

1. Stability Test: Rev.021

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 Driver 3. CPU-Z check CPU info 4. Run AIDA64 Cache and Memory Benchmark Ver.5.80.4000 1 time 5. Run Passmark Performance Test 9.0 Build1006 1 time 6. Run 3DMark for Windows Ver.2.2.3509 BenchMark 3 times 7. S3/Hibernate Test 3 times
Test Criteria	It should be no problem for all tests

No.	CPU Type	CPU Temp.	Result
1	Intel Atom-E3950 1.6GHz (Apollolake/QLGS)/12W/BGA1296	45 °C	Pass
2	Intel Atom-E3940 1.6GHz (Apollolake/QLGQ)/9.5W/BGA1296	46 °C	Pass
3	Intel Atom-E3930 1.3GHz (Apollolake/QLGT)/6W/BGA1296	46 °C	Pass
4	Intel Pentium-N4200 1.1GHz (Apollolake/QKTW)/6W/BGA1296	45 °C	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.5.80.4000 1 time 4. Run Passmark Performance Test 9.0 Build1006 1 time 5. Run 3DMark for Windows Ver.2.2.3509 BenchMark 3 times 6. S3/Hibernate Test 3 times
Test Criteria	It should be no problem for the test

1.2.1 DDRIII:

No.	Function	Result
1	Single Channel mode	Pass
2	Dual channel mode	Pass
3	DIMM Slot1	Pass
4	DIMM Slot2	Pass



1.2.2 Application Test:

No.	Software	Test Keypoint	Test Environment	Result
1	MemTest86 Ver.7.1	1. Burn-In test 12 hours.	M/B: AL171-CB Rev.2 (021) (BSH031600011) M/B BIOS: Insyde 03/01/2017 M/B Driver: AL-Series_EVT_170124_00 CPU: Intel Atom Processor E3950 1.60GHz DDR3: PC3-10600(DDR3L-1333)Apacer/Elpida-TWN/4GB*2(2Rank,78.B2GCL.4210C,J2108ECSE-DJ-F,1.35,Low Voltage Module,256Mx8b-x16/512Mx64b,CL=9,Unbuffer Non-ECC,RoHS)(DRDI-1/2) (DIMM-1/2) DUAL CHANNEL Display: Onboard SSD: Intel SSDSC2CT080A4 Solid State Drive (Intel SSD 335 Series, 80GB 2.5in 6Gb/s SATA SSD 80G 5V 1A) DVD-ROM: Pioneer DVD-232DW DVD-ROM(Serial ATA Reversion 2.6,18X DVD-ROM,Read Speed:DVD-RW(24x),40X CD-ROM,Firmware:1.00 121029) (CR028) Power: EDAC Power Elec./EA10521C-120 LCD: CHIMEI CMV 221D 22" TFT-LCD Wide Screen Monitor(1680*1050 WSXGA+ 16:10 5ms).(Using VGA) O.S.: DOS	Pass

