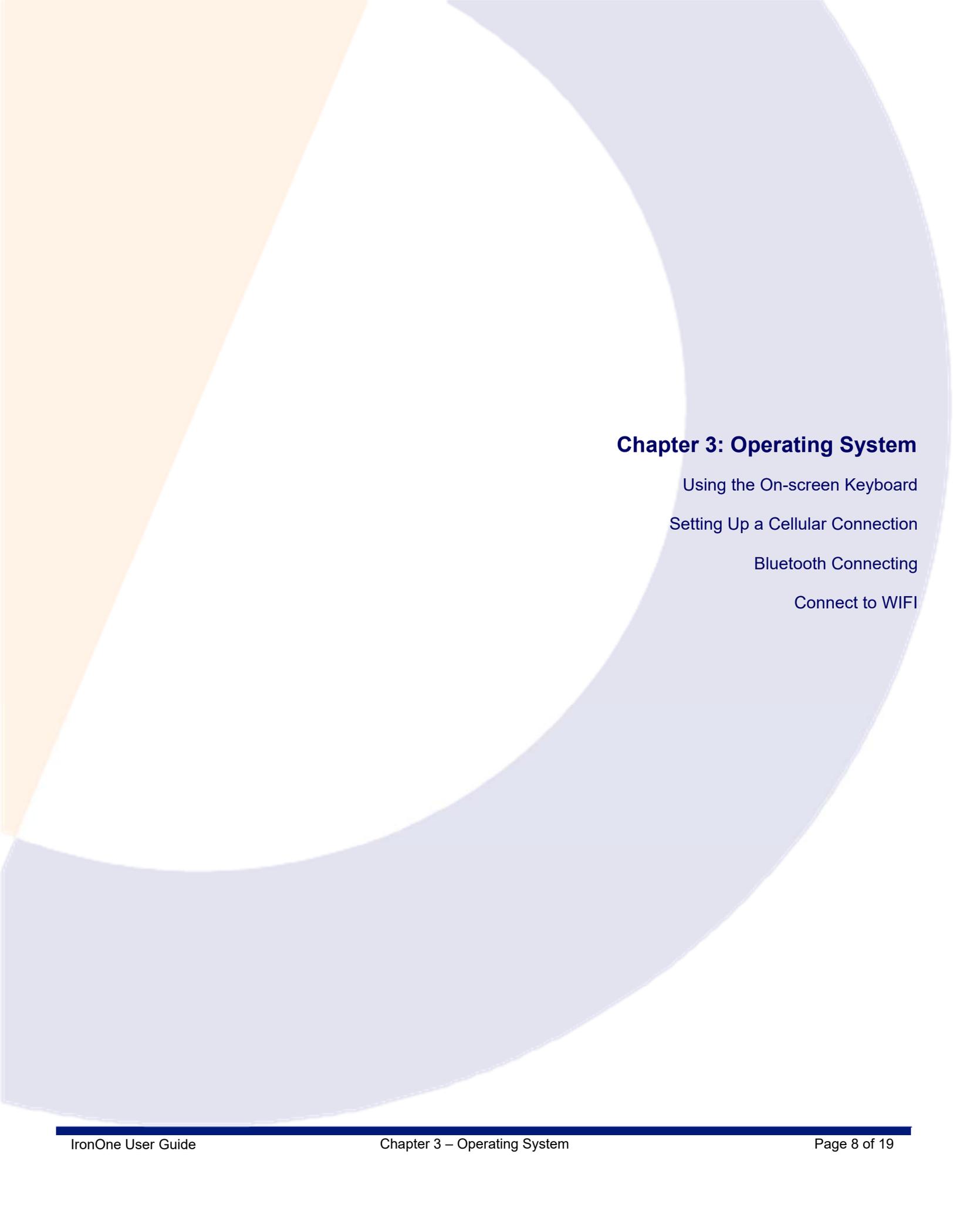
Powering the IronOne Display

Power On

Press the power button (for less than 10 seconds) until the device powers on.

Power Off

Press and hold the power button (for at least 3 seconds) until the device powers down.



