WEA554i/d Quick User Guide

**SAMSUNG**

Overview

▮ WEA554i/d Overview

The WEA554i/d is an outdoor Wireless Enterprise AP that supports IEEE 802.11ac wave2 specifications.
It connects UE that supports wireless LAN, such as smartphones, tablets or laptops to a wired network in an outdoor environment.
The WEA554i/d supports the following features.

- IEEE 802.11a/b/g/n/ac wave2 standards and Security/QoS specifications
- IEEE 802.3af/802.3at standards PoE (Power over Ethernet)
- 4 × 4 MU-MIMO with 4 spatial streams
- Wireless LAN through both 2.4-GHz and 5-GHz bandwidths
- A LED indicating the operational status of WEA554i/d.
- Operating temperature: -40 to +65°C (without solar loading)
- Resistance to dust/water: IP66 & IP67

▮ Components

After unpacking the packaging of WEA554i/d, confirm that all of the package contents below are included.

Package Contents
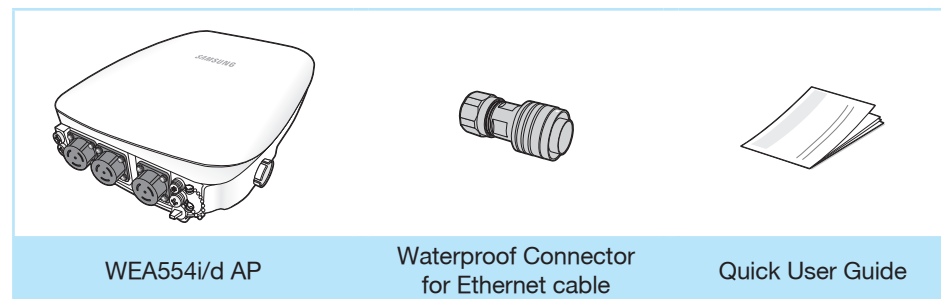
| WEA554i/d AP | Waterproof Connector for Ethernet cable | Quick User Guide |

Additional Components for Each Type of Installation

WEA554i/d supports six types of installation as described in the table below.
The types of installation differ depending on the installation method (Vertical/Tilt/Horizontal) and the mounting position (wall/pole).
The additional components (kit) required for each type of installation must be purchased separately.

Installation Method \ Mounting Position	Wall	Pole
Vertical Installation	Type 1: Vertical_Wall Installation (Vertical installation kit 1 pc.)	Type 2: Vertical_Pole Installation (Vertical installation kit 1 pc., metal band 2 pc.)
Tilt Installation	Type 3: Tilt_Wall Installation (Tilt installation kit 1 pc.)	Type 4: Tilt_Pole Installation (Tilt installation kit 1 pc., metal band 2 pc.)
Horizontal Installation	Type 5: Horizontal_Wall Installation (Horizontal installation kit 1 pc.)	Type 6: Horizontal_Pole Installation (Horizontal installation kit 1 pc., metal band 2 pc.)

NOTE If installing the WEA554i/d on a wall, purchase an additional components kit depending on the type of installation (vertical/tilt/horizontal).
However, when installing the WEA554i/d on a pole, purchase the additional components kit with two metal bands.

