



Unleashed Configuration

- Troubleshooting

Tips and Tricks

Firmware Version: 200.12

Troubleshooting Tips and Tricks

When troubleshooting Wi-Fi networks, there are specific details that can be used to identify a problem and provide insight into how to remedy the situation. In this presentation we will discuss some of the most common ways to troubleshoot an issue with the network and where this information can be found in the Access Networks Unleashed network management interface.

Troubleshooting Tips and Tricks

- Chapter 1 - Connect to the Unleashed Network
- Chapter 2 - Ensure All APs are Functioning Correctly
- Chapter 3 - Verify RF Coverage/Interference
- Chapter 4 - Verify Client Device Performance

Chapter 1 – Connect to the Unleashed Network

- Getting Started
- Security Warning
- Login Page
- Unleashed Dashboard

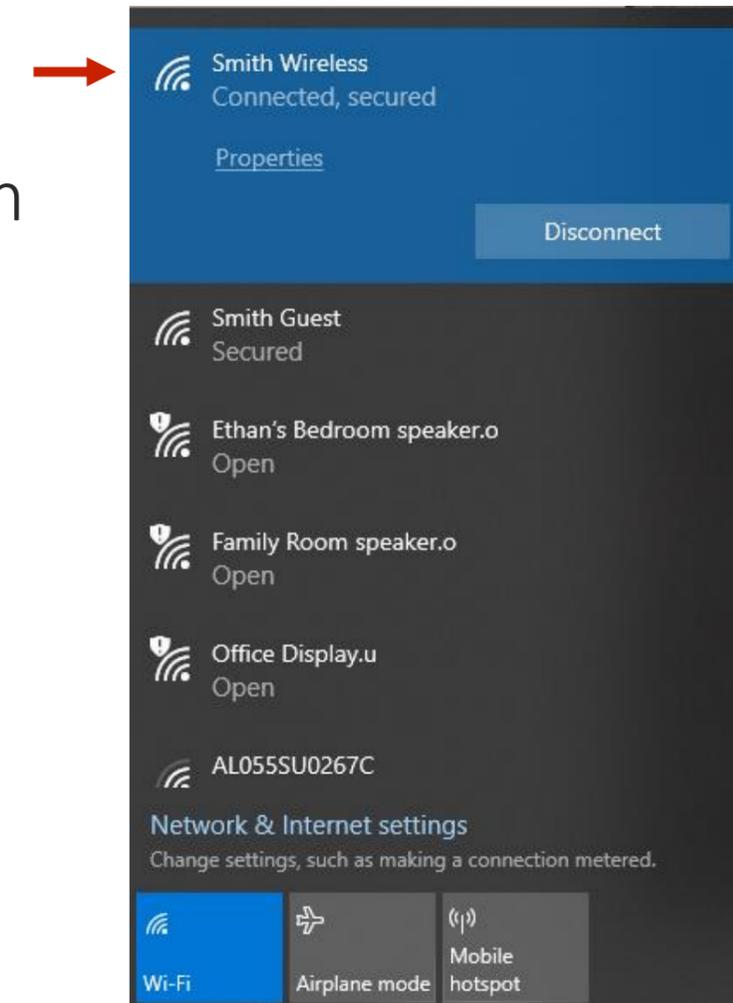
Connect to the Unleashed Network

Getting Started

Using the Wi-Fi configuration settings on your client device (such as a laptop or mobile device), select and associate to an Unleashed WLAN, and launch a web browser.

Now connect to any non-client isolating Unleashed WLAN.

In your browser's URL bar, enter the following address and press Enter: **unleashed.ruckuswireless.com**

