

# COMPARING TABLETS FOR THE HOME: INTEL CORE I5 VPRO PROCESSOR-BASED WINDOWS 8 TABLET VS. APPLE IPAD

## Hassle-free media handling on the go.



The Intel® Core™ i5 vPro™ processor-powered Fujitsu STYLISTIC® Q702 easily handled common photo and video tasks.



The Apple® iPad® was generally slower, required extra hardware to complete tasks, and was incompatible with some file types.

If you're thinking of buying a tablet for your main home computing system or as a portable supplement to another PC, it's important to choose one that can do everything you need it to. For example, not all tablets can handle common photo and video tasks with ease.

In the Principled Technologies labs, we compared the user experiences that two tablets provide: a Fujitsu STYLISTIC Q702 tablet powered by an Intel Core i5 vPro processor and Microsoft® Windows® 8 and a third-generation Apple iPad. Our tests looked at the tablets' abilities to perform common tasks such as retrieving photos and videos from cameras, editing the files, printing photos, and posting photos and videos to popular social networking sites. The verdict? We found that the Intel Core i5 vPro processor-based Windows 8 tablet was able to handle the photo and video tasks with no complications, while the Apple iPad presented a number of obstacles to completing basic tasks.

A tablet should make it easy to edit and share photos, not add roadblocks to performing these everyday activities. Selecting a tablet that handles common photo and video tasks smoothly means making your life easier.



## IT'S ABOUT MORE THAN JUST NUMBERS

To learn about the capability of the tablets to complete everyday photo and video tasks, we created a scenario with several components. We measured the amount of time it took to complete each of these; in nearly every case, the Fujitsu STYLISTIC Q702 tablet powered by an Intel Core i5 vPro processor and Windows 8 took less time. In some cases, the time difference was slight, and in others, it was dramatic. For example, the Intel Core i5 vPro processor-based tablet auto-adjusted and saved 100 images in just over 12 minutes, compared to 22 minutes for the iPad.

However, in many cases time was only part the story. For example, compatibility with a number of file types is crucial when dealing with media. No one wants to find out that they can't transfer video from their expensive video camera to their tablet due to file-type compatibility issues. Furthermore, finding that you need to purchase extra hardware to complete common tasks can be frustrating and expensive.

In this report, we provide both the time the tablets took to complete the scenarios and the issues they encountered. For detailed system configuration descriptions, see [Appendix A](#). For details on our test procedure, see [Appendix B](#). For details on the test files we used, see [Appendix C](#).

## WHAT WE FOUND

The Fujitsu STYLISTIC Q702 presented no limitations in handling the tasks we tested; everything just worked. The Fujitsu STYLISTIC Q702 with Intel Core i5 vPro processor and Windows 8 could do everything we expected—from transferring, converting, and editing files quickly to handling multiple formats easily—and did so generally faster than the iPad.

The Apple iPad, on the other hand, required an adapter to retrieve files from devices, and even then was incompatible with common consumer cameras and file types. Figure 1 details the time it took the tablets to complete the basic tasks we tested, and Figure 2 shows the notable issues we encountered with them.

Task	Fujitsu STYLISTIC Q702 with Intel Core i5 vPro processor	Apple iPad
Transfer 100 JPEGs from the SD card to tablet	00:30.85	01:13.03
Auto-adjust and save all 100 images	12:01.29	22:33.63
Transfer the Canon T2i digital camera video from the SD card to tablet	01:24.03	01:52.96
Edit and save Canon T2i movie clip	02:31.43	01:27.88
Transfer the Sony HandyCam HDR- video camera video from the SD card to tablet	00:14.67	<b>FAIL:</b> The iPad could not import the file.

Task	Fujitsu STYLISTIC Q702 with Intel Core i5 vPro processor	Apple iPad
Edit and save Sony HandyCam HDR-SR-12 movie clip	02:39.40	<b>FAIL:</b> The iPad could not import the file.
Print a 4x6 picture to a non-AirPrint-supported printer	00:54.75	01:06.02
Post picture to Facebook	00:15.49	00:12.48
Post 1-minute Canon video to Facebook	02:10.83	02:58.30
Post 1-minute Sony video to Facebook	02:13.87	<b>FAIL:</b> The iPad could not import the file.
<b>Total time</b>	<b>24:56.61</b>	<b>31:24.30</b>
<b>Total time among common completed tasks</b>	<b>19:48.67</b>	<b>31:24.30</b>

Figure 1: Time it took the tablets to complete the tasks in our test scenario.

