# Actiontec API7220 11ax 2×2 Indoor Access Point User Manual



Contents



## Actiontec API7220 11ax 2×2 Indoor Access Point

## Overview

This document specifies the hardware features and requirements for ACTIONTEC API7220 11ax 2×2 indoor AP.

| Model | Enclosure | Features |
|---|---|---|
| API7220 AM2 |  | • Chipset: IPQ6000;<br>• 5G radio: QCN5052 a/n/ac/ax, 2×2 , 1.2Gbps;<br>• 2.4G radio: QCN5022 b/g/n/ac/ax , 2×2, 574Mbps;<br>• 1x BLE5.0: nRF52810;<br>• 2x Integrated dual-band antennas;<br>• 1x BLE antenna;<br>• 16MB SPI NOR Flash;<br>• 128MB BGA NAND Flash;<br>• 512MB 16bit DDR3L RAM; |
| | | ** According to QCA, 256MB DDR has the |
| | | limitation: 4 VAPs/ Radio, 64 STA/ Radio |
| | | • 1x RJ45 GbE WAN, with 802.3at PoE(PD);<br>• 1x RJ45 GbE LAN;<br>• 1 x Reset button;<br>• 1 x DC Jack: 12V@1.5A;<br>• 4x LED (5G, 2.4G, WAN, PWR);<br>• Ceiling mounting; |
| | | • Operational temperature: -10℃ ~ +45℃ |
| | | • Size: 158mmx158mmx 28 mm |

## LED and Label

LED can be fully controlled by SW. The GbE RJ-45 is without link/active LED.

| LED | Function | LED status | LED Definition |
|---|---|---|---|
| PWR | AP power / ready statu s | Off | No power to AP |
| | | Green | Device ready |
| WAN | Ethernet Network Link Status / Activity | Off | Ethernet link unavailable |
| | | Green | Ethernet port linked |
| | | Flashing – Green | Ethernet activity |
| 5G | 5GHz Radio Status | Off | 5G Hz radio disabled |
| | | Green | 5G Hz radio enabled |
| 2.4G | 2.4GHz Radio Status | Off | 2.4G Hz radio disabled |
| | | Green | 2.4G Hz radio enabled |

### Interface Panel

WAN/PoE, LAN, DC Jack, RESET

### Hardware feature

| **1-** | **Interfaces** | |
|---|---|---|
| 1-1 | 2 x GbE Port | |
| 1-1a | 1 x GbE WAN with P oE | 1 x RJ-45 for 10/100/1000M Ethernet port;<br>• Supports IEEE 802.3at PoE, as an isolated defined PD;<br>• The Ethernet port shall be compatible with the physical layer interface spec defined in 802.3 series.<br>• Up to 100 meters of CAT5e or above cable. |
| 1-1b | 1 x GbE LAN | 1 x RJ-45 for 10/100/1000M Ethernet port;<br>• The Ethernet port shall be compatible with the physical layer interface spec defined in 802.3 series.<br>• Up to 100 meters of CAT5e or above cable. |
| 1-2 | 1 x Reset Button | 2mm (diameter) opening on enclosure. The reset button is connected to a GPI O of the CPU. The behavior is controlled by software. |
| 1-3 | DC jack | 12V@1.5A DC input. |

| | | |
|---|---|---|
| **3-** | **WIFI feature** | |
| 3-1 | Frequency | |
| | 2.4GHz | 2.4000GHz~2.4835GHz |
| | 5GHz | 5.150~5.250, 5.250~5.350, 5.470~5.725, 5.725~5.850 GHz |
| 3-2 | Antenna | 2 x Integrated dual-band antenna.<br>1 x BLE onboard antenna |
| 3-3 | Channel Rate | |
| | **2.4GHz** | |
| | The device shall support the standard channel rates:<br>802.11b: 1, 2, 5.5 and 11Mb/s<br>802.11g: 6, 9, 12, 18, 24, 36, 48 and 54Mb/s<br>802.11n: any combination of MCS0-MCS7, HT20 and HT40, 800ns and 400ns guard interval<br>802.11ac: any combination of MCS0-MCS9, HT20 and HT40, 800ns and 400ns guard interval 802.11 ax: any combination of MCS0-MCS11, HE20 and HE40, 800ns and 400ns guard interval | |
| | **5 GHz** | |
| | 802.11a: 6, 9, 12, 18, 24, 36, 48 and 54Mb/s 802.11n: any combination of MCS0-MCS7, HT20 and HT40, 800ns and 400ns guard interval 802.11ac: any combination of MCS0-MCS9; VHT20, VHT40 and VHT80; 800ns and 400ns Guard Interval; 802.11ax: any combination of MCS0-MCS11; HE20,HE40 and HE80; 800ns and 400ns Guard Interval; | |