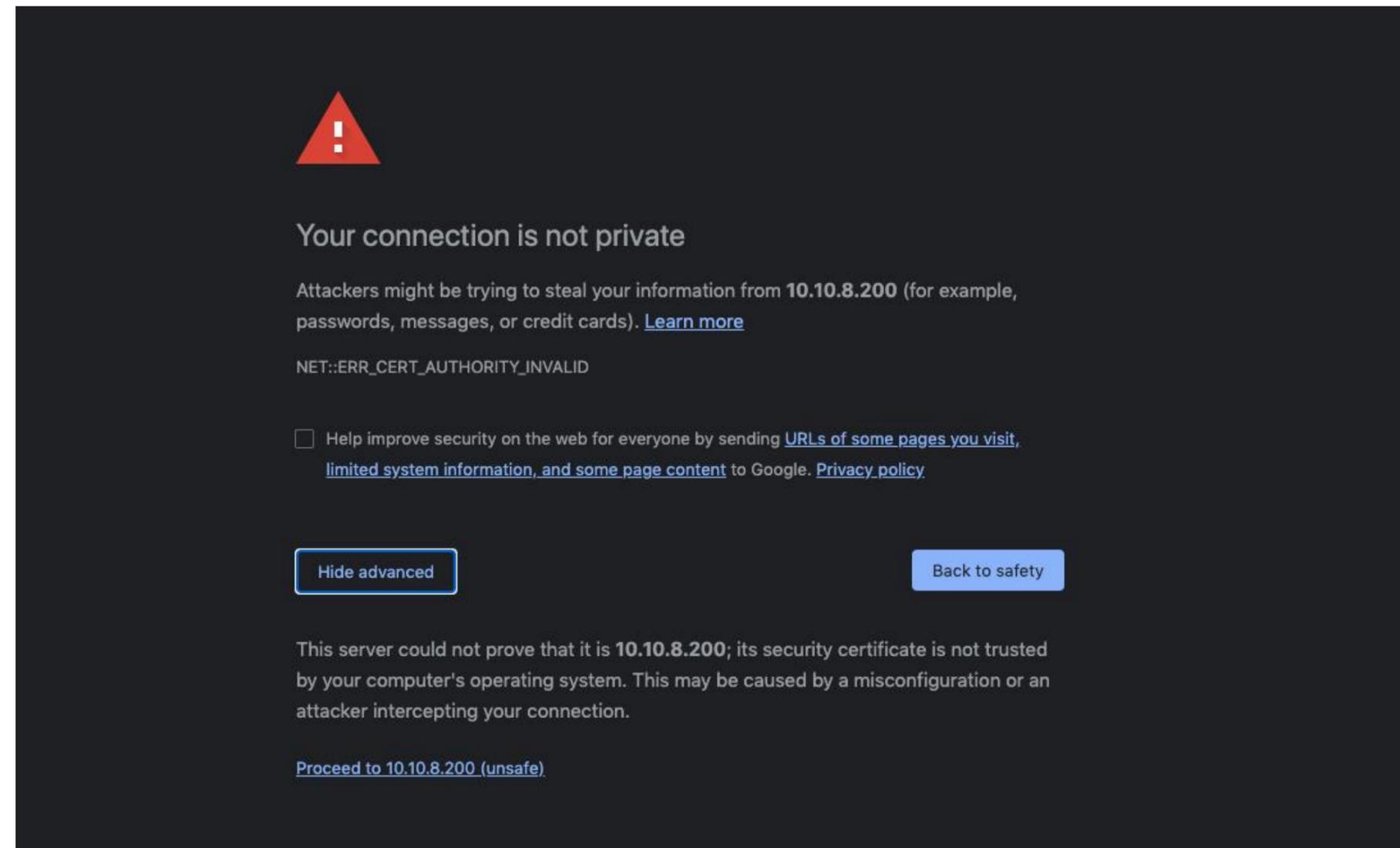


Connect to the Unleashed Network

Security Warning

Depending on your browser, you may be presented with a security warning stating "This connection is not trusted" (Firefox) or "Your Connection is Not Private" (Chrome) or "There is a problem with this website's security certificate" (Internet Explorer). This is normal, as the Unleashed AP does not have an SSL certificate that is recognized by your browser.

Accept the exception as needed per browser and proceed.

