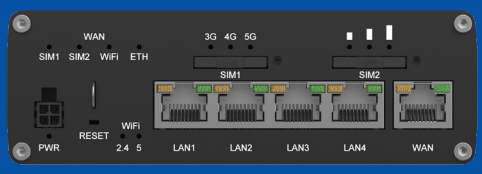
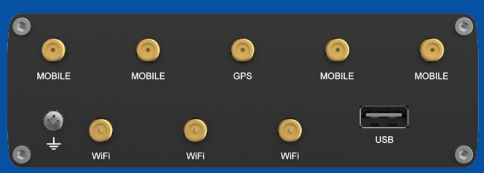
Datasheet ON2500

- Compact 5G/LTE communication unit for vehicles, machines and installations
- Secure transmission of user data (IPsec with certificates)
- Secure, permanent connection to the central management system (configuration management)
- Zero-touch deployment from the factory
- High data rates with 5G, LTE Cat 20 and Wi-Fi 6 (802.11ax)
- Secure logical separation of internal and external data connections
- Automotive approval (E-mark / ECE R118) for reliable operation in vehicles
- Very fast boot time
- Modern software architecture – ideal for mobile cloud applications
- In-house developed software based on Linux®







Applications

- Wi-Fi for passengers, staff and devices
- Status monitoring and data logging
- Remote maintenance
- Connection of controllers (PLC)
- Video surveillance
- Information and display systems
- Payment and ticketing systems
- IoT and M2M connectivity

Features

- 5G Sub-6 (SA/NSA) + LTE Cat 20
- Wi-Fi 6 (802.11ax), dual-band, up to 512 clients
- Automotive approval E-mark / ECE R118
- Dual SIM + eSIM
- 5x Gigabit Ethernet
- Multi-GNSS and digital I/O
- VLAN, VPN/IPsec and firewall

Performance

- Dual-core ARM Cortex-A53, 1.3 GHz
- 5G up to 3.4 Gbps DL / LTE Cat 20 up to 2.0 Gbps DL
- Wi-Fi 6 up to 2.4 Gbps
- 5x Gigabit Ethernet ports

Technical data ON2500

Dimensions / weight

Dimensions (W x H x D): 130,4 x 42,6 x 103,4 mm
Weight: 452 g
Housing: anodised aluminium housing

Environmental conditions

Operating temperature: –40 to +75 °C
Operating humidity: 10–90 % non-condensing
Degree of protection: IP30

Mobile communications

MediaTek 5G/LTE/UMTS module
5G Sub-6GHz SA/NSA: 2,4/3,4 Gbps DL (4x4 MIMO), 550/900 Mbps UL (2x2)
4G – LTE Cat 20: 2,0 Gbps DL, 210 Mbps UL
3G: 42 Mbps DL, 5,76 Mbps UL
5G-NR bands: n1, n3, n5, n7, n8, n20, n28, n38, n40, n41, n75, n76, n77, n78
4G LTE FDD: B1, B3, B5, B7, B8, B20, B28, B32
4G LTE TDD: B38, B40, B41, B42, B43
3G bands: B1, B5, B8
SIM: 2x Mini SIM (2FF), 1,8V/3V, external SIM holders, eSIM optional
Antenna connectors: 4x SMA (mobile)

Wi-Fi

IEEE 802.11 b/g/n/ac/ax (WiFi 6), dual-band, MU-MIMO
Data rate: up to 2402 Mbps (5 GHz) / 576 Mbps (2.4 GHz)
Clients: up to 512 simultaneous connections
Antenna connectors: 3x RP-SMA

Ethernet

Ports: 5x Gigabit RJ45 (1x WAN, 4x LAN), 10/100/1000 Mbps
Standard: IEEE 802.3 / 802.3u / 802.3az, auto MDI/MDIX

GNSS

Constellations: GPS, GLONASS, BeiDou, Galileo, QZSS
Protocols: NMEA 0183, NTRIP support
Antenna connector: 1x SMA

USB

Anschluss: 1x USB 2.0 host (type A)

Digital I/O

Input: 1x digital input, 0–6 VDC = low, 8–50 VDC = high
Output: 1x digital output, open collector, max. 50 VDC / 300 mA

System

CPU: MediaTek dual-core ARM Cortex-A53, 1.3 GHz
Memory: 1 GB RAM, 8 GB flash

Power supply

Input voltage: 9–50 VDC, reverse polarity and overvoltage protection
Power consumption: < 4,5 W (Idle) / < 13,5 W (max.)
Connector: 4-pin circular connector
PoE (optional, passive): via LAN1, 9–30 VDC (from HW revision 0003)

Mounting

DIN rail, wall or flat mounting (additional kit required)

Certifications

CE: 2014/53/EU (RED), 2011/65/EU (RoHS)
Automotive: E-mark E2410R06/036421*00 (UN ECE Regulation No. 10, Amendment 06, Supplement 03)
ECE-R118: burning behaviour of materials used in vehicle interiors, confirmed by TÜV SÜD Auto Service GmbH
3GPP: Release 16

onway ag | Stauffacherstrasse 16 | 8004 Zurich | Switzerland
Phone +41 55 214 18 30 | sales@onway.ch | www.onway.ch

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