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|---|---|---|
| | | |
| | Power Control Accuracy | The transmission power accuracy at the maxim power is ±2dB |
| 3-5 | Frequency Tolerance | Frequency Tolerance: 802.11a/b/g/n/ac/ax<br>±15ppm (ambient temperature). |
| 3-6 | Received maximum input level | Shall meet IEEE requirement, that is,<br>1. For 11a/g/n/ac: -20dBm of 2.4G and -30dBm of 5G @ antenna interface.<br>2. For 11b: -10dBm@ antenna interface<br>3. For 11ax: -10dBm@ antenna interface |
| 3-7 | 802.11 Features | The AP support concurrent operation of 2.4G and 5G.<br>In the worst case (one band transmission and anot her band receiving), the impact to sensitivity is less than 3dB. |
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| | | |
| **4-** | **Power** | |
| 4-1 | AP can be powered from 802.3 at PoE (PD) | Supports CAT-5e or above 100m For GE port |
| | | Power consumption less than 18W. |
| | | Voltage range: 50V~ 57V |
| | | PoE has the high priority than DC, if both of them are connected. |
| 4-2 | AP can be powered from external 12V DC input | The AP support the external AC/DC adapter with following specification:<br>12 VDC nominal, +/- 5%, 1.5A<br>FCC/UL/CE certificated |

| | | |
|---|---|---|
| 4-3 | Power consumption | Max 11W |
| **5-** | **Environment** | |
| 5-1 | Operating temperature | -10°C ~ +45°C |
| 5-2 | Operating humidity | 5% ~ 95% non-condensing |
| 5-3 | Storage temperature | -40°C to +70°C |
| 5-4 | Elevations | 86kPa 106kPa |
| 5-5 | Environment | Shall be RoHS 2011/65/EU compliant (RoHS 11 compliant, no Pb); WEEE 2002/96/EC recyclable materials requirements |
| 5-6 | Thermal | -10°C ~ +45°C |
| 5-7 | Dustproof and Waterpro of | IP30 |
| 5-8 | Surge | GE port with PoE support ±4KV common mode/ ±500V differential mode s urge with 10-700us / 40Ohm waveform. |
| 5-9 | ESD | ±4 KV (Contact Discharge) / ±8 KV (Air Discharge) |
| **6-** | **Enclosure** | |
| 6-1 | Mechanical Enclosure / Housing |  |
| 6-2 | Size | 158mm x 158mm x 28mm |
| 6-3 | Weight | 454g |
| 6-4 | Mounting | Ceiling mounting |
| 6-5 | Material | PC+ABS(fireproof)+diecast bottom shell |
| **7-** | **Reliability** | |

| | | |
|---|---|---|
| 7-1 | MTBF | 300,000 Hours Telcordia SR-332, Reliability Prediction Procedures for Electronic Equipment, Issue 3, Method 1, Case 3, GB/GC (Ground Benign, Controlled) environment, 25ºC ambient temperature. Steady state, not including software failure. |
| 7-2 | Service life | > 5 years@ 35℃, full load. |

## Federal Communications Commission (FCC) Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

## FCC Caution

Any changes or modifications not expressly approved by the party responsible
for compliance could void the user’s authority to operate this equipment.

#### RF exposure warning

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

## ISED

**CAN ICES-003 (B)/NMB-003(B)**
Canadian Compliance Statement This device complies with Industry Canada license-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the

device.

**Caution:**

1. The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;
2. The high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.
3. DFS (Dynamic Frequency Selection) products that operate in the bands 5250-5350 MHz, 5470-5600MHz, and 5650-5725MHz.

**IMPORTANT NOTE:**
**Radiation Exposure Statement:**
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

## Documents / Resources

| | |
|---|---|
|  | Actiontec API7220 11ax 2x2 Indoor Access Point [pdf] User Manual<br>API7220, LNQAPI7220, API7220 11ax 2x2 Indoor Access Point, 11ax 2x2 Indoor Access Point, Indoor Access Point, Access Point |