

# AirWan

## Industrial cellular router (2G/3G/4G) + WiFi (802.11n)



- 2G/3G/4G router + positioning (GNSS)
- WiFi access point, client or repeater modes
- Mesh function to wirelessly interconnect APs
- Advanced security (Firewall, VPN, radius...)
- Automatic Cellular <> WiFi switching
- High availability : 2 Ethernet ports, wide range power supply input (+7 to +48 VDC), PoE+
- Compact case, wall or DIN Rail mounting
- Centralized administration and configurations Management



## Introduction

AirWan is an "accessible" cellular router (2G/3G/4G LTE) equipped with a dual-band WiFi interface (2.4 / 5 GHz), a GNSS interface (GPS, Galileo, GLONASS, Beidou), 1 Giga Ethernet and 1 Fast Ethernet ports. It is designed for industrial applications (industry 4.0) and mobility (buses, vehicles ...).

**Mobility** : AirWan is equipped with high-speed wireless technologies for transmitting data to and from vehicles. For bus applications, AirWan makes it possible to pool all data streams (SAE, ticketing, PIS, CCTV...) on a single router. Its WiFi roaming capabilities (<30 ms) ensure continuous data transmission as buses move to the depot. Its automatic switching capabilities between WiFi and 4G ensure service continuity when they go into operation. AirWan allows vehicles tracking with its GNSS feature. It is also rugged (shock and vibration proof), E-marked ECE R10 and maintenance-free.

**Administration and product monitoring** : can be achieved directly from a web browser or from WaveManager, the centralized administration software provided by ACKSYS. Besides, its advanced routing and filtering functions make it easy to deploy large fleets of vehicles.

## Technical Characteristics overview

<b>Ethernet Interface</b>	1 port Gigabit Ethernet 10/100/1000 and 1 port Fast Ethernet 10/100 auto-sensing, Base TX, auto MDI/MDIX, RJ45 Ethernet interface
<b>Cellular Interfaces + Navigation</b>	1 LTE radio category 4, 3GPP E-UTRA release 11, MIMO DL with Rx diversity, Single SIM LTE, UMTS/HSPA+, GSM/GPRS/EDGE (worldwide) Multi-constellation GNSS (GPS, Galileo, GLONASS, Beidou). Requires an active antenna.
<b>Cellular radio data rate</b>	150 Mbps ↓ & 50 Mbps ↑ (maximum radio data rate)
<b>Cellular operating frequencies</b>	LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 LTE-TDD: B38/B39/B40/B41 WCDMA: B1/B2/B4/B5/B6/B8/B19 GSM: B2/B3/B5/B8
<b>WiFi Interface</b>	1 radio IEEE 802.11a/b/g/n 2T2R, 2.4 / 5 GHz, ANI (Adaptive Noise Immunity)
<b>WiFi radio data rate</b>	802.11a: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps 802.11b/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48 and 54 Mbps 802.11n: MCS0-7, 2T2R 2 streams (6.5 to 300 Mbps)
<b>WiFi operating frequencies</b>	ISM : 2.4-2.483 GHz (up to 14 channels) UNII : 5.15-5.25 GHz (up to 4 channels) UNII-2 : 5.25-5.35 GHz (up to 4 channels) UNII-2 ext : 5.470-5.725 GHz (up to 11 channels) UNII-3 : 5.725-5.825 GHz (up to 4 channels) Supports DFS and TPC
<b>Output power</b>	WiFi : • 2.4 GHz : up to 23.5 dBm • 5 GHz : up to 21 dBm LTE / 4G : • GSM : up to 33 dBm
<b>Sensitivity max</b>	WiFi : • 2.4 GHz : -94 dBm • 5 GHz : -96 dBm LTE WCDMA B5/B8 : -110.5 dBm
<b>Radio connectors</b>	5 connectors
<b>Security</b>	Firewall, DoS, https, filtrage MAC, WPA2/WAP3-Personal & Enterprise (IEEE 802.1X radius), WEP, tunnels L2 (GRE), VPN (OpenVPN), SNMP V3, isolation of clients in AP mode, Wireless Intrusion Detection System (WIDS)
<b>WiFi Modes</b>	AP, client, MESH (IEEE 802.11s), infrastructure, AD-HOC, fast roaming (less than 30 ms), WMM QoS
<b>Ethernet networking</b>	Frames filtering, bridging, repeater, STP/RSTP, VLAN, DHCP (server & client), DNS relay
<b>Ethernet routing</b>	Multicast (PIM), IP redundancy (VRRP), static routes, NAT router, router
<b>Administration</b>	http, https, SNMP agent (V1, V2C, V3), WaveManager administration software
<b>LEDs signaling</b>	Radio: activity and status   Ethernet : link 10/100/1000, activity   Power : on-off   Diagnostic
<b>Power supply</b>	7 to 48 VDC, 3 point Phoenix connector or PoE 802.3af
<b>Consumption</b>	9W typical power consumption / Recommended power supply: 12W
<b>Dimensions &amp; weight</b>	Product: compact rugged aluminium enclosure, (147 x 41 x 100 mm), 382g
<b>Environment</b>	IP40 seal rating • Operating: -20°C to +60°C (HR 0-99%)
<b>Standards and certifications</b>	CE (RED)      Sécurité : EN 62368-1, EN62311 CEM : EN301-489 Radio: • WiFi : EN 300 328 (2.4 GHz), EN 301 893 (5 GHz, DFS) • LTE : EN 301 908 [-1, -2, -13], EN 301 511, EN 303 413
	FCC             Radio: • WiFi : FCC ID Z9W-RMB • LTE : FCC ID XMR201708EC25E
	Automobile   CEM : ECE R10 (UTAC E2/ R10) Environmental: • Shock and vibration : EN 61373 • Fire/smoke : UNR118, RoHS, WEEE
<b>Warranty</b>	5 years

## Ordering references

AirWan/17	WiFi router (802.11n)+ 4G/LTE (world) + multi-constellation GNSS interface, 1-port Giga and 1-port Fast Ethernet, shipped with 2 WiFi antennas (WL-ANT- 2458 / 3- ORPS) and 2 cellular antennas (ANT727 / 20SM)
<b>Additional accessories</b>	
PWS12-UNI-PH3	AC (110V / 220V) to 12VDC power adapter with cable terminated by a 3-pin Phoenix terminal block
WL-FIX-RD2	Din rail fixing kit

All the brand names mentioned in this document are trademarks. ACKSYS is constantly looking at ways to improve its products. The current specifications may therefore be modified without notice and the characteristics set out herein should not be construed as creating any contractual obligation. All the products featured herein are designed and manufactured in Europe.

ACKSYS\_AirWan\_US\_Rev A1\_24/01/22