Chapter 3: Operating System

Using the On-screen Keyboard

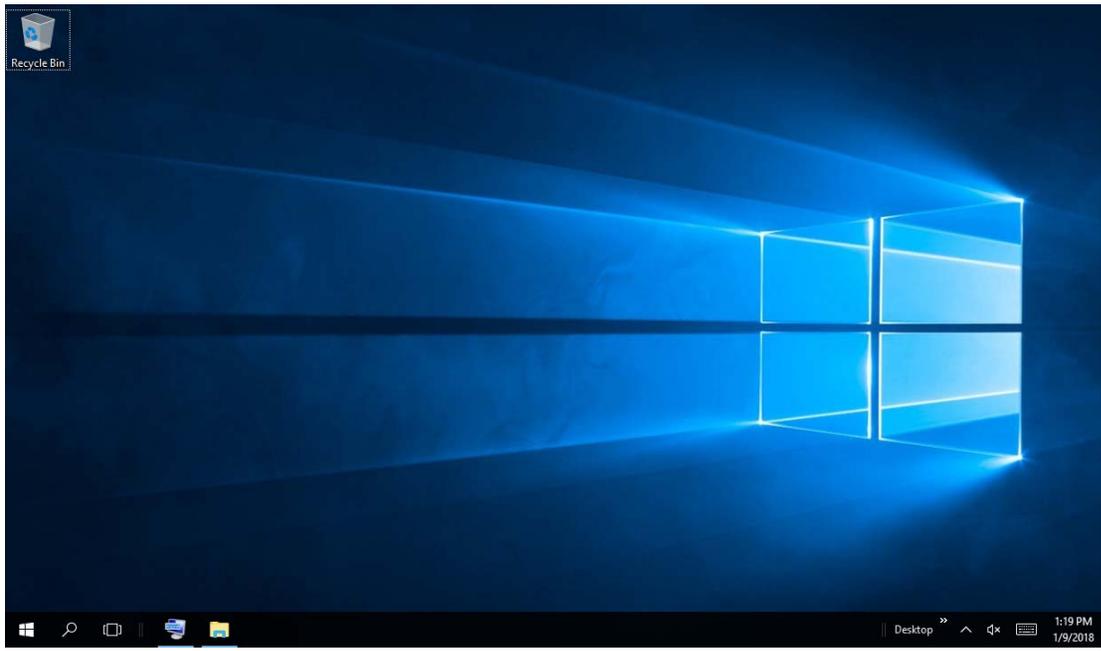
Setting Up a Cellular Connection

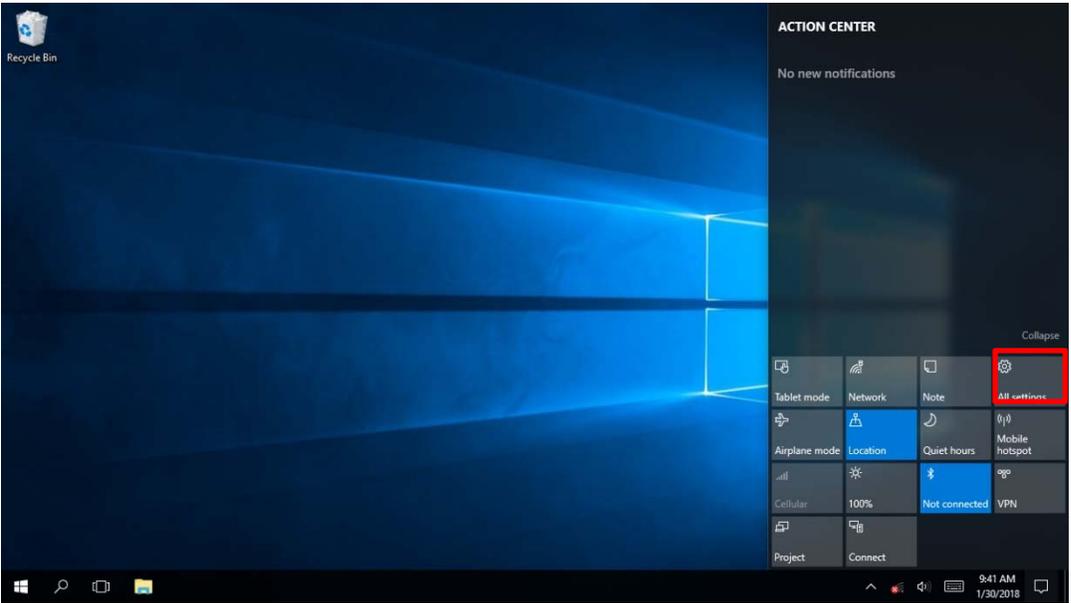
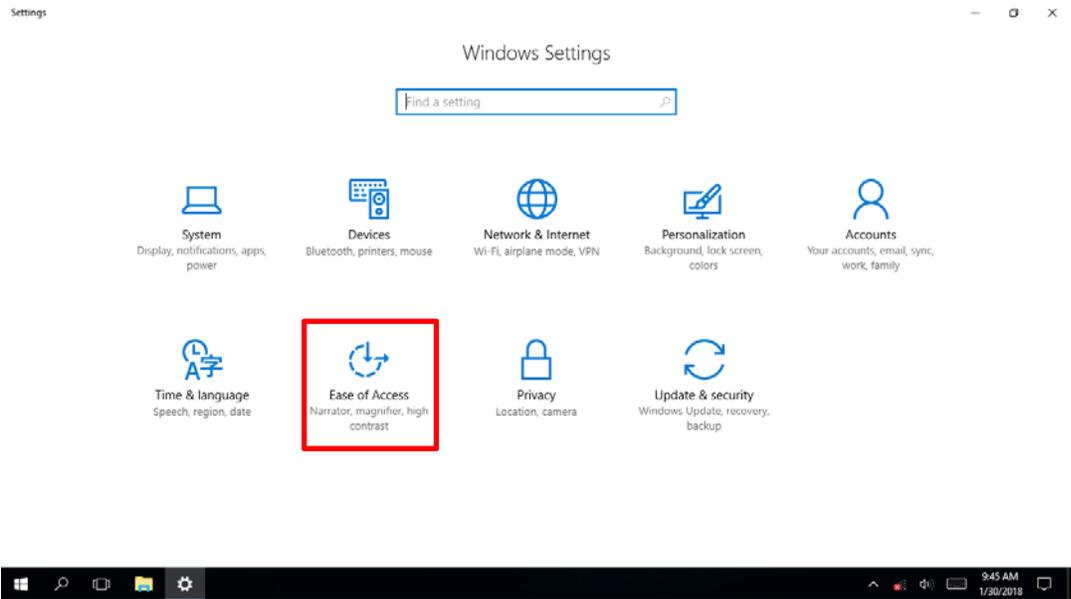
Bluetooth Connecting

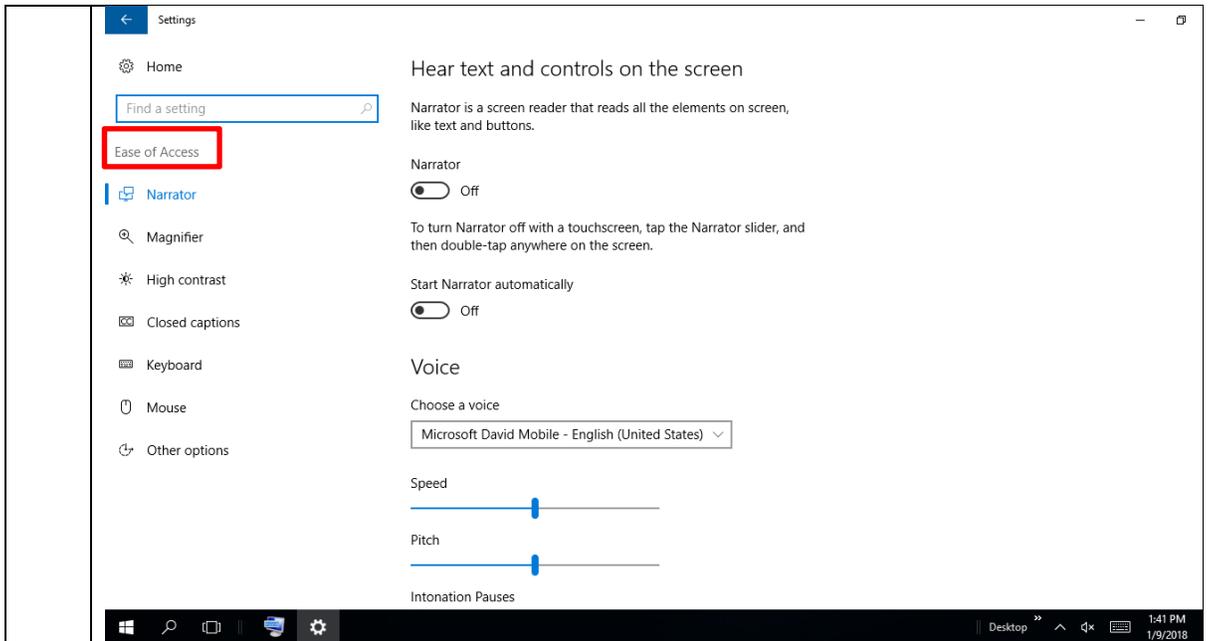
Connect to WIFI

Chapter 3: Operating System

Using the On-Screen Keyboard

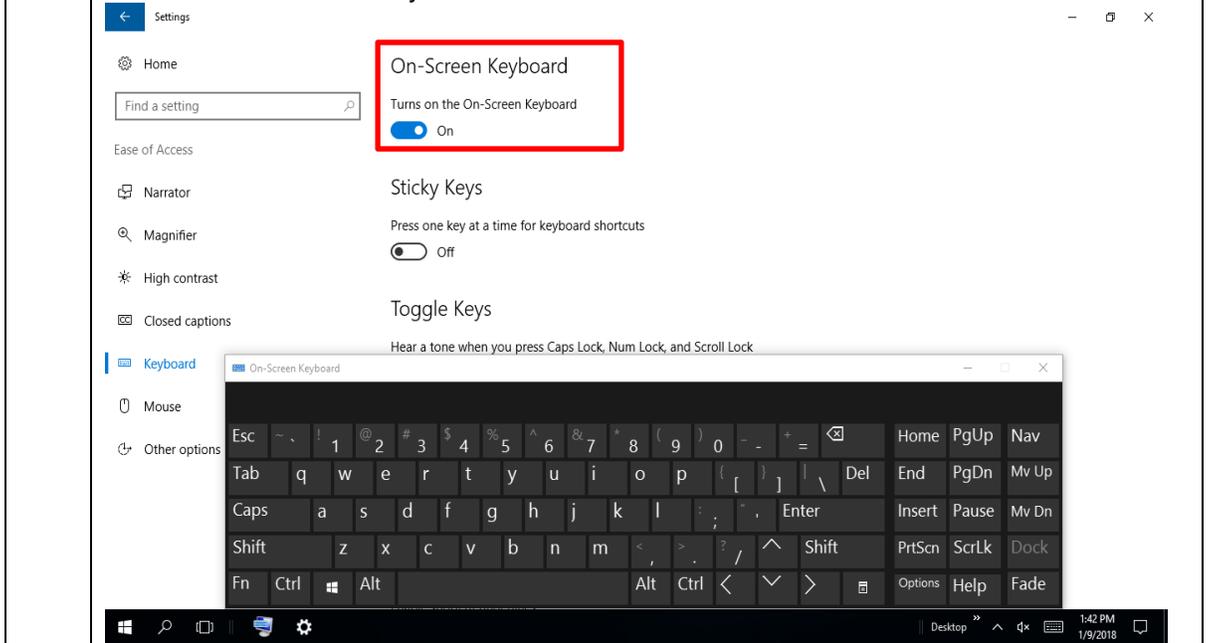
Step	Action
1	Starting at the Desktop.  A screenshot of the Windows 10 desktop environment. The background is the standard Windows 10 blue light wallpaper. In the top-left corner, there is a 'Recycle Bin' icon. The taskbar at the bottom shows the Start button, Search, Task View, File Explorer, and Edge. The system tray on the right includes the 'Desktop' icon, volume, network, and power icons, along with the time '1:19 PM' and date '1/9/2018'.
2	Open Action Center .  A close-up screenshot of the Windows 10 taskbar. It shows the system tray area with icons for network, volume, and keyboard. The time '9:41 AM' and date '1/30/2018' are displayed. The Action Center icon, which is a speech bubble, is highlighted with a red square.

