Product Specification of EW-7489OAX

Revision Record

Version	Revision Date	Comments
1.0	2021/12/06	First release.
1.1	2021/12/13	● Change flash from 256MB to 512MB ● Model name change to EW-7489OAX ● Remove Buzzer ● ESD to meet IEC61000-4-2 and IEC61000-4-5 requirements
1.2	2021/12/16	● Add internal Mico-USB for console access
1.3	2021/12/16	● Add LED behaviors
1.4	2021/12/30	● Change LED to single color LED ● Update LED behaviors ● Add internal USB-Type A

1. General Description

1.1. Product Description

EW-7489OAX AX3000 Outdoor Gigabit Dual Band Dual AP

1.2. Product Model Number

Acelink: EW-7489OAX

Sophos: Neo-BetaX

2. Product Specification

Wireless Technology	• IEEE 802.11b/g/n/ax 2.4GHz 1024QAM with 574Mbpps • IEEE 802.11a/n/ac/ax 5GHz 1024QAM with 2400Mbps • Support MU-MIMO/OFDMA at 2.4GHz and 5GHz
Memory	• DRAM Memory: 2x 512 Mbyte DDR3L • Flash Memory: 512Mbyte NAND • Flash Memory: 4Mbyte NOR (for boot)
External Interfaces	• 1 x Factory Reset Button • 1 x Gigabit LAN (supports PoE IEEE 802.3at), IP67 rated, weather proof • 1 x Internal USB TypeA • 3x single color LED - Status: Single color Green - Radio: Single color Green - Mesh on/off: Single color Green
Console	• 1 x Internal Standard Micro-USB
RTC	• n/a
Surge and ESD	• 5KV Surge and 8KV ESD Protection • Meet IEC61000-4-2 • Meet IEC61000-4-5
Enclosure Dimension and Weight	IP67 rated with Gore Vent design, and outdoor design to meet UL/EN60950-22. M-25 Cable Gland for easy installation and fast deployment External plastic enclosure (UL-746C) compliant with UV-resistant Internal gasket to meet UL94V0 260.5 (L)*180(W)*69 (H)mmx63mm Top case material: plastics

	Bottom case: die-cast for N-type antenna
Antenna connector	4 x N-type connector
Mounting	• Horizontal and vertical Pole mount • Wall mount
Operating Temperature	• Operating Temperature: -40 ~ 55℃ (with heater)
Storage Temperature	• -40 to 70℃
Humidity	• Operating Humidity: 10% to 95% non-condensing Storage Humidity: 10% to 95% non-condensing
MTBF	• MTBF: > 500K hours at 25℃

2.1. Key parts

Core-board	
CPU	Qualcomm IPQ5018, dual-core 64bit A53 @ 1GHz
Wi-Fi 2.4GHz RF	Qualcomm IPQ5018
Wi-Fi 5GHz RF	Qualcomm Spruce QCN6102
Memory	DDR3 2x 512MB (512MB*8bit) NAND Flash 256MB SPI NOR Flash 4MB(for boot loader)
Wi-Fi RF PA/FEM	2.4GHz FEM:QPF4288A 5GHz FEM:QPF4588A
5G filter	Akoustis, A10155
2.4G SAW filter	SAW FILTER 2.4G SMD (TAISAW)/TA2604B / 1.4*1.1*0.6mm1345-S0000015-50U Co-exist with LTE (reserved)
Antenna	2x 2.4G IPEX

	2x 5G IPEX
IO board	
PD IC	MPS MP8009
2.5GE PHY	QCA8081
Ethernet	QCA8081 for 2.5GE (802.3at)
TPM	Infineon SLB 9670VQ2.0
Internal connector	2x mini PCI-E connector for core-board
Diplexer	2x diplexer (reserved)
M.2	Reserve a M.2 connector E key for future upgrade 2x2 spruce 6G module, EW-7922M6E

2.2. Block diagram

2.3. Product outlook

Die-cast Bottom housing; Powder paint.