Additional Components (Sold Separately)
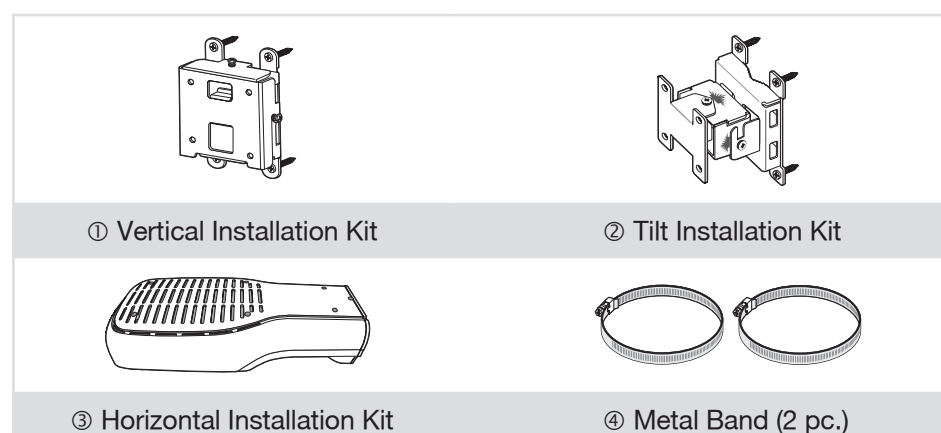
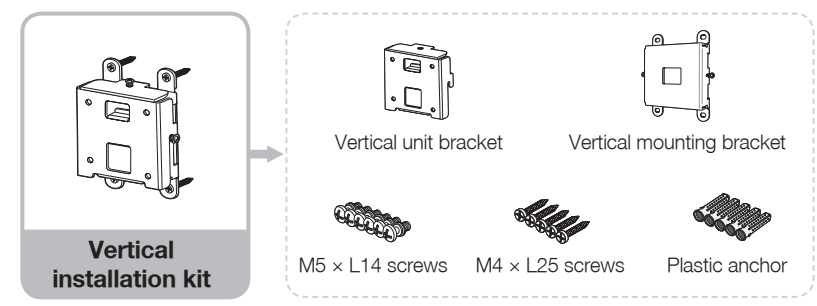| ① Vertical Installation Kit | ② Tilt Installation Kit |
| ③ Horizontal Installation Kit | ④ Metal Band (2 pc.) |

NOTE For additional components, single units, which are not assembled as a kit, are packaged and sold in bulk. After purchase, you should therefore assemble and use the units in the form of a combination or kit suitable for installation by referring to the 'WEA554i/d Installation Manual' on the website below.
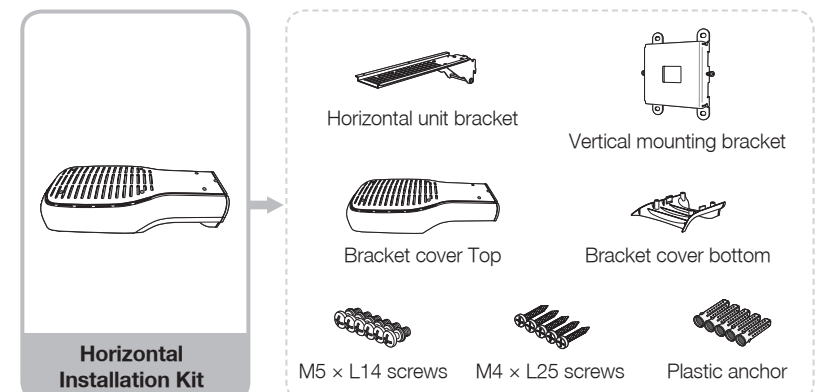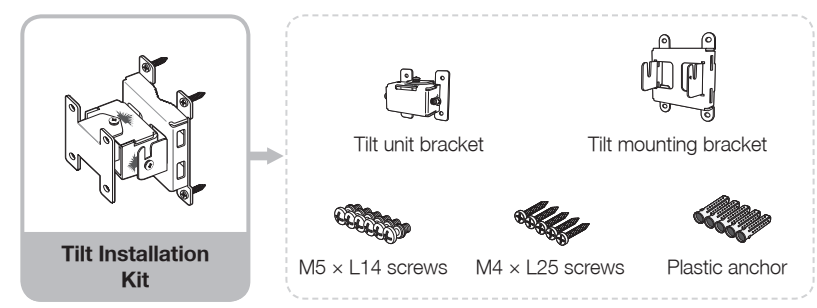- http://www.samsungdocs.com
- http://v3.samsunggsbn.com/b2t

NOTE The vertical installation kit consists of five sub-units.

Vertical installation kit — Vertical unit bracket — Vertical mounting bracket — M5 × L14 screws — M4 × L25 screws — Plastic anchor

NOTE The horizontal installation kit consists of seven sub-units.