Step	Action
3	<p>Open All Settings.</p> 
4	<p>Click Ease of Access.</p> 

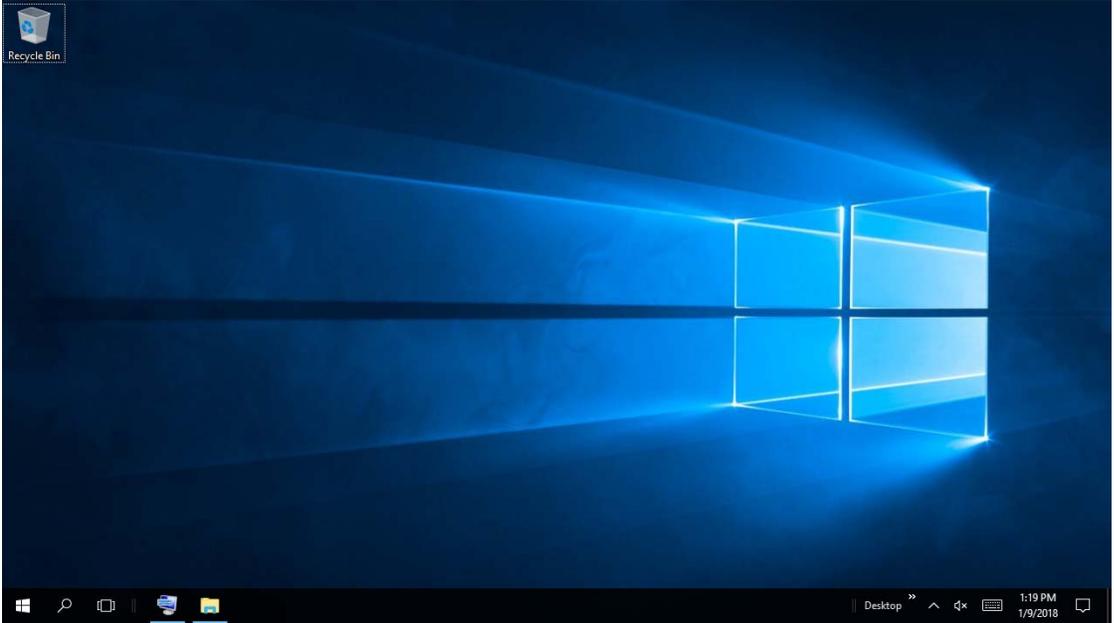
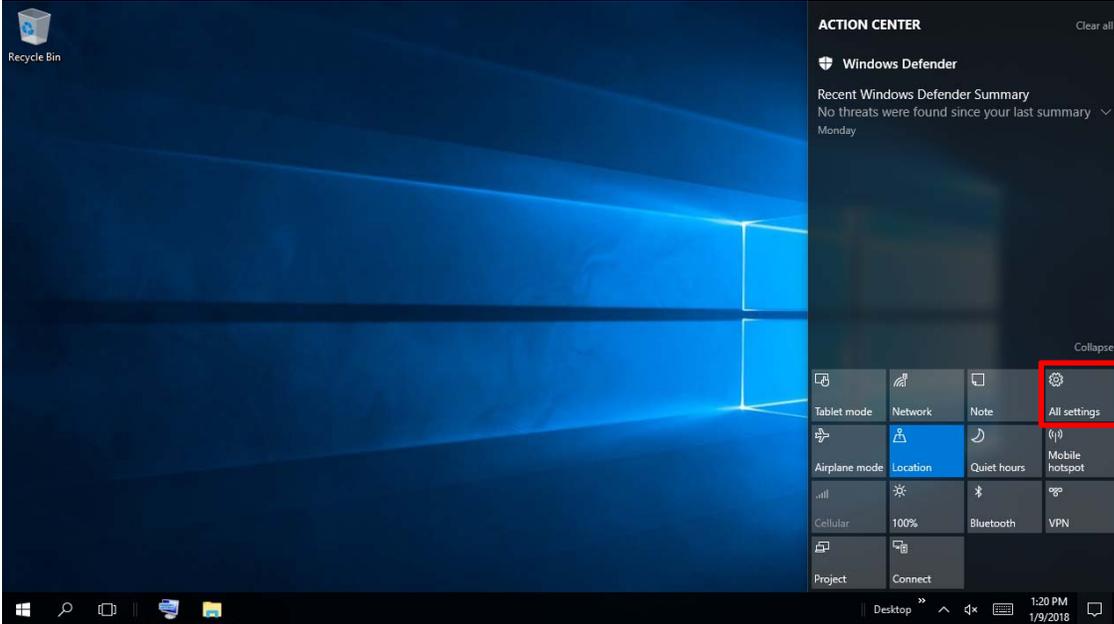


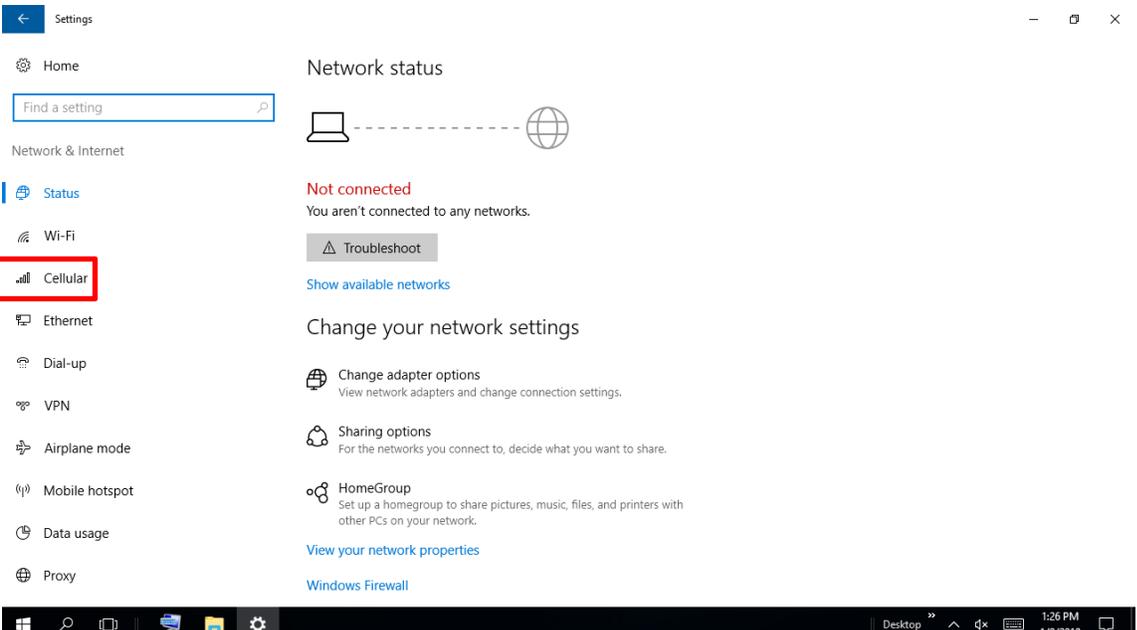
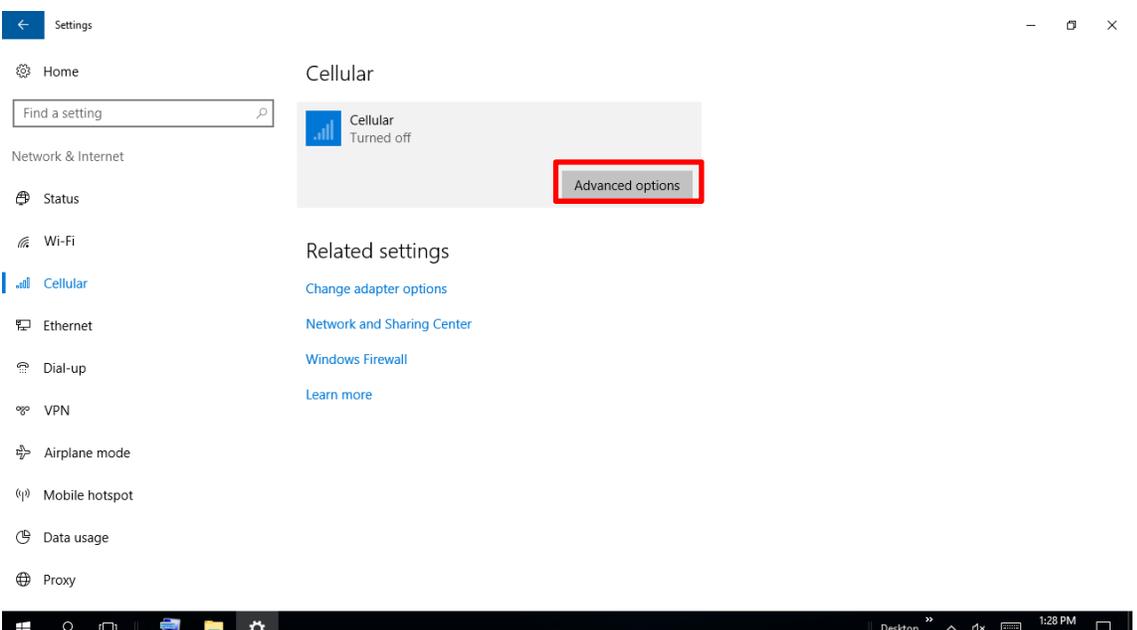
5 Select **Keyboard** from the side bar menu.

