

# 1. Stability Test:

## 1.1 CPU Function Test:

<b>Test Purpose</b>	Test CPU functions work normally under Windows Operating System
<b>Test Procedure</b>	1. Install Windows operating system 2. Install M/B device drivers 3. Check CPU temperature in BIOS setup menu 4. Run PassMark BurnInTest and check CPU Temp 5. Using CPU-Z check CPU info
<b>Test Criteria</b>	It should be correct for each test step

No.	CPU	Type	Idle CPU Temp.	Full Loading CPU Temp.	Result
1	Intel / 3.60GHz	Core i7-7700 (Kabylake / SR338) / 65W / LGA1151	52.5°C	68.0°C	Pass
2	Intel / 3.50GHz	Core i5-7600 (Kabylake / SR334) / 65W / LGA1151	52.5°C	66.0°C	Pass
3	Intel / 2.40GHz	Core i7-6700TE(Skylake-S/R0-SR2LP) / 35W / LGA1151	31.5°C	63.0°C	Pass
4	Intel / 3.40GHz	Core i7-6700(Skylake-S/R0-SR2BT) / 65W / LGA1151	49.0°C	60.0°C	Pass
5	Intel / 3.20GHz	Core i5-6500(Skylake-S/R0-SR2BX) / 65W / LGA1151	44.0°C	55.0°C	Pass
6	Intel / 2.30GHz	Core i5-6500TE(Skylake-S/R0-SR2LR) / 35W / LGA1151	33.5°C	51.0°C	Pass
7	Intel / 2.70GHz	Core i3-6100TE(Skylake-S/R0-SR2LS) / 35W / LGA1151	36.5°C	40.0°C	Pass
8	Intel / 3.70GHz	Core i3-6100(Skylake-S/S0-SR2HG) / 51W / LGA1151	48.0°C	60.0°C	Pass
9	Intel / 3.30GHz	Pentium-G4400 (Skylake-S/R0-SR2DC) / 54W / LGA1151	36.0°C	49.0°C	Pass
10	Intel / 2.40GHz	Pentium-G4400TE (Skylake-S/R0-SR2LT) / 35W / LGA1151	32.5°C	37.0°C	Pass
11	Intel / 2.80GHz	Celeron G3900(Skylake-S/S0-SR2HV) / 51W / LGA1151	37.5°C	42.0°C	Pass
12	Intel / 2.30GHz	Celeron G3900TE(Skylake-S/R0-SR2LU) / 35W / LGA1151	32.0°C	35.0°C	Pass
13	Intel / 3.30GHz	Xeon E3-1225 V5 (Skylake-S/SR2LJ) / 80W / LGA1151	48.0°C	60.0°C	Pass
14	Intel / 3.60GHz	Xeon E3-1275 V5 (Skylake-S/SR2CT) / 80W / LGA1151	51.5°C	70.0°C	Pass
15	Intel / 3.80GHz	Xeon E3-1275 V6 (Kabylake /SR32A) / 73W / LGA1151	55.5°C	79.0°C	Pass

### 1.1.1 Application Test:

No.	Software	Test Keypoint	Result
1	CPU-Z Ver.1.85	1. Check all information.	Pass

## 1.2 Memory Function Test:

<b>Test Purpose</b>	Test Memory functions work normally under Windows Operating System
<b>Test Procedure</b>	<ol style="list-style-type: none"> <li>1. Install Windows Operating System</li> <li>2. Install M/B Device Driver</li> <li>3. Run AIDA64 Cache and Memory Benchmark Ver.5.97.4600 1 time</li> <li>4. Run Passmark Performance Test 9.0 Build1023 1 time</li> <li>5. Run 3DMark for Windows Ver.2.4.4264 BenchMark 3 times</li> <li>6. S3/Hibernate Test 3 times</li> </ol>
<b>Test Criteria</b>	It should be no problem for the test

### 1.2.1 DDR4:

No.	Function	Result
1	DDR4 DIMM Slot Examine	Pass
2	Single Channel mode	Pass
3	Dual channel mode	Pass
4	Warning beep sound when no memory install	Pass

### 1.2.2 Application Test:

No.	Software	Test Keypoint	Test Environment	Result
1	MemTest86 Ver.7.5.0	1. Stress test 24 hours.	DDR4: PC4-19200 (DDR4-2400) / Transcend-TS2GLH64V4B / SEC-K4A8G085wB-BCRC / 16GB*4 (Non ECC) (DR041-1/2/3/4) (DIMM-1/2/3/4) Dual Channel O.S.: DOS	Pass

