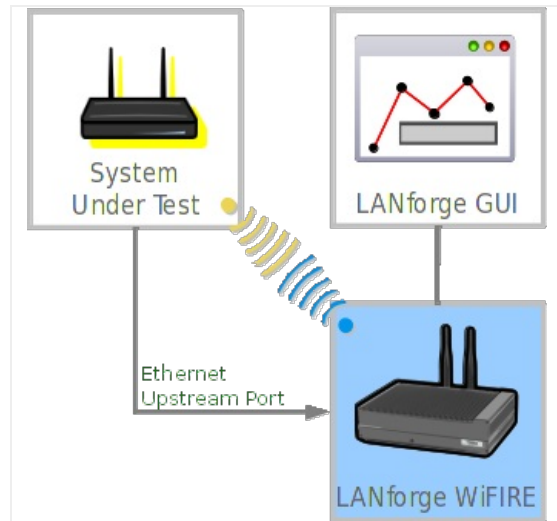


Testing Station Associate and Disassociate for a WiFi Device

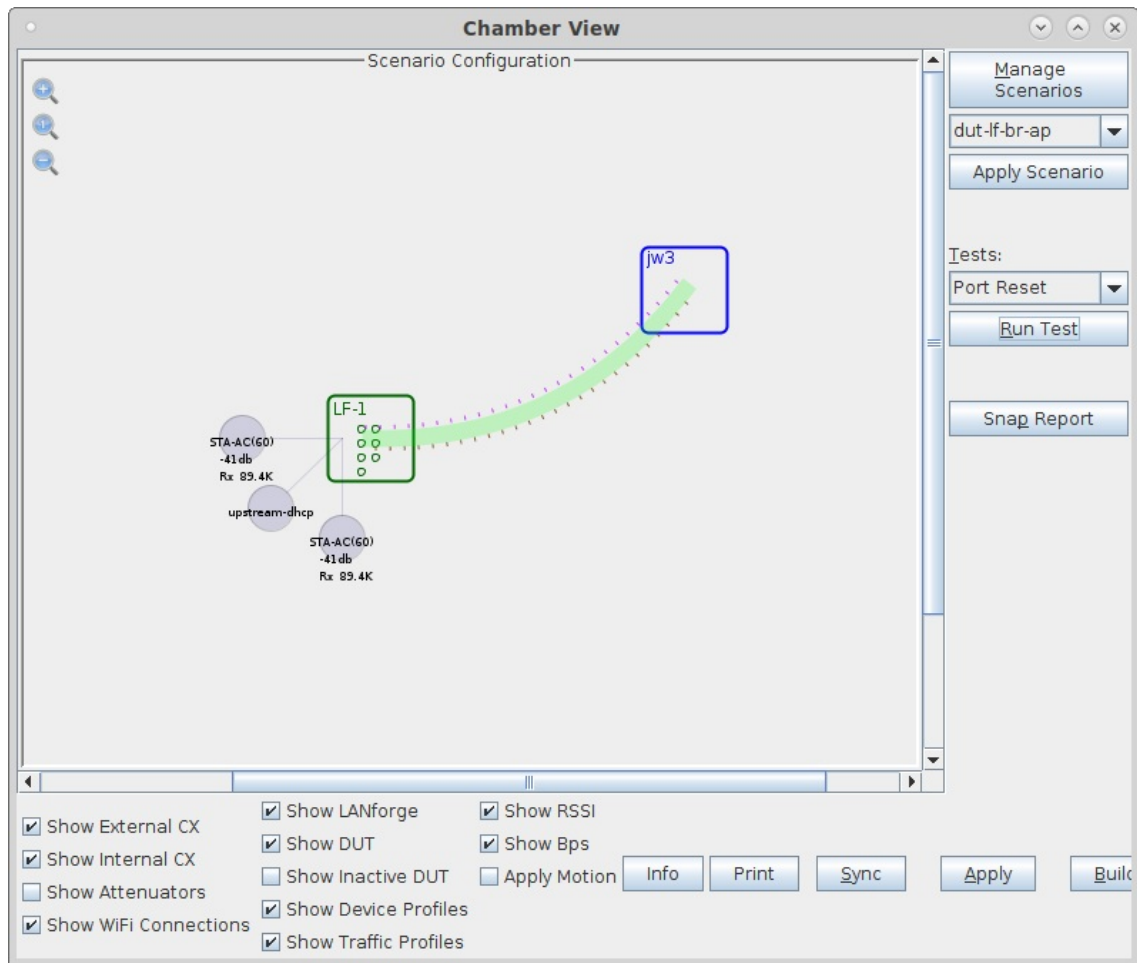
Goal: Setup and run a Port Reset test for an AP using the LANforge CT523c or similar system in order to test how well the AP can handle stations connecting and disconnecting many times. This is a good test of the AP's management plane stability.