Horizontal Installation Kit — Horizontal unit bracket — Vertical mounting bracket — Bracket cover Top — Bracket cover bottom — M5 × L14 screws — M4 × L25 screws — Plastic anchor

NOTE The tilt installation kit consists of five sub-units.

Tilt Installation Kit — Tilt unit bracket — Tilt mounting bracket — M5 × L14 screws — M4 × L25 screws — Plastic anchor
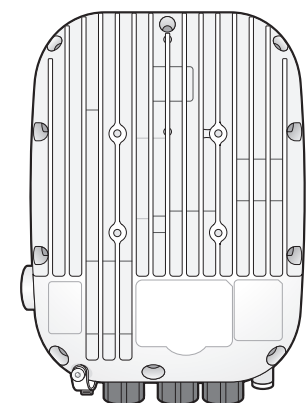
Name and Function

Front/Back
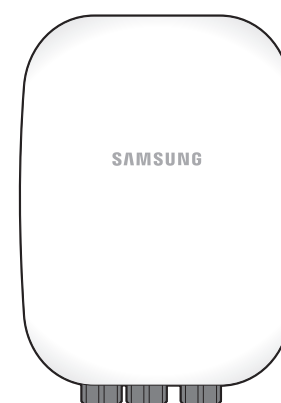
[Front] [Back]

Side (Left/Right)

[Left] [Right]

Base

ETH(PoE) ETH SFP RESET

Ground terminal   Ethernet port (PoE)   Ethernet port   Optical port   Factory reset switch   Status LED
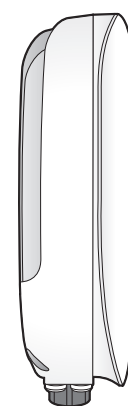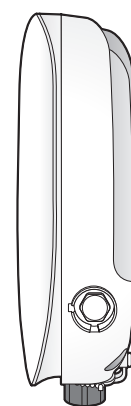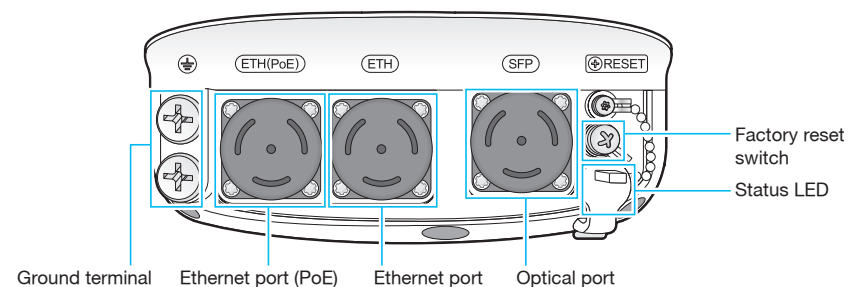
Interface

Interface	Description
Status LED	Indicates the operating status of WEA554i/d.
Ethernet port (PoE)	Supports 1000 BASE-T Gigabit Ethernet and PoE IEEE 802.3af/802.3at.
Ethernet port	Supports 1000 BASE-T Gigabit Ethernet.
Optical (SFP) port	Supports 1000 BASE-X Gigabit Ethernet.
Factory reset switch	Used to reset WEA554i/d to its default factory settings.

Status LED

Operation Mode	LED Status	Description
System start	White	Initial LED status
	Blue	Device reset and diagnostic test
	Red	Boot failure (device reset failure)
Provisioning	Repeating red and green	Connecting APC (network link: normal)
	Blinking green	Connecting CAPWAP link (APC server connection: normal)
Normal operation	Green	Wireless UE not connected
	Blue	Wireless UE connected
Upgrade	Blinking blue	Upgrading software
Failure	Blinking red	Network connection failure
	Blinking yellow	IP address conflict
	Blinking purple	Dynamic IP address allocation failure
	Blinking bluish green	Network connection failure
	Repeating red and blue	Wireless interface failure

Installation

Please check if all components are included before installation.
The WEA554i/d can be installed on a pole or wall according to its installation environment, and can be installed vertically or horizontally depending on its installation purpose. When installing vertically, make sure that the I/O ports are facing downwards.

