WLn-ABOARD
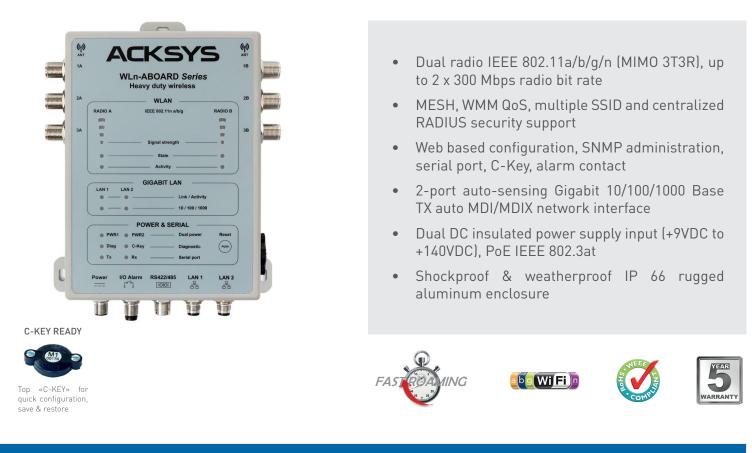
Dual 11n WiFi access point, Ethernet bridge, repeater & Mesh point for railways & heavy duty applications

- Dual radio IEEE 802.11a/b/g/n (MIMO 3T3R), up to 2 x 300 Mbps radio bit rate

- MESH, WMM QoS, multiple SSID and centralized RADIUS security support

- Web based configuration, SNMP administration, serial port, C-Key, alarm contact

- 2-port auto-sensing Gigabit 10/100/1000 Base TX auto MDI/MDIX network interface

- Dual DC insulated power supply input (+9VDC to +140VDC), PoE IEEE 802.3at

- Shockproof & weatherproof IP 66 rugged aluminum enclosure

C-KEY READY

Top «C-KEY» for quick configuration, save & restore

Introduction

WLn-ABOARD is a rugged wireless broadband equipment designed for applications in road and railways transportation (CBTC architectures), depots, warehouses, agriculture, manufacturing floors, docks, distribution centers, shipyards and lumberyards ... it can be mounted in trains, tramways, trucks, freighter ships, forklifts, trailers, tractors or cranes, dumpers, mines for material handling, real-time information transmission (multiple CCTV cameras, VoIP phones ...), board to board, board to ground communications and ground infrastructure.

The two radio design allows to use two separate networks for carriage bridging (5 / 5.4 GHz) and in-carriage communication (2.4 GHz) simultaneously without sacrificing speed; the turbo roaming feature allows lossless communication between APs during vehicle motion.
Moreover, the dual radio system makes it possible to rely on a redundant network; redundancy is also possible between two devices.

It fulfills the most severe requirements in terms of operating environment: -25°C to +70°C (extended -40°C to +75°C, -55°C with optional PTC heater), shock and vibration proof, IP66 all-weather seal rating for protection against dust, water projections and vapor.

WLn-ABOARD is certified for railway applications (EN 50155 / EN 50121), it is UTAC E2 certified (CE standard for electronic equipments installed aboard vehicle), and can thus be installed in full safety aboard of all on-road equipments as well.

