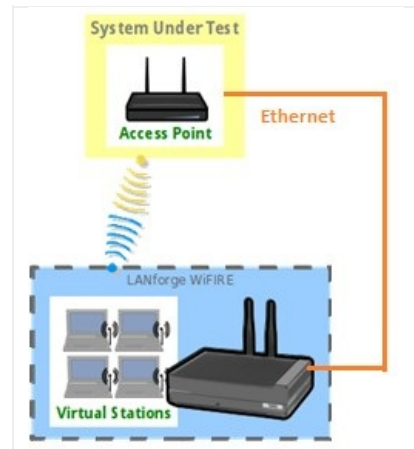


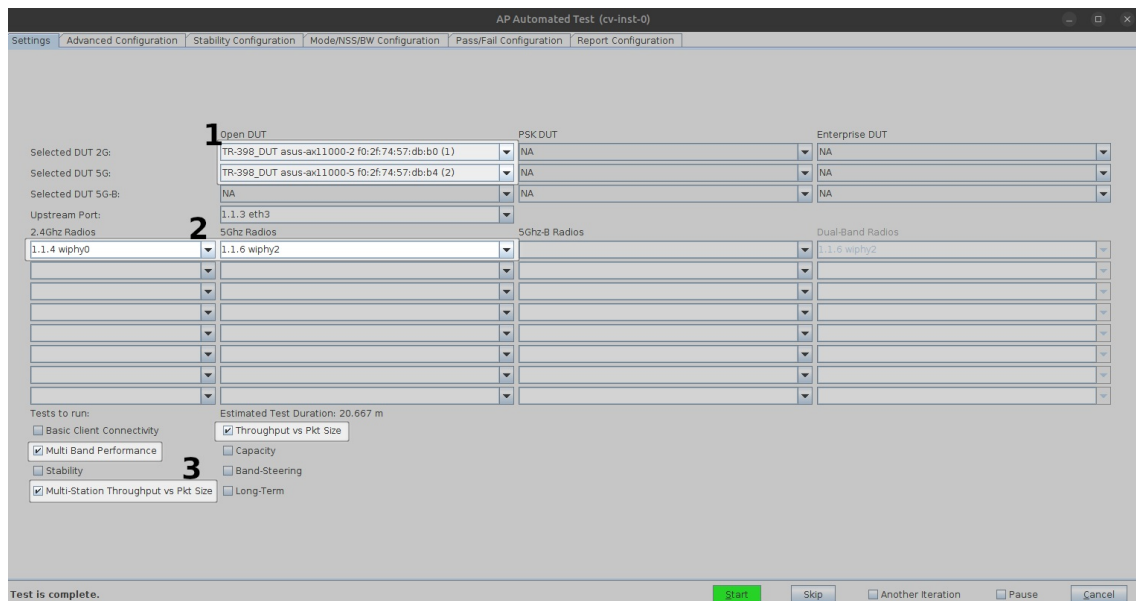
## Testing AP Throughput with the AP-Auto Automated Test Suite

**Goal:** Run an AP-Auto test for an AP using the LANforge CT523c or similar system in order to test how well the AP can provide throughput in various scenarios. The AP-Auto test is similar to the TR-398 test, but is designed to be functional with a minimum amount of test equipment. A 2-radio LANforge system and DUT is all that is required to run these tests.

In this test scenario, the LANforge CT523 is used to create stations and run a series of Throughput tests. This example assumes you have some experience with Chamber View, and that you have a LANforge system and a DUT AP. The AP and LANforge may be in chambers, but that is not required. This feature requires LANforge version 5.4.2 or higher.



1. If you haven't setup or performed AP-Auto tests on your LANforge system, please refer to the [AP-Auto Test Suite Setup](#) guide for quick setup.
2. Running the AP-Auto Throughput Tests:
  - A. Open the AP-Auto Test window.



B. In the AP-Auto Settings Tab:

- A. Select the **DUT 2G** and **DUT 5G** SSIDs. This test requires that Open or PSK SSIDs are filled out.
- B. Select the LANforge radios to be used in this test. You need at least one 2.4Ghz radio and one 5Ghz radio for full functionality.
- C. At the bottom, select the **Multi Band Performance**, **Multi-Station Throughput vs Pkt Size**, and **Throughput vs Pkt Size** test checkboxes.

