

### Introduction

The H2-Automotive+ is Teldat's new multiservice communications platform for vehicles. It provides 4G/LTE/LTE-A broadband and Wi-Fi with redundancy and aggregation options, advanced network security mechanisms, and an extended operating temperature range.

Based on a ruggedized hardware design, the router is both vibration and dust resistant and features power surge protection, specific mobile software, dynamic configurations (based on location and communications quality data), and has a delayed power off feature. Furthermore, it provides seamless integration with any third party management tool or hotspot platform.



### Product Highlights

- ▶ Multi-service communications platform
- ▶ Concurrent multiple WANs (aggregation&balancing)
- ▶ Power supply protection (enhanced MTBF)
- ▶ Geo-fencing: GPS-based dynamic configuration
- ▶ Standards-based service isolation
- ▶ Battery-saving feature: remote/managed power off
- ▶ Passengers Wi-Fi, CCTV, Management, ...

### Product Description

The H2-Automotive+ is the ideal communications platform for all types of onboard services. It's designed for critical high availability services thanks to its quadruple LTE module, with advanced monitoring and bandwidth aggregation, redundancy options and secure state-of-art communications.

Its top of the range processor guarantees compatibility with broadband scenarios and the double WiFi module is ideal for environments with high passenger traffic.

For onboard services, Wi-Fi can be used as AP or client depending on positioning. Moreover, delayed power off allows for automatic updating at depots.

Management based on standards and the Teldat ecosystem management tools (Colibri NetManager and HotSpot) simplify mass deployments and turnkey solutions management.

### Competitive Advantage

Concurrent multiple WWAN interfaces	Up to four simultaneous LTE and/or Wi-Fi access links with bandwidth aggregation and load balancing for maximum availability and application continuity.
Ruggedized hardware	Designed and exhaustively tested to withstand vibrations and power surges. Minimal maintenance costs and service outages. Extended operating temperature range.
Service and GPS-based automation	Communication monitoring (availability and quality) and GPS location tracking for per-service/link dynamic routing.
Professional Network Management	A Cloud based Network Management allow the automatic configuration deployment for the complete bus fleet.

## HARDWARE TECHNICAL FEATURES

### Up to 4 simultaneous WWAN interfaces (LTE/HSPA+/HSPA/EDGE)

Up to 4 built-in hardware modules with HSPA+ or LTE/HSPA+ technologies

Four SIM slot allow Dual SIM applications

2 external antennas with a SMA connector per module

### Up to 2 Wi-Fi interfaces (802.11a/b/g/n/ac)

802.11a/b/g/n/ac selectable band (2.4/5 GHz) with AP and client mode

2x2 MIMO external antennas (SMA-RP connector) per module

WPA, WPA2 security. WMM QoS. Multi SSID.

### Dimensions and weight

Length x Width x Height: 237 x 180 x 59 mm

Approximate weight: 2.5 Kg

Flexible installation: wall, ceiling and horizontal

### Ethernet Interfaces

4 port switch plus optional WAN port (RJ-45F connector)

802.3i (10BaseT), 802.3u (100BaseT), 802.3ab (1000BaseT)

Supports duplex, IEEE 802.3u link-speed auto-negotiation, VLAN and 802.1x

### GPS Interface

Active GPS antenna with FME connector and NMEA protocol

Acquisition time (Hot start 1sec, Warm start 29sec. Cold start: 32sec)

Precision (Horizontal < 4m (50%); Rate

### Environmental specifications

Temperature: -25°C to 70 °C

Relative humidity: 5% to 95%

Shock and vibration isolation (EN 60068-2)

## SOFTWARE TECHNICAL FEATURES

### Specific Wi-Fi functions

Hotspot gateway function to support hotspot services

WLAN controller function for Teldat's onboard APs

Location-based dynamic function (AP or client)

### IPv6 support

DHCPv6, IPv6 Addressing, Static routing, Access list,

IPv6 Tunnel over IPv4, IPv4 Tunnel over IPv6

### Security

Certificates: CSR, SCEP, X.509v3, PKIX, LDAP revocation

Static and dynamic access lists and session-based firewall

DoS/DDoS attack detection

### Quality of Service

Classification, marking, bandwidth management and limiting/prioritizing

Up to 32 classes and 16 queues per interface

Strict policies (PQ), low latency (LLQ), by weight/class (WFQ, CBWFQ)

### Management

CLI configuration and storing in plain text file

Assignment of user/group licenses

RADIUS and TACACS+ compatible AAA support

### IP Protocol (IPv4)

ARP, ARP Proxy, MTU discovery, NAT, ECMP, BFD

Static and dynamic routing: RIP, OSPF, BGP, policy-based

Virtual Router Forwarding (Multi-VRF)

### VPN-Security

IPSec support in transparent and tunnel mode (including DMVPNs)

Pre-shared authentication, RSA, Certificates, MD5, SHA-1, SHA-2

Encryption: DES (56 bits), 3DES (168 bits), AES (128, 192 & 256 bits)

### IP Services

Telnet, DHCP, DNS, FTP, SFTP and SSH server and client

NTP, LDAP, Syslog, SCP Client. TFTP Server

DHCP Relay, dynDNS.

### Specific WWAN functions

Automatic hand-over (passive and active probe-based detection)

Advanced link monitoring (packet error, latency, jitter)

Up to two SIM cards can associated to the hand-over mechanism

### Management (2)

Support for Netflow, RMON V5 & V9, SNMPv1, v2c & v3, Syslog

Manageable through SMS

Wireshark-compatible remote traffic capture

## ADDITIONAL TECHNICAL FEATURES

### Console interface and asynchronous serial port connector

DB-9 with propriator pin (including adapter)

RS232, N81

Default speed 9600 bps. Maximum speed 115200 bps

### VoIP

Protocols: SIP (UDP, TCP, TLS) with SIP and GSM Gateway terminal support

GSM media gateway for backup calls over GSM network

Survival services: calls, hold, transfer

### Traffic balance and aggregation of up to 4 x the bandwidth

Per-session multipath (TCP/IP)

Intelligent IPSec-based load balancing aggregation mechanism

Use of DMVPNs and dynamic routing for application continuity

### Onboard environment ruggedness and power supply protection

ISO7637-2 power protection for direct battery power supply

Certificates: EN 60068-2, EN60950-1, EN 55022, EN 55024, ISO7637-2

Delayed power off (ignition-sensing activation)

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