Technical characteristics overview

Ethernet link	2-port Gigabit Ethernet 10/100/1000 auto-sensing, waterproof Ultra-Lock® 8-point M12 connectors (CAT-6A) plug & play mode & auto MDI/MDIX cross-over
Serial port	One insulated RS422/485 serial port (waterproof ultra-lock M12 connector) for connection to the target equipment existing network
WiFi network	Compliant to the IEEE 802.11a/b/g/n MIMO 3T3R, 2.4 / 5 / 5.4 GHz standards, dual radio system with redundancy
Data rate	Up to 2 x 300 Mbps
Radio channels	2.4 GHz (802.11b/g/n): 14 channels / 5 GHz (801.11a/h/n): 24 channels
Output power	Transmitter +20 dBm (TPC), +26 dBm with the high power (H4) option
Sensitivity	Receiver -92 dBm for IEEE 802.11 a/g/n and -95 dBm for IEEE 802.11b
Antennas connections	Up to six 2.4 / 5 GHz MIMO antennas (not shipped with the product), N-type connectors, optional lightning surge protection
Modulation	OFDM: BPSK, QPSK, 16QAM, 64QAM / DSSS: DBPSK, DQPSK, CCK
Security	64/128 bits WEP, WPA-PSK, WPA2-PSK, IEEE 802.1x (centralized RADIUS authenticator & supplicant), MAC addresses filtering, SSID broadcast control
Modes	Access point to build a WiFi network infrastructure, bridge to connect any Ethernet equipments to this network, MODBUS/TCP wireless gateway, repeater, MESH point (IEEE 802.11s), infrastructure, AD-HOC, bridge router, WMM QoS, multicast and IGMP-Snooping modes are fully supported; the 2 radios can be used to create a redundant link, single channel roaming time less than 30 ms, multichannel roaming time less than 30 ms in dual radio roaming mode, redundancy (VRRP)
Administration	Built-in WEB interface, the setup of the device is achieved using any web browser, SNMP agent, ACKSYS NDM, serial port, Telnet/SSH, CLI
Operating systems	Windows, Linux, UNIX as well as any operating system supporting TCP/IP
Signaling	LEDs signaling for radio quality, activity and status on each radio, Link 10/100/1000 and activity on each LAN port, TXD and RXD for the serial port, MAIN & AUX power supply, C-Key and product diagnostic
Alarms	Relay output warning: power failure, WLAN connection failure, Watchdog, over heating or user defined (SNMP); 1 FORM A solid state relay, 170VDC 0.1A (ultra-lock waterproof M12 connector)
Inputs	One insulated input for external device control (ultra-lock waterproof M12 connector)
Power supply	From +9VDC to +140VDC with 1500V insulation depending on models, dual input (ultra-lock waterproof M12 connector), optional PoE Plus (IEEE 802.3at) power supply with ground lug
Consumption	16W typical power consumption (21W maximum with two high power radio cards)
Dimensions & weight	Shock & vibration proof rugged aluminum enclosure, (L: 257 x W: 200 x H: 37mm), 1630g
Standards	EN 301489-17 & EN 61000-6-2 (CEM), IP66 seal rating, E-marked (2004/104), EN 50155 (IEC 60571), EN 50121-3-2, EN 50121-4 (railways ground & rolling stock)
Environment	Operating temperature : -25°C to +70°C or extended -40°C to +75°C (HR 0-99%), storage : -40°C to +100°C Optional PTC heater for -55°C operation (additional 24VDC 15W power supply required)

Ordering references

Standard models

WLn-ABOARD [H4]	WiFi Access Point, 2-port Ethernet Bridge, Repeater & MESH point (IEEE 802.11a/b/g/n) for automotive applications, dual DC power input from +9VDC to +56VDC, POE IEEE 802.3at, one set of 2 meters cables (Ethernet & power cable), IP66
WLn-ABOARD/24 [H4]	Insulated power supply: +9VDC to +36VDC (24VDC nominal), POE not available

Options **(products are not kept in stock, MOQ is required for these models)**

WLn-ABOARD/48 [H4]	Insulated power supply: +36VDC to +68VDC (48VDC nominal), POE not available
WLn-ABOARD/72 [H4]	Insulated power supply: +43VDC to +110VDC (72VDC nominal), POE not available
WLn-ABOARD/110 [H4]	Insulated power supply: +66VDC to +154VDC (110VDC nominal), POE not available

Accessories

C-Key_M2	Save / Restore configuration key for the WLn-ABOARD
WLg-ANT-LSP-N	Lightning Surge Protector 50 Ohms N-Type antenna 5 KA (0-6 GHz)
WLn-PTC	PTC heater for -55°C cold start and operation
PWS-24-UNI-M12	AC power supply 110-240V, DC input (24VDC 25W) with 2 meters M12 to stripped cable for WLn-ABOARD and WLn-ABOARD/N

H4 means high power version (400mW) and extended temperature range (-40°C to +75°C)

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