6 Enable the On-Screen Keyboard.



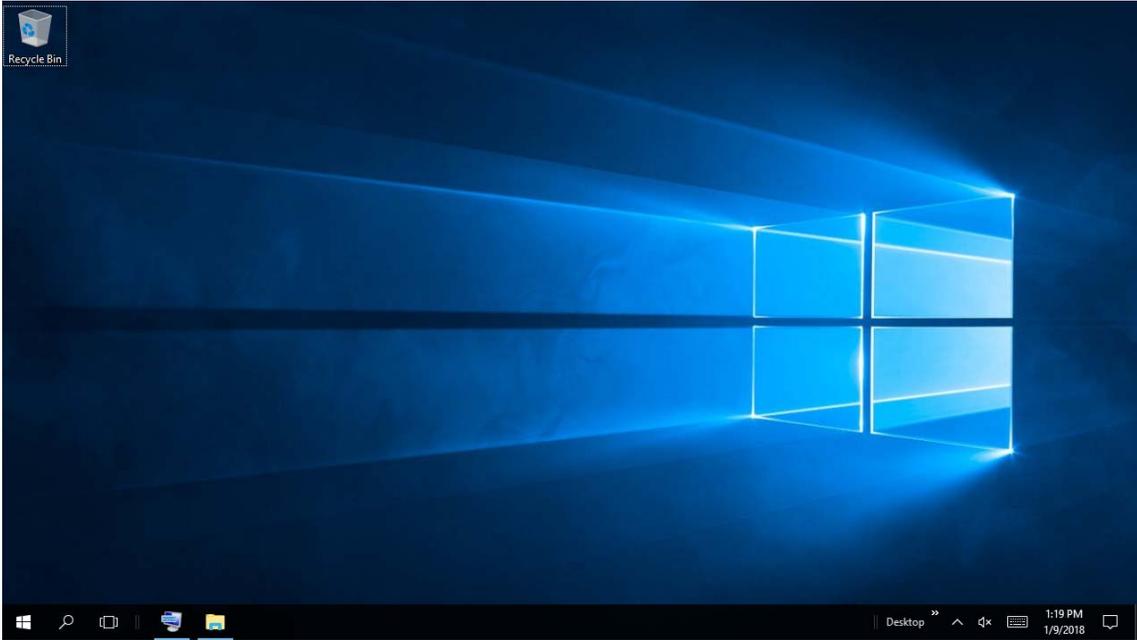
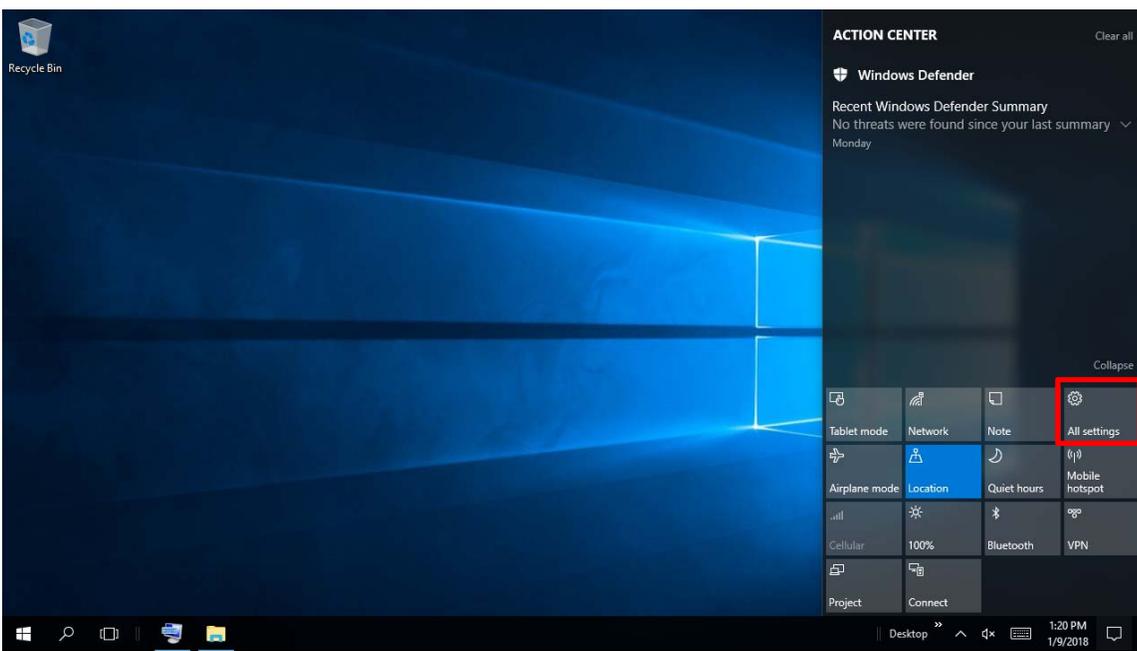
Setting Up a Cellular Connection

