owa4X Core:
- LINUX Kernel 4.19.94
- Debian 10 Distribution File System
- ARM Cortex A8 32 bit 800MHz
- 512MB DDR3 (Up to 1 GB)
- 1GB NAND Flash (Up to 2 GB)
- Access to Debian Standard Repositories
- Able to run C/C++, Python, Java, LUA apps

Key Features:
- IP67 Enclosure
- CAN (up to 4 interfaces)
- Kline (up to 2 interfaces)
- Global LTE Cat 4
- TPM 2.0
- Programmable 9 Axis sensor:
  - Accelerometer/Gyroscope/Magnetometer
- Dead reckoning (Optional)
- Ethernet 10/100Mbps
- Audio CODEC
- MicroSD
- Micro SIM and MFF2 SIM available

Wireless Interfaces:
- Concurrent reception of up to 3 GNSS
  - GPS, GLONASS, GALILEO, BeiDou
  - Dead Reckoning options
- CELLULAR COMMUNICATIONS
  - UMTS/HSPA+
  - LTE Cat 4 / 3G / 2G
  - WiFi 802.11 a/b/g/n/ac (Internal antenna)
  - BT 4.2 (Internal antenna)
**TECHNICAL SPECIFICATIONS**

- **CPU**
  - ARM Cortex A8 at 800MHz clock speed.
  - Linux Kernel 4.19.94
  - Debian 10 File System
  - NAND FLASH 1GB (Up to 2 GB)
  - DDR3 512MB (Up to 1 GB)
  - MicroSD card holder for additional storage.

- **GNSS**
  - Receiver: GPS/GLONASS/QZSS/BeiDou.
  - 72-channel* continuous tracking receiver.
  - GALILEO E1B/C ready.*
  - SBAS: WAAS, EGNOS, MSAS, GAGAN.
  - Update Rate: 10Hz.
  - Accuracy: 2 meters CEP.
  - Signal Acquisition:
    - Cold Start: 26 s.
    - Hot Start: < 1.5 s.
  - Signal Reacquisition: < 1 s.
  - Active Antenna Power Supply: +3.0V @ 34mA.
  * Features availability depending on version.

- **Rugged enclosure**
  - Environmental protection to IP67 standard. (full protection against dust and water).
  - Dimension: L=149 x W=135 x H=58 mm)
  - Weight: 385g
  - Material: Glass reinforced polyester.
  - System connectors: TE 776163-1 (35 pins)
  - MicroSIM
  - MicroSD

- **Interfaces**
  - Up to 4 CAN bus
    - 2 CAN bus supporting full speed 1Mbps CAN 2.0B.
    - 2 CAN FD supporting 8Mbps.
  - Up to 2 K-line bus.
  - Integrated sensors.
    - Programmable 9 axis sensor, accelerometer, gyroscope and magnetometer.
  - TPM 2.0
  - 10 configurable digital input/outputs:
    - 50V max inputs (logic low <1.5V, high >3V).
    - All inputs function as wake signals for low power modes.
    - All inputs can be used as counters (odometer). 32bit, 3Khz max.
    - 8 open collector outputs (200mA each).
    - 2 high-side switches to Vin for output (1A each).
    - Short-circuit protection for all outputs.
  - 4 analog inputs:
    - 12 bit resolution, 1% accuracy.
    - 1 Share digital I/O pins and 3 dedicated pins.
    - 0-5.12V (5mV per bit) or 0-30.72V (30mV per bit) configurable by SW.
    - Maxim 1wire
    - microSD card holder.
    - USB Host 2.0.
  - 3 external RS232 ports. 6 pins configurable by SW as follows:
    - 3 x (TX/RX) or
    - 1 x (TX/RX) & 1 x (TX/RX/CTS/RTS) or
    - 1 x (TX/RX/CTS/RTS/DTD/DCD/DTR)
  - One RS485 port.
  - Ethernet 10/100 BaseTX
  - Vout 5V power output (500 mA max).
  - FAKRA antenna connectors.
  - 4 LEDs for status indication.
  - Audio CODEC for external microphone and speaker.
  * Availability of features depends on models.

- **POWER SUPPLY**
  - Nominal range of 9 V to 36 V
  - Typical consumption at 24V:
    - OFF: 0.335 mA
    - Standby: 9.88 mA
    - RUN: 47 mA
    - RUN + GSM + GPS: 73 mA

- **Batteries**
  - Back-up when there is no power supply available.
    - Standard backup battery for RTC. Duration 10 years.
    - Optional rechargeable Li-Ion 3.7V.
    - Inserted via rear battery cover.

- **Temperature**
  - Safety Purposes Operating Temperature Range without Li-ion Battery:
    - -40 °C to 65 °C
  - Safety Purposes Operating Temperature Range with Li-ion Battery:
    - -40 °C to 55 °C (from external power supply)
  - Operating Temperature Range with Li-ion Battery:
    - 0 °C to 45 °C (battery will be charged if external power available)
  * Industrial temperature range components -40 °C to 85 °C

- **LTE Cat 4 / 3G / 2G (Option)**
  - LTE TDD B38/B39/B40/B41
  - GSM 850/900/1800/1900MHz
  - LTE-FDD: Max 150Mbps (DL), Max 50Mbps (UL)
  - LTE-TDD: Max 130Mbps (DL), Max 30Mbps (UL)

- **Development Kit**
  Includes: Developer’s board owa4X, power supply cables, cables for interfaces, antennas, web access to: cross compiler, API’s, libraries, manuals and application notes.

- **Options**
  See DESI-BOK 100 9001 for product variants and options.