

1. Stability Test:

1.1 CPU Function Test:

Test Purpose	Test CPU functions work normally under Windows Operating System
Test Procedure	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 / 2.7GHz	Core i7-9850HE (CoffeeLake/SRFED) / 45W / BGA1440	35.0°C	56.0°C	Pass
2	Intel / 1.6GHz	Core i3-9100HL (CoffeeLake/SRFEK) / 25W / BGA1440	30.0°C	52.0°C	Pass
3	Intel / 1.9GHz	Celeron G4932E (CoffeeLake/SRFEL) / 25W / BGA1440	33.0°C	54.0°C	Pass
4	Intel / 2.8GHz	Xeon E-2276ME (CoffeeLake/SRFEC) / 45W / BGA1440	36.0°C	58.0°C	Pass

1.1.1 Application Test:

No.	Software	Test Keypoint	Result
1	CPU-Z Ver.1.93.0	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 drivers 3. Run AIDA64 Cache and Memory Benchmark Ver.6.25.5400 - 1 time 4. Run PassMark Performance Test 10.0 Build1008 - 1 time 5. Run 3DMark for Windows Ver.2.15.7088 BenchMark - 3 times 6. S3(Sleep)/S4(Hibernate)/S5(Shutdown) test - 3 times
Test Criteria	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	PassMark MemTest86 V8.4 Pro	1. Burn-In test 12 hours.	DUT: DUT#2 DDR4: DDR4-2666/ATP-X4G32Q28BVT DME-7-DR1/Micron-0CB45 D9XPF/32GB*4/1091015C-1/2/3/4 (DIMM-1/2/3/4) DUAL CHANNEL DUT: DUT#1 DDR4: DDR4-3200(ECC)/ATP-X4F32QG8BVWEME-7-DR1/Micron-00E47 D9ZFV/32GB*3/DR079-1/2/3 (DIMM-1/2/3) 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	DDR4-2666	0CB45 D9XPF	X4G32Q28BVT DME-7-DR1	Pass
2	Transcend	SEC	32GB	DDR4-2666	K4AAG085WM-BCTD	TS4GSH64V6E	Pass
3	ADATA	SEC	32GB	DDR4-2666	K4AAG085WA-BCTD	ADAS2666732G19-BSSA	Pass
4	Kingston	Micron	16GB	DDR4-2666	8PE75-D9VPP	CBD26D4S9D8ME-16	Pass
5	Transcend	SEC	8GB	DDR4-2666	K4A8G085WC-BCTD	TS1GSH64V6B	Pass
6	Kingston	Micron	8GB	DDR4-2666	8QE75-D9VPP	CBD26D4S9S8ME-8	Pass
7	Transcend	SEC	4GB	DDR4-2400	K4A4G085WE-BCRC	TS512MSH644H	Pass
8	ATP	Micron	32GB	DDR4-3200(ECC)	00E47 D9ZFV	X4F32QG8BVWEME-7-DR1	Pass

1.2.4 DDR4 Module Test Procedures:

No.	DDR4 Module	Test Procedures	Result
1	DDR4-2666/ATP-X4G32Q28BVTDME-7-DR1/Micron-0CB45 D9XPF/32GB*4	DUT: DUT#2 Test Summary: DIMM-1/2/3/4 Dual Channel AIDA64 Cache and Memory Benchmark(V6.25.5400) DUAL CHANNEL(DIMM-1/2/3/4) READ:35861 MB/s WRITE:40064 MB/s COPY:36128 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:12335.6 Memory Mark:3422.8 3DMark for Windows(V 2.15.7088)3times Cloud Gate:11434 Ice Storm:51620 Sky diver:5273 Fire Strike:1288	Pass
2	DDR4-2666/Transcend-TS4GSH64V6E/SECK4AAG085WM-BCTD/32GB*	DUT: DUT#2 Test Summary: DIMM-3 Single Channel AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-3) READ:19531 MB/s WRITE:18682 MB/s COPY:19424 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:8438.2 Memory Mark:2302.4 3DMark for Windows(V 2.15.7088)3times Cloud Gate:9504 Ice Storm:45991 Sky diver:4877 Fire Strike:1125	Pass
3	DDR4-2666/ADATA-ADAS2666732G19-BSSA/SECK4AAG085WA-BCTD/32GB*2	DUT: DUT#2 Test Summary: DIMM-1/3 Dual Channel AIDA64 Cache and Memory Benchmark(V6.25.5400) DUAL CHANNEL(DIMM-1/3) READ:36229 MB/s WRITE:38569 MB/s COPY:34961 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:12515.8 Memory Mark:3404.7 3DMark for Windows(V 2.15.7088)3times Cloud Gate:11346 Ice Storm:51626 Sky diver:5279 Fire Strike:1289	Pass
4	DDR4-2666/Kingston-CBD26D4S9D8ME-16/Micron-8PE75-D9VPP/16GB*	DUT: DUT#2 Test Summary: DIMM-4 Single Channel AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-4) READ:20188 MB/s WRITE:19036 MB/s COPY:20402 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:11234.7 Memory Mark:2740.2 3DMark for Windows(V 2.15.7088)3times Cloud Gate:9939 Ice Storm:47258 Sky diver:4925 Fire Strike:1138	Pass

5	DDR4-2666/Transcend-TS1GSH64V6B/SECK4A8G085WC-BCTD/8GB*	DUT: DUT#2 Test Summary: DIMM-1 Single Channel AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-1) READ:19115 MB/s WRITE:17813 MB/s COPY:16868 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:8281.7 Memory Mark:2054.5 3DMark for Windows(V 2.15.7088)3times Cloud Gate:9251 Ice Storm:44210 Sky diver:4784 Fire Strike:1085	Pass
6	DDR4-2400/Transcend-TS512MSH644H/SECK4A4G085WE-BCRC/4GB*4	DUT: DUT#4 Test Summary: DIMM-1/2/3/4 Dual Channel AIDA64 Cache and Memory Benchmark(V6.25.5400) DUAL CHANNEL(DIMM-1/2/3/4) READ:23867 MB/s WRITE:33074 MB/s COPY:29948 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:1530.8 Memory Mark:1687.2 3DMark for Windows(V 2.15.7088)3times Cloud Gate:3740 Ice Storm:2400 Sky diver:2680 Fire Strike:702	Pass
7	DDR4-2666/ Kingston- CBD26D4S9S8ME-8/ Micron-8QE75-D9VPP/8GB*2	DUT: DUT#3 Test Summary: DIMM-1/2 Single Channel AIDA64 Cache and Memory Benchmark(V6.25.5400) SINGLE CHANNEL(DIMM-1/2) READ:18451 MB/s WRITE:19274 MB/s COPY:18189 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:2915.6 Memory Mark:1592.2 3DMark for Windows(V 2.15.7088)3times Cloud Gate:5841 Ice Storm:37867 Sky diver:4251 Fire Strike:1036	Pass
8	DDR4-3200(ECC)/ATP-X4F32QG8BVWEME-7-DR1/Micron-00E47 D9ZFY/32GB*3	DUT: DUT#5 Test Summary: DIMM-1/2/3 Dual Channel AIDA64 Cache and Memory Benchmark(V6.25.5400) DUAL CHANNEL(DIMM-1/2/3) READ:35923 MB/s WRITE:39579 MB/s COPY:35822 MB/s Passmark PerformanceTest 10.0 Build 1008 CPU Mark:12857.2 Memory Mark:3400.7 3DMark for Windows(V 2.15.7088)3times Cloud Gate:11248 Ice Storm:52483 Sky diver:5348 Fire Strike:1289	Pass (was:40296)