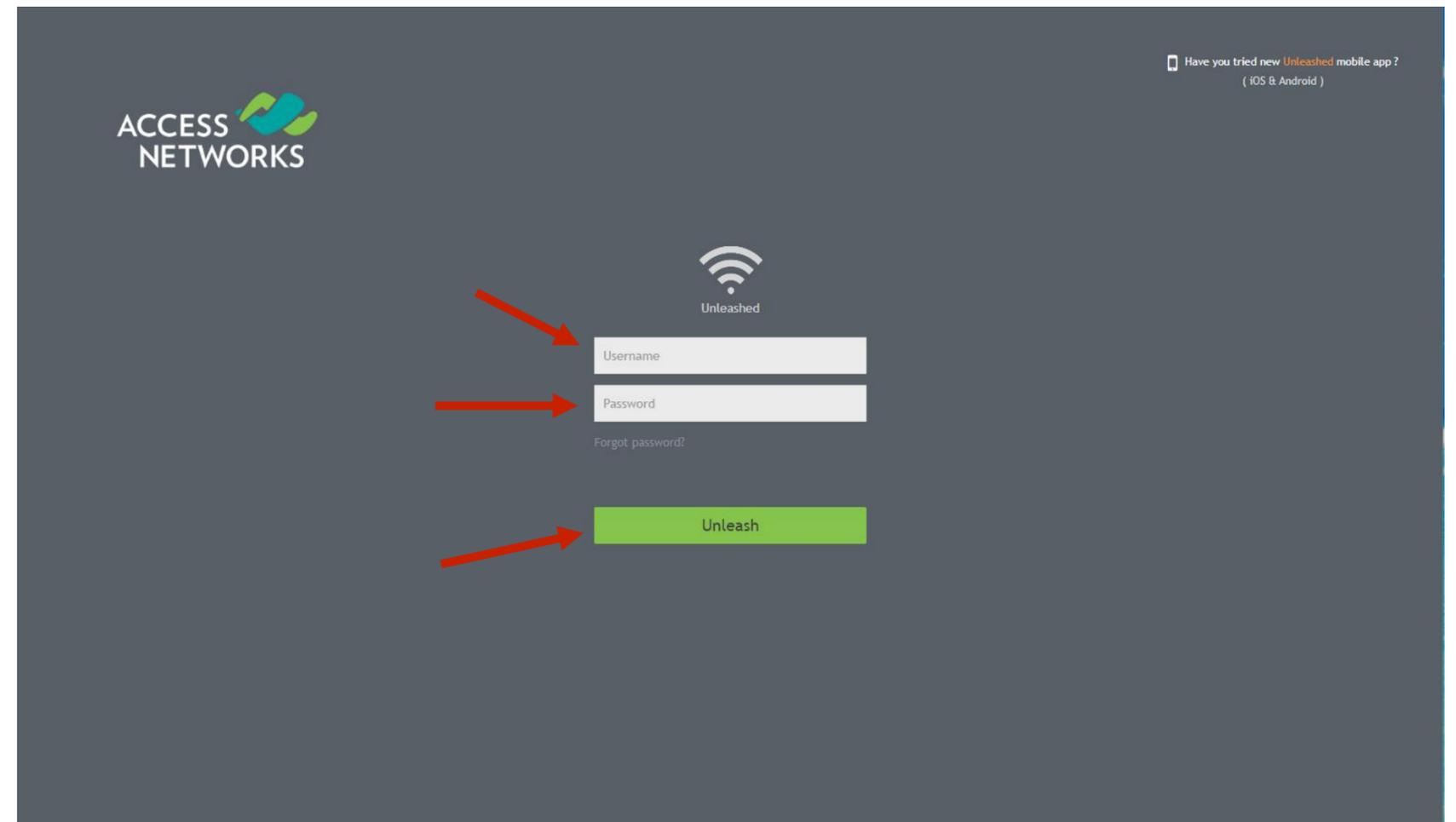


Connect to the Unleashed Network

Login Page

This is the login page for the Unleashed Network.

Enter the “Username”, “Password”, and click “Unleash” to login.



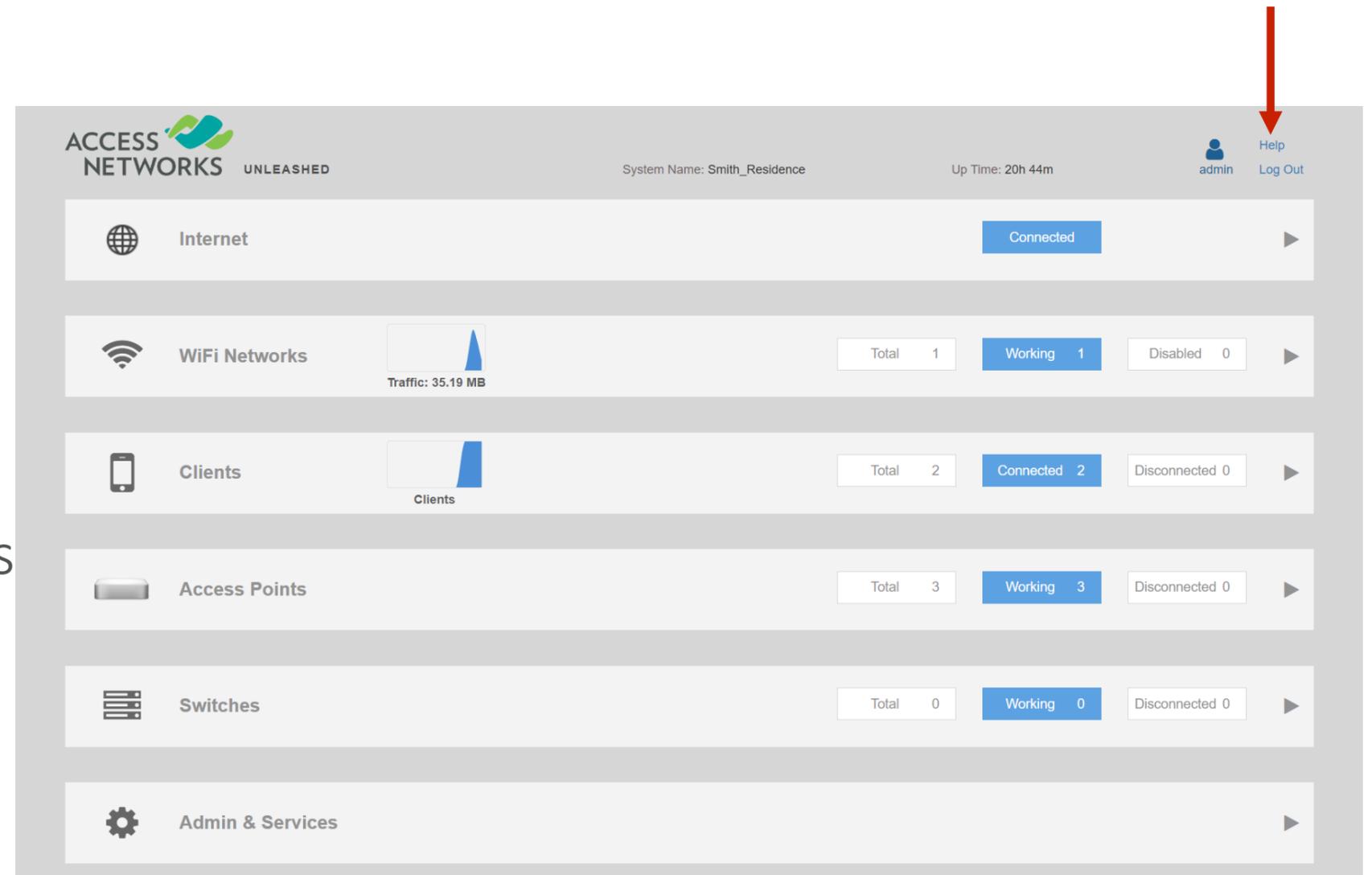
Connect to the Unleashed Network



Unleashed Dashboard

After successful login, you will be presented with the Unleashed Dashboard, which displays an overview of your Ruckus Unleashed network

At any point during the setup process you can access the complete Unleashed help page by clicking on “Help” in the upper right corner of the Unleashed web interface.



