

Latitude 7220 Rugged Extreme Tablet

Technical Guide Book



Notes, cautions, and warnings

 **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.

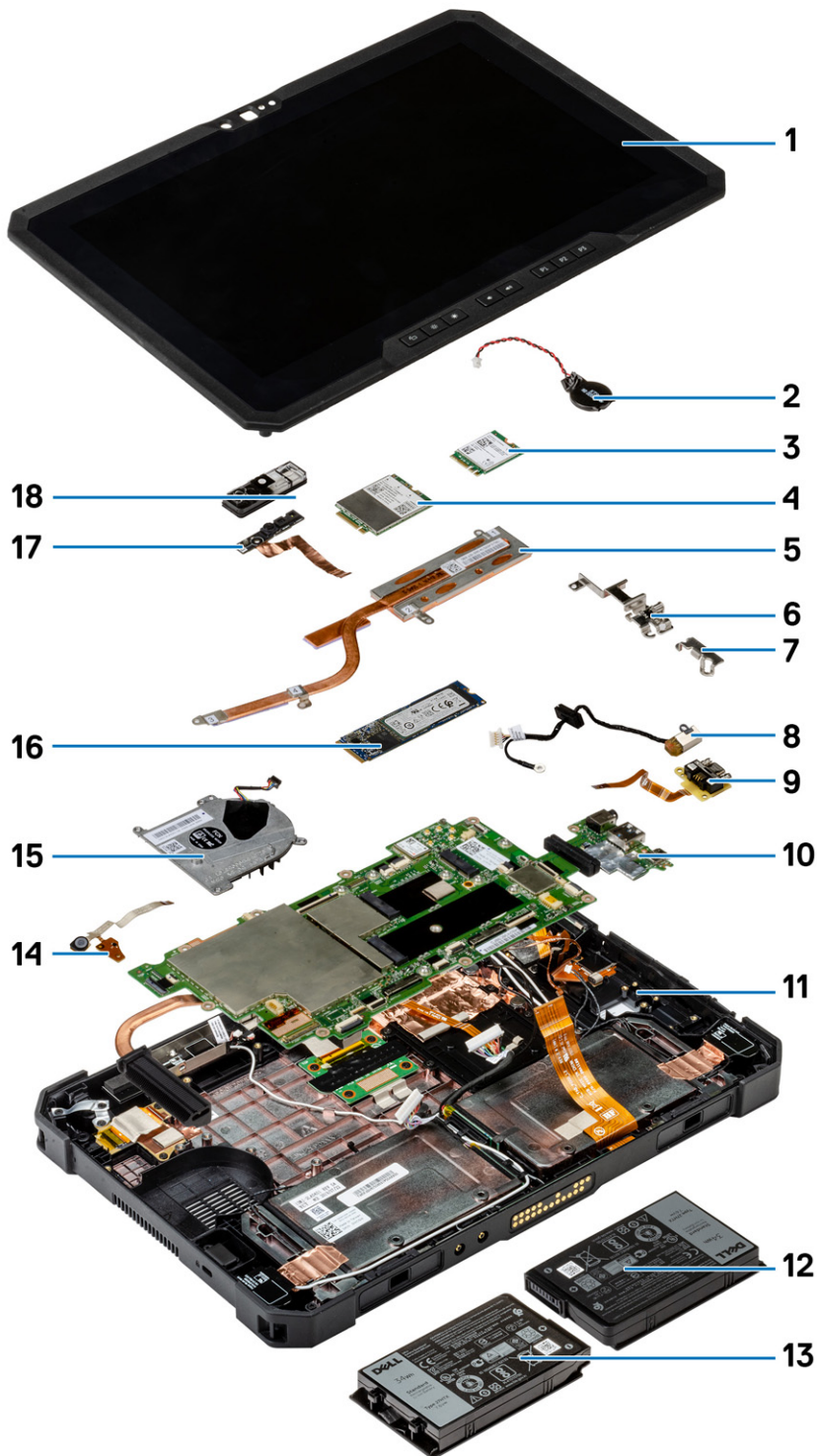
 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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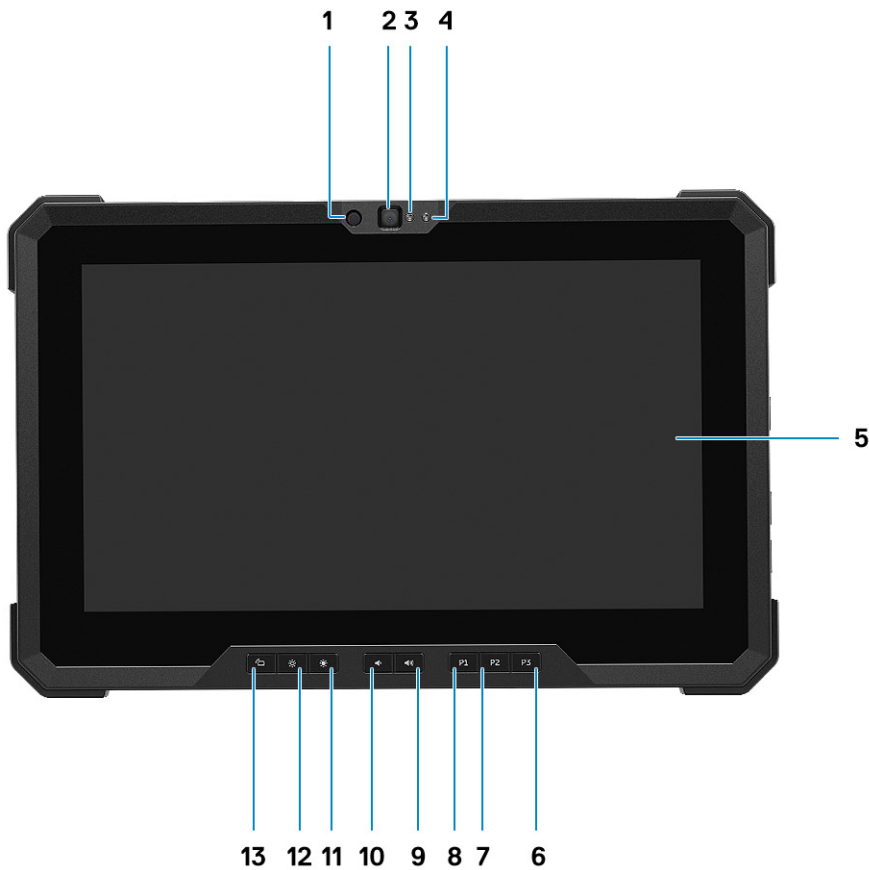
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Exploded view



