

# Grandstream Networks, Inc.

# WP820 Wi-Fi Roaming Application Note







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### **OVERVIEW**

The WP820 is a portable Wi-Fi phone designed to suit a variety of enterprises and vertical market applications, including retail, logistics, medical and security. This powerful, portable Wi-Fi phone comes equipped with integrated dual-band 802.11a/b/g/n Wi-Fi support, advanced antenna design and roaming support, and integrated Bluetooth for pairing with headsets and mobile devices. With the growing coverage of Wi-Fi network, wireless access point (AP) is now widely used for small/medium enterprises, multiple-floor offices, commercial locations and branch offices to provide seamless Wi-Fi access and mobile solutions. This document provides a guideline for network administrator to deploy WP820 in different Wi-Fi environment to achieve the best communication guality.

# **WP820 WI-FI FREQUENCY AND CHANNEL**

The WP820 has built-in dual-band 802.11a/b/g/n Wi-Fi support. Below frequency and channels are supported.

Peak Antenna Gain	Frequency Ranges	Available Channels	Channel Set
2.4GHz=2.4 dBi 5GHz=3.0 dBi	2.412 - 2.472 GHz 5.180 - 5.240 GHz 5.260 - 5.320 GHz 5.500 - 5.720 GHz 5.745 - 5.825 GHz	14 4 4 12 5	1-13 36, 40, 44, 48 52, 56, 60, 64 100-140 149, 153, 157, 161, 165

Table 1: WP820 Wi-Fi Frequency and Channel

# WP820 WI-FI ROAMING

To adapt to different Wi-Fi deployment, WP820 has provided several roaming options for users to configure. Below options are available under LCD menu->Settings->Network settings->Wi-Fi roaming mode. They can also be found in WP820 Web GUI->Network Settings->Wi-Fi Settings->Wi-Fi Roaming page.





#### Table 2: WP820 Wi-Fi Roaming Options

Name	Description
Signal threshold	This is the RSSI threshold for WP820 to decide whether to switch during roaming. If the currently connected AP has RSSI lower than this threshold, WP820 will start looking for nearby AP with better RSSI. Default value is - 70 (dBm).
Good signal scan interval	If the currently connected AP has a higher RSSI than the threshold, WP820 will scan nearby APs at this interval. Default value is 1000 (seconds).
Poor signal scan interval	If the currently connected AP has a lower RSSI than the threshold and there is no nearby AP that has higher RSSI than the threshold, WP820 will scan nearby APs at this interval. Default value is 50 (seconds).

When the AP that WP820 is currently connected to has signal strength lower than the configured "*Signal threshold*" on WP820, the device will try to look for a nearby AP with better RSSI. To avoid switchover back and forth due to unstable RSSI, the WP820 will only switch over when the new AP's RSSI is at least 8 dB higher than the currently connected AP.

"Good signal scan interval" and "Bad signal scan interval" determine the scan interval for WP820 to find out whether there is a better AP nearby to switch to. Normally if the currently connected AP has a higher RSSI than the threshold, WP820 can scan at a longer interval, while a shorter value can be applied for "Poor signal scan interval" because the currently connected AP has lower RSSI than the threshold which means WP820 should look for a better AP in a more aggressive way.

## **DEPLOYMENT REQUIREMENTS**

When deploying Wi-Fi network with multiple APs for WP820 to roam, please follow below guidelines:

- 1. Make sure the APs are properly powered up and connected to your network.
- 2. Connect your PC to the same network as the APs. This PC is used for configuring the APs and other necessary devices via web GUI.
- 3. Access the APs using the PC's web GUI. Configure the APs to set them up.
- 4. Set the same SSIDs for all the APs. SSID is case sensitive.
- 5. Make sure the IP addresses assigned by the APs belong to the same network segment and the same VLAN.





During deployment, the cell edge for each AP should be designed to -67dBm and there should be 20% - 30% overlap between adjacent APs at that signal level. Otherwise, WP820 might encounter packet loss or blind area at the cell edge and it cannot hold the signal long enough to complete seamless switchover. To ensure seamless roaming, it's recommended that WP820 can always receive RSSI -67dBm or higher from the access point.



Figure 1: Wireless AP Deployment

# **IMPORTANT WI-FI PARAMETERS ON AP**

There are several important parameters on AP for Wi-Fi configuration. Configuring them properly will enhance WP820 roaming performance.

### **Beacon Interval**

Beacon interval defines how often the AP transmits the 802.11 beacon management frames. Usually the default value is **100ms**. It's recommended to keep it as default value on AP.

### DTIM

This is the Delivery traffic indication message (DTIM) period in beacons. It's recommended to set it to 2.





### **Unicast Mode and Multicast Mode**

In unicast mode, the controller unicasts every multicast packet to every access point associated to the controller. In multicast mode, the controller sends multicast packets to a CAPWAP multicast group. This method reduces overhead on the controller processor and shifts the work of packet replication to your network. It's recommended to use **unicast** mode to ensure call quality.

### WMM (Wi-Fi Multimedia)

WMM is a wireless QoS protocol, a subset of the 802.11e protocol. It is used to ensure that packets with high priority can be sent first so that service quality for voice, video and other applications can be guaranteed.

On WP820, WMM related configurations can be found undero web UI->Network Settings->Advanced Network Settings.

#### • Layer 3 QoS for SIP

This defines the layer 3 packet's QoS parameter for SIP messages in decimal pattern. The value is used for IP Precedence, Diff-Serv or MPLS. The default setting is 26 which is equivalent to the DSCP name constant CS6.

#### • Layer 3 QoS for Audio

This defines the layer 3 packet's QoS parameter for RTP messages in decimal pattern. This value is used for IP Precedence, Diff-Serv or MPLS. The default setting is 46 which is equivalent to the DSCP name constant CS6.

WP820 will convert the QoS value to the corresponding WMM value/level so the packets can be differentiated and handled properly by other network devices.

### **Band Steering**

Dual band operation with Band Steering detects clients capable of 5 GHz operation and steers them to that frequency which leaves the more crowded 2.4 GHz band available for legacy clients. This helps improve end user experience by reducing channel utilization, especially in high density environments. It's recommended to enable **band steering** on the APs, which means by default 5Ghz should be used (users can switch to 2.4Ghz if 5Ghz signal is poor.)

For above important parameters, the following sections provide the configuration methods on APs from different vendors for network administrator's quick reference. The following table shows whether the AP has the configurations related to these parameters. Click on the brand name to quickly locate relevant configuration instructions.





Product Model	Roam	Beacon Internal	DTIM	Multicast/Unicast	WMM	Band Steering
<u>GWN7600</u>	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
CISCO MERAKI	$\checkmark$			$\checkmark$	$\checkmark$	$\checkmark$
<u>ARUBA</u> <u>CENTRAL</u>	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		$\checkmark$
RUIJIE CLOUD	$\checkmark$					$\checkmark$
UBIQUITI UNIFI	$\checkmark$		$\checkmark$	$\checkmark$		$\checkmark$
MIST	$\checkmark$			$\checkmark$		$\checkmark$
HUAWEI CLOUD	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$
EZMASTER	$\checkmark$					$\checkmark$
CLOUDTRAX	$\checkmark$				$\checkmark$	
TP-LINK	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$

#### Table 3: Important Wi-Fi Parameters





### **GWN7600**

### **Wireless Configuration**

- Open a web browser on PC and enter the GWN web address to access the GWN7600/GWN7600LR web UI configuration page.
- 2. Connect to the GWN7600/GWN7600LR Web GUI as Master and navigate to page "Access Points".
- 3. Click on **Discover AP**.

S GWN7600	Firmware 1.0.7.5 Time 2018-08-17 16:42	⑦   Q   15s ∨   English ∨ admin [→
Overview	Access Points	
SSIDs	Device Type	Transfer network group Transfer AP Discover AP Failover
Access Points	⊕ Upgrade	•
Clients 🔻	Device Type Name/MAC IP Address	Status Uptime Firmware Actions
Captive Portal   Randwidth Pules	GWN7600 00:0B:82:AF:D3:1C 192.168.124.109	📕 Master 17d 23h 16m 40s 1.0.7.5 🧭 🖓 🖽 💄
System Settings 🔻	Showing 1-1 of 1 record(s).	Per Page: 10 •
Alert/Notification	© 2018 Grandstream Networ	ks, Inc. All Rights Reserved

Figure 2: GWN7600 Access Points Configuration

4. When using GWN7600 as Master Access Point, users have the ability to create different SSIDs and adding GWN7600 Slave Access Points. The GWN7600 can support up to 16 SSIDs. Click on **Edit** to edit the SSID.





S GWN7600	Firmware 1.0.7.5	Time 2018-08-15 11:	23			0   Q	15s 🗸	English 🗸	admin <b>[</b> →
Overview	+ Add								•
SSIDs	Name	Wi-Fi	VLAN ID	Schedule	Security Mode	MAC Filtering	Captive Portal	RSSI	Actions
Access Points	GWNAFD31C	$\checkmark$	×	×	WEP 64-bit	Disabled	~	×	C D
Clients •	TESTpwd	~	×	×	Open	Disabled	~	×	<b>C</b>
Captive Portal 🔹	ssid2	×	×	×	WPA2	Disabled	~	×	<b>C</b>
Bandwidth Rules	ssid3	×	×	×	WPA2	Disabled	~	×	<b>C</b>
System Settings 🔹									
Alert/Notification				© 2018 Grandstre	eam Networks, Inc. All I	Rights Reserved			



S GWN7600		Time 2018-08-17 16:50	@   Q			admin <b>[</b> +
Overview	+ Add Name	Wi-Fi	Edit Device Membership	×	RSSI	Actions
Access Points	GWNAFD31	Enable SSID			×	<b>1</b>
Clients 🔻	TESTpwd	SSID (?)	GWNAFD31C		×	<b>1</b>
Captive Portal 🛛 🔻	ssid2	SSID Band 💮	Dual-Band •	·	×	<b>C</b>
Bandwidth Rules	ssid3	SSID Hidden			×	<b>Ľ</b>
System Settings 🔻		VLAN				
		Wireless Client Limit (?)				
		Enable Captive Portal				
		Captive Portal Policy	simple	•		
		Enable Schedule				
		Security Mode	WEP 64-bit	,		
		WFP Kev ව	••••••			
			Save			
Allert (Allek) (Frenkland						
Alert/Notification			© 2018 Grandstream Networks, Inc. All Rights Reserved			

Figure 4: GWN7600 Edit SSID

5. When editing or adding a new SSID, users will have to configure Wi-Fi. Please refer to below table for Wi-Fi tab options.





