

# AP-0622 Access Point INSTALLATION GUIDE



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# 1 Introduction

The AP-0622 access point, a component of the Motorola Solutions wireless controller system, links wireless 802.11a/b/g/n devices to the controller, enabling the growth of your wireless network with a cost effective alternative to standard access points. The AP-0622 access point provides multiple deployment options.

The AP-0622 access point receives all power and transfers data through the same CAT-5 or better Ethernet cable. An 802.3af Ethernet switch or power supply (specifically rated for the AP-0622) is required (Part No. PWRS-14000-148R).

This guide applies to Model Number AP-0622.

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.

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

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

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## 1.2 Warnings

- Read all installation instructions and site survey reports, and verify correct equipment installation before connecting the AP-0622 model access point.
- Remove jewelry and watches before installing this equipment.
- Verify the unit is grounded before connecting it to the power source.
- 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-0622 Package Contents

An AP-0622 access point is available in integrated antenna and external antenna models. Contents differ depending on the model ordered.

### 1.4.1 *External Antenna Model Package Contents*

- AP-0622 access point with external antenna connectors (Plenum Rated)
- 2 customer installed mounting lugs
- 4 mounting lug retaining screws
- AP-0622 Installation Guide (*This Guide*)

### 1.4.2 *Internal Antenna Model Package Contents*

- AP-0622 access point with internal antennas
- AP-0622 Installation Guide (*This Guide*)

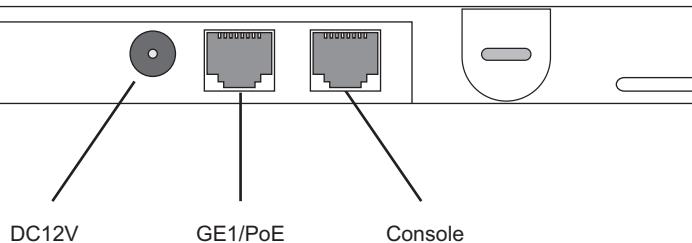
### 1.4.3 Features

- 2 RJ-45 connectors, one for 10/100/1000 Ethernet and the other for the serial/console connector
- LED indicators
- Slots for wall mounting
- Clips for mounting on a suspended ceiling T-bar (internal antenna model only) with separately orderable accessories
- Lock port for Kensington style Security Lock

The AP-0622 access point has one RJ-45 connector supporting an 10/100/1000 Ethernet port and accepts 802.3af-compliant power from an external source. The illustration below is of an integrated antenna model AP-0622.



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



The AP-0622 access point comes with dual radios supporting 802.11a/b/g/n. The access point contains runtime firmware which enables the unit to boot after a power up or watchdog reset. The runtime firmware on the access point and the firmware downloaded from the connected controller can be updated via the Ethernet interface.

## 2 Hardware Installation

### 2.1 Installation Instructions

The AP-0622 access point mounts either on a wall (with customer supplied M4 x 25 pan head screws and wall anchor - or equivalent) or on a suspended ceiling T-bar. If deploying an external antenna model AP622, access point mounting kit (Part No. KT-135628-01) is required. An AP-0622 is not designed for mounting on a desk.

To prepare for the installation:

1. Match the model number on the purchase order with the model numbers in the packing list and on the case of the access point.
2. Verify the contents of the box include the intended AP-0622 access point, and the included hardware matches the package contents on page 4.

Part Number	Description
AP-0622-66030-US	802.11n dependent access point, dual radio, internal antenna
AP-0622-66040-US	802.11n dependent access point, dual radio, external antenna
AP-0622-66030-WR	802.11n dependent access point, dual radio, internal antenna
AP-0622-66040-WR	802.11n dependent access point, dual radio, external antenna



**NOTE** In the above part numbers, a country code of "WR" represents a world wide model, whereas "US" defines the model as only legally deployable in the United States.

3. Review site survey and network analysis reports to determine the location and mounting position for the AP-0622 access point.
4. Connect a CAT-5 or better Ethernet cable to a compatible 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-0622 model Access Point, verify the following:

- You are using the correctly rated power supply for the AP-0622 (PWRS-14000-148R)
- Motorola Solutions recommends you do not install the AP-0622 in wet or dusty areas.
- Verify the environment has a continuous temperature range between 0° C to 40° C.

## 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.

Place the access point using the following guidelines:

- Install the access point at an ideal height of 10 feet from the ground.
- Orient the access point antennas vertically for best reception (applies to external antenna models only).

To maximize the access point's radio coverage area, Motorola Solutions recommends conducting a site survey to define and document radio interference obstacles before installing the access point.

## 2.4 Integrated Antenna Model Wall Mount Instructions

This mounting requires hanging the AP-0622 along its width or length using the two slots on the bottom of the unit. The AP22 can be mounted onto any plaster, wood, or cement wall surface using customer supplied screw hardware (M3.5 x 0.6 x 20 mm- or equivalent).

