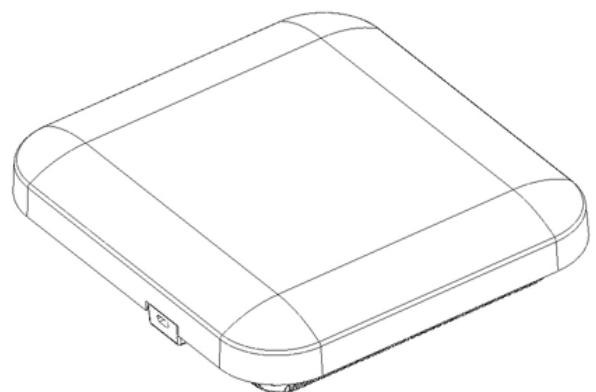
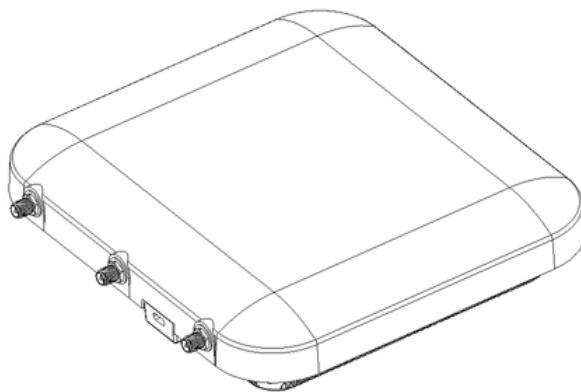


AP-7532 Access Point INSTALLATION GUIDE



Zebra and the Zebra head graphic are registered trademarks of ZIH Corp. The Symbol logo is a registered trademark of Symbol Technologies, Inc., a Zebra Technologies company.

© 2015 Symbol Technologies, Inc.

1.0 Introduction	5
1.1 Document Conventions	5
1.2 Warnings	6
1.3 Site Preparation	6
1.4 AP-7532 Package Contents	6
1.4.1 Features	6
1.5 AP-7532 Antennas	7
2.0 Hardware Installation	9
2.1 Installation Instructions	9
2.2 Precautions	9
2.3 Access Point Placement	10
2.4 Power Injector System	10
2.5 Wall Mount Instructions	12
2.5.1 Wall Mount Procedure - New Installation	13
2.5.2 Wall Mount Procedure - Existing Access Point Replacement ..	14
2.6 Suspended Ceiling T-Bar Mount Installation	15
2.7 LED Indicators	18
3.0 Basic Access Point Configuration	20
4.0 AP-7532 Access Point Specifications	31
4.1 Electrical Characteristics	31
4.2 Physical Characteristics	31
4.3 Radio Characteristics	32
5.0 Regulatory Information	33
5.1 Regulatory Information	33
5.2 Wireless Device Country Approvals	33
5.2.1 Country Selection	34
5.2.2 Frequency of Operation - FCC and IC	34
5.3 Health and Safety Recommendations	35
5.3.1 Warnings for the use of Wireless Devices	36

5.3.2 Potentially Hazardous Atmospheres - Fixed Installations	36
5.3.3 Safety in Hospitals	36
5.4 RF Exposure Guidelines	37
5.4.1 Safety Information	37
5.4.2 International	37
5.4.3 EU	37
5.4.4 US and Canada	37
5.5 Power Supply	38
5.6 Radio Frequency Interference Requirements - FCC	38
5.6.1 Radio Transmitters - Part 15	38
5.6.2 Radio Frequency Interference Requirements - Canada	38
5.7 CE Marking and European Economic Area (EEA)	39
5.8 Statement of Compliance	40
5.9 Japan (VCCI) - Voluntary Control Council for Interference	40
5.10 Korea Warning Statement for Class B ITE	40
5.11 Other Countries	40
5.12 Waste Electrical and Electronic Equipment (WEEE)	41
5.13 Turkish WEEE Statement of Compliance	42
6.0 Support	43
7.0 Symbol Technologies End-User Software License Agreement ..	44
8.0 AP-7532 Access Point China ROHS Compliance	51

1 Introduction

The AP-7532 external antenna and internal antenna Access Point's are mid-tier Access Point's with a relatively small footprint which supports functionality for dependable and efficient network performance. The AP-7532 is a 3x3:3 802.11ac Access Point utilizing one 2.4 GHz 802.11n radio and one 5 GHz 802.11ac radio. The Access Point housing is Plenum-rated (UL2043).

The Access Point's unique WiNG 5 software enables the Access Point to function as either a *Standalone Access Point*, an *Adaptive Access Point*, or a *Virtual Controller*.

If new to Access Point technology, refer to the *WiNG Access Point System Reference Guide* to familiarize yourself with Access Point technology and the feature set supported by the WiNG operating system. The guide is available at www.zebra.com/support.

This document is written for the qualified network device installer.

1.1 Document Conventions

The following graphical alerts are used in this document to indicate notable situations:



NOTE Tips, hints, or special requirements that you should take note of.



CAUTION Care is required. Disregarding a caution can result in data loss or equipment malfunction.



WARNING! Indicates a condition or procedure that could result in personal injury or equipment damage.

1.2 Warnings

- Read all installation instructions and site survey reports, and verify correct equipment installation before connecting the AP-7532 Access Point.
- Remove jewelry and watches before installing this equipment.
- Verify any device connected to this unit is properly wired and grounded.
- Verify there is adequate ventilation around the device, and that ambient temperatures meet equipment operation specifications.

1.3 Site Preparation

- Consult your site survey and network analysis reports to determine specific equipment placement, power drops, and so on.
- Assign installation responsibility to the appropriate personnel.
- Identify and document where all installed components are located.
- Ensure adequate, dust-free ventilation to all installed equipment.
- Identify and prepare Ethernet and console port connections.
- Verify cable lengths are within the maximum allowable distances for optimal signal transmission.

1.4 AP-7532 Package Contents

An AP-7532 Access Point is available in both external antenna (AP-7532) and internal antenna (AP-7532I) configurations. An AP-7532 ships with the following:

- AP-7532 Access Point
- AP-7532 Installation Guide (*This Guide*)
- Wall mount screws and mounting bracket

1.4.1 Features

An AP-7532 Access Point supports the following feature set:

- Two RJ-45 connectors (GE1/POE and Console)
- Two LED indicators
- One 2.4 GHz 802.11n radio and one 5 GHz 802.11ac radio
- 3x3 MIMO, 3 spatial streams

The GE1/POE accepts 802.3at or 802.3af compliant power from an external source.



NOTE When operating in a Gigabit Ethernet environment, CAT-5e or CAT-6 cable is recommended for Gigabit operation.

1.5 AP-7532 Antennas

1.5.1 AP-7532 Dual Band 2.4 GHz / 5 GHz Antennas - US

An AP-7532 external antenna Access Point supports the following dual band antenna options for the US:



NOTE Per FCC requirement, the use of the Access Point on UNII-1 of 5GHz band requires installers to input antenna elevation gain during configuration if the AP placement is for outdoor coverage. This information can be found in Zebra antenna guide located at www.zebra.com/support.

Part Number	Antenna Type	2.4 GHZ Gain (dBi)	5 GHZ Gain (dBi)	Elevation Gain for outdoor placement (dBi)
ML-2452-APA2-01	Dipole	3.17	4.85	na*
ML-2452-HPA5-036	Dipole	3	5	na*
ML-2452-APAG2A1-01	Dipole	2.7	1.7	na*
ML-2452-PNL9M3-N36	Polarized -Panel	11	10.7	7.3
ML-2452-PNA5-01R	Panel	5.5	6	5.2
ML-2452-PTA3M3-036	Patch	5	4	na*
ML-2452-VMM5M3-N72	Patch	4.5	5.4	2.9

* This antenna is for indoor placement only.

1.5.2 AP-7532 Dual Band 2.4 GHz / 5 GHz Antennas - EU

An AP-7532 external antenna Access Point supports the following dual band antenna options for the EU:

Part Number	Antenna Type	2.4 GHZ Gain (dBi)	5 GHZ Gain (dBi)
ML-2452-APA2-01	Dipole	3.17	4.85
ML-2452-HPA5-036	Dipole	3	5
ML-2452-APAG2A1-01	Dipole	2.7	1.7
ML-2452-HPAG4A6-01	Dipole	4	7.3
ML-2452-HPA6-01	Dipole	5.3	6.1
ML-2452-PNL6M3-N36	Polarized -Panel	6	6
ML-2452-PNA5-01R	Panel	5.5	6
ML-2452-PTA3M3-036	Patch	5	4

Part Number	Antenna Type	2.4 GHZ Gain (dBi)	5 GHZ Gain (dBi)
ML-2452-VMM5M3-N72	Patch	4.5	5.4

1.5.3 AP-7532 Internal Antenna Model

An AP-7532 internal antenna Access Point supports the following dual band antenna:

Antenna Type	2.4 GHZ Gain (dBi)	5 GHZ Gain (dBi)
PIFA	4.13	5.92

1.5.4 AP-7532 Dual Band 2.4 GHz / 5 GHz Antennas - Canada

An AP-7532 external antenna Access Point supports the following dual band antenna options for Canada:

Part Number	Antenna Type	2.4 GHZ Gain (dBi)	5 GHZ Gain (dBi)
ML-2452-APA2-01	Dipole	3.17	4.85
ML-2452-HPA5-036	Dipole	3	5
ML-2452-APAG2A1-01	Dipole	2.7	1.7
ML-2452-PNL9M3-N36	Polarized -Panel	11	10,7
ML-2452-PNA5-01R	Panel	5.5	6
ML-2452-PTA3M3-036	Patch	5	4
ML-2452-VMM5M3-N72	Patch	4.5	5.4

2 Hardware Installation

2.1 Installation Instructions

An AP-7532 Access Point mounts either on a wall (with $M\ 3.5 \times 0.6 \times 23\ MM$ pan head screws and mounting bracket- or equivalent) or on a suspended ceiling T-bar.

To prepare for the installation:

1. Match the part number on the purchase order with the part numbers in the packing list and on the case of the Access Point.
2. Verify the contents of the box include the intended AP-7532 Access Point, and the included hardware matches the package contents (see [AP-7532 Package Contents on page 6](#)).

Part Number	Description
AP-7532-67040-US	AP-7532 dual radio 802.11ac 3x3:3 MIMO Access Point external antenna US version
AP-7532-67040-WR	AP-7532 dual radio 802.11ac 3x3:3 MIMO Access Point external antenna International version
AP-7532-67040-EU	AP-7532 dual radio 802.11ac 3x3:3 MIMO Access Point external antenna EU version
AP-7532-67030-US	AP-7532 dual radio 802.11ac 3x3:3 MIMO Access Point internal antenna US version
AP-7532-67030-WR	AP-7532 dual radio 802.11ac 3x3:3 MIMO Access Point internal antenna International version
AP-7532-67030-EU	AP-7532 dual radio 802.11ac 3x3:3 MIMO Access Point internal antenna EU version

3. Review site survey and network analysis reports to determine the location and mounting position for the AP-7532 Access Point.
4. Connect a CAT-5 or better Ethernet cable to a compatible 802.3at or 802.3af power source and run the cable to the installation site. Ensure there is sufficient slack on the cable to perform the installation steps.



