Netbook uses Ion platform compared to the net

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More than a year since Nvidia first announced its Ion platform and promises to deliver smooth HD video playback and good gaming with Intel Atom chip. With a better display, stronger graphics, of course, these netbooks have attracted a lot of attention from consumers. But it seems that their true strength is still slightly inflated. The *Engadget* website has made a number of tests and comparisons between Nvidia's Ion-based netbooks and the Intel Atom chip, the ASUS Eee PC 1201N, Lenovo IdeaPad S12, HP Mini 311 and Samsung N510.

Compare details according to each criterion

Design

The HP Mini 311 has an eye-catching design but is still full of common ports. Photo: *Engadget.*

All four netbooks have screens from 11.6 to 12.1 inches, which are compact enough to carry without interfering with users. Lenovo's product has a moderate thickness of 2.8 cm and weighs only about 1.5 kg. Meanwhile, the Asus Eee PC is 3.3 cm thick and the 6-cell battery protruding behind it makes it the most bulky of these. The HP Mini 311 seems to be the most notable device with a compact design that is similar in thickness to Lenovo's, but

still fully integrated with a common connector (3 USB ports, HDMI, VGA, Ethernet, jacks) headphone plug).

Lenovo makes a difference when decorating small light dots on the pearl-like surface, while Samsung re-arranges the power key to hinge the machine. All of these designs are highly appreciated. But HP showed more than the sophistication in the Mini 311 with surface swirls and in particular does not save fingerprints. However, this is a rather difficult criterion to truly assess the accuracy of the users' aesthetic eyes.

Screen, touchpad and keyboard

Lenovo's touchpad stands out with its spacious and convenient design. Photo: *Engadget*

With a larger screen, the keyboard is also "more comfortable" in space, so it is quite easy to edit with all four products. Undeniably, the keyboard of Asus is quite easy to press, but the keys create a feeling like the popular models. The same thing happens with the buttons that are coated with HP's silver paint when it does not impress the user but is quite prone to peeling paint. The keyboards of Lenovo and Samsung give the feeling of solidity and ease of input. In particular, Lenovo keyboard features outstanding angles to help users avoid typing the wrong key.

All touchpads of the above products are quite smooth. But HP still has errors when arranged too close to the keyboard, while typing text, the palm is very easy to move the mouse by touching the touchpad. Meanwhile, Samsung and Asus products have touchpads that support multi-touch. In some of *Engadget* 's experiments, they work quite responsibly with two fingers used to zoom in or out. Lenovo IdeaPad S12 continues to show advantages when having a large size touchpad and is easy to manipulate.

While Asus and Lenovo products both have a 12.1-inch display screen, HP and Samsung are slightly smaller at 11.6 inches, however, this is quite unnoticeable by the naked eye. Lenovo IdeaPad S12 has a resolution screen of 1,200 x 800 pixels but a standard HD video presentation of 1,366 x 768 pixels is very sharp and clear. However, it is worth noting that the screens for Asus, Lenovo and HP are easy to be used when especially when the transition screen is black. In this case, Samsung's N510 shows its advantages over the rest. But Lenovo's sharp display image may make many people unable to ignore it.

Performance performance

All 4 machines have poor performance. Photo: *Engadget.*

Although it is equipped with Nvidia's Ion platform and Intel Atom chip, it seems that the above netbooks are less efficient than standard products. In the test, open the Firefox web browser application (when no other program is running), Lenovo and Samsung need 2.5 seconds to complete while the product is considered standard with Intel Atom N270 chip. The HP Mini 5101 only takes 1 second. Similarly, Lenovo takes up to 8 seconds, Samsung 6 seconds to open the PDF file of 1.5 MB with Adobe Acrobat 9. Still with HP Mini 5101, it only takes 3 seconds. These are really disappointing results for all 4 products mentioned.

Time to open PDF and GIMP program for each type of machine.

Machine type Open PDF Open GIMP ASUS Eee PC 1201N (Win 7 SE) 3.5 seconds21 seconds HP Mini 311 (XP) 5 seconds 24 seconds Lenovo IdeaPad S12 (Win 7 SE) 8 seconds 42 seconds Samsung N5106 seconds 33 secondsASUS Eee PC 1005PE (Intel Atom N450) 3 seconds21 Second HP Mini 5101 (Intel Atom N280) * 3 seconds 20 seconds

System evaluation scores follow the program GeekBench and PCMark05.