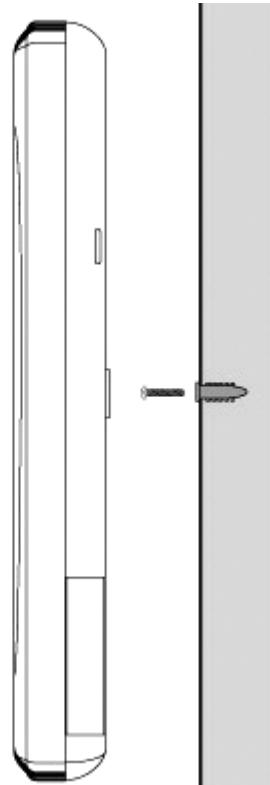
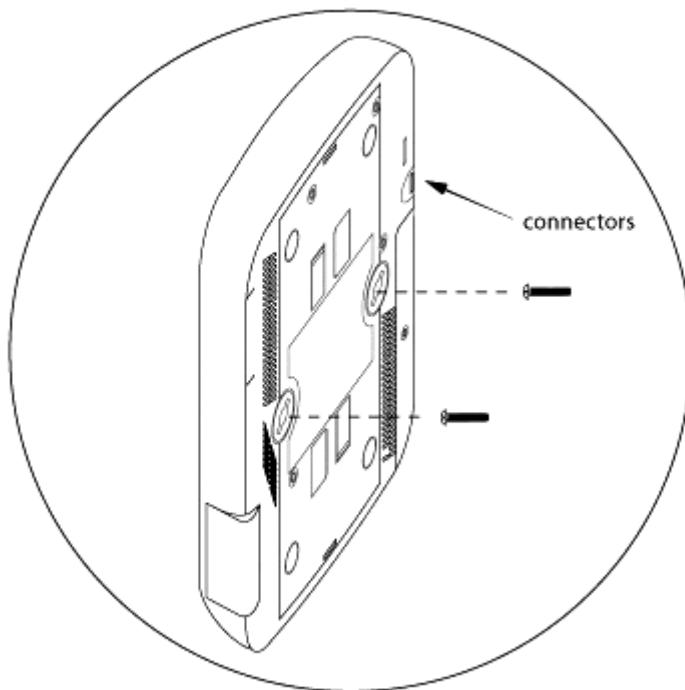
### 2.4.1 Wall Mount Hardware

- Two wide-shoulder Phillips pan head self-tapping screws (customer supplied)
- Two wall anchors (customer supplied)
- Security cable (optional)



**NOTE** The following screws are recommended: (ANSI Standard) #6-18 X 0.875in. Type A or AB Self-Tapping Screw, or (ANSI Standard Metric) M3.5 X 0.6 X 20mm Type D Self-Tapping Screw.

## 2.4.2 Wall Mount Procedure



1. Orient the case on the wall by its width or length.



Correct Orientation



Incorrect Orientation



**CAUTION** To ensure proper operation of an AP-0622 access point, ensure it is mounted in the correct orientation as shown above.

2. Mark two points (for drill holes) 4.08 inches (103 .7 mm) apart on a horizontal line.
3. At each point, drill a hole in the wall, insert an anchor, screw into the anchor the wall mounting screw and stop when there is 1mm between the screw head and the wall .

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**NOTE** When pre-drilling a hole the recommended hole size is 2.8mm (0.11in.).

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4. If required, install and attach a Kensington security cable (customer supplied) to the unit's lock port.
5. Attach an Ethernet cable from the access point to a controller with an 802.3af-compatible power source or use the PWRS-14000-148R power supply to supply power to the AP-0622 (once fully cabled).
6. Place the middle of each of the case's mount slots over the screw heads.
7. Slide the case down along the mounting surface to hang the mount slots on the screw heads.
8. Verify the unit has power by observing that the LEDs are lit or flashing.

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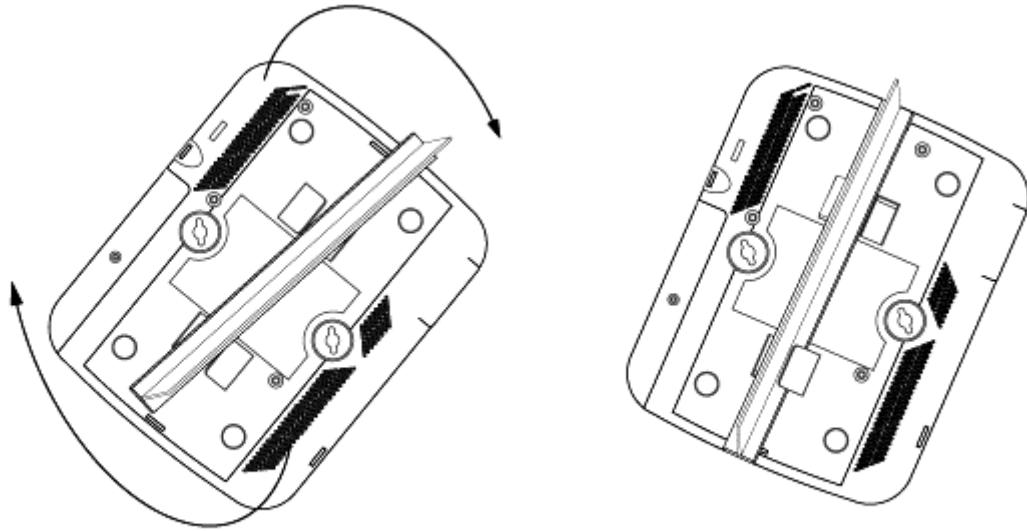
**CAUTION** If not using a 802.3af capable controller to power the AP-0622, ensure only the AP-0622's designated power supply (PWRS-14000-148R) is used to supply power to the access point. Using an incorrectly rated power supply could damage the unit and void the product warranty. Do not actually connect to the power source until the cabling portion of the installation is complete.

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## 2.5 Integrated Antenna Model Suspended Ceiling T-Bar Mount

Ceiling mount requires holding the AP-0622 access point up against a T-bar of a suspended ceiling grid and twisting the case onto the T-bar.

### 2.5.1 Suspended Ceiling T-Bar Mount Procedure



Plastic Under Ceiling Mount A

Plastic Under Ceiling Mount B

1. If required, install and attach a Kensington security cable (customer supplied) to the unit's lock port.
2. Attach an Ethernet cable from the access point to a controller with an 802.3af compatible power source or use the PWRS-14000-148R power supply to supply power to the AP-0622 (once fully cabled).
3. Align the bottom of the T-bar with the back of the case.
4. Orient the case by its length, and the length of the T-bar.
5. Rotate the case 45 degrees clockwise, or about 10 o'clock.
6. Push the back of the case onto the bottom of the T-bar.
7. Rotate the case 45 degrees counter-clockwise. The clips click as they fasten to the T-bar.
8. Verify the unit has power by observing the LEDs.



