

1. Stability Test: Rev.0A1

1.1 CPU Test:

Procedure:

- (1) Install O.S.
- (2) Check CPU information & specification with CPU-Z.
- (3) Run 3DMark11 Demo Edition Ver.1.0.5 BenchMark - 3 times.
- (4) Check CPU temperature in the BIOS after running 3DMark.
- (5) Run S3/S4/S5 - 3 times.

| No. | CPU | Type | CPU Temp. | Result |
|-----|----------------|-------------------------------------|-----------|--------|
| 1 | Intel / 2.7GHz | Core i5-4400E (Haswell) / FCBGA1168 | 35 °C | Pass |
| 2 | Intel / 1.6GHz | Core i5-4402E (Haswell) / FCBGA1168 | 31 °C | Pass |

1.2 DDR3 SO-DIMM Test:

Procedure:

- (1) Install O.S.
- (2) Check Memory information & specification with CPU-Z.
- (3) Run 3DMark11 Demo Edition Ver.1.0.5 BenchMark - 3 times.
- (4) Run S3/S4/S5 - 3 times.

| No. | Brand | Chip | Size | Type | Chip Model No. | Vendor Part No. | Result |
|-----|----------|-----------|------|----------------------------|-----------------|--|--------|
| 1 | Apacer | Micron | 8GB | PC3-12800 (DDR3L-1600) | 2ED27-D9PCP | 75.C93DL.G000C 1.35V/1.5V [512Mx8b-x16/1024Mx64b,CL=11] | Pass |
| 2 | Crucial | Micron | 8GB | PC3-12800 (DDR3L-1600) | 2RD27D9PCP | CT102464BF160B.16FDD (MT16KTF1G64HZ-1G6D1) 1.35/1.5V [512Mx8b-x16/1024Mx64b,CL=11-11-11-30] | Pass |
| 3 | ADATA | Micron | 8GB | PC3L-12800 (DDR3L-1600) | 3DE77D9Q8J | ADDS1600W8G11-BMIE (10281788) 1.35V/1.5V [512Mx8b-x16/1GBx64b,CL=11-11-11] | Pass |
| 4 | INNODISK | Micron | 4GB | PC3-12800 (DDR3L-1600) | 1XM77-D9PFJ | M3SP-4GMJDL0C-M 1.35V/1.5V [256Mx8b-x16/512Mx64b,CL=9] | Pass |
| 5 | Apacer | Micron | 4GB | PC3-12800 (DDR3L-1600) | 2DM77-D9PFJ | 75.B83DL.G000C 1.35V/1.5V [256Mx8b-x16/512Mx64b,CL=11] | Pass |
| 6 | ADATA | Micron | 4GB | PC3L-12800 (DDR3L-1600) | 3DE77D9Q8J | ADDS1600W4G11-BMIE (10281820) 1.35V/1.5V [512Mx8b-x8/512Mx64b,CL=11-11-11] | Pass |
| 7 | ADATA | Hynix(SK) | 2GB | PC3L-12800 (DDR3L-1600) | H5TC2G83EFR PBA | ADDS1600C2G11-BHYE (10281881) 1.35V/1.5V [256Mx8b-x8/256Mx64b,CL=11-11-11] | Pass |

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|-----------|-----------|--------|-----|----------------------------|-----------------|--|-------------|
| 8 | Apacer | ELPIDA | 4GB | PC3-10600 (DDR3L-1333) | J2108ECSE-DJ-F | 78.B2GCL4210C 1.35V [256Mx8b-x16/512Mx64b,CL=9] | Pass |
| 9 | Transcend | Hynix | 4GB | PC3-10600 (DDR3L-1333) | H5TQ2G83BFR-H9C | TS512MSK64W3N 1.35V/1.5V [256Mx8b-x16/512Mx64b,CL=9] | Pass |
| 10 | Apacer | ELPIDA | 2GB | PC3-10600 (DDR3L-1333) | J2108ECSE-DJ-F | 78.A2GCL4200C 1.35V [256Mx8b-x8/256Mx64b,CL=9] | Pass |
| 11 | Transcend | Hynix | 2GB | PC3-10600 (DDR3L-1333) | H5TQ2G83BFR-H9C | TS256MSK64W3N 1.35V/1.5V [256Mx8b-x8/256Mx64b,CL=9] | Pass |
| 12 | Crucial | Micron | 2GB | PC3L-10600 (DDR3L-1333) | 2EM77D9PFJ | CT25664BF1339.8FMR (MT8KTF25664HZ-1G4M1) 1.35V/1.5V [56Mx8b-x8/256Mx64b,CL=9] | Pass |

