

# MilDef RW14



## Rugged notebook with built-in RAID

The MilDef RW14 offers a rugged 15.6" notebook with a powerful Intel® Xeon® processor, NVIDIA GPU card and RAID support. Designed for tactical military environments where reliability and performance are key.

## Customizable

Are you looking for features and functions beyond the standard solution? MilDef are specializing in customized solution and offering change of connectors, chassis modifications, mounting solutions, etc. Contact your nearest local MilDef Sales Office and we will help you find a solution that meets your requirements.

## Guaranteed performance

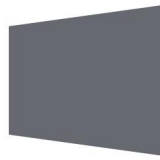
Our products come with a lifetime support to ensure your equipment maintains peak performance for many missions to come. We also guarantee spare parts for 5 years after product end-of-life.

## Features

- 15.6" display
- Intel® Xeon® E-2176M
- Up to 64 GB RAM
- NVIDIA® GeForce® GTX1050 (optional)
- Up to 4x SSD
- RAID support
- MIL-STD-810H
- MIL-STD-461G
- IP65 (open port)

Technical Specification	
<b>CPU</b>	Intel® Xeon® E-2176M
<b>BIOS</b>	AMI
<b>RAM</b>	Up to 64GB DDR4 2400 MHz (ECC or non-ECC)
<b>Graphic (standard)</b>	Intel® UHD Graphics P6300
<b>Graphics (optional)</b>	NVIDIA® GeForce® GTX1050
<b>Storage</b>	Up to 4x Removable SSD (SATAIII)
<b>RAID</b>	RAID 0, 1, 5, 10
<b>Display</b>	15.6" FHD LCD (1920x1080) with Optical Bonding
<b>Brightness</b>	Standard: 270 nits High brightness: 850nits (option)
<b>Ethernet</b>	1x 1000Base-T (RJ45)
<b>Wireless (optional)</b>	Bluetooth5.0 Wifi 802.11 a/b/b/n/ac
<b>GPS (optional)</b>	GPS/GLONASS (Ublox Neo-M8N)
<b>Audio</b>	HD Audio and Stereo speakers Embedded Digital Mic (optional)
<b>Keyboard</b>	83-key with Backlight (Membrane Type)
<b>Touchpad</b>	Resistive Touchpad with single touch Kensington Lock
<b>Security</b>	TPM2.0 (optional) Smart card reader (optional)
<b>OS</b>	Windows 10 Windows Server 2016 Windows Server 2019
<b>MTBF (Ground Benign)</b>	55 670 h (60°C)
<b>Power Input (DC)</b>	19V DC in (Optional DC-in 12-32V with BVA & surge protector)
<b>AC adapter</b>	100-240V 50/60Hz (200W)
<b>Battery</b>	2x 10.8V / 6900 mAh Li-Ion
<b>Case</b>	CNC milled Aluminum
<b>Power consumption</b>	Typical: 110W (w/o Battery Charge & 100% LCD Brightness)
<b>Dimensions (W x D x H)</b>	392 x 302 x 43 mm (with bumpers)
<b>Weight</b>	4,9 kg (incl wifi, 2x battery, 1x SSD) -20°C + 60°C (operating)*
<b>Temperature range:</b>	-40°C + 71°C (storage)  *-30°C option available
<b>Certifications</b>	CE, FCC, IP65, MIL-STD-810H and MIL-STD-461G, REACH, RoHS
<b>Accessories</b>	Handle
<b>Other</b>	More options and accessories are available at request.

Connector Interfaces	
<b>Interfaces (left)</b>	<ul style="list-style-type: none"> <li>- 2x SSD Bay (SATA III)</li> <li>- 1x USB 3.1 (1.5A fast charger)</li> <li>- 1x USB 3.1</li> <li>- 1x Microphone (Mini Jack)</li> <li>- 1x Audio output (Mini Jack)</li> <li>- 1x Line-in Jack (Mini Jack)</li> </ul>
<b>Interfaces (right)</b>	<ul style="list-style-type: none"> <li>- 2x SSD Bay (SATA III)</li> <li>- 2x USB3.1 (USB3.1-A)</li> <li>- 1x GLAN (RJ45)</li> <li>- 1x GLAN (RJ45) - optional</li> </ul>
<b>Interface (bottom)</b>	1x Docking port with: <ul style="list-style-type: none"> <li>- 1x Power</li> <li>- 1x PCIe</li> <li>- 1x USB2.0</li> <li>- 1x USB3.1</li> </ul>
<b>Interfaces (internal)</b>	2 x Mini PCIe full-size card 1 x M.2 E key 2230 (For WLAN) 1 x USB 3.1 1 x USB 2.0
<b>Interfaces (rear)</b>	1x DC-in 1x Display port (DP) 1x VGA (DB15) 2x Serial (DB9) - 2x Serial (DB9) - optional
<b>Buttons &amp; LEDs (front)</b>	Power button LEDs: <ul style="list-style-type: none"> <li>- Power</li> <li>- SSD/Heater</li> <li>- Charge/Battery low</li> </ul>