Before Installation

Safety Recommendations

Carefully observe the following safety warnings in order to avoid the risk of damage or injury. For safe use, make sure to be well-informed.

WARNING
- There is a risk of electrical shock.
  Make sure that the power is turned off during installation. Do not proceed with the installation if there is any electrical current leaking. It may cause a serious electric shock.
- Wear anti-static gloves or take an appropriate action to prevent ESD when handling the product.
- Do not connect a phone line to an Ethernet port.
  This may damage the product.
- This product must be connected to a power supply in compliance with IEEE 802.3af/at or connected to a limited power supply in compliance with IEC/EN/UL 60950-1.

CAUTION
- This product must be installed or removed by appropriately trained service personnel only.
- Install WEA554i/d outdoor, since it is for outdoor use.
  For further details, refer to Environment A of IEEE 802.3af standard.
- During installation, this product must be installed at least 3 m or more apart from WiMAX/3G/4G repeater or antenna.

Safety Signs

WARNING
Do not wear metal accessories
Be careful not to short-circuit the power line with metal accessories that you may be wearing, such as a watch or ring.

WARNING
Be careful when using a Megger tester
When using an insulation resistance tester, keep in mind the following safety precautions to prevent an electric shock:
- Connect the Earth COM (black) and AC.V (red) lead wires to the correct polarities. At this point, make sure that you do not touch the connected probe (the reading part of the lead wire) with your hand or any other body parts.
- Never touch the system with any part of your body while measuring the insulation resistance.

WARNING
Ground Cable Connection
When connecting the cables, always connect the ground cable first. Contacting the system, connecting the cables or maintaining the system without the connection of the ground cable may damage the system due to static electricity and short-circuit. This may also lead to injuries to the operator.

CAUTION
Measuring the Insulation Resistance
When measuring the insulation resistance, high voltage is used. Therefore, please follow the precautions below in order to prevent any personal injuries or damage to the system.
- Disconnect all cables that are connected to the system before measuring the insulation resistance.
- Do not measure the insulation resistance when the power is on.
- Do not measure the insulation resistance of the internal system units and the components other than the intended area.

CAUTION
Grounding the System
The MGBs for the lightning arrester, power or communication must be separated. These three types of MGBs can be grounded by the isolation grounding system or the common grounding system that is branched off at the mesh installed underground.

Installation Instructions

Follow the instructions below carefully during installation.
- The location of the system must be easily accessible for installation, cable connection or maintenance purposes.
- The PoE LAN cable must always be installed away from any sources of electrical interference, such as a power lines, fluorescent lights, radios or transmitters.
- For PoE LAN cable, use SFTP (Shielded Foiled Twisted Pair) cable of CAT.6 or above with Φ 8.1-8.5.
- If PoE switch is unable to use, a PoE injector that satisfies IEEE 802.3af/at power specifications may be used.
- When installing the WEA554i/d more than 100 m away from the APC, it is recommended to use SFP (small form pluggable) optical modules that fulfill 1000 BASE-X specifications. To avoid any compatibility issues, use SFP optical modules from the same manufacturer with the same specifications. In addition, PoE injectors and SFP optical modules must fulfill the operating temperature of the WEA554i/d APs.
- The 3-pin (including ground) power plug that supplies 100-240 V AC, 50-60 Hz must be within 2 m of each device, and the power must be supplied through an independent circuit breaker.
- It is recommended to use an equipment that uses a filter or a surge breaker.

Grounding

Grounding is the process of operating an electronic system (for example, power supplying system, communication system, and control system) stably from a lightning, transient-current, transient-voltage, and electric noise and of preventing injury from electric shock.

Ground equipment minimizes the electrical potential of the electronic device to that of the ground, which is zero electrical potential, so that it can prevent the device from occurring electrification.

WARNING
Connect the ground cable first. In cabling, the connection of cables without the connection to the ground cable may cause damage of the equipment or bodily injury to personnel.

