With Regulatory updates

- Safety Precautions 9/19/2014

- Regulatory Notices 9/21/2014 (ecology)

Intel® 5th Generation Core™ Processor-Based Solution Development System (SDS)

USER MANUAL

Model: WSBUB-SDS
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Regulatory Information • September 2014

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This Ultrabook system is specifically designed and tested for Microsoft* Windows* 8.1, configured for Connected Standby operation.

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revision history

Revision	Description	Date
0.92	Added: Fingerprint sensor information	June 20, 2014
0.91	Updated: Wireless WAN: instructions for enabling WWAN	May 13, 2014
0.9	**Updated:** Wireless WAN SIM card instructions	May 7, 2014
0.85	**Updated:** Introduction Left side features Using the keyboard Using the HDMI to VGA adapter Using the debug port Standby and system shut down Technical specifications Configuration and troubleshooting	May 2, 2014
0.8	Update for Beta (DVT2) factory build with Intel® RealSense 3D camera. **Updated:** Safety precautions (WWAN and Wi-Fi statements) Active Pen configuration information Touchscreen configuration information	April 23, 2014
0.7	Initial release, Beta (DVT2) factory build.	April 15, 2014

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1   introduction

This 5th generation Intel® Core™ Processor-based Solution Development System (SDS) is a business and consumer focused Ultrabook™ 2-in-1 convertible device featuring:

- 13.3" 3200 x 1800 QHD+ multi-finger touch display
- 360-degree hinge fold-over conversion mechanism
- Intel® vPro™ Technology with discrete TPM 2.0 and pop-out RJ45 Gigabit Ethernet jack *(see*
- *using the RJ45 Gb Ethernet LAN jack)*
- 180GB Intel® Pro 2500 Series SSD (M.2 module, SATA interface)
- Two user-facing camera options *(see using the cameras):*
  - o Full HD 2D camera
  - o Intel® RealSense™ 3D Camera F200 with full HD 2D camera
- World-facing camera; 8 MP with LED flash
- Intel® Dual Band Wireless-AC 7265 ("Stone Peak") 802.11ac 2x2 PCIe Wi-Fi w/BT 4.0 M.2 module
- Intel® Pro Wireless Display (WiDi) 5.0 with Miracast* support

- Intel® XMM7160-based LTE WWAN w/ GNSS
- Designed for Intel "Maple Peak" WiGig with optional WiGig Wireless Dock **(see Error! Reference source not found.)**[1]
  - o Maple Peak module not included, late availability
- Near Field Communications (NFC) antenna
- Synaptics* ForcePad* touchpad with multi-finger gesture support *(see using the touchpad)*
- N-trig* DuoSense Pen 2* Active Pen *(see using the active pen)*
- Fingerprint sensor *(see **Error! Reference source not found.**)*
- Full set of sensors including accelerometer, gyroscope, compass, ambient light, user proximity, and barometric pressure
- IO connectors: full size HDMI out, 2x USB 3.0 ports, SDXC card reader, micro SIM, 3.5 mm combo audio jack, RJ45 Gigabit LAN
- Microsoft* Windows* 8.1 with InstantGo* capability (also known as Connected Standby)

This Ultrabook 2-in-1 convertible design represents many of the capabilities of systems based on the 5th Generation Intel® Core™ Processor. This system is designed as a software development platform to aid in delivery of compelling and differentiated software and user experiences for the latest Intel platforms.

safety precautions

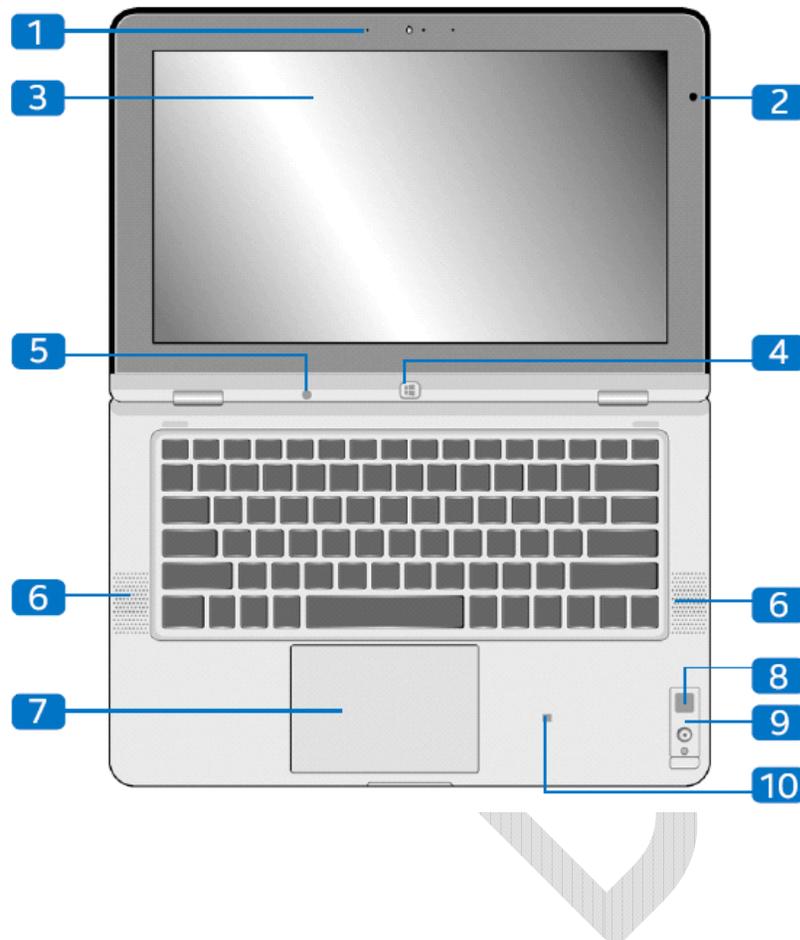> ⚠️ **WARNING:** READ THESE PRECAUTIONS PRIOR TO USING YOUR DEVICE.

- Use only the power adapter provided with the device. Other power adapters may overheat or damage the device.
- The battery pack is not user-serviceable; the battery[ies] in this device cannot be easily replaced by users themselves'. Do not attempt to remove the battery pack as damage to the device or battery pack may occur.
- If the device is damaged crushed or severely dropped, to ensure safe and proper operation, return it to Intel for servicing.
- If the device is exposed to excessive temperatures the battery may fail. Do not expose the device to environments over 100 degrees C.
- Do NOT drop the device in water, as the device is not waterproof. Operation and device failure may occur.
- Caution should be exercised during long exposure to excessive sound levels from earphones and headphones as this can cause hearing loss.
- This device may contain an Intel® RealSense™ 3D Camera module that contains an integrated laser projector. The camera complies with International Standard EN/IEC 60825-1:2007 edition 2 for a Class 1 laser product. The camera also complies with US FDA performance standards for laser products except for deviations pursuant to Laser notice No. 50, dated June 24, 2007."

Do not modify, attempt to open or service the camera module within this device in any way. Modification or service of the camera module might cause the emissions to exceed the Class 1 level. Do not activate this device if the camera is damaged in any manner. Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

For additional information including RF exposure:

See REGULATORY NOTICES section.

system features

1. **User-facing webcam and microphones** *(see*
2. *using* camera *)*
The SDS has two camera/microphone configurations:
   - SKU A: standard 1080P full HD webcam
   - SKU B: Intel® RealSense™ 3D Camera F200 plus 1080P full HD 2D camera
3. **Ambient light sensor (ALS)**
The ALS allows the system to change the display backlight automatically according to the ambient light.
4. **QHD+ (3200 x 1800) multi-touch display**
The high-definition display panel provides excellent viewing features for photos, videos, and other multimedia files.
5. **Microsoft* Windows* home key**
Home key for quick navigation in tablet mode.
6. **User proximity sensor**
The built-in proximity sensor determines when a user is within range to switch between wake and standby modes. This component is not functional with Windows 8.1; intended for development with future operating systems.
7. **Speakers**
Speakers are located on both sides of the system. The integrated stereo speakers provide high performance audio.
8. **Synaptics* ForcePad* Touchpad**
Pressure sensitive touchpad compliant with MS precision touchpad specification. See using the touchpad for details.
9. **Fingerprint sensor** *(see using the fingerprint sensor)*
Place finger on sensor to log into Windows 8.1.
10. **World-facing camera and flash** *(for tablet mode)*
This 8MP camera has an LED flash and is located on the keyboard face for use in tablet mode.
11. **NFC antenna location indicator**
Near Field Communications antenna for tap/pay and tap/connect usage.

(intel)

left side view
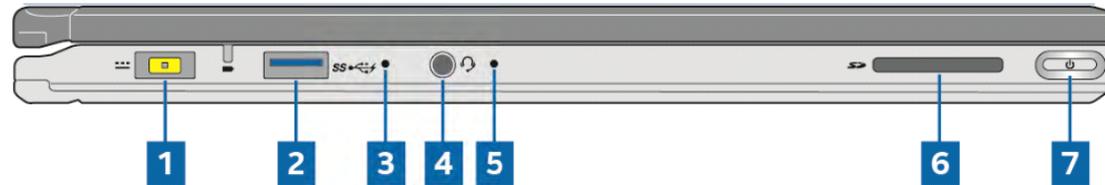
1. **Power (DC) input port and power status indicator**
   Insert the bundled power adapter into this port to charge the battery pack and supply power to the system. See charging the battery.