#### Table 4: GWN7000 Wi-Fi Parameters

Field	Description
Enable SSID	Check to enable Wi-Fi for the SSID.
SSID	Set or modify the SSID name.
SSID Band	Select the Wi-Fi band the GWN will use, three options are available: • Dual-Band • 2.4GHz • 5Ghz
SSID Hidden	Select to hide SSID. SSID will not be visible when scanning for Wi-Fi, to connect a device to hidden SSID, users need to specify SSID name and authentication password manually
VLAN	Enter the VLAN ID corresponding to the SSID.
Wireless Client Limit	Configure the limit for wireless client. If there's an SSID per-radio on a SSID, each SSID will have the same limit. So, setting a limit of 50 will limit each SSID to 50 users independently. If set to 0 the limit is disabled.
Enable Captive Portal	Click on the checkbox to enable the captive portal feature.
Captive Portal Policy	Select the captive portal policy already created on the "CAPTIVE PORTAL" web page to be used in the created SSID.
Enable Schedule	Check the box and choose a schedule to apply for the selected SSID.
Security Mode	Set the security mode for encryption, 5 options are available: • WEP 64-bit • WEP 128-bit • WPA/WPA2 • WPA2 • Open
WEP Key	Enter the password key for WEP protection mode.
Client Bridge Support	Configures the client bridge support to allow the access point to be configured as a client for bridging wired only clients wirelessly to the network. When an access point is configured in this way, it will share the Wi-Fi connection to the LAN ports transparently.
Client Time Policy	Select a time policy to be applied to all clients connected to this SSID.
Use MAC Filtering	Choose Blacklist/Whitelist to specify MAC addresses to be excluded/included





	from connecting to the zone's Wi-Fi. Default is Disabled.
	Client isolation feature blocks any TCP/IP connection between connected clients
	to GWN7600/GWN7600LR's Wi-Fi access point. Client isolation can be helpful
Client loolation	to increase security for Guest networks/Public Wi-Fi. Three modes are available:
	•Internet Mode
	•Gateway MAC Mode
	•Radio Mode
DSSI Epoblod	Check to enable RSSI function, this will lead the AP to disconnect users below
RSSI Ellabled	the configured threshold in Minimum RSSI (dBm).
	Enter the minimum RSSI value in dBm. If the signal value is lower than the
	configured minimum value, the client will be disconnected.
Roscon Intonyal	Configure the beacon period, which decides the frequency the 802.11 beacon
Beacon interval	management frames AP transmits.
DTIM Period	Configure the delivery traffic indication message (DTIM) period in beacons.
	Once selected, AP will convert multicast streams into unicast streams over the
Multicast to Unicast	wireless link. Which helps to enhance the quality and reliability of video/audio
	stream and preserve the bandwidth available to the non-video/audio clients.
Enable 11K	Check to enable 802.11k
Enable 11V	Check to enable 802.11v
Upstream Rate	Set the maximum upstream rate
Downstream Rate	Set the maximum downstream rate

### **Band Steering**

Band steering functions are divided into three items. Go to Access Points->configure to configure it.

- **2G in priority**, lead the dual client to the 2G band
- **5G in priority**, the dual client will be led to the 5G band with more abundant spectrum resources as far as possible
- **Balance**, access to the balance between these 2 bands according to the spectrum utilization rate of 2.4G and 5G.





S GWN7600		.0.7.5 Time 20	018-08-15 11:31			0   Q	15s 🗸	English 🗸	admin <b>[</b> →
Overview	Access P	oints							
SSIDs	Device Ty	vpe 🔻		Search		Transfer	network group	Transfer AP Discove	er AP Failover
Access Points	🕣 Upgr	ade 🔿 Reboo	t + Add to SSIDs	🔀 Configure					•
Clients 🔻	V	Device Type	Name/MAC	IP Address	Status	Uptime	Firmware		Actions
Captive Portal 🔻	×	GWN7600	00:0B:82:AF:D3:1C	192.168.124.109	<u> 1</u> Master	15d 18h 4m 43s	1.0.7.5	<b>Ľ</b> 22	B & A ₺
Bandwidth Rules	Showing	I-1 of 1 record(s).						Pe	Page: 10 V
System Settings 🔻	Showing .	1 01 1 100010(0).							in in in in its in the second se
Alert/Notification				© 2018 Grandstream	Networks, Inc. All Rig	hts Reserved			

Figure 5: GWN7600 Band Steering - 1

S GWN7600	Firmware 1.0.7.5	i Time 2018-08-15 1			⑦   Q   1			admin [ <del>-)</del>
SSIDS Access Points Clients Captive Portal Bandwidth Rules System Settings	Firmware 1.0.7.5 Access Po Device Typ Uppra Showing 1-	Note: Only to save the set	1:31 Device C tttings whose check box is checked Device Name ⑦ Airtime Fairness Band Steering ⑦ Mode ⑦ Channel Width ⑦	Configuration		5s V X	English V	admin [+ rer AP Failover Actions The A Att 10 er Page: 10 V
Alort/Alatification	l		40MHz Channel Location () Channel () Enable Short Guard Interval () Active Spatial Streams () Radio Power () Save	Auto Auto Auto Low Cancel	Dicket: Drawnord	•		
Alert/Notification			© 2018 Gr	andstream Networks, Inc. All I	Rights Reserved			

Figure 6: GWN7600 Band Steering - 2





### **CISCO MERAKI**

### **Wireless Configuration**

- 1. Find the Dashboard "network" to which you plan to add your APs, or create a new network.
- 2. Add your APs to your network.

cisco Meraki	Q Search Dashboard	📢 Announcements 👻	⑦ Help ▼	tianbopeng@163.com 👻
NETWORK	Access points			
HZ-TEST 👻	There are no Meraki devices in this network. If you add some, we can help you configure them.			
	Add APs			
Network-wide				
Wireless				
Organization				
	2018 Cisco Systems, Inc.     Last login: <u>translation missing: zh datetime distance in words x. dava ago</u> from 45. <u>privacy</u> - <u>terms</u> Current session started: <u>translation missing: zh datetime distance in words</u> Data for this organization is hosted in <u>Asia</u>	116.9.232 Hong Kong, Hong I Less than x minutes ago	Kong	Make a wish

Figure 7: Cisco Meraki – Add AP

3. Make any additional configuration changes under the Configure section of Dashboard network. Please make sure to review **SSIDs**, **Access Control**, **Firewall & Traffic Shaping** configuration pages.





disco Meraki	Q Search Dashboard	License problem * TAnnouncements * The Help * 15068770629@163.com *	*
NETWORK GWN -	Access control	<b>v</b>	
Network-wide Wireless	Network access Association requirements	Open (no encryption) Any user can associate	
Organization		Users must enter this key to associate:	
	WPA encryption mode 802.11r 802.11w	WPA2 only	
	Splash page	<ul> <li>None (direct access) Users can access the network as soon as they associate</li> <li>Click-through Users must view and acknowledge your splash page before being allowed on the network</li> <li>Sign-on with <u>Meraki authentication</u> <ul> <li>Sign-on with <u>Meraki authentication</u></li> <li>Users must enter a username and password before being allowed on the network</li> <li>Sign-on with SMS Authentication</li> <li>Users enter a mobile phone number and receive an authorization code via SMS. After a trial period of 25 texts, you will need to connect with your Twillio account on the <u>Network-wide settings</u> page.</li> <li>Clicco Identity Sonicose Energies (ISE) Authentication</li> <li>Sign Sonicose Energies (ISE) Authentication</li> <li>Sign Sonicose Energies (ISE) Authentication</li> <li>Clicco Identity Sonicose Energies (ISE) Authentication</li> <li>Sign Sonicese Energies (ISE) Authentication</li> <li>Sign Sonicose Energies (ISE) Authe</li></ul></li></ul>	-

Figure 8: Cisco Meraki – Additional Configurations

### **Band Steering**

Go to Wireless->Access control->Wireless options.

ululu Meraki	Bridge mode and layer 3 roaming only		^
NETWORK	Content filtering  NAT mode only	Don't filter content	
GWN 🔫	Bonjour forwarding  Bridge mode and layer 3	Disable Bonjour Forwarding	
Network-wide			1
Wireless	Band selection and	d minimum bitrate settings may be overridden by RF profiles. Go to RF Profiles	
Organization	Band selection	Dual band operation (2.4 GHz and 5 GHz)	
		<ul> <li>5 GHz band only</li> <li>5 GHz has more capacity and less interference than 2.4 GHz, but legacy clients are not capable of using it.</li> <li>Dual band operation with Band Steering</li> <li>Band Steering detects clients capable of 5 GHz operation and steers them to that frequency, while leaving 2.4 GHz available for legacy clients.</li> </ul>	
	Minimum bitrate (Mbps)	Lower Density Higher Density	
		1 2 5.5 6 9 11 12 18 24 36 48 54	
		802.11a/b/g/n/ac devices supported	J
		Save Changes or <u>cancel</u> (Please allow 1-2 minutes for changes to take effect.)	
	© 2018 Cisco Systems, Inc. privacy - terms	Last login: <u>translation missing: zh.datetime.distance in words.about x hours ago</u> from your current IP address Current session started: <u>translation missing: zh.datetime.distance in words x minutes ago</u> Data for this organization is hosted in <u>Asia</u>	

Figure 9: Cisco Meraki – Band Steering





Band selections are:

- **Dual band operation**: 2.4GHz and 5GHz
- **5GHz band only**: 5GHz has more capacity and less interference than 2.4GHz, but legacy clients are not capable of using it.
- **Dual band operation with Band Steering**: Band Steering detects clients capable of 5 GHz operation and steers them to that frequency, while leaving 2.4 GHz available for legacy clients.