NOTE When operating in a Gigabit Ethernet environment, CAT-5e or CAT-6 cable is recommended for Gigabit operation.

2.2 Precautions

Before installing an AP-7532 Access Point, verify the following:

- Your are using the correctly rated power solution for the AP-7532 (either the AP-PSBIAS-2P3-ATR power injector or the PWRS-14000-54R external power supply)
- Do not to install the AP-7532 in wet or dusty areas.
- Verify the environment has a continuous temperature range between $-4^{\circ}\text{ F to }104^{\circ}\text{ F}$ / $-20^{\circ}\text{ C to }40^{\circ}\text{ C}$ for external antenna Access Points and $32^{\circ}\text{ F to }104^{\circ}\text{ F}$ / $0^{\circ}\text{ C to }40^{\circ}\text{ C}$ for internal antenna Access Points.

2.3 Access Point Placement

For optimal performance, install the Access Point away from transformers, heavy-duty motors, fluorescent lights, microwave ovens, refrigerators and other industrial equipment. Signal loss can occur when metal, concrete, walls or floors block transmission. Install the Access Point in an open area or add Access Points as needed to improve coverage.

Antenna coverage is analogous to lighting. Users might find an area lit from far away to be not bright enough. An area lit sharply might minimize coverage and create *dark areas*. Uniform antenna placement in an area (like even placement of a light bulb) provides even, efficient coverage.

Install the Access Point at an ideal height of 10 feet from the ground.

To maximize the Access Point's radio coverage area, recommends conducting a site survey to define and document radio interference obstacles before installing the Access Point.

2.4 Power Injector System

An AP-7532 Access Point can receive power via an Ethernet cable connected to the GE1/POE (LAN) port.

When users purchase a WLAN solution, they often need to place Access Points in obscure locations. In the past, a dedicated power source was required for each Access Point in addition to the Ethernet infrastructure. This often required an electrical contractor to install power drops at each Access Point location. The Power Injector merges power and Ethernet into one cable, reducing the burden of installation and allowing optimal Access Point placement in respect to the intended coverage area.



CAUTION Using a non-compliant injector, or an injector supporting legacy modes will not allow the AP-7532 to function at optimum performance levels.



CAUTION Do not plug the AP-PSBIAS-2P3-ATR Power Injector into the Access Point's Console port. Connecting the Power Injector into the console port can damage the port and void the AP-7532's product warranty.

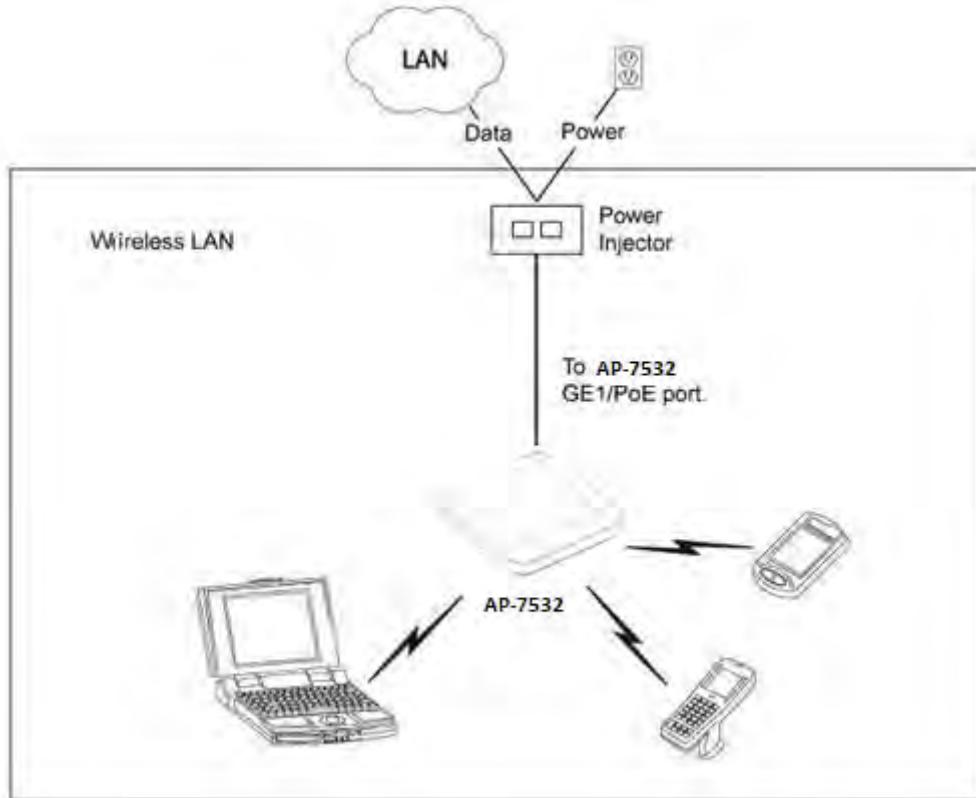
The AP-7532's supported Power Injector (Part No. AP-PSBIAS-2P3-ATR) is a high power POE Injector delivering up to 30 watts. The Access Point can only use a Power Injector when connecting the unit to the Access Point's GE1/POE port. The Power Injector is separately ordered and not shipped with an existing AP SKU.

The Access Point Power Supply (Part No. PWRS-14000-54R) is not included with the Access Point and is orderable separately as an accessory. If the Access Point is provided both POE power and PWRS-14000-54R power concurrently, the Access Point will source power from the PWRS-14000-54R supply only. Disconnecting the AC power from the PWRS-14000-54R causes the Access Point to re-boot before sourcing power from the POE power injector. If the AP is operating using injector supplied power, the AP will not automatically reboot if an AC adapter is connected. The Access Point continues to operate with power supplied from the AC adapter without change to the Access Point operating configuration. If using AC adapter supplied power and a change to the AP's operating configuration is warranted, the Access Point needs to be manually rebooted by the customer.



CAUTION The Access Point supports any standards-based compliant power source. However, using the wrong solution (including a POE system used on a legacy Access Point) could either limit functionality or severely damage the Access Point and void the product warranty.

A separate Power Injector is required for each AP-7532 Access Point comprising the network.



The Power Injector can be installed free standing, on an even horizontal surface or wall mounted using the power injector's wall mounting key holes. The following guidelines should be adhered to before cabling the Power Injector to an Ethernet source and an Access Point:

- Do not block or cover airflow to the Power Injector.
- Keep the Power Injector away from excessive heat, humidity, vibration and dust.
- The Power Injector isn't a repeater, and does not amplify the Ethernet signal. For optimal performance, ensure the Power Injector is placed as close as possible to the data port.



CAUTION To avoid problematic performance and restarts, disable POE from a wired switch port connected to an Access Point if mid-span *power sourcing equipment* (PSE) is used between the two, regardless of the manufacturer of the switch.



CAUTION Ensure AC power is supplied to the Power Injector using an AC cable with an appropriate ground connection approved for the country of operation.

To install the Power Injector to an Ethernet data source and an Access Point:

1. Connect the Power Injector to an AC outlet (110VAC to 220VAC).
2. Connect an RJ-45 Ethernet cable between the Power Injector **Data & Power Out** connector and the Access Point's GE1/POE port.
3. Connect an RJ-45 Ethernet cable between the network data supply (host) and the Power Injector **Data In** connector.

Ensure the cable length from the Ethernet source (host) to the Power Injector and Access Point does not exceed 100 meters (333 ft).

The Power Injector has no On/Off power switch. The Injector receives power and is ready for device connection and operation as soon as AC power is applied. Refer to the *Installation Guide* shipped with the Power Injector for a description of the device's LEDs.

2.5 Wall Mount Instructions

A wall mount deployment requires hanging the AP-7532 Access Point with the provided mounting bracket and two screws. The AP-7532 can be mounted on to any plaster, wood or cement wall surface using the provided mounting bracket.

The hardware required to install the AP-7532 on a wall consists of:

- Two wide-shoulder Phillips pan head self-tapping screws (M3.5 x 0.6 x 23 mm)
- Mounting bracket

Optional customer provided installation tools include:

- Phillips head screw driver, or drill and drill bit

2.5.1 Wall Mount Procedure - New Installation

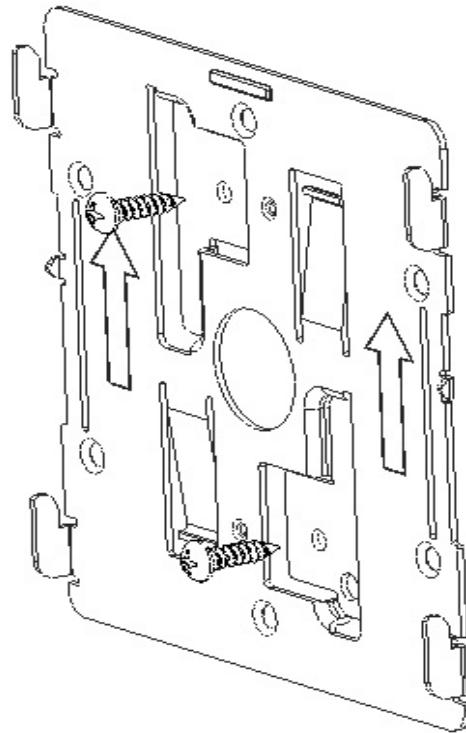
This section describes a new AP-7532 installation with no previous Access Point existing on the intended wall surface.

1. Place the mounting bracket against the wall.
2. Mark the screw hole locations depending on the intended deployment orientation of the unit.



NOTE When pre-drilling a hole the recommended hole size is 4mm (0.16in.).

3. At each point, drill a hole in the wall and attach the mounting bracket.



4. Place the Access Point on the mounting bracket.
5. Cable the Access Point using either the Power Injector solution (AP-PSBIAS-2P3-ATR) or the approved AP-7532 power supply (PWRS-14000-54R).

For Power Injector installations:

- a. Connect a RJ-45 CAT5e (or CAT6) Ethernet cable between the Power Injector **Data & Power Out** connector and the Access Point's GE1/POE port.
- b. Connect a RJ-45 CAT5e (or CAT6) Ethernet cable between the network data supply (host) and the Power Injector **Data In** connector.
- c. Ensure the cable length from the Ethernet source (host) to the Power Injector and Access Point does not exceed 100 meters (333 ft). The Power Injector has no On/Off power switch. The Power Injector receives power as soon as AC power is applied.

