

ECW5211-L(BR) INDOOR ACCESS POINT



INTRODUCTION

The ECW5211-L is an enterprise-grade, concurrent dual-band 802.11ac Wave 2 indoor access point, designed specifically for high-density Wi-Fi environments. The ECW5211-L features two 2x2:2 MU-MIMO radios that can each transmit data to multiple clients simultaneously, and together have a combined data rate of up to 1.2 Gbps. Besides, the ECW5211-L's integrated Bluetooth Low Energy (BLE) radio also enables new value-added applications such as indoor location tracking, iBeacon, and other location-based services.

When used with an Edgecore controller, additional value-added applications such as bandwidth control, user authentication, and captive portals can be used to provide an ideal solution for all types of businesses. In addition, one AP can be associated to two controllers for redundancy purpose.

HIGHLIGHTS

WI-FI

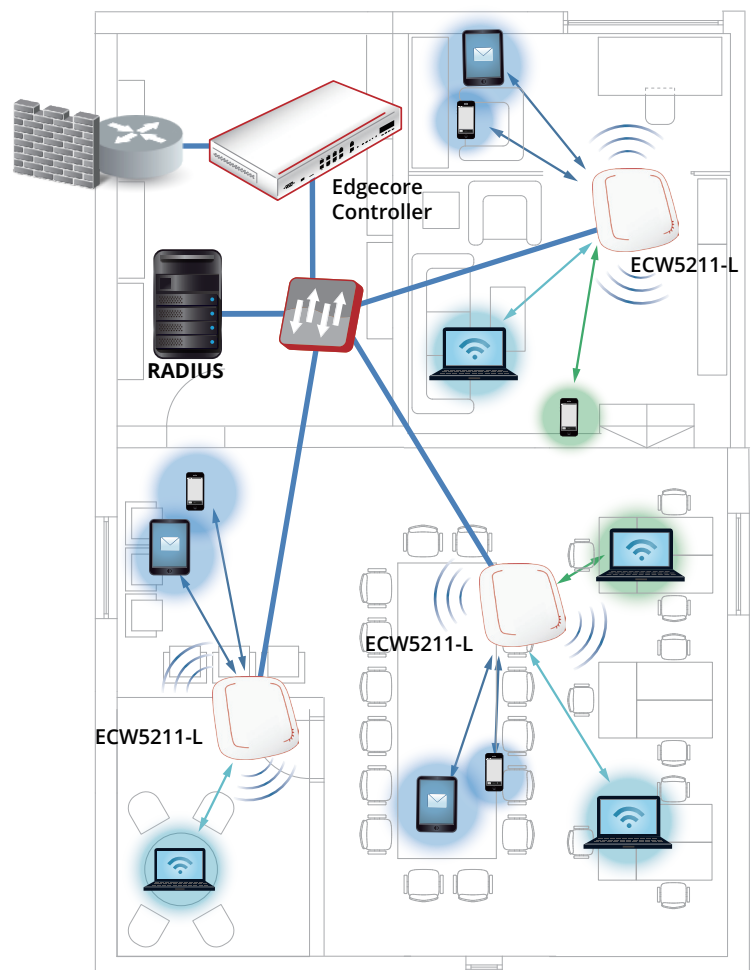
- Concurrent Dual-Band 2.4 & 5 GHz
- 802.11ac 2x2 MU-MIMO supporting up to 1.2 Gbps data rate
- Support up to 32 ESSIDs.
- Enterprise-Grade Wireless Security

PHYSICAL

- Wall and ceiling mountable
- High Density Wi-Fi deployment
- 802.3af Power over Ethernet (PoE)
- Gigabit LAN Ethernet port
- Bluetooth Low Energy (BLE)

MANAGEMENT WITH CONTROLLER

- Captive Portal & Guest Provisioning
- Fast Layer 2/Layer 3 Roaming
- User-based Access Management
 - Bandwidth Control
 - Firewall Policies
 - Routing Policies
- Wi-Fi Monetization