The screenshot shows the Unleashed web interface for a system named 'Smith_Residence'. The top navigation bar includes the 'ACCESS NETWORKS UNLEASHED' logo, system name, up time (20h 44m), and user 'admin' with 'Log Out' and 'Help' links. A red arrow points to the 'Help' link. The main dashboard features several overview cards:

- Internet:** Status 'Connected'.
- WiFi Networks:** Traffic: 35.19 MB. Status: Total 1, Working 1, Disabled 0.
- Clients:** Status: Total 2, Connected 2, Disconnected 0.
- Access Points:** Status: Total 3, Working 3, Disconnected 0.
- Switches:** Status: Total 0, Working 0, Disconnected 0.
- Admin & Services:** (No status data shown).

Chapter 2 – Ensure All APs are Functioning Correctly

- Verify the Master AP is Properly Identified & Connected
- Verify the Desired Master AP is Set as Preferred
- Verify Available Wi-Fi Channel Options
- Verify Available Channel Options
- Verify Automatic Channel Selection Properties
- Ensure Directed Multicast is Disabled

Chapter 2 – Ensure All APs are Functioning Correctly



Verify the Master AP is Properly Identified & Connected

1. Verify that the Master AP is named correctly
2. Access Points -> (select “Master” AP)

The screenshot displays the 'Access Points' management interface. At the top, a red arrow points to the 'Access Points' tab. The interface shows a summary for 'Total 3 Access Points' with 'Working 3' and 'Disconnected 0'. A search bar is present above a list of APs. The first AP, 'Master C...[...38:22:90]', is selected and highlighted with a red box. A red arrow points to this AP's name. To the right, a detailed view for the selected AP is shown, including '0 Clients', '0 WLANs', and 'Events & Alarms'. A red arrow points to the 'Show System Overview Info' link in this detailed view. The interface also includes a traffic graph and a legend for 'Client Status for last 1 hour' with categories: Excellent (blue), Moderate (light blue), and Poor (red).

Chapter 2 – Ensure All APs are Functioning Correctly



Verify the Master AP is Properly Identified & Connected

1. Verify that the Master AP is connected at 1,000MBPs connection rate
2. Access Points -> (select “Master” AP) -> Show System Overview Info

- Verify that the AP is up/1000Mps
- Verify the “Power Consumption Mode” is correct for the AP model
- **After verifying that Master AP is properly identified & connected repeat these steps for all other member APs**

Hide System Overview Info ▼

Mac Address	c8:08:73:14:5e:70
IP Address	172.22.28.101
External IP:Port	172.22.28.101:12225
Model	R610
S/N	471849013421
Group Name	System Default
GPS Coordinates	
Mesh Type	Disabled
Current Channel(802.11a/n/ac)	40
Current Channel(802.11b/g/n)	4
Power Consumption Mode	802.3at PoE
Max Clients	100
Version	200.8.10.3.243
Role Fixed	no
Download Logs	Logs

Ethernet Port Status ⓘ

Interface	Logical Link	Physical Link	Label
eth0	Up	Up 1000Mbps full	10/100/1000 PoE Port1
eth1	Down	Down	10/100/1000 Port2

AP Power modes

- Not Support
- DC
- 802.3af PoE
- 802.3at PoE
- 802.3at+ PoE

Chapter 2 – Ensure All APs are Functioning Correctly



Verify the Desired Master AP is Set as Preferred

1. Verify “Preferred Master” AP setting
2. Admin & Services -> System Info -> Preferred Master -> Primary Preferred Master

The screenshot displays the 'Admin & Services' configuration interface. A red arrow points to the gear icon labeled 'Admin & Services'. Below this, a sidebar menu under 'System' has 'System Info' highlighted. Another red arrow points to the 'System Info' section in the main content area. This section contains fields for 'Name*' (Smith_Residence), 'System Version' (200.11.10.5.195), and 'Unleashed ID' (un1020720042651632646292817), with 'Generate', 'Copy', and 'Apply' buttons. Below this is the 'Preferred Master' section, which includes a warning message and two dropdown menus: 'Primary Preferred Master' (set to Master Closet[R510 - 60:d0]) and 'Secondary Preferred Master' (set to Office Closet[R750 - 70:ca:9]). A checkbox for 'Disable WLAN service on Master AP' is checked. A final red arrow points to the 'Primary Preferred Master' dropdown. An 'Apply' button is located at the bottom right of the 'Preferred Master' section.

Chapter 2 – Ensure All APs are Functioning Correctly



Verify Available Wi-Fi Channel Options

1. Verify that Channelization is set to “20”, TX Power is set to “Full”, and only Channels 1,6,11 are available in the **2.4GHz** frequency band
2. Access Points -> Summary -> Edit -> Radio (2.4G)

The screenshot displays the 'Edit AP Group' configuration window. On the left, the 'Access Points' summary shows two APs: 'Office A. [...14:5e:70]' and 'Bedroom [...37:e3:70]'. Red arrows point to the 'Edit' button and the 'Summary' section. The main configuration area is for 'Radio (2.4G)'. Red arrows highlight the 'Radio 2.4 GHz' section, the 'Channelization' dropdown set to '20', the 'TX Power' dropdown set to 'Full', and the 'Radio 2.4 GHz' checkboxes where channels 1, 6, and 11 are selected. At the bottom, there are 'Finish' and 'Cancel' buttons.