2. **USB 3.0 port, compliant with USB charging spec 1.2**
   This Universal Serial Bus 3.0 (USB 3.0) port provides a transfer rate of up to 5 Gbit/s and is backward compatible to USB 2.0. Also provides power for charging other devices such as cell phones while in standby state.

3. **Main system battery disconnect/connect switch**
   This switch is for debug and validation purposes and should not be necessary for normal usage. Insert pin or paper clip, press to disconnect main system battery. Press again to reconnect the main system battery. See system battery disconnect/connect switch for details.

4. **Headphone/microphone combo jack port**
   The combo port allows connection of the SDS to amplified speakers or headphones, or connection to an external microphone.

5. **Real Time Clock (RTC) CMOS reset switch**
   This switch is for debug and validation purposes and should not be necessary for normal usage. Insert pin or paper clip, press to force a system reset and clear CMOS settings. The Real Time Clock battery provides constant power for storing system BIOS settings information such as time and date. See Real Time Clock (RTC) CMOS reset switch for details.

6. **SDXC (secure digital extended capacity) memory card slot**
   The memory card slot supports SDXC cards with memory up to 2 TB.

7. **System power button and power indicator light**
   The system indicator LED lights up when the system is active. The power button has three functions:

   - **Standby mode:** Press and release the power button to put the system in standby mode. Press and release again to return to active mode.

   - **Shut down:** Press and hold the power button for more than 2 seconds but less than 10 seconds to activate a slider prompt to shut down the system.

   - **Forced shut down:** Press and hold the power button for more than 10 seconds to force an immediate system shut down.

right side view
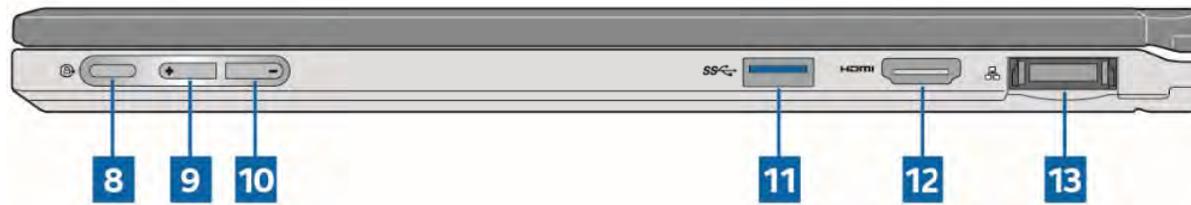
8. **Rotation lock button**
   The rotation lock button secures the SDS display orientation in all modes (laptop, tablet, display, and tent.)

9. **Volume up button**
   Press to increase system volume.

10. **Volume down button**
    Press to decrease system volume.

11. **USB 3.0 port**
    This Universal Serial Bus 3.0 (USB 3.0) port provides a transfer rate of up to 5 Gbit/s and is backward compatible to USB 2.0.

12. **HDMI port**
    Full size Type A HDMI version 1.4a port for projecting audio and video to external sources including televisions and audio receivers.

13. **RJ45 Gb Ethernet LAN jack**
    Use the LAN port to connect to a network. See using the RJ45 Gb Ethernet LAN jack for more information.

front panel view
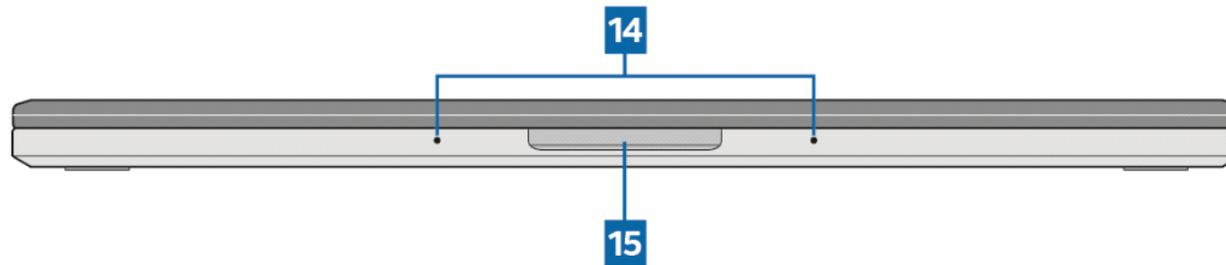
14. World-facing microphones
Dual world-facing microphone, used with world-facing camera.

15. Lid lift area
Insert fingers and lift to open system lid.

rear panel view
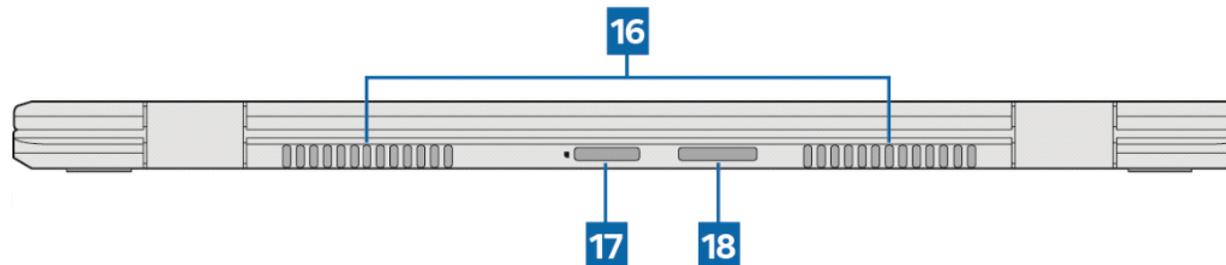
16. Air vents
Keep the system's air vents clear of obstruction for optimal performance.

17. Micro SIM card slot
To be used for LTE/3G WWAN connectivity. Micro SIM card not included with system. Contact your cellular communications carrier for a micro SIM card. Insert the end of a paper clip or a small pin into the pin hole to remove the card tray from the slot. See wireless WAN and SIM card.

18. Debug port
Debug port (should not be necessary for normal system use.) See using the debug port.

§

2   using your system

getting started

⚠	**WARNING:** To avoid injury, read important safety information in safety **.**

To start your system the first time:

1. Remove all components from the box and packaging materials.

2. Flip the system to Laptop Mode (see system orientations.)

3. Remove the protective sleeve.

4. Connect the AC power cord to the AC/DC adapter; connect the cord to the system and plug into an outlet. Leave system connected to power source for a few hours (preferably overnight) to fully charge battery.

5. Press the power button.

6. Follow onscreen directions to configure system.

NOTE: This system does not include an operating system activation key. A Microsoft* MSDN* product key is required to activate the operating system installed on this device.

figure 2-1   getting started
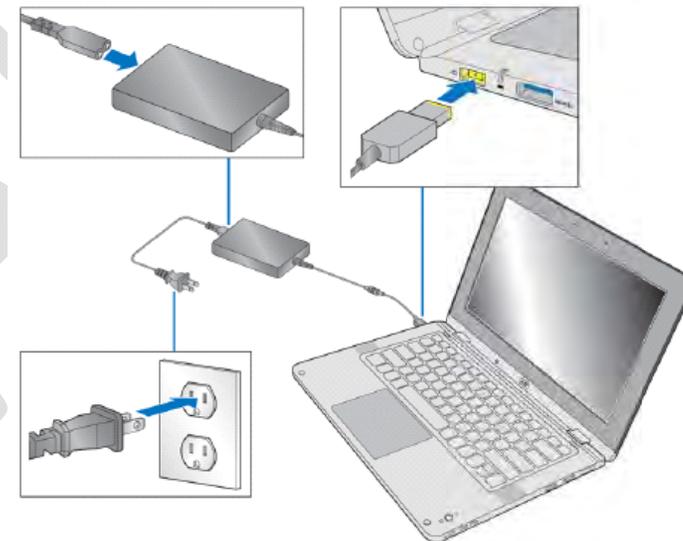
system orientations

The system has four different orientation modes: laptop, tablet, display, and tent. The included protective sleeve functions as a carrying case for the system and as a keyboard cover in tablet mode.

laptop mode

Laptop mode is the standard computer usage mode, with the display screen tilted up at an angle to the keyboard. This mode provides comfortable alignment for general computer functions while working at a desk or with the computer on your lap.

figure 2-2   laptop mode

tablet mode

This mode offers the ability to use the system as a modern Windows* 8.1 touchscreen tablet, without using the keyboard or touchpad. The keyboard and touchpad are disabled in this mode for proper handling of the system without accidental key strikes.

You can use the world-facing camera (see using the cameras) in tablet mode to take pictures and video.

figure 2-3 shows how to rotate the system from laptop to tablet mode. The rotation lock switch located on right side of the device locks the display orientation so system movements don't result in display rotation.