SPECIFICATIONS

PHYSICAL	
Power	<ul style="list-style-type: none"> DC Input: 12V / 1.0A (Power adapter optional) PoE: 802.3af compliant (PoE injector optional)
Dimensions	<ul style="list-style-type: none"> 14.7 cm (L) x 14.7 cm (W) x 3.5 cm (H)
Weight	<ul style="list-style-type: none"> 0.36 kg (0.78 lbs)
Interfaces	<ul style="list-style-type: none"> Uplink: 1 x 10/100/1000Base-T Ethernet, Auto MDIX, RJ-45 with 802.3af PoE LAN: 1 x 10/100/1000Base-T Ethernet, Auto MDIX, RJ-45 USB: 1 x USB 2.0 Port
LED Indicator	<ul style="list-style-type: none"> Power / 2.4G-WiFi / 5G-WiFi / Eth1 / Eth2
Buttons	<ul style="list-style-type: none"> Restart / Reset
Environmental Conditions	<ul style="list-style-type: none"> Operating Temperature: 0°C (32°F) to 50°C (122°F) Operating Humidity: 5% to 95% non-condensing
Power Consumption	<ul style="list-style-type: none"> 11W max.
Antenna	<ul style="list-style-type: none"> Type: 3 x Built-in PIFA (2 x 2.4 GHz & 5 GHz, 1 x Bluetooth Low Energy) Peak Gain: 3.8 dBi (2.4 GHz), 5 dBi (5 GHz), 3 dBi (BLE)
Mounting	<ul style="list-style-type: none"> Wall/Ceiling mount (Mounting kit included) Anti-theft: 1 Kensington Lock hole on the metal part of housing

WI-FI	
Standards	<ul style="list-style-type: none"> 802.11a/b/g/n/ac ; Wave 2 Concurrent dual-band 2.4 & 5 GHz Support Carrier Sense Multiple Access/ Collision Avoidance (CSMA) Protocol Operate with DFS and OFDM
802.11ac Wave 2 and 802.11n Capabilities	<ul style="list-style-type: none"> Maximal ratio combining (MRC) & beamforming
Supported Data Rates	<ul style="list-style-type: none"> 802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6.5 – 144 Mbps (20 MHz) 802.11n: 13.5 – 300 Mbps (40 MHz) 802.11ac: 6.5 – 173.4 Mbps (20 MHz) 802.11ac: 13.5 – 400 Mbps (40 MHz) 802.11ac: 29.3 – 866.6 Mbps (80 MHz)
Radio Chains	<ul style="list-style-type: none"> 2 x 2
Spatial Streams	<ul style="list-style-type: none"> 2; MU-MIMO support
RF Output Power*1	<ul style="list-style-type: none"> 2.4 GHz: Up to 21 dBm*2 5 GHz: Up to 21 dBm*2
Channelization	<ul style="list-style-type: none"> 20 MHz 40 MHz 80 MHz
Frequency Band	<ul style="list-style-type: none"> 2.412 – 2.472 GHz 5.180 – 5.825 GHz
Operating Channels	<ul style="list-style-type: none"> 2.4 GHz: 1 – 11 (US), 1 – 13 (Europe), 1 – 13 (Japan) 5 GHz*3: 36 – 165 (US), 36 – 140 (Europe), 36 – 140 (Japan)
ESSIDs	<ul style="list-style-type: none"> Up to 16 per radio (32 total)
Certifications	<ul style="list-style-type: none"> Wi-Fi CERTIFIED (Wi-Fi Alliance), FCC (United States), CE (Europe)

PERFORMANCE	
Physical Data Rate	<ul style="list-style-type: none"> Up to 300 Mbps (2.4 GHz) Up to 867 Mbps (5 GHz)
Concurrent Users	<ul style="list-style-type: none"> Up to 256 (128 on 2.4 GHz, 128 on 5 GHz)

*1: RF output power aggregates across MIMO chains and doesn't contain antenna gain

*2: Maximum power is limited by local regulatory requirements

*3: Some channels are restricted by local regulatory requirements

QUALITY OF SERVICE

- Wireless QoS (802.11e/WMM)

- DSCP (802.1p)

- Airtime Fairness

- Band Steering

- Multicast to Unicast Conversion

- Optimal Client Filtering

MANAGEMENT

- | | |
|---------------|---|
| Deployment | <ul style="list-style-type: none"> ♦ Standalone ♦ Tunneled management by Controller ♦ IPv4 & IPv6 compatible ♦ LLDP |
| Configuration | <ul style="list-style-type: none"> ♦ Web User Interface (HTTP/HTTPS) ♦ SNMP v1, v2c, v3 ♦ Support OAUTH2 |