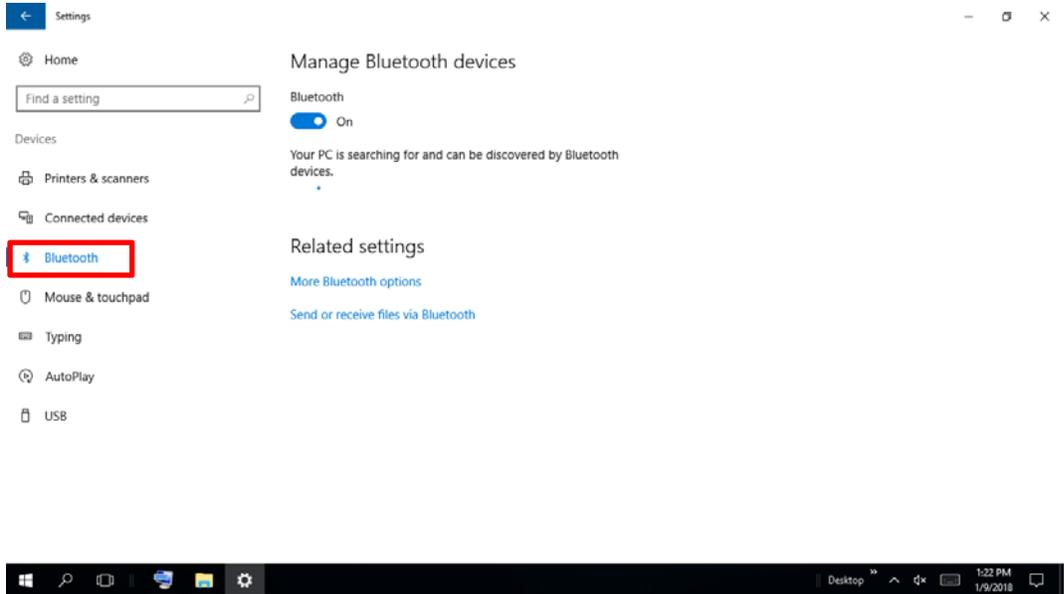
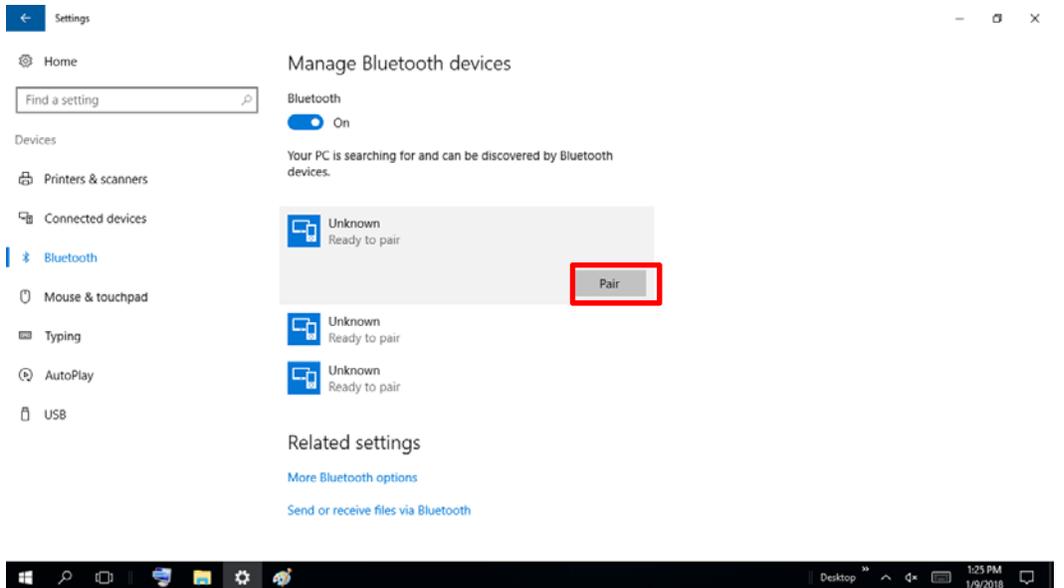
Step	Action
1	<p>Starting at the Desktop.</p> 
2	<p>Select All Settings.</p> 
3	<p>Click Network and Internet.</p>

Step	Action
4	<p>Select Cellular from the side bar menu.</p>  <p>The screenshot shows the Windows Settings application. The 'Settings' title bar is at the top. On the left, the 'Network & Internet' section is expanded, and the 'Cellular' option is highlighted with a red rectangular box. The main content area shows 'Network status' with a 'Not connected' message and a 'Troubleshoot' button. Below that, there are sections for 'Change your network settings' and 'Related settings'.</p>
5	<p>Under Cellular Status, click the Advanced Options button.</p>  <p>The screenshot shows the Windows Settings application with the 'Cellular' page selected. The 'Cellular' option in the left sidebar is highlighted with a blue bar. The main content area shows 'Cellular' status as 'Turned off' with a red box around the 'Advanced options' button. Below that, there are sections for 'Related settings' including 'Change adapter options', 'Network and Sharing Center', 'Windows Firewall', and 'Learn more'.</p>

Step	Action
6	<p>The Advanced Options displays a window to configure your cellular network.</p>  
7	Enter Network Credentials and APN if required.

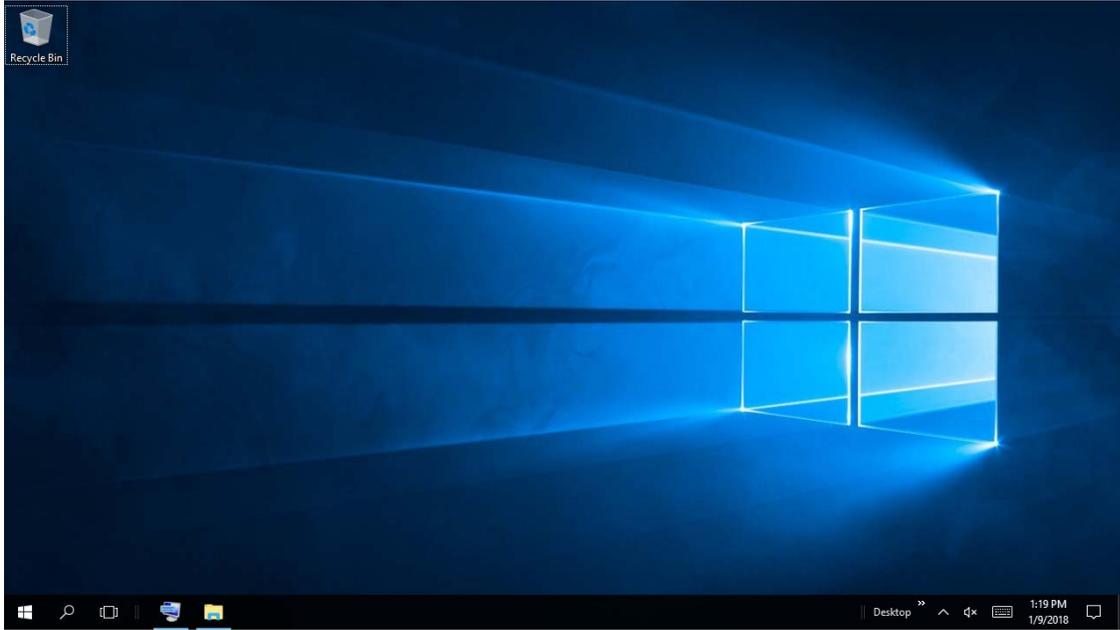
Bluetooth Connecting

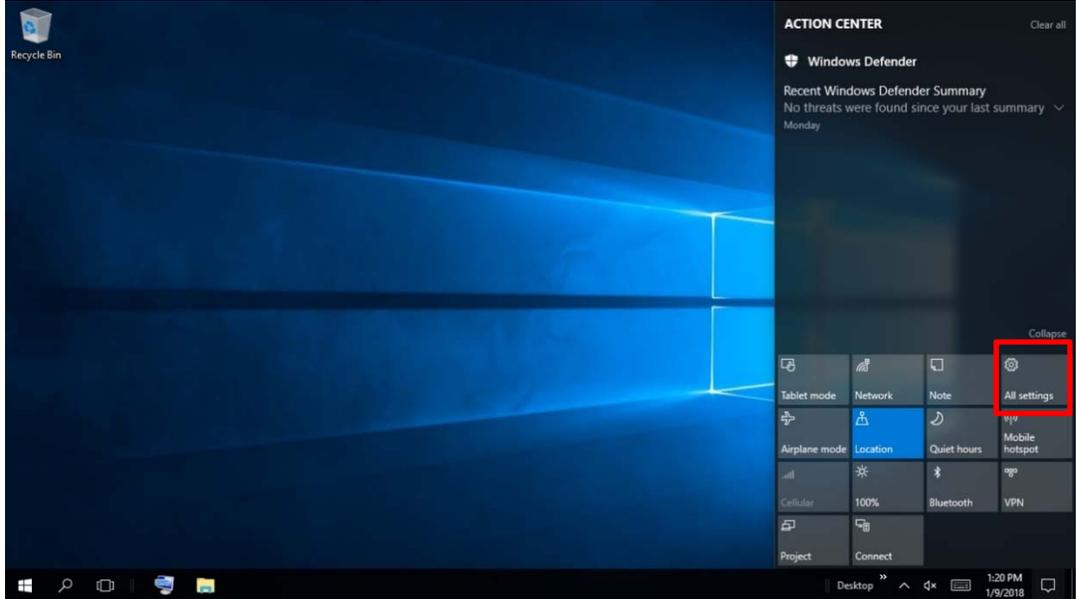
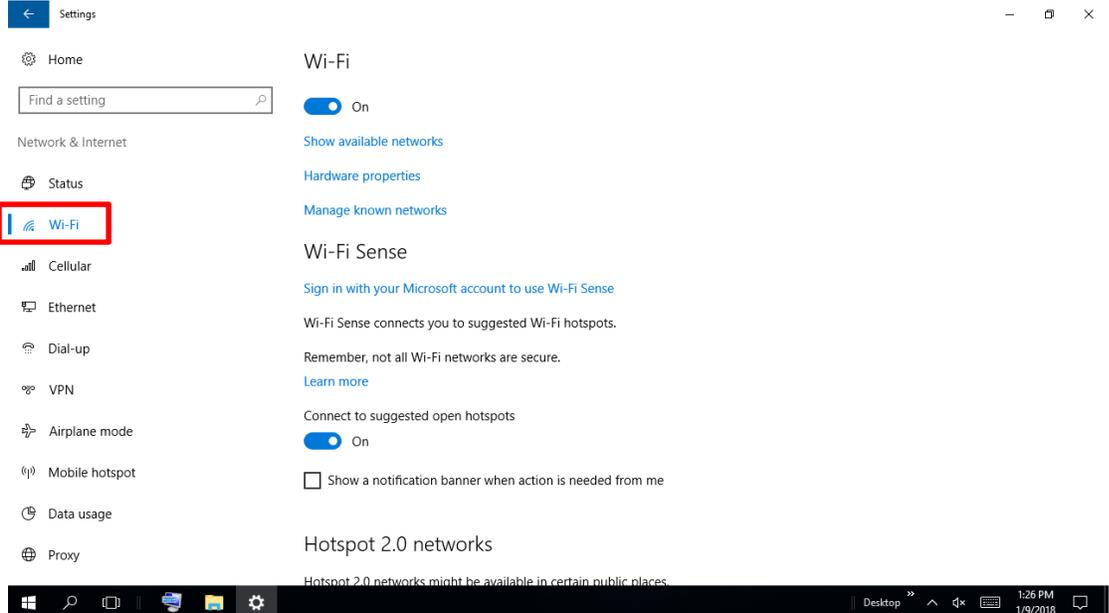
Step	Action
1	<p data-bbox="365 363 649 394">Starting on the Desktop.</p>  A screenshot of the Windows 10 desktop environment. The background is the standard Windows 10 blue light wallpaper. In the top-left corner, there is a 'Recycle Bin' icon. The taskbar at the bottom shows the Start button, search icon, task view icon, and several pinned application icons. The system tray on the right shows the 'Desktop' notification, volume icon, network icon, and the date and time '1:19 PM 1/9/2018'.
2	<p data-bbox="365 1087 584 1119">Click All Settings.</p>  A screenshot of the Windows 10 desktop with the Action Center open on the right side. The Action Center shows 'Windows Defender' status and a grid of quick settings. The 'All settings' icon, which is a gear, is highlighted with a red rectangular box. Other visible settings include Tablet mode, Network, Note, Airplane mode, Location, Quiet hours, Mobile hotspot, Cellular, 100%, Bluetooth, and VPN. The taskbar and system tray are visible at the bottom, showing the same date and time as the previous screenshot.

