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Gigabyte U2442F Ultrabook Review

By **Steven Walton** on May 13, 2013

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It was 2011 and Intel saw a surging trend in mobile computing, admittedly inspired by Apple's Macbook Air. Notebooks were to become thinner, batteries had to last more, optical drives were going away, and performance, performance didn't have to suffer too much. Moreover, manufacturers didn't seem to be doing a whole lot to get on this trend, so Intel pushed forward by investing $300 million of its own money to make it happen.

The first Ultrabook specification was based on the Huron River platform using the Sandy Bridge architecture. This specification required a minimum battery life of 5 hours, a resume from hibernation time of 7 seconds, and the laptop's body could be no more than 18mm thick for 13.3" models and 21mm thick for 14" models. The use of solid-state drives and unibody chassis were also encouraged (but not part of the specification) to help meet these criteria.

The more modern and current Chief River specification is based on Ivy Bridge. The battery life, resume time and dimensions remain the same, while a storage transfer rate of 80MB/s minimum has been added along with mandatory USB 3.0 or Thunderbolt support.

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There are currently more than two dozen 'Chief River' ultrabooks available from manufacturers such as Asus, Dell, Fujitsu, HP, Lenovo, Samsung, Sony and Gigabyte. Today we are checking out the latest model from Gigabyte. The U2442F is one of many U2442 variations, though as the flagship model it's the most expensive and powerful.

Gigabyte U2442F First Impressions

Gigabyte's 14-inch ultrabook measures 339mm wide, 233mm deep and just 21mm thick at its widest point, while weighing just 1.69kg when fitted with an SSD, HDD and the Li-polymer (11.1V, 47.73Wh) battery.

The lid is a mere 5mm thick, featuring a thin aluminum back that gives the screen a little extra protection and looks great in the process. The 14" LED backlit screen sports a 1600x900 resolution and matte finish. Personally it makes me happy that Gigabyte didn't go with a gloss here.

The screen has an embedded 1.3M HD webcam which blends seamlessly into the design. There is a small LED light next to it which lights up when the camera is active. Next to the small camera lens there's also a small hole for the microphone.

Moving to the keyboard, Gigabyte has included an 87 key 6-row chiclet backlit solution. As with most modern notebooks, there are function key combos to quickly enable or disable features such as wireless network, webcam, Bluetooth, trackpad and so on.

The keyboard feels great and I'd happily use it on a daily basis. We also found it easy to avoid

Gigabyte U2442F 14" ultrabook - $1250

- 14" 1600x900 LED display
- Intel Core i7-3517U (1.9 - 3.0GHz)
- Nvidia GeForce GT 650M 2GB GDDR3
- Intel HD Graphics 4000
- 8GB of DDR3 RAM
- Crucial m4 128GB mSATA SSD
- Toshiba 750GB HDD
- SD card reader
- 2x USB 3.0, 2x USB 2.0, HDMI, VGA, audio jack
- 802.11b/g/n, Bluetooth 4.0
- 1.3 megapixel webcam
- Chiclet keyboard
- 1-button trackpad
- 6-cell Li-Polymer battery
- 339 x 233 x 21 mm, 3.7 pounds

the trackpad, which measures 95mm by 55mm. The palm rest is plastic but feels nice to rest your hands on and doesn't mark easily.

Underneath the U2442F are various small grills to let cool air in, as well as four small rubber feet that raise the laptop and stop it from marking surfaces such as a desk. It isn't possible to remove the battery from the U2442F without taking the Ultrabook apart and in fact the only easily accessible component is the memory as a cover can be removed exposing two SO-DIMM slots.

Connectivity-wise, you'll find an SD card reader, two USB 3.0 ports, HDMI port and a DC-input power jack on the right side. The left side includes a Gigabit Ethernet port, D-sub (VGA) port, two USB 2.0 ports, microphone jack, headphone jack and a Kensington lock slot.