### ARUBA CENTRAL

### Wireless Configuration

The app selector lists the apps available for the Managed Service Portal portal users. The Wireless Configuration app allows you to configure SSIDs, radio profiles, security and firewall settings, and enable services on Instant APs. It also allows you to configure Instant APs provisioned under template groups through configuration templates.

aruba Central	FILTER MONITORING & REPORTS default (3 Total Devices   1 Offline APs   0 Offline SWITCHES )	•	3 HOURS
CURRENT APP MONITORING & REPORTS	MR (WL) (WD)	SWITCHES V	SECURITY V
<b>Q</b> Search Current App Find devices, clients and networks	Monitoring & Wireless Reports Management Management	Clients Count	~
Network Overview View Aruba device performance and security	MA PA GA Maintenance Presence Guest Access	4	
Network Health View potential network issues	Analytics		
Client Overview View detailed information on connected clients	(CL) (GS)	2	
AppRF™ View app usage and configure web policy enforcement	Clarity Global Settings		
<b>VisualRF</b> RF Heatmaps	100         outbound: 76           120         10:00         10:30         11:30         12:00         12:30         13:00	0 13:30 0 10:00 10:30 11:00	11:30 12:00 12:30 13:00 13:30
Alerts Set, edit and view alerts	Top APs By Usage	Top Clients By Usage	<b>2 9</b> + 2.2 <i>K/s</i>
Reports Schedule and generate reports	2018-08-20 13:10	2018-08-20 13:10	<b>3</b> 0 % + 107K/s
	b4:5d:50:c2:a2:4c 12 KB 84:d4:7e:cb:5b:06 6 KB	20:47:da:89:82:5e	<b>2</b> KB
	Top IAP Clusters By Usage	Top IAP Clusters By Clients	Ву буегаде 🗸 🔻
i 📼 ? A	Need Help? A Copyright © 2018 Aruba	, a Hewlett Packard Enterprise company. All Rights Reserv	ed.

Figure 10: Aruba Central - App Selector

To configure WLAN settings, complete the following steps:

- 1. From the app selector, click **Wireless Management**.
- 2. From the group selector, select a group or a device.
- 3. On the left navigation pane, click Wireless Networks. The **Wireless Networks** page opens.
- 4. To create a new SSID profile, click the + icon. The Create a New Network pane opens.





aruba Central	FILTER WIRELESS MANAGEMENT       default     (3 Total Devices   1 Offline APS   0 Offline SWITCHES )						
<b>CURRENT APP</b> WIRELESS MANAGEMENT	Networks						
Q. Search Current App Find devices, clients and networks	Networks						
	NAME	TYPE	SECURITY	ACCESS TYPE			
Wireless Networks Add and edit wireless networks	aruba_tw	guest	wpa2-psk-aes	unrestricted			
Access Points	wired-SetMeUp	guest		network-based			
View APs and set device parameters	default_wired_port_profile	employee		unrestricted			
RF Set Aruba Adaptive Radio Management Wireless IDS/IPS Manage intrustion detection and prevention							
Security Set advanced security parameters	+						
<b>VPN</b> Manage controller VPN connections							
DHCP Manage DHCP scopes							
Services Enable additional Central services							
System Manage advanced system settings		Copyright © 2018 Art	ıba, a Hewlett Packard Enterprise compa	ny. All Rights Reserved.			
ç⊐ ? A	Need H	lelp? ^					

Figure 11: Aruba Central – Create New SSID

- 5. Configure Broadcast Filtering. Select any of the following values:
  - All. The Instant AP drops all broadcast and multicast frames except DHCP and ARP, IGMP group queries, and IPv6 neighbor discovery protocols.
  - **ARP**. The Instant AP drops broadcast and multicast frames except DHCP and ARP, IGMP group queries, and IPv6 neighbor discovery protocols. Additionally, it converts ARP requests to unicast and sends frames directly to the associated clients.
  - **Disabled**. All broadcast and multicast traffic is forwarded to the wireless interfaces.
- 6. Configure DTIM interval.

The **DTIM Interval** indicates the DTIM period in beacons, which can be configured for every WLAN SSID profile. The DTIM interval determines how often the Instant AP delivers the buffered broadcast and multicast frames to the associated clients in the power save mode. The default value is 1, which means the client checks for buffered data on the Instant AP at every beacon. You can also configure a higher DTIM value for power saving.





<b>Orubo</b> Central	FILTER WIRELESS MANAGEMENT       default (3 Total Devices   1 Offline APs   0 Offline SWITCHES )
CURRENT APP WIRELESS MANAGEMENT	Create a New Network
C Search Current App Find devices, clients and networks	Ceneral     VLANs     Security     Access
Wireless Networks Add and edit wireless networks	Basic Settings     Broadcast/Multicast
Access Points View APs and set device parameters	Broadcast Filtering: ARP V
<b>RF</b> Set Aruba Adaptive Radio Management	DTIM Interval:
Wireless IDS/IPS Manage intrustion detection and prevention	Multicast Transmission Optimization:
Security Set advanced security parameters	Dynamic Multicast Optimization:
<b>VPN</b> Manage controller VPN connections	Dynamic Multicast Optimization Channel 90 %
DHCP Manage DHCP scopes	Utilization Threshold:
Services Enable additional Central services	Transmit Rates (Legacy Only)     Zone
System Manage advanced system settings	😌 Bandwidth Limits
© ? A	Need Help? A Copyright: © 2018 Aruba, a Hewlett Packard Enterprise company. All Rights Reserved.

Figure 12: Aruba Central – DTIM

7. Configuring Radio Parameters

To configure RF parameters for the 2.4 GHz and 5 GHz radio bands on an Instant AP, complete the following steps:

- a. From the app selector, click Wireless Management.
- b. From the group selector, select a group or a device.
- c. On the left navigation pane, click RF. The RF page opens.
- d. Click Radio.
- e. Under 2.4 GHz, 5 GHz, or both, configure the parameters.





Central	FILTER WIRELESS MANAGEMENT     default (3 Total Devices   1 Offline APS   0 Offline SWITCHES )	
CURRENT APP WIRELESS MANAGEMENT	I NEW 2.4G RADIO PROFILE >	
Q Search Current App Find devices, clients and networks	> Name:	×
Wireless Networks	Zone:	
Access Points	Legacy Only:	
View APs and set device parameters	802.11d / 802.11h:	
RF Set Aruba Adaptive Radio Management	Beacon Interval: 100 ms	127/127
Wireless IDS/IPS Manage intrustion detection and prevention	Interference Immunity Level: 2 💙	
Security Set advanced security parameters	Channel Switch Announcement 0 🗸	
VPN Manage controller VPN connections	Count:	
DHCP Manage DHCP scopes	Background Spectrum Monitoring:	-40% + 0K/s + 0.2K/s
Services Enable additional Central services	Save	
System Manage advanced system settings	Copyright © 2018 Aruba, a Hewlett Packard Enterprise company. All Rights Reserved.	
œ ? A	Need Help? A	

Figure 13: Aruba Central – Radio Parameters

### **Band Steering**

To configure ARM features such as band steering, and airtime fairness mode and Client Match, complete the following steps.

- 1. From the app selector, click Wireless Management.
- 2. From the group selector, select a group or a device.
- 3. On the left navigation pane, click RF. The RF page opens.
- 4. Under Adaptive Radio Management (ARM), click Client Control.
- 5. For Band Steering Mode, configure the parameters.





aruba Central	FILTER WIRELESS MANAGEMENT default (3 Total Devices   1 Offline A	Ps ( 0 Offline SWITCHES )
WIRELESS MANAGEMENT	RF	
<b>Q Search Current App</b> Find devices, clients and networks	✓ Adaptive Radio Management(ARM)	)
	Client Control	
Wireless Networks Add and edit wireless networks	Band Steering Mode:	Prefer 5GHz 🗸
Access Points View APs and set device parameters	Airtime Fairness Mode:	Disable Prefer 5GHz Force 5CHz
<b>RF</b> Set Aruba Adaptive Radio Management	ClientMatch:	Balance Bands
Wireless IDS/IPS Manage intrustion detection and prevention	ClientMatch Calculating Interval:	3 seconds
Security Set advanced security parameters	ClientMatch Neighbor Matching:	60 96
VPN Manage controller VPN connections	ClientMatch Threshold:	5
DHCP Manage DHCP scopes	Spectrum Load Balancing Mode:	Channel V
	🕂 Access Point Control	
Services Enable additional Central services	> Radio	
System Manage advanced system settings		
₽ ? Å	Need Help? ^	Copyright © 2018 Aruba, a Hewlett Packard Enterprise company. All Rights Reserved.

