

# LITE-RUGGED LAPTOP

# ML15



- Powered by the Intel® Core™ i5-11500H processor, offering for seamless multitasking and enhanced productivity.
- Expandable performance through discrete GPUs, delivering advanced processing power ideal for peak-performance computing tasks.
- Features a 15.6" FHD display with a high brightness of 1000 nits, ensuring perfect readability even in outdoor environments.
- Provides upgradeable memory and storage expansion options for effortless system enhancements.
- Compliant with MIL-STD-810H, yet equipped with a lightweight chassis for portability and reliable operation under harsh conditions.
- Configurable with flexible connectivity options and a user-removable Flex Bay, boosting versatility and functionality.
- Upgradable with an optional MIL-STD-461G (Ground Navy) EMC solution for advanced reliability.



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Items	Descriptions
<b>Platform</b>	– Intel® Tigerlake-H Platform
<b>Operation System</b>	– Windows 11 IoT
<b>Processor</b>	– Intel® Core™ i5-11500H Processor – 6 Cores, 12MB Cache, up to 4.6GHz – Support vPro®
<b>Graphic</b>	– Intel® UHD Graphics <b>Optional:</b> – MXM Discrete Graphic Card NVIDIA® RTX A1000 <sup>1</sup>
<b>Display</b>	– 15.6" (1920 x 1080) LCD – Optical Bonding – Brightness: 1000 nits <sup>2</sup> <b>Optional:</b> – Capacitive Multi-Touch Screen
<b>Memory</b> <sup>3,4</sup>	– 1 <sup>st</sup> : 8GB DDR4-3200 x 1 <b>Optional:</b> – 1 <sup>st</sup> : 16GB/32GB DDR4-3200 x 1 – 2 <sup>nd</sup> : 8GB/16GB/32GB DDR4-3200 x 1
<b>Storage</b>	– 1 <sup>st</sup> : 256GB M.2 2280 PCIe 3.0 SSD (Kit) <sup>3</sup> <b>Optional:</b> – 1 <sup>st</sup> : 512GB/1TB M.2 2280 PCIe 3.0 SSD (Kit) <sup>3</sup> – 2 <sup>nd</sup> : 256GB/512GB/1TB M.2 2242 PCIe 4.0 SSD – 3 <sup>rd</sup> : 256GB/512GB/1TB 2.5" SATAIII SSD (Flex Bay) <sup>3</sup>
<b>Audio</b>	– HD Audio and Stereo Speakers – Embedded Digital Mic
<b>Camera</b>	– 5MP Webcam, with Camera Cover and Indicator
<b>Sensor</b>	– Ambient Light Sensor
<b>Keyboard</b>	– 86-key with Backlight
<b>Touchpad</b>	– Capacitive Touchpad with Left/Right Clicks
<b>Button</b>	– Power Button
<b>LED Indicator</b>	– Power: System ON/ S3 (Green/ Breathing Green) – SSD in Use (Flashing Green) – Battery: Charging/ Low (Orange/ Flashing Orange)
<b>Security</b>	– TPM 2.0
<b>Case</b>	– Engineering Plastic/ Aluminum Alloy
<b>Color</b>	– Black
<b>Environmental Specifications</b>	– Operating Temperature: -10°C <sup>5</sup> ~ +60°C <sup>6</sup> – Storage Temperature: -40°C ~ +70°C
<b>Dimensions</b> <sup>7</sup>	– 392 x 282 x 43mm (with bumpers)
<b>Weight</b> <sup>7</sup>	– Approximately 3.3 kg

Power	
<b>Primary Battery</b> <sup>3,10</sup>	– Standard Battery Pack BMLF3A: Li-Ion 10.905V/6000mAh
<b>Input Power</b>	– Fast Charging via Type-C – 60W~100W – DC-in – 19V

Wireless & Communications	
<b>LAN</b>	– 2.5G base-T Ethernet
<b>WLAN/ Bluetooth®</b>	– Intel® Wi-Fi 6E AX210 (802.11ax) – Bluetooth® 5.3
<b>GNSS</b>	<b>Optional:</b> – GPS/GLONASS/Galileo/Beidou

I/O Interfaces	
<b>Left</b>	– Audio In/Out Combo x 1 – Thunderbolt™ 4 Type-C x 1 (Full function) – USB 3.2 Gen.2 Type-A x 2 – 1 <sup>st</sup> LAN RJ45 x 1 – SD Card Reader x 1 – SIM Card Slot <sup>11</sup> x 1 – Primary Battery Slot x 1
<b>Right</b>	– DC-in x 1 <b>Optional:</b> – 2 <sup>nd</sup> Battery Slot x 1 – Flex Bay Slot – User-removable Type – Express Card 34/54 – SATA ODD – 3 <sup>rd</sup> Storage 2.5" SATAIII SSD – Non-user-removable Type – MXM Discrete Graphic Card NVIDIA® RTX A1000 <sup>1</sup>
<b>Front</b>	<b>Optional:</b> – Smart Card Reader
<b>Rear</b>	– Dual-Mode Display Port x 1 – HDMI® Connector <sup>8</sup> x 1 <b>Optional:</b> – Flexible I/O Kit Set <sup>9</sup> – A: USB 2.0 Type-A x 1 + 2 <sup>nd</sup> LAN RJ45 x 1 – B: COM Port DB9 up to 2 – C: VGA x 1 – Fischer I/O Kit Set <sup>9</sup> – A: USB 2.0 x 1 + 2 <sup>nd</sup> LAN x 1 – B: COM Port up to 2 – C: VGA x 1
<b>Bottom</b>	– 1 <sup>st</sup> Storage: M.2 2280 PCIe 3.0 SSD (Kit) <sup>3</sup> x 1 – 1 <sup>st</sup> DDR4-3200 SO-DIMM x 1 <b>Optional:</b> – 2 <sup>nd</sup> DDR4-3200 SO-DIMM x 1 – GNSS and Smart Card Reader Module Slot – 2 <sup>nd</sup> Storage M.2 2242 PCIe 4.0 SSD Module Slot

Accessories	
<b>2<sup>nd</sup> Battery Pack</b> <sup>10</sup>	– Standard Battery Pack BMLF3A Li-Ion 10.905V/6000mAh
<b>AC Adapter</b>	– DC-in Jack – 160W 100-240VAC, 50/60Hz
<b>Battery Charger</b>	– Multi Battery Charger MCRW

Certifications	
<b>Certifications</b>	– CE/FCC/UKCA/RCM – WEEE – REACH – POPs – RoHS – IP53 – MIL-STD-810H (0.9m drop and vibration) – MIL-STD-461G (Ground Navy) <sup>11</sup>

<sup>1</sup>NVIDIA® RTX A1000 must be pre-configured.

<sup>2</sup>Varies from display configurations.

<sup>3</sup>User-removable.

<sup>4</sup>System Memory up to 64GB

<sup>5</sup>Instant Cold Boot via AC Mode.

<sup>6</sup>Via AC Mode

<sup>7</sup>Varies from configurations and optional accessories.

<sup>8</sup>Support 4K@50Hz/60Hz as specified in HDMI2.0b.

<sup>9</sup>Choose up to 3 combinations from Flexible or Fischer I/O Kit, non-repeatable for each interface.

<sup>10</sup>Hot-swappable with dual battery design.

<sup>11</sup>Contact your sales representative for more details.