Chapter 2 – Ensure All APs are Functioning Correctly



Verify Available Channel Options

1. Verify that Performance mode is enabled and all **5GHz channels** are available with Channelization set to “80”, and TX Power set to “Full”
2. Access Points -> Summary -> Edit -> Radio (5G)

Access Points

Edit AP Group

Name: System Default

Radio (2.4G) **Radio (5G)** Other

Radio 5.0 GHz Indoor

<input checked="" type="checkbox"/>	36	<input checked="" type="checkbox"/>	40	<input checked="" type="checkbox"/>	44	<input checked="" type="checkbox"/>	48	<input checked="" type="checkbox"/>	52	<input checked="" type="checkbox"/>	56	<input checked="" type="checkbox"/>	60	<input checked="" type="checkbox"/>	64	<input checked="" type="checkbox"/>	100	<input checked="" type="checkbox"/>	104	<input checked="" type="checkbox"/>	108
<input checked="" type="checkbox"/>	112	<input checked="" type="checkbox"/>	116	<input checked="" type="checkbox"/>	120	<input checked="" type="checkbox"/>	124	<input checked="" type="checkbox"/>	128	<input checked="" type="checkbox"/>	132	<input checked="" type="checkbox"/>	136	<input checked="" type="checkbox"/>	149	<input checked="" type="checkbox"/>	153	<input checked="" type="checkbox"/>	157	<input checked="" type="checkbox"/>	161

Radio 5.0 GHz Outdoor

<input checked="" type="checkbox"/>	36	<input checked="" type="checkbox"/>	40	<input checked="" type="checkbox"/>	44	<input checked="" type="checkbox"/>	48	<input checked="" type="checkbox"/>	52	<input checked="" type="checkbox"/>	56	<input checked="" type="checkbox"/>	60	<input checked="" type="checkbox"/>	64	<input checked="" type="checkbox"/>	100	<input checked="" type="checkbox"/>	104	<input checked="" type="checkbox"/>	108
<input checked="" type="checkbox"/>	112	<input checked="" type="checkbox"/>	116	<input checked="" type="checkbox"/>	120	<input checked="" type="checkbox"/>	124	<input checked="" type="checkbox"/>	128	<input checked="" type="checkbox"/>	132	<input checked="" type="checkbox"/>	136	<input checked="" type="checkbox"/>	149	<input checked="" type="checkbox"/>	153	<input checked="" type="checkbox"/>	157	<input checked="" type="checkbox"/>	161

Channelization: 80

Channel: Indoor: Auto, Outdoor: Auto

TX Power: Full

Call Admission Control: Off

WLAN Service: Enable

Buttons: Finish, Cancel

Chapter 2 – Ensure All APs are Functioning Correctly



Verify Automatic Channel Selection Properties

1. Admin & Services -> Services -> Radio Control -> Self Healing
2. Make sure the box is **unchecked** for -

- "Automatically adjust AP radio power to optimize coverage when interference is present"

The screenshot shows a navigation menu on the left with 'System' and 'Administration' at the top, 'Services' in the middle, and 'Radio Control' highlighted in blue. A red arrow points to 'Services' and another to 'Radio Control'. The main content area has tabs for 'Self Healing', 'Background Scanning', 'Client Load Balancing', 'Band Balancing', and 'Radar Avoidance Pre-Scanning'. A red arrow points to the 'Self Healing' tab. Below the tabs, there is a description: 'Unleashed utilizes built-in network "self healing" diagnostics and tuning tools to maximize wireless network performance.' Below this is a checkbox labeled 'Automatically adjust AP radio power to optimize coverage when interference is present.' with a red arrow pointing to it. Further down, there are two checked checkboxes: 'Automatically adjust 2.4GHz channels using' with a dropdown menu set to 'Background Scanning', and 'Automatically adjust 5GHz channels using' with a dropdown menu set to 'ChannelFly'.

Chapter 2 – Ensure All APs are Functioning Correctly



Verify Automatic Channel Selection Properties

1. Admin & Services -> Services -> Radio Control -> Self Healing
2. Make sure the box is **checked** for -

- "Automatically adjust 2.4GHz channels using Background Scanning"
- "Automatically adjust 5GHz channels using ChannelFly"

The screenshot shows the network management interface. On the left, a navigation menu has 'Services' and 'Radio Control' highlighted with red arrows. The main content area shows the 'Self Healing' configuration page. At the top, there are five tabs: 'Self Healing', 'Background Scanning', 'Client Load Balancing', 'Band Balancing', and 'Radar Avoidance Pre-Scanning'. The 'Self Healing' tab is selected. Below the tabs, there is a description: 'Unleashed utilizes built-in network "self healing" diagnostics and tuning tools to maximize wireless network performance.' There is a checkbox for 'Automatically adjust AP radio power to optimize coverage when interference is present.' Below this, there is a text box explaining the two modes: 'Two modes are available to automatically adjust AP channels for self healing and performance optimization. Background Scanning will change AP channel when interference is present. Channelfly constantly monitors potential throughput and will change channels to learn, optimize throughput and avoid interference.' At the bottom, there are two checked checkboxes: 'Automatically adjust 2.4GHz channels using Background Scanning' and 'Automatically adjust 5GHz channels using ChannelFly'. Red arrows point to the 'Self Healing' tab, the 'Background Scanning' dropdown, and the 'ChannelFly' dropdown.