Figure 14: Aruba Central – Band Steering





# **RUIJIE CLOUD**

### **Wireless Configuration**

#### Create new network & add APs.

▲ 「 「 「 」 「 」 「 」 「 」 「 」 「 」 」 「 」 」 「 」 」 「 」 」 」 」 「 」	15068770629 监控	配置	维护	♥ 业务组件	・ ◇ 探索频道			le and	o 📾 ! 🛱 😑 名
<ul> <li>概览</li> <li>全局</li> <li>网络</li> <li>午報</li> </ul>	đ	5 网络个数	1/1 在线/总设备	8 (R	0/0 活跃/在线用户	٩	严重 中等 一般	0 0 0	待接收网络 0
口音 口 设备 AP	添加网络	网络名称 Q 网络名称	(三列表   🖄 地図 告部	出 选择网络封 在线用户	¥型 ▼ AP ◆	AC 👙	同关	♦ 交换机	分组管理
网关 交换机 AC	€ hz	~ Q C ~ Q C	2 🖻 0 2 💼 0	0	0/0	- 0/0	0/0 0/0	0/0 0/0	○ 无线配置 ★ 网络拓扑 ★ 网络拓扑
□ 用户 用户列表	<b>11</b> 44444	~ & C	<u>ن</u> ا	0	0/0	0/0	0/0	0/0	米 网络拓扑
用尸 <b>体</b> 验 认证记录	云 Zij 云 锐速	تا ی ج رو C	。 (一一) 0	0	1/1	•	0/0	0/0	[0 无线配置 × 网络拓扑
			首页	上一页 第	1 页/总数1	下一页 尾页			5 余记录 <sup>案助</sup> 文档
									。 第二日 日秋

Figure 15: RuiJie Cloud – Create New Network







Figure 16: RuiJie Cloud – Create New AP

All AC device information under the current account can be viewed in the monitoring - device -AC to see whether the device is online and whether the configuration status of the device is **synchronized**.

A 读	15068770	629 监控	配置	维护	♥ 业务组件	- 🌣 探索频道	i •	-	●添加 !	090
□ 概览		15068770629 ~				ut <del>ra F</del> o	M	络名称	Q [	分组管理
- 全局 网络 告警		AP列表 (点击"设行 添加AP 命令	备序列号"可以查看设备详 行助手 开级	青) 更多操作 ▾	1 选中			自动刷新:	○	♥ ▼ X 2备名称、Q
□ 设备		❷ 基本信息 ○ 9	时频信息 ○ 型号版本							
AP		✓ 在线状态	⊿ 设备序列号	配置状态	设备名称 💠 MA	.C 管理地址 💠	出口地址	用户数量	分组	
网关 交换机		<ul> <li>在线</li> </ul>	G1KD90T007440	已同步	Ruijie 5869.6ca	8.d0f0 172.16.1.32	45.116.9.232	-	15068770629 / 锐捷	AP_RGOS 1
AC			首页	上一页	第 1 页	/总数1 下一页	尾页		10 🔺	]1条记录
□ 用户 用户列表 用户体验 认证记录										

Figure 17: RuiJie Cloud – AP List





If the wireless configuration needs to be modified, the following steps can be followed: configuration -> wireless configuration.

K K K K K K K K K K K K K K K K K K K	68770629 监控	配置	维护	♥ 业务组件	- 🌣 探索频道	•	● 添加	
□ 网络	15068770629 🗸 — 🕯	兑捷 ~				网络名称	Q	分组管理
无线配置	mit					山地会公组建	11あり第 (見才あ)第	<b>再名揭作</b> 。
漫游配置	1761.02					MIEAE 77 HEITS J	人间,直 休开间,直	A SPIRIF *
认证配置	无线配置							~
□ 射频	SSID 🔿							
布局规划	WLAN ID	SSID	加密模式	是否隐藏	转发类型	关联Radio	认证类型	操作
射频规划	1	ruijie	wpa2-psk	否	nat	1,2	未打开认证	
负载均衡	2	_333	wpa2-psk	否	bridge	1,2	未打开认证	C ū
漫游网优	3	Ruijie-sms	wpa-psk	否	bridge	1,2	未打开认证	C ū
日 其他 配置任务		首页	上一页	第 1 页/总	数1 下一页	尾页	10 -	. 3条记录
蓝牙配置	射频 Φ							
自定义Cli集	Radio间用户数句	<b>影均</b> 衡						(花町) 文档
配置监控	负载均衡开关:							6
								返回
	安全配置							~

Figure 18: Ruijie Cloud – Wireless Configuration

If the roaming function is turned on, users can achieve seamless roaming within the network scope.

不受流急 🔄	5068770629 监控 配置 维护 ♥业务组件 • ☆探索频道 • • • • • • • • • • • • • • • • • • •	990
□ 网络	15068770629 - 税2	分组管理
无线配置	锐捷 漫游设置	
漫游配置	网络漫游功能: 🔍	
认业配置	若开启漫游功能,用户可在该网络范围内实现无缝漫游,实例如下:	
□ 射频		
布局规划		
射频规划	Graph-1 Graph-1	
负载均衡		
漫游网优	Network	
□ 其他		
配置任务	Orazi-2-	
蓝牙配置	Crash-2 0 Crash-2-2	帮助
自定义Cli集	Ouch+-3	文档
配置监控		<b></b> 0 100

Figure 19: RuJjie Cloud – Roaming Configuration





### **Band Steering**

5G priority: after 5G priority is turned on, AP will guide the wireless terminals supporting 5G to have priority access to 5G frequency band, reducing the pressure of 2.4g frequency band.

诺斯	客 15068770629	监控 配置	维护	♥ 业务组件	- ☆ 探索#	而道 •		9 8	
	配置模板						×	100	
□ 网络	WLAN ID	1	٣	]	是否隐藏	否	•	PE	
无线配	SSID	ruijie		中文编码 🛛	转发模式 🛛	nat	•	曩作▼	
漫游能						「点击这里配置NAT地址池」			
WHITED)	加密模式	WPA2-PSK	*	)	射频	🖌 射频1 🗹 射频2		^	
□ 射频	PPSK启用	□ 去管理PPSK账号>>				□ 射频3(仅raido3为接入模式时SSID生效)			
布局规划	密码	1111111		]		点这里配置第二频工作模式]			
和现现	50份件	一王白							
浸游网	56/676								
- ++/+	单用户限速配置	□ 开启							
	SSID总用户限速配置	□ 开启						记录 👘	
能置任	认证配置	□ 开启							
血才配。 自定义(			确定	取消				帮助 文相	) 当
配置监控	负载均	適开关: 🔘							ò
								返回	日反
	安全	配置						~	

Figure 20: RuiJie Cloud – Band Steering





# **UBIQUITI UNIFI**

### **Wireless Configuration**

1. To add a new WLAN group, click + button.

U	<b>ปก็โFI</b> 5.8.28							CURRENT SITE Default 🗸	USERNAME admin ✓	:
89	SETTINGS				WLAN Group Default		v / 🛛 🗧	Ð		•
-∿-		NAME 1	SECURITY	GUEST NETWORK	VLAN	ACTIONS				
囗	Wireless Networks	qsding_portal	wpapsk	~		🖉 EDIT	DELETE			
$\odot$	Networks	ubnt-portal	wpapsk							
~~	Routing & Firewall	Unifi_mesh	wpapsk							
24	IPS BETA	wp800_unifi	wpapsk				DELETE			
Ŷ										
	Guert Control									
	Bustie									
	Profiles									
	Services									
	Admins									
	User Groups									
	Controller									
	Notifications BETA									
	Cloud Access									
Û	Elite Device									
č	Maintenance									
	Auto Backup									
0,										
$\Diamond$										

Figure 21: UNIFI – Wireless Network Settings

2. Add or Edit a WLAN Group.

Name: Enter or edit a descriptive name for the WLAN group. Mobility: To enable seamless roaming (Zero Handoff), select the checkbox.





U	<b>UniFi</b> 5.8.28			CURRENT SITE Default 🗸	USERNAME admin 🗸	
619	SETTINGS					0
-∿-		CREATE NEW WLAN GROUP				
即	Wireless Networks	Name				
$\odot$	Networks	Mobility	Z Enable seamless roaming (Zero-Handoff)			
<sub>Я</sub> Я	Routing & Firewall	Radio	5G (802.11n/a) 🗸			
Q	IPS BETA	Channel	36 ~			
	Guest Control					
	Profiles	Duplicate WLANs	Duplicate WLANs from existing WLAN Group			
	Services	DME				
	Admins	PMF				
	User Groups		Enabling PMF (Protected management frames) may cause a performance drop.			
	Controller		Disabled: APs will not use PMF for any stations.			
	Notifications RETA		Optional: APs will use PMF for all capable stations, while allowing non-PMF capable stations to join the WLAN.			
(j)	Cloud Access		Required: APs will use PMF for all stations. Stations without PMF capability will not be able to ioin the WI AN			
	Elite Device		Note that PMF applies to Generation 3 UniFi APs only.			
99+	Maintenance					
-	Auto Backup					
90	, lato basilap	SAVE CANCEL				
Ŷ						

Figure 22: UNIFI – Create New WLAN Group

- 3. Create or Edit a Wireless Network.
  - Name/SSID: Enter or edit the wireless network name or SSID.
  - Enabled: Select this option to make the network active.
  - Security: Select the type of security to use on your wireless network.

U	<b>UniFi</b> 5.8.28			CURRENT SITE Default 🗸	USERNAME admin 🗸	
69	SETTINGS					•
-∿-		EDIT WIRELESS NETWORK - Q	SDING_PORTAL			
即	Wireless Networks	Name/SSID	qsding_portal			
0	Networks	Enabled	Enable this wireless network			
яR	Routing & Firewall	Security	Open 💿 WEP 💿 WPA Personal 💿 WPA Enterprise			
Q	IPS BETA	Security Key	•••••••			
	DPI Guest Control	Guest Policy	Apply guest policies (captive portal, guest authentication, access)			
	Profiles					
	Services	Multicast and Broadcast Filtering	Block LAN to WLAN Multicast and Broadcast Data (2)			
	Admins	VLAN	Use VLAN (VLAN () (2:4009)			
	User Groups	Fast Roaming BETA	🗌 Enable fast roaming 📀			
	Controller	Hide SSID	Prevent this SSID from being broadcast			
Ū	Notifications BETA	WPA Mode	WPA2 Only V Encryption AES/CCMP Only V			1
	Cloud Access	Group Pekey Interval	Enable GTK rekeving every 3400 seconds			1
✓	Elite Device					
-	Auto Backup	User Group	Default			
00	Auto backup		Note that the configuration and rate limits of this user group will be ignored by any client that has a user group already			
Ŷ			selected.			

