

# owa5X



## Wireless Embedded Computer

### owa5X Core:

- i.MX8 M Plus Quad A53 64 bit
- Core frequency 1.6GHz
- Neural Processing Unit (NPU) (Optional) up to 2.3 TOPS
- GPU (Optional)
  - OpenVG 1.1, G2D, OpenGL ES 3.1 Vulkan®, OpenCL™ 1.2 FP
- 2GB LPDDR4 (Up to 4 GB)
- 1GB NAND Flash SLC
- 8GB EMMC Flash (Up to 32 GB)
- Debian Distribution File System or Yocto Project File System
- Access to Debian Standard Repositories
- Able to run C, C++, Java, Python applications
- Secure: HAB (High Assurance Boot) and TPM 2.0

### Key features

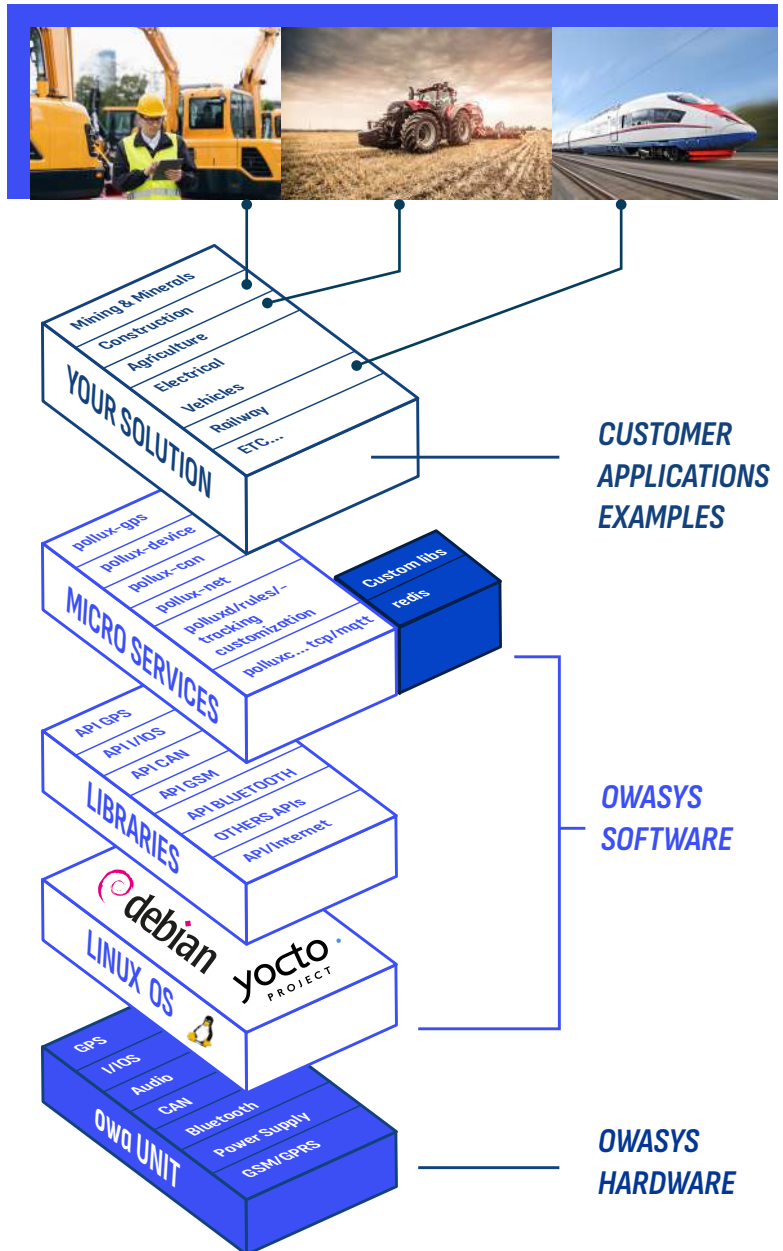
- HAB - High Assurance Boot
- TPM 2.0
- IP67/ IP6K9K Enclosure
- Global LTE Cat 4
- CAN (up to 4 interfaces)
- Programable 6 Axis sensor: Accelerometer/Gyroscope
- Optional Dead reckoning
- 10/100BASE-T1 IEEE802.3bw (SPE) or 10/100BASE-TX
- MicroSD
- miniSIM and MFF2 SIM available

### Wireless Interfaces:

- Concurrent reception of up to 3 GNSS, GPS, GLONASS, GALILEO, BeiDou
- Dead Reckoning options
- Global LTE Cat 4 with 3G/2G fallback
- WiFi 802.11ac
- Simultaneous access point (AP) & station (STA)
- Dual mode Bluetooth 5.2
- Bluetooth BR/EDR and Low Energy

### Mechanics

- IP67 / IP6K9K
- L=154 x W=188 x H=62 mm



CUSTOMER APPLICATIONS EXAMPLES

OWASYS SOFTWARE

OWASYS HARDWARE

[www.owasys.com](http://www.owasys.com)

Time to wireless!!

