JABEZ

Outdoor WiFi 11ac/11an Dual Radios Mesh Multi-Channel Routing AP Solution

JBZ8200

- *Reliable carrier/Industry grade wireless connectivity*
- *Mesh Self-Healing/Multiple hopping technology*
- *Two RF radios, 5GHz 802.11ac, 11a/n MIMO with External antenna.*
- *Build in heater to adapt low temperature environment*
- *Excellent solution for infrastructure, surveillance, IOT and in-train backhaul.*

Product Overview

JBZ8200 Outdoor weatherized Multi-Channel Mesh AP is a secure Dual Radios WiFi-11ac/11an AP with up to 1.73G Mbps(Data Rate) providing the extra edge for increased flexibility & performance of WiFi “instant “ deployment and increased throughput for city, railway, venue , campus, WISP networks covering WiFi access. 1st radio for Mesh Mode/ Uplink (11ac@ 5GHz), 2nd radio Mesh Mode/Down Link (11ac@ 5Ghz), concurrently to address the growing needs of BYOD and bandwidth demands with no degradation in performance .

Unique Design

Auto-configuring mesh

By using JBZ8200 mesh, organizations can extend the wireless network to areas that are difficult or expensive to connect via Ethernet cabling. Meshed APs self-configure and establish a high-performance, robust, and resilient network automatically, without any need for manual intervention or provisioning.

Multi-channel routing protocols

JBZ8200 advanced proprietary routing protocols and algorithms continuously evaluate link performance by measuring a variety of factors, including signal strength, throughput, link cost, interference, and frame reception rates. Wireless APs take measurements individually and work together with neighboring APs to optimize overall capacity and client throughput. APs route traffic over different channels as needed to minimize per-hop performance degradation and maximize client performance.

Self-healing networking with per-flow optimization

Self-healing technology allows JBZ8200 to automatically reconfigure and use mesh links in the event of a wired Ethernet or switch failure, forwarding traffic to other APs in the network that have Internet gateway connectivity. APs establish mesh networks automatically, even when connected to the wired LAN, making the optimized mesh link immediately available in the case of a wired LAN failure event. APs maintain a per-flow track of traffic, so clients already associated to an AP continue to have connectivity and experience no interruption in service.

Robust Design for Outdoor Harsh Environmental

JBZ8200 is designed for outdoor deployment with IP57 rating dust/water proof industrial enclosure to withstand extreme outdoor elements in harsh conditions. With the built-in heater and sensor it will automatically trigger once the internal temperature reaches -10 degree C allowing operation in below freezing environment and will automatically turn off once it is back to 0 degree C. We offer a Rugged & Waterproof small size 2*Port Giga Ethernet PoE that can withstand a variety of extreme conditions – low & high temperatures, shocks & vibrations, dust particles and liquid immersion.

Bandwidth Management

By filtering out unexpected traffic, JBZ8200 optimizes bandwidth utilization and ensures the best transmission quality for the transfer of mission-critical data. Built-in QoS function in JBZ8200 has the advantage of integrating bandwidth management across Uplinks .

System Highlights

- 11ac (5GHz) Compliance in 2Tx / 2Rx Design
- Support IEEE 802.11a/n and 802.11ac
- Operates in the 5GHz ISM Band
- Support 4 * N connector for external 5GHz Antenna
- IEEE802.11ac -Enables Bandwidth of up to 867Mbps(Tx), 867Mbps(Rx) link rate at 80MHz
- IEEE802.11n - Enables Bandwidth of up to 300 Mbps(Tx), 300 Mbps(Rx) link rate at 40MHz
- Support IEEE802.3af/at Power Over Ethernet
- Security with 802.1X, WPA, and WPA2
- Support QoS & WMM
- Integrated Dual Ethernet - Power over Ethernet (PoE) & PoE Pass Through

