User Manual

MW09
version 1.1

WiFi 6 AX1800 2x2 Dual Band Outdoor Wireless Access Point

IMPORTANT

To install this Access Point please refer to the
Quick Installation Guide included in the product packaging.

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Chapter 1
Product Overview

Overview

Key Features

• Dual concurrent 802.11ax architecture and backward compatible with ac wave2/ac/a/b/g/n client devices.

•Advanced 1024-QAM allows Access Points to carry more packets one time could work for delivering high speed rate than the legacy 11AC Access Points

•Bi-Directional (DL/UL) OFDMA utilizes air resource for Access Points and client devices efficiency.

•Bi-Directional (DL/UL) MU-MIMO will reduce usage of airtime for each transmission between Access Point and client devices.

•360° Dipole-directional antennas to achieve comprehensive coverage for networking client devices under a pervasive environment.

•Power source is complianced with 802.3at PoE Input for flexible installation and implementing remotely reset/reboot over 100 meters (328 feet).

•Robust housing with IP67 enclosure rated to deploy at extremely weather .

•Systemic and distributed management over Meter ezMaster, Skykey controller, and EWS Management switch without licensing or subscription fee.

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Introduction

Meter Wireless Long Access Point solution MW09 is designed for deploying on the versatile indoor and outdoor application. To meet today's requirement on varied networking environment, Meter would like to provide the solution as flexible, robust and effective as the organization they desire. The state-of-the-art OFDMA

and MU-MIMO technology brings revolutionary connecting speed and bandwidth for diversity of multimedia applications. MW09 11ax solution engineers with powerful RF interfaces that support maximum 2x2 spatial streams with 1201 Mbps in 5GHz frequency band and 574 Mbps in 2.4GHz frequency band. With robust IP67 certified casing, these access points is designed to withstand harsh environment conditions including serve and prolonged exposure to sunlight, extreme cold, frost, snow, rainfall, hail and humidity.

DL/UL MU-MIMO with OFDMA via Beamforming

Be a prior AX solution, Meter MW09 is not only built in powerful RF interfaces, but it also features advanced Multi-Users Multiple input Multiple output (MU-MIMO) on both download side and upload side, which enhances a dramatic breakthrough in the performance and flexible transmission between Access Points and wireless client devices.

MU-MIMO allows multiple spatial streams to be allocated to different clients simultaneously, increasing totally throughput, reduce latency, capacity of the WLAN system and increase spectral efficiency on download side. Compared to download side, MU-MIMO upload side will manage varied client devices to contest air resource within a channel under a pervasive environment. The MU-MIMO upload side coordinates with OFDMA upload side to arrange different types of traffic for using a proper bandwidth within a channel. The intelligent technology will carry multimedia content and web browsing data easily without consuming more time on round-trip between AP and client devices. The smoothly transmission will reduce collision times and enhance capacity of air resource, as well as optimize users experience.

Beamforming is a standard in 11ax which allows Access Points to focus energy of multiple antennas to transmit to a particular client device in that direction of that client. The innovative technology significantly enhances the higher signal-tonoise ratio and greater throughput of that client higher signal-to-noise ratio and greater throughput of that client.Meter

Enhance Capacity and Efficiency

Compared to 11ac solution, 11ax solution could carry 4x symbol OFDM symbol which can be significantly enhanced efficiency and transmitting PHY rate, as well as extend coverage on both indoor and outdoor application easily. To carry more data at the same time, modulation has been expanded from 11ac 256-QAM to 1024-QAM which can

be enhanced 25% capacity of bit and reduce error margin during delivering data. The other breakthrough innovation of 11ax is to introduced BSS coloring technology for marking different colors on each data which will allows client devices to stop

receiving a frame and return to sleep mode as soon as they recognize these frames are not of interest to them. The benefit of BSS coloring also reduces channel interference and channel collision of an access point, as well as improve to transmit signal easily.

System Requirements

The following are the Minimum System Requirements in order to configure the device.

- Computer with an Ethernet interface or wireless network capability

- Windows OS (XP, Vista, 7, 8, 10), Mac OS, or Linux-based operating systems

- Web-Browsing Application (i.e.: Internet Explorer, Firefox, Safari, or another similar browser application)

Package Contents

The package of MW09 contains the following items:*

- MW09
- Detachable Antennas - 2.4GHz*2/5GHz*2
- Pole Mount Strap*2
- Mountng Screw Set*2
- Mountng Bracket
- Ground Wire and Screw Set

*(all items must be in package to issue a refund):

Technical Specifications

Standard
IEEE802.11architecture and backward compatible with ac wave2/ac/a/b/g/n client devices.