For standard power adapter (non Power Injector) and line cord installations:

- a. Connect a RJ-45 Ethernet cable between the network data supply (host) and the Access Point's GE1/POE port.
- b. Verify the power adapter is correctly rated according to the country of operation.
- c. Connect the power supply line cord to the power adapter.
- d. Attach the power adapter cable into the power connector on the Access Point.
- e. Attach the power supply line cord to a power supply.
6. Verify the Access Point is receiving power by observing the LEDs are lit or flashing. For more information on AP-7532 LED behavior, see [LED Indicators on page 18](#).
7. The Access Point is ready to configure.



CAUTION If not using an AP-PSBIAS-2P3-ATR power injector, ensure only the AP-7532's designated power supply (PWRS-14000-54R) is used to supply power to the Access Point. Using an incorrectly rated power supply could damage the Access Point and void the product warranty. Do not actually connect to the power source until the cabling portion of the installation is complete.

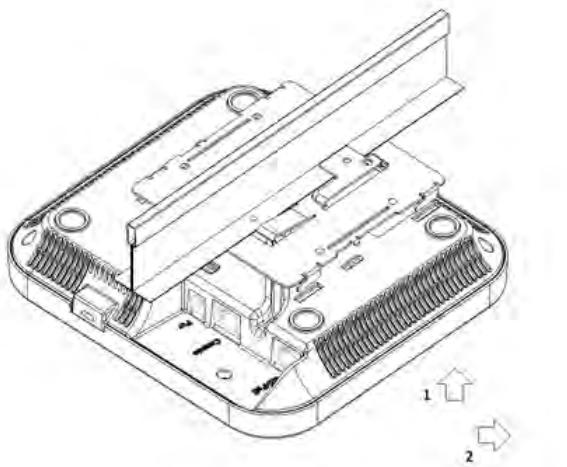
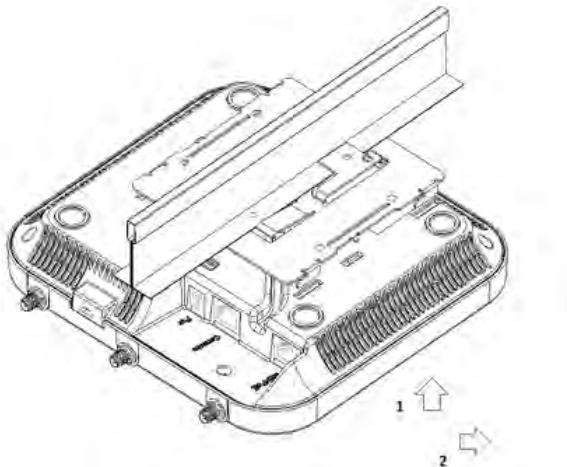
2.5.2 Wall Mount Procedure - Existing Access Point Replacement

An existing AP-7131 or AP-7131N Series Access Point installed on a wall can be replaced by an AP-7532. Simply remove the existing AP-7131 or AP-7131N and install the new provided mounting bracket for AP-7532 directly to the wall. The cabling procedure for such a replacement is as described in the previous section.

2.6 Suspended Ceiling T-Bar Mount Instructions

Ceiling mount requires holding the AP-7532 up against a T-bar of a suspended ceiling grid and twisting the unit on to the T-bar. If deploying the AP-7532 on a sculpted ceiling T-Bar, the Access Point mounting kit (Part No. KT-135628-01) can optionally be used as well.

1. First install the mounting bracket on the T-bar then attach the mounting bracket using the mounting slots on the Access Point.



2. Cable the Access Point using either the Power Injector solution (AP-PSBIAS-2P3-ATR) or the approved AP-7532 power supply (PWRS-14000-54R).

For Power Injector installations:

- a. Connect a RJ-45 CAT5e (or CAT6) Ethernet cable between the network data supply (host) and the Power Injector **Data In** connector.
- b. Connect a RJ-45 CAT5e (or CAT6) Ethernet cable between the Power Injector **Data & Power Out** connector and the Access Point's GE1/POE port.
- c. Ensure the cable length from the Ethernet source (host) to the Power Injector and Access Point does not exceed 100 meters (333 ft). The Power Injector has no On/Off power switch. The Power Injector receives power as soon as AC power is applied.

For standard power adapter (non Power Injector) and line cord installations:

- a. Connect a RJ-45 Ethernet cable between the network data supply (host) and the Access Point's GE1/POE port.
- b. Verify the power adapter is correctly rated according the country of operation.
- c. Connect the power supply line cord to the power adapter.
- d. Attach the power adapter cable into the power connector on the Access Point.
- e. Attach the power supply line cord to a power supply.

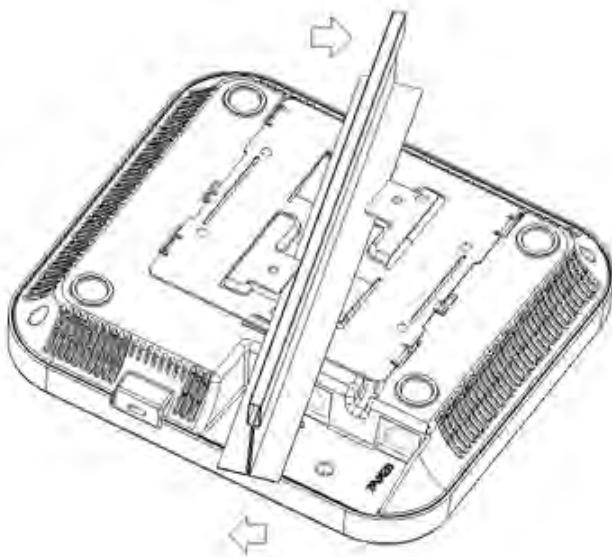
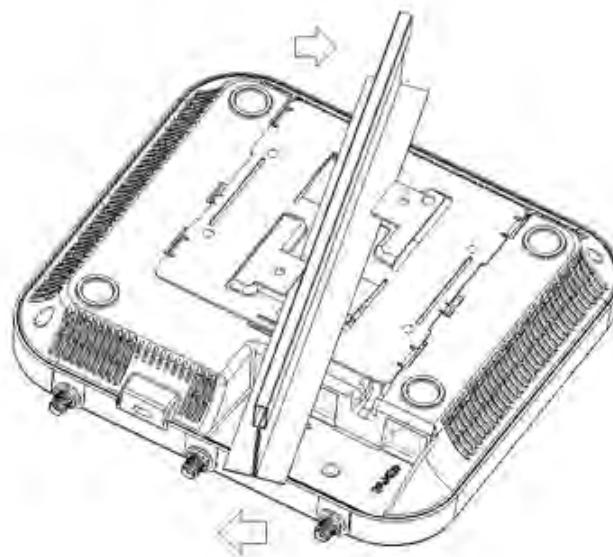
CAUTION

If not using an AP-PSBIAS-2P3-ATR power injector, ensure only the AP-7532's designated power supply (PWRS-14000-54R) is used to supply power to the Access Point. Using an incorrectly rated power supply could damage the Access Point and void the product warranty. Do not actually connect to the power source until the cabling portion of the installation is complete.



3. Verify the unit has power by observing the LEDs. For more information on AP-7532 LED behavior, see [LED Indicators on page 18](#).
4. Align the bottom of the ceiling T-bar with the back of the Access Point.
5. Orient the Access Point chassis by its length and the length of the ceiling T-bar.
6. Rotate the Access Point chassis 45 degrees clockwise.
7. Push the back of the Access Point chassis on to the bottom of the ceiling T-bar.

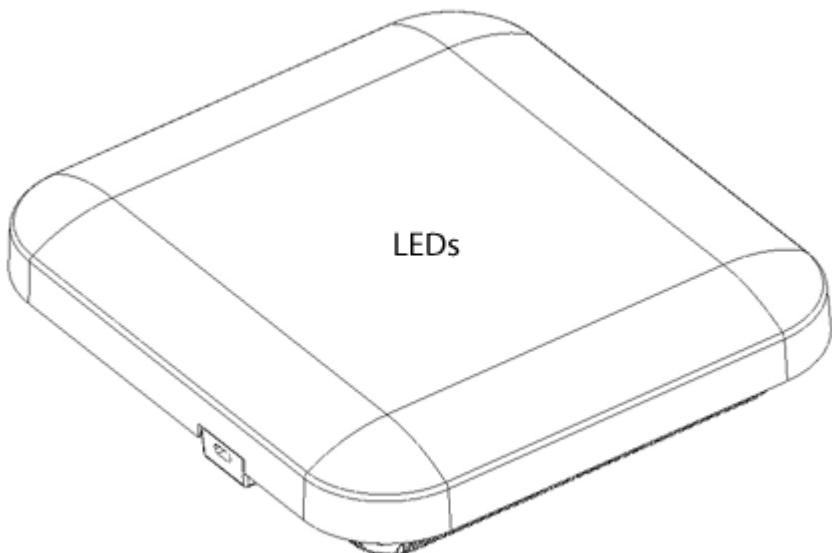
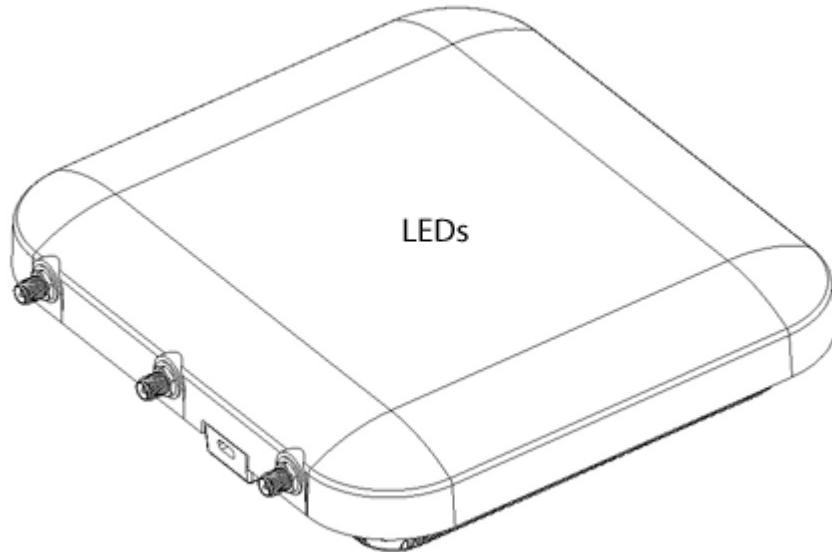
8. Rotate the Access Point chassis 45 degrees counter-clockwise. The clips click as they fasten to the T-bar.



9. The Access Point is ready to configure.

2.7 LED Indicators

The AP-7532 LED activity indicators are located on the front of the housing and are visible through the enclosure.



The LEDs provide a status display indicating error conditions, transmission, and network activity for the 5 GHz 802.11ac (amber) radio and the 2.4 GHz 802.11n (green) radio.