**CAUTION** If not using a 802.3af capable controller to power the AP-0622, ensure only the AP-0622's designated power supply (PWRS-14000-148R) is used to supply power to the access point. Using an incorrectly rated power supply could damage the unit and void the product warranty. Do not actually connect to the power source until the cabling portion of the installation is complete.

## 2.6 External Antenna Model Wall Mount Instructions

A wall mount deployment requires hanging the AP-0622 access point along its width or length using the pair of slots on the bottom of the unit. The AP-0622 can be mounted on to any plaster, wood or cement wall surface using the provided wall anchors.

### 2.6.1 Wall Mount Hardware

- Two customer provided wide-shoulder Phillips pan head self-tapping screws (M3.5 x 0.6 x 20 mm)
- Two wall anchors (customer supplied)
- Security cable (optional)

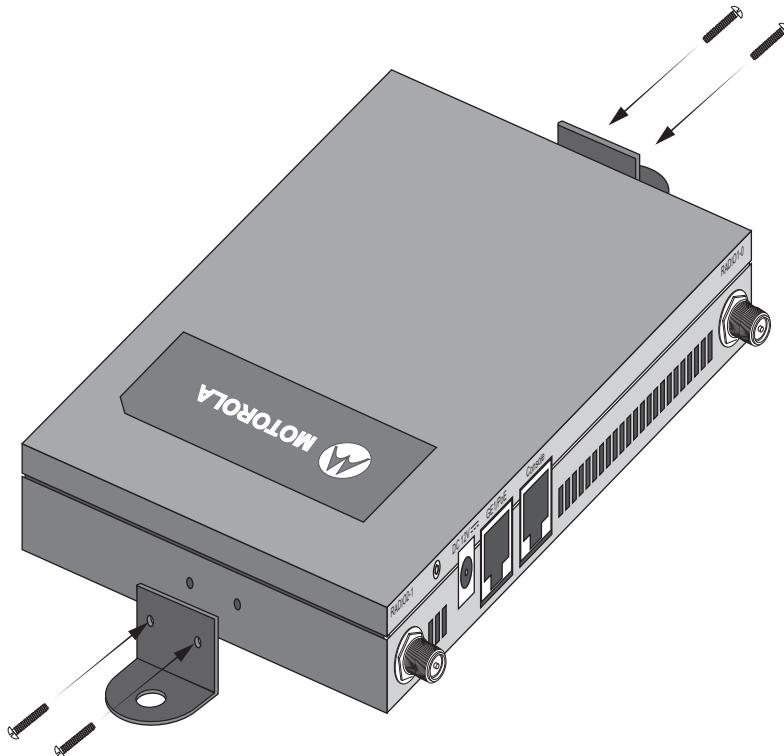


**NOTE** The following screws are recommended: (ANSI Standard) #6-18 X 0.875in. Type A or AB Self-Tapping Screw, or (ANSI Standard Metric) M3.5 X 0.6 X 20mm Type D Self-Tapping Screw.

### 2.6.2 Wall Mount Procedure - New Installation

This section describes a new AP-0622 installation with no previous access point existing on the intended wall surface.

1. Attach the two provided mounting ears (using four ear mounting screws) to the two narrow ends of the AP-0622. Align the ears using the built in ear alignment pin on the access point housing. Torque the screws to 6 lb-in.



2. Place the access point against the wall, ensuring the access point's Motorola Solutions "bat wings" logo is in the correct orientation.
3. Mark the screw hole locations on a vertical axis using the ear's mounting holes.
4. At each point, drill a hole in the wall and insert the anchor.



**NOTE** When pre-drilling a hole the recommended hole size is 2.8mm (0.11in.).

5. Place the access point on the anchor. Insert screws through the access point's mounting ears and into the anchor.
6. If required, install and attach a Kensington security cable (customer supplied) to the unit's lock port.
7. Attach an Ethernet cable from the access point to a controller with an 802.3af-compatible power source or use the PWRS-14000-148R power supply to supply power to the AP-0622 (once fully cabled).
8. Attach appropriate antennas to the connectors.
9. Attach an Ethernet cable from the access point to a controller with an 802.3af compatible power source.

10. Verify the access point is receiving power by observing that the LEDs are lit or flashing.



**CAUTION** If not using a 802.3af capable controller to power the AP622, ensure only the AP622's designated power supply (PWRS-14000-148R) is used to supply power to the access point. Using an incorrectly rated power supply could damage the unit and void the product warranty. Do not actually connect to the power source until the cabling portion of the installation is complete.

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### **2.6.3 Wall Mount Procedure - Existing Access Point Replacement**

An existing external antenna model AP300 (WSAP-5100-100) or external antenna model AP650 (AP-0650-660X0) access point, installed on a wall (plenum installation), can be placed by an AP-0622. Simply remove the existing legacy model access point form its mounting screws, leave the mounting hardware in place and install the new external antenna model AP-0622 directly on to the existing mounting hardware. The cabling procedure for such a replacement is as described in the previous section.

## 2.7 External Antenna Model Suspended Ceiling T-Bar Mount

Ceiling mount requires holding the AP-0622 access point up against a T-bar of a suspended ceiling grid and twisting the case onto the T-bar. If deploying an external antenna model AP-0622 on a ceiling T-Bar, access point mounting kit (Part No. KT-135628-01) or ceiling mount hardware (SCT-2) is required.

