Edgecore ECW5211

Wireless Access Point Specification

Revision 1.0
### Revision History

<table>
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<tr>
<th>Revision</th>
<th>Date</th>
<th>Author</th>
<th>Description</th>
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<td>2/21/2016</td>
<td>Jeff Catlin</td>
<td>Initial Draft</td>
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<td>IPQ4018</td>
</tr>
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**Scope**
This document outlines the technical specifications for the Edgecore ECW5211 Open wireless Access Point submitted to the Open Compute Foundation.

**Overview**

The ECW5211 is an indoor 802.11 a/b/g/n/ac Wave 2 2x2 dual-band, dual-radio Enterprise Access Point.

Through its two Gigabit Ethernet ports the 802.11ac dual-band wireless Access Point can connect to the backbone network. The ECW5211 supports 802.3at/af PoE which enables the Access Point to be powered remotely by a PoE switch. An AC power adapter option is also available for locations where PoE is not available.

The ECW5211 is designed so that it can easily be wall mounted or ceiling mounted to T-Bars.

**Physical Overview**

**Dimensions**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Inches</th>
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Top View
The top view of the ECW5211 shows the following

LEDs

<table>
<thead>
<tr>
<th>LED Name</th>
<th>Description</th>
<th>State</th>
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</thead>
</table>
| Power    | Led to indicate status of Power | Amber - Normal  
|          |             | Amber Blinking – Boot up  
|          |             | Off – No Power |
| LAN      | Led to indicate link status of port | Green – Valid link  
|          |             | Green Blinking Data activity  
|          |             | Off – No link |
| 2G       | Led to indicate link status of port | Green – 2G WAN Connection ok  
|          |             | Green blinking – Data activity  
|          |             | Off – No link |
| 5G       | LED to indicate radio status | Green – 5G WAN Connection ok  
|          |             | Green blinking – Data activity  
|          |             | Off – No link |
Front View

The front panel view of the ECW5211 includes the following key components:

- **Reset button**
  - Used to reset the CPU and associated components
- **12V power jack**
  - Used with optional external 12V power module
- **Eth1/PoE Gb Ethernet port**
  - Used for network connectivity and to power device through PoE
- **Eth 2Gb Ethernet port**
  - Used for network connectivity
- **USB 2.0 Host port**
System Overview:

Main PCB Block Diagram
PCB Board mechanical outline

The ECW5211 is composed of 6 layer PCB assembly:

PCB

The PCB is a six layer board supporting the CPU and radio silicon, front panel networking and management ports, and LEDs.
### PCB Dimensions

<table>
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<tr>
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<tr>
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### PCB major components

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PCB Top view
CPU Subsystem
The ECW5211 utilizes the Qualcomm IPQ4018 communications processor supporting the following:

- NOR Flash 32Mbytes (default 16MBytes)
- NAND Flash 128Mbytes
- DDR III 256Mbytes (default 128Mbyte)
**Console Port**
A four pin connector is located on the PCB board for console usage. The console port operates at 115200 baud rate only.

**Thermal Monitoring**
The ECW5211 supports a thermal sensor located within the IPQ4018.

**TPM**
The ECW5211 supports the AT97SC3205T which is a fully integrated security module designed to be integrated into embedded systems and implements version 1.2 of the Trusted computing Group (TCG) specification.
Software Support

The ECW5211 supports a base software package composed of the following components:

U-Boot

The ECW5211 supports U-Boot version U-Boot 2012.07 or newer

ONIE

Please check http://onie.org/ for the latest supported version
Specifications

Power Consumption
The total estimated system power consumption of the ECW5211s is ~9 Watts. This is based upon worst case power assumptions for traffic and environmental conditions. Typical power consumption will be less.

Regulatory Compliances
The ECW5410-O is designed and validated to comply with the following standards
- FCC part 15B, 15C, and 15E
- CE EN 300 328, EN 301 489-1&-17, CE EN 301 893, EN60601-1-2
- EMI: FCC/CE class B,
- DFS (software dependent)
- EN 300 328
- EN 301 489
- EN 301 893
- UL/IEC/EN 60950
- EN 60601-1-1, EN60601-1-2

Radio Regulatory Compliance:
- FCC
  - 2.4GHz: FCC part 15C 15.247
- Band-2 & Band-3 DFS: option (software dependent)
- CE
  - 2.4GHz: EN 300 328 V1.8.1
  - 5GHz: EN301 893 V1.7.1

EMC
- FCC
  - FCC Part 15, Subpart B
  - CE
  - EN55022+24:2010 Class B
  - EN 301 489-1 V1.9.2
  - EN 301 489-17 V2.2.1

Safety & ESD
- UL/IEC/EN 60950
- EN 60601-1-1, EN60601-1-2
Environmental
- Weight 354g (.78 lb)
- Temperature: IEC 68-2-14
  - +0 to +50 degrees C (Operating)
  - -20 to 70 degree C (Non-operating)
- Humidity: 5% to 95% (Non-condensing)
- Vibration and Shock Test: IEC 60068-2-64, IEC 60068-2-6, IEC 60068-2-27
- Bump Test: IEC 68-2-29
- Drop Test: IEC 60068-2-31

ROHS
Restriction of Hazardous Substances (6/6)
Compliance with Environmental procedure 020499-00 primarily focused on Restriction of Hazardous Substances (ROHS Directive 2002/95/EC) and Waste and Electrical and Electronic Equipment (WEEE)