Latitude 7230 Rugged Extreme Tablet

Technical Guidebook

DELLTechnologies

Notes, cautions, and warnings

(i) **NOTE:** A NOTE indicates important information that helps you make better use of your product.

⚠ **CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.**
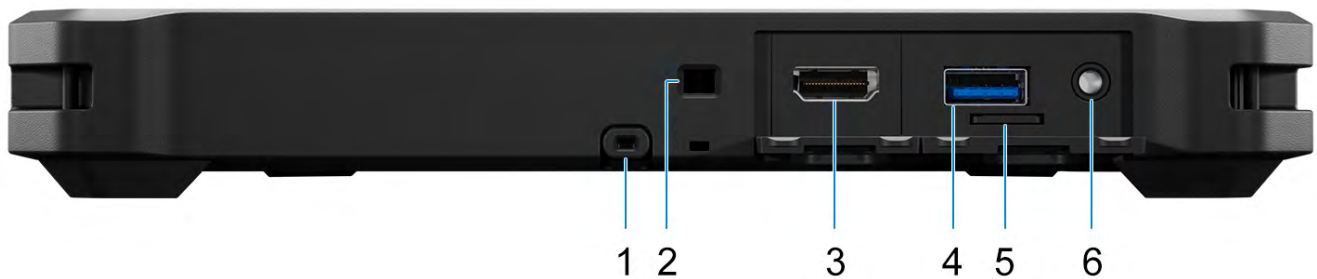
⚠ **WARNING: A WARNING indicates a potential for property damage, personal injury, or death.**

Contents

Views of Latitude 7230 Rugged Extreme Tablet

Right

1. Stylus slot
2. Wedge-shaped lock slot
3. Optional I/O bay (Choose from: HDMI 2.0/USB 3.2 Gen 1 Type-A)
4. USB 3.2 Gen 1 port with PowerShare
5. microSD-card slot
6. Headset (headphone and microphone combo) port

Left
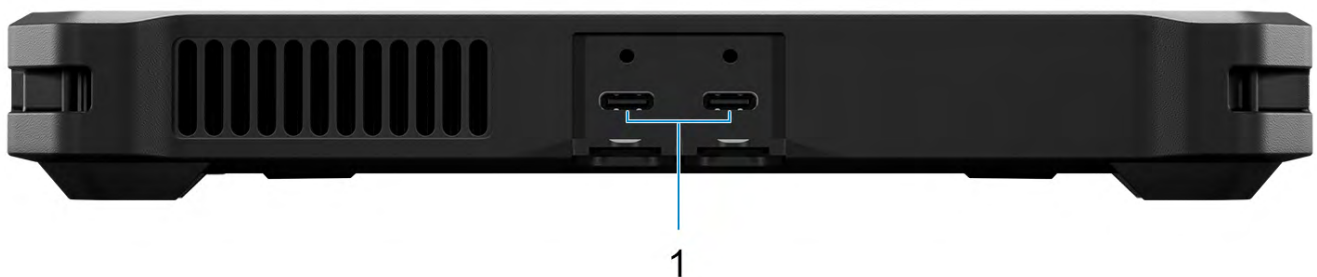
1. Two Thunderbolt 4 ports with DisplayPort Alt Mode/USB4/Power Delivery

Top
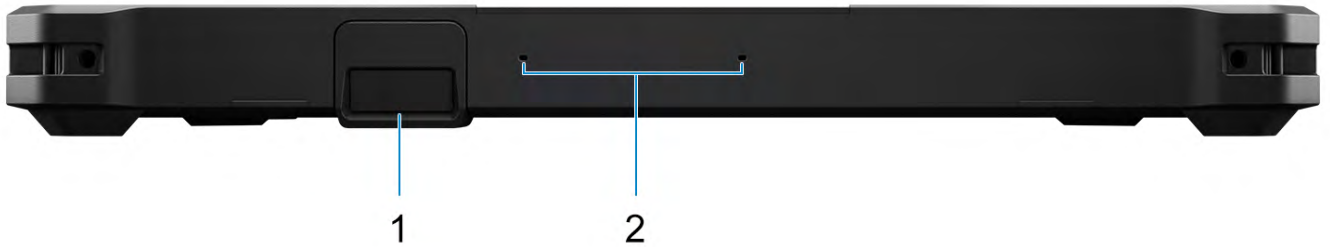
1. Optional I/O bay (Choose from: RJ-45/Fischer USB 3.0/Mini-serial RS-232 / 1D-2D barcode scanner/Blank)
2. Microphone

Display
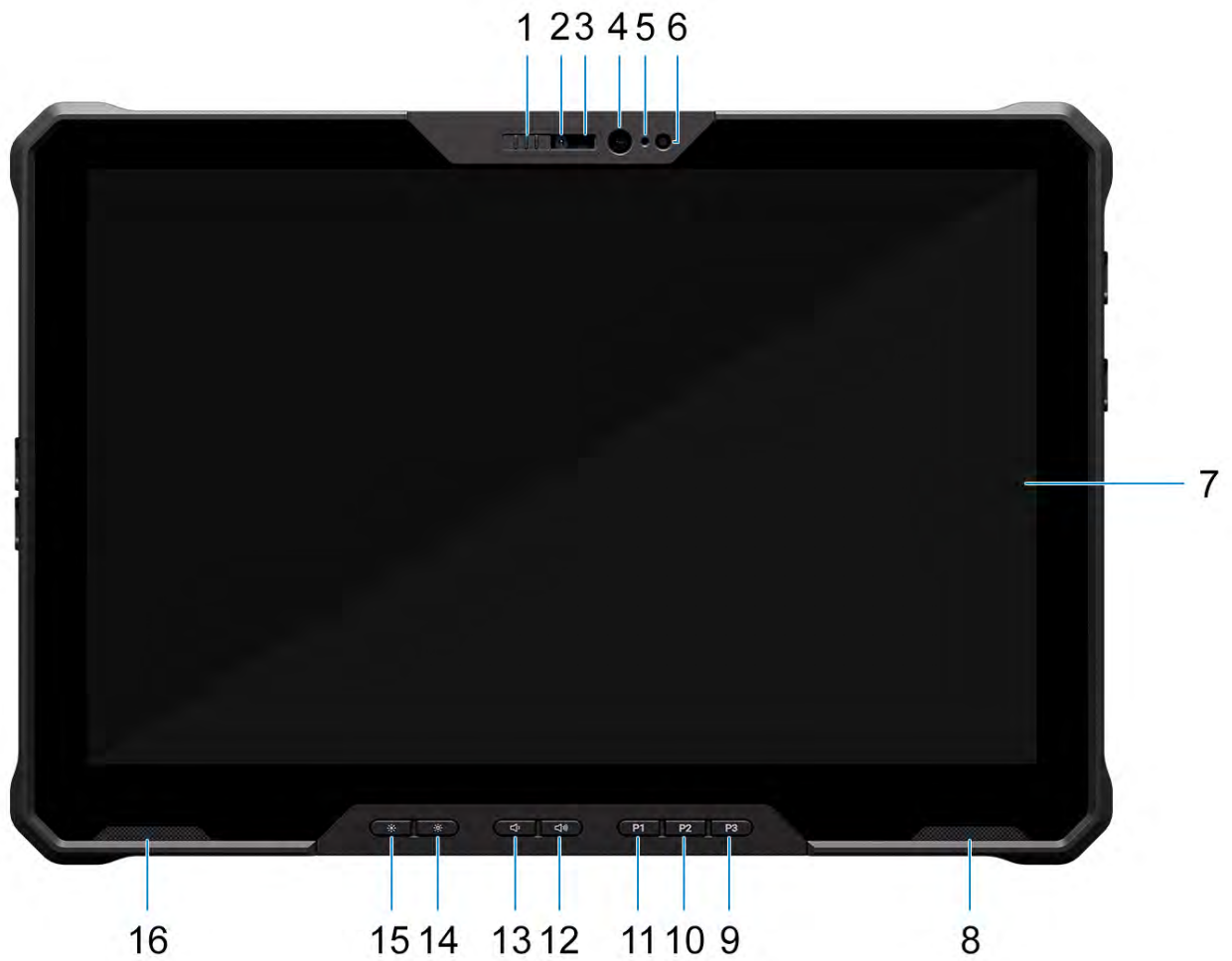
1. Camera shutter door
2. RGB camera
3. IR camera

4. IR emitter
5. Camera status light
6. Ambient Light Sensor (ALS)
7. Display
8. Speaker
9. P3—User programmable button 3
10. P2—User programmable button 2
11. P1—User programmable button 1

ⓘ **NOTE:** You can configure P1/P2/P3 buttons using Rugged Control Center. For more information about Rugged Control Center, refer Rugged Control Center User's Guide and Quick Start Guide at Dell.com/support/Rugged-Control-Center.

12. Volume increase button
13. Volume decrease button
14. Brightness increase button
15. Brightness decrease button
16. Speaker

Bottom
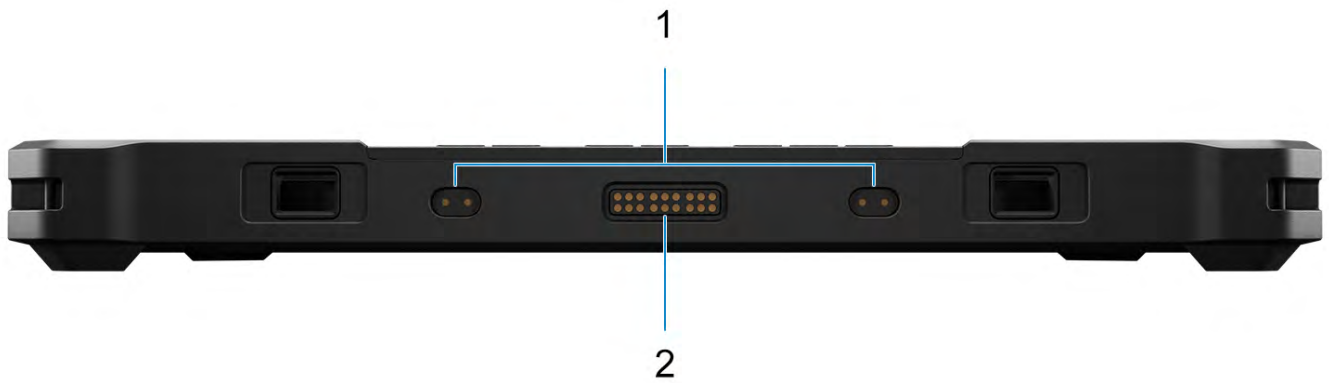
1. RF Passthrough dummy cover
2. Docking pogo connector

ⓘ **NOTE:** Used for dock a docking station or a rugged keyboard.

