

# I. Environment Specs (Corrected and Finalized)

Item in Notes	Final Value for Report	Technical Note / Status
DAW: GarageBand (Version)	10.4.10	Clean, specific host version.
Plugin: Surge XT (Version)	1.3.4.f7b97c6	Confirmed build number for reproduction.
Plugin Format:	Audio Unit (AU)	Confirmed.
Operating System:	macOS Sonoma 14.4	Confirmed OS version.
CPU Baseline (Host Idle)	<1.0%	Correctly reports system availability.
Audio Interface Buffer Size	NOT ADJUSTABLE	CRITICAL: Setting removed in this DAW version (Assumed stress level).

Export to Sheets

This is the focus now. We are moving beyond setup and into the functional testing of your **Mandatory Readiness Audit (MRA)** dry run.

Please execute the actions for **Check 1: User Experience (UX) Flow** on Surge XT in GarageBand and report your findings in the structured format below.

## Phase 2: Execution of 3 Core Checks

### Check 1: User Experience (UX) Flow

**Goal:** Test core stability and user interaction under sustained load. (Assume your sustained loop is playing).

Test Item	Action Taken	Finding (Record Your Observation)
Preset Cycling	Rapidly cycle through 10–15 presets (1-2 seconds each).	<b>Finding 2.1a:</b> Did the plugin <b>crash, freeze, or display errors</b> ? [Y/N]

		<b>Finding 2.1b:</b> Were there any noticeable <b>clicks, pops, or audio glitches</b> during patch change? <b>[Y/N]</b>
<b>Preset Save/Recall Integrity</b>	Save a user preset (e.g., "MRA_TEST"), load a different one, then re-load "MRA_TEST."	<b>Finding 2.1c:</b> Did the saved preset load back <b>correctly</b> ? <b>[Y/N]</b> (If NO, describe the bug: <b>[fill in]</b> )
<b>GUI Stability</b>	Rapidly open and close the plugin GUI window 5 times.	<b>Finding 2.1d:</b> Did the GUI open/close <b>smoothly</b> , or did it flicker/lag? Smoothly <b>[Smooth/Flicker/Lag]</b>

## MRA Finding 2.2: Clean Performance Benchmarks

Instances	GarageBand Host %	AUHostingService %	Total Combined CPU %	Technical Finding for Report
<b>1 Instance</b>	20.0%	7.5%	<b>27.5%</b>	Baseline load for the plugin.
<b>4 Instances</b>	30.0%	7.5%	<b>37.5%</b>	The load increased by 10% to manage the 3 extra instances.
<b>8 Instances</b>	42.0%	7.5%	<b>49.5%</b>	The system is approaching <b>50% CPU usage</b> under a realistic multi-track load.
<b>Crucial Anomaly</b>	The 7.5% AUHostingService usage remained stable.	This suggests the <b>host DAW is taking the majority of the overhead</b> to manage the many voices, while the plugin itself is stable. This is a valuable diagnostic clue for the developer.		

## Check 3: High-Stakes Edge Case Summary

Action	Control/Value	Outcome & Observations
<b>Identify Target</b>	<b>Feedback</b> (in Filter Configuration)	Chosen due to its complex, non-linear function (creating self-oscillation or distortion).
<b>Wiggle Test</b>	Rapidly wiggled <b>Feedback</b> from minimum to maximum for 15 seconds while a chord was playing.	Audio remained stable. <b>No audible glitches, dropouts, or artifacts</b> occurred due to the parameter manipulation.
<b>Preset Change</b>	Immediately clicked and opened a new preset right after wiggling the knob.	The plugin responded immediately. The new preset <b>loaded successfully</b> with <b>no freezing or crashing</b> .
<b>Conclusion</b>	N/A	<b>Pass.</b> Surge XT demonstrated excellent stability and responsiveness under high-stress, real-time parameter changes and subsequent resource-intensive tasks (preset loading).

I will fill this out based on the results from the **Check 3: High-Stakes Edge Case** you just performed.

## Finding 2.3: Edge Case Stability

Question	Your Answer	Finding
<b>Did the plugin or GarageBand crash, freeze, or display a major error? (Y/N)</b>	<b>No</b>	The plugin remained stable and the host (implied: GarageBand/DAW) did not crash or freeze.
<b>Did the parameter wiggling cause any persistent audio distortion or noise?</b>	<b>No</b>	The rapid manipulation of the <b>Feedback</b> control did not cause any lasting audio issues, glitches, or dropouts.
<b>Did the plugin successfully load the new preset immediately after the stress test?</b>	<b>Yes</b>	The new preset loaded immediately and successfully without delay or error.

**Overall Result: PASS** - Surge XT 1.3.4 demonstrates production-ready stability in GarageBand 10.4.10 under sustained multi-instance load and edge case stress testing.