1.2.3 DDR3 SO-DIMM Approved List:

No.	Brand	Chip	Size	Type	Chip Model No.	Vendor Part No.	Result
1	Crucial	Micron	8GB	PC3L-12800 (DDR3L-1600)	2RD27D9PCP	CT102464BF160B.16FDD (MT16KTF1G64HZ-1G6D1) 1.35/1.5V [512Mx8b-x16/1024Mx64b,CL=11-11-11-30]	Pass
2	ADATA	Micron	8GB	PC3L-12800 (DDR3L-1600)	3DE77D9Q8J	ADDS1600W8G11-BMIE (10281788) 1.35V/1.5V[512Mx8b-x16/1GBx 64b,CL=11-11-11]	Pass
3	Apacer	ELPIDA	4GB	PC3-10600 (DDR3L-1333)	J2108ECSE-DJ-F	78.B2GCL4210C 1.35V [256Mx8b-x16/512Mx64b,CL=9]	Pass
4	Crucial	Micron	4GB	PC3L-12800 (DDR3L-1600)	2RM77D9PFJ	CT51264BF160B.16FMR (MT16KTF51264HZ-1G6M1) 1.35V/ 135V [256Mx8b-x16/512Mx64b,CL=11-11-11-30]	Pass
5	Apacer	Micron	4GB	PC3L-12800 (DDR3L-1600)	2DM77-D9PFJ	75.B83DL.G000C 1.35V/1.5V [256Mx8b-x16/512Mx64b,CL=11]	Pass
6	Transcend	Hynix	4GB	PC3-10600 (DDR3L-1333)	H5TQ2G83BFR-H9C	TS512MSK64W3N 1.35V/1.5V [256Mx8b-x16/512Mx64b,CL=9]	Pass
7	Crucial	Micron	2GB	PC3L-10600 (DDR3L-1333)	2EM77D9PFJ	CT25664BF1339.8FMR (MT8KTF25664HZ-1G4M1) 1.35V/1.5V [56Mx8b-x8/256Mx64b,CL=9]	Pass



1.2.4 DDR3 SO-DIMM Test Procedures:

No.	DDR3 Module	Test Environment	Result
1	Crucial (CT102464BF160B.16FDD (MT16KTF1G64HZ-1G6D1) 1.35V/1.5V) [512Mx8b-x16/1024Mx64b,CL=11-11-11-30] /Micron (2RD27D9PCP) /PC3L-12800 (DDR3L-1600) /8GB *1	<p>M/B: AL171-CB Rev.2 (021) (BSH031600011) M/B BIOS: Insyde 03/01/2017 M/B Driver: AL-Series_EVT_170124_00 CPU: Intel Atom Processor E3950 1.60GHz DIMM Slot: DIMM-2 SINGLE CHANNEL Onboard Display: Intel SSDSC2CT080A4 Solid State Drive (Intel SSD 335 Series, 80GB 2.5in 6Gb/s SATA SSD 80G 5V 1A) SSD: Pioneer DVD-232DW DVD-ROM(Serial ATA Reversion 2.6,18X DVD-ROM,Read Speed:DVD-RW(24x),40X CD-ROM,Firmware:1.00 121029) (CR028) DVD-ROM: EDAC Power Elec./EA10521C-120 Power: CHIMEI CMV 221D 22" TFT-LCD Wide Screen Monitor(1680*1050 LCD: WSXGA+ 16:10 5ms).(Using VGA) O.S.: Windows 10 IOT Enterprise CBB x64 (Version 1607 Build 14393.953)UEFI Test Summary: Environment Temp.: 25.3°C CPU Temp.: 39.0°C CPU Temp. after 3DMark: 39.0°C</p> <p>AIDA64 Cache and Memory Benchmark(V5.80.4000) SINGLE CHANNEL (DIMM-2) READ:11613 MB/s WRITE:11610 MB/s COPY:7021 MB/s</p> <p>PassMark PerformanceTest 9.0 Build 1006 CPU Mark:2032.7 Memory Mark:996.9</p> <p>3DMark for Windows(V 2.2.3509)3times Cloud Gate:2931 Ice Storm:21878 Sky Diver:1822 Strike Test:408</p>	Pass
2	ADATA (ADDS1600W8G11-BMIE (10281788) 1.35V/1.5V)[512Mx8b-x16/1GBx64b,CL=11-11-11] / Micron (3DE77D9Q8J) / PC3L-12800 (DDR3L-1600) / 8GB *1	<p>M/B: AL173-CT Rev.2 (021) (BSH031900006) M/B BIOS: Insyde 03/01/2017 M/B Driver: AL-Series_EVT_170124_00 CPU: Intel Atom Processor E3940 1.60GHz DIMM Slot: DIMM-1 SINGLE CHANNEL Onboard Display: Seagate ST250LT012-9WS 250GB (HD062) SATA HDD: Lite-On It iHDS118-07 DVD-ROM(18X) (CRM6) DVD-ROM: EDAC /EA11011M-190 (AC Input:100-240V,2.0A,50-60Hz;DC Output:19.0V/6.31A Max/120W Max) Power: LENOVO L2232wD(21.5",LED Wide Screen Monitor(1920x1080 Full HD,WSXGA+,16:9) (Using VGA) LCD: Windows 10 IOT Enterprise CBB x64 (Version 1607 Build 14393.953)UEFI O.S.: Environment Temp.: 24.5°C Test Summary: CPU Temp.: 36.0°C CPU Temp. after 3DMark: 38.0°C</p> <p>AIDA64 Cache and Memory Benchmark(V5.80.4000) SINGLE CHANNEL (DIMM-1) READ:11613 MB/s WRITE:11610 MB/s COPY:7021 MB/s</p> <p>PassMark PerformanceTest 9.0 Build 1006 CPU Mark:2032.7 Memory Mark:996.9</p> <p>3DMark for Windows(V 2.2.3509)3times Cloud Gate:2931 Ice Storm:21878 Sky Diver:1822 Strike Test:408</p>	Pass