Back
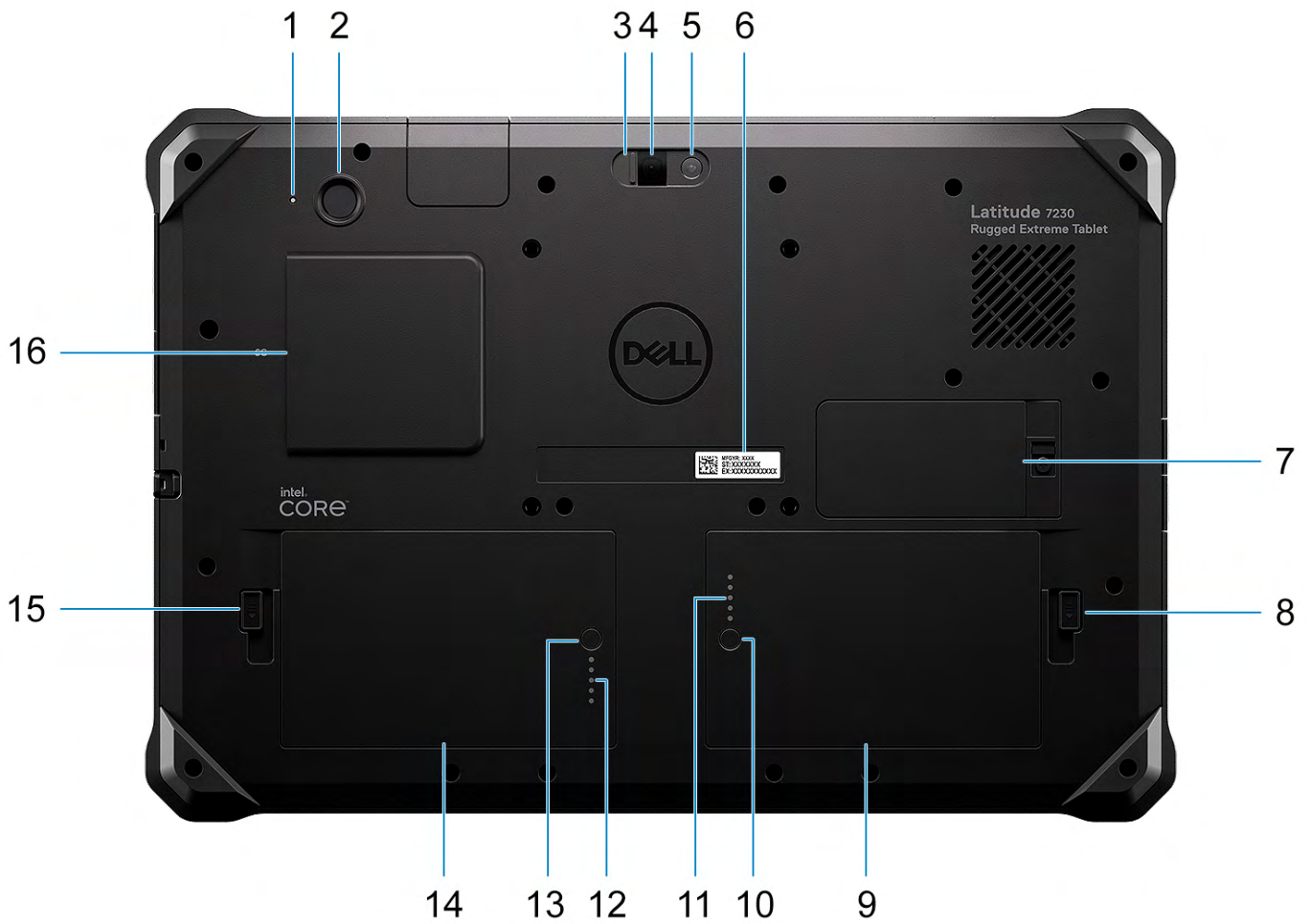
1. Power button LED
2. Power button with fingerprint
   > ⓘ **NOTE:** Press and hold the power button, and then press the volume down button to unlock. This hot key executes the same function as Ctrl+Alt+Del.
3. Camera shutter door
4. Camera Lens
5. LED flash
6. Service tag
7. Solid-state drive door
8. Battery latch knob
9. Battery
10. Battery button
11. Battery status LED
12. Battery status LED
13. Battery button
14. Battery
15. Battery latch knob
16. Smart card reader slot

Service Tag

The service tag is a unique alphanumeric identifier that allows Dell service technicians to identify the hardware components in your computer and access warranty information.
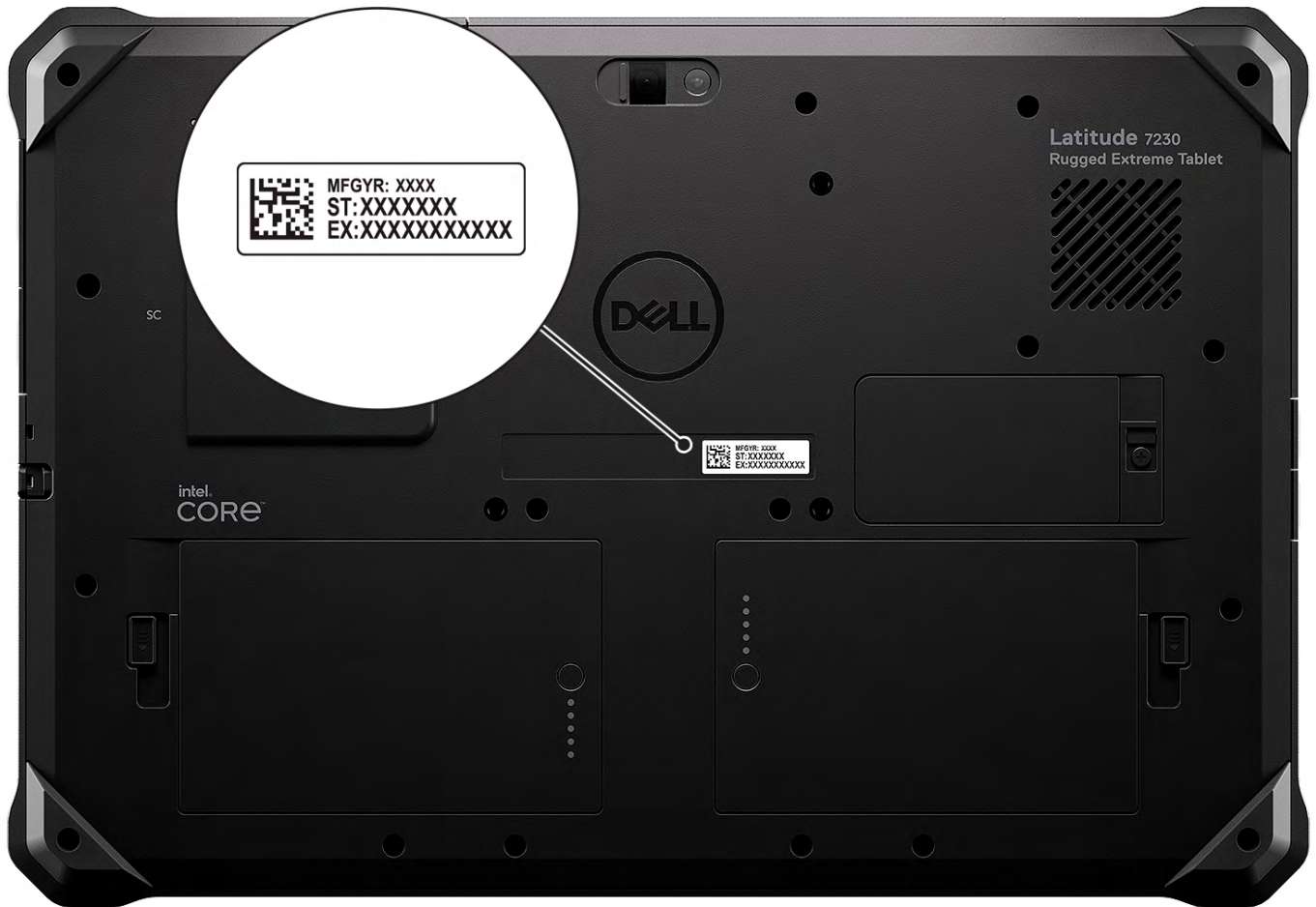
Battery charge and status light

The following table lists the battery charge and status light behavior of your Latitude 7230 Rugged Extreme Tablet.

Table 1. Battery charge and status light behavior

Power Source	LED Behavior	System Power State	Battery Charge Level
AC Adapter	Off	S0 - S5	Fully Charged
AC Adapter	Solid White	S0 - S5	< Fully Charged
Battery	Off	S0 - S5	11-100%
Battery	Solid Amber (590+/-3 nm)	S0 - S5	< 10%

- S0 (ON) - System is turned on.
- S4 (Hibernate) - The system consumes the least power compared to all other sleep states. The system is almost at an OFF state, expect for a trickle power. The context data is written to a hard drive.
- S5 (OFF) - The system is in a shutdown state.

Specifications of Latitude 7230 Rugged Extreme Tablet

Dimensions and weight

The following table lists the height, width, depth, and weight of your Latitude 7230 Rugged Extreme Tablet.

Table 2. Dimensions and weight

Description	Values
Height:	
Front height	0.94 in. (23.90 mm)
Rear height	0.94 in. (23.90 mm)
Width	11.65 (296.00 mm)
Depth	7.99 (203.00 mm)
Weight (i) **NOTE:** The weight of your computer depends on the configuration ordered and manufacturing variability.	• Minimum—1.26 kg (2.78 lbs) • Maximum—1.59 kg (3.49 lbs)

Processor

The following table lists the details of the processors supported by your Latitude 7230 Rugged Extreme Tablet.

Table 3. Processor

Description	Option one	Option two	Option three
Processor type	12th Generation Intel Core i3-1210U	12th Generation Intel Core i5-1240U	12th Generation Intel Core i7-1260U
Processor wattage	9 W	9 W	9 W
Processor core count	6	10	10
Processor thread count	8	12	12
Processor speed	Up to 4.40 GHz	Up to 4.40 GHz	Up to 4.70 GHz
Processor cache	10 MB	12 MB	12 MB
Integrated graphics	Intel UHD Graphics	Intel Iris Xe Graphics	Intel Iris Xe Graphics

Chipset

The following table lists the details of the chipset supported by your Latitude 7230 Rugged Extreme Tablet.

Table 4. Chipset

Description	Values
Chipset	Intel ADL-P PCH
Processor	12th Generation Intel Core i3/i5/i7
DRAM bus width	64-bit
Flash EPROM	32 MB/48 MB
PCIe bus	Up to Gen4

Operating system

Your Latitude 7230 Rugged Extreme Tablet supports the following operating systems:

- Windows 11 2022H2 Pro
- Windows 11 2021H2 Pro
- Windows 10 2021H2 Pro
- Windows 10 2021H1 Pro

Memory

The following table lists the memory specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 5. Memory specifications

Description	Values
Memory slots	Two integrated on system board
Memory type	Dual-channel LPDDR5 (Non-ECC)
Memory speed	5200 MHz
Maximum memory configuration	32 GB
Minimum memory configuration	8 GB
Memory configurations supported	8 GB, 2 x 4 GB, LPDDR5, 5200 MHz 16 GB, 2 x 8 GB, LPDDR5, 5200 MHz 32 GB, 2 x 16 GB, LPDDR5, 5200 MHz

External ports

The following table lists the external ports of your Latitude 7230 Rugged Extreme Tablet.

Table 6. External ports

Description	Values
Network port	Ethernet connection available through optional Expansion Module or dock
USB ports	- Two Thunderbolt 4 ports with DisplayPort Alt Mode/ USB4/Power Delivery - One optional I/O bay (Choose from: HDMI/USB Type-A USB3.2 Gen1) - One USB 3.2 Gen 1 port with PowerShare - One optional I/O bay (Choose from: RJ-45/Fischer USB 3.0/Mini-serial RS232/1D-2D barcode scanner/Blank)
Audio port	One headset (headphone and microphone combo) port
Video port	Supported through a dock or directly through USB Type-C/ HDMI
Media-card reader	One microSD-card slot
Power-adapter port	65 W/90 W adapter USB-C
SIM slot	One microSIM-card slot
Security-cable slot	One wedge-shaped lock slot

Internal slots

The following table lists the internal slots of your Latitude 7230 Rugged Extreme Tablet.

Table 7. Internal slots

Description	Values
M.2	- One M.2 2230 slot for solid-state drive - One M.2 2230 slot for Wi-Fi and Bluetooth card - One M.2 3042 slot for WWAN card **NOTE:** To learn more about the features of different types of M.2 cards, search in the Knowledge Base Resource at www.dell.com/support.

