



# Railway Router

Efficient **hybrid communication module** with a virtualization platform dedicated for Transportation industry

**NEW GENERATION**



## Integrated Communication Module (ICM) EICM

EN 50155, EN 50121-3-2, EN 50124-1, EN 50125-1, EN 61373, EN 45545-2, TSI LOC&PAS, CLC/TS 50701



Passenger Information System



Onboard WiFi for Passengers



Online Diagnostics



Multimedia entertainment



Ethernet 2.5 GbE



Seat Reservation System



Video Surveillance

## Key Features:

- Intel 11th Gen i3/i5/i7 Processor combined, up to 64 GB of RAM
- Support for up to **8: 5G/LTE modems**
- Support for up to **16 SIM cards**
- 2 bays for 2.5" SATA SSD drives
- Support for **WiFi 7**
- USB-C HDMI-enabled
- 2.5GbE Ethernet



Manufactured in Poland

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# SPECIFICATION

## 0÷5x Mobile / Cellular 5G (optional)

**5G** | n1, n2, n3, n5, n7, n8, n20, n25, n28, n30, n38, n40, n41, n48, n66, n71, n75, n77, n78, n79  
NSA default off - n12, n13, n14, n18, n26, n29, n76  
SA default off - n12, n13, n14, n18, n26, n29, n76

**4G** | B1, B2(B25), B3, B4(B66), B26(B5, B18, B19), B7, B8, B12(B17), B13, B14, B20, B28, B29(DL), B30, B32(DL), B34, B38, B39, B40, B41, B42, B43, B46(LAA), B48(CBRS), B66, B71

4G and 5G Rel 16 4G Cat. 20  
5G sub-6 FDD and TDD, SA and NSA operations  
5G core network Opt. 3a/3x and Opt. 2  
4G 7xCA up to 20 layers DL/ 2xCA UL, 256-QAM DL/UL  
3G: HSPA+ Rel 8 (42 DL/11 UL Mbps)  
4x4 MIMO DL or 2x2 MIMO  
Region: EMEA, NA

**Connector** | 4x QMA (female) per modem  
**SIM** | 4x MiniSIM-2FF per modem

## 0÷8x Mobile / Cellular 4G LTE (optional)

**4G** | B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B38, B39, B40, B41, B42, B43, 48(CBRS), B66, B71

LTE Cat. 12/13  
DL CA up to 3xCA  
2x2 MIMO  
Region: EMEA, NA

**Connector** | 2x QMA (female) per modem  
**SIM** | 2x MiniSIM-2FF per modem

## 0÷1 WiFi 7 / WLAN

**WiFi 7 IEEE 802.11be** | Frequency 2.4, 5 GHz  
MIMO 4x4 or 2x2 + 2x2  
Bandwidth 20 ÷ 320MHz  
Client or Access Piont (up to 512 Clients)  
Datarate 11Gbps+

**Connector** | 4x QMA

## 0÷1 WiFi 5 / WLAN

**WiFi 5 IEEE 802.11ac (Wave 2)**  
Frequency 4.9÷7.125 GHz  
MIMO 2x2  
Client or Access Piont  
Download speed 300Mbps (N), 867 Mbps (AC)

**Connector** | 2x QMA (female)

## Positioning

**GNSS Receiver** | BeiDou, Galileo, GLONASS, GPS/QZSS  
Data server with JSON or NMEA data stream  
Support for passive and active antennas

**Connector** | 1x QMA (female)

## 6x Ethernet

**2x Gigabit Ethernet**  
**4x Gigabit Ethernet**

**Standards**  
10/100/1000/2500 Mbps  
10/100/1000 Mbps

**Connector** | 8x M12X-Code 8 pin (female)

## 1x USB

**USB 3.2**  
**Connector** | Type C (female)  
DP (serwis)

## 1x CAN

**Connector** | D-Sub 25 pin (female)

## 1x DIO

2x IN, 4x OUT  
**Connector** | D-Sub 25 pin (female)

## 1x RS-485

**Connector** | D-Sub 25 pin (female)

## Core (optional)

Intel Gen11 Core i3-1115GRE  
Intel Gen11 Corei5-1145GRE  
Intel Gen11 Corei7-1185GRE

## RAM (optional)

**DDR4** | 16GB or 32GB or 64GB

## Storage

**Internat Storage** | 2x M.2 PCIe (NVME) SSD 2280 (standard 1x M.2 SSD 128GB)

**External Storage** | 2x 2.5" SATA SSD drives (up to 9.5mm thick)

## Enviroment

**Operating Temperature**  
-40 ÷ 70°C

**Storage Temperature**  
-40 ÷ 85°C

**Standard**  
EN 50155 OT4 Class

**Ingress Protection Level**  
IP65

## Physical Specification

**Dimensions**  
287.5 mm x 246 mm x 128 mm (± 2 mm) or  
324 mm x 246 mm x 128 mm (± 2 mm)  
(with mounting brackets)

**Spacing of mounting holes**  
3x 50 mm x 218 mm or  
2x 80 mm x 304 mm (with mounting brackets)

**Weight** | 6 kg (± 0.5 kg)

## Power Supply

**Input Voltage** | 16.8 ÷ 36 V DC

**Rated Voltages** | 24 V DC

**Max. power Consumption** | 24 W

**Connector** | M12 S-Code 5 pin (men)

## Software

**General** | OTA update, HTTP(S), API RPC & WebGUI  
**Remote Management** | SSH, HTTP/HTTPS  
**Cellular Networking** | Multi-SIM support, multi-APN support, signal strength monitoring  
**Wireless LAN** | Access Point, Client Mode, Encryption: Open, WEP, WPA1/2/3-Personal, WPA1/2/3-Enterprise. AP Mode: Multi-SSIDs, Encryption: Open WPA1/2/3-Personal, WPA1/2/3-Enterprise, Hide SSID broadcasting, Isolate Clients, Accounting  
**Link Management** | Link prioritization, load balancing, multipath-TCP  
**Services** | DHCP Client/Server, DNS Caching Server, NTP Client/Server, DynDNS, SSH Server, HTTP/HTTPS Server, IPv6 for WAN  
**Routing** | VRRP, PPPoE  
**VPN** | OpenVPN, IPsec (IKEv1 and IKEv2), PPTP, GRE, L2TP  
**Firewall** | Stateful firewall, connection tracking, NAT, NAPT, masquerading, bridge filtering, Address translation (based on SRC and DST ports)  
**Troubleshooting** | Logging, Ping, Traceroute, Tcpdump  
**GNSS** | GPSD Server with JSON stream

## Compliance

EN 50155, EN 50121-3-2, EN 50124-1, EN 50125-1, EN 61373, EN 45545-2, TSI LOC&PAS  
CE (EMC, RED, RoHS)