



## EW-7489WAX core board

### Quick Installation Guide

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# Product Specification

## Main SPEC

<b>Wireless Technology</b>	<ul style="list-style-type: none"><li>IEEE 802.11b/g/n/ax 2.4GHz 1024QAM with 574Mbps</li><li>IEEE 802.11a/n/ac/ax 5GHz 1024QAM with 2400Mbps</li><li>Support MU-MIMO/OFDMA at 2.4GHz and 5GHz</li></ul>
<b>Internal Interface</b>	<ul style="list-style-type: none"><li>1 x Console Port PIN connector (for core-board UART use)</li></ul>
<b>LED</b>	<ul style="list-style-type: none"><li>1xtri-color LED</li></ul>
<b>PCB Dimension</b>	<ul style="list-style-type: none"><li>75x84mm/6L</li></ul>
<b>Operating Temperature</b>	0°C ~ +40°C / 10 ~ 90%RH

## Key parts

Core-board	
<b>CPU</b>	Qualcomm IPQ5018, dual-core 64bit A53 @ 1GHz
<b>Wi-Fi 2.4GHz RF</b>	Qualcomm IPQ5018
<b>Wi-Fi 5GHz RF</b>	Qualcomm Spruce QCN6102
<b>Memory</b>	DDR3 2x 512MB (512MB*8bit) NAND Flash 512MB SPI NOR Flash 4MB (for boot loader)
<b>Wi-Fi RF PA/FEM</b>	2.4GHz FEM: QPF4288A 5GHz FEM: QPF4588A
<b>5G filter</b>	Akoustis, A10155 PSA, RFBPF1608060K68Q1C
<b>2.4G SAW filter</b>	SAW FILTER 2.4G SMD (TAISAW)/TA2604B / 1.4*1.1*0.6mm 1345-S000015-50U Co-exist with LTE (reserved)
<b>antenna</b>	2x 2.4G IPEX 2x 5G IPEX
IO board	
<b>PD IC</b>	MPS MP8009
<b>Ethernet</b>	IPQ5018 Built-in(802.3at)
<b>TPM</b>	Infineon TPM2.0 SLB 9670VQ2.0
<b>UART to USB</b>	Prolific PL2303G4ZJG8P2

<b>UART transceiver</b>	Maxlinear SP3232ECA (reserve)
<b>Internal connector</b>	2x mini PCI-E connector for core-board

## Core-board placement

## Safety Instructions

You can operate the access point (AP) safely if you follow the information in these Safety Instructions and on the appliance.

Do not reach into the appliance. There are dangerous circuits inside the appliance that can cause death if you touch them.

Damaged appliances must be returned. It is forbidden to open the hardware appliance or to change its components. Failure to comply with this rule results in the loss of warranty cover from EDIMAX.

Connect the device to a power socket with a fully functional earth conductor. Defective earth conductor connections do not comply with the requirements for safety and electromagnetic compatibility. Check the power socket before connecting the hardware appliance.

The socket-outlet shall be installed near the equipment and shall be easily accessible.

Before you switch on the appliance make sure that your mains voltage complies with the supply voltage of the appliance. The connection data are shown on the name plate.

To disconnect the appliance completely take the power cable from the power socket. Make sure that the power plug is freely accessible.

Make sure that no one can trip over the power cable and that it cannot be damaged by objects.

Only connect system peripherals complying with the requirements for protective extra-low voltage according to EN/IEC 62368-1.

Only use parts and accessories validated by EDIMAX. Using non-approved parts and accessories may affect the functioning of the appliance and your safety.

The appliance produces heat. Ensure that there is sufficient air circulation to remove the heat.

Avoid a permanent high level of air humidity and formation of condensation. Protect the appliance from humidity and chemicals. Safe use of the appliance is no longer possible if: the chassis is damaged water penetrated the appliance objects entered the appliance via air opening smoke comes out of the appliance the power cable is damaged it does not work properly

Immediately turn off the appliance in the event of one of the above problems, remove the power cable from the power socket and contact your customer service as soon as possible.

We expressly exclude any product liability and warranty claims if the appliance is not operated according to the instructions in these notes and to the notes attached to the appliance itself.

## PoE-Injector Safety Information

Caution: The PoE injector is to be connected only to PoE networks without routing to the outside plant.

IAC Power Cord: The power cord must have regulatory agency approval for the specific country in which it is used (for example, UL, CSA, VDE, GS, etc.).

The power cord must be a three-conductor type (two current carrying conductors; one ground conductor terminated on one end by an IEC 60320 appliance coupler (for connection to the PoE-Injector), and on the other end by a plug containing a ground (earthing) contact).

The power cord must be rated for a minimum of 250 VAC RMS operation, with a minimum rated current capacity of 5 A (or a minimum wire gauge of 18 AWG (0.75 mm<sup>2</sup>)).

A PoE-Injector installed in Australia requires power cords with a minimum wire gauge of 16 AWG (1.0 mm<sup>2</sup>).