Ethernet

The following table lists the wired Ethernet Local Area Network (LAN) specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 8. Ethernet specifications

Description	Values
Model number	Intel Ethernet i219LM

Table 8. Ethernet specifications (continued)

Description	Values
Transfer rate	10/100/1000 Mbps

Wireless module

The following table lists the Wireless Local Area Network (WLAN) modules that are supported on your Latitude 7230 Rugged Extreme Tablet.

Table 9. Wireless module specifications

Description	Option one	Option two
Model number	Qualcomm WCN6856-DBS	Intel AX211
Transfer rate	Up to 3571 Mbps	Up to 2400 Mbps
Frequency bands supported	2.4 GHz/5 GHz/6 GHz	2.4 GHz/5 GHz/6 GHz
Wireless standards	• WiFi 802.11a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac) • Wi-Fi 6E (WiFi 802.11ax)	• WiFi 802.11a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac) • Wi-Fi 6E (WiFi 802.11ax)
Encryption	• 64-bit/128-bit WEP • AES-CCMP • TKIP	• 64-bit/128-bit WEP • AES-CCMP • TKIP
Bluetooth wireless card	Bluetooth 5.3	Bluetooth 5.2
	(i) **NOTE:** The version of the Bluetooth wireless card may vary depending on the operating system that is installed on your computer.	

WWAN module

The following table lists the Wireless Wide Area Network (WWAN) module supported on your Latitude 7230 Rugged Extreme Tablet.

WWAN module specifications

Description	Option one	Option two
Model number	Qualcomm Snapdragon X20 Global Gigabit LTE, CAT16	Qualcomm Snapdragon X55 Global 5G Modem
Form factor	M.2 3042 Key-B	M.2 3042 Key-B
Host interface	USB 3.0/2.0	PCIe Gen3
Network standard	LTE FDD/TDD, WCDMA/HSPA+, GPS/GLONASS/Beidou/Galileo	NR FR1(Sub6) FDD/TDD, LTE FDD/TDD, WCDMA/HSPA+, GPS/GLONASS/Beidou/Galileo
Transfer data rate	• Up to 1 Gbps DL (CAT16) • Up 150 Mbps UL	• Up to 3Gbps DL (3GPP Release15 NR/LTE CAT20) • Up to 250 Mbps UL

Description	Option one	Option two
Operating Frequency Bands	- LTE(B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B38, B39, B40, B41, B42, B43, B46, B66) - HSPA+ (1, 2, 4, 5, 6, 8, 9, 19)	- NR(n1, n2, n3, n5, n7, n8, n12, n20, n28, n38, n41, n66, n71, n77, n78, n79) - LTE(B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B34, B38, B39, B40, B41, B42, B46, B48, B66, B71*) - HSPA+ (1, 2, 4, 5, 6, 8, 9,19) *Only enabled on specific platforms
Power supply	DC 3.135 V to 4.4 V, Typical 3.3 V	DC 3.13 V to 3.63 V, Typical 3.3 V
SIM card	Supported through external SIM slot	Supported through external SIM slot
eSIM with Dual SIM (DSSA)	Supported (the availability of eSIM functionality embedded on the module is dependent on the region and specific carrier requirements)	Supported (the availability of eSIM functionality embedded on the module is dependent on the region and specific carrier requirements)
Antenna Diversity	Supported	Supported
Radio On/Off	Supported	Supported
Wake On Wireless	Supported	Not supported
Temperature	- Normal operating temperature: -30°C to + 70°C - Extended Operating temperature: -40°C to +85°C	-Normal operating temperature: -30°C to + 70°C -Extended Operating temperature: -40°C to +85°C
Antenna connector	- WWAN Main Antenna x 1 - WWAN Diversity Antenna x 1 4 x 4 MIMO Antenna x 2	- WWAN ANT0 x 1 - WWAN ANT1 x 1 - WWAN ANT2 x 1 - WWAN ANT3 X 1

Optional GPS module

The following table lists the u-blox NEO-M9N module that is supported on your Latitude 7230 Rugged Extreme Tablet.

Table 10. u-blox NEO-M9N module specifications

u-blox NEO-M9N module	
Interface	UART (default), SPI, I2C, USB
Performance	
Receiver type	92-channel u-blox M9 engine
	GPS L1 C/A, QZSS L1 C/A/S, GLONASS L10F, BeiDou B1I, Galileo E1 B/C
	SBAS L1 C/A: WAAS, EGNOS, MSAS, GAGAN
Navigation update rate (maximum)	25 Hz (four concurrent GNSS modes)
Position accuracy	2.0 m CEP (four concurrent GNSS modes)
Supported protocol	- UBX - NMEA 4.10 (default), 4.0, 2.3, and 2.1 - RTCM 3.3
Security features	- Anti-jamming - Anti-spoofing - Configuration lockdown

Table 10. u-blox NEO-M9N module specifications (continued)

u-blox NEO-M9N module	
	• Message integrity • Secure boot • JTAG debug port (locked by default)
Baud rate	38400
Absolute maximum ratings	
Power supply voltage	-0.5 V (minimum) 3.6 V (maximum)
Storage temperature	-40°C to 85°C (-40°F to 185°F)
Operating conditions	
Power supply voltage	2.7 V (minimum) 3.6 V (maximum)
Operating temperature	-40°C to 85°C (-40°F to 185°F)

Audio

The following table lists the audio specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 11. Audio specifications

Description		Values
Audio controller		Realtek ALC3254
Stereo conversion		Supported
Internal audio interface		High definition audio interface
External audio interface		Universal Audio Jack/HDMI 1.4b port
Number of speakers		2
Internal-speaker amplifier		Supported
External volume controls		Supported
Speaker output:		
	Average speaker output	2 W
	Peak speaker output	2.5 W
Subwoofer output		Supported
Microphone		Dual-array

Storage

This section lists the storage options on your Latitude 7230 Rugged Extreme Tablet.

Your Latitude 7230 Rugged Extreme Tablet supports one of the following storage configuration:

● One M.2 2230 solid-state drive

Table 12. Storage specifications

Storage type	Interface type	Capacity
M.2 2230 solid-state drive	PCIe NVMe Gen4 x4	256 GB/512 GB/1 TB
M.2 2230 solid-state drive, Self-encrypting, Opal 2.0	PCIe NVMe Gen3 x4	256 GB
M.2 2230 solid-state drive, Self-encrypting, Opal 2.0	PCIe NVMe Gen4 x4	256 GB

Media-card reader

The following table lists the media cards supported by your Latitude 7230 Rugged Extreme Tablet.

Table 13. Media-card reader specifications

Description	Values
Media-card type	One microSD 4.0 card
Media-cards supported	● Micro Secure Digital (mSD) ● Micro Secure Digital High Capacity (mSDHC) ● Micro Secure Digital Extended Capacity (mSDXC)
ⓘ **NOTE:** The maximum capacity supported by the media-card reader varies depending on the standard of the media card installed in your computer.	

Keyboard

The following table lists the keyboard specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 14. Keyboard specifications

Description	Values
Keyboard type	1-zone RGB backlit keyboard
Keyboard layout	QWERTY
Number of keys	● United States and Canada: 82 keys ● United Kingdom: 83 keys ● Japan: 86 keys
Keyboard size	X=19.05 mm key pitch Y=19.05 mm key pitch
Keyboard shortcuts	Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. To type the alternate character, press Shift and the desired key. To perform secondary functions, press Fn and the desired key. ⓘ **NOTE:** You can define the primary behavior of the function keys (F1–F12) changing **Function Key Behavior** in BIOS setup program.

Camera

The following table lists the camera specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 15. Front camera specifications

Description		Values
Number of cameras		Two
Camera type		5M RGB camera/VGA IR camera
Camera location		Front camera
Camera sensor type		CMOS sensor technology
Camera resolution:		
	Still image	2592 x 1944 megapixel
	Video	1920 x 1080 (VGA/HD) at 30 fps
Infrared camera resolution:		
	Still image	640 x 480 megapixel
	Video	640 x 480 (VGA/HD) at 30 fps
Diagonal viewing angle:		
	Camera	92.0 degrees
	Infrared camera	77.3 degrees

Table 16. Rear camera specifications

Description		Values
Number of cameras		One
Camera type		11M RGB camera
Camera location		Rear camera
Camera sensor type		CMOS sensor technology
Camera resolution:		
	Still image	3976 x 2736 megapixel
	Video	1920 x 1080 (VGA/HD) at 30 fps
Diagonal viewing angle:		
	Camera	97.0 degrees

Touchpad

The following table lists the touchpad specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 17. Touchpad specifications

Description		Values
Touchpad resolution:		
	Horizontal	>300 dpi
	Vertical	e.g. 749

Table 17. Touchpad specifications (continued)

Description		Values
Touchpad dimensions:		
	Horizontal	104.4 mm
	Vertical	54.9 mm
Touchpad gestures		For more information about touchpad gestures available on Windows, see the Microsoft knowledge base article at support.microsoft.com.

Power adapter

The following table lists the power adapter specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 18. Power adapter specifications

Description		Option one	Option two
Type		65 W adapter USB-C	90 W adapter USB-C
Power-adapter dimensions:			
	Height	28 mm (1.1 in.)	22 mm (0.87 in.)
	Width	51 mm (2.01 in.)	66 mm (2.6 in.)
	Depth	112 mm (4.41 in.)	130 mm (5.12 in.)
Input voltage		100 VAC to 240 VAC	100 VAC to 240 VAC
Input frequency		50 Hz to 60 Hz	50 Hz to 60 Hz
Input current (maximum)		1.7 A	1.5 A
Output current (continuous)		20 V/3.25 A (Continuous) 15 V/3 A (Continuous) 9.0 V/3 A (Continuous) 5.0 V/3 A (Continuous)	20 V/4.5 A (Continuous) 15 V/3 A (Continuous) 9.0 V/3 A (Continuous) 5.0 V/3 A (Continuous)
Rated output voltage		20 VDC/15 VDC/9 VDC/5 VDC	20 VDC/15 VDC/9 VDC/5 VDC
Temperature range:			
	Operating	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)
	Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)

⚠ **CAUTION: Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.**

Battery

The following table lists the battery specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 19. Battery specifications

Description		Option one	Option two
Battery type		35.6 Wh 2-cell battery, ExpressCharge^{TM}	35.6 Wh 2-cell battery, Long Lifecycle ExpressCharge^{TM}
Battery voltage		7.6 VDC	7.6 VDC
Battery weight (maximum)		0.17 kg	0.17 kg
Battery dimensions:			
	Height	103.98 mm	103.98 mm
	Width	62.83 mm	62.83 mm
	Depth	15.15 mm	15.15 mm
Temperature range:			
	Operating	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)
	Storage	-20°C to 65°C (-4°F to 149°F)	-20°C to 65°C (-4°F to 149°F)
Battery operating time		Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.
Battery charging time (approximate) (i) **NOTE:** Control the charging time, duration, start and end time, and so on using the Dell Power Manager application. For more information about Dell Power Manager, search in the Knowledge Base Resource at www.dell.com/support.		• 0~15°C—4 hours (when the computer is off) • 16~45°C—2 hours (when the computer is off) • 46~50°C—3 hours(when the computer is off)	• 0~15°C—4 hours (when the computer is off) • 16~45°C—2 hours (when the computer is off) • 46~50°C—3 hours(when the computer is off)
Coin-cell battery		CR2032	CR2032

⚠ **CAUTION: Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.**

⚠ **CAUTION: Dell recommends that you charge the battery regularly for optimal power consumption. If your battery charge is completely depleted, connect the power adapter, turn on your computer, and then restart your computer to reduce the power consumption.**

Display

The following table lists the display specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 20. Display specifications

Description	Values
Display type	Full High Definition Plus (FHD+)

Table 20. Display specifications (continued)

Description		Values
Touch options		Touch support
Display-panel technology		Wide Viewing Angle (WVA)
Display-panel dimensions (active area):		
	Height	162.00mm
	Width	259.20 mm
	Diagonal	305.70 mm
Display-panel native resolution		1920 x 1200
Luminance (typical)		1200 nits (with touch glass)
Megapixels		2.304 megapixels
Color gamut		100% (sRGB)
Pixels Per Inch (PPI)		188
Contrast ratio (min)		1000:1
Response time (max)		35 ms
Refresh rate		60 Hz
Horizontal view angle		88 +/- degrees
Vertical view angle		88 +/- degrees
Pixel pitch		0.135 mm x 0.135 mm
Power consumption (maximum)		8.15 W
Anti-glare vs glossy finish		Anti-glare touch glass surface

Fingerprint reader

The following table lists the fingerprint-reader specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 21. Fingerprint reader specifications

Description	Values
Fingerprint-reader sensor technology	Capacitive
Fingerprint-reader sensor resolution	363 dpi
Fingerprint-reader sensor pixel size	76 mm x 100 mm

Sensor

The following table lists the sensor of your Latitude 7230 Rugged Extreme Tablet.

