SELECTING A DUAL-BAND WI-FI NETWORK PRODUCT FOR YOUR NEXT PROJECT

Use the selection table on pages 2 to help narrow your search for a Wi-Fi networking device that best suits your application. Below are a few helpful questions to ask at the beginning of the project:

- **What type of device do you need?**
  - Bridge – connects separate networks, or devices on separate networks, as needed, via MAC address. Router – routes data traffic between two or more LAN/WAN networks via SW-configured address.
  - OEM Module Form – open board design with same functionality as enclosed units; quick time to market and reduced integration costs for OEMs.

- **What type of devices are you connecting?**
  - Ethernet?
  - Indoor and outdoor radios with the same signal frequency can be used together.

- **Are there environmental considerations for your application?**
  - Industrial models feature a rugged metal enclosure with panel mounting (DIN rail optional), expanded wide operating temperature range.
  - Enterprise models feature a nylon, desktop enclosure with a narrower operating temperature range.
  - Open board models support the same industrial or enterprise features but allow convenient OEM applications: limited space, enclosure not required, or integration into other assemblies.

- **Once you have a product selected, you should ask a few more questions.**
  - Do you have all the accessories to make all connections? Spare antenna, power supply, alternative mounting adapters, etc.
  - Advantech also offers a design/development kit for quick time-to-market and reduced integration cost.
  - When do you need product samples for proof-of-concept and full production?

Assistance

If you need additional product selection help, contact Advantech technical support online.

Embedded Wi-Fi routers and bridges handle the full network stack, making it fast and easy to integrate secure, dual-band Wi-Fi into any product – no need for deep networking or Wi-Fi experience.

Wi-Fi Ethernet Bridges/Routers

Plug-and-play serial and Ethernet to 802.11a/b/g/n connectivity

- Enterprise Class Wireless Security – WPA2/WPA-Enterprise, WPA2 WPAPreShared Key, WEP, Open, EAP, 802.11i
- Wide operating temperature ranges
- Variable 5-36 VDC power supply
- Compact, rugged metal box
- Fast Roaming – enhanced connection reliability

Embedded Wi-Fi Modules - OEM applications

- Enterprise Class wireless security (WPA2/WPA-Enterprise, WPA2/ WPAPreShared Key, WEP, Open, EAP, 802.11i)
- ARM9 processor with 802.11a/b/g/n radio for increased range and throughput
- Wide operating temperature ranges

802.11a/b/g/n Evaluation/ Design Kit - Model# BB-WLNNA-EK-DP551

This convenient kit (sold separately) aids developers with module/s. Contents: Power supply, antenna and cables.

CATEGORY:	INDUSTRIAL (metal panel mount)	ENTERPRISE (compact enclosure, saddle holster)	OEM & MODULES (open board)	OEM & MODULES (carrier board)
PRODUCT TYPE:	**Bridge & Router**	**Bridges & Routers**	**Interfaces (UART), Ethernet Adapter, RS232/422/485 Driver Control**	**Serial Server, Access Point/ Client**
				
Wireless Technology	IEEE 802.11 a/b/g/n, Wi-Fi	IEEE 802.11 a/b/g/n, Wi-Fi	IEEE 802.11 a/b/g/n, Wi-Fi	IEEE 802.11 a/b/g/n, Wi-Fi
RS-232/422/485 port/s	–	–	UART w/ Serial Driver Control (# WLNNA-SE-DP551)	–
Ethernet port/s	(1) 10/100 Mbps	(1) 10/100 Mbps	10/100 Mbps (# WLNNA-ER-DP551)	10/100 Mbps
Interfaces	–	–	10/100 Ethernet (# WLNNA-ER-DP551)	10/100 Ethernet
Data Transfer Rate Mbps	Maximum Up to 150 Mbps (Theoretical)	Maximum Up to 150 Mbps (Theoretical)	Maximum Up to 300 Mbps (Theoretical)	Maximum Up to 150 Mbps (Theoretical)
Frequency Range/Dual Band WiFi	2.4 GHz, 5 GHz	2.4 GHz, 5 GHz	2.4 GHz, 5 GHz	2.4 GHz, 5 GHz
Enterprise Class Security	801.11i, WPA2, EAP, LEAP, WEP, SSH, SSL, other	801.11i, WPA2, EAP, LEAP, WEP, SSH, SSL, other	801.11i, WPA2, EAP, LEAP, WEP, SSH, SSL, other	801.11i, WPA2, EAP, LEAP, WEP, SSH, SSL, other
Encrypted Configuration	✔	✔	✔	✔
Username / Password	✔	✔	✔	✔
Network Protocols	TCP/IP, ARP, ICMP, DHCP, DHS, UDAP, TFTP, UDP, PING, HTTP, FTP	TCP/IP, ARP, ICMP, DHCP, DHS, UDAP, TFTP, UDP, PING	TCP/IP, ARP, ICMP, DHCP, DHS, UDAP, TFTP, UDP, PING	TCP/IP, ARP, ICMP, DHCP, DHS, UDAP, TFTP, UDP, PING
Fast Roaming	✔	✔	✔	✔
Command Line Interface (ASCII)	✔	✔	✔	✔
Operating Temperature Range	-30 to +85 °C	-20 to +85 °C	-30 to +85 °C	-20 to +85 °C
Antenna Type	RP-SMA omni-directional, 2dBi, 2.4 & 5 GHz	Integrated RP-SMA omni-directional, 2dBi, 2.4 & 5 GHz	(2) 2 x I-PEX MHF 4 Connectors	
			RPSMA omni, 2dBi, 2.4 & 5 GHz	RPSMA omni, 2dBi, 2.4 & 5 GHz (# ABDNA-ER-DP553, BB-APXN-DP553)
Enclosure	Metal	Plastic (integrated holster)	(Open board design)	(Carrier open board design)
Mounting	Panel mount, optional DIN rail brackets	Desktop, wall mount	(OEM module)	(OEM module)
Dimensions	12.1 x 12.0 x 2.9 cm (4.9 x 4.7 x 1.2 in)	6.1 x 9.9 x 3.2 cm (2.4 x 3.9 x 1.2 in)	(see model datasheet)	(see model datasheet)
MODELS:	**ABDNA-ER-IN5010**	**ABDNA-ER-DP551**	**BB-WLNNA-AN-DP551** (UART interface)	**ABDNA-ER-DP553**
		ABDNA-ER-DP551U	**BB-WLNNA-ER-DP551** (Ethernet adapter)	
			BB-WLNNA-SE-DP551 (232/422/485 driver control)	
			BB-WLNNA-EK-DP551 (design / development kit)	