The PoE-Injector "Data In" and "Data & Power Out" ports are shielded RJ45 data sockets. They cannot be used as Plain Old Telephone Service (POTS) telephone sockets. Connect RJ45 data connectors only to those sockets.

The AC wall socket-outlet must be near the PoE-Injector and easily accessible. You can remove AC power from the PoE-Injector by disconnecting the AC power cord from either the wall socket-outlet or the PoE-Injector appliance coupler.

The PoE-Injector "Data In" and "Data & Power Out" interfaces are qualified as Safety Extra-Low Voltage (SELV) circuits according to IEC 62368-1. Connect these interfaces only to SELV interfaces on other equipment.

## Warnings

Connect the PoE-Injector only to the IP device with which it was bought. Using the PoE-Injector with other IP devices can cause damage to the IP device.

Read the installation instructions before connecting the PoE-Injector to its power source.

Follow basic electricity safety measures whenever connecting the PoE-Injector to its power source.

A voltage mismatch can cause equipment damage and may pose a fire hazard. If the voltage indicated on the label is different from the power outlet voltage, do not connect the PoE-Injector to that power outlet.

## Federal Communication Commission Interference Statement

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.

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 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 transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

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.

#### **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.

Note: The country code selection is for non-US model only and is not available to all US model. Per FCC regulation, all WiFi product marketed in US must be fixed to US operation channels only.

FCC regulations restrict the operation of this device to indoor use only.

#### **Information for OEMs and host integrators**

The OEM or integrator is obligated to adhere to these requirements and restrictions as a condition for using the module's certification. The OEM or integrator is responsible to perform the required additional host regulatory testing and/or obtaining the required host approvals for compliance.

This module has been approved to operate with the antenna types listed below, with the maximum permissible gain indicated.

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)	Support
1	Grand-Tek	2G-1	PIFA	I-Pex	4.2	2.4G
2	Grand-Tek	2G-2	PIFA	I-Pex	3.8	2.4G
3	Grand-Tek	5G-1	PIFA	I-Pex	5.5	5G
4	Grand-Tek	5G-2	PIFA	I-Pex	4.8	5G

This module is restricted to installation in products for use only in mobile and fixed applications. The host product manufacturer must provide following statement in end-product manuals.

#### **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.

**Label of the end product:**

The host product must be labeled in a visible area with the following " Contains FCC ID: NDD9574892203 ".

The end product shall bear the following 15.19 statement: 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.

Appropriate measurements (e.g. 15 B compliance) and if applicable additional equipment authorizations (e.g. SDoC) of the host product to be addressed by the integrator/ manufacturer. This module is only FCC authorized for the specific rule parts 15.247, 15.407 listed on the grant, and the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host product as being Part 15 Subpart B compliant.

## Industry Canada statement

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-74892203] 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-74892203] 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	Gain(dBi)	Support
1	Grand-Tek	2G-1	PIFA	I-Pex	4.2	2.4G
2	Grand-Tek	2G-2	PIFA	I-Pex	3.8	2.4G
3	Grand-Tek	5G-1	PIFA	I-Pex	5.5	5G
4	Grand-Tek	5G-2	PIFA	I-Pex	4.8	5G

## **Caution**

(i) 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;

## **Avertissement**

Le guide d'utilisation des dispositifs pour réseaux locaux doit inclure des instructions précises sur les restrictions susmentionnées, notamment :

(i) les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

## **Radiation Exposure Statement**

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with greater than 23cm between the radiator & your body.

## **Déclaration d'exposition aux radiations**

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à plus de 23cm entre le radiateur et votre corps.

OEM integrator is still responsible for testing their end product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

**IMPORTANT NOTE:** In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the IC authorization is no longer considered valid and the IC No. cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate IC authorization.

## **Modular OEM Integrator Notice**

### **End Product Labeling**

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains transmitter module IC: 4701A-74892203".

*Contient le module d'émission IC: 4701A-74892203*

*The Host Model Number (HMN) must be indicated at any location on the exterior of the end product or product packaging or product literature which shall be available with the end product or online.*

## RED Compliance Statement

### Compliance with 2014/53/EU Radio Equipment Directive (RED)

In accordance with Article 10.8(a) and 10.8(b) of the RED, the following table provides information on the frequency bands used and the maximum RF transmit power of the product for sale in the EU:

Frequency Range (MHz)	Max. Transmit Power (dBm) EIRP
2412 ~ 2472	19.91 dBm
5180 ~ 5240	22.98 dBm
5250 ~ 5320	22.93 dBm
5500 ~ 5700	22.92 dBm

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

	AT	BE	BG	HR	CY	CZ	DK
	EE	FI	FR	DE	EL	HU	IE
	IT	LV	LT	LU	MT	NL	PL
	PT	RO	SK	SI	ES	SE	UK(NI)

This device is restricted to indoor use