# Review ZOTAC ION ITX A-E

## Introduction

**In for a penny, in for a pound. Today we will test the Dual Core Atom version from Zotac. We are curious to see how high the performance increase is in comparison to the Single Atom version.**

To complete their portfolio, Zotac also released a Dual Core Atom system. After having the pleasure a little while ago of testing the Single Atom version and as expected the graphic convinced us, it didn't look too good when it came to the performance. Now we are looking forward to see if the Dual Core Atom is more convincing when it comes to performance. The graphic is again from Nvidia and is called ION, therefore we are sure to be blown away from the graphic performance.

If the mainboard can keep what it promises regarding features, we have no doubt that will be a absolute hit in the HTPC sector. Low power drain, good Atom performance for all applications, and graphic that basically has no rival in this field of competitors. As already mentioned in the last review, Zotac takes a new route in the area of graphic and is far ahead of its competition. We are excited to see the test results, but we only think that it will confirm the increase in performance in comparison to the B-E version.


ZOTAC
ATOM N330
ION
90 WATT
INCLUDED
Extended Warranty
NVIDIA® ION GRAPHICS PLATFORM
MOTHERBOARD


ZOTAC

Specification

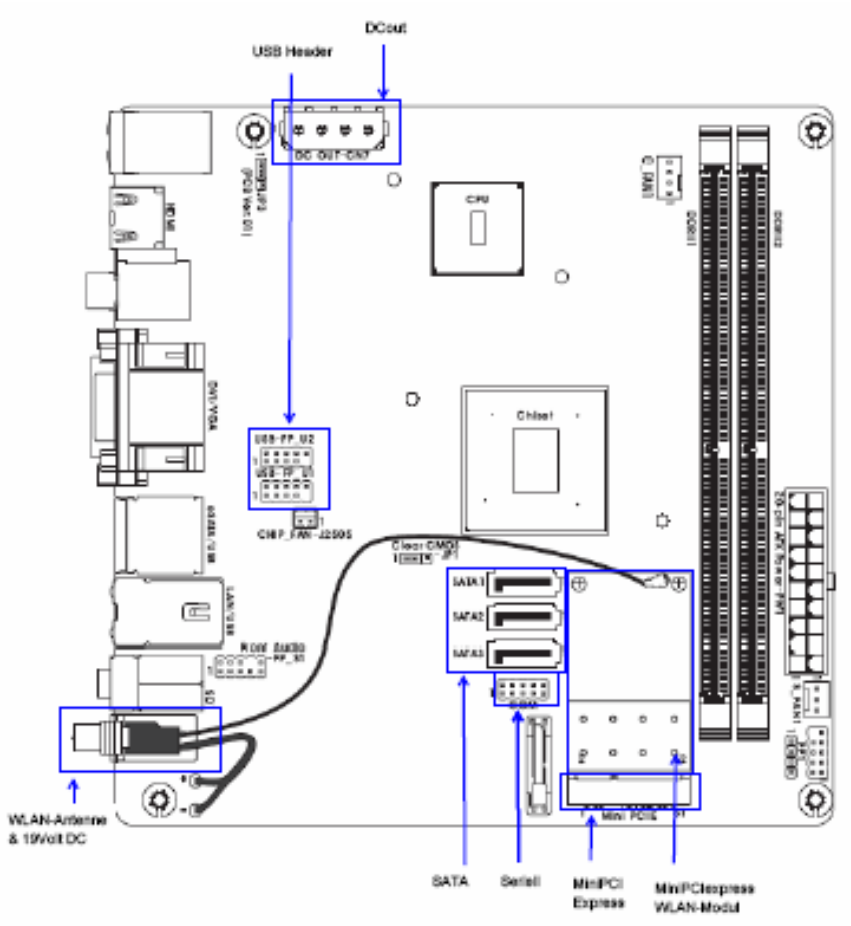
| | |
|---|---|
| Model | Zotac IONITX-A-E |
| Type | Mini-ITX mainboard |
| CPU | Intel Atom N330 (Dual Core / 1,6Ghz), FSB 533Mhz / NVIDIA MCP7A-ION Chip set **“fanless”** |
| Graphic | NVIDIA ION Graphic processor<br>GPU : 450Mhz, Shader : 1100Mhz16 stream processors<br>DirectX 10 / Open GL 2.1 |
| RAM | 2x DDR2 667/800 RAM (4GB max)<br>Dual Channel DDR2 |
| Power supply | Onboard |
| External connectors | - 6x USB 2.0<br>- 1x PS/2 (Keyboard)<br>- 1x HDMI<br>- 1x SPDIF out (Coaxial/Optical)<br>- 1x DVI<br>- 1x eSATA<br>- Audio<br>- 1x LAN 10/100/1000 MBit<br>- 1x VGA<br>- 1x port for WLAN antenna<br>- 1x power connection 19 Volt |
| SATA | 3x SATA (RAID 0, 1 und 0+1) |
| Internal connectors | - 1x MiniPCIe (For WLAN Module part of the delivery content)<br>- 4x USB 2.0<br>- 3x SATA<br>- 1x Serial<br>- 1x DC out |
| Delivery content | - Zotac IONITX-B-E<br>- MiniPCIexpress WIFI Module<br>- Power adapter 19 Volt / 90 Watt<br>- optional fan<br>- I/O ATX rear plate<br>- 3x SATA cable<br>- 1x SATA Power cable (5,25 auf 3 x SATA power)<br>- Quickstart-Guide<br>- Drivers CD |
| Software | - driver CDs for mainboard |
| Dimensions | - 17cm x 17cm |