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Inside the U2442F, Performance/Benchmarks

Although it's not something we do every time we review a laptop, we decided to take apart the Gigabyte U2442F to see how things look on the inside. Only the back cover needs to be removed to get full access, though in doing so we had to remove eight rubber plugs and 21 screws.

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At the front of the Ultrabook is the Li-polymer (11.1V, 47.73Wh) battery which measures 210mm by 75mm and is just 10mm thick. Adjacent from the battery is a 2.5" hard drive. Our review unit came with the Toshiba MQ01ABD075, which is a 750GB, 5400-RPM, SATA II drive.

Interestingly, the 2.5" hard drive is not screwed into the Ultrabook but rather it just sits in place inside a rubberized caddy which not only holds the drive but also reduces vibration and therefore noise.
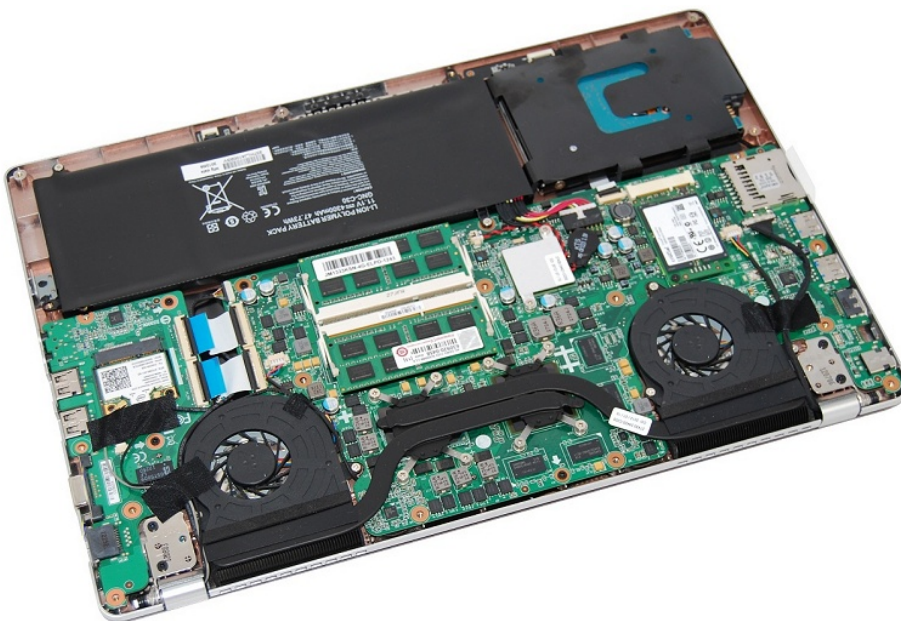
The U2442F's internals are dominated by the motherboard, a green PCB measuring 260mm by 140mm. The vast majority of the hardware components are on this PCB, though there is a smaller 60mm by 140mm PCB on the right side which houses the Wi-Fi and Bluetooth card along with a few USB ports.

Both DIMM slots are loaded with a pair of DDR3-1333 4GB sticks for a total capacity of 8GB. The 3rd Generation Intel Core i7 processor consists of the i7-3517U (1.9GHz - 3.0GHz), though it is also possible to get the slightly faster i7-3537U (2.0GHz - 3.1GHz) processor in this same model.

All variations of the U2442F come with the Nvidia GeForce GT 650M 2GB GPU, while the integrated Intel HD 4000 graphics can be used for less demanding tasks. The GeForce GT 650M 2GB GPU is quite a decent solution when armed with dedicated GDDR5 memory.

However this isn't the case in the U2442F, as the GeForce GT 650M uses slower DDR3-1866 (CL13-13-13) memory. The result is a severely capped memory bandwidth of just 28.8GB/s, opposed to 64GB/s if it used GDDR5 memory.