Table 22. Sensor

Sensor support
Hall Effect Sensor
Accelerometer+Gyroscope
eCompass/Magnetometer
Ambient Light Sensor
Proximity Sensor (SAR)

GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Latitude 7230 Rugged Extreme Tablet.

Table 23. GPU—Integrated

Controller	Memory size	Processor
Intel UHD Graphics	Shared system memory	12th Generation Intel Core i3
Intel Iris Xe Graphics	Shared system memory	12th Generation Intel Core i5/i7

Multiple display support matrix

The following table lists the multiple display support matrix for your Latitude 7230 Rugged Extreme Tablet.

Table 24. Multiple display support matrix

Graphics Card	Supported external displays with computer internal display on	Supported external displays with computer internal display off
Intel UHD Graphics	3	4
Intel Iris Xe Graphics	3	4

Hardware security

The following table lists the hardware security of your Latitude 7230 Rugged Extreme Tablet.

Table 25. Hardware security

Hardware security
Wedge-shaped lock slot
Trusted Platform Module (TPM) 2.0 discrete
ControlVault 3 Advanced Authentication with FIPS 140-2 Level 3 Certification
FIPS (Federal Information Processing Standards) 140-2 certification for Trusted Platform Module (TPM)
Trusted Computing Group(TCG) Certification for TPM
Fingerprint Reader with Control Vault 3

Table 25. Hardware security (continued)

Hardware security
Contacted Smart Card and Control Vault 3
Optional Contactless Smart Card, NFC, and Control Vault 3
Self Encrypting Drive (SED), Opal 2.0 only - PCIe Interface
Chassis Intrusion Detection
Battery Removal Detection
RPMC SPI flash
SPI Flash Tamper Detection/Prevention Shunt Circuit

Smart-card reader

Contactless smart-card reader

This section lists the contactless smart-card reader specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 26. Contactless smart-card reader specifications

Title	Description	Dell ControlVault 3 contactless smart-card reader with NFC
Felica Card Support	Reader and software capable of supporting Felica contactless cards	Yes
ISO 14443 Type A Card Support	Reader and software capable of supporting ISO 14443 Type A contactless cards	Yes
ISO 14443 Type B Card Support	Reader and software capable of supporting ISO 14443 Type B contactless cards	Yes
ISO/IEC 21481	Reader and software capable of supporting ISO/IEC 21481 compliant contactless cards and tokens	Yes
ISO/IEC 18092	Reader and software capable of supporting ISO/IEC 21481 compliant contactless cards and tokens	Yes
ISO 15693 Card Support	Reader and software capable of supporting ISO15693 contactless cards	Yes
NFC Tag Support	Supports reading and processing of NFC compliant tag information	Yes
NFC Reader Mode	Support for NFC Forum Defined Reader mode	Yes
NFC Writer Mode	Support for NFC Forum Defined Writer mode	Yes
NFC Peer-to-Peer Mode	Support for NFC Forum Defined Peer to Peer mode	Yes
EMVCo Compliant	Compliant with EMVCO smart card standards as posted to www.emvco.com	Yes
EMVCo Certified	Formally certified based on EMVCO smart card standards	Yes

Table 26. Contactless smart-card reader specifications (continued)

Title	Description	Dell ControlVault 3 contactless smart-card reader with NFC
NFC Proximity OS Interface	Enumerates NFP (Near Field Proximity) device for OS to utilize	Yes
PC/SC OS interface	Personal Computer/Smart Card specification for integration of hardware readers into personal computer environments	Yes
CCID driver compliance	Common driver support for Integrated Circuit Card Interface Device for OS level drivers	Yes
Windows Certified	Device certified by Microsoft WHCK	Yes
Dell ControlVault support	Device connects to Dell ControlVault for usage and processing	Yes
FIDO2 compliance	Dell ControlVault 3 Smart-card reader is compliant with the FIDO SPEC	Yes

(i) **NOTE:** 125 Khz proximity cards are not supported.

Table 27. Supported cards

Manufacturer	Card
HID	jCOP readertest3 A card (14443a)
	1430 1L
	DESFire D8H
	iClass (Legacy)
	iClass SEOS
NXP/Mifare	Mifare DESFire 8K White PVC Cards
	Mifare Classic 1K White PVC Cards
	NXP Mifare Classic S50 ISO Card
G&D	idOnDemand - SCE3.2 144K
	SCE6.0 FIPS 80K Dual+ 1 K Mifare
	SCE6.0 nonFIPS 80K Dual+ 1 K Mifare
	SCE6.0 FIPS 144K Dual + 1K Mifare
	SCE6.0 nonFIPS 144K Dual + 1 K Mifare
	SCE7.0 FIPS 144K
Oberthur	idOnDemand - OCS5.2 80K
	ID-One Cosmo 64 RSA D V5.4 T=0 card

Table 28. RFID card

RFID card description	Card type
HID jCOP readertest3 A card (14443a)	ISO/IEC 14443A (Type 4)
NXP/Mifare-Mifare DESFire 8K White PVC Cards	ISO/IEC 14443A (Type 4)
NXP/Mifare-Mifare Classic 1K White PVC Cards	ISO/IEC 14443A (Type 2)
NXP/Mifare-NXP Mifare Classic S50 ISO Card	ISO/IEC 14443A (Type 2)

Table 28. RFID card (continued)

RFID card description	Card type
NXP/Mifare-NXP Mifare Mifare DESFire	ISO/IEC 14443A (Type 4)
G&D idOnDemand-SCE3.2 144K	ISO/IEC 14443A (Type 4)
idOnDemand-Oberthur OCS5.2 80K	ISO/IEC 14443A (Type 4)
HID 1430 1L	ISO/IEC 14443A (Type 2)
HID DESFire D8H	ISO/IEC 14443A (Type 4)
OBERTHUR-Oberthur ID-One Cosmo 64 RSA D V5.4 T=0 card	ISO/IEC 14443 (Type 4)
G&D-SCE6.0 FIPS 80K Dual+ 1 K Mifare	ISO/IEC 14443A (Type 4)
G&D-SCE6.0 non-FIPS 80K Dual+ 1 K Mifare	ISO/IEC 14443A (Type 4)
G&D-SCE6.0 FIPS 144K Dual + 1K Mifare	ISO/IEC 14443A (Type 4)
G&D-SCE6.0 non-FIPS 144K Dual + 1 K Mifare	ISO/IEC 14443A (Type 4)
G&D-SCE7.0 FIPS 144K	ISO/IEC 14443A (Type 4)
FeliCa Standard RC-S962 (RC-S888 chip)	6319-4 (Type 3)
FeliCa Lite-S RC-S966 (RC-S966 chip)	6319-4 (Type 3)
HID DESFIRE 4K Standard - 1450NGGNN	ISO/IEC 14443A (Type 4)
iClass 16K/16 - 2002PGGMN	ISO/IEC 15693 (iClass)
iClass SR 16K/16 - 2002HPGGMN	ISO/IEC 15693 (iClass)
ISO Card MiFARE 1K - 1430NGGNN	ISO/IEC 14443A (Type 2)
iClass 2k Tag - 2060PKSMN	ISO/IEC 15693 (iClass)
iClass Clamshell - 2080PMSMV	ISO/IEC 15693 (iClass)
iClass Prox 16K/16 - 2022BGGMNN	ISO/IEC 15693 (iClass)
NIST PIV1	ISO/IEC 14443A (Type 4)
Oberthur ID-One PIV	ISO/IEC 14443A (Type 4)
OBERTHUR-Oberthur ID-One Cosmo 128K V5.4 card	ISO/IEC 14443A (Type 4)
Gemalto TOP DL GX4 144K card	ISO/IEC 14443A (Type 4)
HID Seos Card	ISO/IEC 14443A (Type 4)

Contacted smart-card reader

The following table lists the contacted smart-card reader specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 29. Contacted smart-card reader specifications

Title	Description	Dell ControlVault 3 smart-card reader
ISO 7816 -3 Class A Card Support	Reader capable of reading 5V powered smart mcard	Yes
ISO 7816 -3 Class B Card Support	Reader capable of reading 3V powered smart card	Yes
ISO 7816 -3 Class C Card support	Reader capable of reading 1.8V powered smart card	Yes
ISO 7816-1 Compliant	Specification for the reader	Yes

Table 29. Contacted smart-card reader specifications (continued)

Title	Description	Dell ControlVault 3 smart-card reader
ISO 7816 -2 Compliant	Specification for smart card device physical characteristics (size, location of connection points, etc.)	Yes
T=0 support	Cards support character level transmission	Yes
T=1 support	Cards support block level transmission	Yes
EMVCo Compliant	Compliant with EMVCo (for electronic payment standards) smart card standards as posted to www.emvco.com	Yes
EMVCo Certified	Formally certified based on EMVCO smart card standards	Yes
PC/SC OS interface	Personal Computer/Smart Card specification for integration of hardware readers into personal computer environments	Yes
CCID driver compliance	Common driver support for Integrated Circuit Card Interface Device for OS level drivers.	Yes
Windows Certified	Device certified by WHCK	Yes
FIPS 201 (PIV/HSPD-12) Compliant via GSA	Device compliant with FIPS 201/PIV/HSPD-12 requirements	Yes
FIDO2 compliance	Dell ControlVault 3 Smart-card reader is compliant with the FIDO SPEC	Yes

Operating and storage environment

This table lists the operating and storage specifications of your Latitude 7230 Rugged Extreme Tablet.

Airborne contaminant level: G1 as defined by ISA-S71.04-1985

Table 30. Computer environment

Description	Operating	Storage
Temperature range	-29°C to 63°C (-20.2°F to 145.4°F)	-51°C to 71°C (-59.8°F to 159.8°F)
Relative humidity (maximum)	10% to 90% (non-condensing)	5% to 95% (non-condensing)
Vibration (maximum)*	0.20 GRMS	1.37 GRMS
Shock (maximum)	40 G†	30 G†
Altitude range	12192 (40,000 ft)	12192 (40,000 ft)

⚠ **CAUTION: Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.**

* Measured using a random vibration spectrum that simulates user environment.

† Measured using a 2 ms half-sine pulse.

Engineering specifications

Power wattage—USB Type-C ports

The following table lists the power wattage that is supported by the USB Type-C ports on your Latitude 7230 Rugged Extreme Tablet.