Figure 23: UNIFI – Edit a Wireless Network





• DTIM Mode:

Select this option to use the default DTIM (Delivery Traffic Indication Message) values. Increasing the DTIM values allows devices to conserve power, at as light latency penalty. Deselect it to configure the values below.

- DTIM 2G Period: Enter the number of beacons between the 2.4 GHz DTIM beacons. The default is 1.
- DTIM 5G Period: Enter the number of beacons between the 5 GHz DTIM beacons. The default is 1.
- 2G Data Rate Control: Select this option to determine what bit rates your 2.4 GHz network will allow.
   Disabling lower bit rates can improve performance for higher density networks but will make some older devices in compatible with your network and limit the range of your wireless network.
- 5G Data Rate Control: Select this option to determine what bit rates your network will allow. Disabling
  lower bit rates can improve performance for higher density networks but will make some older devices
  incompatible with your network and limit the range of your wireless network.

U	<b>បក៏កែ</b> 5.8.28			CURRENT SITE Default 🗸	USERNAME admin 🗸	
69	SETTINGS	Group Rekey Interval	Enable GTK rekeying every 3600     seconds			9
-∿		User Group	Default ~			
即	Wireless Networks		∧ Note that the configuration and rate limits of this user group			
0	Networks		will be ignored by any client that has a user group already selected.			
ЯR	Routing & Firewall	UAPSD	Enable Unscheduled Automatic Power Save Delivery			
Ŷ	DPI	Scheduled	Enable WLAN schedule			
	Guest Control	Multicast Enhancement	Enable multicast enhancement (IGMPv3)			
	Profiles	B02.11 RATE AND BEACON C	ONTROLS			
	Services	DTIM Mode	Vse default values			
	Admins	DTIM 2G Period				
	User Groups	DTIM 5G Period				
	Notifications BETA	2G Data Rate Control	Enable minimum data rate control 📀			
()	Cloud Access	5G Data Rate Control	Enable minimum data rate control 🔇			
$\boxtimes$	Elite Device	🖽 MAC FILTER				4
<u></u>	Maintenance	E RADIUS MAC AUTHENTICATI	ON			
0,	Auto Backup					
Q		SAVE CANCEL				

Figure 24: UNIFI – DTIM

### **Band Steering**

The Devices screen displays a list of UniFi devices discovered by the UniFi Controller. You can click any of the column headers to change the list order.





U	UĥĨFI	5.8.28									CURRENT SITE USERN Default 🗸 admin	
æ	ALL	(10) GATEWAY/SV	WITCHES (1) APS (9)	) OVERVIEW P	ERFORMANCE CONFI	G		Search or	select tag	٩	PROPERTIES	≡ ≡ ≫
	Ŷ	DEVICE NAME	IP ADDRESS	STATUS	MODEL	VERSION	CLIENTS	DOWN	UP	СНА	. meshon10b5	
-\/-		meshon10b5	192.168.1.247	CONNECTED	UniFi AP-AC-Mesh-Pro	3.9.42.9152	0	90.8 MB	3.68 MB	1 (ng)		7.00
邸	0	f0:9f:c2:3c:5b:6b	192.168.1.230	CONNECTED	UniFi AP-AC-Mesh	3.9.42.9152	0	908 KB	144 KB	11 (nş		RI X
0	0	f0:9f:c2:3c:5c:7f	192.168.1.21	CONNECTED	UniFi AP-AC-Mesh	3.9.42.9152	0	6.76 MB	1.18 MB	11 (nş	9.111//2/C (High Blob) a problem) 74%	Litilized
яR		f0:9f:c2:d0:10:c3	192.168.1.70	CONNECTED	UniFi AP-AC-Mesh-Pro	3.9.42.9152	0	0 B	0 B		6 111V/6/G (Figh, likely a problem) 76%	otilized
	0	acpro	192.168.1.212	DISCONNECTED	UniFi AP-AC-Pro	3.9.27.8537	0				42 (36,+1) 11N/A/AC (Acceptable) 20%	Utilized
¥	0	44:d9:e7:f6:a0:ae	192.168.1.185	DISCONNECTED	UniFi AP-AC-Pro	3.9.27.8537	0				RX FRAMES TX FRAMES INTERFERENCE	FREE
	0	78:8a:20:ff:ba:08	192.168.1.104	DISCONNECTED	UniFi AP-SHD	3.9.42.9152	0				Details Clients Config Tools Stats	
	0	f0:9f:c2:65:ea:c7	192.168.1.66	DISCONNECTED	UniFi AP-HD	3.9.27.8537	0					
	0	fc:ec:da:48:e4:09	192.168.1.190	DISCONNECTED	UniFi AP-nanoHD	3.9.27.8537	0				I GENERAL	
	Showi	ng 1-9 of 9 records.	Items per page: 50	$\sim$							+ RADIOS	
											± WLANS	
											∃ NETWORK	
											BAND STEERING	
Û											Prefer 5G Balanced Off	
0 0											QUEUE CHANGES CANCEL	
22											⊞ AIRTIME FAIRNESS	
್ಯ												
Q												

Figure 25: UNIFI – Band Steering





### MIST

### **Wireless Configuration**

1. Claim the AP.

Click on **Access Points** on the left-hand navigation bar. If you have a claim code for the AP, enter it by clicking **the Claim APs** button in the top right of the Access Points screen. Then, fill in the code and click the **Claim** button to add the AP. After that, click to select the new AP in the list and enter a name in the **Name** field.

Mist	SOHO								TUE, (	08:59 PM 🖉 🕐
	• A	ccess Po	oints	site test_site2 💌				AP Inventory	Create Wireless Networks	Claim APs 🛱 🗘
	Filter	Q	Name	MAC Address	IP Address	No. Clients	Uptime	Total Bytes	Capabilities	VBLE
ACCESS POINTS					This site l	has no Acce	ss Points			
					Claim your Acces	Claim APs	ling claim code	25		

Figure 26: Mist – Claim APs

2. Setting up a WLAN

Click on **Networks** on the left-hand navigation bar, then select **WLANs**. Select appropriate options for WLAN Status.





Mist	SOHO		WE	D, 03:24 PM 🛆 🕐
	< WLANS : New WLAN		_	Create Cancel
CLIENTS CLIENTS ACCESS POINTS	SSID New WLAN Labels	Security  WPA-2/PSK with passphrase  WPA-2/PSK with passphrase  WPA-2/EAP (802.1X)  Open Access More Options	Apply to Access Points           All APs         AP Labels         Specific APs	
	WLAN Status	Fast Roaming © Default © .11r	Isolation	
	Enabled     Disabled     Hide SSID     No Static IP Devices     Radio Band	VLAN Untagged      Tagged      Pool      Dynamic	Filtering (Wired to Wireless)  ARP Broadcast/Multicast	
Organizatio	2.4G and 5G      2.4G      5G Band Steering     Enable	Guest Portal <ul> <li>No portal (go directly to internet)</li> <li>Show guest portal <u>Configure Portal</u> Allowed Subnets</li> </ul>	Custom Forwarding Custom Forwarding to Eth0 + PoE	
	Data Rates Compatible (allow all connections) No Legacy (2.4G, no 11b) High Density (disable all lower rates) Custom Rates	Allowed Hostnames Hostname Exceptions Block access to these hostnames, even if the parent domain is allowed Growed Forward to external portal	SSID Scheduling Enabled  Disabled	

Figure 27: Mist - New WLAN

3. Filtering

By default Mist supports Proxy ARP.

- **ARP Filter:** When ARP filter is enabled, we block all ARP broadcast requests from going to the specified wireless Interface. When ARP filter Is disabled, Proxy ARP will try to resolve the Ethernet address of requests, and if not known, will flood the original request to any Interface not being ARP filtered.
- Broadcast / Multicast Filter: When Enabled, this filter will BLOCK ALL Broadcast and Multicast packets on a specified Interface, except:
  - a) ARP's (as handled above)
  - b) DHCP broadcast transactions.
  - c) IPv6 Neighbor discovery frames. (ICMPv6).

All other broadcasts will we blocked, including IPv6 Broadcasts/Multicasts, and ALL MDNS frames. (IPv4 & IPv6)

 Allow MDNS Checkbox: This option ONLY has any effect when #2 (the Broadcast / Multicast filter is ENABLED). When selected, this option will ALLOW mDNS packets to transmitted through the specified interface. This includes IPv4 and IPv6 mDNS. If Not selected, then the Broadcast/Multicast filter will treat mDNS frames just like any other broadcast/multicast frame, and block them.





Mist	SOHO	TUE, 09:17 PM	2	?	
	Apply to Access Points           All APs         AP Labels         Specific APs				•
	Isolation  prohibit peer to peer communication				
	Filtering (Wired to Wireless)				
	Broadcast/Multicast				
NETWORK	Custom Forwarding Custom Forwarding to Eth0 + PoE				I
ORGANIZATION	SSID Scheduling  Enabled  Sside				
					•

Figure 28: Mist – Filtering

### **Band Steering**

Enable Band steering under Network -> WLANs. Make sure both 2.4GHz and 5GHz radios are enabled on your WLAN to be able to use Band Steering mode.

Mist	SOHO		TUE, 09:17 PM 🙎 🕐
	< WLANS : New WLAN		Create Cancel
CLIENTS	SSID New WLAN	Security     WPA-2/PSK with passphrase     Reveal	
ACCESS POINTS	Labels +	<ul> <li>WPA-2/EAP (802.1X)</li> <li>Open Access</li> <li>More Options</li> </ul>	
		Fast Roaming     Operault     Default	
	WLAN Status    Enabled Disabled  Hide SSID	.ltr	
NETWORK	No Static IP Devices	VLAN  Untagged Tagged Pool Dynamic	
	<ul> <li>2.4G and 5G</li> <li>2.4G</li> <li>5G</li> <li>Band Steering</li> </ul>	Guest Portal	
	Enable	No portal (go directly to internet)     Show guest portal <u>Configure Portal</u> Allowed Subnets	
	Data Rates	Allowed Hostnames	-

Figure 29: Mist – Band Steering





### **HUAWEI CLOUD**

### **Wireless Configuration**

1. Configuring an SSID

Choose **AP>Configure>SSID**. Click **Create** to access the SSID configuration page.