See figure 2-7 for instructions on using the protective sleeve to cover the keyboard while in tablet mode.

figure 2-3   rotating to tablet   figure 2-4   tablet mode
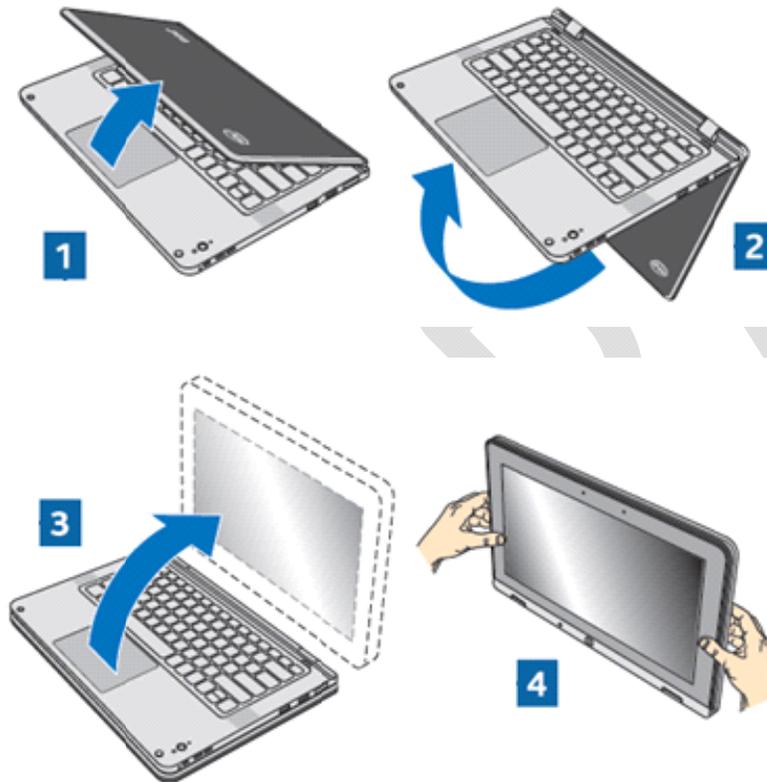
display mode

Display mode offers a convenient orientation for viewing media on your system, or for using the system in touchscreen mode while placed on a desk or your lap. You can use the protective sleeve to cover the keyboard surface while in this mode (see

using the protective sleeve for proper sleeve alignment.)

figure 2-5   display mode

tent mode

Tent mode offers an alternative orientation to display mode for viewing media or using your touch screen.

figure 2-6   tent mode
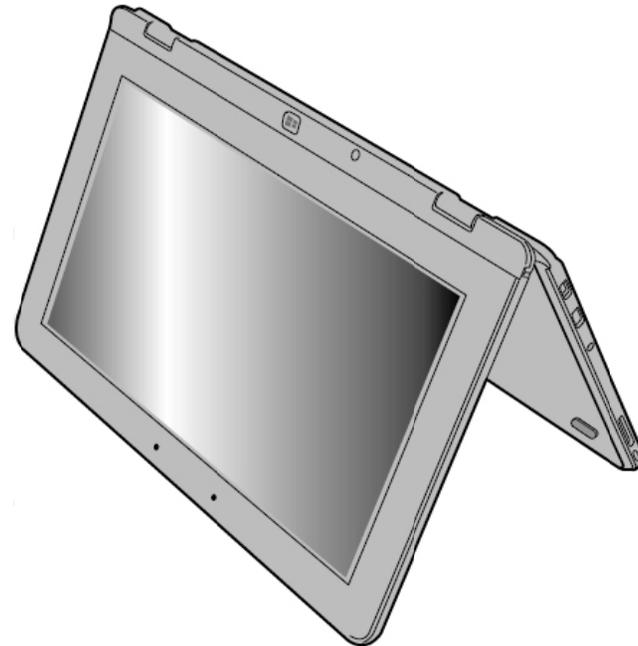
using the protective sleeve

The protective sleeve provided with your system can be used as both a carrying case when the system is not in use to help protect against damage and as a keyboard cover to protect against dirt or spills when in tablet or display mode. figure 2-7 and figure 2-9 show proper sleeve alignment. The protective sleeve includes a storage pocket for the active pen.

Note: do not push pen to bottom of pocket; constant pressure on pen tip may result in damage or reduced battery life.

figure 2-7   sleeve alignment for laptop carry mode   figure 2-8   active pen pocket
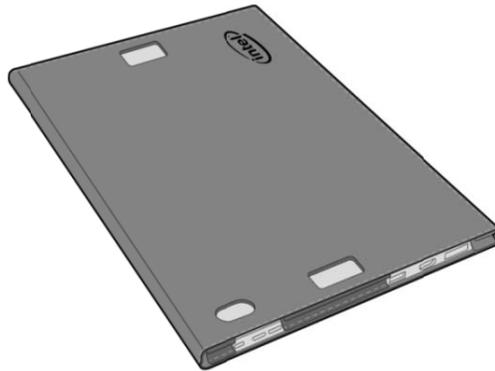
figure 2-9   sleeve alignment for tablet mode   figure 2-10   system and sleeve in tablet mode

using the touch screen

The system is equipped with a multi-touch HD display screen supporting the following standard gestures.

figure 2-11   touch screen gestures

Left edge swipe
Swipe from the left edge of the screen to shuffle the running apps.

Tap and hold
To move an app, tap and hold the app tile and drag it to a new location.

To close an app, tap and hold the top side of the running app and drag it down to the bottom of the screen to close it.

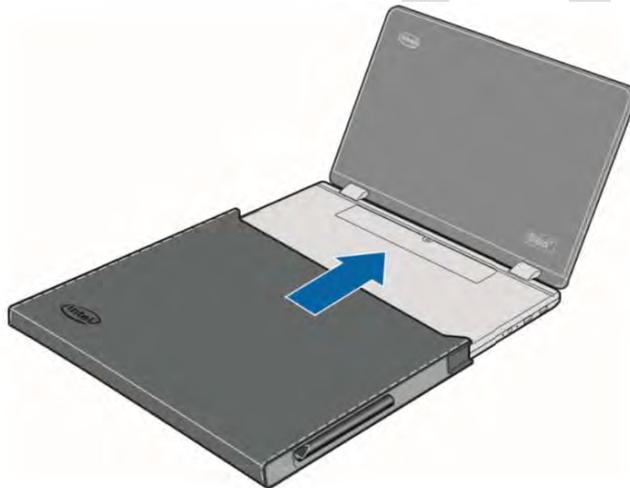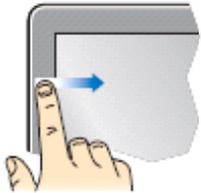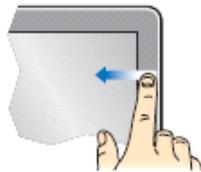**Right edge swipe**
Swipe from the right edge of the screen to launch the charms bar.
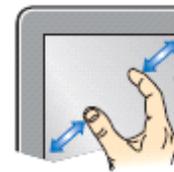
Zoom out
Bring together two fingers on the display.

Zoom in
Spread apart two fingers on the display.
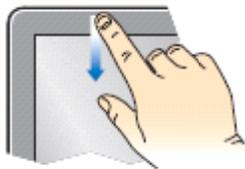
Top edge swipe
In the Start screen, swipe from the top edge of the screen to view the All Apps bar.

In a running app, swipe from the top edge of the screen to view its menu.
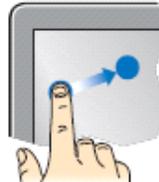
Drag
Touch and drag your finger on the display to move an item to a new location.
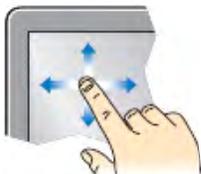
Scroll
Touch and slide a finger in any direction on the display to scroll through pictures, text, or other content.

Rotate
Touch an item with two fingers and twist your hand to rotate. *(Not all items rotate.)*

For more details: *http://windows.microsoft.com/en-US/windows-8/get-started*

customizing the touch screen functions

Touch screen functions including double-tap, press and hold, and visual touch feedback can be configured to optimize your user experience.

Go to **Control Panel** > **Hardware and Sound** > **Pen and Touch** > **Touch** to configure your touch screen functions.

| 1 | Choose Double-tap or Press and hold from the Touch tab of the Pen and Touch pop up window. Click Settings. Or, configure your Touch Feedback settings to show (or not show) visual feedback when you touch your display. | 2 | In the Double-Tap Settings or Press and Hold Settings dialog box, choose the setting you want to customize. Select OK when finished. |

figure 2-12   touch settings

figure 2-13   double-tap and press and hold settings
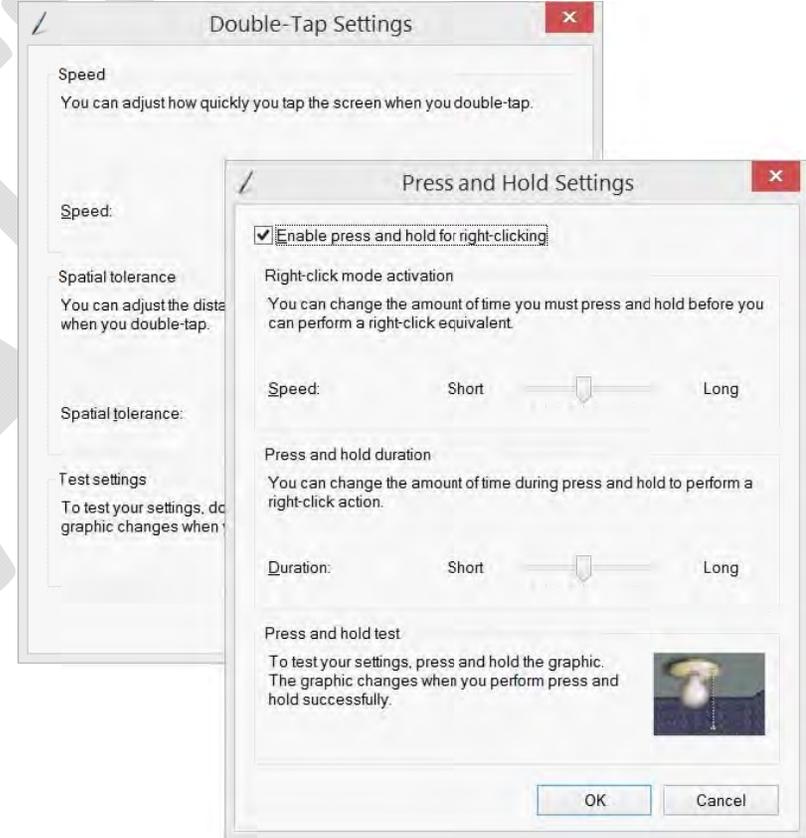
You can also customize settings through the Tablet PC Settings menu (go to **Control Panel** > **Hardware and Sound** > **Tablet PC Settings**.) From this menu you can configure pen and touch settings, calibrate the display (not recommended) and change the handedness of the display.