- Topology: Mesh
  - * Layer 3 Mesh routing intelligence
  - * Dynamically employs links across multiple frequency bands to form the highest throughput, lowest latency end-to-end path
  - * Redundant, self-configuring and self-healing network architecture
- Multiple Virtual AP & Capability of Client Isolation
- Business-class WLAN Security and Client Authentications
- Provide Advanced Wireless Setting
- Support Web Management and SNMP MIB II
- Client Isolation Through Layer 2 VLAN Technology
- Two administrator accounts for manager authorities
- Bandwidth traffic Shaping

Specifications

Software

Networking:

- Support Static IP, Dynamic IP(DHCP Client) and PPPoE on WiFi WAN Connection
- Support MPPE-64 and MPPE-128 Encryption on PPTP Connection
- PPPoE and PPTP Reconnect – Always On , On demand, Manual
- Support PPTP/L2TP Pass Through
- MAC Cloning
- DHCP Server
- 802.3 Bridging
- Masquerading (NAT)
- NTP Client
- Virtual DMZ
- Virtual Server (Port Forwarding)
- Support MAC Filter

Wireless:

- Transmission power control : Level 1 - 9
- Channel selection : Manual or Auto
- Associated clients limitation : 32
- No. of ESSID (Virtual AP) : 8 (2.4G & 5G each)
- No. of Max. WDS setting : 8
- Preamble setting : Short/ Long
- Setting for 802.11a ,802.11n only, 802.11a/n mix or 802.11ac only
- Setting for transmission speed
- Dynamic Wireless re-transmission
- IEEE802.11f IAPP (Inter Access Point Protocol), hand over users to another AP
- IEEE 802.11i Preauth (PMKSA Cache)
- IEEE 802.11h - TPC(Transmission Power Control) and DFS(Dynamic Frequency Select)

Specifications

Software

Wireless:

- IEEE 802.11d -Multi country roaming
- Wireless Site Survey
- Channel Bandwidth setting : 20MHz or 20/40MHz/80MHz
- HT Tx/Rx Stream selection : 1 or 2
- A-MSDU and A-MPDU support
- Maximal MPDU density for TX aggregation setting
- Short Slot support
- RTS Threshold and Fragment Threshold support
- IGMP Snooping v1, v2 and v3
- Authentication/ Encryption (Wireless Security)
- Layer2 User Isolation
- Blocks client to client discovery within a specified VLAN

- WEP 64/ 128 /152 Bits
- EAP-TLS + Dynamic WEP
- EAP-TTLS + Dynamic WEP
- PEAP/ MS-PEAP+ Dynamic WEP
- WPA (PSK +TKIP)
- WPA (802.1x certification + TKIP)
- 802.11i WPA2 (PSK + CCMP/ AES)
- 802.11i WPA2 (802.1x certification + CCMP/ AES)
- Setting for TKIP/ CCMP/ AES key's refreshing period
- Hidden ESSID support
- Setting for "Deny ANY " connection request
- MAC ACL
- No. of registered RADIUS servers : 1
- VLAN assignment on ESSID
- VLAN tag over WDS

Specifications

Software

QoS Enforcement:

- Packet classification via DSCP (Differentiated Services code Point)
- Control Policy by IP/IP Ranges/MAC Group/ Service
- Layer-7 Protocol Support
- Traffic Analysis and Statistics
- Diff/TOS
- IEEE802.11p/COS
- IEEE 802.1Q Tag VLAN priority control
- IEEE 802.11e WMM
- Automatic mapping of WMM priorities to 802.1p and IP DSCP
- IGMP Snooping for efficient multicast delivery
- Upload and Download Traffic Management

System Administration:

- Intuitive Web Management Interface
- Password Protected Access
- Firmware upgrade via Web
- Reset to Factory Defaults
- Profiles Configuration Backup and Restore
- One-button-click to reset factory default
- Single administrator accounts
- Remote Link Test – Display connect statistics
- Full Statistics and Status Reporting
- NTP Time Synchronization
- Even Log
- Support SNMP v1, v2c, v3
- SNMP Traps to a list of IP Address
- Support MIB II
- Watchdog timer
- CLI access via Telnet and SSH
- Administrative Access : HTTP and HTTPS