As a comparison the GeForce GTX 650 desktop graphics card has a memory bandwidth of 80GB/s and we don't hold that particular GPU in high regard when it comes to gaming performance, so we are not expecting much from the U2442F.
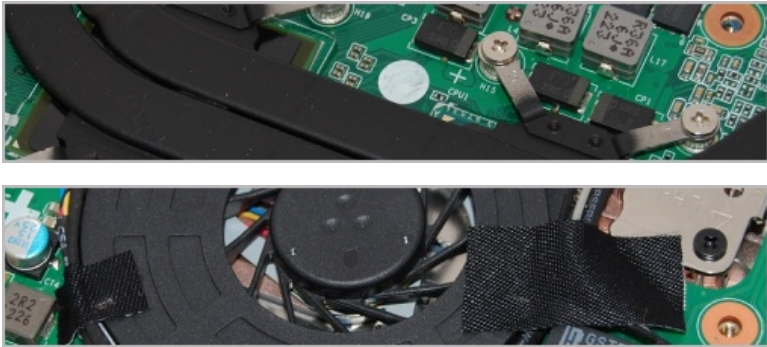
Gigabyte uses active cooling on both the GPU and CPU, using a pair of 45mm blower fans which are connected using a low-profile heatpipe. The mobile Intel HM77 Express chipset is passively cooled using a small aluminium heat spreader.

Along the 750GB 2.5" hard drive there's a mSATA slot which can be fitted with either a 128GB or 256GB SSD. Gigabyte has picked the highly regarded Crucial m4 which is a high speed SATA 6Gb/s SSD.

Benchmarks Results

Synthetic Tests	Yoga 13	Aspire S5	TimelineU M5	MacBook Air	Gigabyte U2442F
3DMark 06					
3DMark Score	4393 3DMarks	5263 3DMarks	**11958 3DMarks**	5785 3DMarks	8497 3DMarks
3DMark					
Cloud Gate Score	N/A	N/A	N/A	N/A	**4443 3DMarks**

PCMark Vantage

PCMark Suite	N/A	**13643 PCMarks**	6743 PCMarks	N/A	N/A

PCMark 7

PCMark Suite	N/A	N/A	N/A	N/A	**4875 PCMarks**

Application Tests	Yoga 13	Aspire S5	TimelineU M5	MacBook Air	Gigabyte U2442F
iTunes Encoding Test	1 min 25 sec	1 min 15 sec	1 min 19 sec	**51 sec**	1 min 14 sec
File Transfer Test					
Small files	24 sec	**10 sec**	1 min 11 sec	22 sec	20 sec
Large file	22 sec	**10 sec**	1 min 19 sec	22 sec	**10 sec**

The iTunes encoding tests consist of converting 14 MP3s (119MB) to 128Kbps ACC files and measuring the operation's duration in seconds. For file transfers, we measure how long it takes to copy two sets of files from one location to another on the same hard drive. On the small files test we transfer 557 MP3s, totaling 2.56GB. For the large file, these same MP3s were zipped into a single file measuring 2.52GB.

Gaming Performance	Yoga 13	Aspire S5	TimelineU M5	MacBook Air	Gigabyte U2442F
Far Cry 2					
1024x768, Medium Quality	23.5 fps	35.2 fps	**69.0 fps**	37.3 fps	47.9 fps
Native res, High Quality	15.3 fps	21.9 fps	**55.5 fps**	19.3 fps	39.6 fps
StarCraft 2					
1024x768, Medium Quality	16.9 fps	21.8 fps	**39.7 fps**	25.1 fps	28.5 fps
Native res, High Quality	10.8 fps	15.2 fps	**29.9 fps**	16.1 fps	24.5 fps

Acer TimelineU M5 Specs

- 15.6" 1366x768 LED-backlit display
- Intel Core i5-3317U (1.7GHz - 2.6GHz)
- 6GB DDR3 RAM
- Intel HD 4000 Graphics + GeForce GT 640M LE 1GB
- 20GB SSD + 500GB 5400RPM HDD
- Windows 7 Home Premium 64-bit