Mainboard and connectors

The big brother of the IONITX-B-E also works with a NVIDIA MCP7A-ION chip set, but in this case it works with a N330 (Dual Core Atom) interface.

Zotac bets on increased but very constant Atom performance in connection with brilliant graphic.


Not much has changed when it comes to connection possibilities on the slot panel in comparison to the B-E version (6x USB 2.0, 1x PS/2 (keyboard), 1x HDMI, 1x SPDIF out (Coaxial/Optical), 1x DVI, 1x eSATA, audio, 1x LAN 10/100/1000 MB and 1x VGA). Additionally, there is a connection area for WLAN antenna and the direct 19 V power connection (can be used directly with AC power adapter, therefore no additional power supply is needed).



The internal connectors of the IONITX-B-E are identical. 1x MiniPCIe, 4x USB 2.0, 3x SATA and 1x Serial. Due to the fact that the power supply is already integrated on the board as well as an additional DC-out connector.

Also new ist he WLAN Module which is included in the delivery content. The Module can be connected to the MiniPCIexpress directly.

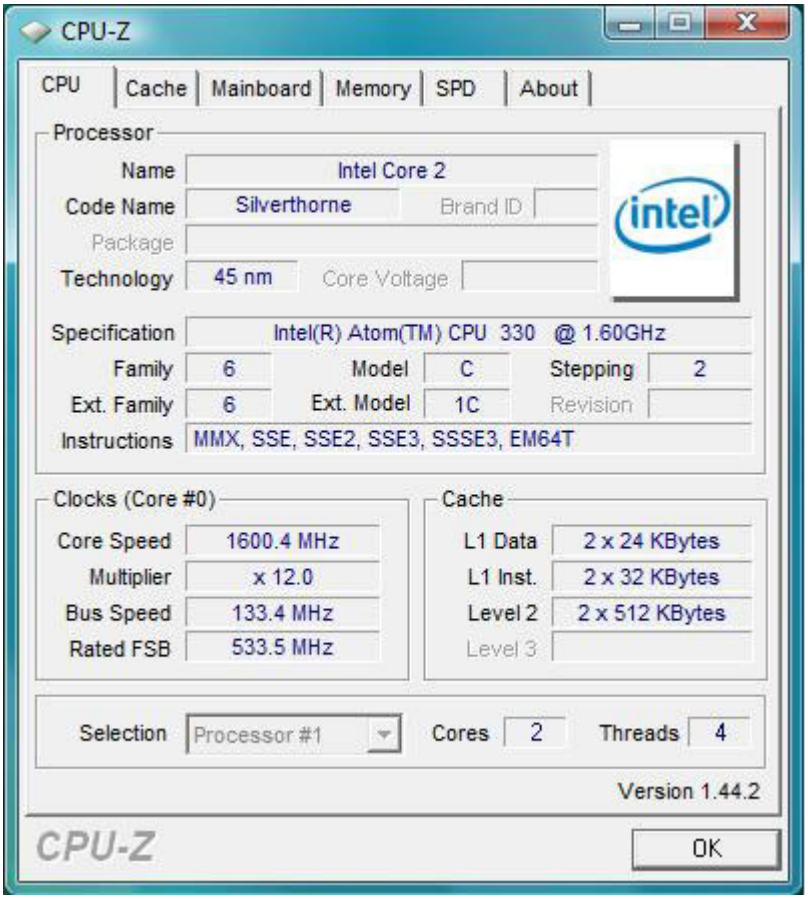
The IONITX-A-E is build to hold up to 4GB DDR2 RAM (max. 2GB per socket), they can operated in DualChannel as well. (Please be advised to use the same kind of RAM)

