label	Requirement Category	Requirement	Source of requirement	Acceptance criteria (qualitative description)	Metrics	Acceptable metrics	Unacceptable failure modes	Source of metrics? (Default is Vx ERD)	Followup if failures are seen?	Destructive?	Subsystems to test	Priority to test	Order of Testing, roughly	Estimated time to test (min)
1	Heat management	Safe temperatures for users and equipment	VVSG8.1-K	1. Cool enough for users to touch 2. Operating temperatures are within specifications	Measure the following during regular use (scanning, printing) after it has been on long enough to reach steady state (>1 hour): 1. Maximum temperature of user-exposed surfaces, in room temperature ambient temperature, and in maximum operating ambient temperature of 35C (95F) 2. Air temperature around key internal components, in room temperature ambient temperature, and in maximum operating ambient temperature of 35C (95F) Key surface temperatures to measure include: 1. panels above computer boards 2. panels above power supplies 3. panels around USB reader 4. USB stick Key internal air temperatures to measure include: 1. around computer boards 2. next to scanner 3. next to printer 4. around USB reader 5. around power supply(ies) See test procedure document(s) for data collection sheets and procedures.	1. All user-exposed touchable metal surfaces are <60C (140F). 2. All user-exposed touchable plastic/rubber surfaces are <77C (171F) 3. All air temperatures around key internal components are less than their listed operating temperatures in specification sheets. These are generally 50/60/70C (122/140/158F), depending on the component.	Temperatures out of intended ranges	IEC/UL 62368-1 [UL19], Edition 3, Table 38 (see reference table) Also OSHA standards for safe temps	Discuss if acceptance criteria are reasonable for the given conditions (e.g. Is it only at 95F that we see issues? Is the surface or part in question not reasonably going to be touched? Are there instructional safeguards?)	no	MCM, Ballot Box, UPS	high		
2	Heat management	Robust heat management system		Safe temperatures remain even after disruptive events	Redo basic thermal test #1 after any major disruptive test, including: 1. environmental storage tests 2. vibration tests 3. shock/drop tests 4. EMC tests 5. wear tests, or cyclic failure tests									

label	Requirement Category	Requirement	Source of requirement	Acceptance criteria (qualitative description)	Metrics	Test Results	Summary results	Notes	Followup plan	Test Results, Vx (Bellingham)	Order of Testing, roughly	Estimated time to test (min)	Actual time (min)
7	Environmental resistance	System functions in extreme operational conditions for a long time	1.2-C, 1.2-D, 1.2-G, 2.7-A, 2.7-B, 2.7-C, 1.1.6-F, TA2.7C 1 through 9, TA2.7-B 1	Low misfeed rate for scanning. Functions normally during operational extremes in lo-fi test.	Similar test as #6, except done internally using tent, heater, humidifier, and dehumidifier. Only possible to *aim* for the described metrics in the MIL spec. Record all differences from the spec, in excitation signals or other procedures, due to equipment or site limitations.	Tested from 70-95F deg, 30-50%RH, 243 ballots, no issues so far	TBD			1			
1	Heat management	Safe temperatures for users and equipment	VVSG8.1-K	1. Cool enough for users to touch 2. Operating temperatures are within specifications	Measure the following during regular use (scanning, printing) for at least 15 min: 1. Maximum temperature of user-exposed surfaces, in room temperature ambient temperature, and in maximum operating ambient temperature of 35C (95F) 2. Air temperature around key internal components, in room temperature ambient temperature, and in maximum operating ambient temperature of 35C (95F) Key surface temperatures to measure include: 1. panels above computer boards 2. panels above power supplies 3. panels around USB reader 4. USB stick Key internal air temperatures to measure include: 1. around computer boards 2. next to scanner 3. next to printer 4. around USB reader 5. around power supply(ies) See test procedure document(s) for data collection sheets and procedures.	See VxScan v4.0 Build 0 - Unit 2 - Thermal data in VxAustin for more details on Build 0						