The Display tab includes display, orientation, and pen and touch display configuration options. The "Calibrate" function is not recommended.
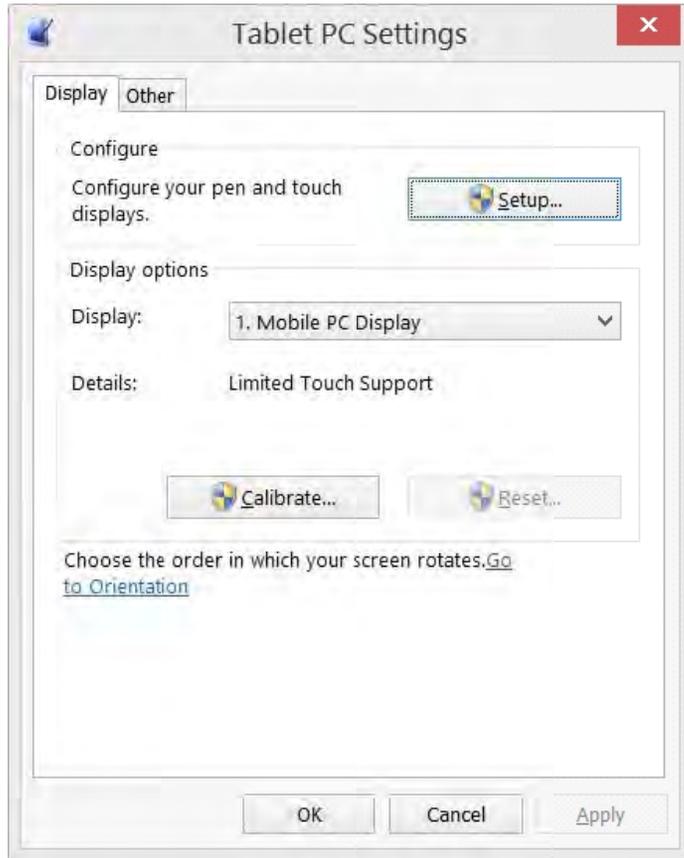
The Other tab includes handedness and pen and touch setting configuration.
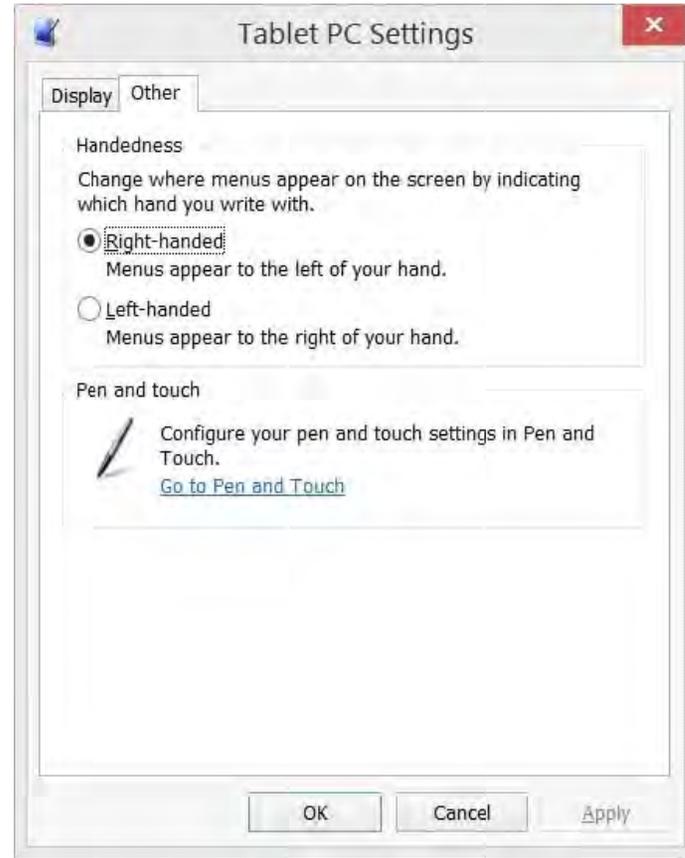
using the touchpad

The system is equipped with a pressure-sensitive Synaptics* ForcePad* touchpad. The ForcePad is a multi-finger, button-less touchpad with variable pressure detection and a maximized gesture area for a fast and fluid Windows 8 user experience.

The Synaptics driver incorporates all standard touch gestures including pinches, swipes, finger scrolling, and finger flicks.

The Synaptics Gesture Suite offers options for multi-finger flick gestures to help navigate, zoom, and manipulate documents and programs.

figure 2-17 shows how to reach the Synaptics Gesture Suite software through the pointing device properties application.

figure 2-16   touchpad gestures
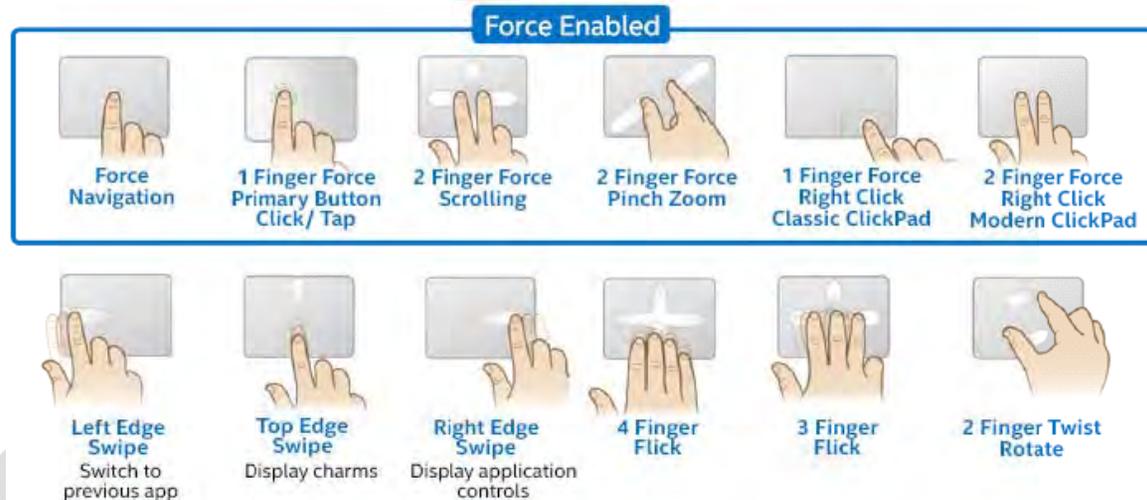
figure 2-17   touchpad configuration

For more details: *http://www.synaptics.com/solutions/products/forcepad*

using the active pen

The N-trig* DuoSense Pen 2* active pen included with this system is a high accuracy pressure sensitive pen with button, hover, and flick capabilities. The active pen supports the following:

- Handwriting recognition (HWR)
- Note taking (including HWR/search)
- PDF/document annotation
- E-textbooks and curriculum annotation
- Presentation tools
- Collaboration/white-boarding
- Drawing and graphics
- Digital media (photo annotation)
- Internet infrastructure (Flash and AIR)
- Games

The DuoSense Pen 2 acts like a regular pen, with 256 distinct levels of pressure sensitivity for a natural pen-on-paper experience. Touch the pen tip to the display to select onscreen objects or to handwrite or markup in an application.

figure 2-18   installing the active pen battery
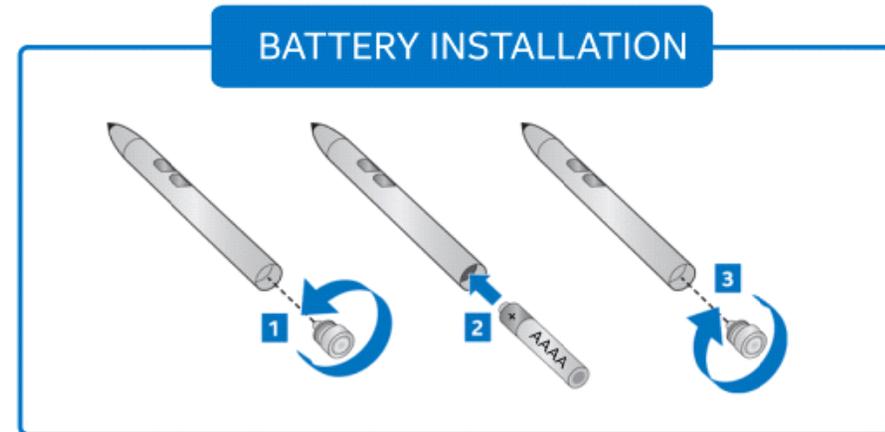
figure 2-19   active pen buttons

1 Tap or hold button when touching tip to screen to 'Right Click' or for application specific functions.

2 Press button for 'Eraser' tool or other application specific function.

customizing the pen behavior

Customize the active pen behavior to optimize your user experience. You can customize navigational flicks (up, down, left, and right) or navigational flicks and editing flicks (up, down, left, right, and diagonals), as shown in figure 2-20 through figure 2-23.

