

Product Qualification

--- Compatibility Test ---

Product Name : PT220-M242 1TB 4Tb*2 Thermal Sensor Sidefill w/Graphene Sheet

Product P/N : B72.22CLGU.00121

Qualification : Function

Test Result : PASS

| QT | Approved | Date |
|----------------------|-------------------|-----------------------|
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| Test Result Summary | | | | | |
|-------------------------|--------------------|---|---------------------|---------------|----|
| Product Name | | PT220-M242 1TB 4Tb*2 Thermal Sensor Sidefill w/Graphene Sheet | | | |
| Platform Information | | | | | |
| Vendor | Asus | Asus | Gigabyte | Asus | |
| Motherboard | Z170-A | PRIME Z390-A | Z490 AORUS Elite AC | PRIME Z-690-A | |
| Chipset | Intel Z170 | Intel Z390 | Intel Z490 | Intel Z690 | |
| BIOS | 3802 | 2004 | F22 | 1505 | |
| Operating System | Windows 10 | Windows 10 | Windows 11 | Windows 10 | |
| Test Result | | | | | |
| Function Operation Test | Base Function | -- | -- | -- | V |
| | Format | -- | -- | -- | V |
| | Product Inf. Check | -- | -- | -- | V |
| | System Install | -- | V | V | -- |
| | Performance | -- | -- | -- | V |
| System Stress Test | Warm Boot | -- | V | -- | -- |
| | Cold Boot | -- | -- | V | -- |
| | Sleep | -- | V | -- | -- |
| | IOmeter | V | -- | -- | -- |
| | BurnIn | V | -- | -- | -- |
| Application Test | RAID Function | -- | V | -- | -- |
| Remark | | | | | |
| | | | | | |

A. Function Operation Test

1. Base Function Test

| Test Item | Test method | Pass criteria | Result |
|----------------|--|------------------------------|--------|
| Copy | OS : Windows 10 Utility : FileCompare | No error found in each stage | PASS |
| Delete | | | PASS |
| Restart | | | PASS |
| Compare | | | PASS |
| Suspend (S3) | | | PASS |
| Hibernate (S4) | | | PASS |
| Hot Plug | | | PASS |

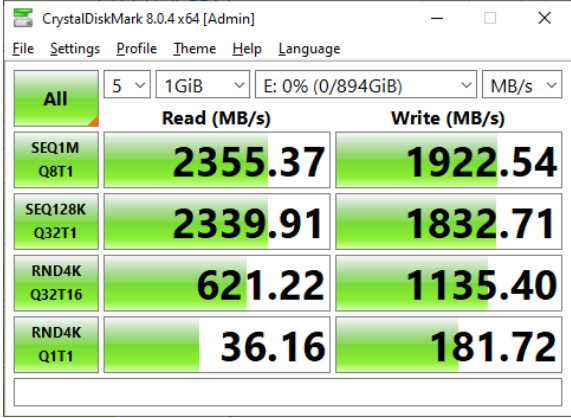
2. Format Test

| Test Item | Test method | Pass criteria | Capacity |
|-----------|---|---|----------|
| FAT32 | OS : Windows 10 Utility : Format | No error when disk format, capacity meets specification | -- |
| NTFS | | | 894 GB |
| exFAT | | | 894 GB |

3. Product Info. Check

| Test Item | Test method | Pass criteria | Result |
|-----------|--|---|--------|
| S.M.A.R.T | OS : Windows 10 Utility : Apacer SSDWidget2.0 | Product information meets specification | PASS |

4. Performance

| Test method | Result | | | | | | | | | | | | | | | |
|---|--|--------------|-------------|--------------|------------|---------|---------|---------------|---------|---------|--------------|--------|---------|------------|-------|--------|
| OS : Windows 10 Benchmark Tool : CrystalDiskMark |  <table border="1" data-bbox="676 371 1249 786"> <thead> <tr> <th></th> <th>Read (MB/s)</th> <th>Write (MB/s)</th> </tr> </thead> <tbody> <tr> <td>SEQ1M Q8T1</td> <td>2355.37</td> <td>1922.54</td> </tr> <tr> <td>SEQ128K Q32T1</td> <td>2339.91</td> <td>1832.71</td> </tr> <tr> <td>RND4K Q32T16</td> <td>621.22</td> <td>1135.40</td> </tr> <tr> <td>RND4K Q1T1</td> <td>36.16</td> <td>181.72</td> </tr> </tbody> </table> | | Read (MB/s) | Write (MB/s) | SEQ1M Q8T1 | 2355.37 | 1922.54 | SEQ128K Q32T1 | 2339.91 | 1832.71 | RND4K Q32T16 | 621.22 | 1135.40 | RND4K Q1T1 | 36.16 | 181.72 |
| | Read (MB/s) | Write (MB/s) | | | | | | | | | | | | | | |
| SEQ1M Q8T1 | 2355.37 | 1922.54 | | | | | | | | | | | | | | |
| SEQ128K Q32T1 | 2339.91 | 1832.71 | | | | | | | | | | | | | | |
| RND4K Q32T16 | 621.22 | 1135.40 | | | | | | | | | | | | | | |
| RND4K Q1T1 | 36.16 | 181.72 | | | | | | | | | | | | | | |

Note : Results may differ from various flash configurations or host system setting.