			۵	💽 To Do 🗘	② English -	547895483@qq.co	om 👻
	AP + Configure + SSID						
Site: HZ ≓	Create						
A Tenant	Name Label	Status	Effective Radio	Authentication	Encryption Mo	WEP Default K	Netwo
- 🗊 Site			Ne	o records found.			
(v) AP							
ீ Recommend for you							
	×	🙅 Copyright © 2015-201	8 Huawei Technologie	es Co., Ltd. All rights	reserved.		,

Figure 30: Huawei Cloud – Create SSID

Parameter		Description					
Basic settings	Name	SSID when a STA connects to a wireless network.					
	Working status	The default value is ON. If the value is set to OFF, the SSID is unavailable.					
	Effective radio	Dual frequency bands are used by default. The default value is					
		recommended.					
	AP Tags	The label specifies the AP where the SSID is configured.					
	Network connection	Layer 2 forwarding.					
	mode	ΝΔΤ					
	VLAN	This parameter is available only when the value of Network connection mode					
		is Layer 2 bridge forwarding. The VLANID of an AP is assigned to a STA that					
		is associated with an SSID based on the label.					
Advanced	SSID hiding	By default, this function is disabled. After this function is enabled, SSIDs are					
Configuration		invisible.					
	Band steering	By default, this function is enabled. The band steering function enables an AP					
	(5Gprioritized)	to steer STAs to the 5 GHz frequency band first, which reduces load and					
		interference on the 2.4 GHz frequency band. User experience is therefore					

#### Table 5: Huawei Cloud SSID Configuration Parameters





	improved.
Limit access of	By default, this function is disabled. After this function is enabled, 802.11a,
Traditional	802.11b, and 802.11g traditional terminals cannot be connected.
terminals	
Maximum	Maximum number of STAs connected to the SSID. The default value is 128.
number of	
users	
User isolation	By default, this function is enabled. After this function is enabled, STAs
	connected to the SSID are isolated from each other.
Bonjour	By default, this function is disabled. Bonjour is a solution proposed by Apple
transparent	and applies to Layer 2 broadcast domains. It allows network devices in a
transmission	Layer 2 broadcast domain to obtain IP addresses and discover services.
U-APSD	By default, this function is disabled. U-APSD is a new energy saving mode
	defined for WMM, which can improve the energy-saving capability of STAs.
	Some STAs may not well support U-APSD. In this case, you need to disable
	U-APSD.

				Q 🖪 1	To Do 🛛 🗘	0	English 👻	547895483@qq.	com *
	AP + Configure + SSID								
Site: HZ <b>≓</b>									•
	* Name:								- 61
A Tenant	Working status:								
- 🗊 Site	Scheduled switch-on:	<b>—</b>							
(v) AP	Effective radio:	<b>Q</b> 2.4G/5G <b>Q</b> 2.4G <b>G</b> 5G							11
🖒 Recommend for you	AP Tags:	•							
	Network connection mode:	Select the device to be contigured	I based on labels. If	the label is e	mpty, all devi	ices are s	selected. To i	add labels, choose	: AP > Mi
		AP	A ((1))	lΡ					*
	4								•

Figure 31: Huawei Cloud – SSID Configuration

- 2. Configuring Radio Parameters
  - Choose **AP > Configure > Radio** and configure basic radio parameters on the Basic Settings area.
  - (Optional) Expand Advanced Settings and adjust radio calibration parameters as needed.
  - (Optional) On the **Channel Planning** area, find the target AP, click Edit for 2.4 GHz/5 GHz radio, and manually configure radio parameters.





	Q 📴 To Do 🗘 😨 English - 547895483@qq.com -
	AP » Configure » Radio
Site: HZ ≓	Basic Settings A
Q Tanant	Area: China •
- A Site	Schedule for enabling radio:
(a) AP	Calibration mode:  Automatic
ල් Recommend for you	Advanced Settings V Apply
	Channel Planning A
	Inter configured antenna gain of an AP radio must be the same as the gain of the antenna installed on the AP, and is valid for outdoor APs only.
	۲
	🌺 Copyright © 2015-2018 Huawei Technologies Co., Ltd. All rights reserved.

Figure 32: Huawei Cloud – Radio Parameters





### **EZMASTER**

### **Wireless Configuration**

1. Adding devices to ezMaster Device Inventory.

Enter the MAC Address, Check Code and Description of the device you want to register.

		admin ~ EnGenius
Device Inventory		
Add Device		Q
MAC Address	Description	\$
88:DC:96:64:AE:D9	EAP1300_gwn	
50 • Showing 1 to 1 of 1 Device(s)		Previous 1 Next

Figure 33: ezMaster – Add Device

2. Managing devices using ezMaster.

In order to start managing and monitoring Neutron devices, these devices must first be added to a project. Make sure that your Neutron device is connected to a network with a DHCP server and can access the Internet. Click on the **Project** icon to create a new project.





Â	P	\$	â					admin	EnGenius®
Ne Cr	w eate New Proj	ect		Projects					
Ма	inage			Q Search			≔		
Re	cently Opene	d Projects		gwr	n_engen_test	1	0		
Pr	ojects						Active 1		
				Last	Opened: 2018-08-16 23:28:11 , Created: 2018-05-22 00:5	57:33	Offline		
									4

Figure 34: ezMaster – Create New Project

#### 3. Device Configuration

Once the AP is online (green), to configure your AP, click on the **Device Name** link of your AP to bring up the configuration menu.

•	Â	P	₽		Î											0	) admin ~ En	Genius®
	Device	e Manager	nent	Moni	toring	Visualiz	ation	Statistics	Hotspot Serv	ice Maintenance								
	Devic	e			g	wn en	gen	test > De	vice Config					1	managed	1 activ	ve O	offline
	Acces	ss Point		1					-									
	Switc	h		0		💼 Re	move	Reboot	]							Q		
	Pendi	ing Approv	al	0				Status ≑	Model Name 🗘	MAC Address	Device Name	WAN IP		Firmware Version	🖗 Uptime 🎈	Group <sup>‡</sup>	Operating Channel	:=
							•	Online	EAP1300	88:DC:96:64:AE:D9	EAP1300	192.168.1.184	192.168.1.184	v3.3.1-c1.8.59	6d 0h 14m		Ch6 (2.4G) / Ch36 (5G)	
						50 *	1 to 1	of 1 Device	(S)								Previous 1	Next







#### 4. Set Wireless Radio Settings.

↑ □ ↓ ≜			admin ~ EnGenius <sup>®</sup>
Device Management Monitoring Visualization Statistics Hotspot Service Maintena	ance		
Device         gwn_engen_test > Device Config           Access Point         1	General Settings		
Switch 0	Wireless Radio Settings		
Pending Approval 0 Status + Model Name MAC A	Country:	Please select a country code.	<b>•</b>
Online EAP1300 88:DC:96	Wireless Mode:	2.4GHz 802.11 b/g/n Mixed •	5GHz 802.11 ac/n Mixed V
50 ▼ 1 to 1 of 1 Device(s)	Channel HT Mode:	20MHz •	40MHz v
	Extension Channel:	Upper Channel 🔹	Upper Channel 🔻
	Channel:	Auto 🔻	Ch36 - 5.180GHz 🔻
	Operating Channel:	Ch6	Ch36
	Transmit Power:	Auto	Auto
	Client Limits:	127 🕜	127 🕜
	Data Rate:	Auto	Auto 🔻
	RTS/CTS Threshold:	2346 (1~2346)	2346 (1~2346)
	Aggregation:	Enable      Disable	
		32 Frames (1~32)	
		50000 Bytes(Max) (2304~65535)	
	WLAN Settings - 2.4GHz		

Figure 36: ezMaster – Wireless Radio Settings

### **Band Steering**

When "Band steering" is enabled, when the wireless client first associates with the AP, the AP will detects whether or not the wireless client is dual-band capable, and if it is, it will force the client to connect to the less congested 5GHz network to relieve congestion and overcrowding on the mainstream 2.4GHz frequency. It does this by actively blocking the client's attempts to associate with the 2.4GHz network.

**Note:** For Band Steering to take effect, both 2.4GHz and 5GHz SSIDs must have the same SSID and security settings. Wireless clients must be in both 2.4GHz and 5GHz wireless coverage zone when authenticating with the AP for the Band Steering algorithm to take effect.