Antenna
External 2.4GHz*5dBi*2 and 5GHz*5dBi*2 detachable antenna

Physical Interface
1 x 2.5 Gigabit ethernet port supports 802.3at PoE Input

LED Indicator
Power
LAN
2.4GHz
5GHz

Power Requirements
MW09 Include 802.3at PoE Adapter

Operation Modes

Access Point

Mesh

WDS AP
WDS Bridge
WDS Station

Advance RF Management
OFDMA-UL/DL
BSS Coloring
Distance Control (Ack Timeout)
Multicast Supported
Data Rate Selection
Auto Channel Selection

Auto Tx Power Selection
Site Survey
Fast Roaming (802.11k/v)
Band Steering
RSSI Threshold
MU-MIMO-UL/DL
Tx Beamforming-UL/DL

Easily Management
VLAN Tag / VLAN Pass-through
Guest Network
QoS: Complaint with IEEE 802.11e /WMM
RADIUS Accounting
Wireless STA (Client) connection list
Traffic Shaping (Per SSID/User)
Multi SSID
Management VLAN
VLAN per SSID
E-mail Alerts
WiFi Scheduler

Intuitive Tools
SNMP v1/v2c/v3 support
MIB I/II, Private MIB
Save Configuration as Default
CLI Support
WiFi-Scheduler/Auto Reboot
E-mail Alert

Reinforcement Security

WPA3/WPA2 Personal/Enterprise

802.1x Authentication

Hide SSID in beacons

MAC address filtering, up to 32 MACs per SSID
Wireless STA (Client) connection list

Https Support

SSH Support

Optimal Performance
QoS-Complaint with IEEE 802.11e standard
Power Save Mode (UPASD)
Pre-Authentication
PMK Caching
Fast Roaming (802.11r)
Multicast to Unicast
1024-QAM both on 2.4GHz/5GHz

Physical/Environment Conditions
Operating:
        Temperature: -20 ℃ to 60 ℃ (-4 ℉ to 140 ℉)
        Humidity (non-condensing): 90% or less
Storage:
        Temperature: -30 ℃ to 80 ℃ (-22 ℉ to 176 ℉)
        Humidity (non-condensing): 90% or less

Physical Interface - MW09

Mechanical & Environment

Length: 190 mm (7.48")

Width: 124 mm (4.88")

Depth: 47 mm (1.85")

Weight: 720g

*Above information is device Only

Proection Level: IP67

Surge Protection: 1KV

ESD Protection: Contact 4KV / Air 8KV

1 2.4GHz Antennas Detachable 5.17dBi 5GHz Dipole-directional Antennas

2 5GHz Antennas Detachable 5.17dBi 2.4GHz Dipole-directional Antennas

3 LAN Port (802.3af/at PoE): Ethernet port for RJ-45 cable.

4 LED Indicators: LED lights for Power, LAN Port , 2.4 GHz Connection and 5 GHz Connection. The color of LED light and active behavior is as below.

5 Mounting Holes: Using the provided hardware, the AP can be attached to a wall or pole.

*The installation angle of antenna must be vertical to the ground.