Lenovo Yoga 13 Specs

- 13.3" 1600x900 IPS LED multi-touch display
- Intel Core i5-3317U (1.7 - 2.6GHz)
- Intel HD Graphics 4000
- 4GB of DDR3 RAM
- 128GB SSD
- Windows 8 64-bit

Acer Aspire S5 Specs

- 13.3" 1366x768 LED-backlit display
- Intel Core i5-3317U (1.7GHz - 2.6GHz)
- 4GB DDR3 RAM
- 2 x 128GB SSD RAID0
- Windows 7 Home Premium 64-bit

MacBook Air 13" 2012 Specs

- 13.3" 1440x900 LED-backlit display
- Intel Core i5-3427U (1.8GHz - 2.8GHz)
- 4GB DDR3 RAM
- Intel HD 4000 Graphics
- 128GB SSD
- Mac OS X, Windows 7 Home Premium 64-bit

Gigabyte U2442F Specs

- 13.3" 1600x900 LED-backlit display

- Intel Core i7-3517U (1.9GHz - 3.0GHz)
- 8GB DDR3 RAM
- Nvidia GeForce GT 650M 2GB
- Intel HD 4000 Graphics
- Toshiba 750GB HDD
- Crucial m4 128GB SSD
- Windows 8 64-bit

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85-Inch Samsung UHD TV Costs $39,999

by chloe albanesius / pcmag

Samsung's 85-inch ultra-high definition (UHD) TV is arriving soon, but it's not exactly affordable. The new set boasts UHD - or 4K - technology, which features a "breakthrough both in picture quality and design," according to Samsung. But all that enhanced technology will set you back $39,999. No one said being an early adopter was cheap,... read more ▸

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By **Steven Walton** on May 13, 2013

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Usage Impressions and Final Thoughts

Gigabyte ships the U2442F configured with Windows 7 or Windows 8, our test unit came loaded with Windows 8 along with a few other applications such as PowerDVD, Microsoft Office and THX TruStudio Pro. Fortunately there was little to no bloatware preinstalled and so we hope this is how all U2442F ultrabooks ship to the public.

Picking up and moving the U2442F around is made easy by its lightweight and compact design. Connecting different peripherals was a breeze as ports are easily accessed on either side of the laptop.

The charging port is on the right hand side at the back which is a typical location for most laptops. With a pair of USB ports on each side, and well spaced apart to boot, it is possible to simultaneously connect an arsenal of USB devices. The SD card reader is also a nice touch if you don't want to attach a bulky DSLR camera when on the go.

Opening the screen requires pushing no clips or buttons. The lid fights to remain shut until you pull it past about the 70mm mark and then it opens without any objection. It's very easy to open and I found that the screen never opened by mistake.

The only thing to keep in mind here is that the screen doesn't open flat like what we've seen from other ultrabooks, particularly Lenovo's. Instead it opens to about a 135 degree angle which is more typical.

Once open the U2442F isn't the most slick looking ultrabook but it is very functional. Whereas most match the color of the deck to the screen bezel to give that slick look, Gigabyte hasn't. Instead the screen has been given a black border and we feel this is actually more functional as it blends in and doesn't clash with the screen.

The deck is well laid out and we found that the trackpad worked very well for both mouse movement and double clicking. There is plenty of room to rest your palms so the U2442F is comfortable to use in tight spots, such as an airplane seat.

The chiclet keyboard is much like others that we have used with little of note or to complain about. Gigabyte has done a great job of clearly labelling the secondary key functions and the white backlight option is a much welcomed addition, great for use in the dark.
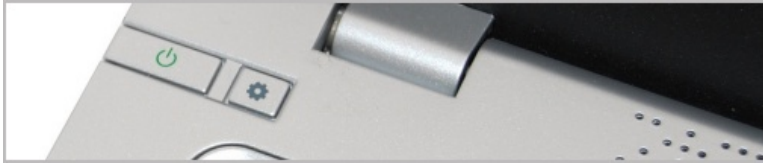
The integrated 10 watt speakers are surprisingly powerful. With the volume control in VLC set to 200% the speakers were very loud and remarkably clear for an ultrabook.