SECURITY

- | | |
|-------------------|---|
| Wireless Security | <ul style="list-style-type: none"> ♦ 802.11i ♦ WEP ♦ WPA/WPA2 Mixed (TKIP/AES Mixed) ♦ WPA2-Personal (AES) ♦ WPA2-Enterprise (AES) ♦ IEEE802.1X for EAP-PEAP/MSCHAPV2 |
|-------------------|---|

32 VLANs in 802.1Q (VLAN ID 1~4000)

Station Isolation

DHCP Snooping

Layer-2 Firewall

MOBILITY/ROAMING

Layer 2/Layer 3 Fast Roaming

Hotspot 2.0

RECEIVE SENSITIVITY

Operating Mode	Data Rate	Receive Sensitivity (dBm)
802.11b	1 Mbps	-95
	11 Mbps	-86
802.11a	6 Mbps	-87
	54 Mbps	-70
802.11g	6 Mbps	-89
	54 Mbps	-72
802.11n (HT20)	MCS0	-88
	MCS7	-67
	MCS8	-88
	MCS15	-67
802.11n (HT40)	MCS0	-85
	MCS7	-66
	MCS8	-85
	MCS15	-66
802.11ac (VHT20)	MCS0	-86
	MCS8	-64
802.11ac (VHT40)	MCS0	-83
	MCS9	-61
802.11ac (VHT80)	MCS0	-81
	MCS9	-57

- ♦ Identical, new and unused WiFi access points will be provided previous. The model offered must be on the production line, without closing forecast, on the proposal delivery date. Will not be Access point models are accepted for implementation in low-density WiFi client environments.
- ♦ The configuration of its operational parameters, the management of security and radio frequency policies should be managed by a Wireless Cloud Controller solution. This controller solution wireless cloud must be from the same manufacturer as the access point in order to guarantee perfect interoperability.
- ♦ Must be licensed to allow centralized control and management through the wireless cloud controller solution for a period of at least 60 (sixty) months.
- ♦ An anti-theft kit is provided in order to prevent theft of the equipment.
- ♦ It is possible to fix the equipment to the ceiling and wall. All necessary accessories are provided so that fixation, together with anti-theft kit.
- ♦ The model of equipment offered must have, on the date of delivery of the proposal, homologation with ANATEL with certificate available publicly at the electronic address of this agency, pursuant to Resolution number 242 of November 30, 2000.
- ♦ Accompanied by all accessories necessary for installation, configuration and operation of the equipment, such as: software, technical documentation, fixing accessories, etc.
- ♦ Implement application filter resources for recognizing and blocking content related to games, file sharing, social networks, among others. If this resource requires a license, it must be provided for the same period of time covered by the warranty requested in this term of reference.
- ♦ Implement the visualization / identification and marking of applications to allow blocking or prioritization.
- ♦ Allow the definition of MAC addresses to control access to the WiFi network.
- ♦ Accompanied by all the necessary accessories for installation, configuration and operation of the equipment, such as: software, technical documentation, complete fixing accessories for original ceiling and wall from the same manufacturer.
- ♦ Gigabit Ethernet port (10/100 / 1000Base-T - IEEE 802.3, IEEE 802.3u and IEEE802.3ab) autosense, UTP RJ45.
- ♦ Powered by PoE technology IEEE 802.3af or 802.3at using the switch port to which it is connected, through a "power injector" device and through an external VAC power supply.
- ♦ Each "WiFi Access Point" must be supplied with a VAC power supply with automatic voltage selection between 110-230VAC and 60Hz and a power cable or adapter, standard ABNT NBR 14136 compatible with the offered equipment. The delivery of a power injector device to fulfill this item will not be accepted.
- ♦ The latest version of the WiFi access point's internal software must be provided and installed.
- ♦ Have a " Portal Captivo " system for user authentication using " splash pages " pages hosted on the CONTRACTING PARTY's external server. It must be possible to fully customize the pages displayed to users. It should be possible to require users to agree to the terms of service, complete a form, or have access to an advertising advertisement (including video) before obtaining access to the internet. It must allow integration with the CONTRACTING PARTY's RADIUS server to authenticate WiFi clients with user and password information. The " Portal Captivo " system should also allow the presentation of pages hosted locally or hosted on the wireless cloud controller solution, in addition to enabling customization.
- ♦ Allow the connection of at least 250 simultaneous devices.
- ♦ Implement locally or in conjunction with the cloud wireless controller solution, implement RF spectrum analysis at 2.4GHz and 5GHZ to identify other intruder and unauthorized access points (rogues), in addition to interference in the enabled channel at the access point and in the other channels configured in the WiFi network. The spectrum analysis must be carried out simultaneously to attend the access point's clients, without them being disconnected.
- ♦ Locally or in conjunction with the cloud wireless controller solution, dynamically adjust the power level and radio channel in order to optimize the size of the RF cell. Automatically adjust 802.11 channels and perform interference detection and readjust the Radio Frequency parameters in order to avoid coverage and performance problems.
- ♦ Allow simultaneous operation in the IEEE 802.11b / g / n standards, in the 2.4 GHz band, and 802.11a / n / ac, in the 5 GHz band, through independent radios (dual radio), with omnidirectional irradiation pattern .
- ♦ Implement 802.11ac Wave 2 MU-MIMO (Multi-User, Multiple Input, Multiple Output) technology.
- ♦ Have WiFi Alliance certification to operate in IEEE 802.11a / b / g / n / ac standards.
- ♦ Implement for 2.4GHz, at least, MIMO (Multiple-Input and Multiple-Output) 2x2 with 2 spatial streams;
- ♦ At least 5GHz can be implemented for 2x2 MIMO (Multiple-Input and Multiple-Output) 2x2 with 2 spatial streams in SU-MIMO (Single User MIMO) and 2 spatial streams in MU-MIMO (Multi-User MIMO).
- ♦ Built-in internal antennas in 2.4 GHz and 5 GHz with EIRP of at least 20 dBm in 2.4GHz and 16dBm in 5GHz for any