Chapter 2 – Ensure All APs are Functioning Correctly



Verify Automatic Channel Selection Properties

1. Admin & Services -> Services -> Radio Control -> Background Scanning
2. Verify both scanning intervals are set to 300 seconds

The screenshot shows the network management interface. On the left, a navigation menu has 'Services' and 'Radio Control' highlighted with red arrows. The main content area shows the 'Background Scanning' tab selected, with a red arrow pointing to it. Below the tab, there is a descriptive paragraph and a table of settings. The table has two rows, both with checkboxes checked and the interval set to 300 seconds. Red arrows point to the '300' values in both rows. An 'Apply' button is located at the bottom right of the settings area.

<input checked="" type="checkbox"/>	Run a background scan on 2.4GHz radio every	300	seconds
<input checked="" type="checkbox"/>	Run a background scan on 5GHz radio every	300	seconds

[To view all WLANs with background scanning off, click here](#)

Chapter 2 – Ensure All APs are Functioning Correctly



Ensure Directed Multicast is Disabled

1. Wi-Fi Networks -> (ESSID for Savant) -> Edit -> Advanced Options

The screenshot shows a network management interface. On the left, a 'WiFi Networks' panel displays a list of networks: 'Savant' (highlighted with a red arrow and labeled '1') and 'UMM Test WLAN' (labeled '2'). The 'Savant' network shows 0 clients and 0 traffic. A red arrow points to the 'Edit' button in the top navigation bar. On the right, the 'Edit WLAN' dialog is open, showing configuration options for the 'Savant' network. The 'Name' field is 'Savant'. The 'Usage Type' is 'Standard'. The 'Authentication Method' is 'Open'. The 'Encryption Method' is 'WPA2'. The 'Password' field is masked with dots and has a 'Show password' link. The 'Accounting Server' is set to 'Disabled' with a 'Send Interim-Update every 10 minutes' option. At the bottom of the dialog, there is a 'Show Advanced Options' link (with a red arrow pointing to it), 'OK', and 'Cancel' buttons.

Chapter 2 – Ensure All APs are Functioning Correctly



Ensure Directed Multicast is Disabled

1. Wi-Fi Networks -> (ESSID for Savant) -> Edit -> Advanced Options -> Others
2. Make sure under "Directed MC/BC Threshold" is set to 0

The screenshot displays the 'WiFi Networks' management interface. On the left, a list of networks is shown, with 'Savant' selected and highlighted by a red arrow. The 'Edit' button for 'Savant' is also indicated by a red arrow. The main panel shows the configuration for the 'Savant' network, with the 'Others' tab selected, as indicated by a red arrow. The 'Directed MC/BC Threshold' is set to 0, with a red arrow pointing to the input field. Other settings visible include 'Force DHCP' (disabled), 'Inactivity Timeout' (1 minute), 'Wireless Client Isolation' (disabled), 'DTIM Interval' (1), and 'Client Traffic Logging' (disabled).

Chapter 3 - Verify RF Coverage/Interference

- View Neighboring AP Overlap Coverage
- Understanding the WIPS (Wireless Intrusion Prevention System)

Chapter 3 - Verify RF Coverage/Interference



View Neighboring AP Overlap Coverage

1. Check the 5GHz SNR levels of neighboring APs and verify that each AP has a minimum of 18db (20%) coverage overlap to at least 1 other AP
2. Access Points -> Wireless APs -> (Choose each AP to review Neighbor APs) -> Show System Overview Info -> Neighbor APs

The screenshot displays the 'Access Points' configuration page. On the left, a list of three APs is shown: 'Kitchen[...3c:11:10]', 'Master C.[...38:22:90]', and 'Office C.[...01:63:80]'. The 'Kitchen' AP is selected and expanded, showing its status (0 clients, 0 traffic) and radio configuration. On the right, the 'Ethernet Port Status' table shows 'Port1' (eth0) is 'Up' and 'Port2' (eth1) is 'Down'. Below this, the 'Neighbor APs' table lists 'Master Closet' (Channel 48, SNR 54 dB) and 'Office Closet' (Channel 36, SNR 47 dB). The 'Radio' configuration table shows 'Current Channel' 1 and 136, 'Config Channel' Auto, 'Channelization' 20 and 80, 'WLAN Service' Enabled, 'Background Scanning' Enabled, and 'TX Power' Full.

Port	Interface	Logic Link	Physical Link	Label
Port1	eth0	Up	Up 1000Mbps full	10/100/1000 PoE Port1
Port2	eth1	Down	Down	10/100/1000 Port2

Access Point	Channel	SNR
Master Closet	48	54 dB
Office Closet	36	47 dB

Radio	802.11b/g/n	802.11a/n/ac
Current Channel	1	136
Config Channel	Auto	Auto
Channelization	20	80
WLAN Service	Enabled	Enabled
Background Scanning	Enabled	Enabled
TX Power	Full	Full

Design note

- System should be designed for 5GHz overlap coverage
- 2.4GHz coverage can be adjusted later if needed

Chapter 3 - Verify RF Coverage/Interference



Understanding the WIPS (Wireless Intrusion Prevention System)

The Wireless Intrusion Prevention System is an integrated software application that monitors a project's wireless LAN by scanning the network's radio spectrum to locate rogue access points as well as other wireless threats.