Storage wise even power users shouldn't have any problems with the U2442F. With Windows 8 installed and all of our testing programs there was still over 70GB of free space available on the 128GB SSD, while the 750GB hard drive was empty leaving 698GB of storage space. As we have come to expect the Crucial m4 SSD was fast and based on our experiences also very reliable.

Final Thoughts

Without question the Gigabyte U2442F is cutting edge stuff when it comes to ultrabook performance. Armed with a 3rd-Gen Core i7 processor, plenty of memory, and a quality SSD, the U2442F is as capable as a high-end desktop.

Where the U2442F falters is in its GPU performance. Having come to expect so much more from the Nvidia GeForce GT 650M, only to be let down by its use of DDR3 memory, we were disappointed to say the least.

That said, the U2442F still looks good in the graphics department when compared to other ultrabooks which typically rely solely on the integrated HD 4000 graphics. A couple of fancy and well regarded ultrabooks such as the Acer Aspire S7 and Lenovo Yoga 13, for example, both rely on the HD 4000 alone.

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Therefore, if you do plan on having some fun, the U2442F is one of the better ultrabooks out there, providing a ~50-100% performance boost over integrated graphics (that's bound to change with Iris soon enough though).

If you are looking at an ultrabook purely for productivity then the Gigabyte U2442F fits the bill, too, particularly if you need something with a little oomph.

However one problem almost all of these Core i7 powered ultrabooks suffer from is battery life. Although the current ultrabook spec asks for at least 5 hours, it all depends on what you are doing.

For light use it is likely possible to hit the 5 hours and 30 minutes that Gigabyte claim the U2442F can run between charges. Though, if you only intend on light use for the U2442F then this probably isn't the ultrabook for you, a Core i3 model would likely suffice.

Should you utilize most of the U2442F's power for extended periods of time you should expect the battery to last just 3 hours as reported by the Futuremark PowerMark software. The PowerMark balanced test actually drained the battery of the U2442F in just 2 hours and 43 minutes. By comparison, the Lenovo Yoga 13 lasted 3 hours and 21 minutes, though the model we tested used a slower Core i5 processor and didn't feature a discrete GPU.

Bottom line, we are happy with the build quality, specifications and performance of the Gigabyte U2442F, but how about value? This Core i7-powered ultrabook appears to be competitively priced at $1250 considering the quality 128GB SSD you get, plus 750GB HDD, 8GB of RAM, and (half optimized) GeForce GT 650M.

Looking at the competition the IdeaPad Yoga 13 costs $1,000 and includes a touchscreen but features a slower Core i5 CPU, half as much RAM, no hard drive and no discrete GPU. Clearly, they are different systems depending on what you are trying to accomplish. For $1300 the Yoga 13 can be kitted out with a 256GB SSD, 8GB of DDR3 memory, but still no hard drive.

Compared to other ultrabooks such as the Samsung Series 5, the Gigabyte U2442F still stacks up well offering more features for the same price. Few ultrabooks that we know of offer discrete graphics solutions, with the best examples being the Asus Zenbook UX32VD (GeForce GT 620M) and Dell XPS 14 (Geforce GT 630M), both of which should provide similar GPU performance to that of the U2442F.

If you are looking for a powerful, high quality ultrabook capable of both work and play then the Gigabyte U2442F should fit the bill nicely.

85

Pros: Very well rounded specs. Crucial m4 SSD is a big win. Good build quality. Great connectivity options and accessibility.

Cons: GPU performance is a dissapointment due to the choice of GDDR memory. Battery life could be better.

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