

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 PassMark BurnInTest 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 i9-10900K (Cometlake-S/SRH91) / 125W / LGA1200	36.0 °C	60.0 °C	Pass
2	Intel / 2.8GHz	Core i9-10900E (Cometlake-S/QUK7) / 65W / LGA1200	35.0 °C	56.0 °C	Pass
3	Intel / 1.8GHz	Core i9-10900TE (Cometlake-S/QUK6) / 35W / LGA1200	34.5 °C	56.0 °C	Pass
4	Intel / 3.8GHz	Core i7-10700K (Cometlake-S/QUKR) / 125W / LGA1200	36.0 °C	60.0 °C	Pass
5	Intel / 2.9GHz	Core i7-10700E (Cometlake-S/QV20) / 65W / LGA1200	36.0 °C	58.0 °C	Pass
6	Intel / 2.0GHz	Core i7-10700TE (Cometlake-S/QUKC) / 35W / LGA1200	36.0 °C	57.0 °C	Pass
7	Intel / 3.1GHz	Core i5-10500E (Cometlake-S/QV22) / 65W / LGA1200	34.0 °C	57.0 °C	Pass
8	Intel / 2.3GHz	Core i5-10500TE (Cometlake-S/QTK3) / 35W / LGA1200	34.0 °C	56.0 °C	Pass
9	Intel / 3.2GHz	Core i3-10100E (Cometlake-S/QTK4) / 65W / LGA1200	34.0 °C	58.0 °C	Pass
10	Intel / 2.3GHz	Core i3-10100TE (Cometlake-S/QTK5) / 35W / LGA1200	36.0 °C	56.0 °C	Pass
11	Intel / 3.8GHz	Pentium G6400E (CommetLake/QUVA) / 58W / LGA1200	33.0 °C	55.0 °C	Pass
12	Intel / 3.2GHz	Pentium G6400TE (Cometlake-S/SRH6H) / 35W / LGA1200	-	-	Pass
13	Intel / 3.2GHz	Celeron G5900E (CommetLake/QUVB) / 58W / LGA1200	34.0 °C	56.0 °C	Pass
14	Intel / 3.0GHz	Celeron G5900TE (CometLake/QTK8) / 35W / LGA1200	34.0 °C	54.0 °C	Pass
15	Intel / 3.5GHz	Xeon W-1290E (Cometlake/QUK8) / 95W / LGA1200	35.0 °C	59.0 °C	Pass
16	Intel / 1.8GHz	Xeon W-1290TE (Cometlake-S/QUKD) / 35W / LGA1200	34.5 °C	56.0 °C	Pass
17	Intel / 3.4GHz	Xeon W-1270E (Cometlake-S/QUK9) / 80W / LGA1200	34.0 °C	58.0 °C	Pass
18	Intel / 2.0GHz	Xeon W-1270TE (Cometlake-S/QUKA) / 35W / LGA1200	35.5 °C	57.0 °C	Pass
19	Intel / 3.5GHz	Xeon W-1250E (Cometlake-S/QTKA) / 80W / LGA1200	36.0 °C	58.0 °C	Pass
20	Intel / 2.4GHz	Xeon W-1250TE (Cometlake-S/QTKB) / 35W / LGA1200	32.0 °C	54.0 °C	Pass

1.1.1 Application Test:

No.	Software	Test Keypoint	Result
1	CPU-Z ver1.91.0	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 Build1023 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
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1.2.1 DDR4:

No.	Function	Result
1	DDR4 DIMM Slot Examine	Pass
2	Single Channel mode	Pass
3	Dual Channel mode	Pass

1.2.2 Application Test:

No.	Software	Test Keypoint	Test Environment	Result
1	MemTest86 Ver.8.4 Pro	1. Bunning test 12 hours.	DUT: DUT#1 DDR4: DDR4-3200/ATP-X4D32QB8BVWEME-7-DR1/Micron-0CB45 D9XPF/ 32GB*4 DUIAL CHANNE O.S.: UEFI Shell	Pass
2	MemTest86 Ver.8.4 Pro	1. Bunning test 12 hours.	DUT: DUT#2 DDR4: DDR4-3200(ECC)/ADATA-AD4E3200732G22-BSSA/ SEC-K4AAG085WA-BCRWE/32GB*4 DUAL CHANNEL O.S.: UEFI Shell	Pass