*This equipment is not suitable for use in locations where children are likely to be present.
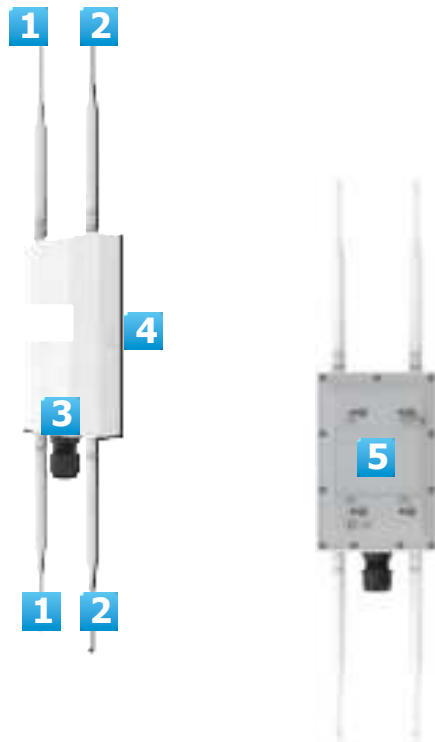
| LED Indicator	Color/Status	Definition
Power(PWR)	Off	System is off
	Orange Solid	System is on
	Orange Flashing	System is booting or upgrading
LAN	Off	LAN link is off
	Amber	10/100/1000Mbps link is on
	Amber Flashing	10/100/1000Mbps link data transmission
	Green	2.5Gbps link is on
	Geen Flashing	2.5Gbps link data transmission
WLAN-2.4GHz	Off	WLAN 2.4GHz interface is off
	Green	WLAN 2.4GHz interface is on
	Green Flashing	WLAN 2.4GHz interface data transmission
WLAN-5GHz	Off	WLAN 5GHz interface is off
	Green	WLAN 5GHz interface is on
	Green Flashing	WLAN 5GHz interface data transmission

Chapter 2
Before You Begin

Hardware Installation
MW09

1. Connect one end of the Ethernet cable into the LAN port (PoE) of the AP and the other end to the PoE port on the PoE adapter.

2. Connect the Power cord with the PoE Adapter and plug the other end into an electrical outlet.

3. Connect the second Ethernet cable into the LAN port of the PoE adapter and the other end to the Ethernet port on the computer.

4. Screw on the provided antennas to the top of this device

5. When all the process is completed, the LED light will be active as below.
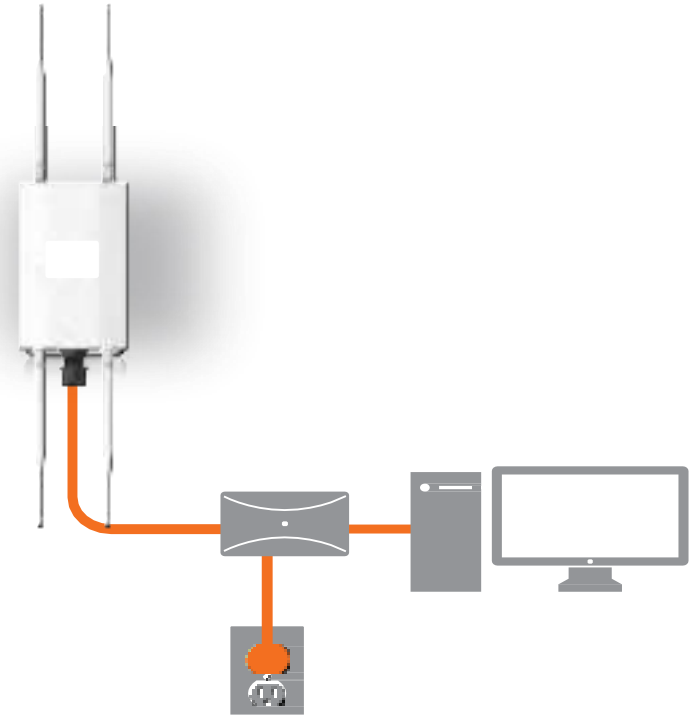
This diagram depicts the hardware configuration.

| LED	State	Description
PWR ⏻ (ORANGE)	OFF	No power connection.
	On Steady	When the device is connected to a power source.
LAN (PoE) (Green/Amber)	OFF	No Ethernet connection.
	On Steady	An active Ethernet connection is made to the LAN (PoE) port.
	Blink	Data is being Transmitting/Receiving. The LED color indicates the Ethernet connection speed. Amber for 2.5Gbps and Green for 1Gbps or 100Mbps.
2.4GHz (Green)	On Steady	Ready for data Transmitting/Receiving.
	Blink	Data is being Transmitting/Receiving.
5GHz (Green)	On Steady	Ready for data Transmitting/Receiving.
	Blink	Data is being Transmitting/Receiving.

