WLNNA-XX-DP551
Series

Wi-Fi Dual Band Embedded Module

Features

- Support 802.11a/b/g/n 2x2 Wi-Fi Radio
- Supports Access Point, Client mode (software selectable)
- Support fast roaming provides enhanced connection reliability
- Up to eight (8) simultaneous clients
- WEP, WPA-PSK, WPA2-PSK and WPA2-enterprise security
- 36-pin high density SMT connector (Hirose DF12-36)
- Small form factor module
- Extended Temperature Range

Introduction

The BB-WLNNA series is an 802.11 a/b/g/n wireless module integrated board which allows OEM to enable their M2M communication with wireless connection feasibility. On this board, Advantech provide Wi-Fi related technology and networking stacks with software selectable flexibility to make the OEM project integration fast. OEMs can configure via software any combination of UART, Ethernet, GPIO and 802.11 interfaces. Each individual port can be independently configured. A development kit is also available to aid developers (sold separately).

BB-WLNNA series fast roaming feature provides enhanced connection reliability, enabling OEM devices to roam freely within a wireless network without loss of data or connection.
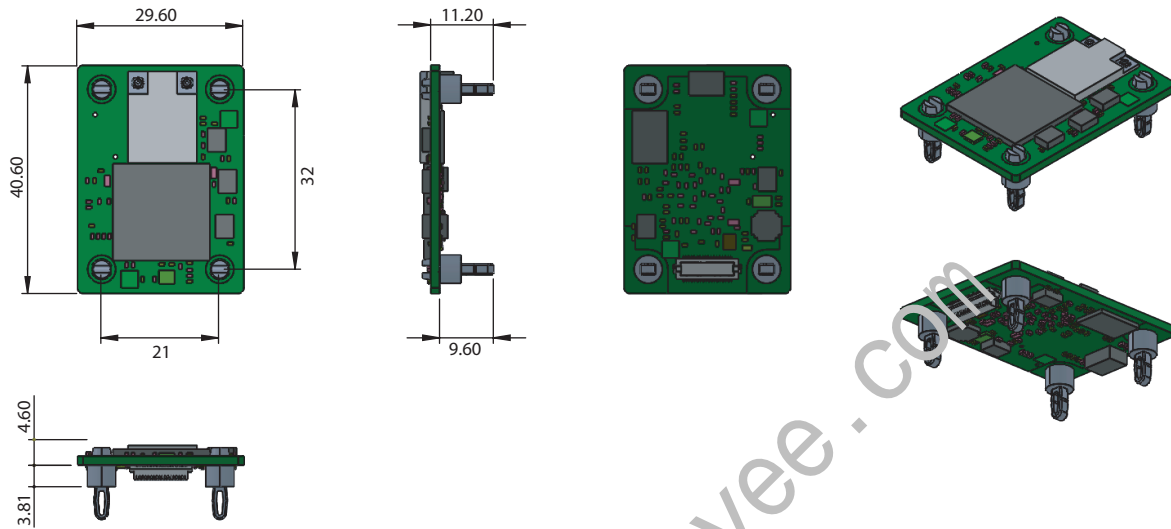
Specifications

System	
CPU	ARM9 600MHz
Memory	DDR2 128MB
Flash	32MB
OS	Linux

Ethernet Communications	
Port Type	RJ45
No. of Ports	1
Speed	10/100 Mbps

Wireless LAN Communications	
Compatibility	IEEE 802.11 a/b/g/n
Speed	Up to 300 Mbps
Network Mode	Infrastructure (Client)
Antenna Connector	2 x I-PEX MHF 4 Connectors
Network Protocol	TCP/IP, ARP, ICMP, DHCP, UDAP, UDP, PING, Telnet
Security Protocols	Disabled, WEP 64&128bit, WPA (TKIP/AES), WPA2 (AES), 802.1x (EAP) Supplicant 802.11I, WPA&WPA2 Enterprise supplicants (EAP-TLS, EAP-TTLS (MSCHAPv2), EAPTTLS (MDS5), EAP-PEAPv0 (MSCHAPv2, LEAP), Supports certificates and Private Key Upload and Storage (Multiple)
Frequency	2412MHz~2483.5MHz (US/Canada/Europe) 5150~5725MHz (US/Canada/Europe) 5745~5825 MHz (US/Canada)
Data Rates	WLAN 802.11b: 1, 2, 5.5, 11Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: up to 150Mbps-single 802.11n: up to 300Mbps-2x2 MIMO

Output Power	WLAN 2.4GHz 11b: 17dBm +- 1.5dB 11g: 16dBm +- 1.5dB 11n BW20: 16dBm +- 1.5dB 11n BW40: 14dBm +- 1.5dB WLAN 5GHz 11a: 13dBm +-2dB 11n BW20: 13dBm +-2dB 11n BW40: 12dBm +-2dB
Receive Sensitivity	WLAN 2.4GHz 11b 11M: -88dBm 11g 54M: -75dBm 11n MCS7 BW20: -72dBm 11n MCS7 BW40: -69dBm WLAN 5GHz 11a 54M: -72dBm 11n MCS7 BW20: -69dBm 11n MCS7 BW40: -68dBm
Digital I/O	8GPIO
LED indicators	4 indicator (RF ACT, POST, CONNECT, RF LINK) signal strength

Serial Communications	
Port Type	RS-232/422/485, software selectable
No. of Ports	2 (Max)
Port Connector	36-pin high density SMT Connector (Hirose DF12-36)
Data Bits	7, 8
Stop Bits	1, 2
Parity	None, Odd, Even
Baud Rate	up to 921.6 kbps
Serial Signals	RS-232: TxD, RxD, CTS, RTS, GND RS-485: Data+, Data- RS-422: TxD+, TxD-, RxD+, RxD-, GND

Dimensions

Unit: mm

29.60

11.20

40.60

32

21

9.60

4.60

3.81

Panel Cut-out Dimensions: 40.6mm x 29.6mm x 14.2mm

Mechanics	
Mounting	Mounting Hole
Dimensions (W x H x D)	29.6 x 14.2 x 40.6 mm
Power Requirements	
Power Input	3.3 V$_{DC}$
Power Connector	36-pin high density SMT connector (Hirose DF12-36)
Environment	
Operating Temperature	-30 ~ 85°C (-22 ~ 185°F)
Storage Temperature	-40 ~ 85°C (-40 ~ 185°F)
Operating Humidity	10 ~ 95% RH
Regulatory Approvals	
Certificate	CE/RED FCC ID: M82-BB-WLNNA IC: 6100A-CM276NF

Ordering Information

Part Number	Description
BB-WLNNA-ER-DP551	802.11a/b/g/n, 10/100 Ethernet Router (NAT Level 3), Advanced Enterprise Security
BB-WLNNA-AN-DP551	802.11a/b/g/n, UART Interface, Advanced Enterprise Security
BB-WLNNA-SE-DP551	802.11a/b/g/n, Serial Device Server, UART with RS-232/422/485 Driver Control, Advanced Enterprise Security

Accessories (optional)

Part Number	Description
BB-ACH2-DBAT-DP002	2dBi Portable (rubber duck), 2.4/5GHz Antenna
BB-ACH2-DBAT-DP003	3.8/5.5dBi Portable (rubber duck), 2.4/5GHz Antenna