1. Display assembly
2. Coin-cell battery
3. WLAN card
4. WWAN card
5. Heat-sink
6. USB Type-C bracket
7. Mini-serial bracket
8. Power adapter port
9. Mini-serial port
10. System board
11. NFC antenna
12. Left battery (as viewed from the back)
13. Right battery (as viewed from the back)
14. Microphone assembly circuit board
15. System fan
16. Solid-state drive
17. Front camera cable
18. Front camera cover

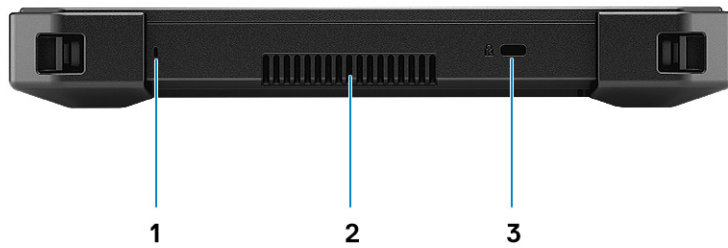
Front view



1. LED Lens
2. Camera
3. Camera status light
4. Ambient light sensor
5. Display

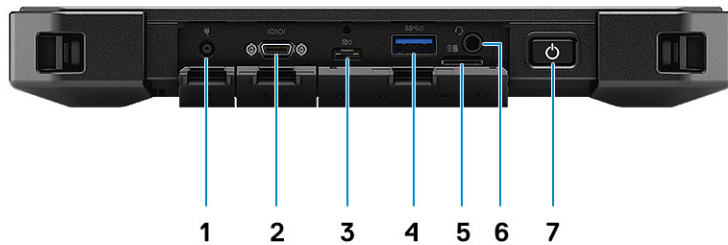
- 6. User programmable button 3
- 7. User programmable button 2
- 8. User programmable button 1
- 9. Volume increase button
- 10. Volume decrease button
- 11. Brightness increase button
- 12. Brightness decrease button
- 13. Screen rotate lock button

Left view



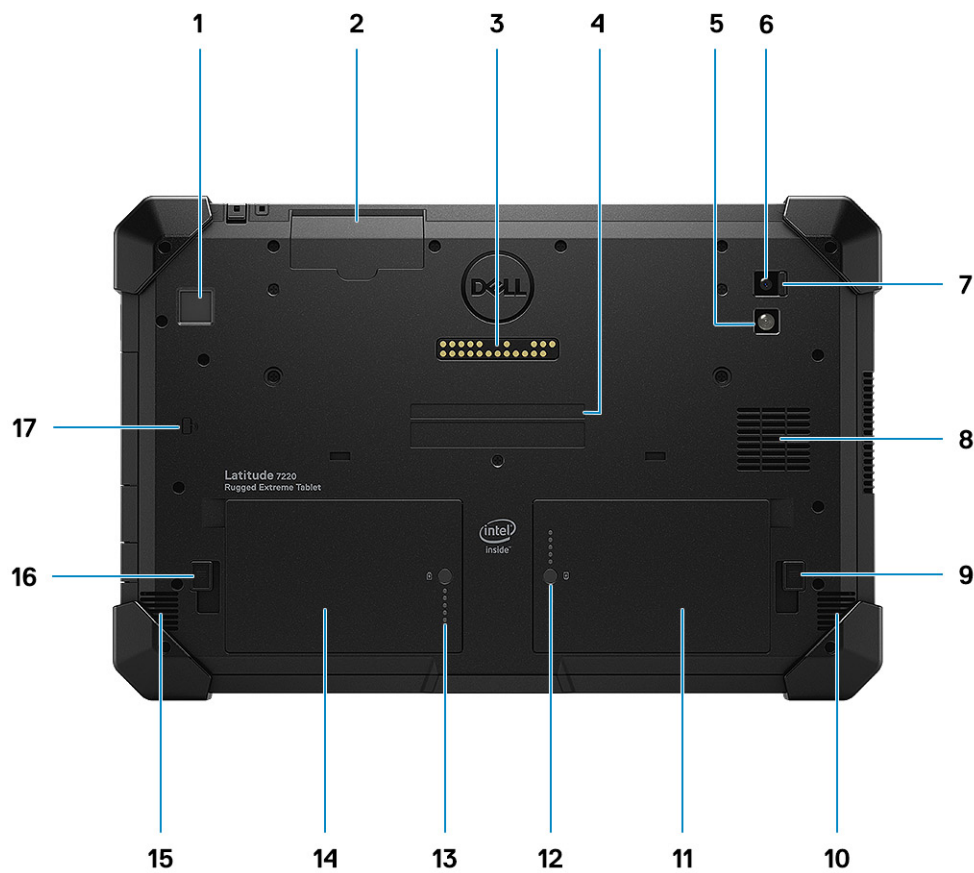
- 1. Microphone
- 2. Quad cool vent output
- 3. Kensington lock slot.