Mounting the MW09

Using the provided hardware, the device can be attached to a wall or a pole. The height should not exceed 2 meter.
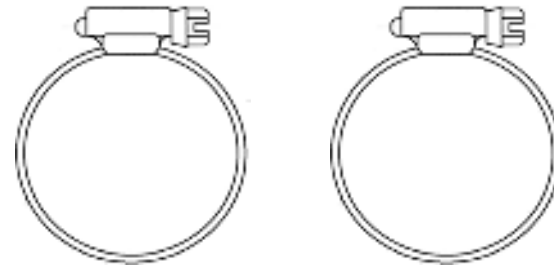
1. Wall Mounting Kit

Screw Set 1

-Anchors: Φ6.6*16 mm
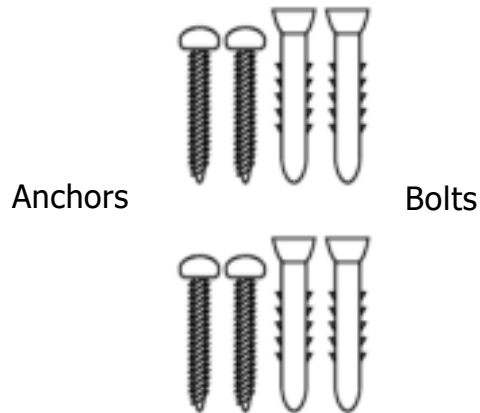
-Bolts: Φ8*25mm

Anchors   Bolts

Screw Set 2
-Screw - X type: Φ13*42 mm

-Screw - P type: Φ5.8*32 mm

2. Pole Mounting Strap*2
-Φ66*12.6 mm
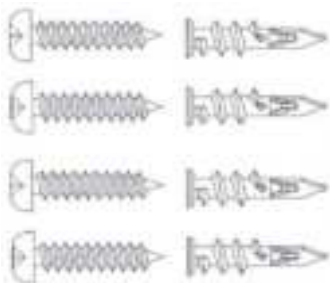
Wall mounting the MW09

A. Determine where the Access Point to be placed and mark location on the surface for the four mounting holes of wall mount base.

B. Use the appropriate drill bit to drill two 8.1mm diagram and 26mm depth holes in the markings and hammer the bolts into the openings. Screw the anhors into the holes until they are flush with the wall.

C. Screw the included screws into the anchors.

D. Slide the mount bracket into the slot of the Access Point.
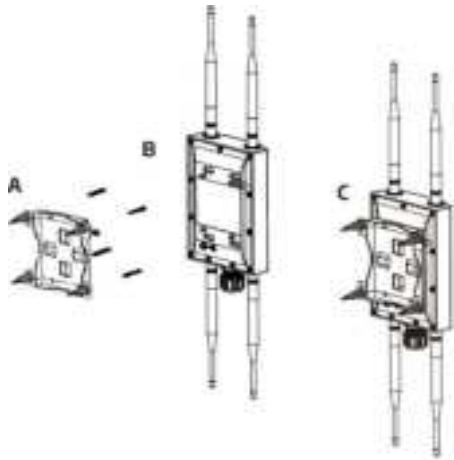
Pole mounting the MW09

A. Thread the open end of the Pole Strap through the two tabs on the Pole Mount Bracket.

B. Lock and tighten Pole Strap to secure Pole Mount Bracket to the pole.
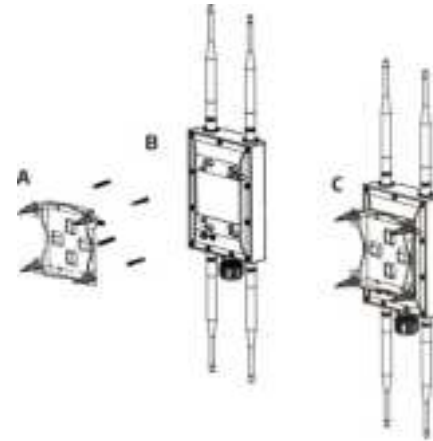
*The installation angle of antenna must be vertical to the ground.

Appendix

Appendix A - FCC Interference Statement

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 device and its antenna(s) m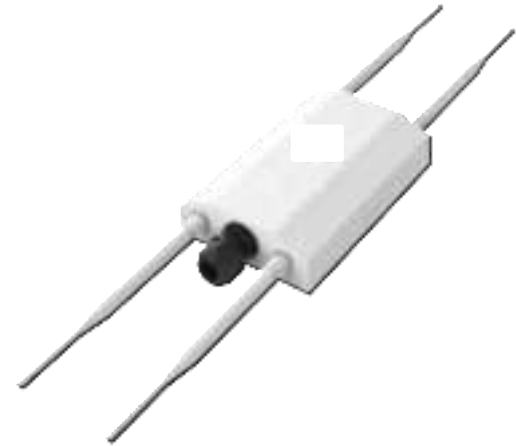ust not be co-located or operating in conjunction with any other antenna or transmitter.For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.Section 15.204(b) states that an approved "transmission system" must always be marketed as a complete system including the antenna.