<p style="text-align: center;">3</p>	<p>Apacer (78.B2GCL4210C 1.35V) [256Mx8b-x16/512Mx64b,CL=9] / ELPIDA (J2108ECSE-DJ-F) / PC3-10600 (DDR3L-1333) / 4GB *2</p>	<p>M/B: AL171-CB Rev.2 (021) (BSH031600011) M/B BIOS: Insyde 03/01/2017 M/B Driver: AL-Series_EVT_170124_00 CPU: Intel Atom Processor E3950 1.60GHz DIMM Slot: DIMM-1/2 DUAL CHANNEL Onboard Display: Intel SSDSC2CT080A4 Solid State Drive (Intel SSD 335 Series, 80GB 2.5in 6Gb/s SATA SSD 80G 5V 1A) SSD: DVD-ROM: Pioneer DVD-232DW DVD-ROM(Serial ATA Reversion 2.6,18X DVD-ROM,Read Speed:DVD-RW(24x),40X CD-ROM,Firmware:1.00 121029) (CR028) EDAC Power Elec./EA10521C-120 Power: CHIMEI CMV 221D 22" TFT-LCD Wide Screen Monitor(1680*1050 LCD: WSXGA+ 16:10 5ms).(Using VGA) Windows 10 IOT Enterprise CBB x64 (Version 1607 Build 14393.953)UEFI O.S.: Test Summary: Environment Temp.: 23.9°C CPU Temp.: 38.0°C CPU Temp. after 3DMark: 39.0°C</p> <p>AIDA64 Cache and Memory Benchmark(V5.80.4000) DUAL CHANNEL (DIMM-1/2) READ:13564 MB/s WRITE:16967 MB/s COPY:10064 MB/s</p> <p>PassMark PerformanceTest 9.0 Build 1006 CPU Mark:2083.9 Memory Mark:988</p> <p>3DMark for Windows(V 2.2.3509)3times Cloud Gate:3339 Ice Storm:25572 Sky Diver:2003 Strike Test:508</p>	<p style="text-align: center;">Pass</p>
<p style="text-align: center;">4</p>	<p>Crucial (CT51264BF160B.16FMR (MT16KTF51264HZ-1G6M1) 1.35V/1.5V) [256Mx8b-x16/512Mx64b,CL=11-11-11-30] / Micron (2RM77D9PFJ) / PC3L-12800 (DDR3L-1600) / 4GB *2</p>	<p>M/B: AL171-CT Rev.2 (021) (BSH031500004) M/B BIOS: Insyde 03/01/2017 M/B Driver: AL-Series_EVT_170124_00 CPU: Intel Atom Processor E3930 1.30GHz DIMM Slot: DIMM-1/2 DUAL CHANNEL Onboard Display: Hitachi HTS541612J9SA00 SATA/150 NCQ (2.5", Travels tar SATA HDD: 5K160 Series, 120GB, 5400RPM, 8MB Cache, Firmware: SBDOC70P)(HD64) DVD-ROM: Pioneer DVD-232DW DVD-ROM(Serial ATA Reversion 2.6,18X DVD-ROM,Read Speed:DVD-RW(24x),40X CD-ROM,Firmware:1.00 121029) (CR028) EDAC Power Elec. EA10521F-190 Power: PHILIPS 241PQPY(24",LED Wide Screen Monitor(1920x1080 Full LCD: HD,WSXGA+,16:9,D-Sub,DisplayPort,DVI-D,16.7 Million-24 bit,12ms(Gray to Gray) ,0,276mm-Pixel Pitch,Support HDCP(DVI-D) (Using VGA) Windows 10 IOT Enterprise CBB x64 (Version 1607 Build 14393.953)UEFI O.S.: Test Summary: Environment Temp.: 23.7°C CPU Temp.: 39.0°C CPU Temp. after 3DMark: 40.0°C</p> <p>AIDA64 Cache and Memory Benchmark(V5.80.4000) DUAL CHANNEL (DIMM-1/2) READ:12255 MB/s WRITE:10096 MB/s COPY:10862 MB/s</p> <p>PassMark PerformanceTest 9.0 Build 1006 CPU Mark:1037.2 Memory Mark:934.5</p> <p>3DMark for Windows(V 2.2.3509)3times Cloud Gate:2060 Ice Storm:14220 Sky Diver:1058 Strike Test:320</p>	<p style="text-align: center;">Pass</p>