Note: a right mouse click function can be achieved by touching and holding the pen tip to the display. This option can be configured in the Microsoft* Windows* 8.1 Pen Configuration applet. This functionality is available in the Windows Desktop interface, as well as in Windows Journal*, Microsoft Office*, Sticky Notes*, and the Snipping Tool*.

Pen gestures can be configured in the Microsoft Windows 8/8.1 pen configuration applet here:
Control Panel > **Hardware and Sound** > **Pen and Touch** > **Pen Options.**

figure 2-20   pen and touch screen

◄   In the Pen and Touch pop up window, select the Flicks tab.

On the Flicks tab, select Navigational flicks to configure up, down, left, and right flicks. ►

figure 2-21   navigational flicks

figure 2-22   navigational and editing flicks

figure 2-23   customize flicks

◄ In the Pen and Touch pop up window, select the Flicks tab.

On the Flicks tab, select Navigational flicks and editing flicks to configure up, down, left, right and diagonal flicks. ►

The pen supports multiple flick gestures, including the following:

- Scroll forward/backward: flick the pen to the left across the screen to scroll backward or to the right to scroll forward.

- Drag up/drag down: flick the pen upward on the screen to drag up, or downward to drag down.

- Copy: flick the pen upward at a diagonal to the right corner of the screen to copy.

- Paste: flick the pen downward at a diagonal to the right corner of the screen to paste.

- Undo: flick the pen downward at a diagonal to the left corner of the screen to undo.

- Delete: flick the pen upward at a diagonal to the left corner of the screen to delete.

examples of applications supporting an active pen

The active pen offers a broad range of functions and users across different applications. This chart provides a small list of applications available in the market that support an active pen.

NOTE: These applications are not included with the Solution Development System.

For more details:

http://www.n-trig.com/Content.aspx?Page=TechDuoSenseActivePen

environment	app name	app description	pen button support	pen pressure sensitivity
Microsoft Windows Desktop interface	ArtRage* 4	Drawing	Yes	Yes
	BlueBeam* Revu*	PDF annotation	Yes	Yes
	Corel* Paint It Touch*	Drawing	Yes	Yes
	Grahl* PDF Annotator*	PDF annotation	Yes	Yes
	Microsoft* Math Input Panel 6.2	Pen-to-text for writing mathematical equations	Yes	No
	Microsoft* Office 2013 Suite		Yes	Yes
	Microsoft* OneNote* (Office 2013)	Note taking	Yes	Yes
	Microsoft* Snipping Tool	Annotation	Yes	Yes
Microsoft Windows 8 Live Tiles "modern interface"	Xoanan* Doodleinator*	Creating doodle animations	No	No
	MyScript* Notes Mobile*	Note taking	Yes	Yes
	Spritehand* Physamajig*	Doodling physics game	No	No
	Halfbrick* Fruit Ninja*	Game	No	No
	Autodesk* Sketchbook* Express	Drawing	Yes	Yes

using the keyboard

The system has a full size backlit keyboard. Standard keyboard function commands and shortcuts are supported.

function key commands

figure 2-24   keyboard layout and function keys

KEY	FUNCTION
Fn + F1	Initiates sleep mode
Fn + F2	Display Switch
Fn + F3	Decrease Display Brightness
Fn + F4	Increase Display Brightness
Fn + F5*	Launch WiDi display device charm
Fn + F6	Wi-Fi on/off
Fn + F7	Keyboard backlight decrease
Fn + F8	Keyboard backlight increase
Fn + F9	Speaker Mute
Fn + F10	Volume decrease
Fn + F11	Volume increase
Fn + F12	Print screen
Fn + Insert	Scroll lock
Fn + Del	Pause
Fn + Left Arrow	Home
Fn + Right Arrow	End
Fn + Up Arrow	Page Up
Fn + Down Arrow	Page Down
Windows Home Key ⊞	Return to Windows startup screen
Windows Menu Key ▤	See commands for active apps

* This function key command is not operational in the Beta (DVT2) version of the system.

other keyboard functions

boot up keys:

F2 = BIOS setup

F7 = boot options

Windows shortcuts:

http://windows.microsoft.com/en-US/windows7/using-your-keyboard

using the cameras

The system includes a user-facing webcam (in two different configurations) and a world-facing camera for use in tablet mode.

user-facing webcam

The user-facing webcam is located at the top of the display screen and is used for pictures, video and video conferencing.

The system is available with two user-facing webcam options:

figure 2-25   2D camera configuration

SKU A: standard 1080P full HD webcam
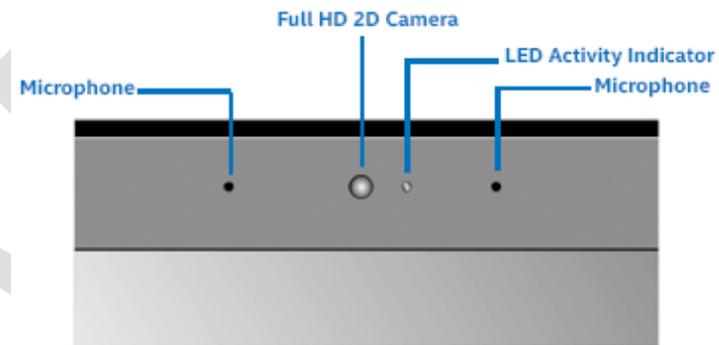
figure 2-26   3D camera configuration

SKU B: Intel® RealSense™ 3D Camera F200 plus 1080P full HD 2D camera

See Recyclable: Do not dispose of this device in unsorted municipal waste. Recycle properly to ensure safe and proper protection of the environment. This device contains certain recyclable components. At the end of development use, return the device to Intel for recycling, or recycle in a manner acceptable to your local authorities. Refer to local environmental regulations for proper recycling.

Lithium Battery Pack: Except to recycle, do not attempt to remove the battery pack as damage to the device or battery pack may occur. The battery[ies] in this device cannot be easily replaced by users themselves'.

Perchlorate Material: Lithium (Coin Cell) Battery contains Perchlorate material — special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate. This notice is required by California Code of Regulations, Title 22, Division 4.5, Chapter 33: Best Management Practices for Perchlorate Materials. This device includes a battery which contains Perchlorate material.

Power Efficiency (as shipped) Default Settings (Windows 8.1 installed):

Balanced Power Plan:

- Put Computer to Sleep (On Battery): 4 minutes.
- Put Computer to Sleep (Plugged In): 10 minutes.

Hibernate: Critical Battery Action when Critical Battery Level reaches 2%.

for important safety and regulatory information.

world facing camera (tablet mode)

The world facing camera is located on the keyboard

figure 2-27   world facing camera

panel face and is used in tablet mode. Hold the system up in tablet mode with the hinges pointing down to correctly orient the world facing camera.

figure 2-28   world facing camera controls
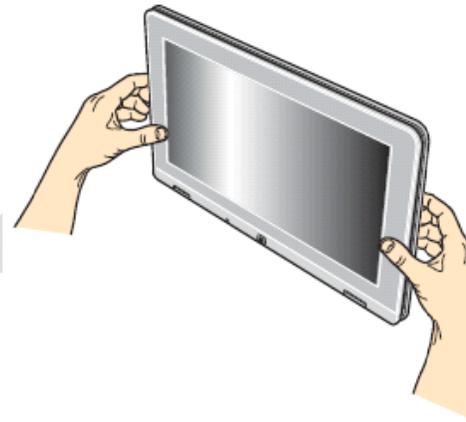
figure 2-29   world facing camera location
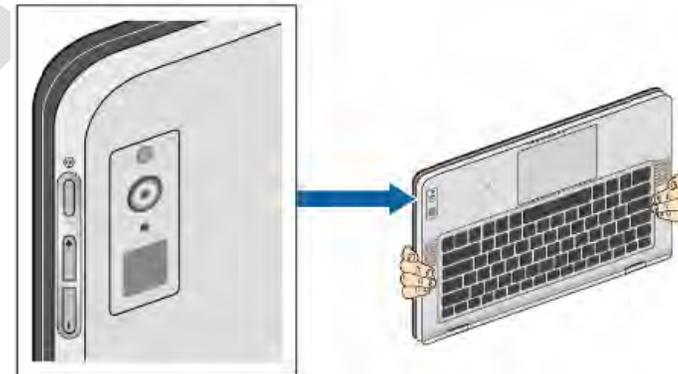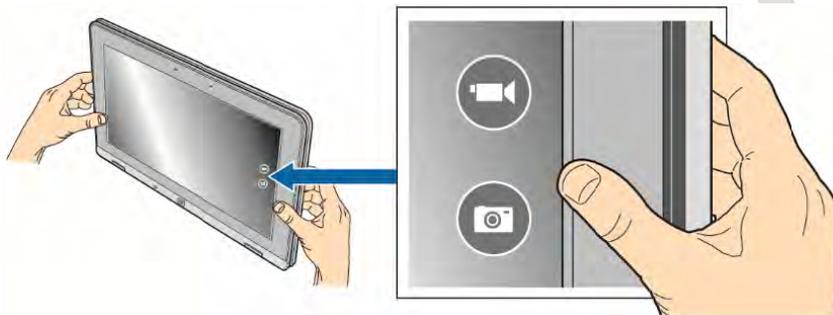
using the system motion sensors

Sensors integrated into the system detect orientation, movement, and ambient light.