The purposes of the ground construction are as follows:
- To prevent human life and the system from over-current, over-voltage, and lightning.
- To provide a discharge path for surge voltage generated by lightning and power switch.
- To protect the system from static electricity.
- To eliminate or minimize the high-frequency potential in the system housing.
- To provide a conductor for the balance and stability of high-frequency current.
- To stabilize the potential of the circuit against the ground.

Connecting Ground Cable

To connect the ground cable, do the following:

1. Make sure you have the following items:

- Parts and Tools for connecting Ground Cable

Category	Description
Installation Section	MGB~Outdoor AP Ground Terminal
Cable	4 mm^2 × 1C
Heat Shrink Tube (Spec/Color/Length)	Φ 0.39 in. (10 mm)/Green/1.96 in. (50 mm)

| Category	Description	
Pressure Terminal	MGB	Checking MGB specifications per site and preparing connecting parts
	Outdoor AP	- AWG 8 - 2 Hole - Hole diameter: 1/4 in. (6.3 mm) - Hole spacing: 0.63 in. (16 mm)
Fastener	MGB	Checking MGB specifications per site and preparing connecting parts
	Outdoor AP	M6 × L14 SEMS/2EA
Recommended Torque Value	M6 SEMS	43 lbf·in (50 kgf·cm)
Working Tools	- Torque Driver (10~50 kgf·cm) - Screw Driver Bit ('+', No. 3) - Cable Cutter (6~32 mm) - Crimping Tool (1.5~16 mm^2) - Cable Stripper - Heating Gun - Nipper	

NOTE

For the pressure terminal of the cable, the UL listed products or equivalent should be used.
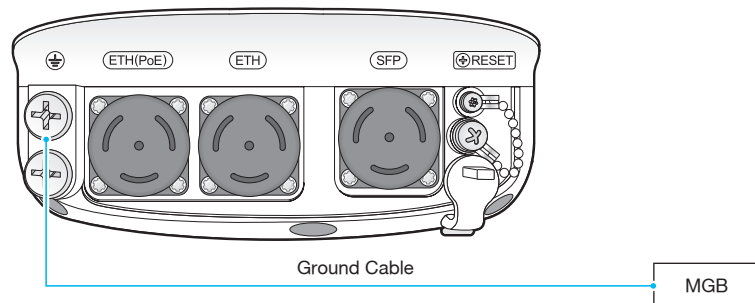For example, Manufacturer-Panduit
- Outdoor AP: 4 mm^2 Pressure Terminal (LCD10-14AF-L)
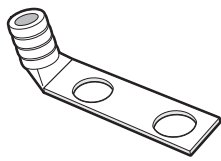
2. Install the ground cable from the MGB to the Outdoor AP ground terminal.

- Connecting Ground Cable (1)

ETH(PoE)   ETH   SFP   RESET

Ground Cable

MGB

3. Assemble a pressure terminal and a heat shrink tube at the end of the Outdoor AP ground cable.

4. Align the pressure terminal to the mounting hole of the Outdoor AP ground terminal (Special Bolt).

5. Fix the pressure terminal firmly onto the Outdoor AP ground terminal using fasteners.

- Connecting Ground Cable (2)