↑ □ ↓	● admin ~ EnGenius®
Device Management Monitoring Visualization Statistics Hotspot Service Mainte	nance Guest Network
Device gwn_engen_test > Device Config	Advanced Settings
Switch 0 Pending Approval 0 Status Model Model MAC A Online EAP1300 88:DC:96	LED Control Power:   Enable Disable LAN: Enable Disable WLAN - 2.4GHz: Enable Disable WLAN - 5GHz: Enable Disable Disa
50 v 1 to 1 of 1 Device(s)	Band Steering Disabled   (NOTE: When enabled, band steering will be applied to first 2.4GHz/5GHz SSID profiles with the same SSID and security settings.)  RSSI Threshold
	2.4GHz     5GHz       Status:        • Enable • Disable       • Enable • Disable       • Enable • Disable       • Boom dBm (Range: -90 ~ -60)       • 90 dBm (Range: -90 ~ -60)       •
	Management VLAN Status:  Enable Clan Enable Clan Enable Enable Enable Enable Enable Enabling the management VLAN can cause the AP to lose connectivity with the

Figure 37: ezMaster – Band Steering





## **CLOUDTRAX**

### **Wireless Configuration**

1. Create a new network. Fill in below information.

CLOUDTRAX»	Network: num1	~				\Lambda mypdas	@qq.com 🗸
<							
All Networks	All Notworks						
Manage	AITNELWOTKS						_
🗙 Configure 🕨 🕨	List Map View Option	ns 🗸	Q		Create Network Grou	p + Create Network	* ~
	> Network Group #1	Create a new network		*			* ~
	> group2 (Networks: 1	Network name		0			* ~
	> test (Networks: 0, AF	Network Group	Network Group #1				* ~
	✓ li (Networks: 1, APs:	Location	Enter a location	0			* ~
		Application Reporting	0		APs (Total)	Latest FW Version	Actions
						0.4.11	
	25 • records per page.	this?	Select one •				
		Clone network?	No, use default settings •				
		Create as legacy network	0	Cancel Create			1
							L. L
				lwish	this name would		Sond
Services Agreement   Privacy Poli	cy   Server Status   Help			T WISH	And hoke woold		/ Senu
© 2007-2018 CloudTrax							
? 帮助							

Figure 38: CloudTrax – Create New Network

- **Network name:** This is the name you want to give this specific network. You will use this name to make changes to the network, display reports, etc.
- **Network Group:** This determines which user accounts will administrate this network.
- Location: Enter a street address for the first access point. To add access points, you will be shown a map that you click on to place access points. By entering an address here, you will be centered on the correct location for your network.
- **Application Reporting:** This will set whether the Application Reporting function is enabled by default on this network, which will provide more in depth reporting on the sort of traffic on your network.
- Network Type: This gives us an idea how you are using CloudTrax so we can find more ways to improve.





- **Clone Network?:** If you wish to carry over your network settings from an already existing CloudTrax network under your same account, you can choose to clone that networks' settings here.
- 2. Add access points to your network

Navigate to the Manage->Access Points screen. There are three options to add access points to your network: click the "Add New" button to add access points one at a time by clicking on a map, or use the down arrow to the right of that to add access points in bulk.

CLOUDTRAX»	Network: num1	~								Ω	mypdas@qq.com 🗸
<											
	Access Points all ssids	▼ Last	day 🔻	e							
🕗 Manage 🛛 🔻	Clients										Traffic
Network Overview	4										4 bps
Access Points	2										2 bps
Switches											
Routers	0	22:00 Aug 15	02:00	04:00	06:0	0	08:00	10:0	0	12:00 14:00	0 bps
Clients	Clients Download Upload	I								I OTAI: UB (LUB, †UB)	) / Clients: 0
Vouchers	List Map View Options V	0								+ Add I	New 🗸
Site Survey	Ctatur A Name	Mac/IP	Clients	lleage	2.40	50	Last	Untime	Hope	Outoger	Actions
🗙 Configure 🕨 🕨		Mac/IP	Clients	Usage	2.4G	56	Checkin	Optime	Hops	Outages	Acuons
	gwn	LAN IP / 192.168.1.67 Mesh IP / 5.77.92.32	0	0B ↓0B, ↑0B	1	40	10 minutes ago	28d 14h 11m	0	4PM 4AM	Now 🗱 🗸
	25 • records per page. 1 AP total.										
f 🎐 Language: English	T							l wish this p	age would		Send
Services Agreement   Privacy Poli © 2007-2018 CloudTrax	cy   Server Status   Help										
⑦ 帮助											

Figure 39: CloudTrax – Add Access Point

3. Configure your network

Each CloudTrax device can broadcast four unique SSIDs that users can connect to. Each of these SSIDs are controlled independently in CloudTrax. Typically users have a mix of public SSIDs - with splash pages, bandwidth throttling, DNS filtering and client isolation - and private SSIDs, with WPA Enterprise authentication and access to LAN resources and other clients. When we created your network, we set the first SSID to be public and the second SSID to be private, but you can adjust these any way you wish.





CLOUDTRAX»	Network: num1	$\checkmark$		\Lambda mypdas@qq.com 🗸 🕯
<				
🙎 All Networks	SSID 1: openmesh+			Cancel Save Changes
🕗 Manage 🕨 🕨	Common			
🗙 Configure 🔍 🔻	Common			
General	SSID name	openmesh+	0	
SSID 1		Use access point name 🕢		
SSID 2	Enable	0		
SSID 3	Visible			
SSID 4	Rand	Reth Combined SCID +		
Vouchers	Authentication	Both - Combined SSID Both - Unique SSIDs 2 4 GHz only		
Maintenance	Authentication configuration —	5GHz only		
Display	Authentication type	WPA Pre-shared key WPA Enterprise		
Advanced	WPA password	••••••	Show 🕜	
		WPA2-only 🕜		
	Captive Portal			
	Learn more about the captive portal an	d splash pages in the CloudTrax Help Center. For Facebook \	NiFi, visit the Facebook H	lelp Center.
	Bandwidth throttling	<b>O</b> 0		-

Figure 40: CloudTrax – Edit SSID





### **TP-LINK**

### **Wireless Configuration**

### 1. Add Wireless Networks

Select a band frequency and click + to add a WLAN group.

Sites: Default 🗸		APs: Cor	0 2 inected Disconnect	0 ted Pending	Stations: 0 0 Users Gues	ts		Ç	✿ [→
Statistics	Access Po	ints Clie	ents li	nsight	Log				
							All   Connected	Disconnected	I Pending
Q Overview	Config Performa	nce							Forget All
+ MAC Address	\$ IP Address	Status	¢ Model       ♦ H	ardware Version	Firmware Version	Client Number	Download	\$ Upload	Action
C-84-C6-3D-E2-44	172.16.0.201	Disconnected	EAP225	3.0	2.0.1 Build 20180105 Rel. 6	3471 0	3.16 G	4.30 M	√ 🖪 🖸
C-84-C6-17-BA-A6	172.16.1.13	Disconnected	EAP245	1.0	1.2.0 Build 20170828 Rel. 6	7350 0	2.93 G	116.05 K	√ 🛱 🖸
						<< < 1 >	>> A total of 1 pag	e(s) Page to	GO
_									
	Wireless Se	ettings	Wireless Contr	ol Syster	n Admin				
				Basic V	vireless Setting   Advanced v	vireless setting   Band Ste			
2.40	GHz 5GHz				WLAN Group Defau		<b>▼</b> ⊕		
							+ Add		
ID	\$SSID Name	Security	SSID Isolat	ion Portal	Access Control Rule	Rate Limit A	ction		
1	tplink_test	WPA-PSK	disable	enable	None	disable 🖸	ŭ 💼		
				<	< < 1 > >> A total of	of 1 page(s) Page to	GO		
	Q         Overview           Statistics         Q           Q         Overview           C-84-C6-3D-E2-44         C-84-C6-3D-E2-44           C-84-C6-17-BA-A6         ID           1         1	Statistics       Access Po         Q       Overview       Config       Performan         c       MAC Address       \$ IP Address       \$ IP Address         c       HAC Address       \$ IP Address       \$ C.84-C6-3D-E2-44       172.16.0.201         C-84-C6-3D-E2-44       172.16.1.13       172.16.1.13       Vireless State         Q       Q       Overview       Config       Performan         L       2.4GHz       5GHz       5GHz         ID       \$ SSID Name       1       tplink_test	Wireless Settings       Variability       Variability       Variability       Q     Overview       Config       Performance       Q       Overview       Config       Performance       Q       Overview       Config       Performance       Q       Overview       Output       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U       U </th <th>Wireless Settings     Wireless Confir       Vireless Settings     Wireless Confir</th> <th>Wireless Settings     Wireless Control     Stable</th> <th>Wireless Settings       Wireless Control       System       Admin         Basic Wireless Setting I       Advanced V       EAP245       1.0       12.0 Build 20170628 Rel. 6         Wireless Settings       Wireless Control       System       Admin         Basic Wireless Setting I       Advanced V         VLAN Group Default       10       \$SID Name       \$Sid Sid Sid Sid V         1       tplink_test       WPA-PSK       disable       enable       None         &lt;        Sid VA-PSK       disable       enable       None</th> <th>MPS:       Ornected       Disconnected       Pending       Stations:       Ouests       Ouests         Statistics       Access Points       Clients       Insight       Log       Insight       Log       Insight       Insight       Course         Connected       Disconnected       Ensight       Log       Insight       Log       Insight       Course       Insight       Course       Insight       Log       Insight       Insight       Insight       Course       Insight       Log       Insight       Course       Insight       Log       Insight       Course       Insight       Log       <td< th=""><th>Statistics       APPS:       Ormected       Pending       Statistics:       Log         Statistics       Access Points       Clients       Insight       Log       All   Connected           Cuerview       Connected       Pending       Statistics       Log       All   Connected           Cuerview       Connected       Pending       Statistics       Clients       Issight       Log         Cuerview       Connected       Pending       Statistics       Access Points       Client Number       Pownload         Cada Connected       Pending       Statistics       Access Points       Client Number       Pownload         Cada Connected       Pending       Statistics       Connected       Pending       Statistics       Client Number       Pownload         Cada Connected       Pintal       Padress       Status       Model       Hardware Version       Client Number       Pownload         Cada Connected       EAP25       3.0       2.0.1 Build 20180165 Rel.63471       0       3.16 G         Cada Connected       EAP245       1.0       1.2.0 Build 20170828 Rel.67350       0       2.93 G         Vireless Settings       Wireless Setting   Advanced Wireless Setting   Band Steering       Micon of the padres       Cornected   Co</th><th>Wretess Settings       Wretess Control       Station       System       Admin         Wirefess Settings       Wretess Control       System       Admin         Wirefess Settings       Wretess Control       System       Admin         United to the pack of the pack</th></td<></th>	Wireless Settings     Wireless Confir       Vireless Settings     Wireless Confir	Wireless Settings     Wireless Control     Stable	Wireless Settings       Wireless Control       System       Admin         Basic Wireless Setting I       Advanced V       EAP245       1.0       12.0 Build 20170628 Rel. 6         Wireless Settings       Wireless Control       System       Admin         Basic Wireless Setting I       Advanced V         VLAN Group Default       10       \$SID Name       \$Sid Sid Sid Sid V         1       tplink_test       WPA-PSK       disable       enable       None         <        Sid VA-PSK       disable       enable       None	MPS:       Ornected       Disconnected       Pending       Stations:       Ouests       Ouests         Statistics       Access Points       Clients       Insight       Log       Insight       Log       Insight       Insight       Course         Connected       Disconnected       Ensight       Log       Insight       Log       Insight       Course       Insight       Course       Insight       Log       Insight       Insight       Insight       Course       Insight       Log       Insight       Course       Insight       Log       Insight       Course       Insight       Log       Insight       Log <td< th=""><th>Statistics       APPS:       Ormected       Pending       Statistics:       Log         Statistics       Access Points       Clients       Insight       Log       All   Connected           Cuerview       Connected       Pending       Statistics       Log       All   Connected           Cuerview       Connected       Pending       Statistics       Clients       Issight       Log         Cuerview       Connected       Pending       Statistics       Access Points       Client Number       Pownload         Cada Connected       Pending       Statistics       Access Points       Client Number       Pownload         Cada Connected       Pending       Statistics       Connected       Pending       Statistics       Client Number       Pownload         Cada Connected       Pintal       Padress       Status       Model       Hardware Version       Client Number       Pownload         Cada Connected       EAP25       3.0       2.0.1 Build 20180165 Rel.63471       0       3.16 G         Cada Connected       EAP245       1.0       1.2.0 Build 20170828 Rel.67350       0       2.93 G         Vireless Settings       Wireless Setting   Advanced Wireless Setting   Band Steering       Micon of the padres       Cornected   Co</th><th>Wretess Settings       Wretess Control       Station       System       Admin         Wirefess Settings       Wretess Control       System       Admin         Wirefess Settings       Wretess Control       System       Admin         United to the pack of the pack</th></td<>	Statistics       APPS:       Ormected       Pending       Statistics:       Log         Statistics       Access Points       Clients       Insight       Log       All   Connected           Cuerview       Connected       Pending       Statistics       Log       All   Connected           Cuerview       Connected       Pending       Statistics       Clients       Issight       Log         Cuerview       Connected       Pending       Statistics       Access Points       Client Number       Pownload         Cada Connected       Pending       Statistics       Access Points       Client Number       Pownload         Cada Connected       Pending       Statistics       Connected       Pending       Statistics       Client Number       Pownload         Cada Connected       Pintal       Padress       Status       Model       Hardware Version       Client Number       Pownload         Cada Connected       EAP25       3.0       2.0.1 Build 20180165 Rel.63471       0       3.16 G         Cada Connected       EAP245       1.0       1.2.0 Build 20170828 Rel.67350       0       2.93 G         Vireless Settings       Wireless Setting   Advanced Wireless Setting   Band Steering       Micon of the padres       Cornected   Co	Wretess Settings       Wretess Control       Station       System       Admin         Wirefess Settings       Wretess Control       System       Admin         Wirefess Settings       Wretess Control       System       Admin         United to the pack of the pack