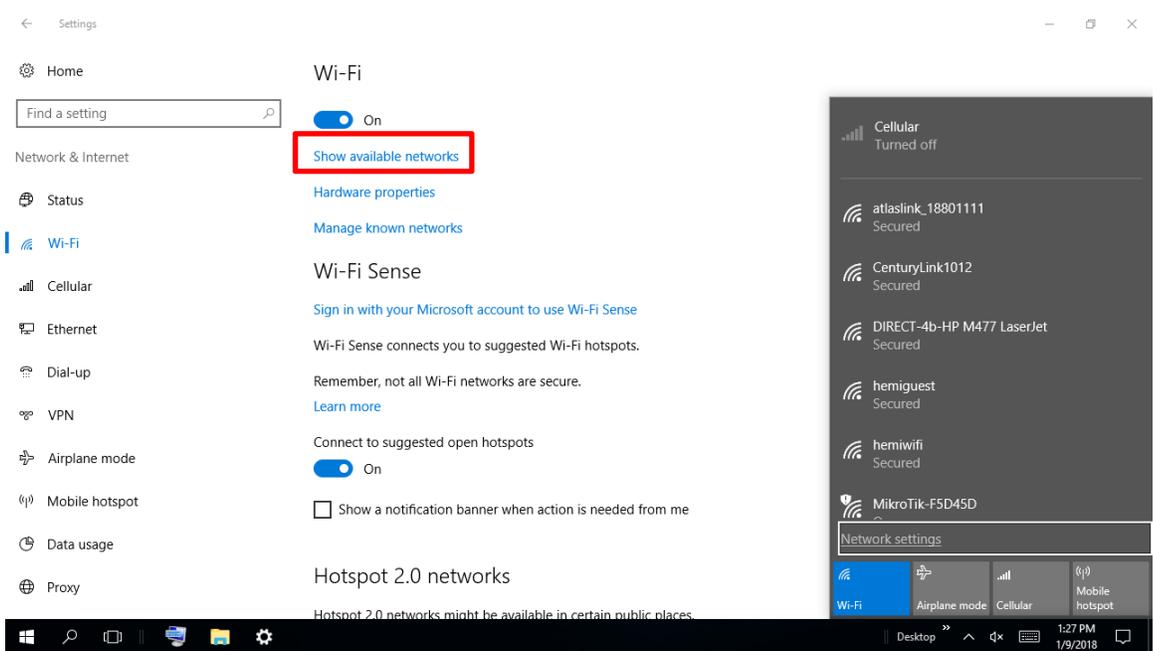
Step	Action
3	Click Devices .
4	Under Devices , click Bluetooth in the side bar menu.
5	<p>Open Bluetooth Settings</p> 
6	<p>When your Bluetooth device is recognized, initiate the pairing process by clicking on the correct device and push the Pair button.</p> 

Connect to WIFI

Connecting to a Wireless Network

Step	Action
1	<p data-bbox="391 415 672 443">Starting at the Desktop.</p> 

Step	Action
2	<p>Select All settings.</p> 
3	<p>Click Network and Internet from the Settings screen.</p>
4	<p>From the Network and Internet screen, click the Wi-Fi link in the side bar menu. This leads you to the Wi-Fi Status screen.</p> 

Step	Action
5	<p>To see available networks in your immediate area, click Show available networks on the status page.</p>  <p>The screenshot shows the Windows Settings application with the 'Wi-Fi' section selected. The 'Wi-Fi' toggle is turned on. A red box highlights the 'Show available networks' link. To the right, an inset shows the network status tray with a list of available Wi-Fi networks, including 'atlaslink_18801111', 'CenturyLink1012', 'DIRECT-4b-HP M477 LaserJet', 'hemiguest', 'hemiwifi', and 'MikroTik-F5D45D'. The 'Cellular' option is turned off.</p>
6	<p>Select the desired network and sign into the network using the known credentials.</p>



Appendix A: Technical Specifications

Appendix A: Technical specifications

System	
Processor	Intel Atom dual-core CPU E3825 @ 1.33 GHz
Storage	SSD 32GB, RAM 2GB, 128 GB with Micro SD
Operating System	Windows 10

Screen	
Display Type	8" TFT-LCD capacitive touchscreen
Size	192.8 mm × 116.9 mm (7.59" × 4.6")
Resolution	1280 × 720, 16:9
Luminance	750 nit

Input	
Start Button	1× mechanical waterproof button
Function Button	2× mechanical waterproof buttons
Ignition Input	Yes

Communication	
Serial Port	1x RS232×1, 1x RS422/RS485/RS232 (switch by software)
Camera Interface	2× CVBS
USB	1× USB2.0
Ethernet	10M/100M
Wi-Fi	IEEE 802.11b/g/n
Bluetooth	Bluetooth 4.0
Cellular	4G LTE (optional with SIM card port)
Data I/O Protocol	NMEA 0183

Mechanical	
Dimensions	22.9 L x 16.9 W x 5.2 H (cm) 9.0 L x 6.6 W x 2.0 H (in)
Weight	1.38 kg (3.04 lbs)
Mount	Adjustable 1.5" RAM ball mount

Environmental	
Operating Temperature	-20°C to +70°C (-4°F to 158°F)
Storage Temperature	-40°C to +85°C (-40°F to 185°F)
Operating Humidity	30% ~ 95% (Relative Humidity)
Storage Humidity	45% ~ 80% (Relative Humidity)
Enclosure	IP67
Vibration	EP455 5.15

Power	
Input Voltage	7 - 36 VDC
Power Consumption	36 W
Current Consumption	3.0 A @ 12 VDC

