



BIWIN Flash Storage

Test Report

Product Name: SSD

Product Model: CHF87GS237D-480

Test Item: Reliability Test

Reporter: Erik.zhang

Date: 2015.11.24

Approver: _____

Date: _____

1. Sample Information

| | | | |
|----------------------|------------------------|-----------------|------------|
| Product Model | CHF87GS237D-480 | Quantity | 4PCS |
| Controller | SM2256K | Flash | K9CHGD8U5D |
| PCB | SM2256AB_8BGA152_00928 | Capacity | 480GB |
| Firmware | O1015A | | |

2. Test Purpose

Do the reliability test for the sample to make sure the quality of product.

3. Test Item

| Test Setup | Test Item | Result |
|------------|--------------------------------------------------------|---------------|
| 1 | Storage test at high-low Temperature | PASS |
| 2 | Boot from high-low temperature test | PASS |
| 3 | Write/Read operation loop test at high-low temperature | PASS |
| 4 | ESD test | PASS: CLASS A |
| 5 | Vibration test | PASS |

4. Test Process

4.1 Storage test at high-low temperature (Client Rating)

| Test Item | Storage test at high-low temperature | Test Place | Reliability Laboratory | |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------|------------|
| Test time | Start time | 2015.11.18 | Finish time | 2015.11.19 |
| Test Purpose | Simulate the enviroment of transport&storage to make sure the quality of product | | | |
| Test Equipment | 1.Machine:FAST-150 2.Mainboard:ASUS P8H61-M LE | | | |
| Test Condition | 1. Run the machine continuously at 85°C/ humidity 90% for 4 hours. 2. Run the machine continuously at -40°C for 4 hours. | | | |
| Test Process | 1.Setup the test program of the high-low temperature 2.Put the product into the test machine 3.Boot the machine, and make it work followed the condition as below: 25°C (humidity:60%) → 85°C (humidity:90%) → 25°C (humidity:60%) → (-40°C) → 25°C (humidity:60%) | | | |

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|----------------------|-----------------------------------------------------------------------------|------------|
| | | |
| Test Criteria | No function fail (According to 《BIWIN SSD Product Public Quality Standard》) | |
| Conclusion | PASS | Reporter |
| | | Erik.Zhang |

4.2 Boot from high-low temperature test (Client Rating)

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|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------|
| Test Item | Boot from high-low temperature test | Test Place | Reliability Laboratory |
| Test time | Start time | 2015.11.19 | Finish time |
| | | | 2015.11.20 |
| Test Purpose | Simulate the enviroment of use to make sure the quality of product | | |
| Test Equipment | 1. Machine:FAST-150 2. Mainboard: ASUS P8H61-M LE | | |
| Test Condition | 1. Boot the system at 70°C/&humidity 65% 2. Boot the system at 0°C | | |
| Test Process | <p>1. Setup the test program of the high temperature</p> <p>2. Put the product into the test machine</p> <p>3. Boot the machine and check the system can detect the SSD at high temperature and low temperature or not, and the detailed information of environment shown as below: 25°C (humidity 60%)→70°C (humidity 65%)→25°C (humidity 40%)→(0°C)</p> <p>4. Repeat the operation for 5 times and record the result</p> | | |
| Test Criteria | No function fail (According to 《BIWIN SSD Product Public Quality Standard》) | | |
| Conclusion | PASS | Reporter | |
| | | Erik.Zhang | |

4.3 Write/Read operation loop test at high-low temperature (Client Rating)

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|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------------------------|
| Test Item | Write/Read operation loop test at high-low temperature | | Test Place | Reliability Laboratory |
| Test time | Start time | 2015.11.23 | Finish time | 2015.11.24 |
| Test Purpose | Simulate the enviroment of use to make sure the quality of product | | | |
| Test Equipment | 1. Machine:FAST-150 2. Mainboard: ASUS P8H61-M LE | | | |
| Test Condition | 1. Run the burnin test at 70°C/&humidity 65% for 8 hours 2. Run the burnin test at -20°C for 4 hours | | | |
| Test Process | <p>1. Setup the test program of the temperature 2. Put the product into the test machine 3. Boot the machine and check the system can detect the SSD or not 25°C (humidity 60%) → 70°C (humidity 65%) → 25°C (humidity 40%) → (-20°C) → 25°C (humidity 40%) 4. Run Burnin test software for the sample 5. Check the sample which drop drive or have data errors or not after a period of 16.5 hours</p> | | | |
| Test criteria | No function fail (According to 《BIWIN SSD Product Public Quality Standard》) | | | |
| Conclusion | PASS | | | Reporter Erik.Zhang |

4.4 ESD Test

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|-----------------------|------------------------------------------------------------------|------------|--------------------|-------------------------------|
| Test Item | ESD Test | | Test Place | Reliability Laboratory |
| Test time | Start time | 2015.11.24 | Finish time | 2015.11.24 |
| Test Purpose | Test the ability of antistic to make sure the quality of product | | | |
| Test Equipment | 1. Machine of ESD: SKS-0220 2. System computer: | | | |

| | | |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Test Condition | 1. Touch the surface of chassis of computer: +/-4KV 2. No touch the surface of chassis of computer: +/-8KV | |
| Test Process | 1. Touch a. Setup the ESD generator and the output of voltage is +4KV b. Play the music which was storied in the test target after plugging the system board c. Touch the chassis and do the ESD test. 2. No Touch a. Setup the ESD generator and the output of voltage is +8KV b. Play the music which was storied in the test target after plugging the system board c. Don't touch the chassis and do the ESD test. | |
| Test Criteria | Reach the B of rating (According to ESD standard: ICE61000-4-2) | |
| Conclusion | PASS: CLASS A | Reporter Erik.Zhang |

4.5 Vibration Test

| Test Item | Vibration Test | | Test Place | Reliability Laboratory |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------|------------------------|
| Test time | Start time | 2015.11.24 | Finish time | 2015.11.24 |
| Test Purpose | Test the ability of anti-seismic to make sure the quality of product | | | |
| Test Equipment | Single vibration test machine: TOS-835JK-1 | | | |
| Test Condition | Run the machine continuously at rotate speed of 150-180 turn/s for 30 minutes | | | |
| Test Process | 1. Set the test time as 30 minutes and the amplitude of vibration as 25.4mmp-p 2. Put the sample into the middle of test machine 3. Run the test machine and adjust the rotate speed as 150-180 turn/s for 30 minutes 4. Check the sample which have functional failure or not | | | |
| Test Criteria | No function failure(According to 《BIWIN SSD Product Public Quality Standard》) | | | |
| Conclusion | PASS | Reporter Erik.Zhang | | |