Task	5 GHz Activity LED (Amber)	2.4 GHz Activity LED (Green)
Unconfigured Radio	On	On
Normal Operation	<ul style="list-style-type: none">• If this radio band is enabled: Blink at 5 second interval• If this radio band is disabled: Off• If there is activity on this band: Blink interval at 1 time per second	<ul style="list-style-type: none">• If this radio band is enabled: Blink at 5 second interval• If this radio band is disabled: Off• If there is activity on this band: Blink interval at 1 time per second
Firmware Update	On	Off
Locate AP Mode	LEDs blink in an alternating green, red and amber pattern using an irregular blink rate. This LED state in no way resembles normal operating conditions.	LEDs blink in an alternating green, red and amber pattern using an irregular blink rate. This LED state in no way resembles normal operating conditions

3 Basic Access Point Configuration

Once the AP-7532 is installed and powered on, complete the following steps to get the Access Point up and running and access management functions:

1. The Access Point's IP address is optimally provided using DHCP or from bottom of the Access Point itself (if available). A zero config IP address can also be derived if DHCP resources are unavailable or the IP address is not listed on the bottom of the unit. Using zero config, the last two octets in the IP address are the decimal equivalent of the last two bytes in the Access Point's hardcoded MAC address.

For example:

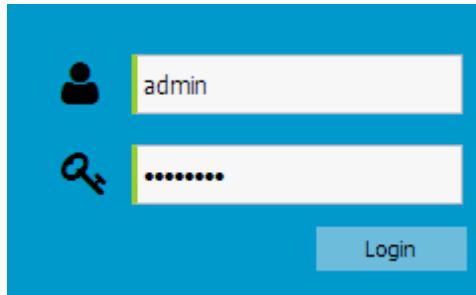
MAC address - 00:C0:23:00:**F0:0A**

Zero-config IP address - 169.254.**240.10**

To derive the Access Point's IP address using its MAC address:

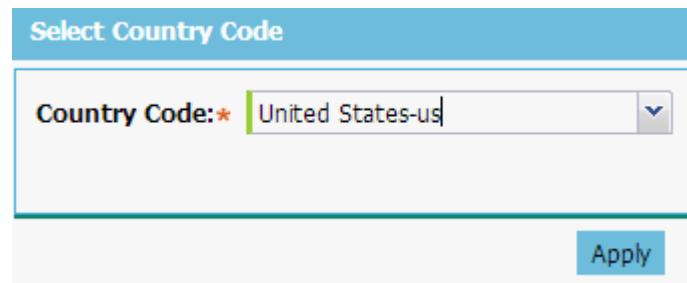
- a. Open the Windows calculator by selecting *Start > All Programs > Accessories > Calculator*. This menu path may vary slightly depending on your version of Windows.
- b. With the Calculator displayed, select *View > Scientific*. Select the **Hex** radio button.
- c. Enter a hex byte of the Access Point's MAC address. For example, F0.
- d. Select the **Dec** radio button. The calculator converts F0 into 240. Repeat this process for the last Access Point MAC address octet.

2. Point the Web browser to the Access Point's IP address. The following login screen displays:



3. Enter the default username **admin** in the **Username** field.
4. Enter the default password **admin123** in the **Password** field.
5. Select the **Login** button to load the management interface.

If this is the first time the interface has been accessed, a screen displays prompting for the Access Point's country code.



Country Code:*

United States-us

Apply

6. Select the **Country Code** specific to this Access Point's deployment location.

Selecting the correct country is central to legal operation. Each country has its own regulatory restrictions concerning electromagnetic emissions and the maximum RF signal strength that can be transmitted.

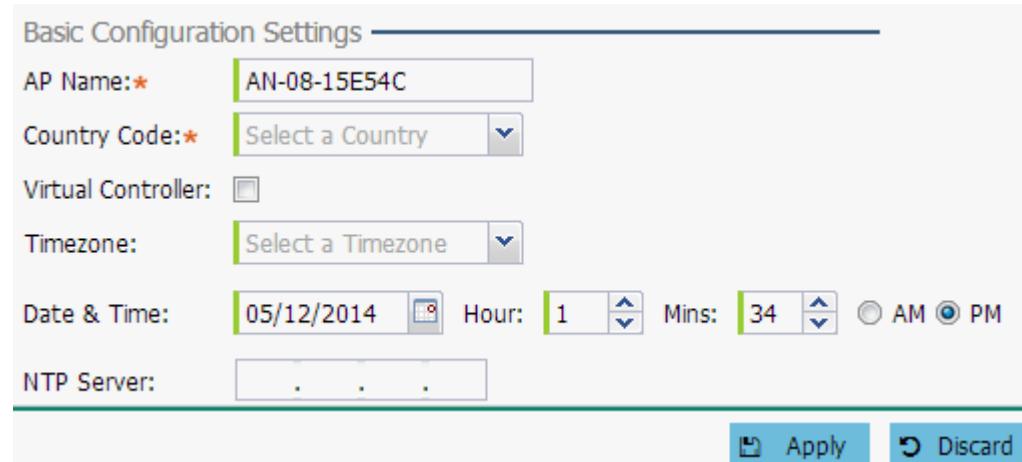
Select **Apply** to implement the selected Country Code. SKU's only support certain countries (for example: a US SKU only includes US, Guam, Puerto Rico, American Samoa, US Virgin Islands and Mariana Island).

The Access Point automatically displays a **Dashboard** where users can assess network health and conduct a diagnostic review of Access Point performance.



NOTE At some point in the Access Point's initial setup, the default password should be changed to enhance the security of the Access Point managed network. Refer to the *Configuration > Management* screen to change the default password to a more secure password.

7. Expand the **Configuration** menu item and select **Basic**.



Basic Configuration Settings

AP Name:*

AN-08-15E54C

Country Code:*

Select a Country

Virtual Controller:

Timezone:

Select a Timezone

Date & Time:

05/12/2014

Hour: 1

Mins: 34

AM PM

NTP Server:

Apply Discard

8. Set the following **Basic Configuration Settings** for this Access Point:

- *AP Name* - Provide an AP Name used as this Access Point's network identifier. If setting this Access Point as a Virtual Controller, each Access Point managed by this Virtual Controller lists this Access Point's AP Name as its own. The AP Name is a required parameter.
- *Country Code* - If the Country Code was not set when the Access Point was initially powered on, set the country now to ensure the Access Point's legal operation. The Access Point's wireless capabilities are disabled until the required country code is set.
- *Virtual Controller* - Select this option to define this Access Point as a Virtual Controller capable of managing and provisioning up to 24 Access Points of the same type. If selecting this Access Point as a Virtual Controller, those Access Points managed by this Virtual Controller will list this Access Point's AP Name as its own. Only one Virtual Controller can be designated.
- *Timezone* - Use the drop-down menu to specify the geographic timezone where the Access Point is deployed. Different geographic time zones have daylight savings clock adjustments, so specifying the timezone correctly is important to account for geographic time changes.
- *Date & Time* - Set the date, hour and minute for the Access Point's current system time. Specify whether the current time is in the *AM* or *PM*.
- *NTP Server* - Optionally provide the IP address of a NTP server resource. *Network Time Protocol* (NTP) manages time and/or network clock synchronization within the Access Point managed network. NTP is a client/server implementation. Access Points (NTP clients) periodically synchronize their clock with a master clock (an NTP server). For example, an Access Point resets its clock to 07:04:59 upon reading a time of 07:04:59 from its designated NTP server.

9. Select **Apply** to implement the updates.

10. Expand the **Configuration** menu item and select **WAN**.

WAN Settings

Enable:

Port: ge1

Interface: vlan1

DHCP Client Static IP PPPoE Settings

Static IP/Mask:

Primary DNS:

Secondary DNS:

Default Gateway:

11. Refer to the **WAN Settings** field and set the following:

- *Enable* - Select this option to allow a connection between the Access Point and a larger network or outside world through the WAN port. Disable this option to isolate the WAN connection. No connections to a larger network or Internet are possible. Clients cannot communicate beyond configured subnets. Both the physical *Port* used to connect to the WAN and the virtual *Interface* (VLAN) are also listed and fixed.
- *DHCP Client* - Select this option to enable DHCP for the Access Point WAN connection. This is useful, if the target network or *Internet Service Provider* (ISP) uses DHCP. DHCP is a protocol that includes mechanisms for IP address allocation and delivery of host-specific configuration parameters from a DHCP server to a host. Some of these parameters are IP address, network mask, and gateway. The WAN and LAN ports should not both be configured as DHCP clients.
- *Static IP* - Select this option to bypass DHCP address allocation resources and manually set the IP address for the Access Point's WAN connection. Manually provide the Access Point's Static IP/Mask and Default Gateway.
- *PPPoE Settings* - Optionally enable *Point-to-Point Protocol over Ethernet* (PPPoE) on the WAN network. If PPPoE is enabled, provide the required *Auth Type*, *Login Name* and *Login Password*. Server Name and Default Gateway are optional settings. PPP is a data-link protocol for dialup connections allowing an Access Point to use a broadband modem (DSL, cable modem, etc.) for access to high-speed data and broadband networks. Most DSL providers support (or deploy) the PPPoE protocol. PPPoE uses standard encryption, authentication, and compression as specified by the PPPoE protocol. PPPoE enables the Access Point to establish a point-to-point connection to an ISP over an existing Ethernet interface.

- **Static IP / Mask** - Specify an IP address for the WAN connection if using static address assignment for the WAN port. An IP address uses a series of four numbers defined in dot notation, for example, 190.188.12.1. Additionally, specify a Mask for the access point's WAN connection. This number is available from the ISP for a DSL or cable-modem connection, or from an administrator if the Access Point connects to a larger network.
- **Primary/Secondary DNS/Default Gateway** - If using a static IP or DHCP, enter the Primary and Secondary DNS server resource's numerical IP address and Default Gateway.



NOTE If segmenting traffic between the Access Point's WAN and LAN, you'll need to create a VLAN. Complete steps 13 and 14 to define the required VLAN. Otherwise, proceed to step 15.

12. Select **Apply** to implement the updates.
13. Expand the **Configuration** menu item and select **Access Points**. Each **AP Name** displays as a link that can be selected to update the configuration of that specific Access Point. Select a target AP Name link from amongst those displayed in the Access Points screen.

Edit -> AN-08-15E54C

Basic Settings

AP Name :*	AN-08-15E54C
Location :	SEQUOIA-CONF
Version :	5.5.3.0-027D
Model :	AP-7532-67030-US
UP Time :	0 days, 01 hours 08 minutes

LAN IP Interface Settings

<input type="button" value="Add"/>	<input type="button" value="Delete"/>	Interface (1-4094)	Description	Static IP
<input checked="" type="checkbox"/>		VLAN*	<input type="text"/>	<input type="text" value="0.0.0.0/24"/>
<input type="button" value="Update"/> <input type="button" value="Cancel"/>				

Refer to the **LAN IP Interface Settings** field, and add a VLAN and Static IP as required for enabling DHCP (within the *Configuration > Services* screen) for client IP address requests and ensuring routable traffic.