Sensor and Multimedia	
1x 2W Buzzer	
1x Headphone Jack	

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18. **PROPRIETARY RIGHTS INDEMNITY.** Hemisphere shall indemnify, defend and hold harmless Licensee from and against any and all actions, claims, demands, proceedings, liabilities, direct damages, judgments, settlements, fines, penalties, costs and expenses, including royalties and attorneys' fees and related costs, in connection with or arising out of any actual infringement of any third party patent, copyright or other intellectual property right by the Software or by its use, in accordance with this Agreement and documentation, PROVIDED THAT: (a) Hemisphere has the right to assume full control over any action, claim, demand or proceeding, (b) Licensee shall promptly notify Hemisphere of any such action, claim, demand, or proceeding, and (c) Licensee shall give Hemisphere such reasonable assistance and tangible material as is reasonably available to Licensee for the defense of the action, claim, demand or proceeding. Licensee shall not settle or compromise any of same for which Hemisphere has agreed to assume responsibility without Hemisphere's prior written consent. Licensee may, at its sole cost and expense, retain separate counsel from the counsel utilized or retained by Hemisphere.
19. **INFRINGEMENT.** If use of the Software may be enjoined due to a claim of infringement by a third party then, at its sole discretion and expense, Hemisphere may do one of the following: (a) negotiate a license or other agreement so that the Product is no longer subject to such a potential claim, (b) modify the Product so that it becomes non-infringing, provided such modification can be accomplished without materially affecting the performance and functionality of the Product, (c) replace the Software, or the Product, with non-infringing software, or product, of equal or better performance and quality, or (d) if none of the foregoing can be done on a commercially reasonable basis, terminate this license and Licensee shall stop using the Product and Hemisphere shall refund the price paid by Licensee less an amount on account of amortization, calculated on a straight-line basis over a deemed useful life of three (3) years.
The foregoing sets out the entire liability of Hemisphere and the sole obligations of Hemisphere to Licensee in respect of any claim that the Software or its use infringes any third party rights.
20. **INDEMNIFICATION.** Except in relation to an infringement action, Licensee shall indemnify and hold Hemisphere harmless from any and all claims, damages, losses, liabilities, costs and expenses (including reasonable fees of lawyers and other professionals) arising out of or in connection with Licensee's use of the Product, whether direct or indirect, including without limiting the foregoing, loss of data, loss of profit or business interruption. **TERMINATION.** Licensee may terminate this Agreement at any time without cause. Hemisphere may terminate this Agreement on 30 days notice to Licensee if Licensee fails to materially comply with each provision of this Agreement unless such default is cured within the 30 days. Any such termination by a party shall be in addition to and without prejudice to such rights and remedies as may be available, including injunction and other equitable remedies. Upon receipt by Licensee of written notice of termination from Hemisphere or termination by Licensee, Licensee shall at the end of any notice period (a) cease using the Software; and (b) return to Hemisphere (or destroy and provide a certificate of a Senior Officer attesting to such destruction) the Software and all related material and any magnetic or optical media provided to Licensee. The provisions of Sections 6), 7), 8), 9), 10), 15), 21), 26) and 27) herein shall survive the expiration or termination of this Agreement for any reason.
21. **EXPORT RESTRICTIONS.** Licensee agrees that Licensee will comply with all export control legislation of Canada, the United States, Australia and any other applicable country's laws and regulations, whether under the Arms Export Control Act, the International Traffic in Arms Regulations, the Export Administration Regulations, the regulations of the United States Departments of Commerce, State, and Treasury, or otherwise as well as the export control legislation of all other countries.
22. **PRODUCT COMPONENTS.** The Product may contain third party components. Those third party components may be subject to additional terms and conditions. Licensee is required to agree to those terms and conditions in order to use the Product.
23. **FORCE MAJEURE EVENT.** Neither party will have the right to claim damages as a result of the other's inability to perform or any delay in performance due to unforeseeable circumstances beyond its reasonable control, such as labor disputes, strikes, lockouts, war, riot, insurrection, epidemic, Internet virus attack, Internet failure, supplier failure, act of God, or governmental action not the fault of the non-performing party.
24. **FORUM FOR DISPUTES.** The parties agree that the courts located in Calgary, Alberta, Canada and the courts of appeal there from will have exclusive jurisdiction to resolve any disputes between Licensee and Hemisphere concerning this Agreement or Licensee's use or inability to use the Software and the parties hereby irrevocably agree to attorn to the jurisdiction of those courts. Notwithstanding the foregoing, either party may apply to any court of competent jurisdiction for injunctive relief.
25. **APPLICABLE LAW.** This Agreement shall be governed by the laws of the Province of Alberta, Canada, exclusive of any of its choice of law and conflicts of law jurisprudence.
26. **CISG.** The United Nations Convention on Contracts for the International Sale of Goods will not apply to this Agreement or any transaction hereunder.
27. **GENERAL.** This is the entire agreement between Licensee and Hemisphere relating to the Product and Licensee's use of the same, and supersedes all prior, collateral or contemporaneous oral or written representations, warranties or agreements regarding the same. No amendment to or modification of this Agreement will be binding unless in writing and signed by duly authorized representatives of the parties. Any and all terms and conditions set out in any correspondence between the parties or set out in a purchase order which are different from or in addition to the terms and conditions set forth herein, shall have no application and no written notice of same shall be required. In the event that one or more of the provisions of this Agreement is found to be illegal or unenforceable, this Agreement shall not be rendered inoperative but the remaining provisions shall continue in full force and effect.

Warranty Information

1. Universal Product Warranty Statement

1.1 The following limited warranty (the “Warranty”) applies to after-market products and systems (“products”) manufactured or sold by Hemisphere GNSS, their subsidiaries and affiliates (referred to herein as “HGNS”).

2. General Warranty Terms

2.1 HGNS products are guaranteed against defective material and workmanship under normal use and application provided it is used with the HGNS products, computer products and operating system for which it was designed, for the following periods of time (each a “Warranty Period”):

Hemisphere GNSS Warranty Periods*	
Product Line:	Warranty Period:
All Products	12 months
Accessories/Parts	90 days
Battery, Battery Charger, Valves, Hoses and Cables	90 days
Repairs	90 days

2.2 Product Limited Warranty: Unless the limited warranty included with any product covered by these Terms grants different rights to the Buyer, HGNS warrants to Buyer, and only to Buyer, that the HGNS products furnished shall be designed and manufactured to conform to HGNS specifications and all parts are and will be free from defects in material and workmanship for the Warranty Period. During the Warranty Period, HGNS liability is limited to replacing, repairing or issuing credit for any product that is returned to HGNS by the original Buyer freight prepaid and which upon inspection is determined by HGNS to be defective in materials or workmanship.

2.3 *Notwithstanding the above-mentioned Warranty Periods, in the event a longer warranty period is mandated under the laws or regulations of the territory in which the HGNS product is sold, and that warranty period is applicable to your HGNS product, said warranty period shall govern. An additional four-month “shelf life period” is added to the standard warranty period for all OEM purchases.

2.4 The applicable Warranty Period shall commence on the date the product is shipped to the original purchaser by HGNS. To be eligible for coverage under this Warranty, a product believed to be defective must be received by HGNS within the Warranty Period.

2.5 [NOTE: I would recommend moving the Exclusions set out in paragraph 4 to this location as this whole paragraph deals with the terms of the Warranty.]

2.6 Disclaimer: EXCEPT FOR THE LIMITED EXPRESS WARRANTIES SET FORTH IN SECTIONS 2.1 AND 2.2 ABOVE, HGNS MAKES NO REPRESENTATION OR WARRANTY WHATSOEVER WITH RESPECT TO THE PRODUCTS, INCLUDING ANY (A) REPRESENTATION OR WARRANTY OF MERCHANTABILITY; OR (B) REPRESENTATION OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR (C) WARRANTY OF TITLE; OR (D) WARRANTY AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY; WHETHER EXPRESS OR IMPLIED AND WHETHER ARISING BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE. BUYER ACKNOWLEDGES THAT IT HAS NOT RELIED UPON ANY REPRESENTATION, CONDITION OR WARRANTY MADE BY HGNS, OR ANY OTHER PERSON ON HGNS'S BEHALF, EXCEPT AS SPECIFICALLY PROVIDED IN SECTIONS 2.1 AND 2.2.

