

# 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>	<ol style="list-style-type: none"> <li>1. Install Windows operating system</li> <li>2. Install M/B device drivers</li> <li>3. Check CPU temperature in BIOS setup menu</li> <li>4. Run PassMark BurnInTest and check CPU Temp.</li> <li>5. Using CPU-Z check CPU info</li> </ol>
<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 / 3.70GHz	Core i7-8700K (Coffeelake / SR3QR) / 95W / LGA1151	40.0°C	68.0°C	Pass
2	Intel / 3.20GHz	Core i7-8700 (Coffeelake / QNML) / 65W / LGA1151	40.0°C	66.0°C	Pass
3	Intel / 2.40GHz	Core i7-8700T (Coffeelake / QP4P) / 35W / LGA1151	37.0°C	65.0°C	Pass
4	Intel / 3.00GHz	Core i5-8500 (Coffeelake / QP5J) / 65W / LGA1151	39.0°C	50.0°C	Pass
5	Intel / 2.10GHz	Core i5-8500T (Coffeelake / QP5H) / 35W / LGA1151	35.0°C	47.0°C	Pass
6	Intel / 3.60GHz	Core i3-8100 (Coffeelake / QP5K) / 65W / LGA1151	40.0°C	48.0°C	Pass
7	Intel / 3.10GHz	Core i3-8100T (Coffeelake / QP5Q) / 35W / LGA1151	38.0°C	47.0°C	Pass
8	Intel / 3.70GHz	Pentium G5400 (Coffeelake /SR3X9) / 58W / LGA1151	39.0°C	47.0°C	Pass
9	Intel / 3.10GHz	Celeron G4900(Coffeelake /SR3W4) / 54W / LGA1151	38.0°C	47.0°C	Pass
10	Intel / 3.40GHz	Xeon E-2124G (Coffeelake /SR3WL) / 71W / LGA1151	36.0°C	59.0°C	Pass
11	Intel / 3.70GHz	Xeon E-2176G (Coffeelake /QNT8) / 80W / LGA1151	35.0°C	57.0°C	Pass

### 1.1.1 Application Test:

No.	Software	Test Keypoint	Result
1	CPU-Z ver1.86	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 Build1029 1 time</li> <li>5. Run 3DMark for Windows Ver.2.4.6546 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. Burn-In test 24 hours.	DDR4: DDR4-2666(16GB) 78.D1GS7.4010B / Apacer/ Samsung SEC 801 K4A8G085WB BCTD (DR050-1/2/3/4) 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	Apacer	Samsung	16GB	DDR4-2666	K4A8G085WB BCTD	78.D1GS7.4010B	Pass
2	Apacer	Samsung	8GB	DDR4-2666	K4A8G085WB BCTD	78.C1GS7.40F0B	Pass
3	Apacer	Samsung	4GB	DDR4-2666	K4A8G085WB BCTD	78.B1GS6.40F0B	Pass
4	Innodisk	Samsung	8GB	DDR4-2666	K4A8G085WB BCTD	M4U0-8GSSKCIK	Pass
5	Innodisk	Samsung	4GB	DDR4-2666	K4A8G085WB BCTD	M4U0-4GSSJCIK	Pass
6	Transcend	Samsung	8GB	DDR4-2666	K4A8G085WB BCTD	TS1GLH64V6B	Pass
7	Transcend	Samsung	16GB	DDR4-2666	K4A8G085WB BCTD	TS2GLH64V6B	Pass
8	ADATA	Samsung	16GB	DDR4-2666	K4A8G085WB BCTD	AD4E2666316G19-BSSC (ECC)	Pass
9	Transcend	Samsung	8GB	DDR4-2666	K4A8G085WB BCTD	TS1GLH72V6B (ECC)	Pass
10	Innodisk	Samsung	4GB	DDR4-2666	K4A8G085WB BCTD	M4C0-4GSSLCIK (ECC)	Pass