Fujitsu STYLISTIC Q702 with Intel Core i5 vPro processor	Apple iPad
None.	<ul style="list-style-type: none"> <li>We had to purchase the Apple Camera Kit, which includes an SD adapter and a USB connector adapter.</li> <li>We had to edit each JPEG individually.</li> <li>The iPad does not support the AVCHD file format and therefore could not detect the Sony HandyCam HDR-SR12 video.</li> <li>Because the existing printer (Dell 1350cnw Color Printer) was not AirPrint compatible, the iPad could not natively print to the printer. To print to the existing printer, a user would need a separate PC that could print to the printer. This PC would act as a print server, allowing the iPad to print “through it” using a third-party app such as Print Central Pro.</li> </ul>

Figure 2: Notable issues in working with the tablets.

## OUR TEST SCENARIO

The setting for our test scenario is a child’s birthday party with both parents and grandparents in attendance. The boy’s mother takes both pictures and videos using a Canon EOS Rebel T2i at the party. His grandmother takes video using a Sony HandyCam HDR-SR12 video camera. Before leaving the party, the child’s grandfather wants to import onto his tablet all the pictures and videos his wife and daughter have taken. When he gets home, he applies the built-in “auto adjust” tool and saves all the pictures as JPEGs. He also edits and cuts each video down to a 1-minute clip and saves them as 1080p files. He then prints his favorite picture as a 4x6 to put on the refrigerator. Finally, he posts his favorite picture and a video clip from the party onto Facebook.

## Transferring files from devices

The Intel Core i5 vPro processor-based Fujitsu STYLISTIC Q702 was able to transfer the files quickly from the camera to the tablet with no need for additional adapters. It could retrieve and manipulate the Canon EOS Rebel T2i and Sony HandyCam HDR-SR12 video files effortlessly, and would even have allowed us to edit and combine both videos of different file types (.MOV and .AVCHD) into one video.

In contrast, because the Apple iPad has no built-in SD media card reader or built-in USB port, we had to purchase additional adapters to transfer the files from the cameras to iPad (see Figure 3).



**Figure 3: Additional adapters necessary to transfer files from a camera to an iPad.**

However, purchasing the adapter did not guarantee that the iPad could support common consumer products and files. Even with the adapter, the Apple iPad was unable to support the Sony HandyCam HDR-SR12's AVCHD file format (see Figure 4).



Figure 4: Screenshot of the iPad with the Sony HandyCam HDR-SR12 video camera connected.

Because of this compatibility issue, the iPad could not complete our entire scenario. The child's grandfather would leave the party with only the video from the Canon EOS Rebel T2i and not the Sony HandyCam HDR-SR12 video file.

## Enhancing photos

To auto-adjust or enhance the 100 JPEGs on the iPad required repeating this step 100 times, once for each photo. This took 22 minutes, during which we were constantly interacting with the tablet.

In contrast, the Intel Core i5 vPro processor-based tablet using Windows Photo Gallery allowed us to select all 100 JPEGs and apply the auto-adjust option. During the 12 minutes this tablet needed to perform the task, we were free to leave the room, get a cup of coffee, or do anything else.

## Printing photos

AirPrint is an Apple technology that lets applications create full-quality printed output using Apple's driverless printing architecture. All iOS built-in apps that support printing use AirPrint. To use AirPrint, you must have an AirPrint-enabled printer. In our testing, we used a Dell 1350cnw Color Printer, which is not AirPrint-enabled.

The Fujitsu STYLISTIC Q702 with Windows 8 allowed us to print a picture with ease to the Dell 1350cnw Color Printer directly, requiring no additional PC to act as a print server.

If you do not have an AirPrint-supported printer, printing from the iPad becomes quite complicated, requiring both a separate PC acting as a print server and the purchase of a third-party printing app. Figure 5 shows the message that popped up on the iPad when we tried to print to a non-AirPrint printer.