Figure 41: TP-Link – Add Wireless Network

2. Add an SSID to the specific WLAN group, Configure the parameters in the following window.





Ptp-link	Sites: Default 🗸	APs:	0 2 Connected Disconnected	0 Sta Pending	<b>tions: 0</b> Users G	0 suests			Ç	✿ [→
Мар	Statistics	Access Points	Clients Insight	t Log	J <sup>•</sup>					
All		Add 2.4GHz SSID					() ()	I Connected I	Disconnected	Pending
Name, MAC Address,	IP Q Overview (	Basic Info					*			Forget All
\$ AP Name	MAC Address	SSID Name:						Download	Upload	Action
AC-84-C6-3D-E2-44	AC-84-C6-3D-E2-44	Wireless Vlan ID:	0	(0	4094, 0 is used to disab	ele VLAN tagging.)		3.16 G	4.30 M	1₽ 0
AC-84-C6-17-BA-A6	AC-84-C6-17-BA-A6	SSID Broadcast:	Inable					2.93 G	116.05 K	17 🛱 🖸
Page Size 10 🔻		Security Mode:	WPA-PSK	•			>>	A total of 1 page	(s) Page to	GO
		Version:	○ Auto ○ WPA-PSK ●	WPA2-PSK						
		Encryption:	○ Auto ○ TKIP ● AES				_			
		Wireless Password:					_			
		Group Key Update Period:	0	se	conds(30-8640000,0 me	eans no upgrade).				
		SSID Isolation:	Enable							
		Access Control Rule:	None	•			er	ing		
	2.4GF	Rate Limit					*	• •		
		Apply					G	Add		
	ID	•					ct	ion		
	1	tplink_test WPA-	PSK disable	enable	None	disable	Ø	<b>D</b>		
					< 1 > >> A to	tal of 1 page(s) Page to		GO		

Figure 42: TP-Link – Add SSID

### 3. Configure Advanced Wireless Parameters

The advanced wireless parameters consist of Beacon Interval, DTIM Period, RTS Threshold, Fragmentation Threshold and Airtime Fairness. Go to Wireless Settings->Advanced Setting.

Ptp-link	Sites: Default 🗸		APs: Co	onnected Dis	sconnected Pending	Users Guests			0	¥ Ľ
Мар	Statistics	Access Po	ints Cli	ients	Insight	Log				
II							All	Connected	Disconnected	d   Pendir
Name, MAC Address	, IP Q Overview	Config Performat	nce							- Forge
♦ AP Name	MAC Address	\$ IP Address	\$ Status	\$ Model	+ Hardware Version	Firmware Version	Client Number	Download	Upload	Actio
AC-84-C6-3D-E2-44	AC-84-C6-3D-E2-44	172.16.0.201	Disconnected	EAP225	3.0	2.0.1 Build 20180105 Rel. 63471	0	3.16 G	4.30 M	⊿ 🖪
C-84-C6-17-BA-A6	AC-84-C6-17-BA-A6	172.16.1.13	Disconnected	EAP245	1.0	1.2.0 Build 20170828 Rel. 67350	0	2.93 G	116.05 K	⊲ 🖪
e Size 10 🔻	-	Wireless So	ettings	Wireless	s Control Sys	stem   Admin	<< < 1 > >>	A total of 1 page	(s) Page to	
e Size 10 🔻		Wireless Se	ettings	Wireless	s Control Sys Basi	stem Admin c Wireless Setting I Advanced Wireless	< < 1 > >>	A total of 1 page	(s) Page to	
e Size 10 🔻		Wireless So 2.4GHz 5GHz	ettings	Wireless	s Control   Sys Basi	stem   Admin c Wireless Setting   Advanced Wireless	<< < 1 > >>	A total of 1 page	(s) Page to	
e Size 10 🔻	В	Wireless So 2.4GHz 5GHz eacon Interval:	ettings 10	Wireless	s Control   Sys Basi	stem   Admin c Wireless Setting   Advanced Wireless ns(40-100)	s Setting   Band Steerin	A total of 1 page	(s) Page to	
e Size 10 🔹	B	Wireless Si 2.4GHz 5GHz eacon Interval: TIM Period:	ettings 10 1	Wireles: 0	s Control   Sys Basi	stem   Admin c Wireless Setting   Advanced Wireless ns(40-100) 1-255)	s Setting   Band Steerin	A total of 1 page	(s) Page to	
e Size 10 🔹	B D R	Wireless Sr 2.4GHz 5GHz eacon Interval: TIM Period: TS Threshold:	ettings 10 1 23	Wireless 0	s Control   Sys Basi 	stem   Admin c Wireless Setting   Advanced Wireless ns(40-100) 1-255) 1-2347)	s Setting   Band Steerin	A total of 1 page	(s) Page to	
e Size 10 •	B D R F	Wireless Si           2.4GHz         5GHz           eacon Interval:         TIM Period:           TIM Period:         TS Threshold:           ragmentation Thresh         Tagenetation Threshold:	ettings 10 1 23 nold: 23	Wireless 0 47 46	s Control   Sys Basi ( ( ( ( ( ) ( ) (	stem Admin c Wireless Setting Advanced Wireless ns(40-100) 1-255) 1-2347) 256-2346, works only in 11b/g mode)	s Setting   Band Steerin	A total of 1 page	(s) Page to	

Figure 43: TP-Link – Configure Advanced Wireless Parameters





### **Band Steering**

A client device that is capable of communicating on both the 2.4GHz and 5GHz frequency bands will typically connect to the 2.4 GHz band. However, if too many client devices are connected to an EAP on the 2.4 GHz band, the efficiency of communication will be diminished. Band Steering can steer clients capable of communication on both bands to the 5GHz frequency band which supports higher transmission rates and more client devices, and thus to greatly improve the network quality. Go to Wireless Settings > Band Steering.

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AC-84-C6-3D-E2-44	AC-84-C6-3D-E2-44	172.16.0.201	Disconnected	EAP225	3.0	2.0.1 Build 20180105 Rel. 63471	0	3.16 G	4.30 M	√ 🛱 🖸
AC-84-C6-17-BA-A6	AC-84-C6-17-BA-A6	172.16.1.13	Disconnected	EAP245	1.0	1.2.0 Build 20170828 Rel. 67350	0	2.93 G	116.05 K	⊿ 🛱 🖸
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		Apply								
	Note	e : To run the Band Steerir	ng function on a	SSID, please	create the SSIDs on both of	the 2GHz and 5GHz band and make sure the	y have the same name, sec	urity		
	mode	e and wireless password.	-							

Figure 44: TP-Link – Band Steering