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.

IMPORTANT NOTE:
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 a minimum distance of 26 cm between the radiator & your body.

Appendix B - Professional Installation Instruction (FCC)

Installation Personal

This product is designed for specific application and needs to be installed by a qualified personal who has RF and related rule knowledge. The general user shall not attempt to install or change the setting.

Installation Location

The product shall be installed at a location where the radiating antenna can be kept 26 cm from nearby person in normal operation condition to meet regulatory RF exposure requirement.

External Antenna

Use only the antennas which have been approved by the applicant. The non-approved antenna(s) may produce unwanted spurious or excessive RF transmitting power which may lead to the violation of FCC limit and is prohibited.

Installation Procedure

Please refer to user's manual for the detail.

Warning:

In order to make sure that the final output power does not exceed the limit set force in relevant rules, please carefully select the installation position and the installation angle of antenna must be vertical to the ground. The violation of the rule could lead to serious federal penalty.

Appendix C - IC Interference Statement

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.

Le présent appareil est conforme aux CNR d' ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Caution:

where applicable, antenna type(s), antenna models(s), and worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in section 6.2.2.3 shall be clearly indicated.

Avertissement:

lorsqu'il y a lieu, les types d'antennes (s'il y en a plusieurs), les numéros de modèle de l'antenne et les pires angles d'inclinaison nécessaires pour rester conforme à l'exigence de la p.i.r.e. applicable au masque d'élévation, énoncée à la section 6.2.2.3, doivent être clairement indiqués.

IMPORTANT NOTE:

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 minimum distance 26cm 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 avec un minimum de 26 cm de distance entre la source de rayonnement et votre corps.

DETACHABLE ANTENNA USAGE

This radio transmitter (IC: 10103A-MW09) has been approved by ISED to operate with the antenna type listed below with maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (IC: 10103A-MW09) a été approuvé par ISED 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, sont strictement interdits pour l'exploitation de l'émetteur.

Approved antenna(s) list

MW09

Type	Gain	Brand	Manufacturer
2.4GHz Dipole	5.17dBi	Master Wave Technology	Master Wave Technology
5 GHz Dipole	5.17dBi	Master Wave Technology	Master Wave Technology

Appendix D
Professional installation instruction (IC)

1. Installation personal
This product is designed for specific application and needs to be installed by a qualified personal who has RF and related rule knowledge. The general user shall not attempt to install or change the setting.

2. Installation location
The product shall be installed at a location where the radiating antenna can be kept 26cm from nearby person in normal operation condition to meet regulatory RF exposure requirement.

3. External antenna
Use only the antennas which have been approved by the applicant. The non-approved antenna(s) may produce unwanted spurious or excessive RF transmitting power which may lead to the violation of FCC/ISED limit and is prohibited.

4. Installation procedure
Please refer to user's manual for the detail.

5. Warning
Please carefully select the installation position and make sure that the final output power does not exceed the limit set force in relevant rules. The violation of the rule could lead to serious federal penalty.

Instructions d'installation professionnelle

1. Installation

Ce produit est destine a un usage specifique et doit etre installe par un personnel qualifie maitrisant les radiofrequences et les regles s'y rapportant. L'installation et les reglages ne doivent pas etre modifies par l'utilisateur final.

2. Emplacement d'installation

En usage normal, afin de respecter les exigences reglementaires concernant l'exposition aux radiofrequences, ce produit doit etre installe de facon a respecter une distance de 26cm entre l'antenne emettrice et les personnes.

3. Antenn externe.

Utiliser uniiquement les antennes approuvees par le fabricant. L'utilisation d'autres antennes peut conduire a un niveau de rayonnement essentiel ou non essentiel depassant les niveaux limites definis par FCC/ISED, ce qui est interdit.

4. Procedure d'installation

Consulter le manuel d'utilisation.

5. Avertissement

Choisir avec soin la position d'installation et s'assurer que la puissance de sortie ne depasse pas les limites en vigueur. La violation de cette regle peut conduire a de serieuses penalites federales.