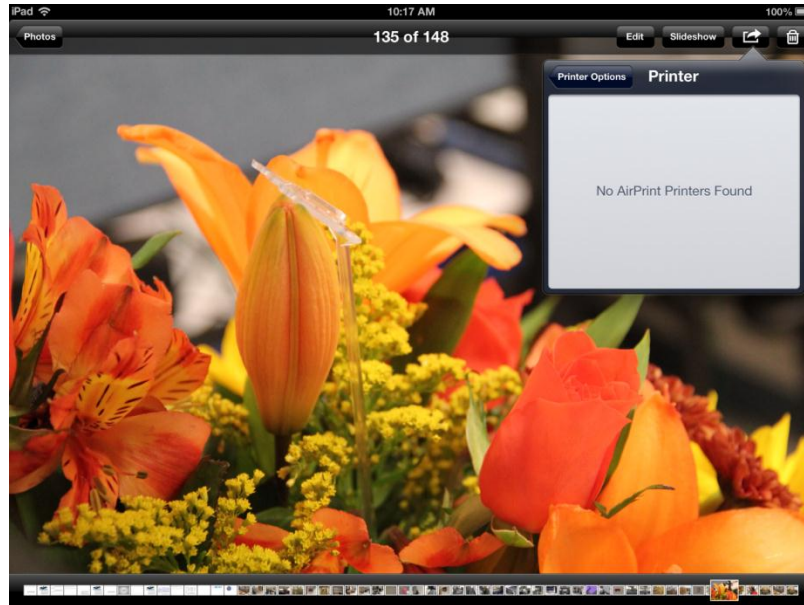


Figure 5: Hassle-free printing on an iPad requires an AirPrint-enabled printer.

## Sharing photos and videos on Facebook

Both the Intel Core i5 vPro processor-based Fujitsu STYLISTIC Q702 and Apple iPad were able to post photos to Facebook relatively easily and to share the 1-minute video from the Canon camera. However, the Intel Core i5 vPro processor-based tablet shared the video nearly 50 seconds faster.

When it came to the 1-minute Sony video, the Fujitsu STYLISTIC Q702 posted it with no problems, while the incompatibility of the Apple iPad with this common file type prevented us from completing this task.

## IN CONCLUSION

If a tablet can't handle the basic photos and video handling tasks you need it to, what's the sense in choosing it for your portable home system? In our tests, the Fujitsu STYLISTIC Q702 tablet powered by an Intel Core i5 vPro processor and Windows 8 not only completed common scenarios more quickly than the third-generation Apple iPad, it did so without encountering any integration issues for the tasks we tested. The Intel Core i5 vPro processor-based Windows 8 tablet was able to retrieve, edit, print, and post online photos and videos as we intended, while the Apple iPad often required additional hardware to work and even then was unable to complete many of these simple, everyday tasks.

## APPENDIX A – SYSTEM CONFIGURATION INFORMATION

Figure 6 provides detailed configuration information for the test systems.

System	Apple iPad (3rd generation)	Fujitsu STYLISTIC Q702 Hybrid Tablet PC with keyboard docking station
<b>General</b>		
Number of processor packages	1	1
Number of cores per processor	2	2
Number of hardware threads per core	1	2
Total number of threads	2	4
System dimensions (width x depth x height)	9.50" x 7.31" x 0.37"	Tablet: 11.89" x 7.68" x 0.50" Tablet with docking station: 11.89" x 7.99" x 1.07"
System weight	1 lb. 7 oz.	Tablet: 1 lb. 14 oz. Tablet with docking station: 3 lbs. 11 oz.
<b>CPU</b>		
Vendor	Apple	Intel
Name	NA	Core i5 vPro
Model number	A5X	3427U
Core frequency (GHz)	1.00	1.8
L1 cache	32 KB + 32 KB	32 KB + 32 KB (per core)
L2 cache	1 MB	512 KB (256 KB per core)
L3 cache	N/A	3 MB
<b>Memory module(s)</b>		
Type	DDR2-533	DDR3-1600
Speed (MHz)	533	1,600
Size (MB)	1,024	4,096
<b>Hard disk</b>		
Vendor and model number	Integrated flash storage	Toshiba THNSNS128GMCP
Size (GB)	16	128
<b>Operating system</b>		
Name	Apple iOS 6.0	Windows 8 Professional
<b>Graphics</b>		
Vendor and model number	PowerVR SGX543MP4	Intel HD Graphics 4000
Resolution	2,048 x 1,536	1,366 x 768
<b>Wireless</b>		
Vendor and model number	802.11a/b/g/n	Intel Centrino® Advanced-N 6205
<b>Ports</b>		
USB Type	0	Tablet: 1 x USB 2.0, 1 x USB 3.0 Docking station: 2 x USB 2.0
Other	Headphone jack	Tablet: HDMI, Media card reader, headphone jack, microphone jack Docking station: Ethernet, VGA out

