M.2 (S42) 3MG2-P Series AES Function

Customer: __________________________
Customer Part Number: __________________________
Innodisk Part Number: __________________________
Innodisk Model Name: __________________________
Date: __________________________

<table>
<thead>
<tr>
<th>Innodisk Approver</th>
<th>Customer Approver</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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<table>
<thead>
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<th>Revision</th>
<th>Description</th>
<th>Date</th>
</tr>
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<tbody>
<tr>
<td>Rev 1.0</td>
<td>Official released</td>
<td>April, 2017</td>
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1. Product Overview

1.1 Introduction of Innodisk M.2 (S42) 3MG2-P with AES function

Innodisk M.2 (S42) 3MG2-P is designed as the standard M.2 form factor with SATA interface, and supports SATA III standard (6.0Gb/s) with excellent performance. The form factor refers to the M.2(NGFF) specification which established by JEDEC. Regarding of mechanical interference, Innodisk M.2 (S42) 3MG2-P absolutely replaces the traditional hard disk and makes personal computer, in any field, smaller and easier. Innodisk M.2 (S42) 3MG2-P is designed with AES engine, which is a built-in controller. When controller receives the data package from host, AES engine encrypts the data package and saves the encrypted data into NAND flash. Thus, unauthorized personal has no access to decrypt the data in NAND flash.

Innodisk M.2 (S42) 3MG2-P effectively reduces the booting time of operation system and the power consumption is less than hard disk drive (HDD), and complies with ATA protocol, no additional drivers are required, and can be configured as a boot device or data storage device.

1.2 Product View and Models

Innodisk M.2 (S42) 3MG2-P is available in follow capacities within MLC flash ICs.

- M.2 (S42) 3MG2-P 32GB (type 2242)
- M.2 (S42) 3MG2-P 64GB (type 2242)
- M.2 (S42) 3MG2-P 128GB (type 2242)
- M.2 (S42) 3MG2-P 256GB (type 2242)

![Figure 1: Innodisk M.2 (S42) 3MG2-P (type 2242)]](image-url)
1.3 SATA Interface

Innodisk M.2 (S42) 3MG2-P supports SATA III interface, and compliant with SATA I and SATA II. SATA III interface can work with Serial Attached SCSI (SAS) host system, which is used in server computer. Innodisk M.2 (S42) 3MG2-P is compliant with Serial ATA Gen 1, Gen 2 and Gen 3 specification (Gen 3 supports 1.5Gbps /3.0Gbps/6.0Gbps data rate).
2. Product Specifications

2.1 Capacity and Device Parameters

M.2 (S42) 3MG2-P device parameters are shown in Table 1.

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Cylinders</th>
<th>Heads</th>
<th>Sectors</th>
<th>LBA</th>
<th>user space</th>
</tr>
</thead>
<tbody>
<tr>
<td>32GB</td>
<td>16383</td>
<td>16</td>
<td>63</td>
<td>61300736</td>
<td>29,932</td>
</tr>
<tr>
<td>64GB</td>
<td>16383</td>
<td>16</td>
<td>63</td>
<td>123166720</td>
<td>60,140</td>
</tr>
<tr>
<td>128GB</td>
<td>16383</td>
<td>16</td>
<td>63</td>
<td>246898688</td>
<td>120,566</td>
</tr>
<tr>
<td>256GB</td>
<td>16383</td>
<td>16</td>
<td>63</td>
<td>494362624</td>
<td>241,388</td>
</tr>
</tbody>
</table>

2.2 Performance

Burst Transfer Rate: 6.0Gbps

<table>
<thead>
<tr>
<th>Capacity</th>
<th>32GB</th>
<th>64GB</th>
<th>128GB</th>
<th>256GB</th>
</tr>
</thead>
</table>
| Sequential*  
Read (QD32) | 280 MB/s | 550 MB/s | 560 MB/s | 560 MB/s |
| Sequential*  
Write (QD32) | 45 MB/s | 90 MB/s | 180 MB/s | 350 MB/s |
| 4KB Random**  
Read (QD32) | 27,000 IOPS | 51,000 IOPS | 51,000 IOPS | 51,000 IOPS |
| 4KB Random**  
Write (QD32) | 12,000 IOPS | 23,000 IOPS | 46,000 IOPS | 51,000 IOPS |

Note: the information is based on CrystalDiskMark 5.1.2 with file size 1000MB test patent