14. Select **Apply** to commit the updates to the selected Access Point's configuration.

15. Expand the **Configuration** menu item and select **Wireless**.

The Wireless screen displays fields where *Radio Settings* and *Wireless LAN* settings can be defined. Its recommended default radio settings remain as is for the Access Point's basic setup.

In respect to the **Radio Settings**, the professional installer should be aware of the following:

2.4Ghz	Channel:	smart	Power:	<input checked="" type="radio"/> Smart	<input type="radio"/> Static	0	dBm	Antenna Gain:*	0	dBi
5Ghz	Channel:	smart	Power:	<input checked="" type="radio"/> Smart	<input type="radio"/> Static	0	dBm	Antenna Gain:*	0	dBi



NOTE The above example includes a field for setting the antenna gain. This setting is only available for external antenna Access Points and does not display for internal antenna Access Points.

- The **Channels** available for configuration are channels for which the product is approved in its selected country. The professional installer must ensure the product is set to operate under conditions, and on channels, approved by country regulations.
- Selecting **Smart** as the **Power** setting automatically configures radio power to not exceed the maximum power allowed by the defined country. For static power settings, the professional installer must ensure the configured power levels are compliant with local and regional regulations. The county selected automatically limits the maximum output power that can be set.
- For external antenna Access Points, configure the **Antenna Gain** based on the antenna used in the deployment. The set gain value should include the antenna gain, along with any additional components, such as extension cables used between the Access Point and the antenna.

In respect to **Wireless LAN** settings, at minimum, a WLAN should be created providing some measure of security.

16. To create a new WLAN, select **+ Add** from the upper, left-hand side of the **Wireless LAN** field.

Wireless LAN

Name:*

Enable:

SSID:*

Client-To-Client Communication

Security:

Open

Secure-PSK

Secure-802.1x

Guest

Band:

2.4 GHz 5 GHz

VLAN:*

2 (1 - 4094)

Description:

17. Set the following configuration attributes for the new WLAN:

- **Name** - Provide a unique name for the WLAN as its network identifier. This is a required setting.
- **Enable** - Select this setting to enable this WLAN within the Access Point managed network and provide some measure of data protection.
- **SSID** - Specify the WLAN's SSID. The WLAN SSID is case sensitive and alphanumeric. SSID length should not exceed 32 characters. This is a required setting. Select **Client-To-Client Communication** to enable client interoperability within this WLAN. The default is disabled, meaning clients are *not* allowed to exchange packets with other clients. It does not necessarily prevent clients on other WLANs from sending packets to this WLAN, but if this setting is disabled on the other WLAN, clients are not permitted to interoperate at all.
- **WLAN Type** - The screen displays with the **Open** option selected. Naming and saving such a policy (as is) would provide no security and might only make sense in a network wherein no sensitive data is either transmitted or received. This default setting is *not* recommended.

If selecting **Secure-PSK**, enter a **WPA2 Key** to password protect the WLAN. Define whether the key is entered in ASCII or HEX characters. Selecting **Show** to expose the key is not recommended.

If selecting **Secure-802.1x**, provide an IP address (or hostname) and a shared secret (password)

used to access an external RADIUS server resource designated to validate user requests to the Access Point's WLAN resources.

Selecting **Guest** displays fields for captive portal Web page creation, and is beyond the scope of this basic Access Point configuration.

- *Band* -Select the 2.4 GHz and/or 5 GHz radio bands supported by the Access Point and its connected client traffic. If this Access Point is designated as a Virtual Controller AP, both radio bands should be enabled.
- *VLAN* - Use the spinner control to specify a VLAN from 1 - 4,094 for this WLAN. When a client associates with a WLAN, the client is assigned a VLAN by load balance distribution. Its recommended you do not use VLAN 1 with the WLAN if the WAN port has been enabled.
- *Description* - Optionally enter a WLAN description to further describe the WLAN's deployment objective.

18. Select **Apply** to commit the updates to the Access Point's WLAN configuration.

19. Expand the **Configuration** menu item and select **Services**

The screenshot shows the 'DHCP Settings' configuration screen. At the top, a checkbox labeled 'Enable DHCP Server' is checked. Below it is a table with four columns: 'Interface', 'IP', 'Start IP', and 'End IP'. A row is currently selected in the table, with the 'Interface' column showing 'Interface'. At the bottom of the table, there are buttons for 'Apply' and 'Discard'.

20. Select **Enable DHCP Server** to ensure the Access Point can provision IP addresses to requesting clients over the specified interface.

NOTE A VLAN must be already configured and available to the DHCP server as a viable interface between the Access Point and requesting client. Refer to the **LAN IP Interface Settings** field (within the Edit Access Point screen), and add a VLAN.



Select **+ Add** and provide a starting and ending IP range of addresses that constitute a pool of addresses available to requesting clients.

21. Select **Apply** to commit the updates to the Access Point's DHCP configuration.
22. At this point, you're ready to connect to the network using the security restrictions applied to the newly created WLAN. Ensure the new secure WLAN has been enabled, and check whether a client is able to access the network.



4 AP-7532 Access Point Specifications

4.1 Electrical Characteristics

An AP-7532 Access Point has the following electrical characteristics:

<i>Operating Current & Voltage</i>	12VDC, 1.25A (AUX input voltage) 12VDC PWRS-14000-54R power supply 48VDC, 0.375A (POE) 802.3at AP-PSBIAS-2P3-ATR Power Injector
--	--

4.2 Physical Characteristics

An AP-7532 Access Point has the following physical characteristics:

<i>Dimensions</i>	7.1 in. L x 6.5 in. W x 1.6 in. H 180 mm L x 165 mm W x 41 mm H
<i>Housing</i>	Plenum-rated housing (UL2043)
<i>Weight</i>	1.8 lbs/0.82 kg
<i>Operating Temperature</i>	External antennas: -4° F to 104° F/-20° C to 40° C Internal antennas: 32° F to 104° F/0° C to 40° C
<i>Storage Temperature</i>	-40° F to 158° F/-40° C to 70° C
<i>Operating Humidity</i>	85% RH non-condensing
<i>Operating Altitude (maximum)</i>	8,000 ft @ 28C
<i>Storage Altitude (maximum)</i>	30,000 ft @ 12C
<i>Electrostatic Discharge</i>	External antennas: 12KV air, 6 KV contact Internal antenna: 15KV air, 8KV contact

4.3 Radio Characteristics

The AP-7532 Access Point has the following radio characteristics:

<i>Data Rates Supported</i>	802.11b/g: 1,2,5.5,11,6,9,12,18,24,36,48 and 54 Mbps 802.11a: 6,9,12,18,24,36,48, and 54 Mbps 802.11n: MCS 0-23 up to 450 Mbps 802.11ac: MCS 0-9 up to 1.3 Gbps
<i>Wireless Medium</i>	<i>Direct Sequence Spread Spectrum</i> (DSSS) <i>Orthogonal Frequency Division Multiplexing</i> (OFDM) <i>Spatial multiplexing</i> (MIMO)
<i>Network Standards</i>	IEEE 802.11a/b/g/n/ac 802.11d and 802.11i WPA2 WMM and WMM-UAPSD
<i>Transmit Power Adjustment</i>	1dB increments

5 Regulatory Information

5.1 Regulatory Information

This guide applies to the following Model Numbers: AP-7532, AP-7532I.

Zebra devices are designed to be compliant with rules and regulations in locations they are sold and will be labeled as required.

Local language translations are available at the following Website: www.zebra.com/support

Any changes or modifications to Symbol equipment, not expressly approved by Zebra could void the user's authority to operate the equipment.

Zebra devices are professionally installed, the Radio Frequency Output Power will not exceed the maximum allowable limit for the country of operation.

Antennas: Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could cause damage and may violate regulations.

This device is only to be used with a Zebra Wireless Switch.

Declared maximum operating temperature: 40°C.

5.2 Wireless Device Country Approvals

Regulatory markings, subject to certification, are applied to the device signifying the radio(s) is/are approved for use in the following countries: United States, Canada, Japan, China, S. Korea, Australia, and Europe 1

Please refer to the *Declaration of Conformity* (DoC) for details of other country markings. This is available at: www.zebra.com/doc

Note: For 2.4GHz or 5GHz Products: Europe includes, Austria, Belgium, Bulgaria, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.



Operation of the device without regulatory approval is illegal.

5.2.1 Country Selection

Select only the country in which you are using the device. Any other selection will make the operation of this device illegal. Some Access Points are specifically designed to operate in certain countries (Example; -US for the United States, -EU for the European Union).

Country Roaming

This device incorporates the International Roaming feature (IEEE802.11d) which will ensure the product operates on the correct channels for the particular country of use.

5.2.2 Frequency of Operation – FCC and IC

5 GHz Only

Industry Canada Statement:

Caution: The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-Channel mobile satellite systems. High power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices.

Avertissement: Le dispositif fonctionnant dans la bande 5150-5250 MHz est réservé uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

Les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bands 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

2.4 GHz Only

The available channels for 802.11bg operation in the US are Channels 1 to 11. The range of channels is limited by firmware.

5.3 Health and Safety Recommendations



Ergonomic Recommendations

Caution: In order to avoid or minimize the potential risk of ergonomic injury follow the recommendations below. Consult with your local Health & Safety Manager to ensure that you are adhering to your company's safety programs to prevent employee injury.

- Reduce or eliminate repetitive motion
- Maintain a natural position
- Reduce or eliminate excessive force
- Keep objects that are used frequently within easy reach
- Perform tasks at correct heights
- Reduce or eliminate vibration
- Reduce or eliminate direct pressure
- Provide adjustable workstations
- Provide adequate clearance
- Provide a suitable working environment
- Improve work procedures

Vehicle Installation

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles (including safety systems). Check with the manufacturer or its representative regarding your vehicle. You should also consult the manufacturer of any equipment that has been added to your vehicle.

An air bag inflates with great force. DO NOT place objects, including either installed or portable wireless equipment, in the area over the air bag or in the air bag deployment area. If in-vehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result.

Position your device within easy reach. Be able to access your device without removing your eyes from the road.

Note: Connection to an alert device that will cause a vehicle horn to sound or lights to flash, on receipt of a call on public roads, is not permitted.

IMPORTANT

Before installing or using, check state and local laws regarding windshield mounting and use of equipment.

For Safe installation

- Do not put your phone in a location that obstructs the drivers vision or interferes with the operation of the Vehicle.
- Do not cover an airbag.

Safety on the Road

Do not take notes or use the device while driving. Jotting down a "to do" list or flipping through your address book takes attention away from your primary responsibility, driving safely.