System	Apple iPad (3rd generation)	Fujitsu STYLISTIC Q702 Hybrid Tablet PC with keyboard docking station
<b>Monitor</b>		
LCD type	LED-backlit glossy widescreen Multi-Touch display with IPS technology	LED backlight AH-IPS anti-glare LCD
Screen size	9.7"	11.6"
<b>Battery #1 (Tablet)</b>		
Type	Apple A1389 integrated Li-polymer	3-Cell Li-polymer
Rated capacity	11560 mAh 42.5 Wh	3150 mAh, 34 Wh
<b>Battery #2 (Docking station)</b>		
Type	N/A	4-Cell Lithium-ion
Rated capacity	N/A	11.4V, 3150 mAh, 45 Wh

Figure 6: System configuration information for the test systems.



## APPENDIX B - HOW WE TESTED

### Performing this test on the Fujitsu STYLISTIC Q702

1. Take the SD card from the Canon EOS Rebel T2i and insert it into the SD media card slot on the tablet.
2. Simultaneously start the timer and copy all 100 pictures to the Pictures directory.
3. Stop the timer when the pictures have been copied. Note any issues.
4. Launch Windows Photo Gallery (part of Windows Live Essentials 2012).
5. Press Select All to select all the JPEG images.
6. Press Edit.
7. Simultaneously start the timer and press Auto adjust.
8. Stop the timer when all pictures have been adjusted and saved. Note any issues.
9. Simultaneously start the timer and copy the Canon digital video to the Videos directory.
10. Stop the timer when the video has been copied. Note any issues.
11. Simultaneously start the timer and launch Windows Movie Maker (part of Windows Live Essentials 2012).
12. Browse to the Canon video file and open it.
13. Adjust the video end time to equal 1:00.00 and select Edit→Set end point.
14. From the Save Movie drop-down menu, select Recommended for this project.
15. Accept the default name for the movie file, and press Save.
16. Stop the timer when the edited movie has been saved as a 1080p file.
17. Connect the Sony HandyCam HDR-SR12 via USB cable to the tablet.
18. Simultaneously start the timer and launch Windows Movie Maker.
19. Select File→Import from device.
20. Select the Sony HandCam HDR-SR12 device, and press Import.
21. Select Review, organize, and group items to import, and press Next.
22. Select Movie to import and accept the default name.
23. Press Import.
24. Stop the timer when the video has been imported and Windows Photo Gallery has opened. Note any issues.
25. Simultaneously start the timer and select Create→Movie to launch Windows Movie Maker.
26. Browse to the Sony video file and open it.
27. Adjust the video end time to equal 1:00.00 and select Edit→Set end point.
28. From the Save Movie drop-down menu, select Recommended for this project.
29. Accept the default name for the movie file and press Save.
30. Stop the timer when the edited movie has been saved as a 1080p file.
31. Simultaneously start the timer and in Pictures, browse to the print JPEG image.
32. Long-press the screen to bring up the right-click menu, and select Print.
33. Select 4x6, and press Print.
34. Stop the timer when the JPEG has been printed. Note any issues.
35. Simultaneously start the timer and launch Windows Photo Gallery.
36. Select the JPEG to post on Facebook.
37. Press the Share to Facebook button.
38. Press the Publish button.