### 2.7.1 Suspended Ceiling T-Bar Mount Procedure - Using Mounting Kit

The following installation uses the access point mounting kit (Part No. KT-135628-01) to deploy the access point on a ceiling T-Bar.

1. If required, install and attach a Kensington security cable (customer provided) to the unit's lock port.
2. Using only the mounting bracket from the mounting kit, rotate and click the mounting bracket into the mounting slots on the AP-0622.
3. Attach an Ethernet cable from the access point to a controller with an 802.3af compatible power source or use the PWRS-14000-148R power supply to supply power to the AP-0622 (once fully cabled).
4. With the ceiling tile raised, slip the T-Bar bracket on to the exposed T-Bar flange.
5. Lower the ceiling tile and verify the stability of the T-Bar mounting bracket connection. There will be no stability in this assembly until the ceiling tile is lowered on to the T-Bar to secure the mounting hardware.
6. Verify the unit has power by observing the LEDs.



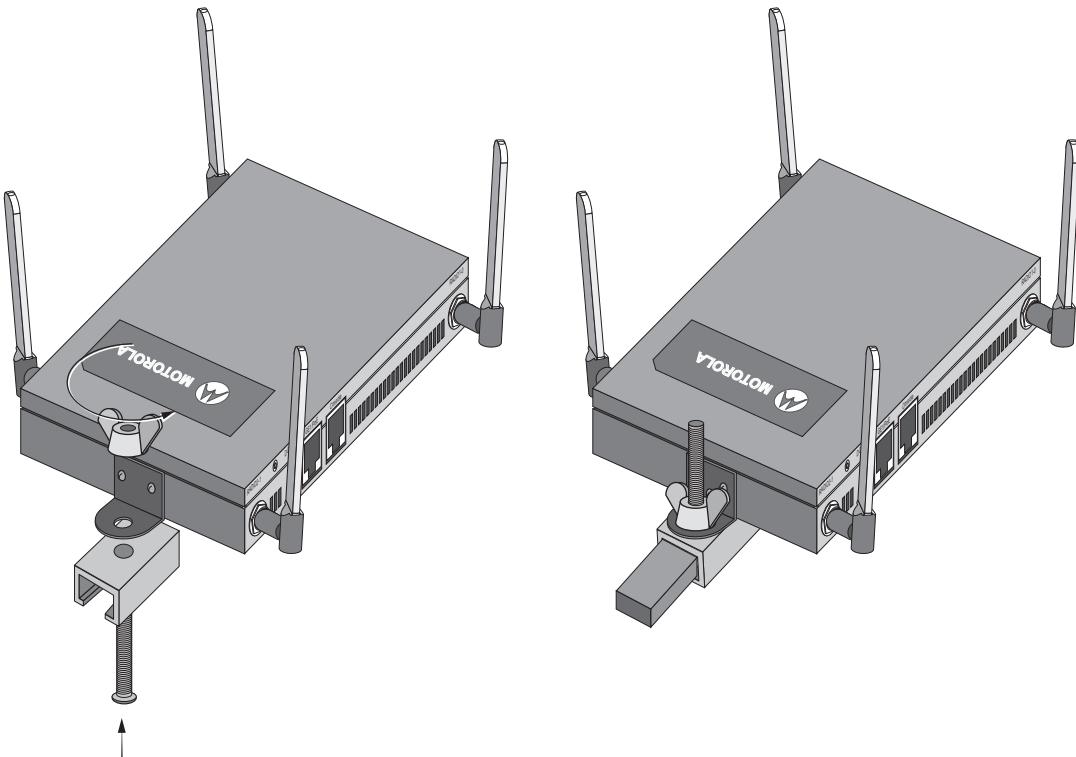
**CAUTION** If not using a 802.3af capable controller to power the AP-0622, ensure only the AP-0622's designated power supply (PWRS-14000-148R) is used to supply power to the access point. Using an incorrectly rated power supply could damage the unit and void the product warranty. Do not actually connect to the power source until the cabling portion of the installation is complete.

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### 2.7.2 Suspended Ceiling T-Bar Mount Procedure - Using Ceiling Mount Hardware

The following installation uses the access point ceiling mounting kit (Part No. SCT-2) to deploy the access point on a ceiling T-Bar.

1. If required, install and attach a Kensington security cable (customer provided) to the unit's lock port.
2. Remove nut from the SCT-2 kit and place assembly and screw through access point mounting ear.
3. Place the clips from the SCT-2 ceiling mount kit over ceiling T-Bar.
4. Tighten clips using provided nuts.



5. Attach an Ethernet cable from the access point to a controller with an 802.3af compatible power source or use the PWRS-14000-148R power supply to supply power to the AP-0622 (once fully cabled).
6. Attach appropriate antennas to the connectors.
7. Attach an Ethernet cable from the access point to the controller with an 802.3af compatible power source.
8. Verify the unit has power by observing the LEDs.



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**CAUTION** If not using a 802.3af capable controller to power the AP-0622, ensure only the AP-0622's designated power supply (PWRS-14000-148R) is used to supply power to the access point. Using an incorrectly rated power supply could damage the unit and void the product warranty. Do not actually connect to the power source until the cabling portion of the installation is complete.

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## 2.8 External Antenna Suspended Ceiling Tile (Plenum) Mount

Ceiling mount requires placing the AP-0622 access point above suspended ceiling tile.



**NOTE** Notes or warnings about suspended ceiling mounts apply to all installations where the unit is placed on suspended ceiling tile.



**CAUTION** Motorola Solutions does not recommend mounting the AP-0622 access point directly to any suspended ceiling tile with a thickness less than 12.7mm (0.5in.) or a suspended ceiling tile with an unsupported span greater than 660mm (26in.). Motorola Solutions strongly recommends fitting the AP-0622 access point with the supplied mounting ears and hanging the access point on a pipe or beam.