<p style="text-align: center; font-weight: bold;">5</p>	<p>Apacer (75.B83DL.G000C 1.35V/1.5V) [256Mx8b-x16/512Mx64b,CL=11] / Micron (2DM77-D9PFJ) / PC3L-12800 (DDR3L-1600) / 4GB *2</p>	<p>M/B: AL171-CB Rev.2 (021) (BSH031400001) M/B BIOS: Insyde 03/01/2017 M/B Driver: AL-Series_EVT_170124_00 CPU: Intel Pentium CPU N4200 1.10GHz DIMM Slot: DIMM-1/2 DUAL CHANNEL Onboard Display: Intel SSDSC2BW120A4 2.5" 6Gb/s SATA SSD 120GB (HD087) SSD: Pioneer DVD-232DW DVD-ROM(Serial ATA Reversion 2.6,18X DVD-ROM,Read Speed:DVD-RW(24x),40X CD- ROM,Firmware:1.00 121029) (CR028) Power: EDAC /EA11001E-120(AC Input:100-240V,2.5A,50-60Hz;DC Output:12.0V/8.33A Max/100W Max) ASUS VS228H 21.5" LED Wide Screen LCD: Monitor(1920*1080,WSXGA+,16:9,D-Sub,DVI- I,HDMI,Color:16.7M) (Using VGA) O.S.: Windows 10 IOT Enterprise CBB x64 (Version 1607 Build 14393.953)UEFI Environment Temp.: 24.9°C Test Summary: CPU Temp.: 45.0°C CPU Temp. after 3DMark: 46.0°C</p> <p>AIDA64 Cache and Memory Benchmark(V5.80.4000) DUAL CHANNEL (DIMM-1/2) READ:15429 MB/s WRITE:17083 MB/s COPY:11398 MB/s</p> <p>PassMark PerformanceTest 9.0 Build 1006 CPU Mark:2407.8 Memory Mark:1116.3</p> <p>3DMark for Windows(V 2.2.3509)3times Cloud Gate:3950 Ice Storm:30221 Sky Diver:2306 Strike Test:588</p>	<p style="text-align: center; font-weight: bold;">Pass</p>
<p style="text-align: center; font-weight: bold;">6</p>	<p>Transcend (TS512MSK64W3N 1.35V/1.5V) [256Mx8b-x16/512Mx64b,CL=9] / Hynix (H5TQ2G83BFR-H9C) / PC3-10600 (DDR3L-1333) / 4GB *2</p>	<p>M/B: AL171-CB Rev.2 (021) (BSH031600011) M/B BIOS: Insyde 03/01/2017 M/B Driver: AL-Series_EVT_170124_00 CPU: Intel Atom Processor E3950 1.60GHz.(QLGS) DIMM Slot: DIMM-1/2 DUAL CHANNEL Onboard Display: Western Digital WD5000AAKS SATA/300 NCQ (WD Caviar SE16 Series, 500GB, 7200RPM, 16MB Cache, Firmware: 12.01C01)(HD69) SATA HDD: Lite-On It iHDS118-07 DVD-ROM(18X) (CRM6) DVD-ROM: EDAC Power Elec./EA10521C-120 Power: CHIMEI CMV 221D 22" TFT-LCD Wide Screen Monitor(1680*1050 WSXGA+ 16:10 5ms).(Using VGA) LCD: Windows 10 IOT Enterprise CBB x64 (Version 1607 Build 14393.953)UEFI O.S.: Environment Temp.: 26.2°C Test Summary: CPU Temp.: 38.0°C CPU Temp. after 3DMark: 39.0°C</p> <p>AIDA64 Cache and Memory Benchmark(V5.80.4000) DUAL CHANNEL (DIMM-1/2) READ:13559 MB/s WRITE:16973 MB/s COPY:10124 MB/s</p> <p>PassMark PerformanceTest 9.0 Build 1006 CPU Mark:2077.8 Memory Mark:986.3</p> <p>3DMark for Windows(V 2.2.3509)3times Cloud Gate:3388 Ice Storm:25446 Sky Diver:2006 Strike Test:508</p>	<p style="text-align: center; font-weight: bold;">Pass</p>



