



# Wireless Service

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## Cisco Access Point Guide

Version 1.1  
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The purpose of this document is to outline the steps for installing and troubleshooting access points.

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## Document History

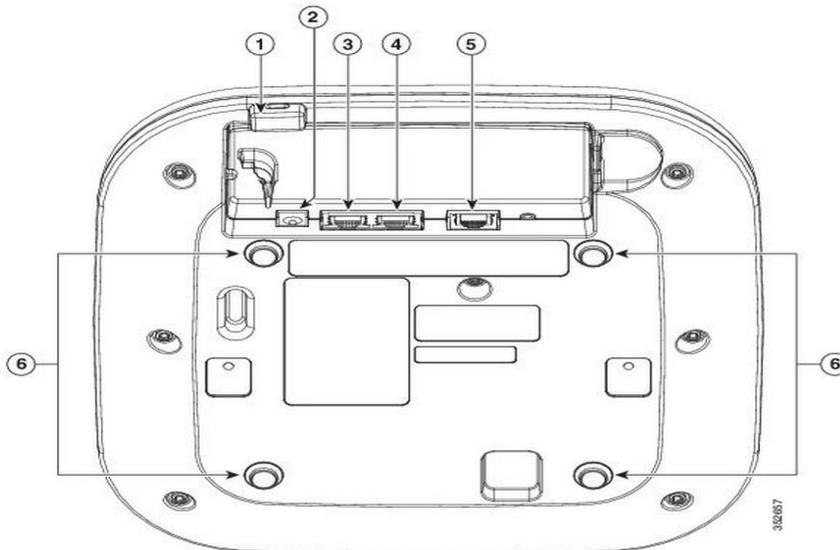
Version Number	Date	Brief Description
V.1	10/1/2014	Initial Version
V1.1	11/12/2015	Branding with WaTech

## Cisco Aironet Series 2700 Access Point

The Cisco 2700 AP is the latest access point supporting 802.11ac. It has 3x4 spatial streams and a very good receive sensitivity. Cisco Aironet series 2700 AP is an 802.11 ac Wave-1 and 3x4:3 MIMO AP.



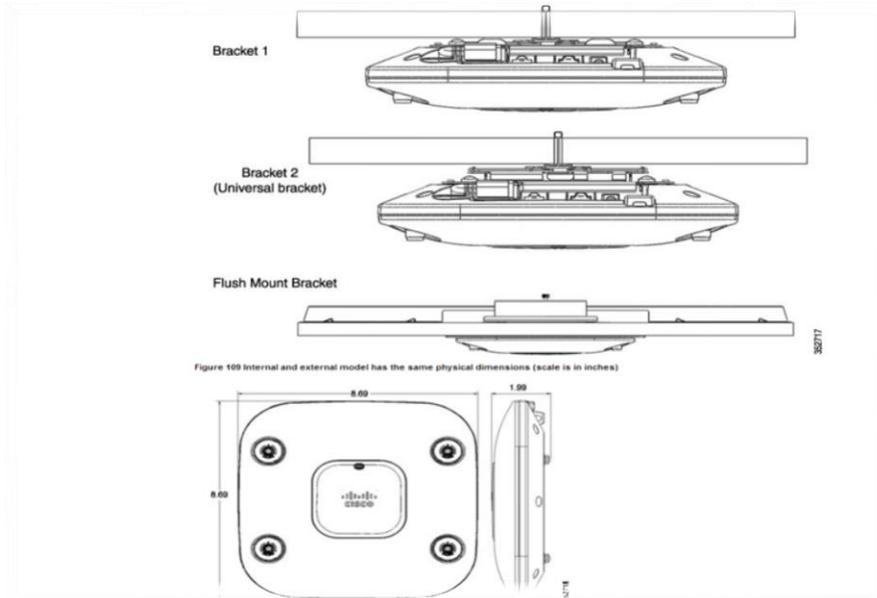
### Access Point Ports and Connections



1	Kensington lock slot	4	Auxiliary Ethernet Port
2	DC Power connection port	5	RS232 Console Port
3	Primary Ethernet port	6	Mounting bracket pins ( feet for desk or table-top mount

## Mounting Options

Cisco Bracket-1, Bracket-2, or the flush mount Bracket-3 may be used.



## Deploying the Access Point on the Network

After the AP has been mounted, follow these steps to deploy it:

Step 1 Connect and power up the access point

Step 2 Observe the AP LED

- a. When you power up the access point, it begins a power-up sequence that you can verify by observing the AP LED. If the power-up sequence is successful, the discovery and join process begins. During this process, the LED blinks sequentially green, red, and off. When the AP has joined the controller, the LED is green if no clients are associated or blue if one or more clients are associated.
- b. If the LED is not on, the AP is most likely not receiving power.
- c. If the LED blinks sequentially for more than 5 minutes, the AP is unable to find its primary or secondary WLC. Check the connection between the AP and switch, ensure the AP has a route back to the primary WLC. May need to verify switching, routing, firewall rules, and DNS entries.