## Environmental Specification

### Low Air pressure

Low air pressure – Rapid Decompression MIL-STD-810H, Method 500.6, <i>Procedure I - Storage/Air Transport</i>	12.192 m / 40.000 ft
Low air pressure - Operating MIL-STD-810H, Method 500.6, <i>Procedure II - Operation/Air Carriage</i>	4.572 m / 15.000 ft

### IP Class

IP	IP65
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### Freeze/Thaw

Freeze/Thaw – Operational MIL-STD-810H, Method 524.1 <i>Procedure III - Rapid Temperature Change</i>	According to method and procedure
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### Humidity

Humidity – Storage MIL-STD-810H, Method 507.6 <i>Procedure II (Aggravated) - Figure 507.6-7</i>	24-hours per cycle / Total of 10 cycles Between 30°C (86°F) and 60°C (140°F) with the relative humidity at 95% constant
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### Rain

Rain – Operating MIL-STD-810H, Method 506.6 <i>Procedure II</i>	276kPa(40psig) 5-surfaces 40-minutes/surface
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### Shock

Functional Shock - Operating MIL-STD-810H, Method 516.8 <i>Procedure I - Figure 516.8-IV</i>	Table 516.7-IV Terminal-peak sawtooth shock pulse 40g, 11ms
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### Salt Fog

Salt fog MIL-STD-810H Method 509.7	5 % +- 1 % (by weight) 24 h wet + 24 h dry /cycle Total 2 cycles / 96 hours
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### Temperature

Low temperature - Operating MIL-STD-810H Method 502.7 <i>Procedure II – Operation</i>	-20 °C / -4 °F (optional -30 °C / -22 °F)
Low temperature - Storage MIL-STD-810H Method 502.7 <i>Procedure I – Storage</i>	-40 °C / -40 °F
High temperature - Operating MIL-STD-810H Method 501.7 <i>Procedure II – Operation</i>	60 °C / 140 °F
High temperature - Storage MIL-STD-810H Method 501.7 <i>Procedure I – Storage</i>	71 °C / 160 °F
Temperature Shock – Non-Operating MIL-STD 810H Method 503.7 <i>Procedure I–C (Figure 503.7-3)</i>	-40°C / -40°F to 71°C / 160°F

### Vibrations

Vibration - Operational MIL-STD-810H, Method 514.8 <i>Category 20 - Ground Vehicles-ground mobile</i>	Table 514.8C-VII Composite wheeled vehicle vibration exposure Figure 514.8C-6, 60-minutes/axis
Vibration Storage MIL-STD-810H, Method 514.8 <i>Category 24 - General minimal integrity</i>	60-minutes/axis

## EMC Specification

### CE

IEC 62368-1: 2014/COR1:2015  
 EN 62368-1: 2014/A11:2017  
 EN 62311 (2008)  
 EN 303 413 V1.1.1 :2017-06  
 EN 300 328 V2.1.1 : 2016-11  
 EN 301 893 V2.1.1 : 2017-05  
 EN 55032 (2015A1: 2019)  
 EN 55024 (2010A1: 2015)  
 EN 301 489-1:V2.2.3 (2019-11)  
 EN 301 489-17:V3.1.1 (2017-02)  
 EN 301 489-19: V2.1.1 (2019-04)  
 EN 55032-2 (2013)

### CE

### FCC

FCC PART 15B § 15.10915.107 CLASS B  
 FCC SUBPART C § 15.247 (2018-10)  
 FCC SUBPART E § 15.407 (2018-10)

### FCC 47

### MIL-STD-461G

MIL-STD-461G, Method CE101	Conducted Emissions, Power Leads 30Hz to 150kHz
MIL-STD-461G, Method CE102	Conducted Emissions, Power Leads 10 kHz to 10 MHz
MIL-STD-461G, Method CS101	Conducted susceptibility, power leads 30 Hz to 150 kHz Curve #1
MIL-STD-461G, Method CS114	Bulk Cable Injection 10kHz to 200MHz
MIL-STD-461G, Method CS115	Conducted susceptibility, bulk cable injection, impulse excitation
MIL-STD-461G, Method CS116	Conducted Susceptibility, Damp Sinusoidal Transients, Cables and Power Leads, 10 kHz to 100 MHz
MIL-STD-461G, Method CS118	Personnel borne electrostatic discharge – All (ESD)
MIL-STD-461G, Method RE101	Radiated Emissions, Magnetic Field 30Hz to 100kHz
MIL-STD-461G, Method RE102	Radiated Emissions, Electric Field 10kHz to 18GHz
MIL-STD-461G, Method RS101	Radiated Susceptibility, Magnetic Field 30Hz to 100kHz
MIL-STD-461G, Method RS103	Radiated Susceptibility, Electric Field 2MHz~18GHz