

1. Stability Test

1.1 CPU Function Test:

Test Purpose	Test CPU functions work normally under Windows operating system
Test Procedure	<ol style="list-style-type: none"> 1. Install Windows operating system 2. Install M/B device drivers 3. Check CPU temperature in BIOS setup menu 4. Run 3DMark for Windows Ver.2.5.5029 BenchMark 3 times and check CPU Temp. 5. Using CPU-Z check CPU info
Test Criteria	It should be correct for each test step

No.	CPU	Type	Idle CPU Temp.	Full Loading CPU Temp.	Result
1	Intel / 3.7GHz	Core i7-8700K (Coffeelake /SR3QR) 95W / LGA1151	36°C	58 °C	Pass
2	Intel / 2.4GHz	Core i7-8700T (Coffeelake /QP4P) / 35W / LGA1151	36°C	54 °C	Pass
3	Intel / 3.20Hz	Core i7-8700 (Coffeelake /QNML) / 65W / LGA1151	38°C	59 °C	Pass
4	Intel / 3.0GHz	Core i5-8500 (Coffeelake/QP5J) / 65W / LGA1151	36°C	58 °C	Pass
5	Intel / 2.1GHz	Core i5-8500T (Coffeelake/QP5H) / 35W / LGA1151	34°C	54 °C	Pass
6	Intel / 3.6GHz	Core i3-8100 (Coffeelake/QP5K) / 65W / LGA1151	34°C	55 °C	Pass
7	Intel / 3.1GHz	Core i3-800T (Coffeelake/QP5Q) / 35W / LGA1151	38°C	59 °C	Pass
8	Intel / 3.1GHz	Celeron G4900 (Coffeelake/SR3W4) / 54W / LGA1151	35°C	54 °C	Pass

1.1.1 Application Test:

No.	Software	Test Keypoint	Result
1	CPU-Z Ver.1.86.0	1. Check all information.	Pass

1.2 Memory Function Test:

Test Purpose	Test Memory functions work normally under Windows Operating System
Test Procedure	<ol style="list-style-type: none"> 1. Install Windows Operating System 2. Install M/B Device Driver 3. Run AIDA64 Cache and Memory Benchmark Ver.5.97.4600 1 time 4. Run Passmark Performance Test 9.0 Build 1023 1 time 5. Run 3DMark for Windows Ver.2.5.5029 BenchMark 3 times 6. S3/Hibernate Test 3 times
Test Criteria	It should be no problem for the test

1.2.1 DDR4:

No.	Function	Result
1	Single Channel mode	Pass
2	Dual Channel mode	Pass

1.2.2 Application Test:

No.	Software	Test Keypoint	Result
1	PassMark Memtest86 V7.5 Pro	1. Burn-In test 12 hours.	Pass

1.2.3 DDR4 Approved List:

No.	Brand	Chip	Size	Type	Chip Model No.	Vendor Part No.	Result
1	Kingston	Micron	16GB	DDR4-2400	7TE77D9VPP	CBD24D4U7D8ME-16	Pass
2	Transcend	SEC	16GB	DDR4-2400	K4A8G085WB-BCRC	TS2GLH64V4B	Pass
3	Apacer	SEC	16GB	DDR4-2666	K4A8G085WB-BCTD	78.D1GS7.4010B	Pass
4	Transcend	SEC	16GB	DDR4-2666	K4A8G085WC-BCTD	TS2GLH64V6B	Pass
5	Kingston	Micron	8GB	DDR4-2400	7TE77D9VPP	CBD24D4U7S8ME-8	Pass
6	ADATA	SK hynix	8GB	DDR4-2400	H5AN8G8NAFR-UHC	AD4U240038G17-BHYA	Pass
7	Transcend	SEC	8GB	DDR4-2400	K4A4G085WE-BCRC	TS1GLH64V4H	Pass
8	Apacer	SEC	8GB	DDR4-2666	K4A8G085WB-BCTD	78.C1GS7.40F0B	Pass
9	Transcend	SEC	8GB	DDR4-2666	K4A8G085WC-BCTD	TS1GLH64V6B	Pass
10	Innodisk	SEC	8GB	DDR4-2666	K4A8G085WC-BCTD	M4U0-8GS1JCIK	Pass
11	Innodisk	SEC	8GB	DDR4-2666	K4A4G085WE-BCTD	M4U0-8GSSKCIK	Pass
12	Kingston	Micron	4GB	DDR4-2400	7QE75D9WEH	CBD24D4U7S1ME-4	Pass
13	Innodisk	SEC	4GB	DDR4-2666	K4A4G05WE-BCTD	M4U0-4GSSJCIK	Pass
14	Apacer	SEC	4GB	DDR4-2666	K4A4G085WE-BCTD	78.B1GS6.40F0B	Pass

