

Testing AP Stability with the AP-Auto Automated Test Suite

Goal: Run an AP-Auto test for an AP using theLANforge CT523c or similar system in order to test how well the AP can handle station stability. 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 the Stability test. 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 Stability Test:
 - A. Open the *AP-Auto Test* window.

					AP A	utomated 1	ēst (cv-inst-0)				(
Settings	Advanced Configuration	Stability Cor	nfiguration	Mode/NSS/BW Configuration	n 🛛 Pass/Fail Co	onfiguration	Report Configuration						
		Open D	UT			PSK DUT				Enterprise DUT			
Selecte	d DUT 2G:	AP-Test	t-Demo asus	-ax11000-2 f0:2f:74:57:db:b0)(1) 🔻	NA			-	NA			-
Selecte	d DUT 5G:	AP-Test	t-Demo asus	-ax11000-5 f0:2f:74:57:db:b4	1 (2) 👻	NA			-	NA			-
Selecte	d DUT 5G-B:	NA			-	NA			-	NA			-
Upstrea	m Port:	1.1.3 et	th3		-								
2.4Ghz f	Radios	5Ghz Ra	adios			Shz-B Radio)S			Dual-Band Radios			
1.1.4 wi	phy0	▼ 1.1.6 w	/iphy2		-				-	1.1.6 wiphy2			-
		-			-				-				-
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		-			-				-				-
Tests to	run:	Estimat	ted Test Dura	ation: 2.083 h									
🔲 Basi	c Client Connectivity	🔲 Thro	oughput vs Pl	kt Size									
3 Multi	Band Performance	🗌 Capa	acity										
Stab	ility	🔲 Banı	d-Steering										
Multi	-Station Throughput vs Pkt	Size 🔲 Long	g-Term										
								Start	Skip	Another Iteration	Pause	<u>C</u> a	ancel

- 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 **Stability** test checkbox.
- C. Your Advanced Configuration tab should look similar to the following:

Setting	s Advanced Configuration	Stability Configuration	Mode/	NSS/BW Configuration	Pass/Fail Configuration	Report Configurat	ion	
	Show Config	Import Conf	ig					
Ĩ	Save	DEFAULT						
[Load	DEFAULT	•					
	Delete	DEFAULT	-		🖌 Auto-Helper			
I	P ToS:	Best Effort (0)	-	Multi-Conn:	One (1)	-		
	Skip 2.4Ghz Tests	Skip 5Ghz Tests		Skip Dual-Band Tests	Skip 5Gzh-B Tests	🗹 Skip Tri-	3and Tests	
	✔ Use BSSID	🖌 Set Radio TxPow	er to Def	ault				
L	.oop Iterations:	Single (1)	-]				
2	2.4Ghz Station Count:	5 (5)	•	5Ghz Station Count:	10 (10)	•		
[Dual-Band Station Count:	10 (10)	-	5Ghz-B Station Count:	Default (64)	-		
٦	ri-Band Station Count:	Default (64)	-]				
[Ouration:	Default (20 sec)	•					
L	ong-Term Download Rate:	85%	-	Long-Term Upload Rate:	85%	-		
L	.ong-Term Duration:	3600 (1 hr)	-	Long-Term Graph Interva	al: 30 (30 sec)	-		
L	ong-Term Station Count:	Two (Default) (2)	-]				
ŀ	lunt Retries:	Default (1)	-	Maximum Hunt Iteration:	s: 100	-		
F	acket Loss Threshold:	1% (1%)	-]				
F	rame Sizes:							
(Capacity Amounts (stations):							
١	Aulti-Station Throughput Option	ns: UDP 🗹 TCP 🗹 I	Download	I 🗌 Upload				
								_
				<u>S</u> tart Skip	Another Iteratio	on 📃 Pause	<u>C</u> ance	I

D. Most of the settings for the Stability test are located in the *Stability Configuration* tab. Below is an example configuration for running a UDP Download Stability test for 60 seconds.

	AP Automated Test (cv-inst-0)							
Settings 👔	Advanced Configuration Stability Cor	figuration Mode/NSS/	3W Configuration	n 🏼 Pass/Fail Configuration	n Report Configuratio	n		
	Stability Duration:	60 (1 min)	💌 🗌 Reset Ra	dios				
	Concurrent Ports to Reset:	No Resets (0)	•					
	Minimum Time between Resets:	10 seconds (10 s)	 Maximum Tin 	ne between Resets:	l minute (l m)	-		
	Stability Helper Script:							
	Select station mode percentages:							
	2.4Ghz Legacy%	None (0)	 5Ghz Legacy 	%	None (0)	-		
	2.4Ghz N%	None (0)	 5Ghz N% 		None (0)	-		
	2.4Ghz AC%	None (0)	▼ 5Ghz AC%		None (0)	-		
	2.4Ghz AX/AUT0%	100% (100)	 5Ghz AX/AUT 	0%	100% (100)	-		
	VOIP Call Count:	Five (5)	-					
	Video Emulation Rate:	4K (20 Mbps)	▼ Video Buffer	Size:	500k (488.28125 KB)	-		
	Stability Multicast Min Download Rate:	Zero (0 bps)	 Stability Mult 	icast Max Download Rate:	Same	-		
	Stability UDP Min Download Rate:	lG (l Gbps)	 Stability UDF 	Max Download Rate:	Same	-		
	Stability UDP Min Upload Rate:	Zero (0 bps)	 Stability UDF 	Max Upload Rate:	Same	-		
	Stability TCP Min Download Rate:	Zero (0 bps)	 Stability TCP 	Max Download Rate:	Same	-		
	Stability TCP Min Upload Rate:	Zero (0 bps)	Stability TCP	Max Upload Rate:	Same	-		
	Stability stall threshold UDP Upload:	Zero (0 bps)	 Stability stal 	l threshold UDP Download:	100M (100 Mbps)	-		
	Stability stall threshold TCP Upload:	Zero (0 bps)	 Stability stal 	I threshold TCP Download:	Zero (0 bps)	-	E	
	Stability stall threshold Video:	Zero (0 bps)	 Stability stal 	l threshold VOIP:	Zero (0 bps)	-		
	🔲 Use Packet Sizes							
		<u>S</u> tar	Skip	Another Iterat	ion 🗌 Pause		<u>C</u> ancel	

- E. Note that the value chosen in the *Stability stall threshold UDP Download* field will directly impact the Pass/Fail outcome of the test. Decreasing this threshold will increase the likelihood of a PASS result, and increasing it will have the inverse effect.
- 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 level 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 Mix Stability Report.

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