Table 31. USB Type-C ports—power wattage

Condition	USB Type-C port 1	USB Type-C port 2
Alternate current (AC) + Direct current (DC) or AC only	Insert AC adapter	5 V/3 A/15 W
DC only	5 V/3 A/15 W	5 V/0.9 A/4.5 W

Ethernet

Intel Ethernet Connection i219-LM

The following table lists the i219-LM specifications.

Table 32. Intel Ethernet Connection i219-LM specifications

Feature	Values
External connector type	RJ45
Data rate	10/100/1000 Mbps
Controller Details	
Controller bus architecture	PCI Express base specification revision 1.1
Integrated memory	Yes
Data transfer mode	Yes (Bus-Master DMA)
Power consumption (Full operation per data rate connection speed)	542 mW (Max)
Power consumption (Standby operation)	76 mW (Max)
IEEE standards compliance	802.3
Hardware certifications	N/A
Boot ROM support	EEPROM (Located in SPI)
Network Transfer Mode	
Network transfer rate	10 Mb (full/half-duplex)
10BASE-T (full-duplex) 20 Mbps	100 Mb (full/half-duplex)
100BASE-TX (half-duplex) 100 Mbps	1000 Mb (full-duplex)
Environmental	
Operating temperature range	0°C–85°C (32°F–185°F)

Table 32. Intel Ethernet Connection i219-LM specifications (continued)

Feature	Values
Operating humidity	20% to 80% (non condensing)
Operating system driver Support	- Windows (x64) - Ubuntu - Neokylin
Manageability	- Wakeup On LAN - PXE 2.1
Management capabilities alerting	Optional Intel Standard Manageability (must be made at time of purchase).

This term does not connote an actual operating speed of 1 Gb/sec. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.

Wireless module

Intel AX211, 2x2 MIMO, 2400 Mbps, 2.4/5/6 GHz, Wi-Fi 6E (WiFi 802.11ax), Bluetooth 5.3

The following table lists the Intel AX211 specifications.

ⓘ **NOTE:** Wi-Fi 6 is supported in regions where Wi-Fi 6E is unavailable.

Table 33. Intel AX211 specifications

Host interface	CNVio
Network standard	IEEE 802.11a/b/g/n/ac/ax, 160 MHz channel use, MU-MIMO, new 6 GHz band
Wi-Fi Alliance certifications	Wi-Fi CERTIFIED 6, Wi-Fi CERTIFIED a/b/g/n/ac,WMM, WMM-Power Save, WPA2, WPA3, WPS, PMF,Wi-Fi Direct, Wi-Fi Agile Multiband ⓘ **NOTE:** Other names and brands may be claimed as the property of others.
Operating frequency bands	2.4 GHz 5 GHz 6 GHz
Power range	2.4 GHz: up to 19.875 dBm 5 GHz: up to 19.125 dBm 6 GHz (LPI): up to 13 dBm ⓘ **NOTE:** This varies by regulatory domain and link rate.
Receive sensitivity	2.4 GHz 11b 11 Mbps: -88.5 dBm (Typ.) 11g 54 Mbps / 11n 20 MHz MCS7: -76.5 dBm / -75.25 dBm (Typ.) 11ax 20 MHz MCS11: -63.5 dBm (Typ.) 5 GHz 11a 54 Mbps: -77.75 dBm (Typ.)

Table 33. Intel AX211 specifications (continued)

	• 11n 20 MHz/40 MHz MCS7: -76.7 5dBm / -73.25 dBm (Typ.) • 11ac 20 MHz/40 MHz MCS8/9: -73.25 dBm / -68.75 dBm (Typ.) • 11ac 80 MHz/160 MHz MCS9: -64.75 dBm / -61.5 dBm (Typ.) • 11ax 20 MHz/40 MHz MCS11: -64.5 dBm / -61.5 dBm (Typ.) • 11ax 80 MHz/160 MHz MCS11: -58.25 dBm / -55.75 dBm (Typ.) 6 GHz • 11ax 20 MHz/40 MHz MCS11: -64.75 dBm / -61.7 5dBm (Typ.) • 11ax 80 MHz/160 MHz MCS11: -58.5 dBm / -56 dBm (Typ.)
Power consumption	Optimized power modes (sleep states) reduce power consumption during periods of inactivity
Security methods	• WPA2 Personal and Enterprise • WPA3
Authentication protocols	• 802.1X EAP-TLS • EAP-TTLS/MSCHAPv2 • PEAPv0 -MSCHAPv2 (EAP-SIM, EAP-AKA, EAP-AKA)
Encryption	• 64-bit and 128-bit WEP • TKIP • 128-bit AES-CCMP • 256-bit AES-GCMP
Product safety	• UL • C-UL • CB (IEC60950-1)
Management capabilities alerting	Support for Intel AMT
Government compliance	• FIPS 140-2 • FISMA
Client utility	Intel PRO/Set wireless software v22 and later
Antenna diversity	Supported
Radio On/Off	Supported
Roaming	Support seamless roaming between access points
Wake on wireless	Supported
Wireless display	Native Miracast support by Windows
Wireless PAN standard	• Dual Mode Bluetooth 5.3 • BLE
Bluetooth data rates	Up to 3 Mbps
Bluetooth operating frequency bands	2.4 GHz
Bluetooth profiles supported	Support for Microsoft Inbox Bluetooth profiles in Windows
Bluetooth data encryption	128-bit encryption
Bluetooth output power	Power class 1

Table 33. Intel AX211 specifications (continued)

Operating temperature	0°C to + 50°C (Full performance at shield temperatures up to 80°C)
Storage temperature	-40°C to +70°C
Humidity	Up to 90% RH non-condensing (at temperatures of 25°C to 35°C)

Qualcomm WCN6856, 2x2, Wi-Fi 6E DBS, Bluetooth 5.3

The following table lists the Intel Qualcomm WCN6856 specifications.

Table 34. Qualcomm WCN6856 specifications

Host interface	- Wi-Fi - PCIe - Bluetooth - USB
Network standard	IEEE 802.11a/b/g/n/ac/ax, 160MHz channel use, MU-MIMO
Wi-Fi Alliance certifications	802.11 a/b/g/n/ac R2/ax R2 - WMM - WMM-PS - WPA3 - WPS2 - PMF - WFD - Miracast - Passpoint R2 - Voice Personal
Operating frequency bands	2.4 GHz 5 GHz 6 GHz
Power Range	2.4 GHz: 13-18 dBm 5G Hz: 7.5-16 dBm 6 GHz (LPI): 7.5-10 dBm - BT: 14 dBm
Receive sensitivity	2.4GHz 11b 11 Mbps: -88.5 dBm (Typ.) 11g 54 Mbps / 11n 20 MHz MCS7: -75.5 dBm (Typ.) 11ax 20 MHz MCS11: -63.5 dBm (Typ.) 5 GHz 11a 54 Mbps: -77 dBm (Typ.) 11n 20 MHz/40 MHz MCS7: -77 dBm / -74 dBm (Typ.) 11ac 20 MHz/40 MHz MCS8/9: -73 Bm / -68.5 dBm (Typ.) 11ac 80 MHz MCS9: -65 dBm (Typ.) 11ax 20 MHz/40 MHz MCS11: -65.5 dBm / -63 dBm (Typ.) 11ax 80 MHz/160 MHz MCS11: -58.5 dBm / -56 dBm (Typ.) 6 GHz 11ax 20 MHz/40 MHz MCS11: -64 dBm / -61.5 dBm (Typ.) 11ax 80 MHz/160 MHz MCS11: -57 dBm / -54.5 dBm (Typ.) - BT: -98 dBm (Typ.)

Table 34. Qualcomm WCN6856 specifications (continued)

Power consumption	Optimized power modes (sleep states) reduce power consumption during periods of inactivity
Authentication	- WPA and WPA2 Personal and Enterprise - WPA3 Personal and Enterprise
Authentication protocols	802.1X EAP-TLS - EAP-TTLS/MSCHAPv2 - PEAPv0-MSCHAPv2 (EAP-SIM, EAP-AKA, EAP-AKA)
Encryption	64-bit and 128-bit WEP - TKIP 128-bit AES-CCMP 256-bit AES-GCMP
Product safety	- UL - C-UL - CB (IEC60950-1)
Government compliance	- FIPS 140-2 - FISMA
Client utility	Intel PRO/Set wireless software v22 and later
Antenna diversity	Supported
Radio On/Off	Supported
Roaming	Support seamless roaming between access points
Wake on wireless	Supported
Wireless display	Native Miracast support by Windows
Wireless PAN standard	- Dual Mode Bluetooth 5.3 - BLE
Bluetooth data rates	Up to 3 Mbps
Bluetooth operating frequency bands	2.4 GHz
Bluetooth profiles supported	Support for Microsoft Inbox Bluetooth profiles in Windows
Bluetooth data encryption	128-bit encryption
Bluetooth output power	Power Class 1
Operating temperature	0°C to + 50°C (Full performance at shield temperatures up to 80°C)
Storage temperature	-40°C to +70°C
Humidity	Up to 90% RH non-condensing (at temperatures of 25° C to 35° C)

WWAN module

Qualcomm Snapdragon X20 Global Gigabit LTE

The following table lists the Qualcomm Snapdragon X20 Global Gigabit LTE specifications.

Table 35. Qualcomm Snapdragon X20 specifications

Form factor	M.2 3042 Key.B single side

Table 35. Qualcomm Snapdragon X20 specifications (continued)

Host interface	USB 3.0/2.0
Network standard	- LTE FDD/TDD - WCDMA/HSPA+ - GPS/GLONASS/ Beidou /Galileo
Transfer rate	Up to 1 Gbps DL/150 Mbps UL (Cat 16)
Operating frequency bands	- LTE (1,2,3,4,5,7,8,12,13,14,17,18,19,20,25,26,28,29,30,32,38,39, 40,41,42,43,46,66) - HSPA+ (1, 2, 4, 5, 6, 8, 9, 19)
Power supply	DC 3.135 V to 4.4 V, Typical 3.3 V
SIM card	Supported through external SIM slot
eSIM with Duak SIM (DSSA)	Supported (i) **NOTE:** The availability of eSIM functionality embedded on the module is dependent on the region and carrier requirements.
Antenna diversity	Supported
Radio On/Off	Supported
Wake on wireless	Supported
Normal operating temperature	-30°C to + 70°C
Extended operating temperature	-40°C to +85°C
Antenna connector	- WWAN Main Antenna X 1 - WWAN Diversity Antenna X 1 4 x 4 MIMO Antenna x 2
Power range	- LTE: 23+ / -2 dBm 3GPP standard - WCDMA: 24+1.7 / -3.7 dBm 3GPP standard
Receive sensitivity	- LTE: -101 ~ -103.5 dBm - WCDMA:-112 ~ -113 dBm

Qualcomm Snapdragon X55 Global 5G Modem

The following table lists the Qualcomm Snapdragon X55 Global 5G Modem specifications.

Table 36. Qualcomm Snapdragon X55 specifications

Form factor	M.2 3042 Key.B single side
Host interface	PCIe Gen3
Network standard	- NR FR1(Sub6) FDD/TDD - LTE FDD/TDD - WCDMA/HSPA+ - GPS/GLONASS/Beidou/Galileo
Transfer rate	Up to 3 Gbps DL/250 Mbps UL (3GPP Release15 NR/LTE CAT20)
Operating frequency bands	- NR (1,2,3,5,7,8,12,20,28,38,41,66,71,77,78,79) - LTE(1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 34, 38, 39, 40, 41, 42, 46, 48, 66) - HSPA+ (1,2,4,5,6,8,9,19)

Table 36. Qualcomm Snapdragon X55 specifications (continued)

Power supply	DC 3.13 V to 3.63 V, Typical 3.3 V
SIM card	Supported through external SIM slot
eSIM with Dual SIM (DSSA)	Supported ⓘ **NOTE:** The availability of eSIM functionality embedded on the module is dependent on the region and carrier requirements.
Antenna diversity	Supported
Radio On/Off	Supported
Wake on wireless	Not supported
Normal operating temperature	-30°C to + 70°C
Extended operating temperature	-40°C to +85°C
Antenna connector	● WWAN ANT0 X 1 ● WWAN ANT1 X 1 ● WWAN ANT2 X 1 ● WWAN ANT3 X 1
Power range	3GPP Power Class3 23 dbm +/-2 db
Receive sensitivity	● LTE BW 10 Mhz -99 ~ -103 dbm; ● 5G BW 20 Mhz -93 ~ -98 dbm

GPU—Integrated

Intel UHD Graphics

The following table lists the Intel UHD Graphics specifications.