### 1.2.3 DDR4 Approved List:

No.	Brand	Chip	Size	Type	Chip Model No.	Vendor Part No.	Result
1	Kingston	Micron	16GB	PC4-19200 (DDR4-2400)	7TE77 D9VPP	CBD24D4U7D8ME-16	Pass
2	Kingston	Micron	4GB	PC4-19200 (DDR4-2400)	7QE75 D9WFH	CBD24D4U7S1ME-4	Pass
3	Kingston	Micron	8GB	PC4-19200 (DDR4-2400)	7TE77 D9VPP	CBD24D4U7S8ME-8	Pass
4	ADATA	SK Hynix	8GB	PC4-19200 (DDR4-2400)	H5AN8G8NAFR UHC	AD4U240038G17-BHYA	Pass
5	Transcend	Samsung	16GB	PC4-19200 (DDR4-2400)	K4A8G085wB-BCRC	TS2GLH64V4B	Pass
6	Transcend	Samsung	4GB	PC4-17000 (DDR4-2133)	K4A4G085WD-BCPB	TS512MLH72V1H (ECC)	Pass
7	Transcend	Samsung	8GB	PC4-17000 (DDR4-2133)	K4A4G085WE BCRC	TS1GLH72V1H (ECC)	Pass
8	ADATA	SK Hynix	16GB	PC4-19200 (DDR4-2400)	H5AN8G8NAFR UHC	AD4E2400316G17-BHYA (ECC)	Pass

## 1.2.4 DDR4 Module Test Procedures:

No.	DDR4 Module	Test Procedures	Result
1	PC4-19200 (DDR4-2400) / Kingston-CBD24D4U7D8ME-16 / Micron-7TE77 D9VPP / 16GB*4 (Non ECC)	M/B: KD632-Q170CRM Rev.1 (011) (BSI351810001) CPU: Intel (R) Core (TM) i7-7700 CPU @ 3.60GHz (SR338) DIMM Slot: (DIMM-1/2/3/4) Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/2/3/4) READ:33659 MB/s WRITE:36989 MB/s COPY:33543 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:11666.9 Memory Mark:3081.8  3DMark for Windows(V 2.5.5029)3times Cloud Gate:10102 Ice Storm Extreme:62072 Skydiver: 4875 Fire Strike:1211	Pass
2	PC4-19200 (DDR4-2400) / Kingston-CBD24D4U7S1ME-4 / Micron-7QE75 D9WFH / 4GB*2 (Non ECC)	M/B: KD632-Q170CRM Rev.1 (011) (BSI351810006) CPU: Intel (R) Core (TM) i5-7600 CPU @ 3.50GHz (SR334) (CP086) DIMM Slot: (DIMM-1/3) Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/3) READ:31662 MB/s WRITE:34611 MB/s COPY:28692 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:9149.2 Memory Mark:2697.1  3DMark for Windows(V 2.5.5029)3times Cloud Gate:8692 Ice Storm Extreme:57684 Skydiver: 4671 Fire Strike:1148	Pass
3	PC4-19200 (DDR4-2400) / Kingston-CBD24D4U7S1ME-4 / Micron-7QE75 D9WFH / 4GB*4 (Non ECC)	M/B: KD632-Q170CRM Rev.1 (011) (BSI351810006) CPU: Intel Core i3-6100 Processor 3.70GHz(SR2HG) (CP070-3) DIMM Slot: (DIMM-1/2/3/4) Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/2/3/4) READ:29451 MB/s WRITE:33103 MB/s COPY:29557 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:5955.8 Memory Mark:2692.1  3DMark for Windows(V 2.5.5029)3times Cloud Gate:7078 Ice Storm Extreme:50258 Skydiver: 4007 Fire Strike:1009	Pass
4	PC4-19200 (DDR4-2400) / Kingston-CBD24D4U7S1ME-4 / Micron-7QE75 D9WFH / 4GB*1 (Non ECC)	M/B: KD632-Q170CRM Rev.1 (011) (BSI351810005) CPU: Intel Core i5-6500 Processor 3.20GHz(SR2BX) (CP071-2) DIMM Slot: (DIMM-4) Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) SINGLE CHANNEL(DIMM-4) READ:15712 MB/s WRITE:15387 MB/s COPY:16006 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:6983.7 Memory Mark:1713.2  3DMark for Windows(V 2.5.5029)3times Cloud Gate:6136 Ice Storm Extreme:37929 Skydiver: 3499 Fire Strike:704	Pass