mode of operation and transmission rate configured.

- ♦ Implement High-Throughput (HT): Channels of 20MHz, 40MHz for IEEE 802.11N and VHT20, VHT40, VHT80 for IEEE 802.11ac.
- ♦ Implement maximal-ratio combining (MRC) and Beamforming.
- ♦ Operate with DFS and OFDM.
- ♦ Implement CSMA / CA (Carrier Sense Multiple Access / Collision Avoidance) protocol.
- ♦ Compatible with WMM and 802.1p standards for traffic prioritization.
- ♦ Capable of operating in “repeater” or “mesh” mode, allowing communication between WiFi access points without the need for additional cabling, thus allowing users to be served in isolated locations in the locality.
- ♦ Have DHCP client, for automatic configuration of the IP address.
- ♦ Allow connection to the network of users in IPv4 and IPv6.
- ♦ Manageable at least through the SNMP version 2 protocol.
- ♦ Have the ability to create at least 8 (eight) SSIDs.
- ♦ Allow enabling and disabling SSID disclosure.
- ♦ Have at least 01 (one) LED indicating its operating status.
- ♦ Allow the use of the IEEE 802.1X authentication protocol for at least EAP-TLS and EAP-PEAP / MSCHAPV2
- ♦ Compatible with WPA (Wi-Fi Protected Access) with at least TKIP encryption algorithm.
- ♦ Implement WPA2 with AES.
- ♦ Compatible with the IEEE 802.11i standard.
- ♦ Allow the deployment of VLANs according to the IEEE 802.1Q standard, allowing the configuration of at least 8 (eight) VLANs.
- ♦ Implement the bandwidth technique, allowing customers with support for the 5 GHz frequency band to connect to Access Points using, preferably, the 5 GHz band.
- ♦ Together with the Wireless Cloud Controller solution described in this annex, automatically detect, classify or react and generate WiFi interference alarms.
- ♦ Block communication between users who share the same SSID, allowing the isolation of users.
- ♦ Implement Wireless IDS to identify RF attacks such as Denial Of Service, among others.
- ♦ Implement detection of rogue APs and AD-Hoc networks without disconnecting the IEEE 802.11 WiFi clients associated with the access point.
- ♦ Able to monitor network activity in real time;