Table 37. Intel UHD Graphics specifications

Bus type	Integrated graphics ⓘ **NOTE:** Intel UHD Graphics uses the computers memory as video memory.
Memory type	Unified Memory Architecture (UMA)
Memory interface	Not applicable
Processor graphics	i3
Estimated maximum power consumption (TDP)	9 W, included in the CPU power
Maximum vertical refresh rate	● HDMI 2.0: 4096 x 2160 @ 60 Hz, 24bpp ● USB Type-C: 5120 x 3200 @ 60 Hz, 24bpp
Multiple display support	Up to 4 displays via DisplayPort Multi-Streaming Technology (MST)

Intel Iris Xe Graphics

The following table lists the Intel Iris Xe Graphics specifications.

Table 38. Intel Iris Xe Graphics specifications

Bus type	Integrated graphics ⓘ **NOTE:** Intel Iris Xe Graphics uses the computers memory as video memory.
Memory type	Unified Memory Architecture (UMA) ⓘ **NOTE:** Requires 128-bit dual-channel memory
Memory interface	Not applicable
Processor graphics	i5/i7
Estimated maximum power consumption (TDP)	9 W, included in the CPU power
Maximum vertical refresh rate	● HDMI 2.0: 4096 x 2160 @ 60 Hz, 24bpp ● USB Type-C: 5120 x 3200 @ 60 Hz, 24bpp
Multiple display support	Up to 4 displays via DisplayPort Multi-Streaming Technology (MST)

Video port and resolution matrix

The following table lists the Video port and resolution matrix of your Latitude 7230 Rugged Extreme Tablet.

Table 39. Video port and resolution matrix

Port type	HDMI 2.0
Maximum resolution—single display	4096 x 2160 @ 60 Hz
Maximum resolution—dual MST	Not applicable
Maximum resolution—triple MST	Not applicable

Storage

M.2 2230, 256 GB, PCIe NVMe Gen4 x4, Class 35 SSD

The following table lists the M.2 2230, 256 GB SSD specifications.

Table 40. 256 GB SSD specifications

Capacity	256 GB
Height (approximate)	3.5 mm (0.17 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	30.00 mm (1.18 in.)
Interface type	PCIe Gen4
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTTF	1.4M hours
Logical blocks	500,118,192

Table 40. 256 GB SSD specifications (continued)

Power source	
Power consumption (reference only)	- Idle: 5 mW (PS4) - Active: 4 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
Environmental non-operating conditions (non-condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

M.2 2230, 512 GB, PCIe NVMe Gen4 x4, Class 35 SSD

The following table lists the M.2 2230, 512 GB SSD specifications.

Table 41. 512 GB SSD specifications

Capacity	512 GB
Height (approximate)	3.5 mm (0.17 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	30.00 mm (1.18 in.)
Interface type	PCIe Gen4
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTTF	1.4M hours
Logical blocks	1,000,215,216
Power source	
Power consumption (reference only)	- Idle: 5 mW (PS4) - Active: 4 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
Environmental non-operating conditions (non-condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

M.2 2230, 1 TB, PCIe NVMe Gen4 x4, Class 35 SSD

The following table lists the M.2 2230, 1 TB SSD specifications.

Table 42. 1 TB SSD specifications

Capacity	1 TB

Table 42. 1 TB SSD specifications (continued)

Height (approximate)	3.5 mm (0.17 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	30.00 mm (1.18 in.)
Interface type	PCIe Gen4
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	2,000,409,264
Power source	
Power consumption (reference only)	● Idle: 5 mW (PS4) ● Active: 4 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
Environmental non-operating conditions (non-condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

M.2 2230, 256 GB, PCIe NVMe Gen3 x4, Opal Self-Encrypting Class 35 SSD

The following table lists the M.2 2230, 256 GB SSD, self-encrypting drive specifications.

Table 43. 256 GB SSD, self-encrypting drive specifications

Description	Values
Capacity	256 GB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	30.00 mm (1.18 in.)
Interface type	PCIe Gen3
Speed (maximum)	32 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	500,118,192
Power source	
Power consumption (reference only)	● Idle: 5 mW (PS4) ● Active: 3.50 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G

Table 43. 256 GB SSD, self-encrypting drive specifications (continued)

Description	Values
Environmental non-operating conditions (non-condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

M.2 2230, 256 GB, PCIe NVMe Gen4 x4, Opal Self-Encrypting, Class 35 SSD

The following table lists the M.2 2230, 256 GB SSD specifications.

Table 44. 256 GB SSD, self-encrypting drive specifications

Capacity	256 GB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	30.00 mm (1.18 in.)
Interface type	PCIe Gen4
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	500,118,192
Power source	
Power consumption (reference only)	- Idle: 5 mW (PS4) - Active: 4 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
Environmental non-operating conditions (non-condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

Power adapter

The following table lists the power adapter specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 45. Power adapter specifications

Description	Values	
Type	65 W AC adapter, USB-C	90 W AC adapter, USB-C
Diameter (connector)	Not supported	Not supported
Input voltage	100 VAC to 240 VAC	100 VAC to 240 VAC
Input frequency	50 Hz to 60 Hz	50 Hz to 60 Hz
Input current (maximum)	1.7 A	1.5 A

Table 45. Power adapter specifications (continued)

Description	Values	
Output current (continuous)	● 20 V/3.25 A (Continuous) ● 15 V/3 A (Continuous) ● 9.0 V/3 A (Continuous) ● 5.0 V/3 A (Continuous)	● 20 V/4.5 A (Continuous) ● 15 V/3 A (Continuous) ● 9.0 V/3 A (Continuous) ● 5.0 V/3 A (Continuous)
Rated output voltage	20 VDC/15 VDC/9 VDC/5 VDC	20 VDC/15 VDC/9 VDC/5 VDC
BTUs/h (based on PSU max wattage)		
Temperature range		
Operating	5°C to 45°C (41°F to 113°F)	5°C to 45°C (41°F to 113°F)
Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)
Compliance		
Erp Lot3 requirement	Yes	Yes
Energy Star 8.0 compliant	Yes	Yes
EPEAT Gold	Yes	Yes
ANSI ISA 12.12.01	Yes	Yes
CSA	Yes	Yes

Media-card reader

The following table lists the media-card reader specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 46. Media-card reader (standard offering)

Media supported (Maximum capacity supported will vary by Flash Media Types)	
Media Supported	● Micro Secure Digital (mSD) ● Micro Secure Digital High Capacity (mSDHC) ● Micro Secure Digital Extended Capacity (mSDXC)
Support Specification Versions	microSD 4.0 card
Power source	
Max Power Requirements	1.2 A
Supply Voltage Range	3.3 V
Power Consumption	MS 0.08 mA
Environmental operating conditions (Non-condensing)	
Operating Temperature Range	0°C to 70°C
Relative Humidity Range	N/A
Environmental non-operating conditions (Non-condensing)	
Operating Temperature Range	N/A
Relative Humidity Range	N/A

Scanner module

Honeywell Gen7 DB-03 with N6700SR-W2-102

The following table provides the detailed specifications of the Honeywell Gen7 DB-03 scanner that is supported on your Latitude 7230 Rugged Extreme Tablet.

Table 47. Honeywell Gen7 DB-03 scanner specifications

Description	Values
Model name	Honeywell Gen7 DB-03
Interface supported	USB
Scanner pattern	Image capture
Technology	Imager
Sensor resolution	1280 x 800 global shutter
Focal distance	317.5 mm (12.5 in.)
Field of view	Horizontal—48° Vertical—31°
Tolerance	- Skew: ±60° - Pitch: ±60° - Roll: 360°
Illumination	High visibility white LED
Operating voltage	- Minimum—3.1 V - Nominal—3.3 V - Maximum—3.6 V
Absolute maximum ratings	
Input voltage	-0.3 V to 0.3 V
Output voltage	-0.3 V to 0.3 V

⚠ **WARNING: Do not connect the decoder board or flex strip to or disconnect it from the host interface connection when it is attached to the power supply in order to prevent damage to the image engine.**

Table 48. Symbologies

Description	Values
Linear	Codabar, Code 11, Code 128, Code 2 of 5, Code 39, Code 93 and 93i, EAN/JAN-13, EAN/JAN 8, IATA Code 2 of 5, Interleaved 2 of 5, Matrix 2 of 5, MSI, GS1 Databar, UPC-A, UPC E, UPC-A/EAN-13 with Extended Coupon Code, Coupon GS1 Code 32(PARAF), EAN-UCC Emulation, GS1 Data Bar
2D Stacked	Codablock A, Codablock F, PDF417, MicroPDF417
2D Matrix	Aztec Code, Data Matrix, MaxiCode, QR Code, Chinese Sensible (Han Xin), Grid Matrix, Dot Code
Postal	Australian Post, British Post, Canadian Post, China Post, Japanese Post, Korea Post, Netherlands Post, Planet Code, Postnet

Table 49. N670XSR read ranges (typical, white illumination) *

Symbology	Near distance	Far distance	Delta
13 MIL UPC	44 mm (1.73 in.)	573 mm (22.5 in.)	529 mm (20.77 in.)
5 MIL C39	70 mm (2.76 in.)	301 mm (11.85 in.)	231 mm (9.09 in.)
10 MIL C39	40 mm (1.57 in.)	517 mm (20.3 in.)	477 mm (18.73 in.)
20 MIL C39	44 mm (1.73 in.)	800 mm (31.5 in.)	756 mm (29.77 in.)
15 MIL C128	42 mm (1.65 in.)	650 mm (25.6 in.)	608 mm (23.95 in.)
10 MIL DM	72 mm (2.84 in.)	297 mm (11.7 in.)	225 mm (8.86 in.)
6.7 MIL PDF417	84 mm (3.3 in.)	244 mm (9.6 in.)	160 mm (6.3 in.)
15 MIL QR	39 mm (1.54 in.)	414 mm (16.3 in.)	375 mm (14.76 in.)

* The Barcode quality and environmental conditions may affect performance.

Accessories

The following table lists the supported accessories on your Latitude 7230 Rugged Extreme Tablet.

Table 50. Accessories

Accessories
Dell Flexible Handle for Rugged Tablets and Notebooks - Y3PRF
Dell Rugged Active Pen for Latitude 7230 and 7220 Rugged Extreme Tablets - PN720R
Dell Rugged Active Pen Replacement Tips for Latitude 7230 and 7220 Rugged Extreme Tablets
Dell Mobile Battery Charger for Latitude 7230 Rugged Extreme Tablet
Dell Rigid Handle for Latitude 7230 Rugged Extreme Tablet
Dell Passive Pen for Latitude 7230 Rugged Extreme Tablet
Dell Passive Pen for Latitude 7230 Rugged Extreme Tablet - Replacement Tips (5pk)
Dell SSD Bracket for Latitude 7230 Rugged Extreme Tablet
Dell Battery Bay Dummy Cover for Latitude 7230 Rugged Extreme Tablet
Dell Keyboard for Latitude 7230 Rugged Extreme Tablet
Dell Flexible Handle for Latitude 7230 and 7220 Rugged Extreme Tablets
Dell Shoulder Strap for Latitude 7230 and 7220 Rugged Extreme Tablets
Havis 800
Havis 900
Lind Modular Multi Bay Battery Charger - Charging Bay 7230 - DECHCB-5440
Lind Modular Multi Bay Battery Charger - Primary Controller - DECHMC-5021

Security

Software security

The following table lists the software security details of your Latitude 7230 Rugged Extreme Tablet.