In this test scenario, the LANforge CT522 is used to create 120 stations and then have them connect and disconnect to the AP. The test will count the number of connections and related events. This example assumes you have some experience with Chamber View, and that you have a LANforge system. A programmable attenuator and two isolation chambers would add the ability to test station reconnects at different RF signal levels, but this test normally runs fine without chambers or attenuators. This feature is in LANforge version 5.3.9 and higher.



1. Configure Chamber View for Port Reset and Similar Tests.

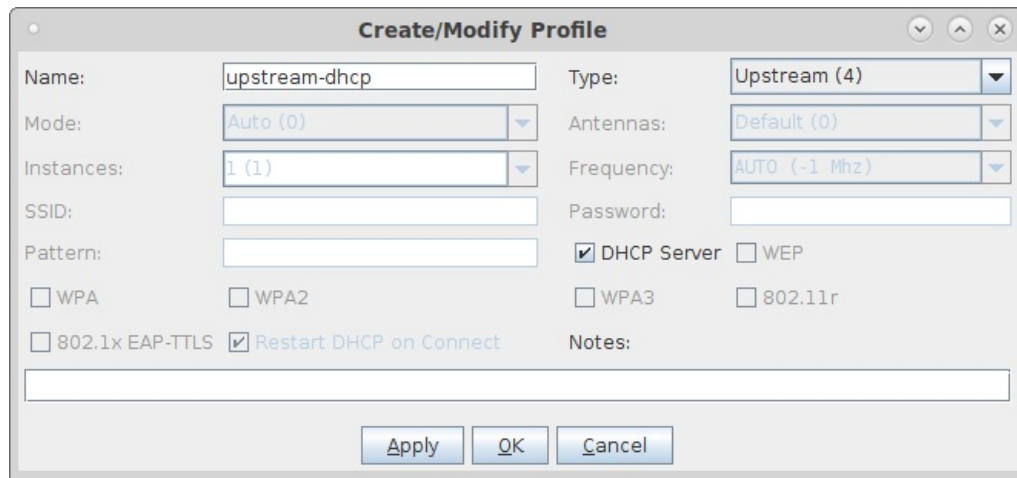
- A. Open Chamber View by clicking on the 'Chamber View' button in the LANforge-GUI. If you have an appropriate scenario already created, then skip to the next section, otherwise you will need to build a scenario that matches your system. You can right-click in Chamber View to create various objects. If you do not have chambers or attenuators, just create the DUT object and skip the chamber setup.



- B. Create a Device Under Test (DUT) Profile that matches your AP. The BSSID is important to be configured so that LANforge knows when it is connected to the correct AP.

The screenshot shows the 'Create/Modify DUT' window in LANforge. The window has a title bar with 'Create/Modify DUT' and standard window controls. The main area contains various configuration fields and checkboxes. The 'Name' field is set to 'jw3'. The 'Image file' field is set to 'NONE', with a 'Choose Image' button to its right. The 'SW Info' and 'HW Info' sections are visible. The 'SSID-1' field is set to 'jw3-0', 'SSID-2' is set to 'jw3-1', and 'SSID-3' is empty. The 'Mgt IP' field is set to '0.0.0.0'. The 'Ant-2' field is set to '0'. The 'BSSID-1' field is set to '04:f0:21:7b:37:2a', 'BSSID-2' is set to '04:f0:21:f2:ea:bd', and 'BSSID-3' is set to '00:00:00:00:00:00'. The 'Active' checkbox is checked. The 'AP DUT' checkbox is checked. The 'WPA' checkbox is checked. The 'WPA2' checkbox is checked. The 'Provides DHCP on LAN' checkbox is checked. The 'Provides DHCP on WAN' checkbox is checked. The 'Notes' field is empty. At the bottom of the window are buttons for 'Apply', 'OK', and 'Cancel'.