Right view



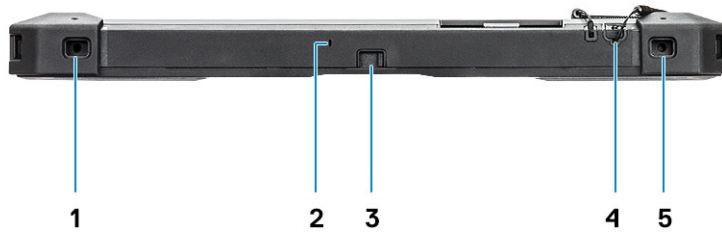
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|---|---------------------------------------|
| 1. Power connector port | 2. Mini serial RS-232 port |
| 3. USB 3.0 Type-C port with DisplayPort Alt mode/PowerShare | 4. USB 3.1 Type-A with Power Delivery |
| 5. Micro SD-card slot | 6. Universal audio jack |
| 7. Power button/ LED status light | |

Back view



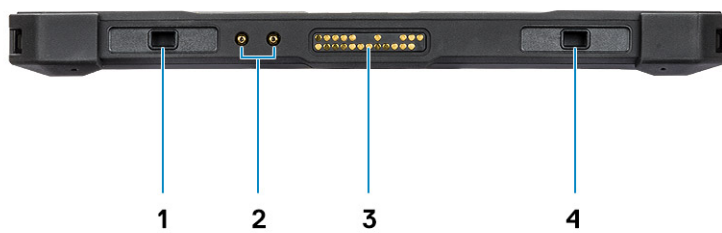
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|--|---|
| 1. Fingerprint reader (optional) | 2. Smart card reader slot |
| 3. OpExpansion module pogo connector | 4. Service tag and Express service code label |
| 5. LED flash | 6. Rear camera |
| 7. Rear camera shutter switch | 8. Quad cool intake vent |
| 9. Right battery release latch | 10. Speaker |
| 11. Right battery | 12. Right battery LED indicator |
| 13. Left battery LED indicator | 14. Left battery |
| 15. Speaker | 16. Left battery release latch |
| 17. Contactless smart card reader (optional) | |

Top view



1. Accessory connection points
2. Microphone
3. Camera shutter switch
4. Stylus
5. Accessory connection points

Bottom view



1. Docking/Keyboard retention alignment features
2. Radio antennae pass-through connector
3. Docking pogo connector
4. Docking retention clips

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

Specifications of Latitude 7220 Rugged Extreme Tablet

Processors

Table 1. Processors

Processors	Wattage	Core count	Thread count	Speed	Cache	Integrated graphics
8th Generation Intel Core i3-8145U	15 W	2	4	2.10 GHz to 3.90 GHz Turbo	4 MB SmartCache	Intel UHD Graphics 620
8th Generation Intel Core i5-8365U, vPro	15 W	4	8	1.60 GHz to 4.10 GHz Turbo	6 MB SmartCache	Intel UHD Graphics 620
8th Generation Intel Core i7-8665U, vPro	15 W	4	8	1.90 GHz to 4.80 GHz Turbo	8 MB SmartCache	Intel UHD Graphics 620

Chipset

Table 2. Chipset

Description	Values
Chipset	Intel
Processor	Whiskey lake - 8th Gen Intel Core
DRAM bus width	Two channels, 64 bits
Flash EPROM	32 MB
PCIe bus	Upto Gen 3

Operating system

Windows 10 Professional (64-bit)

Memory

Table 3. Memory specifications

Description	Values
Slots	Two integrated on system board
Type	LPDDR3

Description	Values
Speed	2133 MHz
Maximum memory	16 GB
Minimum memory	8 GB
Configurations supported	<ul style="list-style-type: none"> 8 GB LPDDR3 at 2133 MHz 16 GB LPDDR3 at 2133 MHz

Storage

Your tablet supports one M.2 2230/2280 slot for solid-state drive.

Table 4. Storage specifications

Storage type	Interface type	Capacity
One M.2 2230 solid-state drive	PCIe Gen3 x4 NVMe, Class 35 SSD	128 GB
One M.2 2280 solid-state drive	PCIe Gen3 x4 NVMe, Class 40 SSD	256 GB to 2 TB
One M.2 2280 solid-state drive	PCIe Gen3 x4 NVMe, Class 40 Self-Encrypting SSD	256 GB to 1 TB

Ports and connectors

Table 5. External ports and connectors

Description	Values
External:	
Network	Ethernet connection available through optional Expansion Module or dock.
USB	<ul style="list-style-type: none"> One USB 3.1 Type-A with Power Delivery One USB 3.0 Type-C port with DisplayPort Alt mode/PowerShare
Audio	One headset (headphone and microphone combo) port
Video	Supported via dock or directly through USB Type-C DP Alt mode
Power adapter port	4.5 mm barrel-type
Security	Kensington lock slot
Card slot	SD card slot
Serial port	RS-232 mini connector
Expansion port	Pogo Connector (back)
Dock/Keyboard	Pogo Connector (bottom)

Table 6. Internal ports and connectors

Description	Values
Internal:	

Description	Values
One M.2 Key-M (2280 or 2230) for solid-state drive	<ul style="list-style-type: none"> One M.2 2230 slot for solid-state drive 128 GB One M.2 2280 slot for solid-state drive 256 GB/512 GB/1 TB/2 TB
One M.2 3042 Key-B for WWAN	
One M.2 2230 Key-E for WLAN	
SIM card	uSIM card slot

NOTE: To learn more about the features of different types of M.2 cards, see the knowledge base article [SLN301626](#).