- Accelerometer and gyroscope: detects motion and orientation changes, for example to shift the on-screen image from landscape to portrait display as the system orientation changes while in tablet mode.

- **Ambient Light Sensor (ALS):** detects room light intensity, for example to adjust onscreen display brightness to improve readability in bright rooms or to conserve battery power in low light room.

- **Near Field Communications (NFC):** detects other NFC enabled devices (such as smartphones or credit cards) to initiate data transfer operations within Windows or for faster on-line payment transactions at appropriately enabled web sites. The NFC solution is compliant with Microsoft Windows 8.1 Proximity Service APIs and Intel® Identity Protection Technology middleware for "Tap and Pay" services.

- **Infrared (IR) user proximity:** detects heat and/or human presence to prompt the system to wake up or to enter standby mode. The IR sensor is not currently supported under Windows 8.1 and is intended for use in developing future applications or operating systems.

- **Barometric pressure:** detects changes in air pressure, such as with elevation changes, and can be used to facilitate improved indoor navigation capabilities. The barometric pressure sensor is currently not supported under Windows 8.1 and is intended for use in developing future applications or operating systems

The system also includes a Near Field Communication (NFC) solution to detect other NFC enabled devices. The antenna detects other NFC enabled devices (such as smartphones or credit cards) to initiate data transfer operations within Microsoft* Windows* or for faster on-line payment transactions at appropriately enabled web sites. The NFC solution is compliant with Windows 8.1 Proximity Service APIs and Intel® Identity Protection Technology middleware for "Tap and Pay" services.

using the fingerprint sensor

The fingerprint sensor can be used in place of typing a password to streamline the system login process. Set up a system login password prior to setting up fingerprint access. If you already have a system login password for the specific user account, skip to setting up fingerprint access. Fingerprint access can be set up for each user account on the system; multiple fingerprints can be associated with each user account.

First, set up a system login password for a specific user account. Select the desired account at system login, then:

figure 2-30   setting up system login password

1. Swipe from right to display Charms bar.

2. Select Settings.

3. Select Change PC Settings.

4. Select Accounts.

5. Select Sign in options.

6. Select Add password.
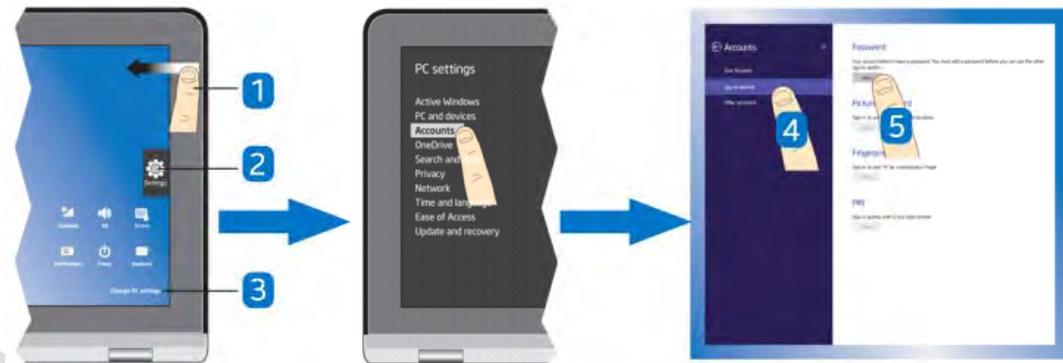
Next, set up fingerprint access:

figure 2-31   setting up fingerprint access

1. Same path as setting up the system login password, but for Step 6, choose Add under Fingerprint.

2. Log in using your system login password.

3. Using firm pressure, tap/hold your finger (do not swipe) to the sensor 8 times.

4. When 8 taps have been successful completed, select Finish.

5. Optional, add another fingerprint (up to 12, from a different finger, different hand, or different user).
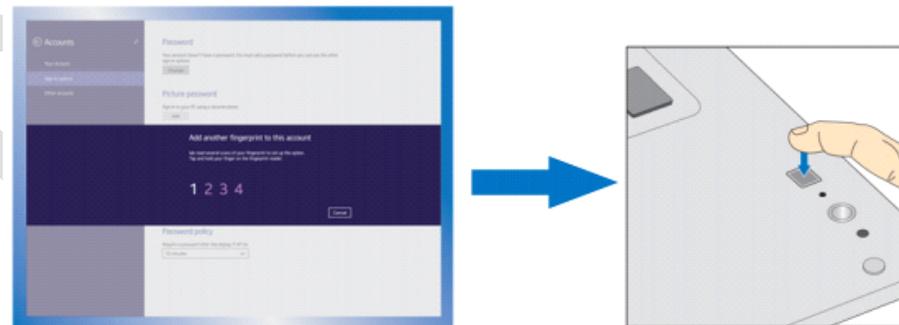
Sign out, sign back in (choose Fingerprint under Sign in options) to confirm your fingerprint access.

wireless WAN and SIM card

A micro SIM card must be installed in the system to use the integrated LTE/3G WWAN connectivity. Micro SIM card not included with system. Contact your cellular communications carrier for a micro SIM card.

beta (DVT2 and DVT3) systems: enabling the WWAN hardware

Due to safety and regulatory certification issues, all Beta (DVT2 and DVT3) systems are shipped with WWAN hardware disabled. Follow the steps below if you choose to enable the WWAN hardware.

Note: **RF exposure:** This engineering sample system contains a WWAN wireless radio that transmits RF energy. The transmit antenna structure must be at least 20 cm from the user or nearby persons in all usage orientations of the system. The WWAN transmit antenna structure is located on the top right edge of the LCD display.

Steps to enable WWAN hardware:
1. Power system off (see standby and system shut down.)
2. Power on, IMMEDIATELY press F2 to enter the system BIOS.
3. Select Intel Advanced.
4. Select PCH-IO Configuration.
5. Select USB Configuration.
6. Select USB Physical Connector #2 and change from Disable USB2 port to Enabled.
7. Select USB Per-Connector Disable at top of list and change from Enabled to Disabled.
8. Press F4 to save settings.
9. Press Esc three times.
10. Select Continue to exit BIOS setup.

Steps to check WWAN "Enabled" status:
1. Power system off (see standby and system shut down.)
2. Power on, IMMEDIATELY press F2 to enter the system BIOS.
3. Select Intel Advanced.
4. Select PCH-IO Configuration.
5. Select USB Configuration.
6. Select USB Per-Connector Disable at top of list and change from Disabled to Enabled.
7. Select USB Physical Connector #2 and change from Enabled to Disable USB2 port.
8. Select F4 to save settings.
9. Press Esc three times.
10. Select Continue to exit BIOS setup.

installing the micro SIM card

> ⚠️ **WARNING:** MAKE SURE SYSTEM IS FULLY POWERED OFF BEFORE INSERTING THE SIM CARD TRAY

> ⚠️ **WARNING:** INSERTING THE SIM CARD TRAY INCORRECTLY CAN CAUSE DAMAGE TO THE SYSTEM.
> TO INSERT CORRECTLY, MAKE SURE PIN HOLE IS LOCATED CLOSER TO DEBUG PORT.

Procedure for inserting micro SIM card (see figure 2-32):
1. Power the system completely off.
2. Convert system to Laptop Mode and close the lid.
3. Turn system upside down so system label is facing up.
4. Insert the end of a paper clip or a small pin into the pin hole to remove the card tray from the slot.
5. Insert card as shown in step 3 of figure 2-32.
6. Insert card with pin hole to side of slot closer to debug port.
7. Turn system on.
8. Use the Windows network device settings application to configure wireless WAN network connectivity.

figure 2-32   inserting the micro SIM card
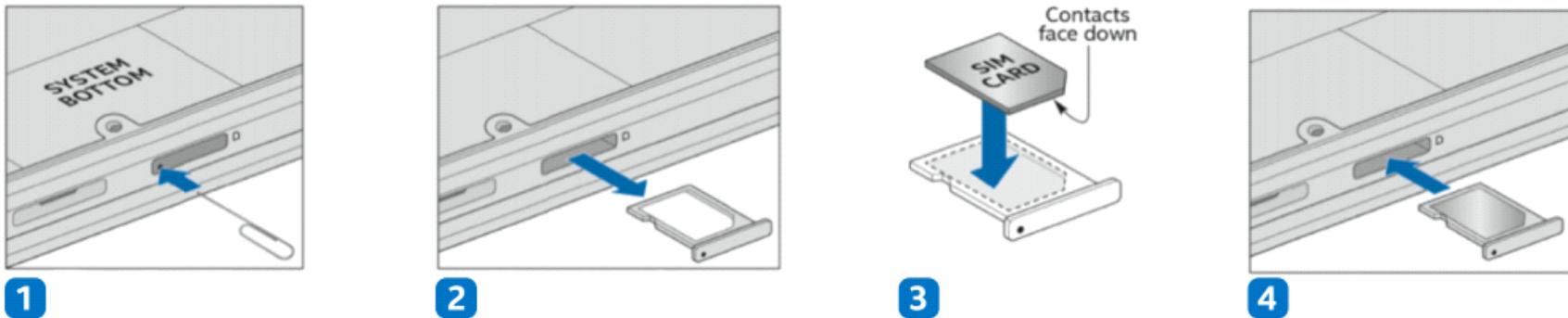
using the RJ45 Gb Ethernet LAN jack

Note: The RJ45 connector is delicate and may not always provide a secure network cable connection. Handle the RJ45 connector with care to avoid damage. Different network cables may result in a more secure connection.