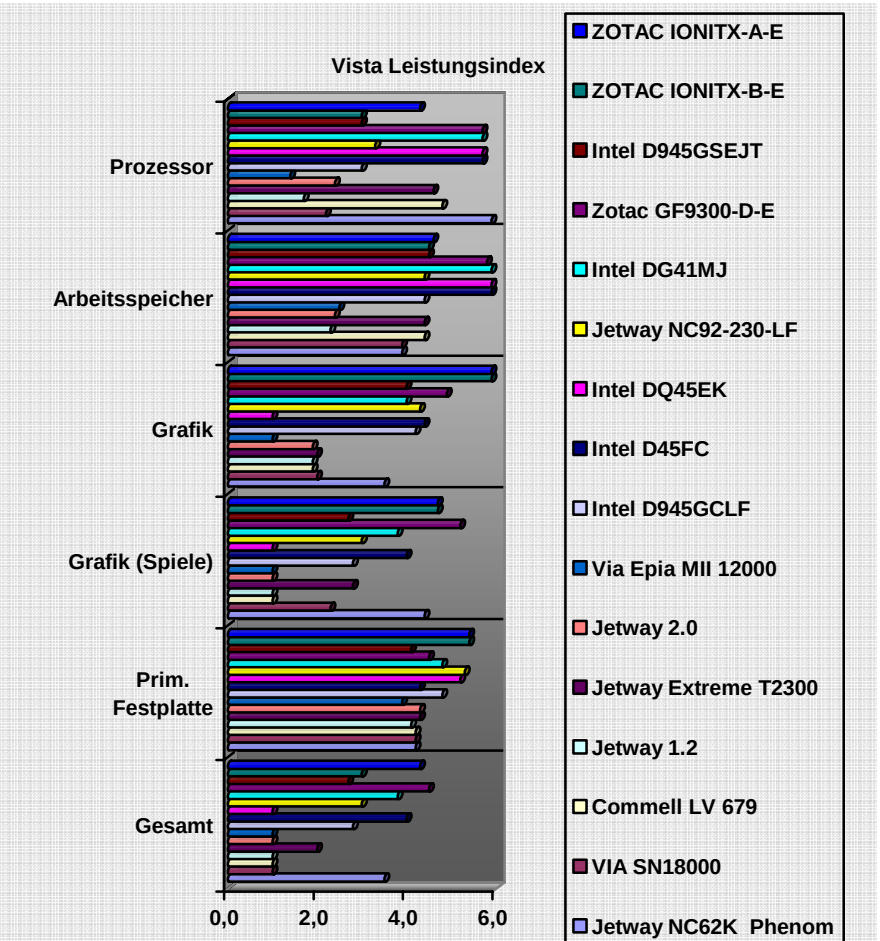
The layout of the B and A version is pretty much the same, therefore it is also very organized.


Installation, used hardware and operation

The following components have been used for our test:

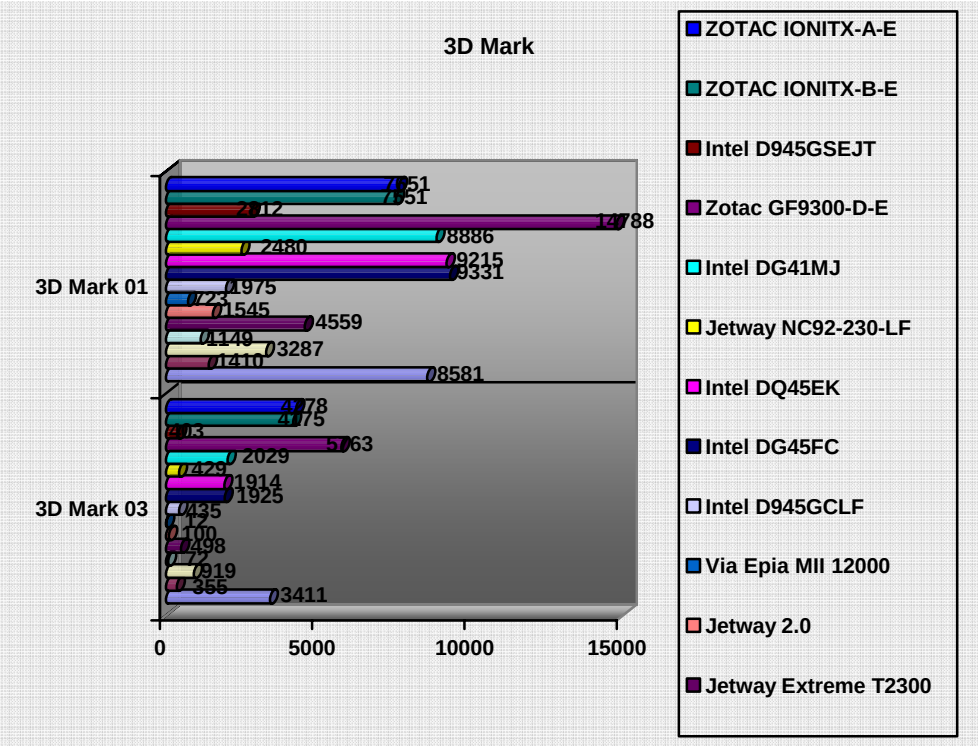
- Zotac IONITX-A-E
- Intel Atom N330 onboard
- 2 x DDR2 DIMM 1GB 800Mhz
- 2,5” SATA HDD 160GB (HM160HI)
- AC/DC 19 Volt 90Watt
- Windows XP Pro german / VISTA



