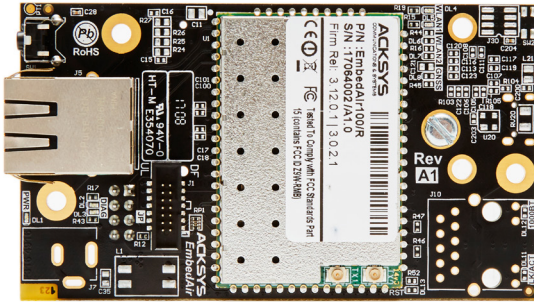


EmbedAir100

Ready to use 802.11n WiFi embedded module for M2M/IoT applications
WiFi access point, client, repeater & Mesh point



- Ready to use standalone, requiring no external software or drivers
- Easy to fit small sized PCB (L:89 x l:51 x h:20mm)
- Long-term availability module
- Footprint and pin-compatible with its predecessor (WLg-LINK-OEM)
- Dual band 2T2R WiFi 802.11a/b/g/n, up to 300 Mbps radio data rate
- Simultaneous AP and client/repeater/Mesh modes
- Seamless roaming for mobile applications
- State-of-the-art advanced security
- Easy to use web based configuration, SNMP V3



Introduction

EmbedAir100 module by ACKSYS is designed to quickly and easily add a WiFi connectivity to any Ethernet equipment or simply to allow you to build your own industrial WiFi device.

Ready to use standalone, requiring no external software or drivers, EmbedAir100 reduces dramatically development costs, shorten time to market and guarantees the sustainability of your device. Its long-term availability will ensure you solid returns from investment and allow you to restrict costly operations like design and certification, unlike most commercially available modules on the market. In addition, EmbedAir100 is fully compatible with its predecessors : WL-BRIDGE-OEM and WLg-LINK-OEM introduced in 2004 and 2006 respectively (same footprint and functional compatibility).

EmbedAir100 is an extremely compact state-of-the-art solution and supports WiFi access point, client, repeater & MESH point modes. These functions can be operated simultaneously. EmbedAir100 offers advanced security features including 802.11i (EAP authentication with Radius server/WPA/WPA2 Enterprise), tunnels with fully encrypted data, firewall, VLAN...

Its built-in 802.11n 2T2R radio reaches 300 Mbps and carries any kind of Ethernet based protocols such as UDP, TCP, Profinet, Modbus/TCP, Safe Ethernet, Ethernet IP...

EmbedAir100 meets industrial specifications (shock and vibration proof, large temperature range, long-lasting product design...) of the most demanding applications such as onboard computers, CCTV, medical equipment, mining equipment, military DCE, explosion proof devices... Its fast roaming feature (<30ms) makes it also ideal for any kind of mobile applications such as AGVs for example.

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

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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-Personal & Enterprise (IEEE 802.1X/RADIUS), WEP, tunnels L2 (GRE), VPN (OpenVPN), SNMP V3
WiFi modes	Access point, client, MESH (IEEE 802.11s), infrastructure, AD-HOC, fast roaming (less than 30 ms), WMM QoS
Ethernet networking	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	Built-in WEB interface, SNMP agent (V1, V2C, V3), NDM & WaveManager administration softwares
LEDs Signaling	Radio : activity - status Ethernet : link 10/100 - activity Power : on-off
Power supply	+5VDC on an HE10 connector (or jack connector, depending on model)
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	Radio module CE and FCC (FCC ID : Z9W-RMB) certified
Environment	Operating temperature : -20 to +60°C, storage -40 to +85°C Humidity : 5% to 95% (non-condensing)
Warranty	1 year

Ordering references

EmbedAir100/R	802.11n 2T2R WiFi access point, Ethernet bridge, repeater & Mesh point embedded module, RJ45 Ethernet interface, +5VDC power supply (HE10 connector)
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 3 x WL-KIT-ANT-1C (antenna kits) and 1 x PWS12-UNI (+12VDC power supply). EmbedAir100 /R or /T 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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