



Latitude 3340 Laptop, 3340 2in1, 3440 and 3540.



Summary of Independent Environmental Testing.

Test name	Test procedure
Tests performed	MIL-STD-810H testing
Equipment tested	Latitude 3340 clamshell, 3340 2in1, 3440 and 3540
Independent testing facilities	SGS Taiwan Ltd. No. 31 Wu Chyuan Road New Taipei Industrial Park, Wuku District New Taipei City, Taiwan Tel. (886-2) 2299-3279 / Fax (886-2) 2299-9558 www.sgs.com.tw

Notes

All environmental testing listed in the accompanying tables was performed and reported independently by accredited testing companies.

Documented MIL-STD-810H, testing guidelines were followed. All tests were performed with I/O and expansion doors closed, unless otherwise noted. A summary listing of tests appear in the tables included in this document.

For more information visit: dell.com

MIL-STD-810H environmental testing

Test Method	Test Category	Test Parameters	Test Result			
			Latitude 3340 Laptop	Latitude 3340 2-in-1	Latitude 3440	Latitude 3540
MIL-STD 810H, Method 500.6, Procedure I	Altitude - Non-Operational	Test Pressure: Equivalent to cabin altitude of 15,000' Temperature: 21°C Altitude Change Rate: <10 m/s Duration: 1 hour	Pass	Pass	Pass	Pass
Method 500.6 Procedure II	Altitude - Operational	Test Pressure: Equivalent to cabin altitude of 15,000' Temperature: 21°C Altitude Change Rate: <10 m/s Duration: 1 hour	Pass	Pass	Pass	Pass
MIL-STD-810H, Method 501.7, Procedure I	High Temperature - Storage	Duration: 7 X 24 hr. cycles Temperature: 33 - 71°C (non-operational / storage) Table 501.7 - III High Temperature cycles, climate category A1 - Hot Dry	Pass	Pass	Pass	Pass
MIL-STD-810H, Method 501.7, Procedure II	High Temperature - Operational	Duration: 5 X 24. hr. cycles Temperature: 32 - 49°C (Ambient Air) Table 501.7 - III High Temperature cycles Climate category A1 - Hot Dry	Pass	Pass	Pass	Pass
MIL-STD-810H, Method 502.7, Procedure I	Low temperature - Storage	Duration: 24 hrs. Temperature: -51°C	Pass	Pass	Pass	Pass
MIL-STD-810H, Method 502.7, Procedure II	Low temperature - Operational	Duration: 24 hrs. Temperature: -29°C	Pass	Pass	Pass	Pass
MIL-STD-810H, Method 507.6, Procedure I	Humidity: - Induced (Storage & Transit) Cycles - Natural Cycles	- Duration: Table 507.6-II, (Hot-humid Cycle B3) - Material Category: Non-Hazardous Items Normal Test	Pass	Pass	Pass	Pass
MIL-STD-810H, Method 510.7, Procedure I	Sand and dust - Blowing dust	Duration: 12 Hour Air velocity = 1.5 m/s (300 ft/min) to 8.9 m/s (1750 ft/min) Temperature: 60°C Relative Humidity: 30%	Pass	Pass	Pass	Pass
MIL-STD-810H, Method 514.8, Procedure I, Table 514.8C-II Category 4	Vibration Operational	Operational Vibration, 5-500 Hz, 1.17 Grms, random 1 hour on Bottom, Left and Back side	Pass	Pass	Pass	Pass
MIL-STD-810H, Method 514.8, Procedure I, Category 24	Vibration - Non-Operational	Non-OP vibration, 20-2000 Hz, 7.69 Grms Test Duration: 1hr/axis Test axis: X,Y and Z.	Pass	Pass	Pass	Pass

MIL-STD-810H, Method 516.8, Procedure I	Shock - Functional Shock	185g, 2ms Half Sine 1 shock/axis/direction for a total of 6 shocks Note: Dell to use Half Sine Waveform to replace Saw Tooth Waveform in accordance with MIL SPEC.	Pass	Pass	Pass	Pass
MIL-STD-810H, Method 516.8, Procedure II	Shock, Transportation Shock	- On-road Shock, 5.1g / 11m (Table 516-8-VII) - Off-road Shocks 15.2g / 5ms (Table 516-8-VII) - Test unit orientations at x, y and z axis for both test. - Unit is Non-Operational during both test - Saw tooth wave form can be replaced by other classical wave forms necessary to meet test equipment capability. See Durability Engineering for acceptable alternative wave forms if needed.	Pass	Pass	Pass	Pass
MIL-STD-810H, Method 516.8, Procedure IV	Shock - Transit Drop	Modified - 26 X 18" drops onto 2" of plywood over concrete. The 26-drop requirement (Table 516.6-VI) may be divided among up to five samples of the same test item in any combination.	Pass	Pass	Pass	Pass
MIL-STD-810H, Method 516.8, Procedure V	Shock - Crash Hazard Shock	Non Operational. 185g, 2ms Half-sine, 2 shocks/axis/direction for a total of 12 shocks.	Pass	Pass	Pass	Pass
		Operational. 40g, 11ms Sawtooth wave, 3 shocks/axis/direction for a total of 18 shocks.	Pass	Pass	Pass	Pass
MIL-STD-810H, Method 516.8, Procedure VI	Shock - Bench Handling	Angle drops onto Bench Top per MIL STD Procedure VI	Pass	Pass	Pass	Pass
MIL-STD-810H, Method 516.8, Procedure IV	Shock - Transit Drop	Modified - 26 X 48" drops onto 2" of plywood over concrete. The 26-drop requirement (Table 516.6-VI) may be divided among up to five samples of the same test item in any combination.	Pass	Pass	Pass	

Additional Education Durability Testing*

Test	Procedure/details	Latitude 3340 Laptop	Latitude 3340 2-in-1	Latitude 3440	Latitude 3540
Hinge Cycles	Cycle tested at 180 degrees to open/close.	PASS 15,000	PASS 15,000	PASS 10,000	PASS 10,000
Micro-drops	Tested to withstand 4-inch drops, on all 6 flat surfaces and 4 corners.	PASS 3,000	PASS 3,000	PASS 2,000	PASS 2,000
Low Force Wrenching/ Twisting (Torsion) Tests	Tested to withstand low force wrenching/ twisting torsion tests	PASS 7,500	PASS 7,500	PASS 7,500	PASS 5,000

Test	Procedure/details	Latitude 3340 Laptop	Latitude 3340 2-in-1	Latitude 3440	Latitude 3540
15kg High Force Pogo Tests	Tested to withstand 15kg high force pogo tests (meant to simulate high loads to the notebook from infrequent events such as sitting or stepping on the device or stuffing into a loaded bag)	PASS	PASS	PASS	PASS
5kg Low Force Pogo Tests	Tested to withstand 5kg high force pogo tests (meant to simulate frequent events such as handling)	PASS	PASS	PASS	PASS

*Results based on Dell internal testing, January/February 2023

Pass criteria and test scope information

For operational tests, a pass indicates that the unit remained operational during the entirety of the test. For non-operational tests, a pass indicates that a functional verification was performed immediately after the test exposure, in which the unit was powered on and booted to the primary operating system. Cosmetic damage does not constitute a failure unless there is a safety concern. Sample sizes tested are not statistically significant.