SINGLE BOARD COMPUTER

ORCA Med PC
Embedded Computer for Medical devices

- **CPU:**
  NXP i.MX8M Plus ARM Cortex A53 Dual/Quad cores 1.8GHz
  AI engine 2.3 TOPS
  up to 8GB LPDDR4
- **Storage:**
  eMMC up to 256GB
  uSD card slot
- **Connectivity:**
  2x Ethernet 10/100/1000 with TSN support
  Wifi & BT 2.4GHz and 5GHz
  4G LTE Cat.1
- **Multimedia:**
  HDMI
  2x USB3.0
  4x FPD link video connected to dual MIPI CSI inputs
- **Security:**
  SE050 TPM

- **Temperature Range:**
  up to -40-85°C
- **Size:**
  Aluminium box (WxLxH) 220 x 110 x 40mm
  VESA 75mm and DIN bar mount optionals
- **Power:**
  12V, 1.5A AC/DC Power adapter
- **Regulatory compliance:**
  ISO 60601

ORCA Med SBC (Single Board Computer) is part of DAVE Embedded Systems' portfolio of Single Board Computer solutions and it is designed for Medical Device market. ORCA Med SBC is available as OEM board or boxed with an Aluminium Case.

The robust design is suitable for medical applications and a package list of compliance reports is available to support the End User's EN ISO 60601, EN ISO 62304, EN ISO 14971 and ISO 13485 compliance process.

ORCA Med SBC is designed for support long term support and availability with a life time expected up to Year 2036.

The ORCA Med SBC Single Board Computer is provided with a Software Development Kit which enable customers to get complete control of the board. The Software Development Kit is called DESK DAVE

Embedded Software Kit and it is based on the NXP official Software Development Kits. The DESK design is based on Yocto and grant a long term swBOM support and availability.
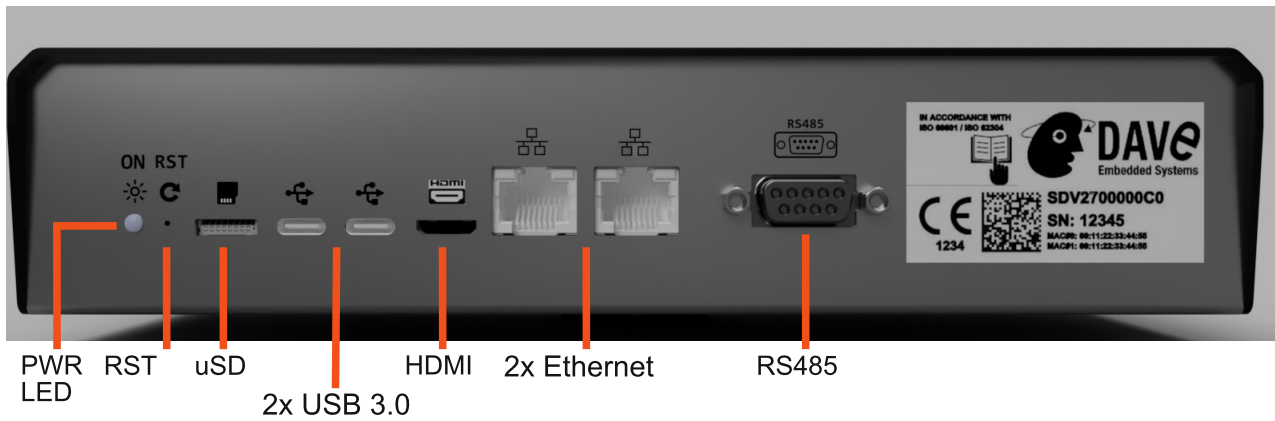
The ToloMEO Edge software takes care of the core functionalities needed for medical device like **clock management, power management, updates and cybersecurity**.

Thans to the ToloMEO integration the cyber security protection is available and can be provided according to standards IEC 62443. ToloMEO IIoT Services provides a number of ready to use solutions which enable customers to create their own cloud solution for IoT, OTA Updates, Machine Learning, Blockchain solutions for Digital Contracting and Embedded SW management.
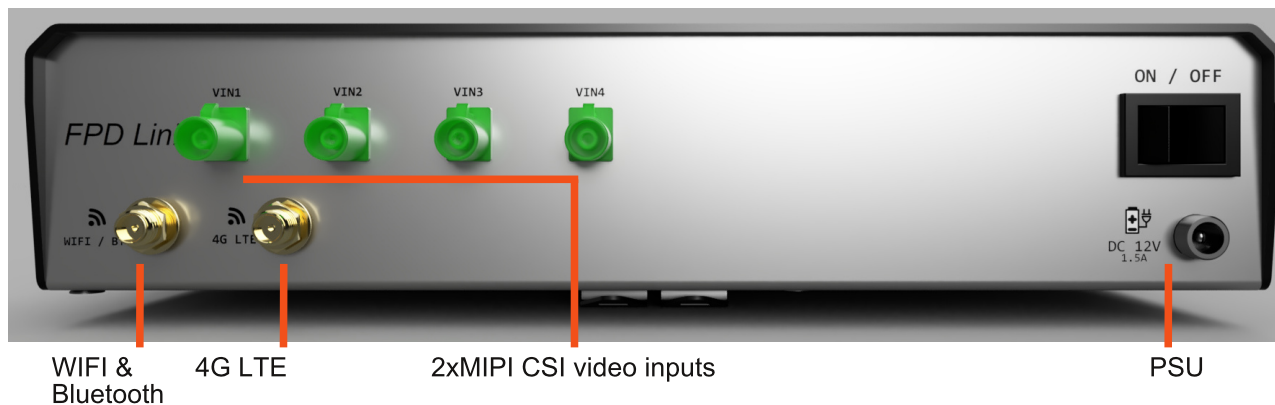
ToloMEO IIoT Services

- Golden boot strategy
- Remote debugging console
- Over The Air updates
- Watchdog monitor
- swBOM maintenance
- Vulnerabilities monitoring
- VCE report
- Security patch updates
- Secure Boot configuration

- Multi Tenant management
- User Profile management
- User data protection compliance
- API based design
- Front End available out of the box
- WebAPP design for Edge and Remote Front End
- Machine Learning remote management
- Digital Contract suite based on Blockchain technology

Technical Specifications

Front View

PWR LED · RST · uSD · 2x USB 3.0 · HDMI · 2x Ethernet · RS485

Rear View

WIFI & Bluetooth · 4G LTE · 2xMIPI CSI video inputs · PSU

Software solutions for Medical Devices

- **Watchdog:** HW and SW watchdog for board block
- **Power Management:** low power management, power outage and reboot detection,
- **Data retention:** RTC lasting 1y, RTC fail detection, NTP
- **USB Service:** secure log extraction, configuration in/out, system and application update

- **Web UI:** web application for system and application configuration (local and remote)
- **Physical UI:** hw and sw buttons
- **Cybersecurity:** OS hardening, user/password/cert management, penetration test on request
- **Production:** product traceability & commissioning

Additional Services

- Additional functionalities available: PCIe, PWM, CAN, SPI, Dual LVDS
- HW and SW customization
- Application SW design based on customer's specifications
- Enclosure design and customization

- Support on regulatory documentation for ISO 13485, ISO 60601, ISO 14971, ISO 62304
- Laboratory Compliance tests
- Ready to use for integration behind a display and or other modules