1.3 DDR3 SO-DIMM Test Procedures:

Procedure:

- (1) Install O.S.**
- (2) Check Memory information & specification with CPU-Z.**
- (3) Run 3DMark11 Demo Edition Ver.1.0.5 BenchMark - 3 times.**
- (4) Run S3/S4/S5 - 3 times.**

| No. | DDR3 Module | Test Environment | 3DMark Score | Result |
|----------|---|---|--------------|-------------|
| 1 | Apacer (75.C93DL.G000C 1.35V/1.5V) [512Mx8b-x16/1024Mx64b,CL=11] / Micron (2ED27-D9PCP) / PC3-12800 (DDR3L-1600) / 8GB *2 | M/B: HM920-HM86BS0-4402E Rev.A (0A1) & COM330-B Rev.A (A00) M/B BIOS: AMI-Aptio 01/06/2014 EC F/W Rev.: 1.3 (2014/01/02) M/B Driver: Demo Jul/25/2013 CPU: Intel / Core i5-4402E (Haswell) / 1.6GHz DIMM Slot: DIMM-1/2 (Dual Channel) SSD: Crucial / CT120M500SSD1 SATA3 120GB/2.5" Display: On Board DVD-RW: Lite-On / iHAS324-U32D SATA Power: Jagier / KY-580ATX 480W O.S.: Windows 8 Enterprise 64Bit (English) | P762 | Pass |

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|-----------------|--|---|--------------------|--------------------|
| <p>2</p> | <p>Crucial (CT102464BF160B.16FDD (MT16KTF1G64HZ-1G6D1) 1.35V/1.5V) [512Mx8b-x16/1024Mx64b, CL=11-11-11-30] / Micron (2RD27D9PCP) / PC3-12800 (DDR3L-1600) / 8GB *2</p> | <p>M/B: HM920-QM87BS0-4400E Rev.A (0A1) & COM330-B Rev.A (A00) M/B BIOS: AMI-Aptio 01/06/2014 EC F/W Rev.: 1.3 (2014/01/02) M/B Driver: Demo Jul/25/2013 CPU: Intel / Core i5-4400E (Haswell) / 2.7GHz DIMM Slot: DIMM-1/2 (Dual Channel) SSD: Crucial / CT120M500SSD1 SATA3 120GB/2.5" Display: On Board DVD-RW: Lite-On / iHAS324-U32D SATA Power: Jagier / KY-580ATX 480W O.S.: Windows 7 Ultimate 64Bit (English) & SP1</p> | <p>P833</p> | <p>Pass</p> |
| <p>3</p> | <p>ADATA (ADDS1600W8G11-BMIE (10281788) 1.35V/1.5V) [512Mx8b-x16/1GBx64b,CL=11-11-11] / Micron (3DE77D9Q8J) / PC3L-12800 (DDR3L-1600) / 8GB *2</p> | <p>M/B: HM920-HM86BS0-4402E Rev.A (0A1) & COM330-B Rev.A (A00) M/B BIOS: AMI-Aptio 06/20/2013 EC F/W Rev.: 1.0 (2013/06/05) M/B Driver: Demo Jun/27/2013 CPU: Intel / Core i5-4402E (Haswell) / 1.6GHz DIMM Slot: DIMM-1/2 (Dual channel) SATA HDD: Seagate / ST500DM002 SATA3 NCQ 500GB Display: Pioneer / DVD-231DW 18X SATA DVD-ROM: On Board Power: Jagier / KY-580ATX 480W O.S.: Windows 8 Enterprise 64Bit (English) Test Summary: Overnight looping under 11 hours</p> | <p>P489</p> | <p>Pass</p> |