7	<p>Crucial (CT25664BF1339.8FMR (MT8KTF25664HZ-1G4M1) 1.35V/1.5V) [256Mx8b-x8/256Mx64b,CL=9] / Micron (2EM77D9PFJ) / PC3L-10600 (DDR3L-1333) / 2GB *2</p>	<p>M/B: AL171-CB Rev.2 (021) (BSH031600011) M/B BIOS: Insyde 03/01/2017 M/B Driver: AL-Series_EVT_170124_00 CPU: Intel Atom Processor E3950 1.60GHz DIMM Slot: DIMM-1/2 DUAL CHANNEL Onboard Display: Western Digital WD5000AAKS SATA/300 NCQ (WD Caviar SE16 Series, 500GB, 7200RPM, 16MB Cache, Firmware: 12.01C01)(HD69) SSD: Lite-On It iHDS118-07 DVD-ROM(18X) (CRM6) EDAC Power Elec./EA10521C-120 DVD-ROM: CHIMEI CMV 221D 22" TFT-LCD Wide Screen Monitor(1680*1050 WSXGA+ 16:10 5ms).(Using VGA) Power: Windows 10 IOT Enterprise CBB x64 (Version 1607 Build 14393.953)UEFI LCD: Environment Temp.: 26.2°C O.S.: CPU Temp.: 38.0°C Test Summary: CPU Temp. after 3DMark: 39.0°C</p> <p>AIDA64 Cache and Memory Benchmark(V5.80.4000) DUAL CHANNEL (DIMM-1/2) READ:12803 MB/s WRITE:16535 MB/s COPY:9085 MB/s</p> <p>PassMark PerformanceTest 9.0 Build 1006 CPU Mark:2060.8 Memory Mark:903.4</p> <p>3DMark for Windows(V 2.2.3509)3times Cloud Gate:3315 Ice Storm:25105 Sky Diver:1966 Strike Test:491</p>	Pass
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