Machine type GeekBench PCMark05 ASUS Eee PC 1201N (Win 7 SE) 1106 2208 HP Mini 311 (XP) 957 2016 Lenovo IdeaPad S12 (Win 7 SE) 833 1394 Samsung N510 883 1799 ASUS Eee PC 1005PE (Intel Atom N450) 942 1431 HP Mini 5101 (Intel Atom N280) 920 1650

Graphics and HD presentation capabilities

All netbooks are capable of playing Blu-ray discs with smooth Full HD 1080p resolution, running 1080p youtube clips and installing Flash 10.1 without being jerky and playing some major games. Below is a scorecard that evaluates each product based on 3DMark06 and the number of frames per second when playing World of Warcraft.

Machine type 3DMark06 WoW (FPS) ASUS Eee PC 1201N (Win 7 SE) 155530HP Mini 311 (XP) 146429Lenovo IdeaPad S12 (Win 7 SE) 124321Samsung N510127125ASUS Eee PC 1005PE157 --- HP Mini 5101128 ---

Battery usage duration

Nividia announces Ion platform has the ability to help increase battery life. But with a 6-cell battery, none of the four netbooks mentioned above have a battery life of more than 4 hours when playing the same HD video presentation. Asus and Lenovo have less than 3 hours of time, which is too little for current ultraportables. HP Mini 311 has the best battery life with 3 hours 51 minutes. But still quite far from the product using standard Intel Atom HP Mini 5101 chip with nearly 6 hours of use and Asus Eee PC 1005PE with more than 8 hours of use.

Machine type Time of battery usage
(hours: minutes: seconds) ASUS Eee PC 1201N (Win 7 SE) 2:26:00 HP Mini 311 (XP) 3:53:00 Lenovo IdeaPad S12 (Win 7 SE) 2:40:00 Samsung N510 3:20 : 00 ASUS Eee PC 1005PE 8:10:00 HP Mini 5101 5:45:00

Add a comparison image between 4 products


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Photo: *Engadget*

Configuration:

1. 12.1 inch LED display (1,366 x 768 pixels)
2. Windows 7 Home Premium
3. 1.6 GHz Dual Core Intel Atom 330
4. NVIDIA Ion
5. 1 GB of RAM
6. 5,400 rpm, 320 GB Hard Drive
7. Battery: 6 Cell 63Whr Li-ion
8. Machine cost about 500 USD.

Detailed pictures:


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Photo: *Engadget*

Lenovo IdeaPad S12

Configuration:

1. 12.1 inch LED display (1,280 x 800 pixels)
2. Windows 7 Home Premium
3. 1.6 GHz Intel Atom N270
4. NVIDIA Ion
5. 3GB of RAM
6. 5,400 rpm, 250GB Hard Drive
7. Battery: 6 Cell 52Whr Li-ion
8. Machine cost about 700 USD

Detailed pictures:


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Backspace
Enter
Shift
Ctrl
Alt
PgUp
PgDn
DOLBY
NVIDIA
ION
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Photo: Engadget **HP Mini 311**

Configuration:

1. 11.6 inches LED display (1,366 x 768 pixels)
2. Windows XP Home Edition
3. 1.66 GHz Intel Atom N280
4. NVIDIA Ion LE
5. 1 GB of RAM
6. 5,400 rpm, 320GB Hard Drive
7. Battery: 6 cell 55Whr Li-ion
8. Machine cost about 480 USD

Detailed pictures:


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Photo: *Engadget* **Samsung N510**

Configuration:

1. 11.6 inches LED display (1,366 x 768 pixels)
2. Windows 7 Home Premium
3. 1.66 GHz Intel Atom N280
4. NVIDIA Ion LE
5. 2 GB of RAM
6. 5,400 rpm, 250 GB Hard Drive
7. Battery: 6 cell 66Wh Li-ion
8. The machine has a selling price of about 600 USD

Detailed pictures:


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SAMSUNG
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