- C. Configure an Upstream profile using eth1 on the LANforge system.

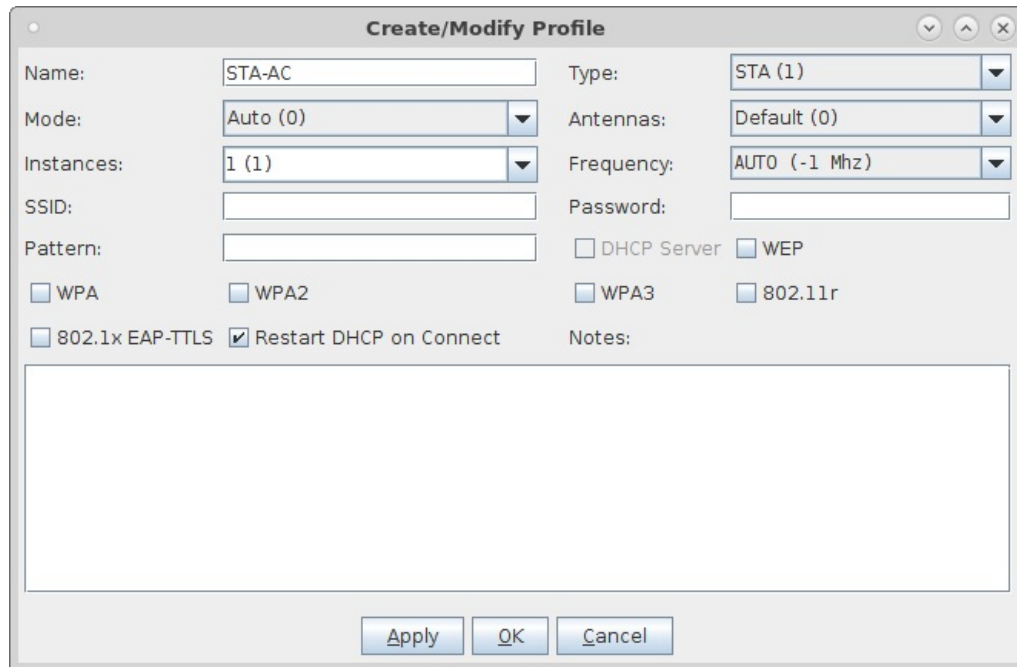


The 'Create/Modify Profile' dialog for an Upstream profile is shown. The Name is 'upstream-dhcp' and the Type is 'Upstream (4)'. The Mode is 'Auto (0)', Instances is '1 (1)', Antennas is 'Default (0)', and Frequency is 'AUTO (-1 Mhz)'. The SSID and Password fields are empty. The Pattern field is empty. The checkboxes for WPA, WPA2, WPA3, 802.11r, 802.1x EAP-TTLS, and Restart DHCP on Connect are all unchecked. The DHCP Server checkbox is checked. The Notes field is empty. The Apply, OK, and Cancel buttons are at the bottom.

Name:	upstream-dhcp	Type:	Upstream (4)
Mode:	Auto (0)	Antennas:	Default (0)
Instances:	1 (1)	Frequency:	AUTO (-1 Mhz)
SSID:		Password:	
Pattern:		☒ DHCP Server	☐ WEP
☐ WPA	☐ WPA2	☐ WPA3	☐ 802.11r
☐ 802.1x EAP-TTLS	☒ Restart DHCP on Connect	Notes:	

Apply OK Cancel

- D. Configure an STA profile on the LANforge system.

