

Operation Description

FCC ID: PPQ-WP8331
IC ID: 4491A-WP8331

The WP8331 is a two radios, dual band, 802.11ac access point. It provides powerful WLAN supporting wireless speed up to 300Mbps on 2.4GHz and 867Mbps on 5GHz, one Ethernet port to connect to the backbone network, one Ethernet ports can be aggregated to connect to one computer through the network cables. Besides, the WP8331 supports 802.3at PoE PD to allow the device powered by PoE switch remotely.

To protect data during wireless transmission, the device supports WEP data encryption and WPA/WPA2 wireless security to ensure network safely.

The WP8331 is ideal for a variety of medium density enterprise and hotspot environments including SMBs, hotels, retail outlets and branch offices.

For 15.407(c)

The AP device will turn off transmitter during no information transmission, and turn on receiver for detecting ACK message from remote client device. If ACK is received within expected time slot, the AP device will be still in standby mode until information transmission is needed again, otherwise it will resent the information.

Product Specifications and Features

Key Components / Connectors / Performance	
Processor	QCA IPQ4028
Wireless Chipset	Integrated with IPQ4028 – 2.4G Integrated with IPQ4028 – 5G
BT/BLE	CSR8510 (optional, layout reserved via USB to SoC)
GE PHY	QCA8072
SPI Flash	64Mbytes (pin-to-pin downsize) – default
NAND Flash	128MB – optional/reserved
DDR3	256Mbytes (pin-to-pin downsize or upsize to 1GB)
Console	Internal console port
Interfaces	

Ethernet	1x 10/100/1000 Base-TX MDI/MDIX RJ-45 port with PoE PD 802.3 at 1x 10/100/1000 Base-TX MDI/MDIX RJ-45 port Compliant with following standards: 1. IEEE 802.3/802.3u 2. Hardware based 10/100/1000, full/half, flow control auto negotiation 3. Full duplex IEEE 802.3x flow control and half duplex back-pressure flow control
Wireless	802.11ac 2.4GHz on board 802.11ac 5GHz on board BT/BLE on board 2 internal antennas – 2.4G antenna 2 internal antennas – 5G 1 internal antenna – BT/BLE IEEE 802.11b, IEEE 802.11g, IEEE 802.11n, IEEE 802.11ac compliant Data Rate: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 802.11g: 54, 48, 36, 24, 18, 12, 9 & 6 Mbps 802.11b: 11, 5.5, 2 & 1 Mbps 802.11n : 20 MHz BW: 130, 117, 104, 78, 52, 39, 26, 13Mbps 40 MHz BW: 270, 243, 216, 162, 108, 81, 54, 27 Mbps 802.11ac : 20MHz BW : 173, 144, 130, 115, 86, 57, 43, 28,14 Mbps 40MHz BW : 400, 360, 300, 270, 240, 180, 120, 90, 60, 30 Mbps 80MHz BW : 867, 780, 650, 585, 520, 390, 260, 195, 130, 65 Mbps Modulation: 802.11g: OFDM, BPSK, QPSK, 16QAM, 64QAM 802.11b:CCK(11&5.5 Mbps), DQPSK (2Mbps), DBPSK (1Mbps), DSSS 802.11n: PSK/CCK, DBPSK, DQPSK, OFDM 802.11ac: DSSS, OFDM, MIMO-OFDM, 16QAM, 64QAM, 256QAM

	Operating Frequencies: USA – FCC Canada – IC Europe – ETSI	2412~2462MHz 2412~2462MHz 2412~2472MHz
	Operating Frequencies: 2400 ~ 2484.5 MHz 5150MHz ~ 5250MHz and 5725MHz ~ 5850MHz for US & Canada 5150MHz ~ 5350MHz for Europe 5470MHz ~ 5725MHz for Europe 5030MHz~5091MHz and 5150MHz ~ 5250MHz for Japan 5150MHz ~ 5350MHz for Australia 5470MHz ~ 5725MHz for Australia (except channel 120, 124 and 128) 5725Mhz ~ 5825Mhz for Australia	
	BT Peak Gain: 2.6 dBi 2.4G Ant _1: Peak Gain: 4.7 dBi Ant _2: Peak Gain: 3.3 dBi 5G 5180~5240 MHz Ant _1: Peak Gain: 3.8 dBi Ant _2: Peak Gain: 5.0 dBi 5745~5825 MHz Ant _1: Peak Gain: 5.1 dBi Ant _2: Peak Gain: 5.0 dBi	
	Impedance: 50 Ohm nominal Antenna efficiency - 2.4G: 50% Antenna efficiency - 5G: 60% Antenna efficiency - BLE: 40%	
	V.S.W.R.: 2.0:1 Max	
USB	Host 2.0 (optional)	
Reset	1 x reset button	

Channel / Frequency plan for the device

CH	1	2	3	4	5	6	7	8	9	10	11
Frequency(MHz)	2412	2417	2422	2427	2432	2437	2442	2447	2452	2457	2462
Scan Type	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active
CH	36	38	40	42	44	48	52	54	56	58	60
Frequency(MHz)	5180	5190	5200	5210	5220	5240	5260	5270	5280	5290	5300
Scan Type	Active	Active	Active	Active	Active	Active	Disable	Disable	Disable	Disable	Disable
CH	62	64									
Frequency(MHz)	5310	5320									
Scan Type	Disable	Disable									
CH	100	102	104	106	108	110	112	116	132	134	136
Frequency(MHz)	5500	5510	5520	5530	5540	5550	5560	5580	5660	5670	5680
Scan Type	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable
CH	140										
Frequency(MHz)	5700										
Scan Type	Disable										
CH	149	151	153	155	157	159	161	165			
Frequency(MHz)	5745	5755	5765	5775	5785	5795	5805	5825			
Scan Type	Active	Active	Active	Active	Active	Active	Active	Active			

Functional Block Diagram