Specifications

Hardware

Base Platform	QCA 9557+QCA 9882 *2 +QCA8337
CPU Clock Speed	720 MHz
Wireless Radio	802.11 an/ac
Reset Switch Built-in	Push-button momentary contact switch
Standards Conformance	I IEEE802.3 10BASE-T IEEE802.3u 100BASE-TX IEEE802.3ab 1000BASE-TX
Ethernet Configuration	10/100/1000 BASE-TX auto-negotiation Ethernet port x 2(RJ-45 connector) Auto MDI/MDI-X enabled ， Power Over Ethernet
SDRAM	On board : 64 Mbytes
Flash	On board : 16 Mbytes
Built-In LED Indicators	1 x 5GHz, 1 x 5GHz, 1 x Status, 1x Power, 1 x Eth0 and 1 x Eth1
Wireless Specifications	
Network Standards Con-formance	IEEE802.11 a/n/ac compliant
Data Transfer Rate	IEEE802.11a ：11 / 5.5 / 2 / 1Mbps (auto sensing) IEEE802.1n : 300Mbps (at 40MHz) , 150Mbps (at 20MHz) IEEE802.11ac :867Mbps(at 80MHz), 400Mbps(at 40MHz),173Mbps(at 20MHz)

Specifications

Hardware

Channel Space	11a Mode: 20MHz 11n Mode : 20/40MHz 11ac Mode : 20/40/80MHz			
Frequency Range	IEEE802.11 a/n/ac : 5.150 – 5.350 & 5.725 – 5.825 GHz(USA) 4.900 – 5.250 GHz(Japan) 5.150 – 5.350 & 5.470 – 5.725GHz (Europe ETSI)			
Media Access Protocol	CSMA / CA with ACK			
Modulation Method	IEEE802.11a ： OFDM(64-QAM,16-QAM,QPSK,BPSK) IEEE802.11n : BPSK,QPSK,QPSK,16-QAM,64-QAM IEEE802.11ac : 256-QAM			
Operating Channels	IEEE 802.11a//n/ac : 12 For FCC , 4 for Japan 4, 18 for Europe			
RF Output Max. Power	5GHz : 500mW			
RF Output Power	802.11ac			
	MCS0 VHT20	23dBm	MCS10 VH20	26dBm
	MCS0 VHT40	22dBm	MCS10 VH40	25dBm
	MCS0 VHT80	21dBm	MCS 10 VH80	24dBm
	MCS9 VHT20	20dBm	MCS 19 VH20	20dBm
	MCS9 VHT40	19dBm	MCS 19 VH40	19dBm
	MCS9 VHT80	19dBm	MCS 10 VH80	19dBm

Specifications

Hardware

Frequency Response flatness	±2dB over operating range			
Receiver Sensitivity	802.11 a/n/ac		+- 2dBm	
	CCK 5M	-92 dBm	MCS0 VHT20	-83dBm
	CCK 11M	-88 dBm	MCS0 VHT40	-81dBm
	OFDM 6M	-90 dBm	MCS0 VHT80	-79dBm
	OFDM 54M	-72 dBm	MCS9 VHT20	-65dBm
	MCS7 20M	-70 dBm	MCS9 VHT40	-62dBm
	MCS7 40M	-69 dBm	MCS9 VHT80	-60dBm
	MCS8 20M	-85 dBm	MCS15 20M	- 69dBm
	MCS8 40M	-84dBm	MCS15 40M	- 66dBm
Environmental & Mechanical Characteristics				
Operating Temperature	-20 °C ~ 65 °C			
Storage Temperature	-20 °C ~ 70 °C			
Operating Humidity	10% to 80% Non-Condensing			
Storage Humidity	5% to 90% Non-Condensing			
Antenna	Support 4 * N for 5GHz external Antenna (Software Switchable)			
Dust and Waterproof	IP 57 Rating			
Ethernet Port Surge Protection	Comply with IEC-61000-4-5 standard , 4KV line to the ground, 2KV line to line			
Power Supply	POE 802.3af/at – 48V Power Input (Optional DC 12V input)			