| No. | DDR3 Module | Test Environment | 3DMark Score | Result |
|-----|---|---|--------------|--------|
| 4 | INNODISK (M3SP-4GMJDL0C-M 1.35V/1.5V) [256Mx8b-x16/512Mx64b,CL=9] / Micron (1XM77-D9PFJ) / PC3-12800 (DDR3L-1600) / 4GB *1 | M/B: HM920-HM86BS0-4402E Rev.A (0A1) & COM330-B Rev.A (A00) M/B BIOS: AMI-Aptio 06/20/2013 EC F/W Rev.: 1.0 (2013/06/05) M/B Driver: Demo Jun/27/2013 CPU: Intel / Core i5-4402E (Haswell) / 1.6GHz DIMM Slot: DIMM-1 (Single channel) SATA HDD: Seagate / ST500DM002 SATA3 NCQ 500GB Display: On Board DVD-ROM: Pioneer / DVD-231DW 18X SATA Power: Jagier / KY-580ATX 480W O.S.: Windows 8 Enterprise 32Bit (English) | P470 | Pass |
| 5 | Apacer (75.B83DL.G000C 1.35V/1.5V) [256Mx8b-x16/512Mx64b,CL=11] / Micron (2DM77-D9PFJ) / PC3-12800 (DDR3L-1600) / 4GB *2 | M/B: HM920-HM86BS0-4402E Rev.A (0A1) & COM330-B Rev.A (A00) M/B BIOS: AMI-Aptio 01/06/2014 EC F/W Rev.: 1.3 (2014/01/02) M/B Driver: Demo Jul/25/2013 CPU: Intel / Core i5-4402E (Haswell) / 1.6GHz DIMM Slot: DIMM-1/2 (Dual Channel) SSD: Intel / SSDSC2CW120A3K5 SATA3 120GB/2.5" Display: On Board DVD-RW: Lite-On / iHAS324-U32D SATA Power: Jagier / KY-580ATX 480W O.S.: Windows 7 Ultimate 32Bit (English) & SP1 | P735 | Pass |

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|-----------------|---|---|--------------------|--------------------|
| <p>6</p> | <p>ADATA (ADDS1600W4G11-BMIE (10281820) 1.35V/1.5V) [512Mx8b-x8/512Mx64b,CL=11-11-11] / Micron (3DE77D9Q8J) / PC3L-12800 (DDR3L-1600) / 4GB *2</p> | <p>M/B: HM920-HM86BS0-4402E Rev.A (0A1) & COM330-B Rev.A (A00) M/B BIOS: AMI-Aptio 06/20/2013 EC F/W Rev.: 1.0 (2013/06/05) M/B Driver: Demo Jun/27/2013 CPU: Intel / Core i5-4402E (Haswell) / 1.6GHz DIMM Slot: DIMM-1/2 (Dual channel) SATA HDD: Seagate / ST500DM002 SATA3 NCQ 500GB Display: On Board DVD-ROM: Pioneer / DVD-231DW 18X SATA Power: Jagier / KY-580ATX 480W O.S.: Windows 7 Ultimate 64Bit (English) & SP1</p> | <p>P488</p> | <p>Pass</p> |
| <p>7</p> | <p>ADATA (ADDS1600C2G11-BHYE (10281881) 1.35V/1.5V) [256Mx8b-x8/256Mx64b,CL=11-11-11] / Hynix(SK) (H5TC2G83EFR PBA) / PC3L-12800(DDR3L-1600) / 2GB *1</p> | <p>M/B: HM920-HM86BS0-4402E Rev.A (0A1) & COM330-B Rev.A (A00) M/B BIOS: AMI-Aptio 06/20/2013 EC F/W Rev.: 1.0 (2013/06/05) M/B Driver: Demo Jun/27/2013 CPU: Intel / Core i5-4402E (Haswell) / 1.6GHz DIMM Slot: DIMM-2 (Single channel) SATA HDD: Seagate / ST500DM002 SATA3 NCQ 500GB Display: On Board DVD-ROM: Pioneer / DVD-231DW 18X SATA Power: Jagier / KY-580ATX 480W O.S.: Windows 7 Ultimate 32Bit (English) & SP1</p> | <p>P462</p> | <p>Pass</p> |
| <p>8</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: HM920-HM86BS0-4400E Rev.A (0A1) & COM330-B Rev.A (A00) M/B BIOS: AMI-Aptio 06/20/2013 EC F/W Rev.: 1.0 (2013/06/05) M/B Driver: Demo Jun/27/2013 CPU: Intel / Core i5-4400E (Haswell) / 2.7GHz DIMM Slot: DIMM-1/2 (Dual channel) SATA HDD: WD / WD7500BPVT-22HXZT1 SATA2 NCQ 750GB/5400RPM/2.5" Display: On Board DVD-RW: Lite-On / iHAS324-U32D SATA Power: Delta / GPS-500BB 500W O.S.: Windows 7 Ultimate 64Bit (English) & SP1</p> | <p>P501</p> | <p>Pass</p> |