To use the LAN jack:

1. Gently press in on the jack to pop it out.
2. Carefully lift up on the top bracket, unfolding it outward.
3. Plug in your cable.
4. When finished, carefully remove cable, fold bracket in, and press back into system.

figure 2-33   using the Ethernet LAN jack
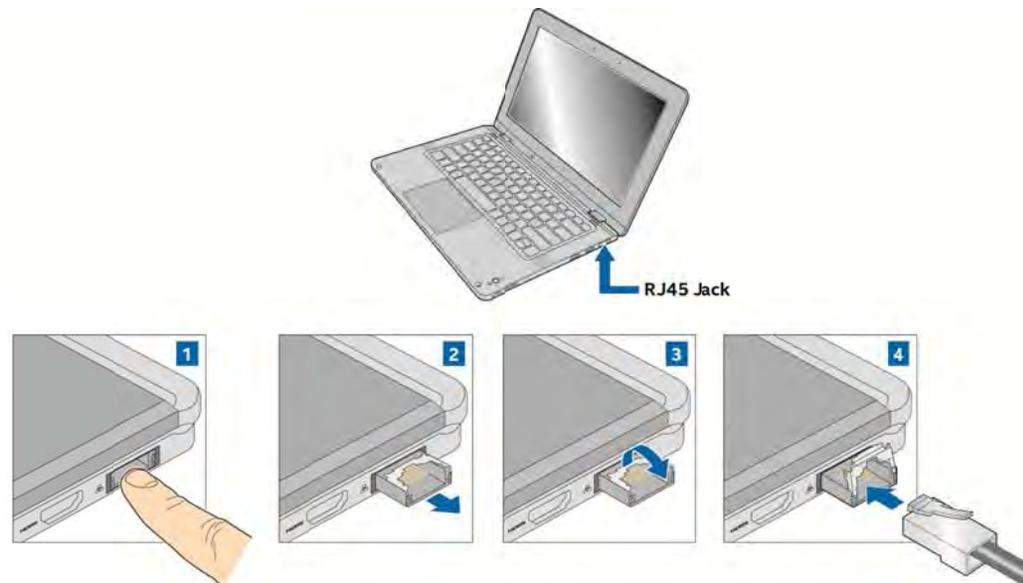
using the HDMI to VGA adapter

The HDMI to VGA adapter is used to connect the system to a VGA monitor or projector.

To activate the display:

1. Connect the HDMI end of the adapter to the HDMI port located on the right side of the system.

2. Connect the VGA end of the adapter to a VGA display.

3. Press the Windows key (to the left of the Alt key) and the "p" key to open the display pop up.

4. Choose a display option: extend, duplicate or second screen only.

figure 2-34   VGA display adapter
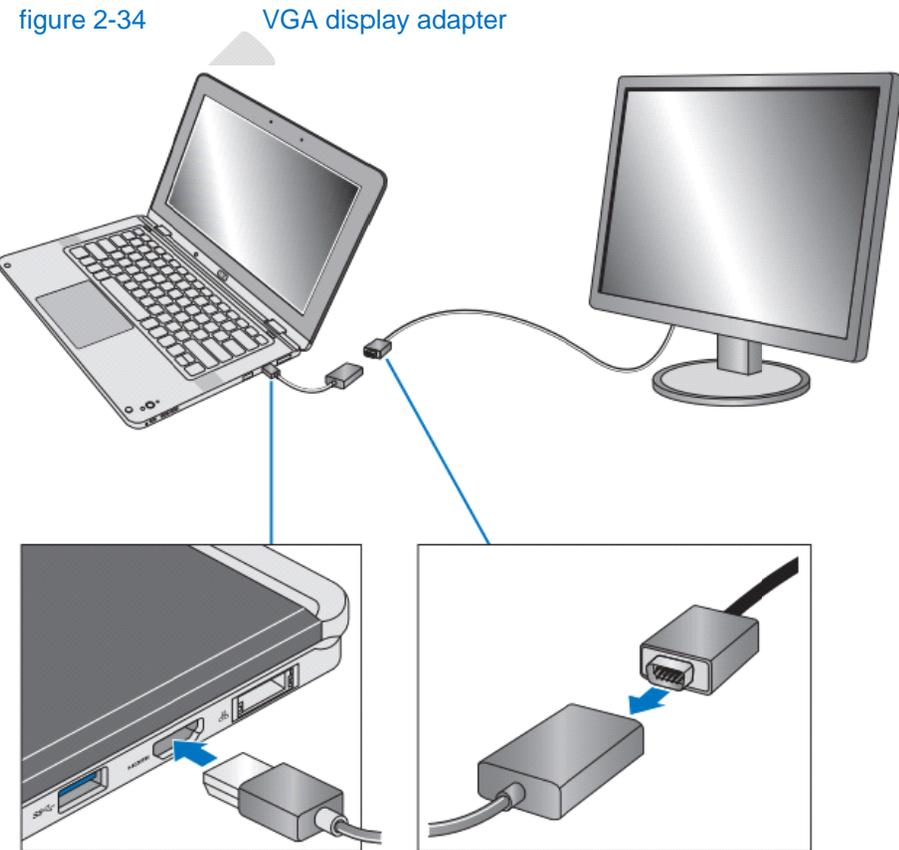
standby and system shut down

table 2-1   standby and shutdown options

options	steps
using the Windows Charms bar	Using the touchscreen swipe from the right edge of the display to access the Charms bar, tap 'Settings', then tap 'Power' and select 'Sleep', 'Shut down' or 'Restart'.
using Ctrl + Alt + Delete on the keyboard	Simultaneously press Ctrl/Alt/Delete keys to bring up the log-out screen. Then tap the 'Power' icon in lower right corner and select 'Sleep', 'Shut down', or 'Restart'.
from the login screen	From the login screen instead of entering a password tap the 'Power' icon in lower right corner and select 'Sleep', 'Shut down', or 'Restart'.
using Alt + F4 on the keyboard	From the Windows desktop press Alt+F4 to launch the 'Shut Down Windows' menu; then select 'Sign out', 'Sleep', 'Shut down', or 'Restart' from the drop-down list.
using the system power button	Press and hold the system power button on the left side of the system for more than 2 seconds but less than 10 seconds to launch the 'Shut Down Windows' menu; then select 'Sign out', 'Sleep', 'Shut down', or 'Restart' from the drop-down list.
forced shutdown (when system locks up)	Press and hold the system power button for more than 10 seconds to force an immediate system shut down. Use of this option should be avoided if possible; any unsaved data will be lost.

waking from standby

To wake the system from standby mode:

- from closed lid laptop mode simply open the system lid
- from any other open lid or tablet mode press the system power button

charging the battery

IMPORTANT! Use only the bundled power adapter to charge the battery pack and supply power to the system.

Insert the bundled power adapter into the power port to charge the battery pack and supply power to the system. The two-color LED provides a visual indication of the battery's charge status:

- o Solid Green: The Ultrabook system is plugged in to a power source and the battery power is 100%.
- o Solid Orange: The Ultrabook system is plugged in to a power source and the battery power is between 0% and 100%.
- o Blinking Orange: The Ultrabook system is running on the battery and the battery power is less than 10%.
- o Lights Off: The Ultrabook system is running on the battery and the battery power is between 10% and 100%.

using the debug port

This port is for debug and validation purposes for use by Intel and should not be necessary for normal use and software development. Use of the debug port requires a dedicated debug card not included with the system.

Insert a small flat screwdriver into the slot on the back of the system to remove the debug port cover. Insert the debug card into the open port.