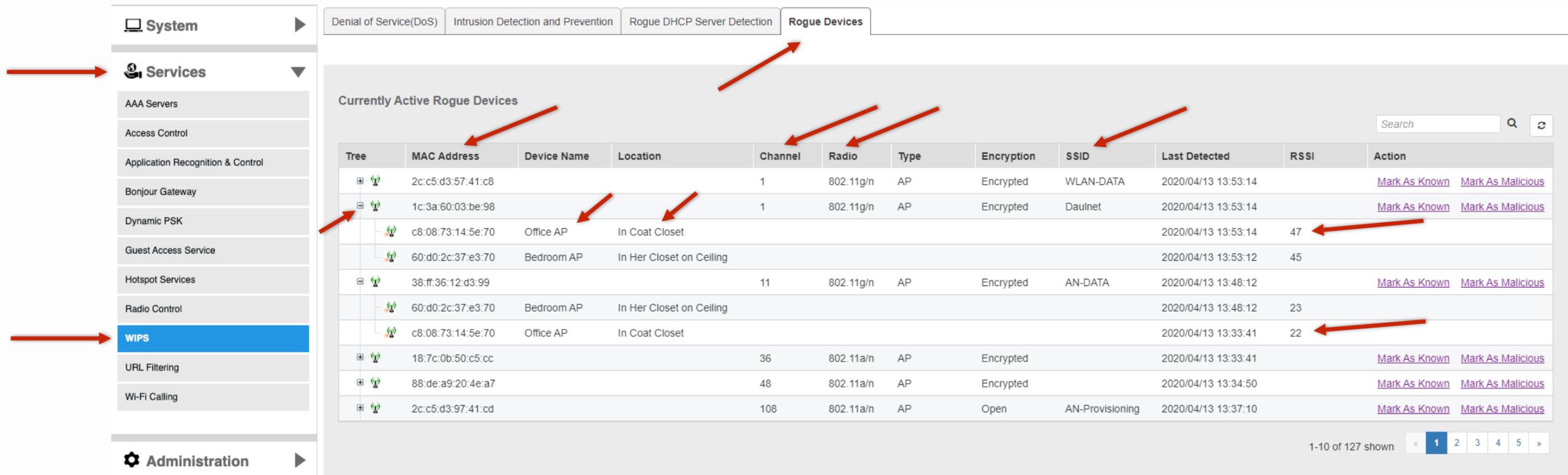
Expand out the "Tree" for each visible "MAC Address" to review which access points that can see the SSID. One of the first things to review is the RSSI (Received Signal Strength Indicator).

If the RSSI for a particular SSID is greater than 20db, it can cause significant RF interference to the network.

Chapter 3 - Verify RF Coverage/Interference

Understanding the WIPS (Wireless Intrusion Prevention System)

1. Check for rogue devices that may be causing Wi-Fi interference
2. Admin & Services -> Services -> WIPS -> Rogue Devices -> Currently Active Rogue Devices



The screenshot displays the network management interface. The left sidebar shows the navigation menu with 'Services' and 'WIPS' highlighted. The main content area shows the 'Rogue Devices' section under 'WIPS'. The 'Currently Active Rogue Devices' table lists detected devices with columns for Tree, MAC Address, Device Name, Location, Channel, Radio, Type, Encryption, SSID, Last Detected, RSSI, and Action. Red arrows point to the 'Services' and 'WIPS' menu items, the 'Rogue Devices' tab, the 'Currently Active Rogue Devices' title, and specific rows in the table.

Tree	MAC Address	Device Name	Location	Channel	Radio	Type	Encryption	SSID	Last Detected	RSSI	Action
+	2c:c5:d3:57:41:c8			1	802.11g/n	AP	Encrypted	WLAN-DATA	2020/04/13 13:53:14		Mark As Known Mark As Malicious
+	1c:3a:60:03:be:98			1	802.11g/n	AP	Encrypted	Daulnet	2020/04/13 13:53:14		Mark As Known Mark As Malicious
-	c8:08:73:14:5e:70	Office AP	In Coat Closet						2020/04/13 13:53:14	47	
-	60:d0:2c:37:e3:70	Bedroom AP	In Her Closet on Ceiling						2020/04/13 13:53:12	45	
+	38:ff:36:12:d3:99			11	802.11g/n	AP	Encrypted	AN-DATA	2020/04/13 13:48:12		Mark As Known Mark As Malicious
-	60:d0:2c:37:e3:70	Bedroom AP	In Her Closet on Ceiling						2020/04/13 13:48:12	23	
-	c8:08:73:14:5e:70	Office AP	In Coat Closet						2020/04/13 13:33:41	22	
+	18:7c:0b:50:c5:cc			36	802.11a/n	AP	Encrypted		2020/04/13 13:33:41		Mark As Known Mark As Malicious
+	88:de:a9:20:4e:a7			48	802.11a/n	AP	Encrypted		2020/04/13 13:34:50		Mark As Known Mark As Malicious
+	2c:c5:d3:97:41:cd			108	802.11a/n	AP	Open	AN-Provisioning	2020/04/13 13:37:10		Mark As Known Mark As Malicious

Detected Rogue Wi-Fi networks that are showing less than 20db RSSI should not adversely affect your installation