| No. | DDR3 Module | Test Environment | 3DMark Score | Result |
|-----|---|--|--------------|-------------|
| 9 | Transcend (TS512MSK64W3N 1.35V/1.5V) [256Mx8b-x16/512Mx64b,CL=9] / Hynix (H5TQ2G83BFR-H9C) / PC3-10600 (DDR3L-1333) / 4GB *2 | M/B: HM920-HM86BS0-4402E Rev.A (0A1) & COM330-B Rev.A (A00) M/B BIOS: AMI-Aptio 01/06/2014 EC F/W Rev.: 1.3 (2014/01/02) M/B Driver: Demo Jul/25/2013 CPU: Intel / Core i5-4402E (Haswell) / 1.6GHz DIMM Slot: DIMM-1/2 (Dual channel) SSD: Crucial / CT120M500SSD1 SATA3 120GB/2.5" Display: On Board DVD-ROM: Lite-On / iHAS324-U32D SATA Power: Jagier / KY-580ATX 480W O.S.: Windows 8 Enterprise 32Bit (English) Test Summary: Overnight looping under 11 hours | P710 | Pass |
| 10 | Apacer (78.A2GCL4200C 1.35V) [256Mx8b-x8/256Mx64b,CL=9] / ELPIDA (J2108ECSE-DJ-F) / PC3-10600 (DDR3L-1333) / 2GB *2 | M/B: HM920-HM86BS0-4400E Rev.A (0A1) & COM330-B Rev.A (A00) M/B BIOS: AMI-Aptio 06/20/2013 EC F/W Rev.: 1.0 (2013/06/05) M/B Driver: Demo Jun/27/2013 CPU: Intel / Core i5-4400E (Haswell) / 2.7GHz DIMM Slot: DIMM-1/2 (Dual channel) SATA HDD: WD / WD1002FAEX-00Z3A0 SATA3 NCQ 1TB/7200RPM Display: On Board DVD-RW: Lite-On / iHAS324-U32D SATA Power: Delta / GPS-500BB 500W O.S.: Windows 7 Ultimate 32Bit (English) & SP1 | P491 | Pass |



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|------------------|--|--|--------------------|--------------------|
| <p>11</p> | <p>Transcend (TS256MSK64W3N 1.35V/1.5V) [256Mx8b-x8/256Mx64b,CL=9] / Hynix (H5TQ2G83BFR-H9C) / PC3-10600 (DDR3L-1333) / 2GB *2</p> | <p>M/B: HM920-HM86BS0-4402E Rev.A (0A1) & COM330-B Rev.A (A00) M/B BIOS: AMI-Aptio 06/20/2013 EC F/W Rev.: 1.0 (2013/06/05) M/B Driver: Demo Jun/27/2013 CPU: Intel / Core i5-4402E (Haswell) / 1.6GHz DIMM Slot: DIMM-1/2 (Dual channel) SATA HDD: Seagate / STM3500320AS SATA2 NCQ 500GB/7200RPM Display: On Board DVD-RW: Lite-On / iHAS324-U32D SATA Power: Delta / GPS-500BB 500W O.S.: Windows 8 Enterprise 32Bit (English)</p> | <p>P478</p> | <p>Pass</p> |
| <p>12</p> | <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: HM920-HM86BS0-4400E Rev.A (0A1) & COM330-B Rev.A (A00) M/B BIOS: AMI-Aptio 06/20/2013 EC F/W Rev.: 1.0 (2013/06/05) M/B Driver: Demo Jun/27/2013 CPU: Intel / Core i5-4400E (Haswell) / 2.7GHz DIMM Slot: DIMM-1/2 (Dual channel) SATA HDD: Seagate / ST3750640SV SATA3 NCQ 750GB/7200RPM Display: On Board DVD-RW: Lite-On / iHAS324-U32D SATA Power: Delta / GPS-500BB 500W O.S.: Windows 7 Ultimate 32Bit (English) & SP1</p> | <p>P491</p> | <p>Pass</p> |