### 2.8.1 Suspended Ceiling Mount Hardware

- Security cable (optional)
- Mounting ears
- Customer supplied pipe or channel clamps

### 2.8.2 Ceiling Mount Procedure

1. If possible, remove the ceiling tile from its frame and place it, finish side down, on a work surface.
2. If required, install and attach a Kensington security cable (customer provided) to the unit's lock port.
3. Place the access point on the ceiling tile or attach to a plenum beam or pipe using industry available clamps.
4. Attach appropriate antennas to the connectors.
5. Bring the tile into the ceiling space
6. Attach an Ethernet cable from the access point to a controller with an 802.3af compatible power source or use the PWRS-14000-148R power supply to supply power to the AP-0622 (once fully cabled).
7. Verify the access point is receiving power by observing the LEDs.
8. Place the ceiling tile back in its frame.



**CAUTION** If not using a 802.3af capable controller to power the AP-0622, ensure only the AP-0622's designated power supply (PWRS-14000-148R) is used to supply power to the access point. Using an incorrectly rated power supply could damage the unit and void the product warranty. Do not actually connect to the power source until the cabling portion of the installation is complete.

## 2.9 AP-0622 External Antenna Model Antenna Options

Motorola Solutions supports two antenna suites for AP-0622 External Antenna models. One antenna suite supporting the 2.4 GHz band and another antenna suite supporting the 5 GHz band. Select an antenna model best suited to the intended operational environment of your access point.



The 2.4 GHz antenna suite includes the following models:

<b>Part Number</b>	<b>Antenna Type</b>
ML-2452-APA2-01	Dipole Antenna
ML-2499-SD3-01R	Patch Antenna
ML-2499-HPA3-01R	Omni Antenna
ML-2452-PNA5-01R	Panel Antenna
ML-2452-PTA3M3-036	Omni Antenna
ML-2452-APAG2A1-01 (Black) ML-2452-APAG2A1-02 (White)	Dipole Antenna

The 5 GHz antenna suite includes the following models:

<b>Part Number</b>	<b>Antenna Type</b>
ML-2452-APA2-01	Dipole Antenna
ML-5299-PTA1-01R	Patch Antenna
ML-5299-HPA1-01R	Omni Antenna
ML-2452-PNA5-01R	Panel Antenna
ML-2452-PTA3M3-036	Omni Antenna
ML-2452-APAG2A1-01 (Black) ML-2452-APAG2A1-02 (White)	Dipole Antenna

For up-to-date information on supported antennas and antenna specifications, please refer to the *Motorola Solutions Enterprise Wireless LAN Antenna Specification Guide* available on the Motorola Solutions Web site.

## 2.10 LED Indicators

Both Integrated Antenna and External Antenna models have LED activity indicators on the front of the case. With the External Antenna models mounted above a ceiling, LEDs are at the center of an oval badge on the ceiling.



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

<b>Task</b>	<b>5 GHz Activity LED (Amber)</b>	<b>2.4 GHz Activity LED (Green)</b>
Unadopted	Off	Blinking at 5Hz
Normal Operation	<ul style="list-style-type: none"><li>• If this radio band is enabled: Blink at 5 second interval</li><li>• If this radio band is disabled: Off</li><li>• If there is activity on this band: Blink at a 1Hz</li></ul>	<ul style="list-style-type: none"><li>• If this radio band is enabled: Blink at 5 second interval</li><li>• If this radio band is disabled: Off</li></ul> <p>If there is activity on this band: Blink at a 1Hz</p>
Firmware Update	On	Off
Locate AP Mode	Blink at 5Hz	Blink at 5Hz

### 3 Initial Access Point Configuration

The AP-0622 access point receives its configuration once adopted by a Motorola Solutions RFS4000, RFS6000, RFS7000 or NX9000 series controller. There are no required initial configuration settings beyond verifying power and LED functionality for an AP-0622 model access point. Once adopted, the access point is managed by its connected controller and can receive periodic firmware updates when Motorola Solutions releases updates with new controller functionality.

For information on how use a Motorola Solutions RFS Series controller to manage an AP-0622 access point, refer to <http://support.symbol.com/support/product/manuals.do>.

## 4 Specifications

### 4.1 AP-0622 Integrated Antenna Model Electrical Characteristics

An AP-0622 Integrated model Access Point has the following electrical characteristics:

<i>Operating Current &amp;</i>	12VDC, 1A (accessory power connector)
<i>Voltage</i>	48V,0.25A (PoE connector)

### 4.2 AP-0622 Integrated Antenna Model Physical Characteristics

An AP-0622 Integrated Antenna model Access Point has the following physical characteristics:

<i>Dimensions</i>	9.38 inches x 7.5 inches x 1.38 inches 23.82 cm x 19.50 cm x 3.50 cm
<i>Housing</i>	Plastic
<i>Weight</i>	0.90 lbs / 0.40 kg
<i>Operating Temperature</i>	32°F to 104°F/0°C to 40°C
<i>Storage Temperature</i>	-40°F to 185°F/-40°C to 85°C
<i>Operating Humidity</i>	5 to 95% Relative Humidity non-condensing
<i>Storage Humidity</i>	85% Relative Humidity non-condensing
<i>Operating Altitude (max)</i>	8,000 ft @ 28C
<i>Storage Altitude (max)</i>	30,000 ft @ 12C
<i>Electrostatic Discharge</i>	+/-15kV Air and +/-8kV Contact @ 50% Relative Humidity

## 4.3 AP-0622 External Antenna Model Electrical Characteristics

An AP-0622 External Antenna model Access Point has the following electrical characteristics:

<i>Operating Current &amp;</i>	12VDC, 1A (accessory power connector)
<i>Voltage</i>	48V,0.25A (PoE connector)

## 4.4 AP-0622 External Antenna Model Physical Characteristics

An AP-0622 External Antenna model Access Point has the following physical characteristics:

<i>Dimensions</i>	7.88 inches x 5.00 inches x 1.00 inches 20.01 cm x 12.70 cm x 2.54 cm
<i>Housing</i>	Metal
<i>Weight</i>	1.45 lbs / 0.65 kg
<i>Operating Temperature</i>	32°F to 104°F/0°C to 40°C
<i>Storage Temperature</i>	-40°F to 185°F/-40°C to 85°C
<i>Operating Humidity</i>	5 to 95% Relative Humidity non-condensing
<i>Storage Humidity</i>	85% Relative Humidity non-condensing
<i>Operating Altitude (max)</i>	8,000 ft @ 28C
<i>Storage Altitude (max)</i>	30,000 ft @ 12C
<i>Electrostatic Discharge</i>	+/-15kV Air and +/-8kV Contact @ 50% Relative Humidity

## 4.5 Radio Characteristics

The AP-0622 model Access Points have the following radio characteristics:

<i>Operating Channels</i>	All channels from 4920 MHz to 5825 MHz except channel 52 -64 Channels 1-13 (2412-2472 MHz) Channel 14 (2484 MHz) Japan only Actual operating frequencies depend on regulatory approval for the country of use.
<i>Data Rates Supported</i>	802.11b: 1,2,5.5,11Mbps 802.11g: 1,2,5.5,11,6,9,12,18,24,36,48, and 54Mbps 802.11a: 6,9,12,18,24,36,48, and 54Mbps 802.11n: MCS 0-15 up to 300Mbps
<i>Wireless Medium</i>	<i>Direct Sequence Spread Spectrum (DSSS), Orthogonal Frequency Division Multiplexing (OFDM) Spatial multiplexing (MIMO)</i>
<i>Network Standards</i>	802.11a, 802.11b, 802.11g, 802.3, 802.11n (Draft 2.0)
Maximum Available Transmit Power	Maximum available conducted transmit power per chain: 2.4 GHz: 21dBm Maximum available conducted transmit power all chains: 2.4 GHz: 24dBm Maximum available conducted transmit power per chain: 5 GHz: 19dBm Maximum available conducted transmit power all chains: 5 GHz: 22dBm
Transmit Power Adjustment	1dB increments

## 5 Regulatory Information

This device is approved under the Symbol Technologies, Inc. brand: Symbol Technologies, Inc. is a wholly owned subsidiary of Motorola Solutions, Inc. (collectively "Motorola").

This guide applies to Model Number AP-0622.

All Motorola/Symbol 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:

<http://supportcentral.motorola.com/>

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

Motorola/Symbol 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 Motorola/Symbol Technologies Wireless Switch.

### 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.

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

**Note:** For 2.4GHz or 5GHz Products: Europe includes, Austria, Belgium, Bulgaria, Czech Republic, Cyprus, Denmark, Estonia, Finland 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.

## Health and Safety Recommendations

### Country Selection

Select only the country in which you are using the device. Any other selection will make the operation of this device illegal.

### Frequency of Operation – FCC and IC

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 GHz Only

The use in the UNII (Unlicensed National Information Infrastructure) band 1 (5150-5250 MHz) is restricted to Indoor Use Only; any other use will make the operation of this device illegal.

**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.

## Health and Safety Recommendations

### Warnings for Use of Wireless Devices



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

### 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).

### 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.

## RF Exposure Guidelines

### Safety Information

### Reducing RF Exposure - Use Properly

Only operate the device in accordance with the instructions supplied.

## 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 Motorola/Symbol *Declaration of Conformity* (DoC) at: <http://www.motorola.com/doc>

## 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 of similar configurations must operate with a minimum separation distance of 20 cm from all persons.

## US and Canada

### Co-located statement

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

### Remote and Standalone Antenna Configurations

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

## Power Supply

Use *ONLY* a LISTED Motorola, Type no. PWRS-14000-148R (12VDC @ 4.16A), direct plug-in power supply, marked Class 2 (IEC60950-1, SELV).

This device can be powered from a 802.3af compliant power source which is certified by the appropriate agencies.

Use of alternative Power Supply will invalidate any approvals given to this unit and may be dangerous.

## Wireless Devices - Countries

### Country Selection

Select only the country in which you are using the device. Any other selection will make the operation of this device illegal.



#### NOTE

The US only models (AP-0622-66030-US and AP-0622-66040-US) have the country code permanently set to the US. The (AP-0622-66030-WR and AP-0622-66040-WR) models cannot be configured for use in the US.

### Operation in the US and Canada

The use on UNII (Unlicensed National Information Infrastructure) Band 1 5150-5250 MHz is restricted to indoor use only, any other use will make the operation of this device illegal.

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

## 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.

### 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.

### Radio Frequency Interference Requirements – Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

### 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.

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

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

## CE Marking and European Economic Area (EEA)

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.
- France outside usage, the equipment is restricted to 2.400-2.45 GHz frequency range.
- Italy requires a user license for outside usage.

### ***Statement of Compliance***

Motorola 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 <http://www.motorola.com/doc>.

### **Korea Warning Statement for Class B**

기 종 별	사 용 자 안 내 문
B 급 기기 ( 가정용 방송통신기기 )	이 기기는 가정용 (B 급) 으로 전자파적합등록을 한 기기로서 주로 가정에서 사용하는 것을 목적 으로 하며, 모든 지역에서 사용할 수 있습니다.
Class B (Broadcasting Communication Device for Home Use)	This device obtained EMC registration mainly for home use (Class B) and may be used in all areas.