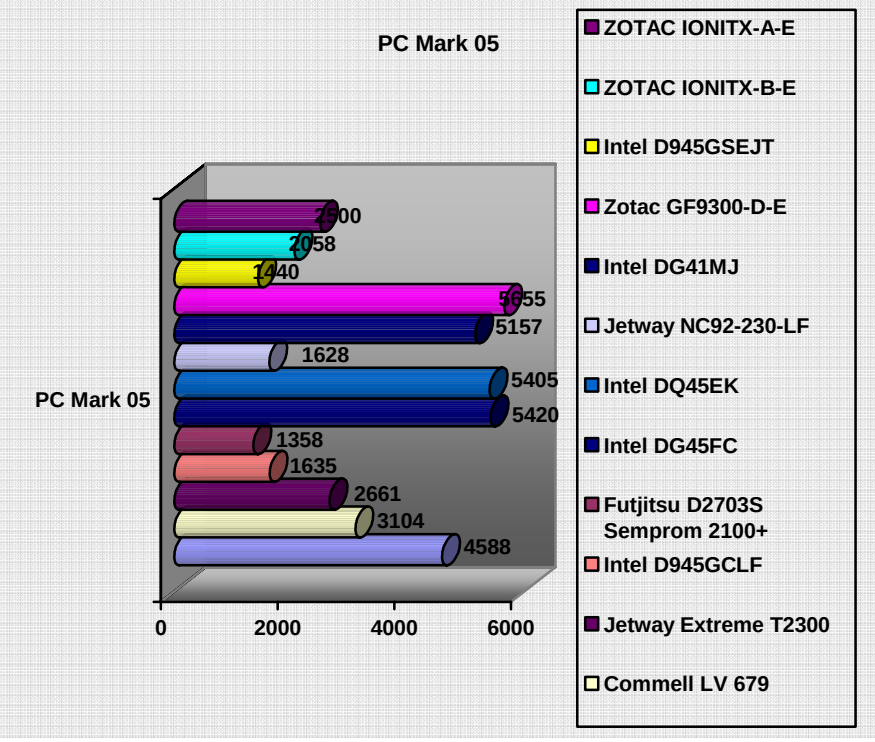



| | Gesamt | Prim. Fest | Grafik (Spi | Grafik | Arbeitsspeich | Prozessor |
|---|---|---|---|---|---|---|
| ZOTAC IONITX-A-E | 4,3 | 5,4 | 4,7 | 5,9 | 4,6 | 4,3 |
| ZOTAC IONITX-B-E | 3 | 5,4 | 4,7 | 5,9 | 4,5 | 3 |
| Intel D945GSEJT | 2,7 | 4,1 | 2,7 | 4 | 4,5 | 3 |
| Zotac GF9300-D-E | 4,5 | 4,5 | 5,2 | 4,9 | 5,8 | 5,7 |
| Intel DG41MJ | 3,8 | 4,8 | 3,8 | 4 | 5,9 | 5,7 |
| Jetway NC92-230-LF | 3 | 5,3 | 3 | 4,3 | 4,4 | 3,3 |
| Intel DQ45EK | 1 | 5,2 | 1 | 1 | 5,9 | 5,7 |
| Intel D45FC | 4,0 | 4,3 | 4,0 | 4,4 | 5,9 | 5,7 |
| Intel D945GCLF | 2,8 | 4,8 | 2,8 | 4,2 | 4,4 | 3,0 |
| Via Epia MII 12000 | 1,0 | 3,9 | 1,0 | 1,0 | 2,5 | 1,4 |
| Jetway 2.0 | 1,0 | 4,3 | 1,0 | 1,9 | 2,4 | 2,4 |
| Jetway | 2,0 | 4,3 | 2,8 | 2,0 | 4,4 | 4,6 |