2.3 Electrical Specifications

2.3.1 Power Requirement

<table>
<thead>
<tr>
<th>Item</th>
<th>Symbol</th>
<th>Rating</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>V&lt;sub&gt;IN&lt;/sub&gt;</td>
<td>+3.3 DC +- 5%</td>
<td>V</td>
</tr>
</tbody>
</table>
2.3.2 Power Consumption

<table>
<thead>
<tr>
<th>Mode</th>
<th>Power Consumption (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read</td>
<td>180 (max.)</td>
</tr>
<tr>
<td>Write</td>
<td>420 (max.)</td>
</tr>
<tr>
<td>Idle</td>
<td>100 (max.)</td>
</tr>
</tbody>
</table>

* Target: 256GB M.2 (S42) 3MG2-P

2.4 Environmental Specifications

2.4.1 Temperature Ranges

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating</td>
<td>Standard Grade: 0°C to +70°C</td>
</tr>
<tr>
<td></td>
<td>Industrial Grade: -40°C to +85°C</td>
</tr>
<tr>
<td>Storage</td>
<td>-55°C to +95°C</td>
</tr>
</tbody>
</table>

2.4.2 Humidity

Relative Humidity: 10-95%, non-condensing

2.4.3 Shock and Vibration

<table>
<thead>
<tr>
<th>Reliability</th>
<th>Test Conditions</th>
<th>Reference Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vibration</td>
<td>7 Hz to 2K Hz, 20G, 3 axes</td>
<td>IEC 68-2-6</td>
</tr>
<tr>
<td>Mechanical Shock</td>
<td>Duration: 0.5ms, 1500 G, 3 axes</td>
<td>IEC 68-2-27</td>
</tr>
</tbody>
</table>

2.4.4 Mean Time between Failures (MTBF)

Table 7 summarizes the MTBF prediction results for various M.2 (S42) 3MG2-P configurations. The analysis was performed using a RAM Commander™ failure rate prediction.

- **Failure Rate**: The total number of failures within an item population, divided by the total number of life units expended by that population, during a particular measurement interval under stated condition.

- **Mean Time between Failures (MTBF)**: A basic measure of reliability for repairable items: The mean number of life units during which all parts of the item perform within their specified limits, during a particular measurement interval under stated conditions.
Table 7: M.2 (S42) 3MG2-P MTBF

<table>
<thead>
<tr>
<th>Product</th>
<th>Condition</th>
<th>MTBF (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innodisk M.2 (S42) 3MG2-P</td>
<td>Telcordia SR-332 GB, 25°C</td>
<td>&gt;3,000,000</td>
</tr>
</tbody>
</table>

2.5 CE and FCC Compatibility

M.2 (S42) 3MG2-P conforms to CE and FCC requirements.

2.6 RoHS Compliance

M.2 (S42) 3MG2-P is fully compliant with RoHS directive.

2.7 Reliability

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read Cycles</td>
<td>Unlimited Read Cycles</td>
</tr>
<tr>
<td>Flash endurance</td>
<td>3,000 P/E cycles</td>
</tr>
<tr>
<td>Wear-Leveling Algorithm</td>
<td>Support</td>
</tr>
<tr>
<td>Bad Blocks Management</td>
<td>Support</td>
</tr>
<tr>
<td>Error Correct Code</td>
<td>Support</td>
</tr>
</tbody>
</table>

(Total Bytes Written) Unit: TB

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Sequential workload</th>
<th>Client workload</th>
</tr>
</thead>
<tbody>
<tr>
<td>16GB</td>
<td>42.6</td>
<td>18.8</td>
</tr>
<tr>
<td>32GB</td>
<td>85.2</td>
<td>37.5</td>
</tr>
<tr>
<td>64GB</td>
<td>170.5</td>
<td>75</td>
</tr>
<tr>
<td>128GB</td>
<td>340.9</td>
<td>150</td>
</tr>
</tbody>
</table>

* Note:

1. Sequential: Mainly sequential write, tested by Vdbench.
2. Client: Follow JESD218 Test method and JESD219A Workload, tested by ULINK.
   (The capacity lower than 64GB client workload is not specified in JEDEC219A,
   the values are estimated.)