5. System Install Test

| Test Item | Test method | Pass criteria | Result |
|------------|--|----------------------------------|--------|
| Windows 11 | Use installation flash drive, each driver is installed | Install the system without error | PASS |
| Windows 10 | | | PASS |

B. System Stress Test

1. Warm Boot Test

| Test Item | Test method | Pass criteria | Result |
|-----------|--|--------------------------------------|--------|
| Warm Boot | Test cycle : 3000 cycles OS : Windows 11 Utility : PassMark Rebooter | The system not crash, no error found | PASS |

2. Cold Boot Test

| Test Item | Test method | Pass criteria | Result |
|-----------|---|---|--------|
| Cold Boot | Test cycle : 3000 cycles OS : Windows 10 Utility : HD_Speed Apacer Power Box : Power ON : 3 mins Power OFF : 30 secs | The system not crash, reboot cycle and power box cycle should be the same | PASS |

3. Sleep Test

| Test Item | Test method | Pass criteria | Result |
|-----------|---|--------------------------------------|--------|
| Sleep | Test cycle : 3000 cycles OS : Windows 11 Utility : PassMark Sleeper | The system not crash, no error found | PASS |

4. Iometer Test

| Test Item | Test method | Pass criteria | Result |
|---|--|-----------------------------|--------|
| 4K random script, 70% Write 30% Read | Test duration : 24 hours each item OS : Windows 10 Utility : Iometer 2010 | No error found in each item | PASS |
| 1MB random script, 100% Write | | | PASS |
| 4 JEDEC script | | | PASS |
| Pseudo random/24 patterns | | | PASS |

5. BurnIn Test

| Test Item | Test method | Pass criteria | Result |
|-------------|---|---------------------------|--------|
| BurnIn Test | Test duration : 168 hours OS : Windows 10 Utility : PassMark BurnInTest | The test result show PASS | PASS |

C. Application Test

1. RAID Function Test

| RAID Mode | Test Item | Test method | Pass criteria | Result |
|-----------|----------------|--|--|--------|
| RAID 0 | Install System | Test duration : BurnIn Test 24 hours Rebuild 40cycle | Install the system without error, system not crush, burnin test result show PASS | PASS |
| | BurnIn Test | | | PASS |
| RAID 1 | Install System | OS : Windows 11 | | PASS |
| | BurnIn Test | Utility : PassMark BurnInTest | | PASS |
| | Rebuild | IRST | | PASS |

D. Platform Compatibility Test

| Pass criteria | | |
|--|------------|----------------------------------|
| The target SSD can be recognized/detected on below test platforms (select one from the same chipset) | | |
| Item | Chipset | M/B |
| 1 | Intel H97 | ASUS H97M-E |
| 2 | Intel Z97 | Gigabyte GA-Z97X-UD3H |
| 3 | Intel Z170 | ASUS Z170-A |
| 4 | | Gigabyte GA-Z170X-Gaming 3 |
| 5 | | Gigabyte GA-Z170MX-Gaming 5 |
| 6 | | Gigabyte GA-Z170-HD3P |
| 7 | Intel Z270 | Asus PRIME Z270-A |
| 8 | | Gigabyte GA-Z270X-Gaming 5 |
| 9 | Intel H370 | Asus TUF H370-PRO GAMING (WI-FI) |
| 10 | | Gigabyte H370 HD3 |
| 11 | Intel Z390 | ASUS PRIME Z390-A |
| 12 | | Gigabyte GA-Z390 AORUS PRO WIFI |
| 13 | | Gigabyte Z390 AORUS ELITE |
| 14 | Intel Z490 | ASUS PRIME Z490-A |
| 15 | | Gigabyte Z490 AORUS Elite AC |
| 16 | AMD X570 | ASUS TUF Gaming X570-Plus WiFi |
| 17 | | Gigabyte X570 AORUS Elite WIFI |
| 18 | Intel Z590 | Asus PRIME Z590-A |
| 19 | Intel Z690 | Asus PRIME Z690-A |

E. Test Software Information

| Item | Test Software | Remark |
|------|--------------------------------|---------------------|
| 1 | CrystalDiskMark | |
| 2 | PassMark BurnInTest | |
| 3 | PassMark Rebooter | |
| 4 | PassMark Sleeper | |
| 5 | Iometer 2010 | |
| 6 | Intel Rapid Storage Technology | |
| 7 | HD_Speed | |
| 8 | Apacer SSDWidget2.0 | |
| 9 | Apacer SDSMART | For SD Card Product |
| 10 | Apacer USBSMART | For USB Product |

F. Additional Qualification:

1. Environmental

- 1. RoHS Standard 2011/65/EU , 2015/863/EU
- 2. Other Environmental Standard EC/1907/2006 ,(EU)757/2010,(EC)850/2004
- 3. WEEE (By Product) 2012/19/EU
- 4. Battery Standard N/A
- 5. Packing Standard 94/62/EC, 2013/2/EU
- 6. Others GB/T 26572-2011

2. Certification

- 1. CE No. _____
- 2. FCC No. _____
- 3. BSMI No. _____
- 4. VCCC No. _____
- 5. C-tick No. _____
- 6. Other _____