Celer

Onboard automotive router

Introduction

The **Celer-series** is Teldat's next generation multi-service communications platform for vehicles. It provides 5G/4G Wi-Fi 6 broadband, secure connectivity with Teldat's next generation firewall, artificial intelligence applications with Google's Coral and eSIM for remote SIM provisioning via Teldat's SENDA (Service for ENhanced Deployment & Administration) service.

Product Highlights

- 5G/4G with Wi-Fi 6
- be.OT: Next Generation FireWall IDS/IPS by Teldat
- Remote SIM provisioning and SENDA service
- Artilificial Inteligence Google Coral
- GUI interface for easy installation and maintenanc
- GNSS Tracking Services
- Multi-gigabit Ethernet

Interfaces

Cellular module	5G o 4G optionally
Wi-Fi module	Wi-Fi 6 802.11ax
BT Interface	Bluetooth 5.1
Location system	GPS embedded
Digital I/O	Yes 1 PIN
Ethernet interface	2 x 2.5 GbE RJ45

Competitive Advantage

Dedicated cybersecurity embedded	IDS/IPS with +800 firms, webfiltering, NGFW and trafic analycer with multiple configurations all embedded in the router.
Best performance WWAN	5G or optionally 4G with Wi-Fi 6 802.11ax/ac/b/g/n in dual band AP and client modes.
Bluetooth 5.1 Connectivity	Bluetooth connectivity increases the networks scalability of the router.
Artificial Intelligence applications	With the Google Coral chip the Celer has the state-of-art AI in-vehicule applications and its future updates.

Key Features

- **4G or 5G configurable cellular module** Availability of chose betwen Celer-Series with the 5G modem (the best performance solution) and the Celer-Series 4G which is the cost effective one.

- **Bluetooth 5.1 low consumption** Multi service BT 5.1 to configure the router and various functions such as connection of sensors or on-board accessories.

- **AI Applications** Via TPU (Tensor Processing Unit) embedded Google Coral for dedicated applications such as video processing (Computer Vision), predictive maintenance and many other AI applications.

- **dual-SIM slot with eSIM** Dual SIM for each port to increase connection availability, using any telecommunications operator as a backup for the others in case of connection loss in a single module and eSIM availability to zero-touch provisioning.

- **Embedded GPS with Teldat's Mobility applications** Ideal for fleet management or telemarketing applications. The equipment has GPS accessible via TCP port that provides real-time geolocation information in NMEA standard.

- **Wi-Fi 6 (802.11a/b/g/n/ac)** Multi user 2x2 MiMo dual band Wi-Fi that seamless integrates with HotSpot and WebFilter applications, creating a full solution for on-board Internet connectivity.

- **Cybersecurity embedded** Teldat's Security Solutions of Operational Technology to on-board systems.

- **Optimised hardware design for on-board environment** Extended temperature range (-25ºC to 70ºC). Anti-vibration design. 12-24 VDC for connection to batteries with optimising battery consumption capabilities.

- **Power supply protection (increase MTBF)** Power supply protection and ignition detection for delayed shutdown. Minimisation of failures due to unstable power supply. Temperature sensor for automatic shutdown.

HARDWARE TECHNICAL FEATURES

WWAN	**Ethernet**
5G-NR and LTE/HSPA+ or 4G module (external SMA antennas)	2 x 2.5 GbE LAN/WAN
Wi-Fi: dual MiMo 2x2 radio in 2.4 and 5 GHz with SMA-RP connectors	Duplex support
Bluetooth: low energy 5.1 single SMA antenna connector	RJ45
SIM	**Certifications**
Dual-SIM with one physical slot-tray and one eSIM per modem.	Regulatory: e-Mark, CE(EU), FCC, RED
SENDA service (optional)	Materials: RoHS, REACH
	EN 60068-2, EN60950-1,EN55022, EN55024
Dimensions and weight	**Envirnomental**
145 x 150 x 55 mm (Large/width/height)	Ingress Protection: IP40 Solid particle protection > 1 mm
Approximate weight: 1.5 Kg	Operating temperature: -25 to + 70 ºC
Flexible installation with DIN carril optionally	Storage temperature: min. -40 ºC max. +75 ºC

SOFTWARE TECHNICAL FEATURES

Management	**Security**
Interface: User friendly GUI, CLI configuration and storage in a plain text	IPSec in transport and tunnel mode, DMVPN, wireguard, OpenVPN and Pulsecure
Cloud based Network Management with auto provision functionality.	Certificates: CSR, SCEP, X.509v3, PKIX, LDAP revocation
Certificates: RADIUS and TACACS+ compatible AAA support	NGFW with additional license.
IP Services and Protocols	**Quality of Services**
DHCP, DNS, SFTP, and SHH server and client NTP, LDAP, Syslog	Classification, marking, BW management, BW prioritisation and limitation
ARP, ARP Proxy, MTU discovery, NAT, ECMP, BFD RIP, OSPF, BGP	
Multicast: IGMP (v1 to 3), PIM-SM, MSDP, MLDv2	
Wi-Fi specific functions	
HotSpot Gateway functionality to support HotSpot services	
WLAN controller functionality for Teldat on-board APs	

ADDITIONAL TECHNICAL FEATURES

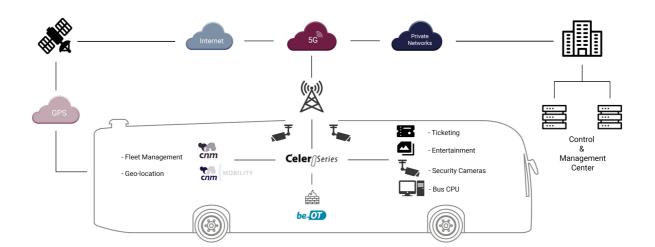|	
TPU Google Coral (*Roadmap)	**SENDA (*Roadmap)**
High-speed inferencing for machine learning (ML) models.	Service for ENhanced Deployment & Administration
4 TOPS: capable of performing 4 trillion operations per second	Selected edge devices
	Enhanced deployment (universal zero-touch provisioning)
Bundle CNM & CNM Mobility (*Roadmap)	
Global centralized device management tool	
Info in real time of the vehicles	
Coverage, signal signal strength, bandwidth or throughput among others.	

Scenarios

- Fleet Management
- Geo-location

Celer *Series*

- Ticketing
- Entertainment
- Security Cameras
- Bus CPU

Control
&
Management
Center

Internet 5G Private Networks GPS