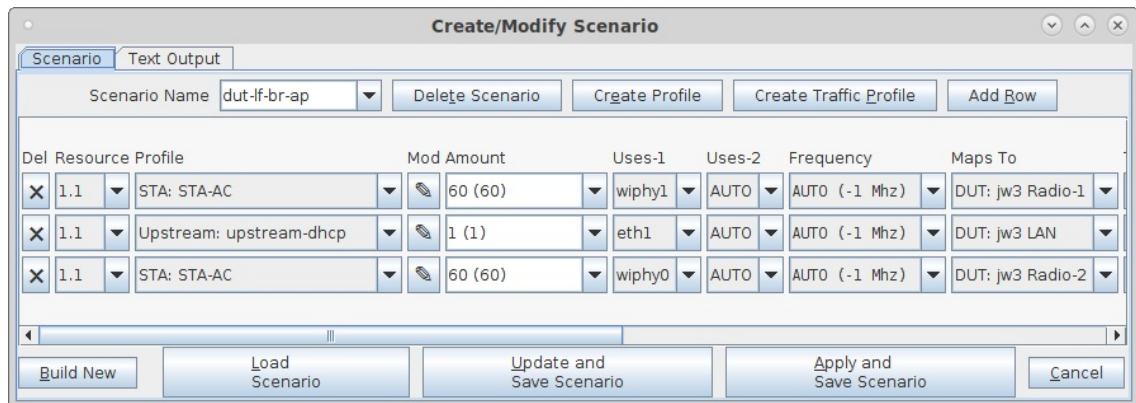


The 'Create/Modify Profile' dialog for an STA profile is shown. The Name is 'STA-AC' and the Type is 'STA (1)'. The Mode is 'Auto (0)', Instances is '1 (1)', Antennas is 'Default (0)', and Frequency is 'AUTO (-1 Mhz)'. The SSID and Password fields are empty. The Pattern field is empty. The checkboxes for WPA, WPA2, WPA3, 802.11r, 802.1x EAP-TTLS, and Restart DHCP on Connect are all unchecked. The DHCP Server checkbox is checked. The Notes field is empty. The Apply, OK, and Cancel buttons are at the bottom.

Name:	STA-AC	Type:	STA (1)
Mode:	Auto (0)	Antennas:	Default (0)
Instances:	1 (1)	Frequency:	AUTO (-1 Mhz)
SSID:		Password:	
Pattern:		☐ DHCP Server	☐ WEP
☐ WPA	☐ WPA2	☐ WPA3	☐ 802.11r
☐ 802.1x EAP-TTLS	☒ Restart DHCP on Connect	Notes:	

Apply OK Cancel

- E. Configure a Chamber View Scenario and add the STA profile (mapped to desired wiphyX radio and DUT). Add an upstream profile mapped to DUT LAN side (or possibly WAN side if that is more appropriate for your DUT).