3. Warranty Repair Service Policy:

3.1 Warranty Repair Procedure: HGNS reserves the right to refuse warranty services if the date of purchase of the product cannot be proven or if a claim is made outside the Warranty Period. Claims for shipment damage (evident or concealed) must be filed with the carrier. No product may be returned for repair, whether in warranty or out of warranty, without HGNS approval. No credit will be given, nor repairs made to products returned without such approval. Products must be returned, transport prepaid, to the HGNS facility (no C.O.D. or Collect Freight accepted) in accordance with HGNS product return procedures then in effect. Returned products must be received no later than 14 days for US/Canada or 28 days for international after approval. Warranty Determination of Returned Products: Following HGNS or its authorized representative’s examination, warranty or out-of-warranty status will be determined. If upon examination a warranted defect exists, then the product(s) will be repaired at no charge and shipped, prepaid, back to Buyer. Where HGNS elects to replace a product or parts, repair parts and replacement products will be provided on an exchange basis and will be either new, equivalent to new or reconditioned. All replaced parts and products become the property of HGNS. Warranty repairs do not extend the original Warranty Period.

3.2 Non-Warranty Determination of Returned Products: Following HGNS examination, Buyer shall be notified of the repair cost of products out-of-warranty. At such time Buyer must issue a valid purchase order to cover the cost of the repair and freight, or authorize the product(s) to be shipped back as is, at Buyer’s expense

3.3 Non-responsibility for monetary loss or lost data. HGNS shall not be responsible for any modification or damage to, or loss of any programs, data, or other information

stored or hosted by HGNS, provided to HGNS in connection with any service, or stored on any product, including any product serviced hereunder, or for the consequence of such damage or loss, e.g., business loss in the event of hardware, software, program or data failure. It is the customers responsibility, to backup data and to remove all features, parts, alterations, and attachments not covered by warranty prior to releasing the product to HGNS. The product will be returned to the customer configured as originally purchased, subject to availability of software.

4. Exclusions

4.1 This Warranty does NOT extend to products that have been, as determined by HGNS exercising its sole discretion:

- Misused, abused, modified, improperly maintained, non-certified repaired or serviced by anyone other than an authorized and certified HGNS Technician.
- Damaged or rendered defective due to accident, act of God, or any other event or condition beyond the control of HGNS, including but not limited to, accident, fire, water, hazards, atmospheric conditions, and/or the performance/availability of third party services.
- Damaged or rendered defective as a result of the use of the product in combination with other devices or accessories that are not approved by HGNS for use with the product.
- Operation outside of the environmental specifications of the product.

5. Governing Law

- 5.1 This agreement and any disputes relating to, concerning or based upon the product should be governed by and interpreted in accordance with the laws of the State of Arizona in the United States of America.

6. Repair or Replacement

- 6.1 Warranty service may be obtained by contacting HGNS. Purchaser agrees to insure the product or assume the risk of loss in transit, to prepay shipping charges, and to use the original instrument carrying case and shipping container or the equivalent. Do not send accessories with item returned for repair service unless requested by HGNS. All Mounting brackets must be removed from product prior to sending to HGNS for service otherwise, any mounting hardware components attached to returned products will be removed to accommodate repair service and will not be returned to the customer

- 6.2 Contact TechSupport@hgns.com for proper instructions on returning products.

- 6.3 If HGNS replaces a product, the Warranty Period for the replacement product will be the longer of 90 days from replacement or the balance of the Warranty Period for the original product.

- 6.4 HGNS reserves the right to refuse repair of products that have been damaged due to excessive or inappropriate use.

7. Requesting an SRO

Visit www.support.hgns.com Toll-Free Phone: +1 855 203 1770

Phone: +1 480 348 6380

Email: TechSupport@HGNS.com

- 7.1 To have an SRO issued for repair of your product, you will need to provide the product number, serial number, contact info and issue you are experiencing with the product.

8. Non-Warranty SRO & Repair Estimates

- 8.1 All non-warranty repairs performed by HGNS will be warranted for 90 days against defects to parts and labor.

- 8.2 For non-warranty repairs, HGNS will provide a written estimate of repair charges within 72 hours after we receive your instrument. Although we do our best to provide the most accurate first estimate, your estimate could change due to unseen failures or unforeseen circumstances during the estimation and/or repair process.

- 8.3 We must have a written approval with deposit or a purchase order to initiate the repair. HGNS service has a minimum charge which includes diagnostics of **USD\$250.00** per SRO and each additional hour is charged at an hourly rate of **USD\$120.00**. We allow 30 days from the estimate notification date for the approval. If the repair is not approved within 30 days, the instrument will be returned unrepaid following the "Non-Warranty" shipping returns process and a denial fee of **USD\$250.00** will be invoiced in addition to freight and handling.

- 8.4 Estimates can be approved in two ways:

- By e-mail to TechSupport@hgns.com please include a purchase order for the repair
- By signing the electronic quote sent via RightSignature No Verbal authorizations will be accepted.

- 8.5 It is HGNS policy to complete approved repairs and ship within 14 days of repair approval and PO number being provided. In some instances, this may be longer due to unforeseen conditions or additional repairs required not seen during the initial troubleshooting. If this happens, a new estimate will be provided, and your repair will be addressed in the most expeditious manner.

- 8.6 After the completion of repair, the product will be sent to the buyer and the invoice will be issued.

9. Return Material Authorization (RMA) Policy

- 9.1 An RMA is used for the return of dead on arrival (DOA) and products shipped in error at the fault of HGNS.

- 9.2 Returns for credit/return items must be authorized by the customer's account manager. Then a RMA will be issued to the customer who can return the authorized products for credit in original packaging and in new unused condition.

- 9.3 RMA/DOA Goods must be received within the following time frames: Domestic US and Canada - 14 days

International - 28 days

- 9.4 Products must be returned to HGNS in the original packaging and instrument case, including all associated parts and accessories. Missing parts and accessories will be debited from your pending credit.

- 9.5 Products must be returned to HGNS in **NEW** condition in the original packaging.

- 9.6 Contact your Account Managers for RMA authorization.

10. Advanced replacement of product

- 10.1 An advanced replacement will be issued for a failed product that is within 90 days of original purchase date.

- 10.2 When requesting an SRO for advanced replacement a PO number or other form of secured payment must be provided to HGNS Technical Support prior to SRO

being issued. No advanced replacements will be shipped without a POnumber.

- 10.3 Upon product return to HGNSS, the returned product will be evaluated, and a determination will be made, at the sole discretion of HGNSS, as to whether the product was misused, abused, improperly handled or applied improperly. The customer will be responsible for all repairs or have the option to have the product returned and be charged the cost of the advanced replacement and all incurred shipping cost.

11. Service Life After End of Life Production

- 11.1 Products manufactured by HGNSS:

HGNSS will use reasonable efforts to make available technical support for 3 years and service parts for 2 years from production end date.

All products are covered for warranty repair to include parts and labor or replacement during this period (by HGNSS decision on case by case basis).

- 11.2 HGNSS offers:

Repair of original product based on material availability refurbished products, new 6-month warranty will apply

Sale of similar new product if product is still in production (pricing on case by case basis)

Sale of new replacement product (pricing on a case by case basis)

- 11.3 This policy only applies to serialized products manufactured by HGNSS, HGNSS has no policy concerning support of products for accessories.

12. Requesting Onsite Support and Fees

- 12.1 Submit all requests for onsite support or training to the HGNSS Tech Support Portal at www.support.hgnss.com or by calling the Technical Support Manager. (See contacts section 13)

- 12.2 Cost of services will be billed out at USD\$1,700 per day (not including travel expenses). 3-day minimum for all North/South America travel and 4-day minimum for all other International travel. The travel related expenses and arrangements will be discussed and agreed by the customer in advance.

- 12.3 The customer will receive a formal quote which must be signed and returned to HGNSS with a Purchase Order before dates will be confirmed and any travel booked.

Please contact our Technical Support Team for more details.

13. Hemisphere GNSS Technical Support contact info:

Technical Support Hotline: Phone: 1-855-203-1770

Web Portal - Visit www.support.hgnss.com Email- TechSupport@hgnss.com

Technical Support Manager:

Email – TechSupportMgr@hgnss.com



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