

**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/GALILEO/QZSS/BeiDou.
- 72-channel continuous tracking receiver.
- SBAS: WAAS, EGNOS, MSAS, GAGAN.
- Update Rate: up to 10Hz.
- Accuracy: 2 meters CEP.
- Signal Acquisition:
 - Cold Start: 26 s.
 - Hot Start: < 1.5 s.
- Signal Reacquisition: < 1 s.
- Active Antenna Power Supply: +3.3V
- * Features availability depending on version.*

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
- Optional 3 extra digital inputs in expansion connector
- 4 analog inputs:
 - 12 bit resolution, 1% accuracy.
 - Multiplexed with digital I/O pins.
 - 0-5.12V (5mV per bit) or 0-30.72V (30mV per bit) configurable by SW
- Maxim 1-Wire.
- 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)
- Up to two RS485 port.
- Ethernet 10/100Base-TX
- Vout 5V power output (500mA 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 9V to 48V.
- 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.

Safety Purposes Operating Temperature Range without Li-ion Battery	-40 °C to +75 °C*
Safety Purposes Operating Temperature Range with Li-ion Battery	-40 °C to +55 °C (from external power supply) -20 °C to +55 °C (battery can power the unit) 0 °C to +45 °C (battery will be charged if external power available)

** Industrial temperature range components -40 °C to 85 °C*

• LTE Cat 1 with UMTS/HSPA and GSM fallback

- DL 10.2Mbps, UL 5.2Mbps
- GPRS Class B, Class 12 (4&4).
- No standard voice calls support, calls must be done using a SIP client.
- owa450(P):
 - LTE Cat 1 bands: 1, 2, 3, 4, 5, 7, 8, 12, 13, 18, 19, 20, 26, 28, 66
 - UMTS/HSPA+ bands: 1, 2, 3, 4, 5, 6, 8, 19
 - GSM/GPRS/EDGE: Quad band

Enclosure

- Environmental protection to IP40 standard. (protection against dust).
- Dimension: L=150 x W=94 x H=32 mm)
- Weight: 254g
- Material: PC+ABS.
- System connectors: Molex Microfit 24 way 43045-2400
- MicroSIM
- MicroSD
- Ethernet RJ45 or M12

Development Kit

Includes: Developer's board owa450, power supply cables, cables for interfaces, speaker, microphone, antennas, web access to: cross compiler, API, libraries, manuals and application notes.

Options

See DESI-BOK 100 9108 for product variants and options

