
Environmental Test Summary

Date: October 31, 2017
Report Number: R3703

Samsung Electronics America, Inc.
85 Challenger Road
Ridgefield Park, NJ 07660
United States

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ADMINISTRATIVE DATA

Prepared For:	Lucas Henry Samsung Electronics America, Inc. 85 Challenger Road Ridgefield Park, NJ 07660 United States
Tests Performed:	Environmental testing per Table 1 on page 3
Test Facility:	Element Materials Technology 5245-A NE Elam Young Parkway Hillsboro, OR 97124 503-648-1818
Test Unit Description:	SM-T395 Galaxy Tab Active 2 Tablets
Primary Test Specifications:	MIL-STD 810G and CEI/IEC 60529
Project Begin Date:	8/29/2017
Project Completion Date:	10/9/2017

1.0 SUMMARY

1.1 Purpose

The purpose of this test was to demonstrate that the test specimens met or exceeded the design specification requirements during or upon completion of exposure to the stresses detailed herein.

1.0 SUMMARY (continued)

1.2 Test Sequence

The following tests were conducted during the course of Environmental Testing:

Table 1 – Environmental Test Sequence

Test	Start Date	End Date
Operating Altitude	8/29/2017	8/29/2017
Non-Operating Altitude	8/29/2017	8/29/2017
Operating High Temperature - Cyclic	8/29/2017	9/1/2017
Salt Fog	8/29/2017	9/2/2017
Dripping Rain	8/30/2017	8/30/2017
Immersion	8/30/2017	8/30/2017
Transit Drop	8/30/2017	9/6/2017
Storage High Temperature - Cyclic	8/30/2017	9/6/2017
Temperature, Humidity, Vibration and Altitude	8/30/2017	9/13/2017
Operating High Temperature	8/31/2017	8/31/2017
Temperature Shock	8/31/2017	8/31/2017
Blowing Rain	8/31/2017	8/31/2017
Blowing Dust	9/1/2017	9/5/2017
Settling Dust	9/2/2017	9/5/2017
Humidity	9/3/2017	9/13/2017
Vibration	9/6/2017	9/6/2017
Ballistic Shock	9/6/2017	9/6/2017
Icing	9/6/2017	9/6/2017
Storage Low Temperature	10/6/2017	10/6/2017
Operating Low Temperature	10/6/2017	10/6/2017
Storage High Temperature	10/9/2017	10/9/2017

1.0 SUMMARY (continued)

1.3 Test Results

No signs of damage, deformation, discoloration, corrosion or any other anomalies were noted during end of test inspections. Samples were operating normally during each functional verification with any modifying or additional details noted in the in the tables below:

Table 2 – Environmental Test Results

Test	Test Parameters	Results
Non-Operating Altitude	Method 500.6 at 15Kft for 1 hour	See Section 1.3 Test Results Note Above
Operating Altitude	Method 500.6 at 15Kft for 1 hour	See Section 1.3 Test Results Note Above
Storage High Temperature	Method 501.6 at +80°C for 2 hours	See Section 1.3 Test Results Note Above
Storage High Temperature - Cyclic	Method 501.6 7 24hr cycles (+30°C, +63°C) from Table 501.6I climatic category.	See Section 1.3 Test Results Note Above
Operating High Temperature	Method 501.6 at +71°C for 2 hours	See Section 1.3 Test Results Note Above
Operating High Temperature - Cyclic	Method 501.6 3 cycles (+32°C, +49°C) per Table 501.5 II	See Section 1.3 Test Results Note Above
Storage Low Temperature	Method 502.6 at -40°C for 2 hours	See Section 1.3 Test Results Note Above
Operating Low Temperature	Method 502.6 at -20°C for 2 hours	See Section 1.3 Test Results Note Above
Temperature Shock	Method 503.6 Procedure 1C (-20°C, +60°C), 1hr soak	See Section 1.3 Test Results Note Above
Blowing Rain	Method 506.6 at 4in/hr wind velocity of 18 m/s, 30 minutes along each face	No water intrusion noted
Dripping Rain	Method 506.6 at 280 l/m ² /hr from 1m at 45° for 15 minutes	No water intrusion noted
Humidity	Method 507.6 10 24hr cycles between +30°C and +65°C and 95%RH	See Section 1.3 Test Results Note Above

1.0 SUMMARY (continued)

Table 3 – Environmental Test Results (continued)

Test	Test Parameters	Results
Salt Fog	Method 509.6 2 cycles 24hrs 5% salt fog (+35°C), 24hrs ambient	No water intrusion noted
Settling Dust	Method 510.5 6g/m ² /day settling dust, 3 days	No dust intrusion noted
Blowing Dust	Method 510.6 at +25°C below 30%RH and +63°C, 1 hour per face over 6 faces	No dust intrusion noted
Vibration	Method 514.7 CAT 24 General Minimum Integrity per Figure 514.7E-1, 1hr/axis, 3 axes	See Section 1.3 Test Results Note Above
Transit Drop	Method 516.7 Table 516.6VI (under 100lbs) 26 drops, 1.2m and 1.5m	Normal scuffing with no abnormal damage noted
Temperature, Humidity, Vibration, and Altitude	Method 520.3 Vibration: CAT 24 All material per Figure 514.6C-1; Altitude: 15Kft for 1 hour; Humidity: 10 24hr cycles between +30°C and +65°C and 95%RH	See Section 1.3 Test Results Note Above
Icing	Method 521.4 with 6mm ice accretion	No water intrusion noted
Ballistic Shock	Method 522.1 3 10-100Hz at 178g maximum SRS shock (±X, Y, Z)	See Section 1.3 Test Results Note Above
Immersion	IEC 60529 Paragraph 14.2.8 at 5ft for 30 minutes	No water intrusion noted

2.0 APPLICABLE DOCUMENTS

2.1 MIL-STD 810G

- Method 500.6, Procedure I: Low Pressure/Altitude (Storage Air Transport)
- Method 500.6, Procedure II: Low Pressure/Altitude (Operation/Air Carriage)
- Method 501.6, Procedure I: High Temperature Storage (Constant)
- Method 501.6, Procedure I: High Temperature Storage (Cyclic)
- Method 501.6, Procedure II: High Temperature Operating (Constant)
- Method 501.6, Procedure II: High Temperature Operating (Cyclic)
- Method 502.6, Procedure I: Low Temperature Storage (Constant)
- Method 502.6, Procedure II: Low Temperature Operating (Constant)
- Method 503.6, Procedure I-C: Temperature Shock
- Method 506.6, Procedure I: Blowing Rain
- Method 506.6, Procedure III: Dripping Rain
- Method 507.6, Procedure II: Humidity
- Method 509.6, Procedure I: Salt Fog
- Method 510.5, Procedure III: Settling Dust
- Method 510.6, Procedure I: Blowing Dust
- Method 514.7, Paragraph 2.4.1: Vibration
- Method 516.7, Procedure IV, Paragraph 4.5.5: Mechanical Shock (Transit Drop, Unpackaged)
- Method 520.3: Temperature, Humidity, Vibration, and Altitude
- Method 521.4, Procedure I: Icing/Freezing Rain
- Method 522.1: Ballistic Shock

2.2 CEI/IEC 60529

- Paragraph 14.2.8: IP-x8 - Immersion

End of Summary