1.2.3 DDR4 Approved List:

No.	Brand	Chip	Size	Type	Chip Model No.	Vendor Part No.	Result
1	ATP	Micron	32GB	DDR4-3200	0CB45 D9XPF	X4D32QB8BVWEME-7-DR1	Pass
2	ADATA	SEC	32GB	DDR4-2666	K4AAG085WA-BCTD	AD4U2666732G19-BSSA	Pass
3	Transcend	SEC	16GB	DDR4-2666	K4A8G085WC-BCTD	TS2GLH64V6B	Pass
4	Transcend	SEC	16GB	DDR4-2400	K4A8G085WB-BCRC	TS2GLH64V4B	Pass
5	Apacer	SEC	16GB	DDR4-2666	K4A8G085WB-BCTD	78.D1GS7.4010B	Pass
6	Transcend	SEC	8GB	DDR4-2666	K4A8G085WC BCTD	TS1GLH64V6B	Pass
7	Innodisk	SEC	8GB	DDR4-2666	K4A4G085WE-BCTD	M4U0-8GSSKCIK	Pass
8	Apacer	SEC	8GB	DDR4-2666	K4A8G085WB-BCTD	78.C1GS7.40F0B	Pass
9	Apacer	SEC	4GB	DDR4-2666	K4A4G085WE-BCTD	78.B1GS6.40F0B	Pass
10	Innodisk	SEC	4GB	DDR4-2666	K4A4G085WE-BTCD	M4U0-4GSSJCIK	Pass
11	ADATA	SEC	32GB	DDR4-3200 (ECC)	K4AAG085WA-BCRWE	AD4E3200732G22-BSSA	Pass
12	Transcend	SEC	32GB	DDR4-2666 (ECC)	K4AAG085WM-BCTD	TS4GLH72V6E-001	Pass
13	Transcend	SEC	32GB	DDR4-2666 (ECC)	K4AAG085WM-BCTD	TS4GLH72V6E	Pass
14	ADATA	SEC	16GB	DDR4-2666 (ECC)	K4A8G085WC BCTD	AD4E2666316G19-BSSC	Pass
15	Transcend	SEC	8GB	DDR4-2666 (ECC)	K4A8G085WC BCTD	TS1GLH72V6B	Pass
16	Innodisk	SEC	4GB	DDR4-2666 (ECC)	K4A4G085WE BCTD	M4C0-4GSSLCIK	Pass

1.2.4 DDR4 Module Test Procedures:

No.	DDR4 Module	Test Environment	Result
1	DDR4-3200/ ATP-X4D32QB8BVWEME-7-DR1/ Micron-0CB45 D9XPF/32GB* 4	DUT: DUT#1 CPU: Intel Core i9-10900K CPU @ 3.70GHz (QUTF) DIMM Slot: DIMM-1/2/3/4 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) DUAL CHANNEL(DIMM-1/2/3/4) READ:40843 MB/s WRITE:44134 MB/s COPY:41832 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:19304.7 Memory Mark:3210.1 3DMark for Windows(V 2.15.7088)3times Cloud Gate:13058 Ice Storm:56544 Sky diver:5713 Fire Strike:1412	Pass
2	DDR4-2666/ ADATA- AD4U2666732G19-BSSA/ SEC- K4AAG085WA-BCTD/32GB	DUT: DUT#1 CPU: Intel Core i9-10900K CPU @ 3.70GHz (QUTF) DIMM Slot: DIMM-1 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-1) READ:22280 MB/s WRITE:18916 MB/s COPY:23200 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:13632.6 Memory Mark:2347.8 3DMark for Windows(V 2.15.7088)3times Cloud Gate:11386 Ice Storm:50575 Sky diver:5287 Fire Strike:1248	Pass
3	DDR4-3200(ECC)/ ADATA-AD4E3200732G22-BSSA/ SEC-K4AAG085WA-BCRWE/32GB*4	DUT: DUT#2 CPU: Intel Xeon W-1290E CPU @ 3.50GHz (QUK8) DIMM Slot: DIMM-1/2/3/4 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) DUAL CHANNEL(DIMM-1/2/3/4) READ:39836 MB/s WRITE:43690 MB/s COPY:41497 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:18379.2 Memory Mark:3097.7 3DMark for Windows(V 2.15.7088)3times Cloud Gate:12903 Ice Storm:55820 Sky diver:5700 Fire Strike:1406	Pass
4	DDR4-2666(ECC)/ Transcend-TS4GLH72V6E-001/ SEC-K4AAG085WM-BCTD/32GB	DUT: DUT#2 CPU: Intel Xeon W-1290TE CPU @ 1.80GHz (QUKD) DIMM Slot: DIMM-1 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-1) READ:22220 MB/s WRITE:19050 MB/s COPY:22910 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:9319.5 Memory Mark:1796.1 3DMark for Windows(V 2.15.7088)3times Cloud Gate:10249 Ice Storm:44853 Sky diver:5189 Fire Strike:1238	Pass