1.2.4 DDR4 Module Test Procedures:

No.	DDR4 Module	Test Procedures	Result
1	DDR4-2400/Kingston- CBD24D4U7D8ME-16/ Micron-7TE77D9VPP/16GB*4	DUT: DUT#1 CPU: Intel Core i7-8700K 3.70GHz 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:33791 MB/s WRITE:37182 MB/s COPY:35187 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:15106.3 Memory Mark:3354 3DMark for Windows(V 2.5.5029)3times Cloud Gate:11551 Ice Storm:65772 Sky diver:5453 Fire Strike:1372	Pass
2	DDR4-2400/Transcend- TS2GLH64V4B/ SEC-K4A8G085WB-BCRC/16GB*2	DUT: DUT#2 CPU: Intel Core i7-8700T 2.40GHz DIMM Slot: DIMM-1/3 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/3) READ:35919 MB/s WRITE:37165 MB/s COPY:34643 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:9918.6 Memory Mark:2163.6 3DMark for Windows(V 2.5.5029)3times Cloud Gate10155 Ice Storm:50545 Sky diver:5362 Fire Strike:1342	Pass
3	DDR4-2666/Apacer- 78.D1GS7.4010B/ SEC- K4A8G085WB-BCTD/16GB*2	DUT: DUT#1 CPU: Intel Core i7-8700K 3.70GHz DIMM Slot: DIMM-2/4 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM2/4) READ:33810 MB/s WRITE:35473 MB/s COPY:32703 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:7531.9 Memory Mark:2636.6 3DMark for Windows(V 2.5.5029)3times Cloud Gate:8135 Ice Storm:56545 Sky diver:4558 Fire Strike:1174	Pass
4	DDR4-2666/Transcend- TS2GLH64V6B/ SEC-K4A8G085WC- BCTD/16GB*2	DUT: DUT#2 CPU: Intel Core i3-8100 3.60GHz DIMM Slot: DIMM-1/3 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/3) READ:35355 MB/s WRITE:36435 MB/s COPY:33186 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:8885.1 Memory Mark:2936.9 3DMark for Windows(V 2.5.5029)3times Cloud Gate:8679 Ice Storm:54048 Sky diver:4750 Fire Strike:1186	Pass

5	PC4-19200(DDR4-2400)/Kingston-CBD24D4U7S8ME-8/ Micron-7TE77D9VPP/8GB*2	DUT: DUT#1 CPU: Intel Core i5-8500 3.00GHz DIMM Slot: DIMM-3/4 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) SINGLE CHANNEL(DIMM-3/4) READ:18378 MB/s WRITE:17710 MB/s COPY:18634 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:9408.6 Memory Mark:2216.3 3DMark for Windows(V 2.5.5029)3times Cloud Gate:8421 Ice Storm:53687 Sky diver:4529 Fire Strike:1077	Pass
6	DDR4-2400/ADATA-AD4U240038G17-BHYA / SK hynix-H5AN8G8NAFR-UHC/8GB*2	DUT: DUT#1 CPU: Intel Core i5-8500T 2.10GHz DIMM Slot: DIMM-1/3 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/3) READ:33939 MB/s WRITE:34686 MB/s COPY:29591 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:10142.2 Memory Mark:2756.8 3DMark for Windows(V 2.5.5029)3times Cloud Gate:8141 Ice Storm:56016 Sky diver:4768 Fire Strike:1217	Pass
7	DDR4-2400/Transcend-TS1GLH64V4H/ SEC-K4A4G085WE-BCRC/8GB*	DUT: DUT#1 CPU: Intel Core i7-8700T 2.40GHz DIMM Slot: DIMM-1 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) SINGLE CHANNEL(DIMM-1) READ:18570 MB/s WRITE:18077 MB/s COPY:19814 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:12089.7 Memory Mark:2301.3 3DMark for Windows(V 2.5.5029)3times Cloud Gate:2870 Ice Storm:18457 Sky diver:2902 Fire Strike:942	Pass
8	DDR4-2666/Apacer-78.C1GS7.40F0B/ SEC-K4A8G085WB-BCTD/8GB*	DUT: DUT#1 CPU: Intel Core i7-8700 3.20GHz DIMM Slot: DIMM-3 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) SINGLE CHANNEL(DIMM-3) READ:20629 MB/s WRITE:19822 MB/s COPY:21333 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:13217.4 Memory Mark:2448.7 3DMark for Windows(V 2.5.5029)3times Cloud Gate:10116 Ice Storm:57524 Sky diver:4811 Fire Strike:1112	Pass