5	PC4-19200 (DDR4-2400) / Kingston-CBD24D4U7S8ME-8 / Micron-7TE77 D9VPP / 8GB*2 (Non ECC)	M/B: KD632-Q170CRM Rev.1 (011) (BSI351810005) CPU: Intel Core i7-6700 Processor 3.40GHz (SR2BT) (CP072-4) DIMM Slot: (DIMM-1/2) Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/2) READ:17219 MB/s WRITE:16256 MB/s COPY:17661 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:9337.7 Memory Mark:2198.7  3DMark for Windows(V 2.5.5029)3times Cloud Gate:7940 Ice Storm Extreme:46979 Skydiver: 4166 Fire Strike:923	Pass
6	PC4-19200 (DDR4-2400) / Kingston-CBD24D4U7S1ME-4 / Micron-7QE75 D9WFH / 4GB*4 (Non ECC)	M/B: KD632-Q170CRM Rev.1 (011) (BSI351810006) CPU: Intel Pentium G4400 Processor 3.3GHz(SR2DC) (CP073-3) DIMM Slot: (DIMM-1/2/3/4) Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/2/3/4) READ:28952 MB/s WRITE:32460 MB/s COPY:29387 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:3713.3 Memory Mark:2561.6  3DMark for Windows(V 2.5.5029)3times Cloud Gate:4560 Ice Storm Extreme:27656 Skydiver: 2398 Fire Strike:611	Pass
7	PC4-19200 (DDR4-2400) ADATA AD4U240038G17-BHYA / SK Hynix H5AN8G8NAFR UHC /8GB*4 (Non ECC)	M/B: KD632-Q170CRM Rev.1 (011) (BSI351810005) CPU: Intel G3900TE Processor 2.3GHz(SR2LU) (CP074-1) DIMM Slot: (DIMM-1/2/3/4) Celeron Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/2/3/4) READ:26824 MB/s WRITE:32400 MB/s COPY:29270 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:2604.4 Memory Mark:2069.9  3DMark for Windows(V 2.5.5029)3times Cloud Gate:3823 Ice Storm Extreme:24476 Skydiver: 2192 Fire Strike:581	Pass
8	PC4-19200 (DDR4-2400) ADATA AD4U240038G17-BHYA / SK Hynix H5AN8G8NAFR UHC /8GB*4 (Non ECC)	M/B: KD632-Q170CRM Rev.1 (011) (BSI351810005) CPU: Intel Core i3-6100TE Processor 2.70GHz(SR2LS) (CP075-1) DIMM Slot: (DIMM-1/2/3/4) Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/2/3/4) READ:28936 MB/s WRITE:32467 MB/s COPY:29144 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:4275.9 Memory Mark:2290.5  3DMark for Windows(V 2.5.5029)3times Cloud Gate:6272 Ice Storm Extreme:45943 Skydiver: 3860 Fire Strike:979	Pass