## Troubleshooting

### Guidelines for Using the Cisco Access Point

The access point can only communicate with Cisco wireless LAN controllers.

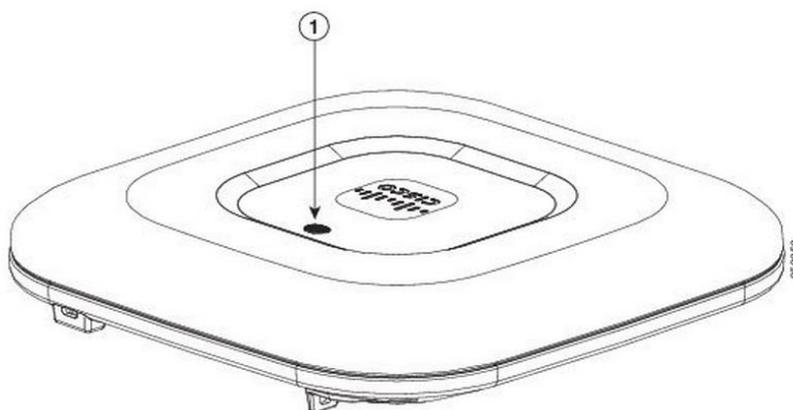
CAPWAP does not support Layer 2. The access point must get an IP address and discover the controller using Layer 3, DHCP, DNS, or IP subnet broadcast. WaTech is using DNS method.

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The access point console port is enabled for monitoring and debug purposes. All configuration commands are disabled when the access point is connected to a controller.

## Checking the Access Point LED

The figure below illustrates where the LED indicator is located.



## LED Status Indications

Message Type	Status LED	Message Meaning
Boot loader status sequence	Blinking Green	DRAM memory test in progress
		DRAM memory test OK
		Board initialization in progress
		Initializing FLASH file system
		FLASH memory test OK
		Initializing Ethernet
		Ethernet OK
Association status	Green	Normal operating condition, but no wireless client associated
	Blue	Normal operating condition, at least one wireless client associated.
Operating Status	Blinking Blue	Software upgrade in progress
	Cycling through green, red, and off	Discovery/join process in progress
	Rapidly cycling through blue, green and red	Access point location command invoked
	Blinking red	Ethernet link not operational
Boot loader warnings	Blinking blue	Configuration recovery in progress
	Red	Ethernet failure or image recovery
	Blinking green	Image recovery in progress
Boot loader errors	Red	DRAM memory test failure
	Blinking red and blue	FLASH file system failure
	Blinking red and off	Environment variable failure
		Bad MAC address
		Ethernet failure during image recovery
		Boot environment failure
No Cisco image file		

## Troubleshooting the Access Point Join Process

Access points can fail to join a controller for many reasons: a RADIUS authorization is pending; self-signed certificates are not enabled on the controller; the access points and controller's regulatory domains don't match, and so on.

Controller software enables you to configure the access points to send all CAPWAP-related errors to a syslog server. You do not need to enable any debug commands on the controller because all of the CAPWAP error messages can be viewed from the syslog server itself.

The state of the access point is not maintained on the controller until it receives a CAPWAP join request from the access point. Therefore, it can be difficult to determine why the CAPWAP discovery request from a certain access point was rejected. In order to troubleshoot such joining problems without enabling CAPWAP debug commands on the controller, the controller collects information for all access points that send a discovery message to it and maintains information for any access points that have successfully joined it.

The controller collects all join-related information for each access point that sends a CAPWAP discovery request to the controller. Collection begins with the first discovery message received from the access point and ends with the last configuration payload sent from the controller to the access point.

## Check the Basics First

1. Can the AP and WLC communicate?
2. Make sure the AP is getting an address from DHCP
3. Try pinging the AP from the controller.
4. Check if the STP configuration on the switch is done right so that packets to the VLANs are not blocked.
5. Each time the AP reboots, it initiates the WLC discovery sequence and tries to locate the AP.
6. Reboot the AP and check if it joins the WLC.

## Resources

### Cisco Documents

Cisco Aironet 2700 Series Access Points Data Sheet

<http://www.cisco.com/c/en/us/products/collateral/wireless/aironet-2700-series-access-point/datasheet-c78-730593.html>

Getting Started Guide: Cisco Aironet 2700 Series Access Points

[http://www.cisco.com/c/en/us/td/docs/wireless/access\\_point/2700/quick/guide/ap2700getstart.html](http://www.cisco.com/c/en/us/td/docs/wireless/access_point/2700/quick/guide/ap2700getstart.html)

Cisco Aironet Series 2700/3700 Access Points Deployment Guide

[http://www.cisco.com/c/en/us/td/docs/wireless/technology/apdeploy/7-6/Cisco\\_Aironet\\_3700AP.html](http://www.cisco.com/c/en/us/td/docs/wireless/technology/apdeploy/7-6/Cisco_Aironet_3700AP.html)