Audio

Table 7. Audio specifications

Description	Values
Controller	Realtek ALC3254
Stereo conversion	Supported
Internal interface	Intel high definition audio (HDA)
External interface	Universal Audio Jack
Speakers	2
Speaker Output Average	2 W RMS
Speaker Output Peak	2.5 W

Video

Table 8. Integrated graphics specifications

Integrated graphics			
Controller	External display support	Memory size	Processor
Intel UHD 620 Graphics	USB Type-C DisplayPort	Shared system memory	8th Generation Intel Core i3/i5/i7

Camera

Table 9. Camera specifications

Description	Values
Number of cameras	Two
Type	<ul style="list-style-type: none"> Front Camera - 5 MP, RGBIr camera with Windows Hello feature Rear Camera - 8 MP, RGB camera with Auto Focus and Flash LED
Location	<ul style="list-style-type: none"> Front Camera - 5 MP Rear Camera - 8 MP
Sensor type	CMOS sensor technology

Description	Values
Camera	
Still image	<ul style="list-style-type: none"> Front Camera - 5.03 megapixels Rear Camera - 7.99 megapixels
Video	<ul style="list-style-type: none"> Front Camera - 2592 x 1944 (5 MP) at 30 fps Rear Camera - 3264 x 2448 (8 MP) at 15 fps
Diagonal viewing angle	
Camera	<ul style="list-style-type: none"> Front Camera - 88.9° Rear Camera - 77.3°

Communications

Wireless module

Table 10. Wireless module specifications

Description	Values			
Model number	Intel Wireless-AC 9560, 2 x2, 802.11ac with Bluetooth 5.0	Intel Wi-Fi 6 AX200, 2 x 2, 802.11ax with MU-MIMO, without Bluetooth	Intel Wi-Fi 6 AX200, 2 x 2, 802.11ax with MU-MIMO, Bluetooth 5.0	DW5821E Snapdragon X20 4G/LTE Wireless WAN card
Transfer rate	Up to 1.73 Gbps	Up to 1.73 Gbps	Up to 1.73 Gbps	Up to 1.2 Gbps
Frequency bands supported	2.4 GHz/5 GHz	2.4 GHz/5 GHz	2.4 GHz/5 GHz	5 x 20 MHz
Wireless standards	<ul style="list-style-type: none"> WiFi 802.11a/b/g WiFi 4 (WiFi 802.11n) WiFi 5 (WiFi 802.11ac) 	<ul style="list-style-type: none"> WiFi 802.11a/b/g WiFi 4 (WiFi 802.11n) WiFi 5 (WiFi 802.11ac) WiFi 6 (WiFi 802.11ax) 	<ul style="list-style-type: none"> WiFi 802.11a/b/g WiFi 4 (WiFi 802.11n) WiFi 5 (WiFi 802.11ac) WiFi 6 (WiFi 802.11ax) 	<ul style="list-style-type: none"> WCDMA (DB-DC-HSDPA, DC-HSUPA) TD-SCDMA CDMA 1x EV-DO GSM/EDGE
Encryption	<ul style="list-style-type: none"> 64-bit and 128-bit WEP AES-CCMP TKIP 	<ul style="list-style-type: none"> 64-bit and 128-bit WEP AES-CCMP TKIP 	<ul style="list-style-type: none"> 64-bit and 128-bit WEP AES-CCMP TKIP 	NA
Bluetooth	Bluetooth 5	Not supported	Bluetooth 5	NA

Media-card reader

Table 11. Media-card reader specifications

Description	Values
Type	Micro SD-card slot
Cards supported	<ul style="list-style-type: none"> Micro Secure Digital (mSD) Micro Secure Digital High Capacity (mSDHC) Micro Secure Digital Extended Capacity (mSDXC)

Power adapter

Table 12. Power adapter specifications

Description	Values	
Type	E4 45 W	E5 90 W
Input voltage	100 VAC x 240 VAC	100 VAC - 240 VAC
Input frequency	50 Hz x 60 Hz	50 Hz - 60 Hz
Input current (maximum)	1.3 A	1.56A
Output current (continuous)	2.31 A (continuous)	4.62 A (continuous)
Rated output voltage	19.50 VDC	19.50 VDC
Temperature range:		
Operating	0 °C – 40 °C (32 °F - 104 °F)	0 °C - 40 °C (32 °F - 104 °F)
Storage	-40 °C - 70 °C (-40 °F - 158 °F)	-40 °C - 70 °C (-40 °F - 158 °F)

Battery

Table 13. Battery specifications

Description	Values	
Type	34 WHr, 2-Cell, ExpressCharge, user-replaceable	34 WHr (LCL)
Voltage	7.6 VDC	7.6 VDC
Weight (maximum)	220 g (0.48 lb)	220 g (0.48 lb)
Dimensions:		
Height	15.00 mm (0.59 in.)	15.00 mm (0.59 in.)
Width	62.70 mm (2.46 in.)	62.70 mm (2.46 in.)
Depth	103.60 mm (4.07 in.)	103.60 mm (4.07 in.)
Temperature range:		
Operating	0 °C - 60 °C (32 °F - 140 °F)	0 °C - 60 °C (32 °F - 140 °F)
Storage	-20 °C - 65 °C (-4 °F - 149 °F)	-20 °C - 65 °C (-4 °F - 149 °F)
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.
Charging time (approximate)	<ul style="list-style-type: none"> · 0 °C - 15 °C: 0-100% RSOC within 4 hours · 15 °C - 45 °C: 0-100% RSOC within 2 hours · 46 °C - 50 °C: 0-100% RSOC within 3 hours 	<ul style="list-style-type: none"> · 0 °C - 15 °C: 0-100% RSOC within 4 hours · 15 °C - 45 °C: 0-100% RSOC within 2 hours · 46 °C - 50 °C: 0-100% RSOC within 3 hours
Life span (approximate)	300 discharge/charge cycles	300 discharge/charge cycles

Description	Values	
Coin-cell battery	CR2032	CR2032
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.