5	DDR4-2666(ECC)/ ADATA- AD4E2666316G19-BSSC/ SEC- K4A8G085WC BCTD/16GB	DUT: DUT#2 CPU: Intel Xeon W-1270E CPU @ 3.40GHz DIMM Slot: DIMM-2 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-2) READ:21038 MB/s WRITE:19794 MB/s COPY:22268 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:13593.8 Memory Mark:2525.9 3DMark for Windows(V 2.15.7088)3times Cloud Gate:11810 Ice Storm:52483 Sky diver:5312 Fire Strike:1260	Pass
6	DDR4-2666(ECC)/ Transcend- TS1GLH72V6B/ SEC- K4A8G085WC BCTD/8GB	DUT: DUT#2 CPU: Inel Xeon W-1270TE CPU @ 2.00GHz (QUKA) DIMM Slot: DIMM-3 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-3) READ:20973 MB/s WRITE:19184 MB/s COPY:18892 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:8439.9 Memory Mark:1832.2 3DMark for Windows(V 2.15.7088)3times Cloud Gate:10084 Ice Storm:45294 Sky diver:4914 Fire Strike:1164	Pass
7	DDR4-2666(ECC)/ Innodisk- M4C0-4GSSLCIK/ SEC- K4A4G085WE BCTD/4GB	DUT: DUT#2 CPU: Inel Xeon W-1250E CPU @ 3.50GHz (QTKA) DIMM Slot: DIMM-4 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-4) READ:20550 MB/s WRITE:19743 MB/s COPY:20505 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:10682 Memory Mark:1934.1 3DMark for Windows(V 2.15.7088)3times Cloud Gate:10273 Ice Storm:46236 Sky diver:4965 Fire Strike:1157	Pass
8	DDR4-2666(ECC)/ Transcend- TS4GLH72V6E/ SEC- K4AAG085WM-BCTD/32GB*2	DUT: DUT#2 CPU: Inel Xeon W-1250TE CPU @ 2.40GHz (QTKB) DIMM Slot: DIMM-1/3 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) DUAL CHANNEL(DIMM-1/3) READ:36814 MB/s WRITE:39474 MB/s COPY:34675 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:8276 Memory Mark:2414.3 3DMark for Windows(V 2.15.7088)3times Cloud Gate:10367 Ice Storm:49376 Sky diver:5289 Fire Strike:1315	Pass
9	DDR4-2666/ Transcend- TS1GLH64V6B/ SEC- K4A8G085WC BCTD/8GB	DUT: DUT#1 CPU: Inel Core i9-10900TE CPU @ 1.80GHz (QKU6) DIMM Slot: DIMM-2 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-2) READ:21656 MB/s WRITE:18862 MB/s COPY:19546 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:9116.4 Memory Mark:1700.7 3DMark for Windows(V 2.15.7088)3times Cloud Gate:10049 Ice Storm:44783 Sky diver:5113 Fire Strike:1197	Pass