Special Bolt

Pressure Terminal

M6 SEMS

Ground Cable
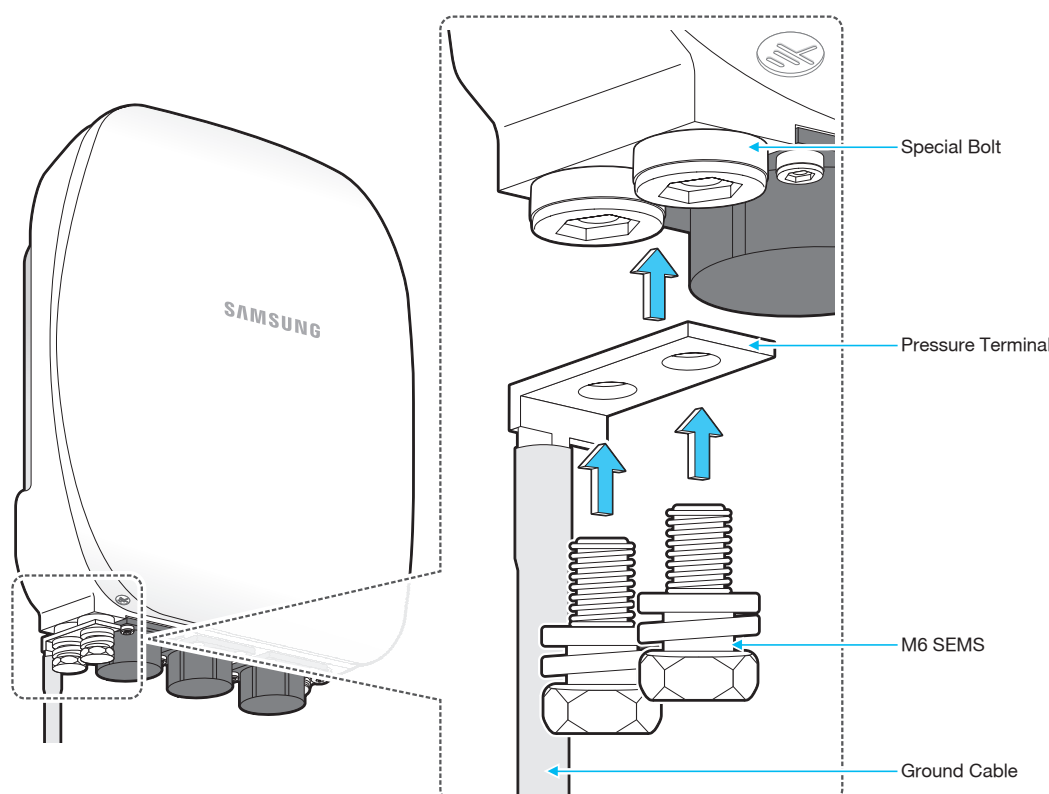
Installation Method and Procedures

For further details on the method and procedures for installing the WEA554i/d, refer to 'WEA554i/d Installation Manual' provided on the website below.

NOTE

Web-sites that provides 'WEA554i/d Installation Manual' is as follows.
- **Main Site**: http://www.samsungdocs.com
- **Support Site**: http://v3.samsunggsbn.com/b2t

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.

CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The 5150-5250 MHz band is restricted to indoor use only. (Canada)
The 5150-5350 MHz band is restricted to indoor use only. (Europe)
This device complies with Industry Canada license-exempt RSS standard(s). 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.
Le présent appareil est conforme aux CNR d'Industrie 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, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

RF Radiation Exposure Statement:

This equipment complies with RF radiation exposure limits set forth for an uncontrolled environment.
This equipment should be installed and operated with a minimum distance of 50 cm between the radiator and your body.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

RSS-102 RF Exposure

L'antenne (ou les antennes) doit être installée de façon à maintenir à tout instant une distance minimum de au moins 50 cm entre la source de radiation (l'antenne) et toute personne physique.
Cet appareil ne doit pas être installé ou utilisé en conjonction avec une autre antenne ou émetteur.

This product is RoHS compliant.

Regulatory Information
"Hereby, Samsung Electronics declares that the WEA554i and WEA554d are in compliance with Directive 2014/53/EU.
The full text of the EU declaration of conformity is available at the following internet address:
http://www.samsungdocs.com, go to Search Product and enter the model name."

Frequency Range	Output Power (Max.)
2400~2483.5 MHz (WLAN 2.4G)	Below 20 dBm
2400~2483.5 MHz (BLE)	Below 20 dBm
5150~5350 MHz (WLAN 5G LB)	Below 23 dBm
5470~5725 MHz (WLAN 5G HB)	Below 30 dBm
5725~5875 MHz (non-Specific SRD)	Below 14 dBm (20 mW)

AT	BE	CY	DK	EE	FI
DE	EL	IE	LU	MT	NL
SI	ES	SE	UK	NO	CH