Dimensions and weight

Table 14. Dimensions and weight

Description	Values
Height:	
Front	203 mm (7.99 in.)
Rear	209 mm (8.23 in.)
Width	<ul style="list-style-type: none"> • with bumpers: 318.2 (12.52 in.) • without bumpers: 312.20 mm
Depth	<ul style="list-style-type: none"> • with bumpers: 27.7 mm (1.09 in.) • without bumpers: 24.7 mm (0.97 in.)
Weight	1.31 kg (2.9 lb)
	<p>NOTE: The weight of your tablet depends on the configuration ordered and the manufacturing variability.</p>

Display

Table 15. Display specifications

Description	Values
Type	Full High Definition (FHD)
Panel technology	Wide View Angle (WVA)
Luminance (typical)	1000 nits outdoor readable
Dimensions (active area):	
Height	256.32 mm (10.09 in.)
Width	144.18 mm (5.67 in.)
Diagonal	294.64 mm (11.6 in.)
Native resolution	1920 x 1080
Megapixels	16.7 million
Color gamut	72% NTSC
Pixels per inch (PPI)	190
Contrast ratio (min)	1500 : 1 (Typ)
Response time (max)	40 ms (max)

Description	Values
Refresh rate	60 Hz
Horizontal view angle	89 degrees
Vertical view angle	89 degrees
Pixel pitch	0.1335 mm x 0.1335 mm
Power consumption (maximum)	8.02 W
Anti-glare vs glossy finish	Anti-glare, Anti-smudge
Touch options	Yes, Glove-capable touchscreen
Glass	Gorilla glass 3

Fingerprint reader

Table 16. Fingerprint reader specifications

Description	Values
Sensor technology	Trans-capacitive sensing
Sensor resolution	363 dpi
Sensor area	7.42 mm x 5.95 mm
Sensor pixel size	70 um x 70 um

Security

Table 17. Security

Features	Specifications
Trusted Platform Module (TPM) 2.0	Integrated on system board
Fingerprint reader	Optional
Contacted Smartcard reader	Optional
Contactless Smartcard reader	Optional
Kensington security lock slot	Standard
Protected slot/vent openings	Standard

Data security

Table 18. Data security

Features	Specifications
Dell Data Protection - Endpoint Security Suite Enterprise (DDP ESSE)	Optional
Dell Data Protection - Software Encryption (DDPE)	Optional
Dell ControlVault 3.0	Optional
Microsoft Device Guard and Credential Guard (Windows Enterprise)	Optional

Features

Microsoft Windows Bitlocker

Specifications

Optional

Regulatory, Environmental Compliance and Trusted Platform Module (TPM)

Table 19. Regulatory, Environmental Compliance and TPM

Features	Specifications
Energy Star	Energy Star 7 compliant
TPM	<ul style="list-style-type: none"> Hardware trusted Platform Module (Discrete TPM Enabled) Firmware Trusted Platform Module only (Discrete TPM Disabled)
Environmental, Ergonomic, and Regulatory standards	<ul style="list-style-type: none"> Energy Star EPEAT* Registered CEL WEEE Japan Energy Law South Korea Eco-label EU RoHS China RoHS MIL 810G <p>See your local representative or www.dell.com for specific details.</p> <p>*For specific country participation and rating, please see https://www.epeat.net</p>

Computer environment

Airborne contaminant level: G1 as defined by ISA-S71.04-1985**Table 20. Computer environment**

Description	Operating	Storage
Temperature range	-29°C to 63°C (-20.2°F to 145.4°F)	-57°C to 71°C (-70.6°F to 159.8°F)
Relative humidity (maximum)	10% to 90% (non-condensing)	5% to 95% (non-condensing)
Vibration (maximum)*	0.26 GRMS	1.37 GRMS
Shock (maximum)	105 G†	40 G†
Altitude (maximum)	-16 m to 12192 m (3.2 ft to 21977.6 ft)	-15.2 m to 12192 m (4.64 ft to 21977.6 ft)

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

† Measured using a 2 ms half-sine pulse when the hard drive is in use.

Engineering specifications

Topics:

- Graphics options
- Supported hard drives
- Communications
- Acoustic noise emission information
- GPS and RF antenna passthrough
- Configure BIOS for RF passthrough
- Military specifications
- System management features
- Accessories

Graphics options

Intel UHD Graphics

Table 21. Intel UHD Graphics specifications

Intel UHD Graphics

Bus Type	Integrated
Memory Type	UMA
Graphics Level	i3/i5/i7: GT2 (UHD)
Estimated Maximum Power Consumption (TDP)	15 W (included in the CPU power)
Overlay Planes	Yes
Operating Systems Graphics/ Video API Support	DirectX 12, OpenGL (4.5 from Intel CML POR)
Maximum Vertical Refresh Rate	<ul style="list-style-type: none"> • HDMI 1.4: 4096 x 2160 @ 60 Hz, 24bpp, Via optional USB Type-C to HDMI dongle • Max Digital: (DP 1.2 over Type-C Port) 4096 x 2304 @ 60 Hz, 24bpp
Number of display supported	Up to three displays supported via DisplayPort Multi-Streaming Technology (MST)
Multiple Display Support	Via Type-C: HDMI 1.4 (via optional USB-C cable to HDMI cable); DisplayPort 1.2 (via optional USB-C cable or USB-C to DP cable);
External Connectors	USB Type-C port