2.8 Transfer Mode

M.2 (S42) 3MG2-P support following transfer mode:

Serial ATA III 6.0Gbps
Serial ATA II 3.0Gbps
Serial ATA I 1.5Gbps
2.9 Pin Assignment

Innodisk M.2 (S42) 3MG2-P uses a standard SATA pin-out. See Table 8 for M.2 (S42) 3MG2-P pin assignment.

**Table 8: Innodisk M.2 (S42) 3MG2-P Pin Assignment**

<table>
<thead>
<tr>
<th>Signal Name</th>
<th>Pin #</th>
<th>Pin #</th>
<th>Signal Name</th>
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<tbody>
<tr>
<td></td>
<td>75</td>
<td></td>
<td>GND</td>
</tr>
<tr>
<td>3.3V</td>
<td>74</td>
<td>73</td>
<td>GND</td>
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<tr>
<td>3.3V</td>
<td>72</td>
<td>71</td>
<td>GND</td>
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<tr>
<td>3.3V</td>
<td>70</td>
<td>69</td>
<td>GND</td>
</tr>
<tr>
<td>NC</td>
<td>68</td>
<td>67</td>
<td>NC</td>
</tr>
<tr>
<td>Notch</td>
<td>66</td>
<td>65</td>
<td>Notch</td>
</tr>
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<td>61</td>
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<td>Notch</td>
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<td>59</td>
<td>Notch</td>
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<tr>
<td>NC</td>
<td>58</td>
<td></td>
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<td>57</td>
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<tr>
<td>NC</td>
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<td>53</td>
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<td>35</td>
<td>NC</td>
</tr>
<tr>
<td></td>
<td>32</td>
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<td>13</td>
<td>Notch</td>
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<td>DAS/DSS</td>
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<td>11</td>
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<td>NC</td>
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<tr>
<td>NC</td>
<td>6</td>
<td>7</td>
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</tr>
<tr>
<td>3.3V</td>
<td>4</td>
<td>5</td>
<td>NC</td>
</tr>
<tr>
<td>3.3V</td>
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<td>3</td>
<td>GND</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td></td>
<td>GND</td>
</tr>
</tbody>
</table>
2.10 Mechanical Dimensions

Dimension tolerance: ±0.2mm

2.11 Assembly Weight

An Innodisk M.2 (S42) 3MG2-P within flash ICs, 64GB’s weight is 8 grams approximately.

2.12 Seek Time

Innodisk M.2 (S42) 3MG2-P is not a magnetic rotating design. There is no seek or rotational latency required.

2.13 Hot Plug

The SSD support hot plug function and can be removed or plugged-in during operation. User has to avoid hot plugging the SSD which is configured as boot device and installed operation system.

Surprise hot plug: The insertion of a SATA device into a backplane (combine signal and power) that has power present. The device powers up and initiates an OOB sequence.

Surprise hot removal: The removal of a SATA device from a powered backplane, without first being placed in a quiescent state.

2.14 NAND Flash Memory

Innodisk M.2 (S42) 3MG2-P uses Multi Level Cell (MLC) NAND flash memory, which is non-volatility, high reliability and high speed memory storage.
3. Theory of Operation

3.1 Overview

Figure 2 shows the operation of Innodisk M.2 (S42) 3MG2-P from the system level, including the major hardware blocks.

![Figure 2: Innodisk M.2 (S42) 3MG2-P Block Diagram](image)

Innodisk M.2 (S42) 3MG2-P integrates a SATA III controller and NAND flash memories. Communication with the host occurs through the host interface, using the standard ATA protocol. Communication with the flash device(s) occurs through the flash interface.

3.2 SATA III Controller

Innodisk M.2 (S42) 3MG2-P is designed with ID 201, a SATA III 6.0Gbps (Gen. 3) controller. The Serial ATA physical, link and transport layers are compliant with Serial ATA Gen 1, Gen 2 and Gen 3 specification (Gen 3 supports 1.5Gbps/3.0Gbps/6.0Gbps data rate). The controller has 2 channels for flash interface.
3.3 Error Detection and Correction

Highly sophisticated Error Correction Code algorithms are implemented. The ECC unit consists of the Parity Unit (parity-byte generation) and the Syndrome Unit (syndrome-byte computation). This unit implements an algorithm that can correct 66 bits per 1024 bytes in an ECC block. Code-byte generation during write operations, as well as error detection during read operation, is implemented on the fly without any speed penalties.

3.4 Wear-Leveling

Flash memory can be erased within a limited number of times. This number is called the erase cycle limit or write endurance limit and is defined by the flash array vendor. The erase cycle limit applies to each individual erase block in the flash device.