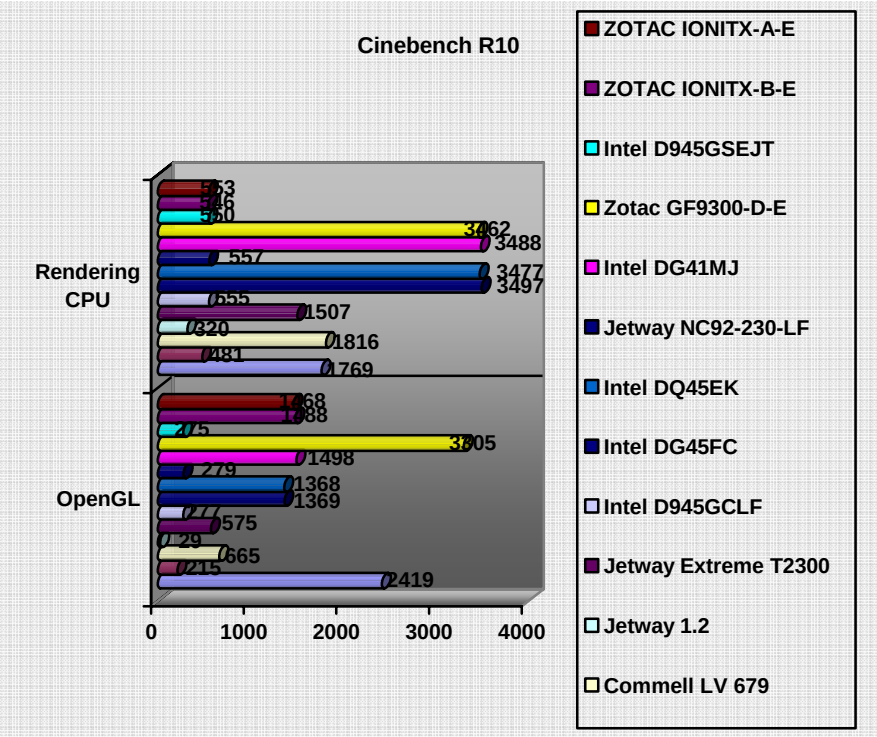
The Dual Core Atom version beats out its competition in the Vista performance index test as the Single Atom version before, it placed first. It also did well in the general comparison and placed second.