Supported hard drives

128 GB M.2 2230 PCIe Gen3x2 NVMe Class 35 Solid State Drive

Table 22. 128 GB M.2 2230 PCIe Gen3x2 NVMe Class 35 SSD

Capacity (GB)	128 GB
Dimensions (mm) (W x D x H)	(22 x 30 x 2.38) mm
Interface type and Maximum speed	PCIe Gen3 8 GT/s (up to 2 lanes)
MTBF	1.4M hours
Logical Blocks	500,118,192

Power Source:

Power Consumption (reference only)	Idle 0.5 W, Active 2.5 W
------------------------------------	--------------------------

Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%
Non-Op Shock (@0.5 ms)	1,500G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%

256 GB M.2 2280 PCIe Gen3x4 NVMe Solid State Drive Class 40

Table 23. 256 GB M.2 2280 NVMe PCIe SSD Class 40

Capacity (GB)	256 GB
Dimensions (mm) (W x D x H)	Approximately (22 x 80 x 2.38)
Interface type and maximum speed	PCIe Gen3 8 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	500,118,192

Power source

Power consumption (reference only)	Idle 0.5 W, Active 4.5 W
------------------------------------	--------------------------

Environmental Operating Conditions (Non-Condensing)

Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock (@ 2ms)	1000 G

Environmental Non-Operating Conditions (Non-Condensing)

Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

512 GB M.2 2280 PCIe Gen3x4 NVMe Class 40 Solid State Drive

Table 24. 512 GB M.2 2280 PCIe Gen3x4 NVMe Class 40 SSD

Capacity (GB)	512
Dimensions mm (W x D x H)	22 x 80 x 2.38
Interface type and Maximum speed	PCIe Gen3 8 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical Blocks	1,000,215,216

Power Source:

Power Consumption (reference only)	Idle 0.5 W, Active 4.5 W
------------------------------------	--------------------------

Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
Relative Humidity Range	10% to 90%
Non-Op Shock (@0.5 ms)	1,500G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%

1 TB M.2 2280 PCIe Gen3x4 NVMe Solid State Drive Class 40

Table 25. 1 TB M.2 2280 NVMe PCIe SSD Class 40

Capacity (GB)	1 TB
Dimensions (W x D x H)	Approximately (22.00 mm x 80.00 mm x 2.38 mm)
Interface type and maximum speed	PCIe Gen3 8 Gb/s (Up to 4 lanes)
MTBF	1.4M hours
Logical blocks	2,000,409,264

Power source

Power consumption (reference only)	Idle 0.5 W, Active 4.5 W
------------------------------------	--------------------------

Environmental Operating Conditions (Non-Condensing)

Temperature range	0°C to 70°C
Relative humidity range	10% to 90%

Op shock (@ 2ms)	1000 G
Environmental Non-Operating Conditions (Non-Condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

2 TB M.2 2280 PCIe Gen3x4 NVMe Solid State Drive Class 40

Table 26. 2 TB M.2 2280 NVMe PCIe SSD Class 40

Capacity (GB)	2 TB
Dimensions (W x D x H)	Approximately (22.00 mm x 80.00 mm x 2.38 mm)
Interface type and maximum speed	PCIe Gen3 8 Gb/s (Up to 4 lanes)
MTBF	1.4M hours
Logical blocks	4,000,818,528
Power source	
Power consumption (reference only)	Idle 0.5 W, Active 4.5 W

Environmental Operating Conditions (Non-Condensing)

Temperature range	0 °C - 70 °C
Relative humidity range	10% to 90%
Op shock (@ 2ms)	1000 G

Environmental Non-Operating Conditions (Non-Condensing)

Temperature range	-40 °C to 70 °C
Relative humidity range	5% to 95%

256 GB M.2 2280 PCIe Gen3x4 NVMe Class 40 Opal 2.0 SED Solid State Drive

Table 27. 256 GB M.2 2280 PCIe NVMe Class 40 Opal 2.0 SED SSD

Capacity (GB)	256 GB
Dimensions (mm) (W x D x H)	22 x 80 x 2.38
Interface type and Maximum speed	PCIe Gen3 8 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical Blocks	500,118,192
Power Source:	
Power Consumption (reference only)	Idle 0.5 W, Active 4.5 W

Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%
Non-Op Shock (@2 ms)	1,500G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%

512 GB M.2 2280 PCIe Gen3x4 NVMe Class 40 Opal 2.0 SED Solid State Drive

Table 28. 512 GB M.2 2280 PCIe NVMe Class 40 Opal 2.0 SED SSD

Capacity (GB)	512 GB
Dimensions (mm) (W x D x H)	22 x 80 x 2.38
Interface type and Maximum speed	PCIe Gen3 8 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical Blocks	1,000,215,216

Power Source:

Power Consumption (reference only)	Idle 0.5 W, Active 4.5 W
------------------------------------	--------------------------

Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%
Non-Op Shock (@2 ms)	1,500G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%

1 TB M.2 2280 PCIe Gen3x4 NVMe Class 40 Opal 2.0 SED Solid State Drive

Table 29. 1 TB M.2 2280 PCIe NVMe Class 40 Opal 2.0 SED SSD

Capacity (GB)	1 TB
Dimensions (mm) (W x D x H)	22 x 80 x 2.38
Interface type and Maximum speed	PCIe Gen3 8 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical Blocks	2,000,409,264