10	DDR4-2666/ Transcend- TS2GLH64V6B/ SEC- K4A8G085WC BCTD/16GB	DUT: DUT#1 CPU: Intel Core i7-10700K CPU @ 3.80GHz (QUKR) DIMM Slot: DIMM-3 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-3) READ:21921B/s WRITE:19791 MB/s COPY:22789 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:14985.7 Memory Mark:2683.1 3DMark for Windows(V 2.15.7088)3times Cloud Gate:12092 Ice Storm:53694 Sky diver:5334 Fire Strike:1274	Pass
11	DDR4-2666/ Innodisk- M4U0-4GSSJCIK/ SEC- K4A4G085WE-BTCD/4GB	DUT: DUT#1 CPU: Intel Core i7-10700TE CPU @ 2.00GHz (QUKC) DIMM Slot: DIMM-4 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-4) READ:21403 MB/s WRITE:19417 MB/s COPY:18809 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:8443.5 Memory Mark:1556.1 3DMark for Windows(V 2.15.7088)3times Cloud Gate:10010 Ice Storm:45687 Sky diver:4914 Fire Strike:1172	Pass
12	DDR4-2400/ Transcend-TS2GLH64V4B/ SEC-K4A8G085WB-BCRC/16GB*4	DUT: DUT#1 CPU: Intel Core i9-10900K CPU @ 3.70GHz (QUTF) DIMM Slot: DIMM-1/2/3/4 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) DUAL CHANNEL(DIMM-1/2/3/4) READ:35442 MB/s WRITE:36448 MB/s COPY:35833 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:12677.1 Memory Mark:2796.5 3DMark for Windows(V 2.15.7088)3times Cloud Gate:12205 Ice Storm:52890 Sky diver:5478 Fire Strike:1367	Pass
13	DDR4-2666/ Transcend- TS1GLH64V6B/ SEC- K4A8G085WC-BCTD/8GB	DUT: DUT#1 CPU: Intel Celeron G5900TE CPU @ 3.00GHz (QTK8) DIMM Slot: DIMM-2 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-2) READ:17479 MB/s WRITE:17917 MB/s COPY:16783 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:2433.4 Memory Mark:2041.5 3DMark for Windows(V 2.15.7088)3times Cloud Gate:4465 Ice Storm:24780 Sky diver:2579 Fire Strike:659	Pass
14	DDR4-2666/ Apacer-78.D1GS7.4010B/ SEC- K4A8G085WB-BCTD/16GB	DUT: DUT#1 CPU: Intel Core i5-10500E CPU @ 3.10GHz (QV22) DIMM Slot: DIMM-1/3 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) DUAL CHANNEL(DIMM-1/3) READ:37942 MB/s WRITE:41189 MB/s COPY:36914 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:10539.3 Memory Mark:2847.4 3DMark for Windows(V 2.15.7088)3times Cloud Gate:11264 Ice Storm:53308 Sky diver:5431 Fire Strike:1350	Pass

15	DDR4-2666/ Innodisk- M4U0-8GSSKCIK/ SEC- K4A4G085WE-BCTD/8GB	DUT: DUT#1 CPU: Intel Core i5-10500TE CPU @ 2.30GHz (QTK3) DIMM Slot: DIMM-2/4 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) DUAL CHANNEL(DIMM-2/4) READ:38866 MB/s WRITE:40851 MB/s COPY:36606 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:7978.9 Memory Mark:2329.6 3DMark for Windows(V 2.15.7088)3times Cloud Gate:10437 Ice Storm:49440 Sky diver:5342 Fire Strike:1352	Pass
16	DDR4-2666/ Transcend- TS1GLH64V6B/ SEC- K4A8G085WC-BCTD/8GB*2	DUT: DUT#1 CPU: Intel Core i3-10100E CPU @ 3.20GHz (QTK4) DIMM Slot: DIMM-1/2 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-1/2) READ:19994 MB/s WRITE:20086 MB/s COPY:19959 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:7104.2 Memory Mark:2501.1 3DMark for Windows(V 2.15.7088)3times Cloud Gate:9100 Ice Storm:44280 Sky diver:4656 Fire Strike:1085	Pass
17	DDR4-2666/ Apacer-78.B1GS6.40F0B/ SEC- K4A4G085WE-BCTD/4GB*2	DUT: DUT#1 CPU: Intel Core i3-10100TE CPU @ 2.30GHz (QTK5) DIMM Slot: DIMM-3/4 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-3/4) READ:19885 MB/s WRITE:20423 MB/s COPY:20338 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:5320.7 Memory Mark:1980.7 3DMark for Windows(V 2.15.7088)3times Cloud Gate:8257 Ice Storm:40663 Sky diver:4579 Fire Strike:1086	Pass
18	DDR4-2666/ Apacer-78.C1GS7.40F0B/ SEC- K4A8G085WB-BCTD/8GB*2	DUT: DUT#1 CPU: Intel Pentium Gold G6400E CPU @ 3.80GHz (QUVA) DIMM Slot: DIMM-1/4 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) DUAL CHANNEL(DIMM-1/4) READ:33064 MB/s WRITE:35759 MB/s COPY:29710 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:4028.9 Memory Mark:2873.6 3DMark for Windows(V 2.15.7088)3times Cloud Gate:6203 Ice Storm:30339 Sky diver:2968 Fire Strike:736	Pass
19	DDR4-2666/ Transcend- TS1GLH64V6B/ SEC- K4A8G085WC-BCTD/8GB	DUT: DUT#1 CPU: Intel Pentium Gold G5900E CPU @ 3.20GHz (QUVB) DIMM Slot: DIMM-1 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-1) READ:17635 MB/s WRITE:17899 MB/s COPY:16632 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:2584.6 Memory Mark:2066 3DMark for Windows(V 2.15.7088)3times Cloud Gate:4546 Ice Storm:24378 Sky diver:2576 Fire Strike:655	Pass