C. Your Advanced Configuration tab should look similar to the following:

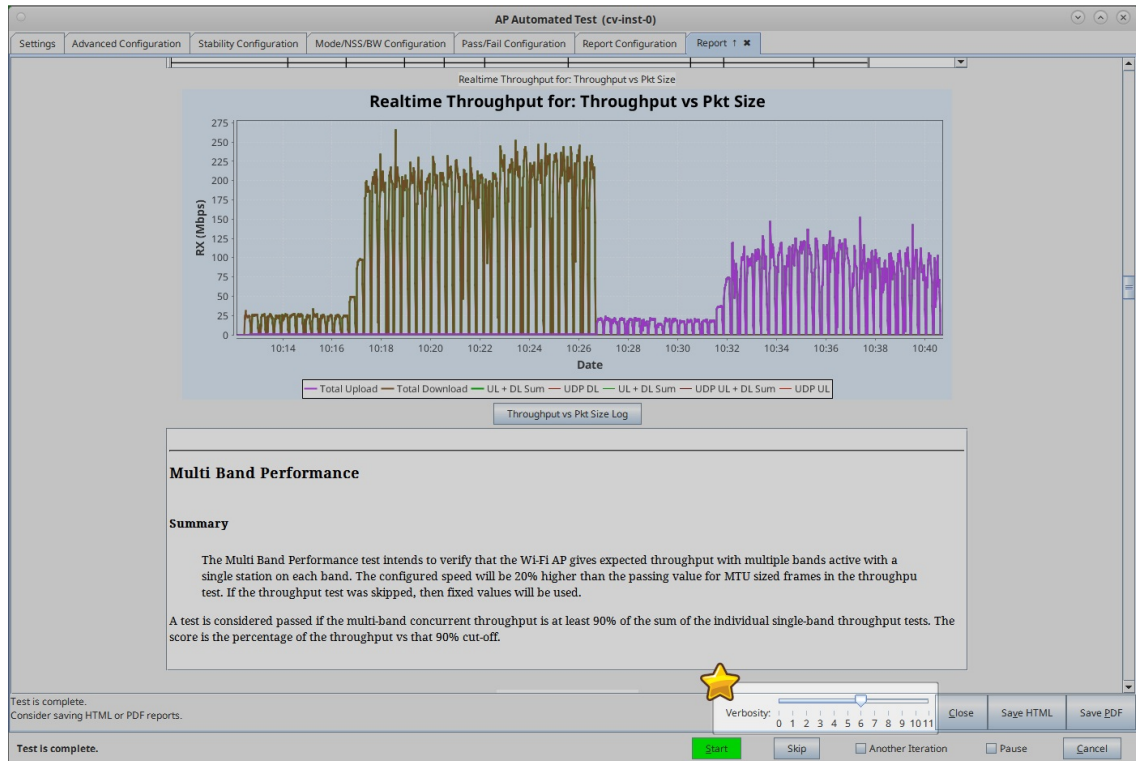
The screenshot shows the 'AP Automated Test (cv-inst-0)' window with the 'Advanced Configuration' tab selected. The interface includes several configuration sections:

- Buttons:** Show Config, Import Config, Save, Load, Delete.
- IP ToS:** Best Effort (0)
- Multi-Conn:** One (1)
- Checkboxes:** Auto-Helper (checked), Skip 2.4Ghz Tests, Skip 5Ghz Tests, Skip Dual-Band Tests (checked), Skip 5Ghz-B Tests, Skip Tri-Band Tests, Use BSSID (checked), Set Radio TxPower to Default (checked).
- Loop Iterations:** Single (1)
- Station Counts:** 2.4Ghz Station Count: Small (32), 5Ghz Station Count: Small (32), Dual-Band Station Count: 10 (10), 5Ghz-B Station Count: Default (64), Tri-Band Station Count: Default (64).
- Duration:** Default (20 sec)
- Long-Term Settings:** Long-Term Download Rate: 85%, Long-Term Upload Rate: 85%, Long-Term Duration: 3600 (1 hr), Long-Term Graph Interval: 30 (30 sec), Long-Term Station Count: Two (Default) (2).
- Hunt Retries:** Default (1), Maximum Hunt Iterations: 100.
- Packet Loss Threshold:** 1% (1%)
- Frame Sizes:** 64, 128, 256, 512, 1024, MTU
- Capacity Amounts (stations):** 1, 5, 10, 20, 32
- Multi-Station Throughput Options:** UDP, TCP (checked), Download (checked), Upload.

A 'D E' box highlights the 'Frame Sizes' and 'Capacity Amounts (stations)' fields. At the bottom, there is a 'Test is complete.' status and buttons for Start, Skip, Another Iteration, Pause, and Cancel.

- D. You can specify the frame sizes to be evaluated in the throughput hunt tests by changing the **Frame Sizes** field.
- E. You can also change the number of stations that are brought up in the Multi-Station Throughput vs Pkt Size test by changing **Capacity Amounts (stations)**. Note that no station amount value may exceed the station count of any enabled test band.

- F. 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 tab will be created and will be updated as the test runs.



- G. You can change the test result verbosity level by adjusting the **Verbosity** slider. Maximizing it will show all generated figures and data. The verbosity also affects the length of the saved report.
- H. At the end of the test, 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 AP-Auto Throughput Report](#).