### ***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-0622 - Brasil**

Nota: A marca de certificação se aplica ao Transceptor, modelo AP622. 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](http://www.anatel.gov.br)

#### **Chile**

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

#### **Mexico**

Restrict Frequency Range to: 2.450 – 2.4835 GHz.

**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 稗赫頻帶內操作之無線資訊傳輸設備，限於室內使用

**Korea**

당해 무선설비는 운용 중 전파혼신 가능성이 있음

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

**Turkish WEEE Statement of Compliance**

EEE Yönetmeliğine Uygundur



## Waste Electrical and Electronic Equipment (WEEE)

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

**Français:** Clients de l'Union Européenne: Tous les produits en fin de cycle de vie doivent être retournés à Motorola pour recyclage. Pour de plus amples informations sur le retour de produits, consultez :

<http://www.motorola.com/recycling/weee>.

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

<http://www.motorola.com/recycling/weee>.

**Bulgarish:** За клиенти от ЕС: След края на полезната им живот всички продукти трябва да се връщат на Motorola за рециклиране. За информация относно връщането на продукти, моля отидете на адрес:

<http://www.motorola.com/recycling/weee>.

**Deutsch:** Für Kunden innerhalb der EU: Alle Produkte müssen am Ende ihrer Lebensdauer zum Recycling an Motorola zurückgesandt werden. Informationen zur Rücksendung von Produkten finden Sie unter

<http://www.motorola.com/recycling/weee>.

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

**Português:** Para clientes da UE: todos os produtos no fim de vida devem ser devolvidos à Motorola para reciclagem. Para obter informações sobre como devolver o produto, visite: <http://www.motorola.com/recycling/weee>.

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

**Polski:** Klienci z obszaru Unii Europejskiej: Produkty wycofane z eksploatacji należą zwrócić do firmy Motorola w celu ich utylizacji. Informacje na temat zwrotu produktów znajdziesz na stronie internetowej

<http://www.motorola.com/recycling/weee>.

**Čeština:** Pro zákazníky z EU: Všechny produkty je nutné po skončení jejich životnosti vrátit společnosti Motorola k recyklaci. Informace o způsobu vrácení produktu najdete na webové stránce:

<http://www.motorola.com/recycling/weee>.

**Eesti:** EL klientidele: kõik tooted tuleb nende eluea lõppedes tagastada taaskasutamise eesmärgil Motorola'ile. Lisainfo saamiseks toote tagastamise kohta külastage palun aadressi:

<http://www.motorola.com/recycling/weee>.

**Magyar:** Az EU-ban vásárlóknak: minden tönkrement terméket a Motorola vállalathoz kell eljuttatni újrahasznosítás céljából. A termék visszajuttatásának módjával kapcsolatos tudnivalókért látogasson el a

<http://www.motorola.com/recycling/weee> weboldalra.

**Svenska:** För kunder inom EU: Alla produkter som uppnått sin livslängd måste returneras till Motorola för återvinning. Information om hur du returnerar produkten finns på <http://www.motorola.com/recycling/weee>.

**Suomi:** Asiakkaat Euroopan unionin alueella: Kaikki tuotteet on palautettava kierrätäväksi Motorola-yhtiöön, kun tuotetta ei enää käytetä. Lisätietoja tuotteen palauttamisesta on osoitteessa <http://www.motorola.com/recycling/weee>.

**Dansk:** Til kunder i EU: Alle produkter skal returneres til Motorola til recirkulering, når de er udttjent. Læs oplysningerne om returnering af produkter på: <http://www.motorola.com/recycling/weee>.

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

**Malta:** Għal klijenti fl-UE: il-prodotti kollha li jkunu waslu fl-ahħar tal-hajja ta' l-uzu tagħhom, iridu jiġu ritornati għand Motorola għar-riċiklaġġ. Għal aktar tagħrif dwar kif għandek tirritorna l-prodott, jekk jogħġibok żur: <http://www.motorola.com/recycling/weee>.

**Românesc:** Pentru clienții din UE: Toate produsele, la sfârșitul duratei lor de funcționare, trebuie returnate la Motorola pentru reciclare. Pentru informații despre returnarea produsului, accesați:

<http://www.motorola.com/recycling/weee>.

**Slovenski:** Za kupce v EU: vsi izdelki se morajo po poteku življenjske dobe vrniti podjetju Motorola za reciklazo. Za informacije o vračilu izdelka obiščite:

<http://www.motorola.com/recycling/weee>.

**Slovenčina:** Pre zákazníkov z krajín EU: Všetky výrobky musia byť po uplynutí doby ich životnosti vrátené spoločnosti Motorola na recykláciu. Bližšie informácie o vrátení výrobkov nájdete na:

<http://www.motorola.com/recycling/weee>.

**Lietuvių:** ES vartotojams: visi gaminiai, pasibaigus jų eksploatacijos laikui, turi būti grąžinti utilizuoti į kompaniją „Motorola“. Daugiau informacijos, kaip grąžinti gaminį, rasite: <http://www.motorola.com/recycling/weee>.

**Latviešu:** ES klientiem: visi produkti pēc to kalpošanas mūža beigām ir jānogādā atpakaļ Motorola otrreizējai pārstrādei. Lai iegūtu informāciju par produktu nogādāšanu Motorola, lūdzu, skatiet:

<http://www.motorola.com/recycling/weee>.

**Türkçe:** AB Müşterileri için: Kullanım süresi dolan tüm ürünler geri dönüştürme için Motorola'ya iade edilmelidir. Ürünlerin nasıl iade edileceği hakkında bilgi için lütfen şu adresi ziyaret edin:

<http://www.motorola.com/recycling/weee>.