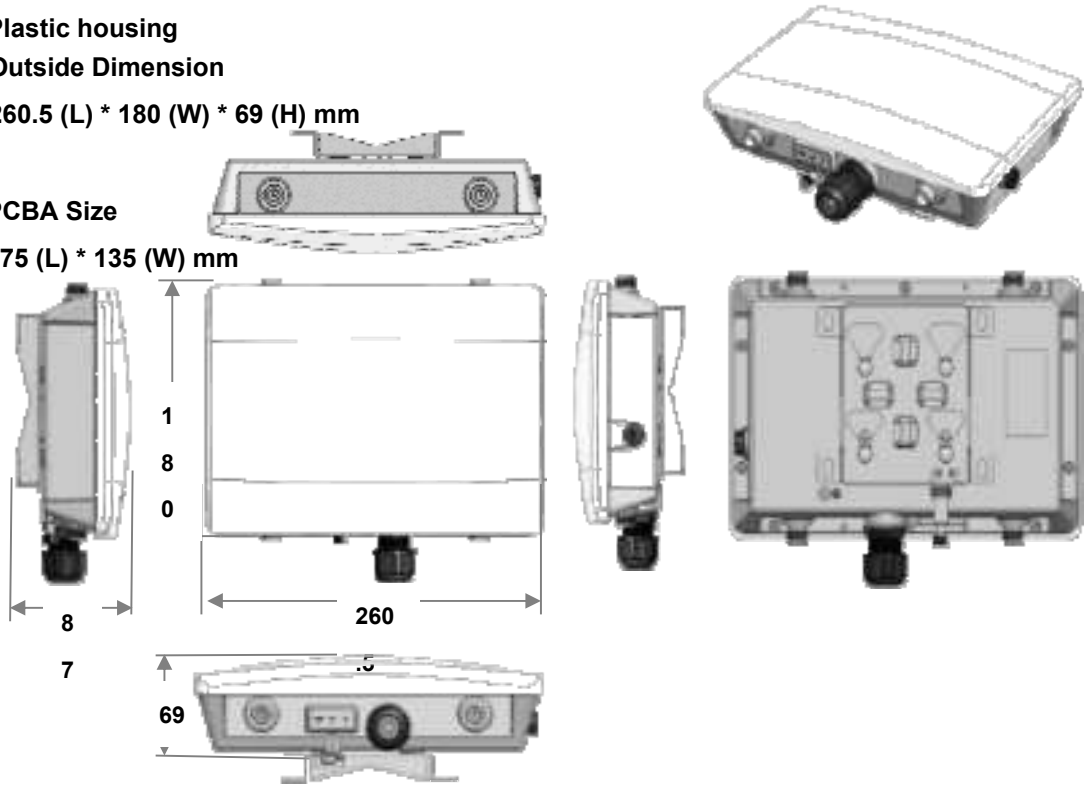
Plastic housing

Outside Dimension

260.5 (L) * 180 (W) * 69 (H) mm

PCBA Size

175 (L) * 135 (W) mm



Unit: mm

2.4. LED definition

- Single color LED is for mesh.
- Single color LED is for Radio.
- Single color LED is for Status.

	Single Color LED Proposal - BetaX - Wi-Fi 6 w/o flashing LED for normal operation			Single Color LED Proposal - BetaX - Wi-Fi 6E w/o flashing LED for normal operation		
Description	**Status**	**Radio**	**Mesh**	**Status**	**Radio**	**Mesh**
AP is off or reboot started	Off	Off	Off	Off	Off	Off
AP is booting and connecting to wireless controller or applying configuration*	Flashing Green	Off	Off	Flashing Green	Off	Off
Configuration reset in progress*	Flashing Green	Flashing Green	Off	Flashing Green	Flashing Green	Off
Error, no wireless controller found. AP will reboot (if not yet claimed by a controller). Check network connection if error persists. If reset button pressed: AP preparing configuration rese	Flashing Green	Flashing Green	Flashing Green	Flashing Green	Flashing Green	Flashing Green
Firmware update in progress* Note: Do not disconnect from power	Flashing Fast Green	Off	Off	Flashing Fast Green	Off	Off
AP has no connection to the wireless controller	Green	Flashing Green	Flashing Green	Green	Flashing Green	Flashing Green
AP is not claimed by wireless controller	Green	Flashing Green	Flashing Fast Green	Green	Flashing Green	Flashing Fast Green
AP is operation in Single-Band	Green	Off	Off or Solid Green	N/A	N/A	N/A
AP is operation in Dual-Band	Green	Green	Off or Solid Green	N/A	N/A	N/A
AP is operation in Single-Band or Dual-Band (2.4/5 Ghz)	N/A	N/A	N/A	Green	Off	Off or Solid Green
AP is operation in Tri-Band (2.4 ,5 ,6 Ghz)	N/A	N/A	N/A	Green	Green	Off or Solid Green

2.5. PCB dimension

2.6. RF Output Power& RF Receive Sensitivity

2.7. Power

Item	Connector	Description
2	RJ45	802.3at Injector

2.8. Antenna

2.9. Certification

CE Class B (with LVD)

FCC Class B

2.10. S/W specification list

Made by acelink

3. Product Testing Plan

Testing Item

4. Project Communication

Member List

Title	Name	Phone
Project Leader		
PM		
RD : Hardware		
RD : Software		
RD : Mechanical		
PA		
TE		
PE		

Federal Communication Commission 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 generates, 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 or more 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.

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.

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 Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

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

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This radio transmitter [IC: 4701A-74892206] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Le présent émetteur radio [IC: 4701A-74892206] a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué pour tout type figurant sur la liste, sont strictement interdits pour l'exploitation de l'émetteur.

Ant.	Brand	Model Name	Antenna Type	Connector
1	Grand-Tek	3009-00000231-50Z	Omni Antenna	N-type
2	Grand-Tek	3009-00000231-50Z	Omni Antenna	N-type
3	Grand-Tek	3009-00000231-50Z	Omni Antenna	N-type
4	Grand-Tek	3009-00000231-50Z	Omni Antenna	N-type

Ant.	Port	Gain (dBi)		Cable Loss (dB)	
		2.4G	5G	2.4G	5G
1	1	3.2	6	-	1.2
2	2	3.2	6	-	1.55
3	1	3.2	6	0.5	-
4	2	3.2	6	0.5	-

IC Radiation Exposure Statement:
This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance **21cm** between the radiator & your body.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 21cm de distance entre la source de rayonnement et votre corps