## 1.2.4 DDR4 Module Test Procedures:

No.	DDR4 Module	Test Procedures	Result
1	DDR4-2666(16GB) CL17 / Apacer/ Samsung SEC 801 K4A8G085WB BCTD	DUT: DUT#1 CPU: Intel(R) Core(TM) i7-8700K CPU @ 3.70GHz (SR3QR) (CP0139) DIMM Slot: DIMM-1/2/3/4 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) READ:38863 MB/s WRITE:41206 MB/s COPY:38518 MB/s  Passmark PerformanceTest 9.0 Build 1029 CPU Mark:16849.1 Memory Mark:3442.7  3DMark for Windows(V 2.8.6546)3times Cloud Gate:12269 Ice Storm Extreme:53577 Skydiver: 5327 Fire Strike:1383	Pass
2	DDR4-2666(8GB) CL19 / Apacer/ Samsung SEC 813 K4A8G085WB BCTD	DUT: DUT#1 CPU: Intel (R) Core (TM) i7-8700T CPU @ 2.40GHz (QP4P) (CP0131) DIMM Slot: DIMM-1/2 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) READ:20637 MB/s WRITE:19828 MB/s COPY:22075 MB/s  Passmark PerformanceTest 9.0 Build 1029 CPU Mark:12121.7 Memory Mark:2606.5  3DMark for Windows(V 2.8.6546)3times Cloud Gate:10225 Ice Storm Extreme:49218 Skydiver: 4876 Fire Strike:1199	Pass
3	DDR4-2666(4GB) CL19 / Apacer/ Samsung SEC 737 K4A4G085WE BCTD	DUT: DUT#1 CPU: Intel(R) Core(TM) i7-8700 CPU @ 3.20GHz (QNML) (CP0123) DIMM Slot: DIMM-2/4 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) READ:20613 MB/s WRITE:20427 MB/s COPY:20166 MB/s  Passmark PerformanceTest 9.0 Build 1029 CPU Mark:13866.6 Memory Mark:2508.7  3DMark for Windows(V 2.8.6546)3times Cloud Gate:10908 Ice Storm Extreme:50086 Skydiver: 4940 Fire Strike:1209	Pass
4	DDR4-2666(8GB) Innodisk M4U0-8GSSKCIK/ Samsung SEC 825 K4A4G085WE BCTD	DUT: DUT#1 CPU: Intel(R) Core(TM) i5-8500 CPU @ 3.00GHz (QP5J) (CP0114) DIMM Slot: DIMM-1/2/3/4 Dual Channel Test Summary: : AIDA64 Cache and Memory Benchmark(V5.97.4600) READ:37500 MB/s WRITE:41183 MB/s COPY:37803 MB/s  Passmark PerformanceTest 9.0 Build 1029 CPU Mark:13147.5 Memory Mark:3213.1  3DMark for Windows(V 2.8.6546)3times Cloud Gate:10315 Ice Storm Extreme:54007 Skydiver: 4921 Fire Strike:1253	Pass

5	DDR4-2666(8GB) Transcend TS1GLH64V6B/ Samsung SEC 740 K4A8G085WC BCTD	M/B: M/B BIOS: CPU: DIMM Slot: Test Summary:	DUT#1 Intel(R) Core(TM) i5-8500T CPU @ 2.10GHz (QP5H) (CP0120) DIMM-1/3 Dual Channel AIDA64 Cache and Memory Benchmark(V5.97.4600) READ:37240 MB/s WRITE:38310 MB/s COPY:33701 MB/s  Passmark PerformanceTest 9.0 Build 1029 CPU Mark:10880.0 Memory Mark:2795.3  3DMark for Windows(V 2.8.6546)3times Cloud Gate:9571 Ice Storm Extreme:51512 Skydiver: 4856 Fire Strike:1228	<b>Pass</b>
6	DDR4-2666(16GB) Transcend TS2GLH64V6B/ Samsung SEC 822 K4A8G085WC BCTD	DUT: CPU: DIMM Slot: Test Summary:	DUT#1 Intel(R) Core(TM) i3-8100 CPU @ 3.60GHz (QP5K) (CP0108) DIMM-2/4 Dual Channel AIDA64 Cache and Memory Benchmark(V5.97.4600) READ:34325 MB/s WRITE:36817 MB/s COPY:32984 MB/s  Passmark PerformanceTest 9.0 Build 1029 CPU Mark:8843.6 Memory Mark:2938.7  3DMark for Windows(V 2.8.6546)3times Cloud Gate:9136 Ice Storm Extreme:50885 Skydiver: 4696 Fire Strike:1208	<b>Pass</b>
7	DDR4-2666(4GB) Innodisk M4U0-4GSSJCIK/ Samsung SEC 807 K4A4G085WE BCTD	DUT: CPU: DIMM Slot: Test Summary:	DUT#1 Intel(R) Core(TM) i3-8100T CPU @ 3.10GHz (QP5Q) (CP0105) DIMM-1 Single Channel AIDA64 Cache and Memory Benchmark(V5.97.4600) READ:18194 MB/s WRITE:18041 MB/s COPY:17684 MB/s  Passmark PerformanceTest 9.0 Build 1029 CPU Mark:7151.7 Memory Mark:1763.4  3DMark for Windows(V 2.8.6546)3times Cloud Gate:7412 Ice Storm Extreme:41513 Skydiver: 4160 Fire Strike:1000	<b>Pass</b>
8	DDR4-2666(8GB) Transcend TS1GLH64V6B/ Samsung SEC 834 K4A8G085WC BCTD	DUT: CPU: DIMM Slot: Test Summary:	DUT#1 Intel(R) Pentium(R) Gold G5400 CPU @ 3.70GHz (SR3X9) (CP0141) DIMM-2 Single Channel AIDA64 Cache and Memory Benchmark(V5.97.4600) READ:17652 MB/s WRITE:17795 MB/s COPY:17387 MB/s  Passmark PerformanceTest 9.0 Build 1029 CPU Mark:5231.2 Memory Mark:2198.7  3DMark for Windows(V 2.8.6546)3times Cloud Gate:5618 Ice Storm Extreme:27482 Skydiver: 2674 Fire Strike:668	<b>Pass</b>