Innodisk M.2 (S42) 3MG2-P uses a static wear-leveling algorithm to ensure that consecutive writes of a specific sector are not written physically to the same page/block in the flash. This spreads flash media usage evenly across all pages, thereby extending flash lifetime.

3.5 Bad Blocks Management

Bad Blocks are blocks that contain one or more invalid bits whose reliability are not guaranteed. The Bad Blocks may be presented while the SSD is shipped, or may develop during the life time of the SSD. When the Bad Blocks is detected, it will be flagged, and not be used anymore. The SSD implement Bad Blocks management, Bad Blocks replacement, Error Correct Code to avoid data error occurred. The functions will be enabled automatically to transfer data from Bad Blocks to spare blocks, and correct error bit.

3.6 Power Cycling

Innodisk’s power cycling management is a comprehensive data protection mechanism that functions before and after a sudden power outage to SSD. Low-power detection terminates data writing before an abnormal power-off, while table-remapping after power-on deletes corrupt data and maintains data integrity. Innodisk’s power cycling provides effective power cycling management, preventing data stored in flash from degrading with use.

3.7 Garbage Collection

Garbage collection is used to maintain data consistency and perform continual data cleansing on SSDs. It runs as a background process, freeing up valuable controller resources while sorting good data into available blocks, and deleting bad blocks. It also significantly reduces write operations to the drive, thereby increasing the SSD’s speed and lifespan.
3.8 M.2 (S42) 3MG2-P AES function flow chart

In order to complete the physical security layer of protection, encryption needs to be paired with an ATA user password by ATA security command. After setting the authorized key by ATA security command, every time when you power on the system with SSD encrypted, you will be requested for a password to access the SSD. If the password is correct, the SSD will run well; if not, then you will not be able to access the SSD then.

![Figure 3: Innodisk M.2 (S42) 3MG2-P AES flow chart](image-url)
4. Installation Requirements

4.1 M.2 (S42) 3MG2-P Pin Directions

![Figure 4: Signal Segment and Power Segment](image)

4.2 Electrical Connections for M.2 (S42) 3MG2-P

A Serial ATA device may be either directly connected to a host or connected to a host through a cable. For connection via cable, the cable should be no longer than 1 meter. The SATA interface has a separate connector for the power supply. Please refer to the pin description for further details.

4.3 Device Drive

No additional device drives are required. The Innodisk M.2 (S42) 3MG2-P can be configured as a boot device.
5. AES Algorithm Certification

The following provides technical information about controller implementations that have been validated as confirming to the Advanced Encryption Standard (AES) Algorithm, Deterministic Random Bit Generator (DRBG) Algorithm, and Secure Hash Standard (SHS).

5.1 AES Algorithm

<table>
<thead>
<tr>
<th>Val. No</th>
<th>Operational Environment</th>
<th>Val. Date</th>
<th>Modes/States/Key sizes/Description/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2474</td>
<td>Cadence NC-verilog hardware simulator v10.20</td>
<td>May/24/2013</td>
<td>Using the tests found in The Advanced Encryption Standard Algorithm Validation Suite (AESAVS). This testing is performed by NVLAP accredited Cryptographic And Security Testing (CST) Laboratories. ECB (e/d; 128, 192, 256) XTS (KS: XTS_128) KS: XTS_256</td>
</tr>
</tbody>
</table>

5.2 DRBG Algorithm

<table>
<thead>
<tr>
<th>Val. No</th>
<th>Operational Environment</th>
<th>Val. Date</th>
<th>Modes/States/Key sizes/Description/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>337</td>
<td>Cadence NC-verilog hardware simulator v10.20</td>
<td>May/24/2013</td>
<td>Using the tests found in The DRBG Validation Suite (DRBGVS). This testing is performed by NVLAP accredited Cryptographic And Security Testing (CST) Laboratories. HashBased DRBG: Prediction Resistance Tested: enabled and not enabled (SHA-256)</td>
</tr>
</tbody>
</table>