Table 51. Software security

Security options
Dell Optimizer
Optional Dell Data Security and Management Software
Dell BIOS Verification
Optional Dell Endpoint Security and Management Software
Dell Encryption Enterprise
Dell Encryption Personal
Intel Authenticate with IPT
Intel Platform Trust Technology
Intel Boot Guard
Intel Software Guard (SGX)
Intel Trusted Execution Technology (TXT)
Intel Total Memory Encryption Multi-Key (TME)

Fingerprint reader

The following table lists the fingerprint reader specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 52. Fingerprint reader specifications

Category	
Sensor technology	Capacitive sensing
Sensor resolution	363 dpi
Sensor pixel size	100 x 76 pixels
Dell ControlVault support	Yes
Dell ControlVault 3.0 support	Yes
Anti-spoofing	Yes
Template storage	Dell ControlVault HW protected and encrypted
Match on chip	Yes
FIPS 201 certified	No

Dell ControlVault 3.0

The following table lists the Dell ControlVault 3.0 specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 53. Dell ControlVault 3.0 specifications

Title	Description	Dell ControlVault 3.0
CPU technology	N/A	1 GHz ARM Cortex A7
RAM	N/A	1 MB
ROM	N/A	16 MB
Host Interface	N/A	USB 2.0
Fingerprint procession on chip	Fingerprint processing occurs within secure boundary of ControlVault	Yes
Windows WBF support	Support for Windows biometric framework when Fingerprint reader is attached	Yes
FIPS 140-2 level 3 complaint	Device complaint with FIPS 140-2 level 3 requirements	Yes
FIPS 140-2 level 3 certified	Device certified with FIPS 140-2 level 3 requirements	Yes

Trusted Platform Module

The following table lists the Trusted Platform Module (TPM) of your Latitude 7230 Rugged Extreme Tablet.

Table 54. Trusted Platform Module (TPM)

TPM: ST/ST33 HTPH2X32AHD8
SPI interface
TPM 2.0
FIPs 140-2 certificate

Military specifications

The Latitude 7230 Rugged Extreme Tablet meets military specifications for the following tests:

Table 55. MIL-STD-461G Standard

Test Category	Test Method	Test Parameters
Conducted emissions, audio frequency currents, power leads	CE101	Test specification: ● Measurement receiver ● Current probes ● Signal generator ● Data recording device ● Oscilloscope ● Resistor (R) ● LISNs
Conducted emissions, radio frequency potential, power leads	CE102	Test specification: ● Measurement receiver ● Data recording device

Table 55. MIL-STD-461G Standard (continued)

Test Category	Test Method	Test Parameters
		- Signal generator - Attenuator, 20 dB, 50 ohm - Oscilloscope - LISNs
Conducted emissions, antenna port	CE106	Test specification: - Measurement receiver - Attenuators 50 ohm - Rejection networks - Directional couplers - Dummy loads 50 ohm - Signal generators. For amplifier testing, a signal generator is required to drive the amplifier that provides the modulation used in the intended application and that has spurious and harmonic outputs that are at least 6 dB below the applicable limit. - Data recording device
Conducted susceptibility, power leads.	CS101	Test specification: - Signal generator - Power amplifier - Oscilloscope or measurement receiver - Coupling transformer - Capacitor 10 µF - Isolation transformer for oscilloscope use or transducer for measurement receiver use - Resistor 0.5 ohm - LISNs
Non-operating low temperature test	CS103	Test specification: Determine the presence of intermodulation products that may be caused by undesired signals at the EUT antenna input ports The required test equipment, setup, procedures, and data presentation shall be determined on a case-by-case basis in accordance with the guidance.
Conducted susceptibility, antenna port, rejection of undesired signals	CS104	Test specification: Determine the presence of spurious responses that may be caused by undesired signals at the EUT antenna input ports The required test equipment, setup, procedures, and data presentation shall be determined on a case-by-case basis in accordance with the guidance.
Conducted susceptibility, antenna port, cross modulation.	CS105	Test specification: Determine the presence of cross-modulation products that may be caused by undesired signals at the EUT antenna ports. The required test equipment, setup, procedures, and data presentation shall be determined on a case-by-case basis in accordance with the guidance.
Conducted susceptibility, structure current	CS109	Test specification: - Signal generator - Amplifier (if required) - Isolation transformers - Current probe - Measurement receiver - Resistor 0.5 ohm - Coupling transformer
Conducted susceptibility, bulk cable injection	CS114	Test specification:

Table 55. MIL-STD-461G Standard (continued)

Test Category	Test Method	Test Parameters
		- Measurement receivers - Current injection probes - Current probes - Calibration fixture: coaxial transmission line with 50 ohm characteristic impedance, coaxial connections on both ends, and space for an injection probe around the center conductor. - Directional couplers - Signal generators - Plotter - Attenuators 50 ohm - Coaxial loads 50 ohm - Power amplifiers - LISNs
Conducted susceptibility, bulk cable injection, impulse excitation	CS115	Test specification: - Pulse generator, 50 ohm, charged line (coaxial) - Current injection probe - Drive cable, 50 ohm, 2 meters, 0.5 dB or less insertion loss at 500 MHz - Current probe - Calibration fixture: coaxial transmission line with 50 ohm characteristic impedance, coaxial connections on both ends, and space for an injection probe around the center conductor. - Oscilloscope 50 ohm input impedance - Attenuators 50 ohm - Coaxial loads 50 ohm - LISNs
Conducted susceptibility, damped sinusoidal transients, cables and power leads	CS116	Test specification: - Damped sinusoid transient generator, 100 ohm output impedance - Current injection probe - Oscilloscope, 50 ohm input impedance - Calibration fixture: coaxial transmission line with 50 ohm characteristic impedance, coaxial connections on both ends, and space for an injection probe around the center conductor. - Current probes - Waveform recording device - Attenuators 50 ohm - Measurement receivers - Coaxial loads 50 ohm - LISNs
Conducted susceptibility, lightning induced transients, cables and power leads	CS117	Test specification: - Lightning transient generator - Injection Transformers - Oscilloscope - Current monitor probes - Attenuators 50 ohm, as needed on current monitor probes - Voltage monitor probes, high impedance - Monitor loop, low impedance wire loop - Calibration loop, low impedance wire loop - Capacitors, ≥ 28,000 µF for DC power inputs and 10 µF for AC power inputs - LISNs

Table 55. MIL-STD-461G Standard (continued)

Test Category	Test Method	Test Parameters
Personnel borne electrostatic discharge	CS118	Test specification: ● ESD Generator, adjustable from ±2kV to ±15kV (minimum range) ● ESD network, 150 picofarads (pF) capacitance, 330 ohm discharge resistance ● Contact discharge tip ● Air discharge tip ● Electrostatic voltmeter ● Oscilloscope, single event bandwidth ≥ 1 GHz ● ESD current target, input resistance 2 ±5% ohms ● Attenuator 20 dB ● Coaxial cable, 50 ohm impedance, ≤ 1 meter ● Metallic ground plane ● Ionizer or one (1) megohm resistor (1MΩ±10%)
Radiated emissions, magnetic field	RE101	Test specification: ● Measurement receivers ● Data recording device ● Loop sensor having the following specifications: 　○ Diameter—13.3 cm 　○ Number of turns—36 　○ Wire—DC resistance between 5 and 10 ohms 　○ Shielding—Electrostatic 　○ Correction factor—See manufacturer's data for factors to convert measurement receiver readings to decibels above one picotesla (dBpT). ● LISNs ● Ohmmeter ● Signal generator
Radiated emissions, electric field	RE102	Test specification: ● Measurement receivers ● Data recording device ● Antennas: 　○ 10 kHz to 30 MHz, 104 cm rod with impedance matching network. The signal output connector shall be bonded to the antenna matching network case. 　　■ When the impedance matching network includes a preamplifier (active rod), observe the overload precautions 　　■ Use a square counterpoise measuring at least 60 cm on a side 　○ 30 MHz to 200 MHz, Biconical, 137 cm tip to tip. 　○ 200 MHz to 1 GHz, Double ridge horn, 69.0 by 94.5 cm opening 　○ 1 GHz to 18 GHz, Double ridge horn, 24.2 by 13.6 cm opening ● Signal generators ● Stub radiator ● Capacitor, 10 pF ● LISNs
Radiated emissions, antenna spurious and harmonic outputs	RE103	Test specification: ● Measurement receivers ● Attenuators, 50 ohm ● Antennas ● Rejection networks ● Signal generators ● Power monitor

Table 55. MIL-STD-461G Standard (continued)

Test Category	Test Method	Test Parameters

Radiated susceptibility, magnetic field	RS101	Test specification:
		● Signal source
		● Radiating loop having the following specifications:
		  ○ Diameter—12 cm
		  ○ Number of turns—20
		  ○ Wire—12 insulated copper
		  ○ Magnetic flux density—9.5x107 pT/ampere of applied current at a distance of 5 cm from the plane of the loop.
		● Loop sensor having the following specifications:
		  ○ Diameter—4 cm
		  ○ Number of turns—51
		  ○ Wire—7-41 Litz wire (7 Strand, No. 41 AWG)
		  ○ Shielding—Electrostatic
		  ○ Correction Factor—See manufacturer's data for factors to convert measurement receiver readings to decibels above one picotesla (dBpT).
		● Measurement receiver or narrowband voltmeter
		● Current probe
		● LISNs

Alternative test procedures – AC Helmholtz coil	RS101	Test specification:
		● Signal source
		● Series-wound AC Helmholtz coil
		● Loop sensor having the following specifications (same as RE101 loop):
		  ○ Diameter—13.3 cm
		  ○ Number of turns—36
		  ○ Wire—DC resistance between 5 and 10 ohms
		  ○ Shielding—Electrostatic
		  ○ Correction Factor—See manufacturer's data for factors to convert measurement receiver readings to decibels above one picotesla (dBpT).
		● Measurement receiver or narrowband voltmeter
		● Current probe
		● LISNs

Radiated susceptibility, electric field	RS103	Test specification: ● Signal generator ● Power amplifier ● Transmit antennas ● Electric field sensors (physically small - electrically short) ● Measurement receiver ● Power meter ● Directional coupler ● Attenuator ● Data recording device ● LISNs

Alternative test procedures —reverberation chamber (mode-tuned)	RS103	Test specification:
		● Signal generator
		● Power amplifier
		● Receive antennas
		  ○ 200 MHz to 1 GHz, log periodic or double ridge horns
		  ○ 1 GHz to 18 GHz, double ridge horns
		  ○ 18 GHz to 40 GHz, other antennas as approved by the procuring activity
		● Transmit antennas

Table 55. MIL-STD-461G Standard (continued)

Test Category	Test Method	Test Parameters
		- Electric field sensors (physically small - electrically short), each axis independently displayed - Measurement receiver - Power meter - Directional coupler - Attenuator 50 ohm - Data recording device - LISNs
Radiated susceptibility, transient electromagnetic field	RS105	Test specification: - Transverse electromagnetic (TEM) cell, parallel plate transmission line or equivalent - Transient pulse generator, monopulse output, plus and minus polarity - Storage oscilloscope, 700 MHz, single-shot bandwidth (minimum), variable sampling rate up to 1 gigasample per second (GSa/s) - Terminal protection devices - High-voltage probe, 1 GHz bandwidth (minimum) - B-dot sensor probe - D-dot sensor probe - LISNs - Data recording device - LISNs - Integrator, time constant ten times the overall pulse width