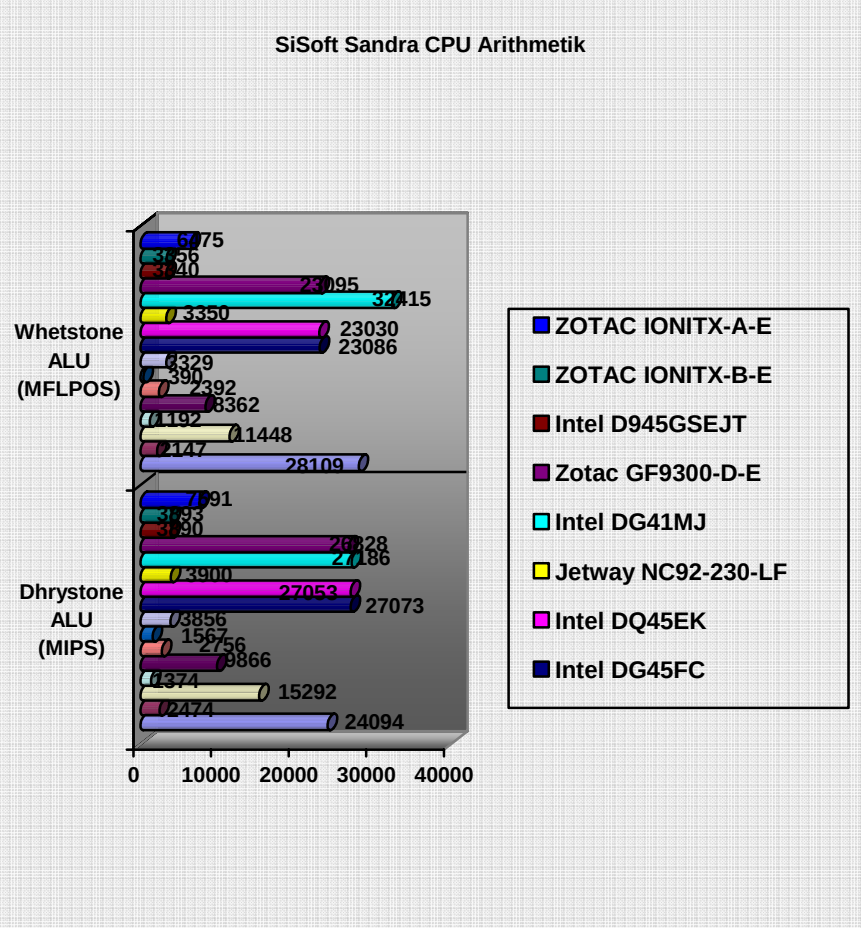

As with the B – E version the test results are dramatically different in the 2D Mark test as the results of its competition. While it placed second in the 03 test, the results in the 01 test are mediocre. Here the IONITX-A-E „only“ won the 8th spot. In comparison to other Atom mainboards it placed on a constant first place.