When driving a car, driving is your first responsibility - Give full attention to driving. Check the laws and regulations on the use of wireless devices in the areas where you drive. Always obey them.

5.3.1 *Warnings for the use of Wireless Devices*

Please observe all warning notices with regard to the usage of wireless devices.



5.3.2 *Potentially Hazardous Atmospheres – Fixed Installations*

You are reminded of the need to observe restrictions on the use of radio devices in fuel depots, chemical plants etc. and areas where the air contains chemicals or particles (such as grain, dust, or metal powders).

5.3.3 *Safety in Hospitals*

 Wireless devices transmit radio frequency energy and may affect medical electrical equipment. When installed adjacent to other equipment, it is advised to verify that the adjacent equipment is not adversely affected.

Pacemakers

Pacemaker manufacturers recommended that a minimum of 15cm (6 inches) be maintained between a handheld wireless device and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with independent research and recommendations by Wireless Technology Research.

Persons with Pacemakers:

- Should ALWAYS keep the device more than 15cm (6 inches) from their pacemaker when turned ON.
- Should not carry the device in a breast pocket.
- Should use the ear furthest from the pacemaker to minimize the potential for interference.
- If you have any reason to suspect that interference is taking place, turn OFF your device.

Other Medical Devices

Please consult your physician or the manufacturer of the medical device, to determine if the operation of your wireless product may interfere with the medical device.

5.4 RF Exposure Guidelines

5.4.1 Safety Information

Reducing RF Exposure - Use Properly

Only operate the device in accordance with the instructions supplied.

5.4.2 International

The device complies with internationally recognized standards covering human exposure to electromagnetic fields from radio devices. For information on "International" human exposure to electromagnetic fields refer to the *Declaration of Conformity* (DoC) at: www.zebra.com/doc.

5.4.3 EU

Remote and Standalone Antenna Configurations

To comply with EU RF exposure requirements, antennas that are mounted externally at remote locations or operating near users at stand-alone desktop or similar configurations must operate with a minimum separation distance of 20cm from all persons.

5.4.4 US and Canada

Co-located statement

To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must not be co-located or operating in conjunction with any other transmitter/antenna except those already approved in this filing.

To satisfy US and Canadian RF exposure requirements, a transmitting device must operate with a minimum separation distance of 30cm or more from a person's body.

Pour satisfaire aux exigences Américaines et Canadiennes d'exposition aux radiofréquences, un dispositif de transmission doit fonctionner avec une distance de séparation minimale de 30cm ou plus de corps d'une personne.

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 30cm between the radiator and your body.

NOTE IMPORTANTE: (Pour l'utilisation de dispositifs mobiles)

Déclaration d'exposition aux radiations:

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 30cm de distance entre la source de rayonnement et votre corps.

Remote and Standalone Antenna Configurations

To comply with FCC RF exposure requirements, Antennas that are mounted externally must be professionally installed at a fixed location and operate with a minimum distance of 30cm from all persons.

To comply with FCC Antenna requirements, the Antenna must be adjusted such that the RF emission lobes are below 30 degrees elevation.

5.5 Power Supply

This device must be powered from a 802.3af or 802.3at compliant power source which has been certified by the appropriate agencies, or by an approved UL LISTED ITE (IEC/EN 60950-1, LPS/SELV) power supply with electrical ratings: Output 12 Vdc, min 1.25 A or 48 Vdc min 0.375 A (POE), with a recommended ambient temperature greater than 40 degrees C. Use of alternative power supply will invalidate any approvals given to this unit and may be dangerous.

5.6 Radio Frequency Interference Requirements—FCC



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.

5.6.1 Radio Transmitters (Part 15)

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.

5.6.2 Radio Frequency Interference Requirements - Canada

CAN ICES-3 (B)/NMB-3(B)

Radio Transmitters

For RLAN Devices:

The use of 5 GHz RLAN's, for use in Canada, have the following restrictions:

- Restricted Band 5.60 – 5.65 GHz

This device complies with RSS 210 of Industry Canada. 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.

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.

Label Marking: The Term "IC:" before the radio certification only signifies that Industry Canada technical specifications were met

In accordance with the regulations of Industry Canada, this radio transmitter can operate with an antenna of a type and a maximum gain (or lower) approved for the transmitter by Industry Canada. With the aim of reducing the risk of radio interference to other users, the chosen antenna type and its gain should be selected so that the equivalent isotropically radiated power (e.i.r.p.) does not exceed the intensity necessary for the establishment of a satisfactory connection.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

In compliance with respective local regulatory law, AP software provides professional installers the option to configure the antenna type and antenna gain for approved antennas.

This radio transmitter (AP-7532, AP-7532I) has been approved by Industry Canada to operate with the antenna types listed below and having a maximum gain allowable and the impedance required for each type of antenna. The antenna types not included in this list, or whose gain is higher than the maximum gain indicates, are strictly prohibited for the operation of the transmitter.

Refer to [AP-7532 Antennas on page 7](#) for a listing of the 2.4 GHz and 5 GHz antennas initially approved for use with AP-7532 and AP7532I Access Points.

Le présent émetteur radio (AP-7532, AP-7532I) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

5.7 CE Marking and European Economic Area (EEA)

 **WARNING:** This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

The use of 2.4GHz RLAN's, for use through the EEA, have the following restrictions:

- Maximum radiated transmit power of 100 mW EIRP in the frequency range 2.400 -2.4835 GHz.

5.8 Statement of Compliance

Zebra hereby, declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. A Declaration of Conformity may be obtained from www.zebra.com/doc.

5.9 Japan (VCCI) - Voluntary Control Council for Interference

Class B ITE

この装置は、情報処理装置等電波障害自主規制協議会（V C C I）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。 取扱説明書に従って正しい取り扱いをして下さい。

5.2/5.3GHz 屋内使用規定" or この製品は屋内においてのみ使用可能です

5.10 Korea Warning Statement for Class B ITE

기 종 별	사 용 자 안 내 문
B급 기기 (가정용 방송통신기자재)	이 기기는 가정용(B급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

5.11 Other Countries

Australia

Use of 5GHz RLAN's in Australia is restricted in the following band 5.50 – 5.65GHz.

Brazil

Declarações Regulamentares para AP-7532 - Brasil

Nota: A marca de certificação se aplica ao Transceptor, modelo AP-7532. Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário. Para maiores informações sobre ANATEL consulte o site: www.anatel.gov.br.

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

Este produto está homologado pela Anatel, de acordo com os procedimentos regulamentados pela Resolução nº242/2000 e atende aos requisitos técnicos aplicados, incluindo os limites de exposição da Taxa de Absorção Específica referente a campos elétricos, magnéticos e eletromagnéticos de radiofrequência, de acordo com as Resoluções nº 303/2002 e 533/2009.

Este dispositivo está em conformidade com as diretrizes de exposição à radiofrequência quando posicionado pelo menos 25 centímetros de distância do corpo. Para maiores informações, consulte o site da Anatel.

Chile

Este equipo cumple con la Resolución No 403 de 2008, de la Subsecretaría de telecomunicaciones, relativa a radiaciones electromagnéticas.

China**Mexico**

Restrict Frequency Range to: 2.450 – 2.4835 GHz.

S. Korea

무선설비는 운용 중 전파혼신 가능성이 있음

당해 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없습니다.

Taiwan**臺灣**

低功率電波輻射性電機管理辦法

第十二條

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

在 5.25-5.35 千赫頻帶內操作之無線資訊傳輸設備，限於室內使用

電磁波曝露量MPE標準值 1mW/cm^2 ，本產品使用時建議應距離人體：25 cm

Thailand

เครื่องโทรศัพท์มือถือและอุปกรณ์นี้ มีความสอดคล้องตามข้อกำหนดของ กทช.

5.12 Waste Electrical and Electronic Equipment (WEEE)



English: For EU Customers: All products at the end of their life must be returned to Zebra for recycling. For information on how to return product, please go to: www.zebra.com/weee.

Français: Clients de l'Union Européenne: Tous les produits en fin de cycle de vie doivent être retournés à Zebra pour recyclage. Pour de plus amples informations sur le retour de produits, consultez : www.zebra.com/weee.

Español: Para clientes en la Unión Europea: todos los productos deberán entregarse a Zebra al final de su ciclo de vida para que sean reciclados. Si desea más información sobre cómo devolver un producto, visite: www.zebra.com/weee.

Български: За клиенти от ЕС: След края на полезния им живот всички продукти трябва да се връщат на Zebra за рециклиране. За информация относно връщането на продукти, моля отидете на адрес: www.zebra.com/weee.

Deutsch: Für Kunden innerhalb der EU: Alle Produkte müssen am Ende ihrer Lebensdauer zum Recycling an Zebra zurückgesandt werden. Informationen zur Rücksendung von Produkten finden Sie unter www.zebra.com/weee.

Italiano: per i clienti dell'UE: tutti i prodotti che sono giunti al termine del rispettivo ciclo di vita devono essere restituiti a Zebra al fine di consentirne il riciclaggio. Per informazioni sulle modalità di restituzione, visitare il seguente sito Web: www.zebra.com/weee.

Português: Para clientes da UE: todos os produtos no fim de vida devem ser devolvidos à Zebra para reciclagem. Para obter informações sobre como devolver o produto, visite: www.zebra.com/weee.

Nederlands: Voor klanten in de EU: alle producten dienen aan het einde van hun levensduur naar Zebra te worden teruggestonden voor recycling. Raadpleeg www.zebra.com/weee voor meer informatie over het terugzenden van producten.

Polski: Klienci z obszaru Unii Europejskiej: Produkty wycofane z eksploatacji należą zwrócić do firmy Zebra w celu ich utylizacji. Informacje na temat zwrotu produktów znajdują się na stronie internetowej www.zebra.com/weee.

Čeština: Pro zákazníky z EU: Všechny produkty je nutné po skončení jejich životnosti vrátit společnosti Zebra k recyklaci. Informace o způsobu vrácení produktu najdete na webové stránce: www.zebra.com/weee.

Eesti: EL klientidele: kõik tooted tuleb nende eluea lõppedes tagastada taaskasutamise eesmärgil Zebra'ile. Lisainformatsiooni saamiseks toote tagastamise kohta külalstage palun aadressi: www.zebra.com/weee.

Magyar: Az EU-ban vásárlóknak: minden tönkrement terméket a Zebra vállalathoz kell eljuttatni újrahasznosítás céljából. A termék visszajuttatásának módjával kapcsolatos tudnivalókért látogasson el a www.zebra.com/weee weboldalra.

Svenska: För kunder inom EU: Alla produkter som uppnått sin livslängd måste returneras till Zebra för återvinning. Information om hur du returnerar produkten finns på www.zebra.com/weee.