Chapter 4 - Verify Client Device Performance

- Review All Connected Wireless Clients
- Show Details of Client Device Performance
- Review Client Device Performance

Chapter 4 - Verify Client Device Performance



Review All Connected Wireless Clients

1. Check the performance characteristics of any devices that attached to the WLAN that appear to displaying lower/higher performance than expected
2. Clients -> Wireless Clients

A screenshot of a network management interface. At the top, there's a 'Clients' section with a mobile phone icon and a blue bar. To the right, it shows 'Total 3', 'Connected 3', and 'Disconnected 0'. Below this, it says '3 clients connected, 0 clients disconnected.' There are two expandable sections: 'Wired Clients' (0 wired clients connected) and 'Wireless Clients' (3 wireless clients connected). The 'Wireless Clients' section is expanded, showing a table of client details. The table has columns for Mac Address, IP Address, Status, OS, Name, User, AP Name, WLAN, Radio, Signal, Auth Method, and Encryption. Three clients are listed: 'My-MacBook' (Apple OS), '55" TCL Roku TV' (N/A OS), and 'Shelly-MacBook' (Windows OS). All are 'Authorized' and connected to 'RuckusAP' on the 'Smith Wi-Fi' network. Signal strength is 'Excellent' for all. The interface also includes buttons for 'Show Details', 'Rename', 'Mark Favorite', 'Unmark Favorite', 'Troubleshooting', and 'More'. A search bar and pagination controls are also visible.

★	Mac Address	IP Address	Status	OS	Name	User	AP Name	WLAN	Radio	Signal	Auth Method	Encryption
	38:f9:d3:28:71:97	192.168.1.127	Authorized	Apple	My-MacBook		RuckusAP	Smith Wi-Fi	802.11n	Excellent	Open	WPA2
	c0:d2:f3:49:8b:b1	192.168.1.92	Authorized	N/A	55" TCL Roku TV		RuckusAP	Smith Wi-Fi	802.11ac	Excellent	Open	WPA2
	38:00:25:df:c4:8d	192.168.1.105	Authorized	Windows	Shelly-MacBook		RuckusAP	Smith Wi-Fi	802.11n	Excellent	Open	WPA2

Chapter 4 - Verify Client Device Performance



Show Details of Client Device Performance

1. Check the performance characteristics of any devices that attached to the WLAN that appear to displaying lower/higher performance than expected
2. Clients -> Wireless Clients -> (Choose a client device) -> Show Details

The screenshot displays a network management interface with the following elements:

- Clients** header with a mobile phone icon and a blue bar labeled "Clients".
- Summary: Total 3, Connected 3, Disconnected 0.
- 3 clients connected, 0 clients disconnected.
- Wired Clients**: 0 wired clients connected.
- Wireless Clients**: 3 wireless clients connected.
- Buttons: Show Details, Rename, Mark Favorite, Unmark Favorite, Troubleshooting, More.
- Search bar and refresh icon.
- Table of client devices:

★	Mac Address	IP Address	Status	OS	Name	User	AP Name	WLAN	Radio	Signal	Auth Method	Encryption
	38:f9:d3:28:71:97	192.168.1.127	Authorized	Apple	My-MacBook		RuckusAP	Smith Wi-Fi	802.11n	Excellent	Open	WPA2
	c0:d2:f3:49:8b:b1	192.168.1.92	Authorized	N/A	55" TCL Roku TV		RuckusAP	Smith Wi-Fi	802.11ac	Excellent	Open	WPA2
	38:00:25:df:c4:8d	192.168.1.105	Authorized	Windows	Shelly-MacBook		RuckusAP	Smith Wi-Fi	802.11n	Excellent	Open	WPA2

1-3 of 3 shown

Chapter 4 - Verify Client Device Performance



Review Client Device Performance

c0:d2:f3:49:8b:b1	192.168.1.92	Authorized	N/A	55" TCL Roku TV	RuckusAP	Smith Wi-Fi	802.11ac	Excellent	Open	WPA2
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Client Details

Name	Value
MAC	c0:d2:f3:49:8b:b1
AP MAC	60:d0:2c:38:22:90
Received from client	1.8K pkts / 349K bytes
Transmitted to client	30K pkts / 2.4M bytes
Radio	802.11ac
Auth Method	Open
Encryption	WPA2
Channel	157
Channelization	20
TX drops due to retry failure	0
Connected Since	2020/04/13 12:58:44
Duration	0 day(s) 1 hour(s) 11 minute(s)

- IP Address
- WLAN
- AP Connected to
- Radio types
- Current Wi-Fi Channel
- Current Channelization

Troubleshooting Tips and Tricks Firmware Version 200.12

- Access Networks Technical Services engineers are available to assist you in the troubleshooting process.
- If you have questions about the steps to isolate or remediate a Wi-Fi performance issue or need information on a topic not detailed in the Unleashed Configuration Guides, please contact the Access Networks Technical Services department for assistance.
- For telephone, visit snp1.com/techsupport
- Email: support-case@accessnetworks.com
- Existing Access Networks partner can visit <https://my.accessnetworks.com/partners/> and either open a case or start a chat session by selecting the “Support” tab.

THANK YOU

CONTACT INFO

PHONE

661.383.9100

ADMINISTRATION

24842 Constellation Rd.
Valencia, CA 91355
accessnetworks.com

EMAIL

clientservices@accessnetworks.com