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3 technical specifications

table 3-1   system features

feature	description
Form factor and weight	• 13.3" 2-in-1 Convertible, ~3.4 lbs., z = 18.6 mm, compliant with 2014 Intel® Ultrabook™ Definition Rev. 1.3 • Full-size backlit keyboard, 5 finger multi-touch touchpad
Processor	• 5th Gen Intel® Core™ Processor (Broadwell-ULT dual core), 15 W TDP, internal or PQS sample 2.0 GHz or greater base frequency (see *Dear Customer Letter* included with system for more information)
Graphics	• Intel HD Graphics (Gen5, GT2)
OS	• Microsoft* Windows 8.1* supporting InstantGo (Connected Standby)
Display	• 13.3", 16:9, QHD (3200 x 1800), eDP with PSR, 5+-finger multi-touch with Active Digitizer
Memory	• 8 GB LP-DDR3 operating at 1333 MHz (BGA)
Storage	• 180GB Intel Pro 2500 SSD ("Temple Star"), M.2 (NGFF) module, SATA interface
Communications	• Intel® Dual Band Wireless-AC 7265 ("Stone Peak") 802.11ac 2x2 PCIe Wi-Fi w/BT 4.0 M.2 module • Designed to support Intel "Maple Peak" 60 GHz 802.11ad WiGig + 2x2 802.11ac WLAN + Bluetooth 4.0 M.2 module, PCIe / USB interface) – Maple Peak module not installed in system • NXP NPC100 (aka PN547) NFC (Near Field Communication) "Galapagos" module with antenna booster, NCI interface • FIH7160 4G LTE/3G WWAN w/ GNSS (Intel XMM 7160 silicon), M.2 module, USB interface
Camera & Mics	• 2D 1080p user-facing camera (SKU A) or Intel® RealSense 3D+ 2D 1080p user-facing camera (SKU B) with LED activity indicator • 8 MP world-facing camera with flash • 2x lid (2d Uf camera) or 3x lid (SKU B) or and 2x base array digital microphones
IO connectors	• HDMI out (1.4b) , 2x USB 3.0 ports with USB charging spec 1.2 support) SDXC card reader, microSIM, 3.5 mm combo audio jack, RJ45 Gigabit LAN
Connected standby	• Full compliance with Windows 8.1 Connected Standby requirements • S0ix- and Intel® Power Optimizer-enabled
Sensors	• ALS, accelerometer, gyroscope, compass, NFC (for tap usages), IR proximity, barometric pressure • Fingerprint sensor • GPS/GNSS (on WWAN), sensor fusion
Battery	• 50Whr, Lithium-ion, Simplo* 2s2p arrangement
Power adapter	• Delta ADP-45BE AA **Input** : 100~240 V /1.3A , 50~60 Hz **Output**: 20 V / 2.25 A, 45 W

4   configuration and troubleshooting

entering the system BIOS

1. Power system off (see standby and system shut down.)
2. Power on, IMMEDIATELY press F2 to enter the system BIOS.
3. Configure settings as desired.
4. Select F4 to save settings.
5. Press Esc until you return to main BIOS menu.
6. Select Continue to exit BIOS setup.

selecting the system boot device

Press F7 during system power on to select boot device or to boot to the EDK shell.

system battery disconnect/connect switch

If your system stops responding or fails to boot, the system battery reset switch provides the electrical equivalent of removing the battery from the system.

To disconnect the battery from the system:

1. Insert a pin or paper clip as shown in **Error! Reference source not found.**
2. Press in and release to disconnect the battery.
3. Wait a few seconds.
4. Repeat Step 2 to reconnect battery.
5. Power system up as usual.

figure 4-1   system battery reset
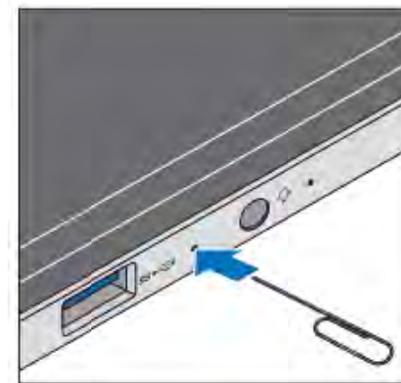
Real Time Clock (RTC) CMOS reset switch

The RTC provides constant power for storing customized BIOS settings in the system CMOS region. To restore factory default values insert pin or paper clip into hole on side of system, press and release.

figure 4-2   RTC CMOS reset

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5   REGULATORY NOTICES

This information should be kept with the device for future reference.

THIS SYSTEM IS AN ENGINEERING DEVELOPMENT DEVICE. NOT OFFERED FOR SALE OR LEASE.

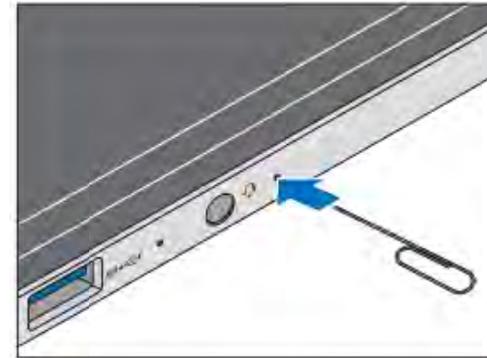This device is provided for test, evaluation, and demonstration purposes only as permitted in your region. This device is designed to meet or exceed international Safety, EMC, RF and Environmental standards.

SAFETY WARNINGS AND CAUTIONS

1. Use only the power adapter provided with the device. Other power adapters may overheat or damage the device.

2. The battery pack is not user-serviceable; the battery[ies] in this device cannot be easily replaced by users themselves'. Do not attempt to remove the battery pack as damage to the device or battery pack may occur.

3. If the device is damaged crushed or severely dropped, to ensure safe and proper operation, return it to Intel for servicing.

4. If the device is exposed to excessive temperatures the battery may fail. Do not expose the device to environments over 100 degrees C.

5. Do NOT drop the device in water, as the device is not waterproof. Operation and device failure may occur.

6. Caution should be exercised during long exposure to excessive sound levels from earphones and headphones as this can cause hearing loss.

7. This device may contain an Intel® RealSense™ 3D Camera module that contains an integrated laser projector. The camera complies with International Standard EN/IEC 60825-1:2007 edition 2 for a Class 1 laser product. The camera also complies with US FDA performance standards for laser products except for deviations pursuant to Laser notice No. 50, dated June 24, 2007."

Do not modify, attempt to open or service the camera module within this device in any way. Modification or service of the camera module might cause the emissions to exceed the Class 1 level. Do not activate this device if the camera is damaged in any manner. Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

(intel)

EMC STATEMENTS

Federal Communications Commission Regulatory Statement

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.

Caution: To assure continued FCC compliance operation is subject to the following two conditions:

1) This device may not cause harmful interference.

2) This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Intel Corporation could void the developer's authority to operate the equipment.

This device complies with the applicable FCC rules.

FCC ID: RMXWSBUB-SDS

FCC RF Exposure Statement

This equipment complies with FCC RF exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. The most

conservative SAR measured was 1.49W/kg which is below the FCC limit of 1.6W/kg. Usage of the device should be in accordance with the User Guide and the content of the FCC application.

CE Mark

This device can be operated in EU without restrictions indoors. Intel Corporation hereby declares that this Ultrabook is in compliance with the essential requirements and other relevant provisions and Directive 1999/5/EC – Radio and Telecommunications Terminal Equipment, 2004/108/EC – EMC, 2011/65/EU - RoHS, 2012/19/EU - WEEE, 2009/125/EU – Ecodesign and 2006/95/EC – Low Voltage.

Industry Canada (IC) Notice

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1) this device may not cause interference,

2) this device must accept any interference, including interference that may cause undesired operation of the device.

Changes or modifications not expressly approved by Intel Corporation could void the developer's authority to operate the equipment.

This equipment complies with Industry Canada radiation exposure limits set forth for an uncontrolled environment. The most conservative SAR measured was 1.49W/kg.   Usage of the device should be in accordance with the User Guide and the content of the IC application.

IC:1000V-WSBUBSDS

Français - Canada

Cet appareil est conforme avec le licence-exempt standard RSS(s) d'Industrie Canada. L'utilisation de ce dispositif est autorisée seulement aux deux conditions suivantes : (1) il ne doit pas produire de brouillage, et (2) l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

Cet équipement est conforme Industrie Canada limites d'exposition aux rayonnements définies pour un environnement non contrôlé. Le SAR la plus conservatrice mesurée était de 1.49W/kg. L'utilisation de l'appareil doit être en conformité avec le Guide de l'utilisateur et le contenu de la demande d'Industrie Canada.

Wireless (RF) Interface

This development device includes a wireless (Radio Frequency, RF) transmitter. Operation of the transmitter may be restricted or prohibited by regional or national regulations; a license for development/experimental use may be required.

This device may contain a Wireless Wide Area Network (WWAN) data card. Operation of WWAN requires the installation of a SIM card (or other network access means) which must be obtained from a licensed network service provider (carrier) for your location. Authorization to operate a development device on a live network requires the explicit approval of a network service provider (carrier).

Français – Canada Cet appareil est conforme avec Industrie Canada RSS standard exempts de licence (s). Son utilisation est soumise à Les deux conditions suivantes: (1) cet appareil ne peut pas provoquer d'interférences et (2) cet appareil doit accepter Toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

ECOLOGY STATEMENTS

Recyclable: Do not dispose of this device in unsorted municipal waste. Recycle properly to ensure safe and proper protection of the environment. This device contains certain recyclable components. At the end of development use, return the device to Intel for recycling, or recycle in a manner acceptable to your local authorities. Refer to local environmental regulations for proper recycling.

Lithium Battery Pack: Except to recycle, do not attempt to remove the battery pack as damage to the device or battery pack may occur. The battery[ies] in this device cannot be easily replaced by users themselves'.

Perchlorate Material: Lithium (Coin Cell) Battery contains Perchlorate material — special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate. This notice is required by California Code of Regulations, Title 22,

Division 4.5, Chapter 33: Best Management Practices for Perchlorate Materials. This device includes a battery which contains Perchlorate material.

Power Efficiency (as shipped) Default Settings (Windows 8.1 installed):

Balanced Power Plan:

- Put Computer to Sleep (On Battery): 4 minutes.
- Put Computer to Sleep (Plugged In): 10 minutes.

Hibernate: Critical Battery Action when Critical Battery Level reaches 2%.

§