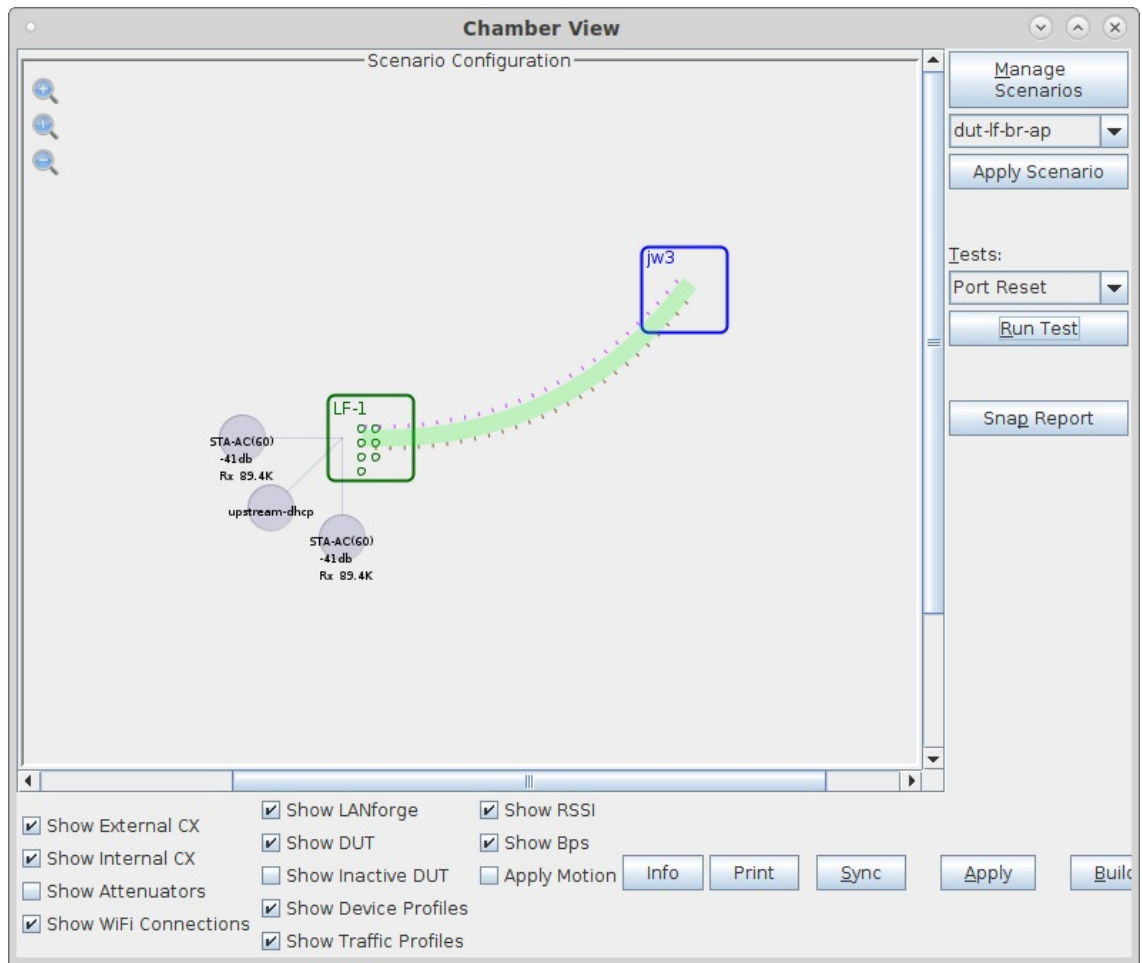
The 'Create/Modify Scenario' dialog is shown. The Scenario Name is 'dut-lf-br-ap'. The dialog contains a table with columns: Del, Resource Profile, Mod Amount, Uses-1, Uses-2, Frequency, and Maps To. The table has three rows. The first row maps STA: STA-AC to wiphy1, AUTO, AUTO (-1 Mhz), and DUT: jw3 Radio-1. The second row maps Upstream: upstream-dhcp to eth1, AUTO, AUTO (-1 Mhz), and DUT: jw3 LAN. The third row maps STA: STA-AC to wiphy0, AUTO, AUTO (-1 Mhz), and DUT: jw3 Radio-2. The dialog also has buttons for Build New, Load Scenario, Update and Save Scenario, Apply and Save Scenario, and Cancel.

Del	Resource Profile	Mod Amount	Uses-1	Uses-2	Frequency	Maps To
X	1.1 STA: STA-AC	60 (60)	wiphy1	AUTO	AUTO (-1 Mhz)	DUT: jw3 Radio-1
X	1.1 Upstream: upstream-dhcp	1 (1)	eth1	AUTO	AUTO (-1 Mhz)	DUT: jw3 LAN
X	1.1 STA: STA-AC	60 (60)	wiphy0	AUTO	AUTO (-1 Mhz)	DUT: jw3 Radio-2