9	DDR4-2666/Transcend- TS1GLH64V6B/ SEC-K4A8G085WC- BCTD/8GB*2	DUT: DUT#1 CPU: Intel Core i7-8700 3.20GHz DIMM Slot: DIMM-1/4 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/4) READ:38289 MB/s WRITE:39405 MB/s COPY:34285 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:15083.3 Memory Mark:3208.3 3DMark for Windows(V 2.5.5029)3times Cloud Gate:11550 Ice Storm:65894 Sky diver:5345 Fire Strike:1313	Pass
10	DDR4-2666/Innodisk-M4U0- 8GS1JC1K/ SEC-K4A8G085WC- BCTD/8GB*	DUT: DUT#2 CPU: Intel Core i7-8700T 2.40GHz DIMM Slot: DIMM-1 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) SINGLE CHANNEL(DIMM-1) READ:20788 MB/s WRITE:19594 MB/s COPY:20468 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:11739.5 Memory Mark:2368.1 3DMark for Windows(V 2.5.5029)3times Cloud Gate:9869 Ice Storm:53370 Sky diver:4902 Fire Strike:1126	Pass
11	DDR4-2666/Innodisk- M4U0.8GSSKCIK/ SEC- K4A4G085WE-BCTD/8GB*	DUT: DUT#1 CPU: Intel Celeron G4900 DIMM Slot: 3.10GHz DIMM-2 Single Test Summary: Channel AIDA64 Cache and Memory Benchmark(V5.97.4600) SINGLE CHANNEL(DIMM-2) READ:18204 MB/s WRITE:18507 MB/s COPY:17940 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:3414.1 Memory Mark:2095.1 3DMark for Windows(V 2.5.5029)3times Cloud Gate:4609 Ice Storm:27966 Sky diver:2614 Fire Strike:667	Pass
12	DDR4-2400/Kingston- CBD24D4U7S1ME-4/ Micron- 7QE75D9WFH / 4GB*2	DUT: DUT#2 CPU: Intel Core i7-8700T 2.40GHz DIMM Slot: DIMM-1/3 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) DUAL CHANNEL(DIMM-1/3) READ:32572 MB/s WRITE:35644 MB/s COPY:29639 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:12736.5 Memory Mark:2622.6 3DMark for Windows(V 2.5.5029)3times Cloud Gate:10588 Ice Storm:55123 Sky diver:5219 Fire Strike:1240	Pass

13	DDR4-2666/Innodisk-M4U0-4GSSJCIK/ SEC- K4A4G085WE-BTCD/4GB*	DUT: DUT#1 CPU: Intel Core i7-8700 3.20GHz DIMM Slot: DIMM-4 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) SINGLE CHANNEL(DIMM-4) READ:20913 MB/s WRITE:19925 MB/s COPY:21052 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:13372.2 Memory Mark:2047.6 3DMark for Windows(V 2.5.5029)3times Cloud Gate:10254 Ice Storm:58487 Sky diver:4876 Fire Strike:1125	Pass
14	DDR4-2666/Apacer-78.B1GS6.40F0B/ SEC- K4A4G085WE-BTCD/4GB*	DUT: DUT#2 CPU: Intel Core i7-8700T 2.40GHz DIMM Slot: DIMM-3 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) SINGLE CHANNEL(DIMM-3) READ:21048 MB/s WRITE:19951 MB/s COPY:21416 MB/s Passmark PerformanceTest 9.0 Build 1023 CPU Mark:11738 Memory Mark:1997.6 3DMark for Windows(V 2.5.5029)3times Cloud Gate:9974 Ice Storm:53604 Sky diver:4915 Fire Strike:1131	Pass