BOK 000 5004-G\_owa5X Datasheet

**owasys**<sup>®</sup>  
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### CPU

- i.MX8 M Plus Quad A53 64 bit at 1.6 GHz clock speed.
- Debian Distribution or Yocto Project\*
- Neural Processing Unit (NPU) up to 2.3 TOPS (optional)
- GPU (optional)
  - OpenVG 1.1, G2D, OpenGL® ES 3.1 Vulkan®, OpenCL™ 1.2 FP
- NAND FLASH 1 GByte.
- EMMC FLASH 8 GByte (options up to 32 GBytes)
- LPDDR4 2GBytes (options up to 4 GBytes)
- MicroSD card holder for additional storage.

\* For more information about OS and kernel, visit our Developers' zone or contact your Owasys Account Manager.

### LTE Cat 4 / 3G / 2G

- LTE FDD B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28
- LTE TDD B38/B39/B40/B41
- UMTS B1/B2/B4/B5/B6/B8/B19
- GSM 850/900/1800/1900MHz
- LTE-FDD: Max 150 Mbps (DL), Max 50 Mbps (UL)
- LTE-TDD: Max 130 Mbps (DL), Max 30 Mbps (UL)

### GNSS

Concurrent receiver: GPS/GLONASS/QZSS/BeiDou.

- 72-channel\* continuous tracking receiver.
- GALILEO E1B/C ready.\*
- SBAS: WAAS, EGNOS, MSAS, GAGAN.
- Update Rate: up to 10 Hz.
- Accuracy: 2.5 meters CEP.
- Signal Acquisition:
  - Cold Start: 26 s.
  - Hot Start: < 1.5 s.
- Active Antenna Power Supply: +3 V @ 34 mA..

\* Features availability depending on version

### Interfaces

- Up to 4 CAN-FD SIC bus
- Integrated sensors.
  - Programmable 6 axis sensor, accelerometer and gyroscope.
- TPM 2.0
- 12 configurable digital input/outputs:
  - 50V max inputs (logic low < 1.5 V, high > 3 V).
  - All inputs function as wake signals for low power modes.
  - All inputs can be used as counters (odometer). 32 bit, 3 kHz max.
  - 10 open collector outputs (200 mA each).
  - 2 high-side switches to Vin for output (1 A 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.
  - 0-5,12 V (5 mV per bit) or 0-30,72 V (30 mV per bit) configurable by SW
- Maxim 1-wire
- microSD card holder
- 1 USB Host 3.0, current limit 900 mA.
- 2 external RS232 ports:
  - 1 x (TX/RX/CTS/RTS)
  - 1 x (TX/RX) or RS485 (factory option)
- 802.3bw 10/100BASE-T1 (SPE) or 802.3u 10/100BASE-TX
- Vout 5 V power output (500 mA max).
- FAKRA antenna connectors
- 4 LEDs for status indication

\* Availability of features depends on models

### Power Supply:

- 24 V (9 V to 36 V) DC input.
- Typical consumption at 24 V

OFF	0.98 mA
Standby	12.36 mA
RUN	51.95 mA
RUN + GSM + GPS	92.60 mA

### Batteries

- Back-up when there is no power supply available.
- Standard backup battery for RTC. Duration 10 years.
- Optional rechargeable Li-Ion 3.6V. Inserted via battery cover.

### Temperature

Safety Purposes Operating Temperature Range without Li-ion Battery	-40 °C to +70 °C
Safety Purposes Operating Temperature Range with Li-ion Battery	-40 °C to +55 °C (from external power supply) -20 °C to +53 °C (battery can power the unit) 0 °C to +45 °C (battery will be charged if external power available)

### Rugged enclosure

- Environmental protection to IP6K9K standard. (full protection against dust and water).
- Dimension: L=154 x W=188 x H=62 mm)
- Weight: 768 gr
- Material: Glass reinforced polyester.
- System connectors: TE 776163-1 (35 pins)
- miniSIM (2FF)
- MicroSD

### Development Kit

Includes: Developer's board owa5X, power supply cables, cables for interfaces, antennas, web access to: cross compiler, APIs, libraries, manuals and application notes.

### Options

See DESI-BOK 000 5001 for product variants and options.