5.3 SHS Algorithm

<table>
<thead>
<tr>
<th>Val. No</th>
<th>Operational Environment</th>
<th>Val. Date</th>
<th>Modes/States/Key sizes/Description/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2093</td>
<td>Cadence NC-verilog hardware simulator v10.20</td>
<td>May/24/2013</td>
<td>Has been validated as confirming to the Secure Hash Algorithm specified in Federal Information Processing Standard (FIPS) 180-3, Secure Hash Standard (SHS), using tests described in the Secure Hash Algorithm Validation System (SHAVS). This testing is performed by NVLAP accredited Cryptographic And Security Testing (CST) Laboratories. SHA-256</td>
</tr>
</tbody>
</table>
# 6. Part Number Rule

| CODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|    |
|      | D | G | M | 2 | 4 | - | 3 | 2 | G | D | 8 | 2 | B | C | A | D | C | - | X | X | X |

### Definition

#### Code 1st (Disk)

- **D**: Disk

#### Code 2nd (Feature set)

- **C**: Standard Grade (0°C ~ 70°C)
- **W**: Industrial Grade (-40°C ~ +85°C)

#### Code 3rd ~5th (Form factor)

- **G**: Evergreen series
- **A~Z**: BGA PCB version.
- **M24**: M.2-SATA Type 2242

#### Code 7th ~9th (Capacity)

- **D**: Dual Channels
- **Q**: Quad Channels
- **32G**: 32GB
- **64G**: 64GB
- **A28**: 128GB
- **B56**: 256GB

#### Code 10th ~12th (Controller)

- **D82**: M.2 (S42) 3MG2-P with AES engine
- **B**: Toshiba 15nm Synchronous NAND.

#### Code 13th (Flash mode)

- **C**: Toshiba MLC

#### Code 17th (Flash Type)

- **B**: Toshiba 15nm Synchronous NAND.
7. Appendix

REACH

REACH Declaration of Conformity

Manufacturer Product: All Innodisk EM Flash and Dram products

1. 宜鼎國際股份有限公司（以下稱本公司）特此保證此售予貴公司之產品，皆符合歐盟化學品
法案(Registration, Evaluation and Authorization of Chemicals: REACH)之規定
(http://www.echa.europa.eu/de/candidate-list-table last updated: 20/06/2016)。所提供
之產品包含：(1) 產品或產品所使用到的所有原料：(2)包裝材料：(3)設計、生產及重工過程
中所使用到的所有原料。

We Innodisk Corporation hereby declare that our products are in compliance with the
requirements according to the REACH Regulation
Products include: 1) Product and raw material used by the product ; 2) Packaging
material ; 3) Raw material used in the process of design, production and rework

2. 本公司同意因本保證書或與本保證書相關事宜，有所爭議時，雙方宜友好協商，達成協議。
InnoDisk Corporation agrees that both parties shall settle any dispute arising from or in
connection with this Declaration of Conformity by friendly negotiations.

立 保證書 人 (Guarantor)

Company name 公司名稱：InnoDisk Corporation 宜鼎國際股份有限公司

Company Representative 公司代表人：Randy Chien 蕭川勝

Company Representative Title 公司代表人職稱：Chairman 董事長

Date 日期：2016 / 06 / 23
RoHS 自我宣告書 (RoHS Declaration of Conformity)

Manufacturer Product: All Innodisk EM Flash and Dram products

一、宜鼎國際股份有限公司（以下稱本公司）特此聲明，本公司之所有產品，皆符合歐盟2011/65/EU關於RoHS之規範要求。
Innodisk Corporation declares that all products sold to the company, are complied with European Union RoHS Directive (2011/65/EU) requirement.

二、本公司同意因本聲明書或與本聲明書相關事宜有所爭議時，雙方宜友好協商，達成協議。
Innodisk Corporation agrees that both parties shall settle any dispute arising from or in connection with this Declaration of Conformity by friendly negotiations.

<table>
<thead>
<tr>
<th>Name of hazardous substance</th>
<th>Limited of RoHS ppm (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>鋅 (Pb)</td>
<td>&lt; 1000 ppm</td>
</tr>
<tr>
<td>汞 (Hg)</td>
<td>&lt; 1000 ppm</td>
</tr>
<tr>
<td>鉻 (Cd)</td>
<td>&lt; 100 ppm</td>
</tr>
<tr>
<td>六價鉻 (Cr 6+)</td>
<td>&lt; 1000 ppm</td>
</tr>
<tr>
<td>多溴聯苯 (PBBS)</td>
<td>&lt; 1000 ppm</td>
</tr>
<tr>
<td>多溴二苯醚 (PBDEs)</td>
<td>&lt; 1000 ppm</td>
</tr>
</tbody>
</table>

### 立 保 證 書 人 (Guarantor)

Company name: Innodisk Corporation 宜鼎國際股份有限公司

Company Representative: Randy Chien 陳川勝

Company Representative Title: Chairman 董事長

Date: 2016 / 08 / 04
VERIFICATION OF COMPLIANCE

This Verification of Compliance is hereby issued to the below named company. The test results of this report relate only to the tested sample identified in this report.