Power Source:

Power Consumption (reference only)	Idle 0.5 W, Active 4.5 W
------------------------------------	--------------------------

Environmental Operating Conditions (Non-Condensing):

Temperature Range	0 °C - 70 °C
Relative Humidity Range	10 - 90%
Non-Op Shock (@2 ms)	1,500G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40 °C - 70 °C
Relative Humidity Range	5% - 95%

Communications

Wireless communication

Intel Dual Band Wireless-AC 9560 802.11ac 160 MHz 2x2 Wi-Fi + Bluetooth 5

Table 30. Intel Dual Band Wireless-AC 9560 802.11ac 160 MHz (2x2) Wi-Fi + Bluetooth 5

Host interface	Intel dual band wireless-9560
Transfer rate (max)	1.73 Gbps
Wi-Fi Alliance Certifications	WPA* and WPA2*, WPS2*, Protected Management Frames, Wi-Fi Miracast* as Source, and Wi-Fi Direct (For Microsoft Windows* only)†
Frequency Bands supported	2.4/ 5 GHz (160 MHz)
Wireless Standards	WiFi 802.11b/g/a/n/ac,
Bluetooth	Bluetooth 5 (HW Ready, SW depends on operating system)
Encryption	64-bit and 128-bit WEP, TKIP, 128-bit AES-CCMP
Government Compliance	FIPS, FISMA
Antenna Diversity	Supported
Radio On/Off	Supported
Wireless PAN Standard	WiFi 802.11ac WiFi 802.11b/g/n
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 10
Bluetooth Data Encryption	64/128-bit encryption
Bluetooth Output Power	Power class 1
Temperature	Operating temperature 0°C to + 80°C Storage temperature of -40°C to +70°C
Humidity	50% to 90% RH non-condensing (at temperatures of 25°C to 35°C)

Intel AX200 160 MHz + Bluetooth 5.0

Table 31. Intel AX200 160 MHz + Bluetooth 5.0

Feature	Specifications
Model Number	Intel AX200
Transfer rate (Up to ____ Mbps)	2400
Frequency bands supported:	
Frequency band1 (GHz)	2.4
Frequency band2 (GHz)	5
Wireless standards:	
Wireless standards option1	WiFi 802.11a/b/g
Wireless standards option2	Wi-Fi 4 (WiFi 802.11n)
Wireless standards option3	Wi-Fi 5 (WiFi 802.11ac)
Wireless standards option4	Wi-Fi 6 (WiFi 802.11ax)
Encryption:	
Encryption option1	64-bit/128-bit WEP
Encryption option2	AES-CCMP
Encryption option3	TKIP
Bluetooth	Bluetooth 5.0

Intel AX200 160 MHz Without Bluetooth 5.0

Table 32. Intel AX200 160 MHz

Feature	Specifications
Model Number	Intel AX200
Transfer rate (Up to ____ Mbps)	2400
Frequency bands supported:	
Frequency band1 (GHz)	2.4
Frequency band2 (GHz)	5
Wireless standards:	
Wireless standards option1	WiFi 802.11a/b/g
Wireless standards option2	Wi-Fi 4 (WiFi 802.11n)
Wireless standards option3	Wi-Fi 5 (WiFi 802.11ac)
Wireless standards option4	Wi-Fi 6 (WiFi 802.11ax)
Encryption:	
Encryption option1	64-bit/128-bit WEP
Encryption option2	AES-CCMP
Encryption option3	TKIP
Bluetooth	NA

DW5821E Snapdragon X20 4G/LTE Wireless WAN card

Table 33. DW5821E Snapdragon X20 4G/LTE Wireless WAN card

Feature	Specifications
Model Number	DW5821E Snapdragon
Transfer rate (Up to ____ Gbps)	1.2
Frequency bands supported:	
Frequency band1 (MHz)	5 x 20
Cellular technology:	
Standards option1	WCDMA (DB-DC-HSDPA, DC-HSUPA)
Standards option2	TD-SCDMA
Standards option3	CDMA 1x
Standards option4	EV-DO
Standards option5	GSM/EDGE
Bluetooth	NA

Acoustic noise emission information

Declared Sound Power (LWAd)

The Declared Noise Emission in accordance with ISO 9296 for the Dell Latitude 7220 Rugged Extreme Tablet is as follows: (all values LWAd expressed in bels; 1 bel=10 decibels, re 10⁻¹² Watts)

Table 34. SSD/Integrated Graphics Configuration

Component	Test Configuration	
CPU	I7-8665U	
Memory	64	
HDD/ SSD (#, capacity)	1 TB M.2 SSD*1	
RMSD (Removable Media Storage Device)	N/A	
Graphic Adapter	Integrated graphics	
Power Supply Output Wattage & Efficiency	65	VI

Table 35. Declared Sound Pressure (LpA)

Operating Mode	Sound Power Declared mean A-weighted level	Sound Power Statistical adder for verification	Sound Pressure Declared mean A-weighted emission level L _{pA,m} (dB)	
	L _{WA,m} (bels)	K _v (bells)	Operator	Bystander
Idle	2.6	0.4	17.7	15.5
HDD Operating	2.5	0.4	28.8	15.8
CPU Stressed	3.2	0.4	17.8	24.0
ODD Operating	N/A	N/A	N/A	N/A

GPS and RF antenna passthrough

This section provides the GPS passthrough and RF antenna passthrough information for the Dell Latitude 7220 Rugged Extreme Tablet.