9	DDR4-2666(8GB) Transcend TS1GLH64V6B/ Samsung SEC 837 K4A8G085WC BCTD	DUT: DUT#1 CPU: Intel(R) Celeron(R) G4900 CPU @ 3.10GHz (SR3W4) (CP0142) DIMM Slot: DIMM-3 Single Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) READ:17383 MB/s WRITE:17890 MB/s COPY:16962 MB/s  Passmark PerformanceTest 9.0 Build 1029 CPU Mark:3375.7 Memory Mark:2041.9  3DMark for Windows(V 2.8.6546)3times Cloud Gate:4444 Ice Storm Extreme:25142 Skydiver: 2522 Fire Strike:646	Pass
10	DDR4-2666(4GB) Innodisk M4C0-4GSSSLCIK/ Samsung SEC 825 K4A4G085WE BCTD (ECC)	DUT: DUT#2 CPU: Intel(R) Xeon(R) E-2176G CPU @ 3.70GHz (QNT8) DIMM Slot: DIMM-1/3 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) READ:39017 MB/s WRITE:39087 MB/s COPY:34765 MB/s  Passmark PerformanceTest 9.0 Build 1029 CPU Mark:16116.8 Memory Mark:2955.2  3DMark for Windows(V 2.8.6546)3times Cloud Gate:11939 Ice Storm Extreme:53463 Skydiver: 5157 Fire Strike:1311	Pass
11	DDR4-2666(16GB) ADATA AD4E2666316G19-BSSC / Samsung SEC 843 K4A8G085WC BCTD (ECC)	DUT: DUT#2 CPU: Intel (R) Xeon (R) E-2124G CPU @ 3.40GHz (SR3WL) DIMM Slot: DIMM-1/2/3/4 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) READ:37334 MB/s WRITE:41431 MB/s COPY:37292 MB/s  Passmark PerformanceTest 9.0 Build 1029 CPU Mark:10346.0 Memory Mark:3396.1  3DMark for Windows(V 2.8.6546)3times Cloud Gate:9690 Ice Storm Extreme:53740 Skydiver: 4807 Fire Strike:1266	Pass
12	DDR4-2666(8GB) Transcend TS1GLH72V6B / Samsung SEC 913 K4A8G085WC BCTD (ECC)	DUT: DUT#2 CPU: Intel (R) Xeon (R) E-2124G CPU @ 3.40GHz (SR3WL) DIMM Slot: DIMM-1/2/3/4 Dual Channel Test Summary: AIDA64 Cache and Memory Benchmark(V5.97.4600) READ:37522 MB/s WRITE:40313 MB/s COPY:36316 MB/s  Passmark PerformanceTest 9.0 Build 1029 CPU Mark:10169.4 Memory Mark:3261.5  3DMark for Windows(V 2.8.6546)3times Cloud Gate:9664 Ice Storm Extreme:53459 Skydiver: 4821 Fire Strike:1260	Pass