



MOTOROLA - MW810 MOBILE WORKSTATION

SUMMARY OF ENVIRONMENTAL TESTING

TESTS NUMBERS: MIL-STD-810G Tests: 09/1416, 09/1425, 09/1426, 09/1448, 09/1450, 09/1465-1468, 09/1477, 09/1480-1487.

ASTM D4169-01: Test 09/1476

EQUIPMENT TESTED: MW810 MOBILE WORKSTATION

ENVIRONMENTAL TESTS DATES: 19/11/2009 -11/12/2009

TEST COMPANY AND CONTACTS: ECI QualiTech Environmental & Mechanical Lab.
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Mechanical Testing Cert. #1881.01

NOTES: All environmental testing listed in the accompanying table was performed and reported independently by the accredited testing company listed above. Documented MIL-STD-810 and ASTM D 4169-01, testing guidelines were followed. A summary listing of tests appears in the following tables.

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Document No: 20091215-0830

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1. SUMMARY TABLES

The following tables summarize the tests that have been performed by ECI QualiTech –Environmental & Mechanical Laboratory. (Reference QualiTech Detailed Test Report No: 20091215-0947)

1.1 MIL-STD-810G TESTING

No.	Test Name	Test Method	Description/Parameters	Result
1.	Low Temperature (Operation) Test	MIL-STD-810G, Method 501.5, Procedure II.	Low temperature: 4hr exposure at -30°C(-86°F) Unit was operating during test.	Pass
2.	High Temperature (Operation) Test	MIL-STD-810G, Method 501.1, Procedure II.	High temperature: exposure (24h x 3 cycles) at 72°C (161.6°F) max. Unit was operating during test.	Pass
3.	Low Temperature (Storage) Test	MIL-STD-810G, Method 502.5, Procedure I.	Low temperature: 24hr exposure at -52°C (-125.6°F) Unit is not operating.	Pass
4.	High Temperature (Storage) Test	MIL-STD-810G, Method 501.5, Procedure I.	High temperature: exposure (24h x 7 cycles) at 72°C (161.6°F) max. Unit was not operating during test.	Pass
5.	Temperature & Humidity (Operation) Test	MIL-STD-810G, Method 507.5 Procedure II.	0% to 95% - non-condensing humidity. Temperature cycled between 30°C (86°F) and 60°C (140°F) .Ten 24-hour cycles. Relative humidity maintained at 95%.Unit is not operating.	Pass
6.	Thermal Shock Cycling Test	MIL-STD-810G, Method 502.5, Procedure I.	-52°C (-125.6°F) to 94°C (201.2°F) Cyclic temperature exposure. 3 cycles. Unit was not operating during test.	Pass
7.	Dust Test	MIL-STD-810G, Method 510.5, Procedure I.	Air velocity-8.9m/sec. Test Duration-12 h. Unit was not operating during test.	Pass
8.	Random Vibration (Operation)	MIL-STD-810G, Method 514.6, Procedure I. Category 4 & 24	1.) Frequency Range: 20Hz – 2000Hz, Vibration Level: 7.7 gRMS. 60 minutes x 3 axes. Unit was operating during test. 2.) Frequency Range:10Hz – 500Hz, Vibration Level: 1.04 g r.m.s (Vertical-Axis), 0.74 g r.m.s (Longitudinal-Axis), 0.20 g r.m.s (Transverse-Axis) 60 minutes x 3 axes. Unit is operating	Pass
9.	Mechanical Shock (Operation) Test	MIL-STD-810G, Method 516.6, Procedure I.	40g, 11ms, saw-tooth, 3 shocks, +/- per axis, 3 axes. Unit is operating.	Pass
10.	Low Pressure (Altitude-Storage) Test	MIL-STD-810G, Method 500.5, Procedure I.	Chamber at 15,000 ft for 1 hour. Unit was not operating during test.	Pass
11.	Low Pressure (Altitude-Operation) Test	MIL-STD-810G, Method 500.5, Procedure II.	Chamber at 15,000 ft for 1 hour. Unit was operating during test.	Pass
12.	Drip Box Water (Operation) Test	MIL-STD-810G, Method 500.5, Procedure I.	Water Flow Rate: 2.3 L/min. Test Duration:15 minutes on each face Unit was operating during test.	Pass

13.	Blowing Rain (Operation) Test	MIL-STD-810G, Method 506.5, Procedure I.	Water Flow Rate: 1.7mm/min Test Duration: 30 minutes on each face. Air Velocity: 18 m/sec. Unit was operating during test.	Pass
14.	Freeze-Thaw Test	MIL-STD-810G, Method 524, Procedure III.	Temperature cycled between 25°C (77°F) 95% and -10°C (-50°F) 3x 2:05-hour cycles.	Pass
15.	Salt Fog Test	MIL-STD-810G, Method 509.5, Procedure I.	5% saline exposure for 2 cycles x 48hrs. (24hrs wet/24hrs dry). Unit was not operating during test.	Pass
16.	Bounce Loose Cargo (Transportation) Test	MIL-STD-810G, Method 14.6, Procedure II, Category 5.	Bounce Machine Velocity: 300 r.p.m. Bounce Time: 20 min.-each direction (6 directions) Unit was not operating during test.	Pass
17.	Sand Test	MIL-STD-810G, Method 510.5, Procedure II.	Velocity: 18m/sec. Test duration: 90 min. Unit was not operating during test	Pass
18.	Solar Radiation Test	MIL-STD-810G, Method 505.5,	24h x7 cycles Unit was not operating during test.	Pass

1.2 OTHER TESTING PROCEDURES

No.	Test Name	Test Method	Description/Parameters	Result
1.	Random Vibration (Operation) Test	ASTM D4169-01, Method D4728.	Frequency Range: 3Hz – 2001Hz, Vibration Level: 0.52 gRMS. 60 minutes x 3 axes. Unit was operating during test.	Pass

CUSTOMER DETAILS

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DOCUMENT HISTORY

Edition ID	Release Date	Responsible Author	File Reference, Purpose and Description of Changes
00	15/12/2009	Dina Klebansky- ECI Qualitech	Initial issue

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Document No: 20091215-0830

ECI QualiTech Labs
Compliance Engineering
Environmental & Mechanical Lab.

MW810 Mobile Workstation-Summary Report
Doc. Edition: 01
Ref.: 20091215-0830