Table 56. MIL-STD-810G/H Standard

Test Category	Test Method	Test results
Altitude—Storage/air transport	MIL-STD-810GH, Method 500.6, Procedure I	Pass
Altitude—Operational/air carriage	MIL-STD-810GH, Method 500.6, Procedure II	Pass
High temperature—storage	MIL-STD-810GH, Method 501.7, Procedure I	Pass
High temperature—Operational	MIL-STD-810GH, Method 501.7, Procedure II	Pass
High temperature—Tactical standby to operational	MIL-STD-810GH, Method 500.6, Procedure 1	Pass
Low temperature—storage	MIL-STD-810H, Method 502.7, Procedure III	Pass
Low temperature—Operational	MIL-STD-810H, Method 502.7, Procedure II	Pass
Thermal shock	MIL-STD-810H, Method 503.7, Procedure I	Pass
Solar radiation	MIL-STD-810H, Method 505.7, Procedure I	Pass

Table 56. MIL-STD-810G/H Standard (continued)

Test Category	Test Method	Test results
Rain—Blowing/aggravated	MIL-STD-810H, Method 506.6, Procedure I	Pass
Humidity—Aggravated	MIL-STD-810GH, Method 507.6, Procedure II	Pass
Salt fog	MIL-STD-810H, Method 509.7, Procedure I	Pass
Sand and dust—Blowing dust	MIL-STD-810H, Method 510.7, Procedure I	Pass
Sand and dust—Blowing dust	MIL-STD-810H, Method 510.7, Procedure II	Pass
Explosive atmosphere	MIL-STD-810H, Method 511.7, Procedure I	Pass
Vibration—Minimum integrity test	MIL-STD-810H, Method 514.8, Procedure I, Category 24	Pass
Vibration—Composite wheeled vehicle	MIL-STD-810H, Method 514.8, Procedure I, Category 4	Pass
Vibration—Ground vehicle	MIL-STD-810H, Method 514.8, Procedure I, Category 4	Pass
Vibration—Loose cargo	MIL-STD-810H, Method 514.8, Procedure II, Category 4	Pass
Shock-Functional shock	MIL-STD-810H, Method 516.8, Procedure IV	Pass
Shock-Transportation	MIL-STD-810H, Method 516.8, Procedure II	Pass
Shock—48" transit drop	MIL-STD-810H, Method 516.8, Procedure IV	Pass
Shock—36" operating drop	MIL-STD-810H, Method 516.8, Procedure IV	Pass
Shock—Crash hazard	MIL-STD-810H, Method 516.8, Procedure V	Pass
Shock—Bench handling	MIL-STD-810H, Method 516.8, Procedure VI	Pass
Freeze/thaw—Rapid temperature change	MIL-STD-810H, Method 524.1, Procedure III	Pass

Chemical information

The Latitude 7230 Rugged Extreme Tablet meets chemical information for the following MIL-STD 810H tests:

Table 57. Rugged specific testing

Test Name	Test procedure	Rugged specifications
Vehicle vibration	ASTM D4169-09, Truck Profile	Medium level
Cold boot test	Custom - Cold Boot	● Cold soak for 8 hours (unit off), One cycle ● Cold soak for 8 hours at varying temperatures (-18°C, -20°C, -23°C, -29°C) ● System boot: Remove system from cold environment and begin boot process immediately. ● Cold boot specification—Warm up time from power button to start of boot =<5 minutes; unit is booted on external power; unit configured with solid-state drive; 1x8-hour cycle for cold boot thermal tests; see cold boot test addendum.
Dust ingress protection	IEC 60529, IP-6x	● No ingress of dust. ● Complete protection against contact. ● Unit is not operating.
Water ingress protection	IEC 60529, IP-x5	● Water is projected in jets against the enclosure from any direction with no harmful effects. ● Unit is not operating.

Thermal and acoustic improvements

The following table lists the thermal and acoustic improvements of your Latitude 7230 Rugged Extreme Tablet.

Table 58. Thermal and acoustic improvements

100% dual heat pipe	Increase the heat capacity to improve thermal dissipation
Better system tuning/setting	Get higher performance and good user experience
Pro-OS enhanced thermal setting (Dynamic PL1)	Increases boot-up time
Linear fan control	Fan speed ramp more smoothly for better user experience, no more significant acoustic changing
DDT SSD setting	Protecting the SSD device in high temperature and worse cases to prevent blue screen of death (BSOD)
IEC 60529 ingress protection: IP-54	● Dust protected ● Protected against dripping water
Better acoustic experience	Enhance acoustic to 0.6 sone during daily working conditions and fan off when system is idle

System management features

Dell commercial systems come with a number of systems management options that are include by default for In-Band management with our Dell Client Command Suite. In-Band management meaning that the Operating System is functional and the device is connected to a network so that it can be managed. The Dell Client Command Suite of tools can be leveraged individually or with a systems management console like SCCM, LANDESK, KACE, etc.

We also offer Out-of-Band management as an option. Out-of-band management is when the system does not have a functional operating system or is turned off and you still want to be able to manage the system in that state.

Dell Client Command Suite for In-Band systems management

Dell Client Command Suite is a free toolkit available for download, for all Latitude Rugged tablets at dell.com/support, that automates and streamlines systems management tasks, saving time, money, and resources. It consists of the following modules that can be used independently, or with a variety of systems management consoles such as SCCM.

Dell Client Command Suite's integration with VMware Workspace ONE Powered by AirWatch, now allows customers to manage their Dell client hardware from the cloud, using a single Workspace ONE console.

Dell Command | Deploy enables easy operating system (OS) deployment across all major OS deployment methodologies and provides numerous system-specific drivers that have been extracted and reduced to an OS-consumable state.

Dell Command I Configure is a graphical user interface (GUI) admin tool for configuring and deploying hardware settings in a pre-OS or post-OS environment, and it operates seamlessly with SCCM and Airwatch and can be self-integrated into LANDesk and KACE. Simply, this is all about the BIOS. Command I Configure allows you to remotely automate and configure over 150+ BIOS settings for a personalized user experience.

Dell Command I PowerShell Provider can do the same things as Command I Configure, but with a different method. PowerShell is a scripting language that allows customers to create a customized and dynamic configuration process.

Dell Command I Monitor is a Windows Management Instrumentation (WMI) agent that provides IT admins with an extensive inventory of the hardware and health-state data. Admins can also configure hardware remotely by using command line and scripting.

Dell Command | Update (end-user tool) is factory-installed and allows admins to individually manage and automatically present and install Dell updates to the BIOS, drivers, and software. Command I Update eliminates the time-consuming hunting and pecking process of update installation.

Dell Command I Update Catalog provides searchable metadata that allows the management console to retrieve the latest system-specific updates (driver, firmware or BIOS). The updates are then delivered seamlessly to end-users using the customer's systems management infrastructure that is consuming the catalog (like SCCM).

Dell Command | vPro Out of Band console extends hardware management to systems that are offline or have an un-reachable OS (Dell exclusive features).

Dell Command | Integration Suite for System Center - This suite integrates all the key components of the Client Command Suite into Microsoft System Center Configuration Manager 2012 and Current Branch versions.

Out of Band Systems Management

Intel Standard Manageability option **must be configured in our factory at the time of purchase, as it is NOT field upgradable.** It offers out-of-band management and DASH compliance (https://registry.dmtf.org/registry/results/field_initiative_name%3A%22DASH%201.0%22).

Dell Optimizer

This section details the Dell Optimizer specifications of your Latitude 7230 Rugged Extreme Tablet.

Dell Optimizer is a software application that intelligently optimizes the performance of your system by using artificial intelligence and machine learning. Dell Optimizer dynamically configures your system settings to optimize the performance of your applications. It improves the productivity, performance, and user experience through system usage analysis and learning.

On Latitude 7230 Rugged Extreme Tablet with Dell Optimizer, the following features are supported:
- Improves user experience through computer usage analysis and learning
- Faster application launch and seamless application transition
- Intelligent battery run-time extension
- Optimized Audio for best meeting experience
- Locks computer when walks away for enhanced security
- Faster computer wake-on-user approach
- Intelligently shows alerts
- Updates automatically to minimize disruption

For more information about configuring and using these features, search for the Dell Optimizer User Guide at www.dell.com/support.

Color, material, and finish

This section details the color, material, and finish (CMF) specifications of your Latitude 7230 Rugged Extreme Tablet.

Table 59. CMF specifications

Back cover(Base configuration)	- Plastic + TPU - Overmolded + Heatstake SC Holder + Mask + Paint + Padprint - Plastic—Dell Standard Black, Resin - Paint—Maluck Black, Matte - TPU—Dell Standard Black, Matte 5 +/-1.5 GU,MT11010
Back cover(with NFC icon + SSD door opening)	- Plastic + TPU - Overmolded + Heatstake SC Holder + Mask + Paint + Padprint - Plastic—Dell Standard Black, Resin - Paint—Maluck Black, Matte - TPU—Dell Standard Black, Matte 5 +/-1.5 GU,MT11010
Back cover(with Smartcard holder)	- Plastic + TPU - Overmolded + Heatstake SC Holder + Mask + Paint + Padprint - Plastic—Dell Standard Black, Resin - Paint—Maluck Black, Matte - TPU—Dell Standard Black, Matte 5 +/-1.5 GU,MT11010
D Back cover(with Smartcard holder + SSD door opening)	- Plastic + TPU - Overmolded + Heatstake SC Holder + Mask + Paint + Padprint - Plastic—Dell Standard Black, Resin - Paint—Maluck Black, Matte - TPU—Dell Standard Black, Matte 5 +/-1.5 GU,MT11010
E Back cover (with NFC icon)	- Plastic + TPU - Overmolded + Heatstake SC Holder + Mask + Paint + Padprint - Plastic—Dell Standard Black, Resin - Paint—Maluck Black, Matte - TPU—Dell Standard Black, Matte 5 +/-1.5 GU,MT11010
F Back cover(with SSD door opening)	- Plastic + TPU - Overmolded + Heatstake SC Holder + Mask + Paint + Padprint - Plastic—Dell Standard Black, Resin - Paint—Maluck Black, Matte - TPU—Dell Standard Black, Matte 5 +/-1.5 GU,MT11010

Getting help and contacting Dell

Self-help resources

You can get information and help on Dell products and services using these self-help resources:

Table 60. Self-help resources

Self-help resources	Resource location
Information about Dell products and services	www.dell.com
Tips	
Contact Support	In Windows search, type `Contact Support`, and press Enter.
Online help for operating system	www.dell.com/support/windows www.dell.com/support/linux
Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals and documents.	Your Dell computer is uniquely identified by a Service Tag or Express Service Code. To view relevant support resources for your Dell computer, enter the Service Tag or Express Service Code at www.dell.com/support. For more information on how to find the Service Tag for your computer, see Locate the Service Tag on your computer.
Dell knowledge base articles for a variety of computer concerns	1. Go to www.dell.com/support. 2. On the menu bar at the top of the Support page, select **Support** > **Knowledge Base**. 3. In the Search field on the Knowledge Base page, type the keyword, topic, or model number, and then click or tap the search icon to view the related articles.

Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see www.dell.com/contactdell.

ⓘ **NOTE:** Availability varies by country/region and product, and some services may not be available in your country/region.

ⓘ **NOTE:** If you do not have an active Internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell product catalog.