9	PC4-19200 (DDR4-2400) / Transcend-TS2GLH64V4B / SEC-K4A8G085wB-BCRC / 16GB*3 (Non ECC)	M/B: KD632-Q170CRM Rev.1 (011) (BSI351810005) CPU: Intel Core i7-6700TE Processor 2.40GHz(SR2LP) (CP076-1) DIMM Slot: (DIMM-1/2/3) Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/2/3) READ:30521 MB/s WRITE:32561 MB/s COPY:30791 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:9341.9 Memory Mark:2599.8  3DMark for Windows(V 2.5.5029)3times Cloud Gate:8420 Ice Storm Extreme:51126 Skydiver: 4107 Fire Strike:1032	Pass
10	PC4-19200 (DDR4-2400) / Transcend-TS2GLH64V4B / SEC-K4A8G085wB-BCRC / 16GB*1 (Non ECC)	M/B: KD632-Q170CRM Rev.1 (011) (BSI351810005) CPU: Intel Pentium G4400TE Processor 2.4GHz (SR2LT) (CP077-1) DIMM Slot: (DIMM-1) Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) SINGLE CHANNEL(DIMM-1) READ:16130 MB/s WRITE:16104 MB/s COPY:15877 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:2727.0 Memory Mark:1880.3  3DMark for Windows(V 2.5.5029)3times Cloud Gate:3793 Ice Storm Extreme:23317 Skydiver: 2126 Fire Strike:545	Pass
11	PC4-19200 (DDR4-2400) / Kingston-CBD24D4U7S8ME-8 / Micron-7TE77 D9VPP / 8GB*1 (Non ECC)	M/B: KD632-Q170CRM Rev.1 (011) (BSI351810005) CPU: Intel Core i5-6500TE DIMM Slot: AIDA64 Cache and Processor 2.30GHz(SR2LR) (CP078-1) Test Summary: (DIMM-2) Single Channel d Memory Benchmark(V5.97.4600) SINGLE CHANNEL(DIMM-2) READ:16123 MB/s WRITE:15561 MB/s COPY:14943 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:6857.6 Memory Mark:1977.3  3DMark for Windows(V 2.5.5029)3times Cloud Gate:6317 Ice Storm Extreme:40520 Skydiver: 3607 Fire Strike:814	Pass
12	PC4-19200 (DDR4-2400) / Kingston-CBD24D4U7S1ME-4 / Micron-7QE75 D9WFH / 4GB*1 (Non ECC)	M/B: KD331-Q170IRM Rev.A (0A1) (BMI020410009) CPU: B183.22A (Insyde) DIMM Slot: Intel Core i5-6500TE Processor 2.30GHz(SR2LR) (CP078-1) Test Summary: DIMM-3 Single Channel AIDA64 Cache and Memory Benchmark(V5.97.4600) SINGLE CHANNEL(DIMM-3) READ:24502 MB/s WRITE:14864 MB/s COPY:14672 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:6525.0 Memory Mark:1635.9  3DMark for Windows(V 2.4.4264)3times Cloud Gate: 5917 Ice Storm Extreme: 36786 Skydiver: 3515 Fire Strike: 725	Pass

13	Transcend-TS8AAEESD (TS512MLH72V1H) / SEC-K4A4G085WD-BCPB / 4GB*4 (DDR4-2133) (EEC)	M/B: KD632-C236CRM Rev.1 (011) (BSI351910008) CPU: Intel(R) Xeon(R) CPU E3-1225 v5 @ 3.30GHz (SR2LJ) DIMM Slot: (CP081-1) Test Summary: (DIMM-1/2/3) Dual Channel AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/2/3) READ:29119 MB/s WRITE:30346 MB/s COPY:27598 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:8331.7 Memory Mark:2616.3  3DMark for Windows(V 2.5.5029)3times Cloud Gate:8292 Ice Storm Extreme:57804 Skydiver: 4561 Fire Strike:1132	Pass
14	PC4-17000 (DDR4-2133) Transcend TS1GLH72V1H / Samsung SEC 719 K4A4G085WE BCRC /8GB*2 (ECC)	M/B: KD632-C236CRM Rev.1 (011) (BSI351910008) CPU: Intel(R) Xeon(R) CPU E3-1275 v5 @ 3.60GHz (SR2CT) DIMM Slot: (CP082-1) Test Summary: (DIMM-1/2) Dual Channel AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/2) READ:17188 MB/s WRITE:16370 MB/s COPY:17687 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:9389.6 Memory Mark:2212.5  3DMark for Windows(V 2.5.5029)3times Cloud Gate:8174 Ice Storm Extreme:47301 Skydiver: 4300 Fire Strike:941	Pass
15	PC4-19200 (DDR4-2400) ADATA AD4E2400316G17-BHYA / SK Hynix H5AN8G8NAFR UHC /16GB*4 (ECC)	M/B: KD632-C236CRM Rev.1 (011) (BSI351910008) CPU: Intel(R) Xeon(R) CPU E3-1275 v6 @ 3.80GHz (SR32A) DIMM Slot: (CP090) Test Summary: (DIMM-1/2/3/4) Dual Channel AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/2/3/4) READ:33865 MB/s WRITE:36940 MB/s COPY:34025 MB/s  Passmark PerformanceTest 9.0 Build 1023 CPU Mark:11727.0 Memory Mark:3056.2  3DMark for Windows(V 2.5.5029)3times Cloud Gate:10414 Ice Storm Extreme:62786 Skydiver: 5127 Fire Strike:1274	Pass