Low Temperature Test Report

Issue by
Design Technology Department
Report No: 1204LT0673

<table>
<thead>
<tr>
<th>Product Model</th>
<th>9.7 Compact Rugged Tablet PC : M970D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Description</td>
<td>Rugged Tablet PC</td>
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<tr>
<td></td>
<td>■ New product</td>
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<td></td>
<td>■ Rugged Tablet PC</td>
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<td>■ Renew product</td>
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<td>■ PCB :</td>
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<td>■ BIOS:</td>
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<td>■ Revision change</td>
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<td>■ PCB :</td>
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<td>■ BIOS:</td>
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<td>■ Component:</td>
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</tbody>
</table>

Test Reason

2012/04/27
Issue date
Lindon Lin
Approved
Nick Tsai
Test Engineer
1. Document Introduction and Revision History

This document describes how we conduct the environment conditions and test procedure. It includes the test equipment we use, the test condition, and the test procedure we take. We also define our test criteria and the way to conclude the test result.

(According to client’s test specification, please see following sheets in detail.)

<table>
<thead>
<tr>
<th>NO</th>
<th>Test Item</th>
<th>Condition Description</th>
<th>Sect. / Page</th>
<th>Reference to</th>
</tr>
</thead>
</table>
| 1  | Low(Cold) Temperature Test | - Operation  
- Temperature: -21°C ± 2°C  
- For a period of 72 Hours | 4 / 5        | MIL-STD-810F  
Method 502.4  
Procedure II |
2. Product Configuration

1. M/B: Winmate ID90-110
2. CPU: Intel® Atom™ Processor N2600 @ 1.60 GHz
3. System Chipset: Intel® NM10
4. Panel: CMO Innolux BF097XN 1024x0768
5. RAM: DSL D3SE28082XH15AA DDR3-1333 SODIMM 2GB
6. BIOS: AMI ID90V203
7. SSD: Transcend TS16GMSA310 MiniPCIe SATA SSD 16GB
8. Bluetooth & WiFi: SparkLan WPER-101GN
9. GPS: UBLQX GSPUB02-100 GPS
10. OSD & LED Board: ID90LED-110 / 4*Button+4*LED for ID90
11. Touch: KFK CT-098117FA-A0
12. Battery: T-GEE PSE6054D0 Battery Pack 7.4V 5300mAH 2S1P for 9.7” TPC
13. Adapter: EDAC EA10521 12V 50W
3. Photo of Product Configuration

<table>
<thead>
<tr>
<th>Photo of EUT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Top View" /></td>
<td><img src="image" alt="Bottom View" /></td>
</tr>
<tr>
<td><img src="image" alt="Front View" /></td>
<td><img src="image" alt="Back View" /></td>
</tr>
<tr>
<td><img src="image" alt="Left Side View" /></td>
<td><img src="image" alt="Right Side View" /></td>
</tr>
</tbody>
</table>
4. Low (Cold) Temperature Test

A. **Test Equipment:**
   - Test Site: Winmate LAB
   - Programmable Temperature & Humidity Chamber
   - TERCHY / MHC-120L / S/N: 960731

B. **LAB Environmental Conditions:**
   - Ambient Temperature: 25 +/- 3°C
   - Relative Humidity: 55 +/- 20% RH

C. **Test Method / Specification:**
   - Reference to MIL-STD-810F Method 502.4 Testing Procedures
   - Selecting Produces: Procedure II / Operation / Mild Cold(C0)
   - Reference to Table 502.4-II. Summary of low temperature diurnal cycle range.
   - Temperature: -21°C ± 2°C
   - For a period of 72 Hours
   - Test software
     - Running Windows 7 with PassMark BurnIn Test Professional V7.0 (Build 1004)
   - Quantity: Total 1 Set

![Figure 1: Low Temperature, temperature cycle](image)
D. Check Condition and Requirements:

After the preconditioning time, the temperature cycle is started at normal ambient temperature $T_N$ and run as shown in Fig 1.

The equipment in its low (Cold) temperature mode, shall exposed to daily low temperature cycles between 72 Hours at -21°C.

The equipment shall withstand the required environmental conditions and shall meet, without any functional damage, all performance requirements after being exposed to 1 cycle of low temperatures, as illustrated in Figure 1.

Performance check: Running Windows 7 with PassMark BurnIn Test Professional V7.0 (Build 1004)

E. Test Result:

Examine the appearance of specimen(s) by visual check and perform functional check after this test. Connect the specimen with rated power then examine whether the display function of specimen could be work normally or not.

- Functional Check & Mechanical Structure: Normal
- Appearance check (Visual check): No visible damage
- The requirements of the performance test and check shall be met.
F. Test Judgment:
— Test Result

<table>
<thead>
<tr>
<th>Style Item No.</th>
<th>Check Item</th>
<th>Appearance check (Visual check)</th>
<th>Functional &amp; Performance check</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.7 Compact Rugged Tablet PC : M970D</td>
<td></td>
<td>No visible damage</td>
<td>No visible damage</td>
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