Table 36. GPS and RF Antenna passthrough (WLAN)

Frequency (MHz)	For WLAN Main Antenna						
	Switch Circuit Loss (dB)			Jump Cable Loss (dB) 51 mm, 1.37LL	Total Loss (dB)		
	Non-ATEX (MU2)	ATEX (MU2)	Non-ATEX (DVT1)		Non-ATEX	ATEX	DVT1
2400~2500	-1.18	-0.60	-0.85	-0.24	-1.42	-0.84	-1.09
5150~5850	-1.91	-1.31	-1.37	-0.35	-2.26	-1.66	-1.72

Table 37. GPS and RF Antenna passthrough (LTE)

Frequency (MHz)	For LTE Main Antenna						
	Switch Circuit Loss (dB)			Jump Cable Loss (dB) 51 mm, 1.37LL	Total Loss (dB)		
	Non-ATEX (MU2)	ATEX (MU2)	Non-ATEX (DVT1)		Non-ATEX	ATEX	DVT1
600~1000	-0.5	-0.26	-0.4	-0.14	-0.64	-0.40	-0.54
1700~1880	-1.2	-0.45	-0.77	-0.18	-1.38	-0.63	-0.95
1880~2330	-1.52	-0.48	-0.89	-0.21	-1.73	-0.69	-1.10
2330~2700	-1.54	-0.53	-0.85	-0.24	-1.78	-0.77	-1.09
3300~3800	-1.58	-0.63	-0.98	-0.27	-1.85	-0.90	-1.25
5150~5930	-1.96	-1.38	-1.28	-0.35	-2.31	-1.73	-1.63

Configure BIOS for RF passthrough

This section provides the details on how to configure the BIOS to have RF antenna passthrough for the Dell Latitude 7220 Rugged Extreme Tablet.

The Dell Latitude 7220 Rugged Extreme Tablet, there is a BIOS Setup option for user to control the antenna selections.

1. BIOS Setup Group: Wireless
2. BIOS Setup Page: Antenna Switch
3. BIOS Setup Options:
 - System Antennas Only
 - WLAN(Ant A) and WWAN(Ant B)
 - WLAN(Ant A) and GPS(Ant B)
 - GPS(Ant A) and WWAN(Ant B)
 - WLAN(Ant A)
 - WWAN(Ant B)
 - GPS(Ant B)

This setting determines the antenna usage when attached to a docking station. The options indicate which wireless radio uses which dock antenna when docked. The "System Antennas Only" option indicates that only the system antennas are used, and the dock antennas are not used, even when docked. When the system is undocked, the system antennas are used and this option has no effect. The "Ant A" indicates for dock antenna A, and "Ant B" indicates for dock antenna B.

NOTE: This setting applies to Rugged docking stations and does not apply to USB Type-C docking stations.

Military specifications

The Dell Latitude 7220/Dell Latitude 7220EX Rugged Extreme Tablet meets military specifications for the following MIL-STD 810G/H tests:

Table 38. Military specifications

Test Category	Test Method	Test Results
Non-operating altitude	Method 500.6/7	PASS
Operating altitude	Method 500.6/7	PASS
Operating high temperature	Method 501.6/7	PASS
Storage high temperature	Method 501.6/7	PASS
Operating low temperature	Method 502.6/7	PASS
Storage low temperature	Method 502.6/7	PASS
Thermal shock	Method 503.6/7	PASS
Solar radiation	Method 505.6/7	PASS
Aggravated rain - blowing	Method 506.6/7	PASS
Aggravated humidity	Method 507.6/7	PASS
Salt fog	Method 509.6/7	PASS
Sand and dust - blowing dust	Method 510.6/7	PASS
Explosive atmosphere	Method 511.6/7	PASS
Vibration - minimum integrity	Method 514.7/8	PASS
Vibration composite wheeled vehicle	Method 514.7/8	PASS
Vibration - ground vehicle	Method 514.7/8	PASS
Vibration - loose cargo	Method 514.7/8	PASS
Mechanical shock test - I (Bench Handling Test)	Method 516.7/8	PASS
Mechanical shock test - II (Crash Hazard Shock Test)	Method 516.7/8	PASS
Mechanical shock test - III (Functional Shock Test)	Method 516.7/8	PASS
Mechanical shock test - IV (Material to be Packaged Test)	Method 516.7/8	PASS
Freeze/thaw - rapid temperature change	Method 524.1	PASS

System management features

Dell commercial systems come with a number of systems management options that are included 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, 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 | 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 | Configure allows you to remotely automate and configure over 150+ BIOS settings for a personalized user experience.

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

Dell Command | 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 | Power Manager (end-user tool) is a GUI-based factory-installed battery management tool that allows end users to choose the battery management methods that meet their personal preferences or work schedule without sacrificing IT's capability to control those settings with Group Policy.

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 | Update eliminates the time-consuming hunting and pecking process of update installation.

Dell Command | 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.

Accessories

Table 39. Accessories

Accessories	
Keyboards	Rugged Backlit Keyboard and Kickstand Combo
Carrying cases	Rugged Shoulder Strap
	Rigid Handle
	Rugged backpack
	Latitude Rugged Tablet Desk Dock
Dock and port replicators	Dell Latitude Rugged Tablet Vehicle Docks
	Dell Rugged Active Pen - PN720R
Input devices	
Stands and mounts	180° Kickstand

Table 40. Accessories

Accessories


Carrying cases	Nylon handle
	Shoulder strap
Input devices	Dell Active Pen - PN720R (+ pen tips)
	Dell Passive Pen (+ pen tips)
Docking	Dell Dock WD19
Power	Lind Modular Bay Battery Charger

Getting help

Topics:

- [Contacting Dell](#)

Contacting Dell

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

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Go to **Dell.com/support**.
2. Select your support category.
3. Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
4. Select the appropriate service or support link based on your need.