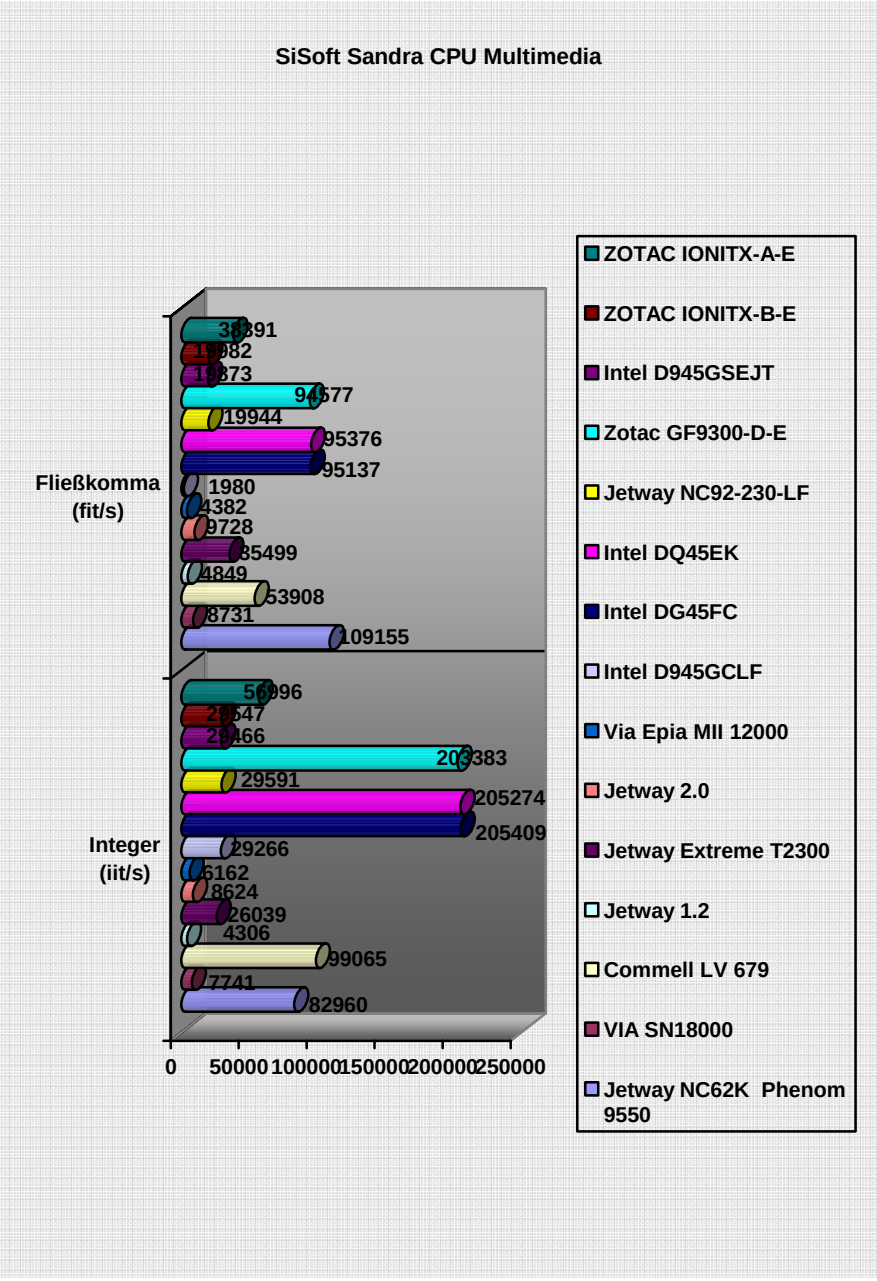



The IONITX-A-E beat out the B-E version in the PC Mark 05 test, but in the general comparison it placed in the middle field. In direct comparison with other Atoms it continues to place first.




In the Cinebench test the Zotac mainboard can only take a spot in the middle field in the general comparison. In comparison to other Atom mainboards the results are strange. While in the area of rendering CPU placed third – before its brother - behind the competition Jetway and Intel, in the area of OpenGL it has to take the spot behind the B-E and be satisfied with second place.




SiSoft Sandra CPU Multimedia
Fließkomma (fit/s)
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19873
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95376
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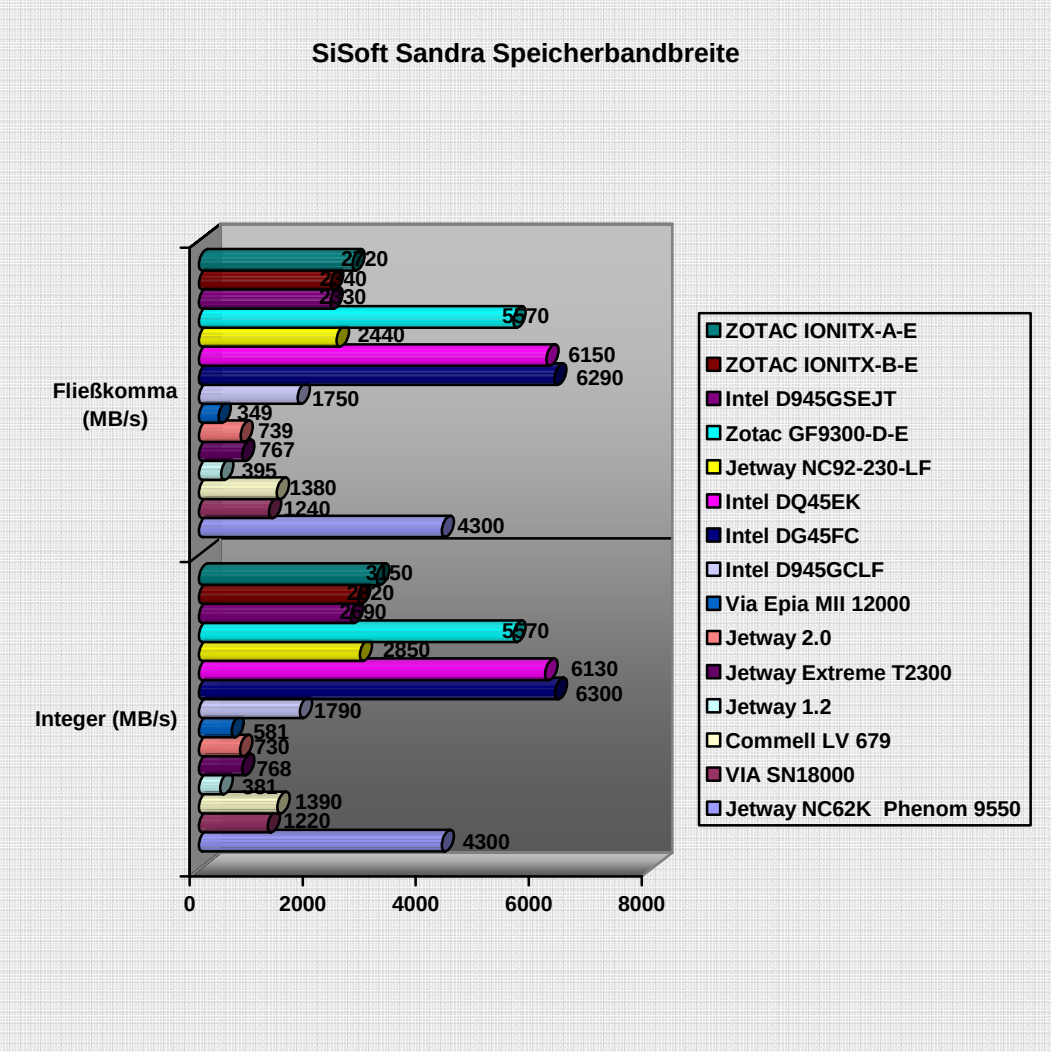
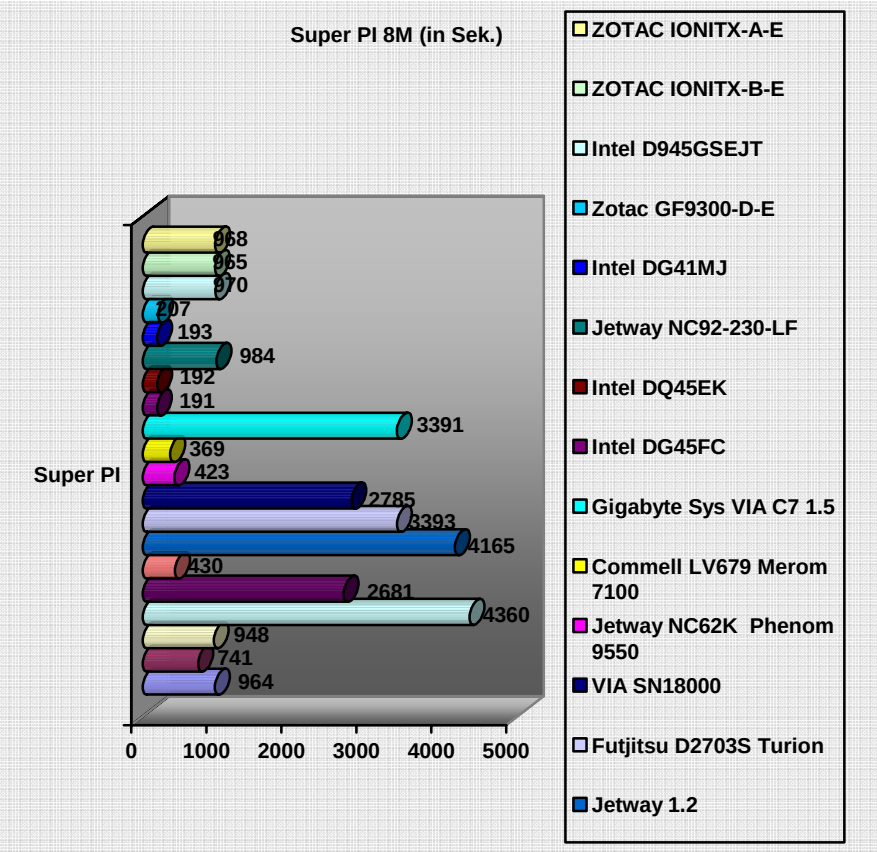
ZOTAC IONITX-A-E
ZOTAC IONITX-B-E
Intel D945GSEJT
Zotac GF9300-D-E
Jetway NC92-230-LF
Intel DQ45EK
Intel DG45FC
Intel D945GCLF
Via Epia MII 12000
Jetway 2.0
Jetway Extreme T2300
Jetway 1.2
Commell LV 679
VIA SN18000
Jetway NC62K Phenom 9550




