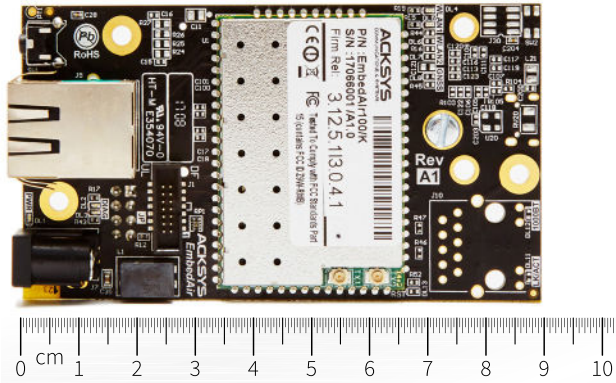


EmbedAir100

Ready-to-use embedded wireless module
Access point, client, repeater and Mesh point



- Ready to use standalone, requiring no external software or drivers
- All-in-one: AP/client/repeater/Mesh/router
- Fast data rates up to 300 Mbps - WiFi 802.11n - MIMO 2T2R - 2.4/5 GHz
- Fast roaming < 30 ms
- WaveOS operating system: advanced security WPA3, 802.1X Radius, Firewall, OpenVPN, IPSec, GRE tunnel
- Configuration via: Internet browser, management and supervision software WaveManager, SNMP
- Mesh and routing functions
- Easy to fit small sized PCB (L:89 x l:51 x h:28mm)



APPLICATIONS

Special machines
Robots, drones
Embedded electronics



Introduction

EmbedAir100 module by ACKSYS is designed to quickly and easily add a WiFi connectivity to any Ethernet equipment or embedded electronics.

Ready to use and requiring no external software or drivers, EmbedAir100 considerably reduces development costs, shortens time-to-market and guarantees the longevity of industrial equipment.

EmbedAir100 is an ultra-compact solution that supports WiFi access point, client, repeater and MESH point modes. These modes can operate simultaneously.

It incorporates the latest security standards: WPA3 Personal & Enterprise (Radius), DoS, Firewall... as well as routing functions to facilitate mass deployment (e.g.: machines, mobile devices...).

Its integrated 802.11n 2T2R radio reaches 300 Mbps and transmits any Ethernet-based protocol such as UDP, TCP, Profinet, Modbus / TCP, Safe Ethernet, Ethernet IP...

EmbedAir100 meets the industrial specifications of the most demanding applications: onboard computers, video surveillance, medical, mining, communications and explosion-proof equipment...

Its fast roaming feature (<30ms) makes it also ideal for any kind of mobile applications such as robots or drones for example.

EmbedAir100 is footprint and pin-compatible with its predecessor (WLg-LINK-OEM) in order to maintain compatibility with existing applications.

Technical characteristics overview

Ethernet interface	1-port Ethernet 10/100 Base TX auto-sensing, auto MDI/MDIX cross-over, RJ45 or TTL Ethernet interface (HE10 connector)
WiFi Network	1 radio IEEE 802.11a/b/g/n, MIMO 2T2R, 2.4 / 5 GHz, ANI (Adaptive Noise Immunity)
WiFi radio data rate	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, 2 streams (6.5 to 300 Mbps)
Operating frequencies	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
Output power	2.4 GHz : up to 23.5 dBm (aggregate) / 5 GHz : up to 21 dBm (aggregate)
Sensitivity	Receiver : -92 dBm for 802.11 b/g/n and -96 dBm for 802.11a/n
Antennas	2 Hirose UFL connectors
Security	Firewall, DoS, https, MAC filtering, WPA/WPA2/WPA3-Personal & Enterprise (IEEE 802.1X/RADIUS), tunnels L2 (GRE), VPN (OpenVPN, IPsec), SNMP V3, Rogue AP detector
WiFi modes	Access point, client, MESH (IEEE 802.11s), infrastructure, fast roaming (less than 30 ms), WMM QoS
WiFi Services	Hot Spot 2.0, Wireless Load Balancing (Load balancing, load steering, client roaming control)
Ethernet networking	IPv4/IPv6 compliance, frames filtering, bridging, repeater, STP/RSTP, VLAN, DHCP (server & client), DNS relay
Ethernet routing	Multicast (PIM), IP redundancy (VRRP), static routes, NAT router, router
Administration	http, https, SNMP agent (V1, V2C, V3), WaveManager administration software
LEDs Signaling	Radio : activity - status Ethernet : link 10/100 - activity Power : on-off
Power supply	+5VDC on HE10 connector or jack connector
Consumption	2.9 Watts typical, 7.6 Watts maximum
Dimensions & weight	Small sized PCB L : 89 x l : 51 x h : 28 mm, 35 g
Standards	 CE (RED) Safety : EN 62368-1:2014+A11, EN62311
	EMC : EN301-489-1, EN301-489-17
	Radio : EN 300 328 2.1.1 (2.4 GHz), EN 301 893 2.1.1 (5 GHz, DFS)
	 FCC : Radio : FCC ID Z9W-RMB
Environment	Operating temperature : -20 to +60°C, storage -40 to +85°C Humidity : 5% to 95% (non-condensing)
Warranty	1 year

Ordering references

EmbedAir100/T	802.11n 2T2R WiFi access point, Ethernet bridge, repeater & Mesh point embedded module, TTL Ethernet interface, +5VDC power supply (HE10 connector)
EmbedAir100/K	802.11n 2T2R WiFi access point, Ethernet bridge, repeater & Mesh point embedded module, RJ45 Ethernet interface, +5VDC power supply (ø 2.1 jack connector)
EmbedAir/CB	Evaluation board with antennas and power supply included. EmbedAir100 or EmbedAir1000 module must be ordered with.
Additional accessories	
WL-KIT-ANT-1C	Flat & swivel omnidirectional antenna, RPSMA, 2.4 GHz 3dBi gain / 5 GHz 4dBi gain with pigtail cable (14 cm, ø 1.37 mm, UFL to RPSMA)
PWS5-UNI	Power supply for EmbedAir100/K, 100-240VAC to +5VDC, 2A, ø 2.1mm jack connector, 1.5 m cable length

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