Suomi: Asiakkaat Euroopan unionin alueella: Kaikki tuotteet on palautettava kierrätettäväksi Zebra-yhtiöön, kun tuotetta ei enää käytetä. Lisätietoja tuotteen palauttamisesta on osoitteessa www.zebra.com/weee.

Dansk: Til kunder i EU: Alle produkter skal returneres til Zebra til recirkulering, når de er udstjent. Læs oplysningerne om returnering af produkter på: www.zebra.com/weee.

Ελληνικά: Για πελάτες στην Ε.Ε.: Όλα τα προϊόντα, στο τέλος της διάρκειας ζωής τους, πρέπει να επιστρέφονται στην Zebra για ανακύκλωση. Για περισσότερες πληροφορίες σχετικά με την επιστροφή ενός προϊόντος, επισκεφθείτε τη διεύθυνση www.zebra.com/weee στο Διαδίκτυο.

Malta: Għal klijenti fl-UE: il-prodotti kollha li jkunu waslu fl-ahħar ta' l-ħajja ta' l-użu tagħiġi, iridu jiġu rrifornati għand Zebra għar-riċikla għgħid. Għal aktar tagħrif dwar kif għandek tirritorna l-prodott, jekk jogħibok żur: www.zebra.com/weee.

Românesc: Pentru clientii din UE: Toate produsele, la sfârșitul duratei lor de funcționare, trebuie returnate la Zebra pentru reciclare. Pentru informații despre returnarea produsului, accesați: www.zebra.com/weee.

Slovenski: Za kupce v EU: vsi izdelki se morajo po poteku življenjske dobe vrniti podjetju Zebra za reciklažo. Za informacije o vračilu izdelka obiščite: www.zebra.com/weee.

Slovenčina: Pre zákazníkov z krajín EU: Všetky výrobky musia byť po uplynutí doby ich životnosti vrátené spoločnosti Zebra na recykláciu. Bližšie informácie o vrátení výrobkov nájdete na: www.zebra.com/weee.

Lietuvių: ES vartotojams: visi gaminiai, pasibaigus jų ekspluatacijos laikui, turi būti grąžinti utilizuoti į kompaniją „Zebra“. Daugiau informacijos, kaip grąžinti gaminį, rasite: www.zebra.com/weee.

Latviešu: ES klientiem: visi produkti pēc to kalpošanas mūža beigām ir jānogādā atpakaļ Zebra otrreizējai pārstrādei. Lai iegūtu informāciju par produktu nogādāšanu Zebra, lūdzu, skatiet: www.zebra.com/weee.

Türkçe: AB Müşterileri için: Kullanım süresi dolan tüm ürünler geri dönüştürme için Zebra'ya iade edilmelidir. Ürünlerin nasıl iade edileceği hakkında bilgi için lütfen şu adresi ziyaret edin: www.zebra.com/weee.

5.13 TURKISH WEEE Statement of Compliance

EEE Yönetmeliğine Uygundur

6 Support

If you have a problem with your equipment, contact support for your region.

Contact information is available at: www.zebra.com/support

When contacting support, please provide the following information:

- Serial number of the unit
- Model number or product name
- Software type and version number

Support responds to calls by e-mail, telephone, or fax within the time limits set forth in support agreements. If you purchased your product from a business partner, contact that business partner for support.

Customer Support Web Sites

The Support site, located at www.zebra.com/support provides information and online assistance including developer tools, software downloads, product manuals and online repair requests.

Manuals

www.zebra.com/support

7 Symbol Technologies End-User Software License Agreement

This End-User Software License Agreement ("End-User License Agreement") is between Symbol Technologies Inc. (herein "Symbol Technologies") and End-User Customer to whom Symbol Technologies' proprietary software or Symbol Technologies Products containing embedded, pre-loaded, or installed software ("Products") is made available. This End-User License Agreement contains the terms and conditions of the license Symbol Technologies is providing to End-User Customer, and End-User Customer's use of the Software and Documentation. By using, downloading or installing this software, you or the entity that you represent ("End-User Customer") are consenting to be bound by and are becoming a party to this End-User License Agreement.

1. DEFINITIONS

"Documentation" means product and software documentation that specifies technical and performance features and capabilities, and the user, operation and training manuals for the Software (including all physical or electronic media upon which such information is provided).

"Open Source Software" means software with either freely obtainable source code license for modification, or permission for free distribution.

"Open Source Software License" means the terms or conditions under which the Open Source Software is licensed.

"Software" (i) means proprietary software in object code format, and adaptations, translations, decompilations, disassemblies, emulations, or derivative works of such software; (ii) means any modifications, enhancements, new versions and new releases of the software provided by Symbol Technologies; and (iii) may contain items of software owned by a third party supplier. The term

"Software" does not include any third party software provided under separate license or third party software not licensable under the terms of this Agreement. To the extent, if any, that there is a separate license agreement packaged with, or provided electronically with, a particular Product that becomes effective on an act of acceptance by the end user, then that agreement supersedes this End-User License Agreement as to the end use of that particular Product.

2. GRANT OF LICENSE

- 2.1 Subject to the provisions of this End-User License Agreement, Symbol Technologies grants to End-User Customer a personal, limited, non-transferable (except as provided in Section 4), and non-exclusive license under Symbol Technologies' copyrights and confidential information embodied in the Software to use the Software, in object code form, and the Documentation solely in connection with End-User Customer's use of the Products. This End-User License Agreement does not grant any rights to source code.

2.2 If the Software licensed under this End-User License Agreement contains or is derived from Open Source Software, the terms and conditions governing the use of such Open Source Software are in the Open Source Software Licenses of the copyright owner and not this End-User License Agreement. If there is a conflict between the terms and conditions of this End-User License Agreement and the terms and conditions of the Open Source Software Licenses governing End-User Customer's use of the Open Source Software, the terms and conditions of the license grant of the applicable Open Source Software Licenses will take precedence over the license grants in this End-User License Agreement. If requested by End-User Customer, Symbol Technologies will use commercially reasonable efforts to: (i) determine whether any Open source Software is provided under this End-User License Agreement; (ii) identify the Open Source Software and provide End-User Customer a copy of the applicable Open Source Software License (or specify where that license may be found); and, (iii) provide End-User Customer a copy of the Open Source Software source code, without charge, if it is publicly available (although distribution fees may be applicable).

3. LIMITATIONS ON USE

3.1 End-User Customer may use the Software only for End-User Customer's internal business purposes and only in accordance with the Documentation. Any other use of the Software is strictly prohibited and will be deemed a breach of this End-User License Agreement. Without limiting the general nature of these restrictions, End-User Customer will not make the Software available for use by third parties on a "**time sharing**," "application service provider," or "service bureau" basis or for any other similar commercial rental or sharing arrangement.

3.2 End-User Customer will not, and will not allow or enable any third party to: (i) reverse engineer, disassemble, peel components, decompile, reprogram or otherwise reduce the Software or any portion to a human perceptible form or otherwise attempt to recreate the source code; (ii) modify, adapt, create derivative works of, or merge the Software with other software; (iii) copy, reproduce, distribute, lend, or lease the Software or Documentation to any third party, grant any sublicense or other rights in the Software or Documentation to any third party, or take any action that would cause the Software or Documentation to be placed in the public domain; (iv) remove, or in any way alter or obscure, any copyright notice or other notice of Symbol Technologies' proprietary rights; (v) provide, copy, transmit, disclose, divulge or make the Software or Documentation available to, or permit the use of the Software by any third party or on any machine except as expressly authorized by this Agreement; or (vi) use, or permit the use of, the Software in a manner that would result in the production of a copy of the Software solely by activating a machine containing the Software. End-User Customer may make one copy of Software to be used solely for archival, back-up, or disaster recovery purposes; provided that End-User Customer may not operate that copy of the Software at the same time as the original Software is being

operated. End-User Customer may make as many copies of the Documentation as it may reasonably require for the internal use of the Software.

- 3.3 Unless otherwise authorized by Symbol Technologies in writing, End-User Customer will not, and will not enable or allow any third party to: (i) install a licensed copy of the Software on more than one unit of a Product; or (ii) copy onto or transfer Software installed in one unit of a Product onto another device.
- 3.4 If End-User Customer is purchasing Products that require a site license, End-User Customer must purchase a copy of the applicable Software for each site at which End-User Customer uses such Software. End-User Customer may make one additional copy for each computer owned or controlled by End-User Customer at each such site. End-User Customer may temporarily use the Software on portable or laptop computers at other sites. End-User Customer must provide a written list of all sites where End-User Customer uses or intends to use the Software.

4. TRANSFERS

- 4.1 End-User Customer will not transfer the Software or Documentation to any third party without Symbol Technologies' prior written consent. Symbol Technologies' consent may be withheld at its discretion and may be conditioned upon transferee paying all applicable license fees and agreeing to be bound by this End-User License Agreement.

5. OWNERSHIP AND TITLE

- 5.1 Symbol Technologies, its licensors, and its suppliers retain all of their proprietary rights in any form in and to the Software and Documentation, including, but not limited to, all rights in patents, patent applications, inventions, copyrights, trademarks, trade secrets, trade names, and other proprietary rights in or relating to the Software and Documentation. No rights are granted to End-User Customer under this Agreement by implication, estoppel or otherwise, except for those rights which are expressly granted to End-User Customer in this End-User License Agreement. All intellectual property developed, originated, or prepared by Symbol Technologies in connection with providing the Software, Products, Documentation or related services remains vested exclusively in Symbol Technologies, and End-User Customer will not have any shared development or other intellectual property rights.

6. CONFIDENTIALITY

6.1 End-User Customer acknowledges that the Software contains valuable proprietary information and trade secrets and that unauthorized dissemination, distribution, modification, reverse engineering, disassembly or other improper use of the Software will result in irreparable harm to Symbol Technologies for which monetary damages would be inadequate. Accordingly, End-User Customer will limit access to the Software to those of its employees and agents who need to use the Software for End-User Customer's internal business

7. MAINTENANCE AND SUPPORT

7.1 No maintenance or support is provided under this End-User License Agreement. Maintenance or support, if available, will be provided under a separate Software maintenance and support agreement.

8. LIMITED WARRANTY AND LIMITATION OF LIABILITY

8.1 Unless otherwise specified in the applicable warranty statement, the Documentation or in any other media at the time of shipment of the Software by Symbol Technologies, and for the warranty period specified therein, for the first 120 days after initial shipment of the Software to the End-User Customer, Symbol Technologies warrants that the Software, when installed and/or used properly, will be free from reproducible defects that materially vary from its published specifications. Symbol Technologies does not warrant that End-User Customer's use of the Software or the Products will be uninterrupted or error-free or that the Software or the Products will meet End-User Customer's particular requirements.