## ***Part Numbers, Support, and Sales***

Part Number	Description
AP-0622-66030-US	802.11n dependent access point, dual radio, internal antenna
AP-0622-66040-US	802.11n dependent access point, dual radio, external antenna
AP-0622-66030-WR	802.11n dependent access point, dual radio, internal antenna
AP-0622-66040-WR	802.11n dependent access point, dual radio, external antenna

## ***Motorola's Enterprise Mobility Support Center***

If you have a problem with your equipment, contact Enterprise Mobility support for your region. Support and issue resolution is provided for products under warranty or that are covered by an Enterprise Mobility Services agreement. Contact information and web self-service is available by visiting <http://supportcentral.motorola.com/>.

When contacting Enterprise Mobility support, please provide the following information:

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

Motorola Solutions responds to calls by email or telephone within the time limits set forth in support agreements. If you purchased your Enterprise Mobility business product from a Motorola Solutions business partner, contact that business partner for support.

## ***Customer Support Web Sites***

Motorola Solutions' Support Central Web site, located at <http://supportcentral.motorola.com/> provides information and online assistance including developer tools, software downloads, product manuals and online repair requests.

## ***Manuals***

<http://support.symbol.com/support/product/manuals.do>

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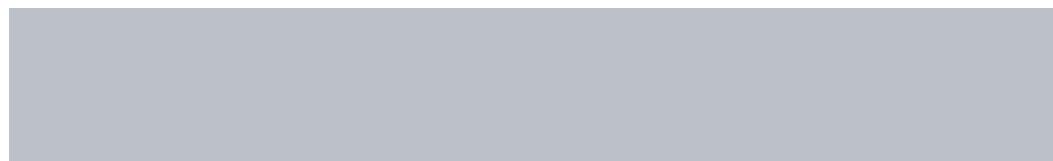
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Agreement shall be held by a court or other tribunal of competent jurisdiction to be illegal, invalid or unenforceable, such provisions shall be limited or eliminated to the minimum extent necessary so that this Agreement shall otherwise remain in full force and effect. No waiver or modification of this Agreement will be binding upon a party unless made in writing and signed by a duly authorized representative of such party and no failure or delay in enforcing any right will be deemed a waiver. This Agreement shall be governed by the laws of the State of New York without regard to the conflicts of law provisions thereof. The application the United Nations Convention of Contracts for the International Sale of Goods is expressly excluded. Unless waived by Licensor for a particular instance, any action or proceeding arising out of this Agreement must be brought exclusively in the state or federal courts of New York and Licensee hereby consents to the jurisdiction of such courts for any such action or proceeding. This Agreement supersedes all prior discussions and writings and constitutes the entire agreement between the parties with respect to the subject matter hereof. The prevailing party in any action arising out of this Agreement shall be entitled to costs and attorneys' fees.

## 7 AP-0622 Access Point China ROHS Compliance



部件名称 (Parts)	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr <sup>6+</sup> )	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
金属部件 (Metal Parts)	○	○	○	○	○	○
电路模块 (Circuit Modules)	×	○	○	○	○	○
电缆及电缆组件 (Cables and Cable Assemblies)	×	○	○	○	○	○
塑料和聚合物部件 (Plastic and Polymeric Parts)	○	○	○	○	○	○
光学和光学组件 (Optics and Optical Components)	○	○	○	○	○	○
电池 (Batteries)	○	○	○	○	○	○

○：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。

×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。

对销售之日的所售产品，本表表示，公司供应链的电子信息产品可能包含这些物质。注意：在所售产品中可能会也可能不会含有所有所列的部件。

This table was created to comply with China RoHS requirements for Motorola Solutions' AP-0622 Access Point.

**Table for Filed Antenna (For IC)**

Ant.	Model Name	Antenna Type	Chip/Radio	Gain (dBi)	
				2.4GHz	5GHz
1	120G00000000A	Embedded	Radio1-CH1	3.92	-
	120G00000001A	Embedded	Radio1-CH2	3.77	-
2	120G00000002A	Embedded	Radio2-CH1	4.08	7.5
	120G00000003A	Embedded	Radio2-CH2	4.44	5.52
3	ML-2499-FHPA9-01R	Dipole	Radio1/2-CH1/2	8.5	-
4	ML-2499-SD3-01R	Patch	Radio1/2-CH1/2	3.5	-
5	ML-2499-BPNA3-01R	Panel	Radio1/2-CH1/2	10.9	-
6	ML-2499-BYGA2-01R	Yagi	Radio1/2-CH1/2	11.1	-
7	ML-5299-FHPA10-01R	Dipole	Radio1/2-CH1/2	-	9
8	ML-5299-PTA1-01R	Patch	Radio1/2-CH1/2	-	4.6
9	ML-5299-WPNA1-01R	Panel	Radio1/2-CH1/2	-	12.5
10	ML-5299-BYGA15-012	Yagi	Radio1/2-CH1/2	-	11
11	ML-2499-5PNL-72-N	Panel	Radio1/2-CH1/2	5	-
12	ML-2499-APA2-01	Dipole	Radio1/2-CH1/2	2	-
13	ML-2499-HPA3-01R	Dipole	Radio1/2-CH1/2	4.7	-
14	ML-5299-APA1-01R	Dipole	Radio1/2-CH1/2	-	2
15	ML-5299-HPA1-01R	Dipole	Radio1/2-CH1/2	-	5
16	ML-2452-APA2-01	Dipole	Radio1/2-CH1/2	3	5
17	ML-2452-PNA5-01R	Panel	Radio1/2-CH1/2	4.5	5
18	ML-2452-PNA7-01R	Panel	Radio1/2-CH1/2	7	9
19	ML-2452-HPA5-036	Dipole	Radio1/2-CH1/2	3	5



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72-157808-01 Revision A  
December 2011

  
150200000395A R02