Technical Standard: EMC DIRECTIVE 2014/30/EU (EN55022 / EN55024)

General Information
Applicant: Innodisk Corporation
5F., No. 237, Sec. 1, Datong Rd., Xizhi Dist.,
New Taipei City 22161, Taiwan (R.O.C)

Product Description
EUT Description: M.2
Brand Name: Innodisk
Model Number: M.2 (S42) 3S*#&
$-Flash type: (S:SLC, L:SLC, M:MLC, T:3D TLC)
*:Product line: (E:Embedded, G:EverGreen, R:InnoRobust)
#:Product Generation: (empty, 0–9)
&:Product line: (empty, P:Plus)

Measurement Standard
EN 55022: 2010 / AC: 2011
EN 61000-3-2: 2014
EN 61000-3-3: 2013

Measurement Facilities
Xindian Lab: Compliance Certification Services Inc.
No. 163-1, Jhongsheng Rd., Xindian Dist., New Taipei City, 23151 Taiwan
Tel: +886-2-22170894 / Fax: +886-2-2217029

This device has been shown to be in compliance with and was tested in accordance with the measurement procedures specified in the Standards & Specifications listed above and as indicated in the measurement report number: TI6t004DL1-E

Sam Hu / Assistant Manager
Date: October 11, 2016
VERIFICATION OF COMPLIANCE

This Verification of Compliance is hereby issued to the below named company. The test results of this report relate only to the tested sample identified in this report.

Technical Standard: EMC DIRECTIVE 2014/30/EU (EN55032)

General Information
Applicant: Innodisk Corporation
5F., No. 237, Sec. 1, Datong Rd., Xizhi Dist.,
New Taipei City 22161, Taiwan (R.O.C)

Product Description
EUT Description: M.2
Brand Name: Innodisk
Model Number: M.2 (S42) 35*-&
S:Flash type: (S:SLC, I:SLC, M:MLC, T:3D TLC)
*Product line: (E:Embedded, G:EverGreen, R:InnoRobust)
#:Product line: (empty, 0–9)
&:Product line: (empty, P:Plus)

Measurement Standard
EN 55032: 2012 / AC: 2013
CISPR 32: 2012

Measurement Facilities
Xindian Lab.: Compliance Certification Services Inc.
No.163-1, Jhongsheng Rd., Xindian Dist., New Taipei City, 23151 Taiwan.
Tel: +886-2-22070984 / Fax: +886-2-22071029

This device has been shown to be in compliance with and was tested in accordance with the measurement procedures specified in the Standards & Specifications listed above and as indicated in the measurement report number: TI61004D11-E

Sam Hu / Assistant Manager
Date: October 11, 2016
VERIFICATION OF COMPLIANCE

This Verification of Compliance is hereby issued to the below named company. The test results of this report relate only to the tested sample identified in this report.

Technical Standard: FCC Part 15 Class B
IC ICES-003

General Information
Applicant: Innodisk Corporation
5F., No. 237, Sec. 1, Datong Rd., Xizhi Dist.,
New Taipei City 22161, Taiwan (R.O.C)

Product Description
EUT Description: M.2
Brand Name: Innodisk
Model Number: M.2 (S42) 3S*#.&
$:Flash type: (S:SLC, E:SLC, M:MLC, T:3D TLC)
*:Product line: (E:Embedded, G:EverGreen, R:InnoRobust)
#:Product Generation: (empty, 0~9)
&:Product line: (empty, P:Plus)

Measurement Facilities
Xindian Lab.: Compliance Certification Services Inc.
No.163-1, Zhongsheng Rd., Xindian Dist., New Taipei City, 23151 Taiwan.
Tel: +886-2-22170894 / Fax: +886-2-22171029

This device has been shown to be in compliance with and was tested in accordance with the measurement procedures specified in the Standards & Specifications listed above and as indicated in the measurement report number: TI61004DI4-E

Sam Hu / Assistant Manager
Date: October 11, 2016