8.2 SYMBOL TECHNOLOGIES' TOTAL LIABILITY, AND END-USER CUSTOMER'S SOLE REMEDY, FOR ANY BREACH OF THIS WARRANTY WILL BE LIMITED TO, AT SYMBOL TECHNOLOGIES' OPTION, REPAIR OR REPLACEMENT OF THE SOFTWARE OR PAYMENT OF END-USER CUSTOMER'S ACTUAL DAMAGES UP TO THE AMOUNT PAID TO SYMBOL TECHNOLOGIES FOR THE SOFTWARE OR THE INDIVIDUAL PRODUCT IN WHICH THE SOFTWARE IS EMBEDDED OR FOR WHICH IT WAS PROVIDED. THIS WARRANTY EXTENDS ONLY TO THE FIRST END-USER CUSTOMER; SUBSEQUENT TRANSFEREES MUST ACCEPT THE SOFTWARE "**AS IS**" AND WITH NO WARRANTIES OF ANY KIND. SYMBOL TECHNOLOGIES DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, AND FITNESS FOR A PARTICULAR PURPOSE.

8.3 IN NO EVENT WILL SYMBOL TECHNOLOGIES BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOSS OF USE, TIME OR DATA, INCONVENIENCE, COMMERCIAL LOSS, LOST PROFITS, OR SAVINGS, TO THE FULL EXTENT SUCH MAY

BE DISCLAIMED BY LAW, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE LIMITATIONS IN THIS PARAGRAPH WILL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.

9. TERM AND TERMINATION

9.1 Any use of the Software, including but not limited to use on the Products, will constitute End-User Customer's agreement to this End-User License Agreement. End-User Customer's right to use the Software will continue for the life of the Products with which or for which the Software and Documentation have been provided by Symbol Technologies, unless End-User Customer breaches this End-User License Agreement, in which case this End-User License Agreement and End-User Customer's right to use the Software and Documentation may be terminated immediately by Symbol Technologies. In addition, if Symbol Technologies reasonably believes that End-User Customer intends to breach this End-User License Agreement Symbol Technologies may, by notice to End-User Customer, terminate End-User Customer's right to use the Software.

9.2 Upon termination, Symbol Technologies will be entitled to immediate injunctive relief without proving damages and, unless End-User Customer is a sovereign government entity, Symbol Technologies will have the right to repossess all copies of the Software in End-User Customer's possession. Within thirty (30) days after termination of End-User Customer's right to use the Software, End-User Customer must certify in writing to Symbol Technologies that all copies of such Software have been returned to Symbol Technologies or destroyed.

10. UNITED STATES GOVERNMENT LICENSING PROVISIONS

10.1 This Section applies if End-User Customer is the United States Government or a United States Government agency. End-User Customer's use, duplication or disclosure of the Software and Documentation under Symbol Technologies' copyrights or trade secret rights is subject to the restrictions set forth in subparagraphs (c)(1) and (2) of the Commercial Computer Software-Restricted Rights clause at FAR 52.227-19 (JUNE 1987), if applicable, unless they are being provided to the Department of Defense. If the Software and Documentation are being provided to the Department of Defense, End-User Customer's use, duplication, or disclosure of the Software and Documentation is subject to the restricted rights set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 (OCT 1988), if applicable. The Software and Documentation may or may not include a Restricted Rights notice, or other notice referring to this End-User License Agreement. The provisions of this End-User License Agreement will continue to apply, but only to the extent that they are

consistent with the rights provided to the End-User Customer under the provisions of the FAR and DFARS mentioned above, as applicable to the particular procuring agency and procurement transaction.

11. GENERAL

- 11.1 Copyright Notices. The existence of a copyright notice on the Software will not be construed as an admission or presumption that public disclosure of the Software or any trade secrets associated with the Software has occurred.
- 11.2 Compliance with Laws. End-User Customer acknowledges that the Software is subject to the laws and regulations of the United States and End-User Customer will comply with all applicable laws and regulations, including export laws and regulations of the United States. End-User Customer will not, without the prior authorization of Symbol Technologies and the appropriate governmental authority of the United States, in any form export or re-export, sell or resell, ship or reship, or divert, through direct or indirect means, any item or technical data or direct or indirect products sold or otherwise furnished to any person within any territory for which the United States Government or any of its agencies at the time of the action, requires an export license or other governmental approval. Violation of this provision is a material breach of this Agreement.
- 11.3 Third Party Beneficiaries. This End-User License Agreement is entered into solely for the benefit of Symbol Technologies and End-User Customer. No third party has the right to make any claim or assert any right under this Agreement, and no third party is deemed a beneficiary of this End-User License Agreement. Notwithstanding the foregoing, any licensor or supplier of third party software included in the Software will be a direct and intended third party beneficiary of this End-User License Agreement.
- 11.4 Waiver. No waiver of a right or remedy of a Party will constitute a waiver of another right or remedy of that Party.
- 11.5 Assignments. Symbol Technologies may assign any of its rights or sub-contract any of its obligations under this End-User License Agreement or encumber or sell any of its rights in any Software, without prior notice to or consent of End-User Customer.
- 11.6 Causes of Action. End-User Customer must bring any action under this End-User License Agreement within one year after the cause of action arises except that warranty claims must be brought within the applicable warranty period.
- 11.7 Entire Agreement and Amendment. This End-User License Agreement contains the parties' entire agreement regarding End-User Customer's use of the Software and may be amended only in a writing signed by both parties, except that Symbol Technologies may modify this End-User License Agreement as necessary to comply with applicable laws and regulations.

11.8 **Governing Law.** This End-User License Agreement is governed by the laws of the the State of Delaware in the United States to the extent that they apply and otherwise by the internal substantive laws of the country to which the Software is shipped if End-User Customer is a sovereign governmental entity. The terms of the U.N. Convention on Contracts for the International Sale of Goods do not apply. In the event that the Uniform Computer information Transaction Act, any version of this Act, or a substantially similar law (collectively “**UCITA**”) becomes applicable to a Party’s performance under this Agreement, UCITA does not govern any aspect of this End-User License Agreement or any license granted under this End-User License Agreement, or any of the parties’ rights or obligations under this End-User License Agreement. The governing law will be that in effect prior to the applicability of UCITA.

11.8 **Dispute Resolution.** Unless End-User Customer is a sovereign governmental entity, any dispute arising from or in connection with this End-User License Agreement shall be submitted to the sole and exclusive forum of the state and federal courts sitting in New Castle County, Delaware (the “**Delaware Courts**”), and each Party irrevocably submits to the jurisdiction of the Delaware Courts for the litigation of such disputes. Each Party hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding brought in the Delaware Courts, any claim or defense that the Party is not subject to the jurisdiction of the Delaware Courts, that the Delaware Courts are an inconvenient forum, or that the Delaware Courts are an improper venue.

8 AP-7532 Access Point China RoHS Compliance

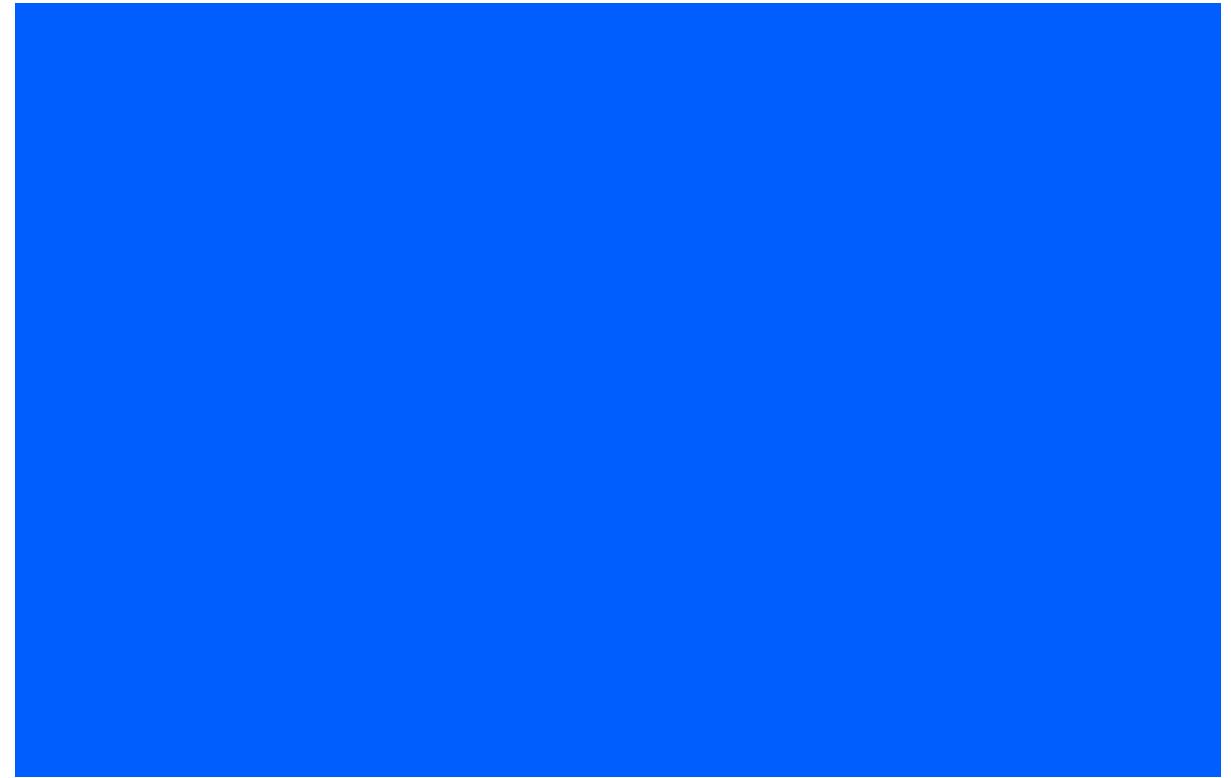
部件名称 (Parts)	有害物质					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联 苯 (PBB)	多溴二苯 醚 (PBDE)
金属部件 (Metal Parts)	X	O	O	O	O	O
电路模块 (Circuit Modules)	X	O	O	O	O	O
电缆及电缆组件 (Cables and Cable Assemblies)	X	O	O	O	O	O
塑料和聚合物部件 (Plastic and Polymeric Parts)	O	O	O	O	O	O
光学和光学组件 (Optics and Optical Components)	O	O	O	O	O	O
电池 (Batteries)	O	O	O	O	O	O

本表格依据 SJ/T 11364 的规定编制。

O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。

X: 表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572 规定的限量要求。(企业可在此处, 根据实际情况对上表中打“X”的技术原因进行进一步说明。)

This table was created to comply with China RoHS requirements for AP-7532 and AP-7532I Access Points.



Zebra Technologies Corporation
Lincolnshire, IL 60069 USA

Zebra and the Zebra head graphic are registered trademarks of ZIH Corp. The Symbol logo is a registered trademark of Symbol Technologies, Inc., a Zebra Technologies company.

© 2015 Symbol Technologies, Inc.



MN002312A01 Revision A September 2015