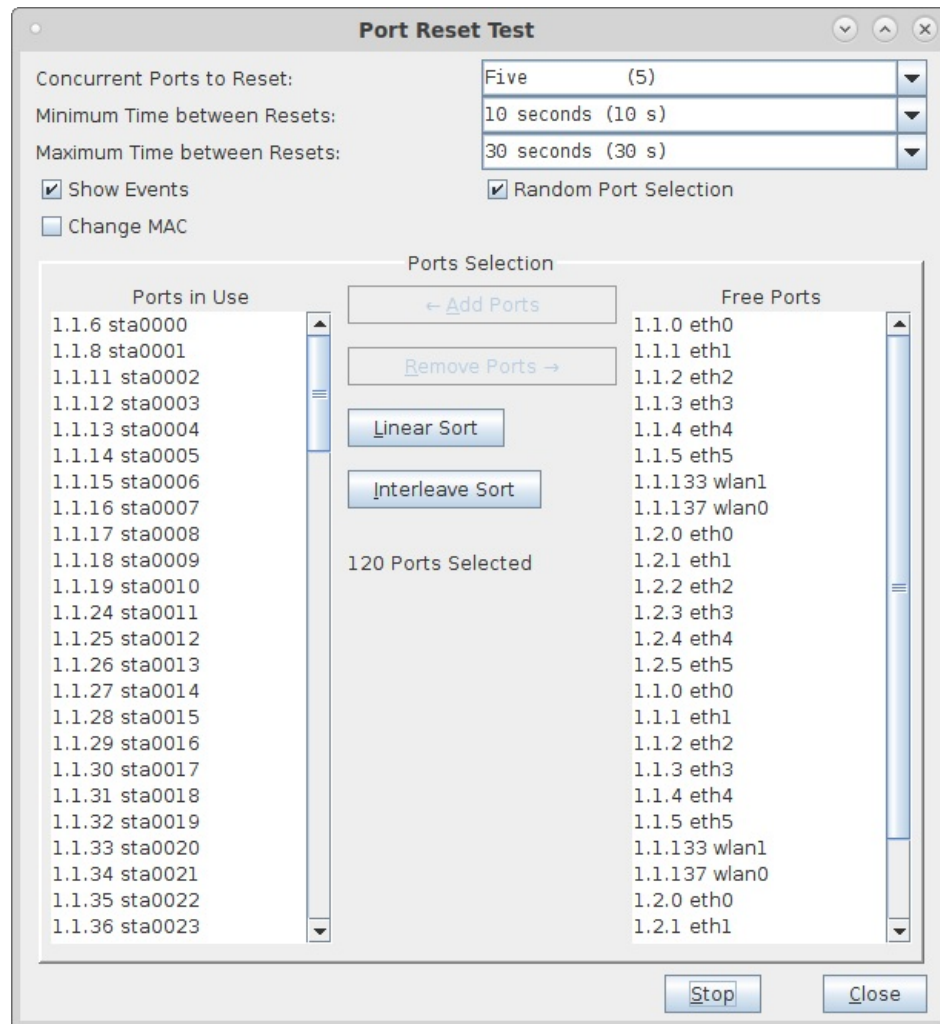
Build New Load Scenario Update and Save Scenario Apply and Save Scenario Cancel

2. Use Chamber View to run a Port Reset test.

- A. Open Chamber View by clicking on the 'Chamber View' button in the LANforge-GUI. Load appropriate scenario or create a new scenario as needed. Apply the Scenario, then Build the scenario.



- B. Select the **Port Reset** test and click **Run Test**. You should see the Port Reset Test configuration window pop up. By default, all of the stations will be selected to use in the reset test. You may adjust the selection at this time. If you want each station to act like a new device when it resets, select the 'Change MAC' checkbox. Make any other configuration changes:



The 'Port Reset Test' configuration window includes the following settings:

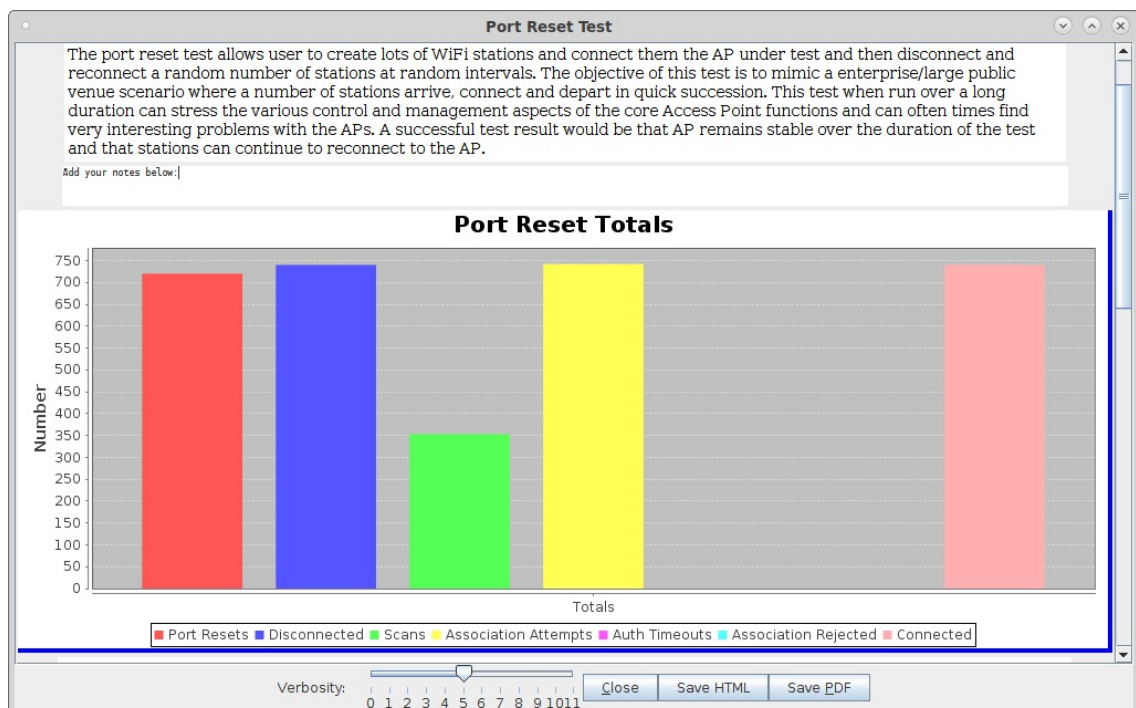
- Concurrent Ports to Reset:** Five (5)
- Minimum Time between Resets:** 10 seconds (10 s)
- Maximum Time between Resets:** 30 seconds (30 s)
- ☒ Show Events
- ☒ Random Port Selection
- ☐ Change MAC

Ports Selection

Ports in Use	Free Ports
1.1.6 sta0000	1.1.0 eth0
1.1.8 sta0001	1.1.1 eth1
1.1.11 sta0002	1.1.2 eth2
1.1.12 sta0003	1.1.3 eth3
1.1.13 sta0004	1.1.4 eth4
1.1.14 sta0005	1.1.5 eth5
1.1.15 sta0006	1.1.133 wlan1
1.1.16 sta0007	1.1.137 wlan0
1.1.17 sta0008	1.2.0 eth0
1.1.18 sta0009	1.2.1 eth1
1.1.19 sta0010	1.2.2 eth2
1.1.24 sta0011	1.2.3 eth3
1.1.25 sta0012	1.2.4 eth4
1.1.26 sta0013	1.2.5 eth5
1.1.27 sta0014	1.1.0 eth0
1.1.28 sta0015	1.1.1 eth1
1.1.29 sta0016	1.1.2 eth2
1.1.30 sta0017	1.1.3 eth3
1.1.31 sta0018	1.1.4 eth4
1.1.32 sta0019	1.1.5 eth5
1.1.33 sta0020	1.1.133 wlan1
1.1.34 sta0021	1.1.137 wlan0
1.1.35 sta0022	1.2.0 eth0
1.1.36 sta0023	1.2.1 eth1

Buttons: Add Ports, Remove Ports, Linear Sort, Interleave Sort, 120 Ports Selected, Stop, Close

- C. When the configuration is complete, click the **Start** button (which will change to 'Stop' once start is clicked) to start the test. An interactive report window will be created and will be updated as the test runs.



- D. When the test is complete, click the **Save HTML** button to save an HTML report and generate the PDF. The PDF file will be linked from the HTML page. You can also click 'Save PDF' and the browser will be directed to open the pdf file directly. Please see this [example Rate vs Range Report](#)

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