The SiSoft tests shows, that the IONITX-A-E again performs well and can place a solid spot in the middle field in the general comparison. When directly compared with its market competition, The Zotac wins the number one spot.




As the IONITX-B-E the IONITX-A-E was also able to place in the middle field in the Super PI 8M test as well as in direct comparison to its competition.

## Power usage

| | |
|---|---|
| **Bootphase** | 24W |
| **Idle** | 19W |
| **Last** | 26W |
| **CD/DVD Load** | 28W |
| **DVD** | 28W |

## Acoustic level

As the IONITX-B-E the A-E version is also fanless, therefore the acoustic level is not worth mentioning. Part of the delivery content is an optional fan which can be integrated. But even with this fan connected there won't be much of a noise to be heard.

## Conclusion

From the beginning you could assume that there will be some areas in which the IONITX-A-E will have a lead over the IONITX-B-E. It only became visible in the SiSoft test and in the Vista performance index. Against all odds, there where some areas where the system with the weaker performance was head to head or even better as its big brother. All in all, the IONITX-A-E is a fine mainboard which has its area of expertise more in the HTPC, Desktop or general “fanless applications” environment.

For the area CarPC it is not that useful due to its 19 volt connection. But, Zotac has completed and extended its product portfolio. We are looking forward to more products of this kind, especially due to the great graphic performance.