39. Stop the timer when the JPEG has been uploaded to Facebook.
40. Simultaneously start the timer and launch Windows Movie Maker.
41. Select the 1-minute Canon video clip to post on Facebook.
42. Press the Share to Facebook button.
43. Press the 1,280 x 720 button.
44. Press the Publish button.
45. Stop the timer when the 1-minute Canon video clip has been uploaded to Facebook.
46. Simultaneously start the timer and launch Windows Movie Maker.
47. Select the 1-minute Sony video clip to post on Facebook.
48. Press the Share to Facebook button.
49. Press the 1,280 x 720 button.
50. Press the Publish button.
51. Stop the timer when the Sony 1 minute video clip has been uploaded to Facebook.

### Performing this test on the Apple iPad

1. Connect the Apple SD media card camera connection kit to the iPad.
2. Take the SD card from the Canon EOS Rebel T2i and insert it into Apple SD media card camera connection kit on the iPad.
3. Select all 100 pictures.
4. Simultaneously start the timer and press Import All to copy the digital photos to the iPad.
5. Stop the timer when the pictures have been copied and disconnect the SD media card reader. Note any issues.
6. Launch the built-in Photos app.
7. Simultaneously start the timer and select the first picture and press Edit→Enhance→Save. Do this for each picture, one at a time. (There is no automated way to edit and save multiple pictures simultaneously.)
8. Stop the timer when all 100 JPEGs have been enhanced and saved.
9. Connect the SD media card reader.
10. Select the Canon digital video. and press Import.
11. Simultaneously start the timer and press Import Selected to copy the digital video to the iPad.
12. Stop the timer when the video has been copied and disconnect the SD media card reader. Note any issues.
13. Simultaneously start the timer and launch the iMovie application.
14. Press the + button and select New Project.
15. Select the Canon video and press the down arrow to move it to the workspace.
16. Adjust the video end time to equal 1:00.00.
17. Press the Back to Projects button.
18. Press Share Movie To button.
19. Select Camera Roll.
20. Select HD – 1080p.
21. Stop the timer when the edited movie has been saved to the Camera Roll as 1080p.
22. Connect the Sony HandyCam HDR-SR12 via USB cable to the iPad.  
**(NOTE: The iPad does not support the AVCHD file format and therefore does not detect the Sony HandyCam HDR-SR12 camera and cannot import the video.)**
23. Simultaneously start the timer and launch the Print Central Pro app.

24. Press the Images button.
25. Press the + button, and select Camera Roll.
26. Select the test JPEG.
27. Press the Print button.
28. Select an Image size of 4x6.
29. Press Print.
30. Stop the timer when the JPEG has been printed. Note any issues.
31. Simultaneously start the timer and launch the Photos app.
32. Select the JPEG to post on Facebook.
33. Press the Share button.
34. Press Facebook.
35. Press the Post button.
36. Stop the timer when the JPEG has been uploaded to Facebook.
37. Simultaneously start the timer and launch the iMovie app.
38. Select the 1-minute Canon video clip to post it on Facebook.
39. Press the Share button.
40. Press Facebook.
41. Select HD – 720, and press the Share button.
42. Stop the timer when the 1-minute Canon video clip has been uploaded to Facebook.
43. Post the 1-minute Sony video clip to Facebook.  
**(NOTE: Because the iPad could not import the common AVCHD video at the party, there was no file to upload to Facebook from the iPad.)**

## APPENDIX C – TEST FILE CHARACTERISTICS

- Digital photos: 100 large JPEG digital photos (619 MB) ranging in size from 4 MB to 12 MB captured using Canon EOS Rebel T2i digital camera
- Digital video:
  - 5 minutes of video captured using a Canon EOS Rebel T2i (.MOV 1.66 GB)
  - 5 minutes of video captured using a Sony HandyCam HDR-SR12 (.AVCHD 240 MB)
- JPEG that is printed and posted to Facebook: 5.53 MB file
- 1-minute video clip posted to Facebook: a 170MB 1080p file that is converted to a 720p file by either Windows Movie Maker or Apple iMovie and uploaded to Facebook

## ABOUT PRINCIPLED TECHNOLOGIES



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