5 Tools to Test and Detect Fake or Counterfeit USB Flash Drives

There are plenty of fake and counterfeit products around and the world of computers is not exempt. In recent years one area has become more prone to this than any other, and that is flash memory storage. Devices such as USB flash drives, SD/CF cards and even SSD drives have been affected by this problem. Counterfeit USB flash drives seem to be the most common though, there's so many different types, capacities and speeds that it's easy to hide them among all the real products.
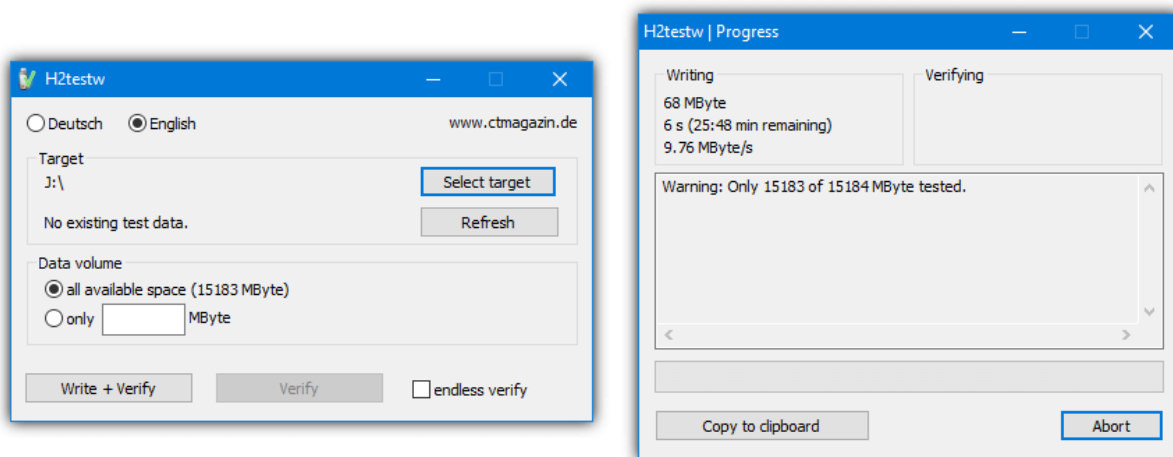
You may think this problem only affects places like eBay but even Amazon and other legitimate retailers have been caught out too. This is why it's a good idea to check any flash device you purchase is the product you paid for. Making sure the serial or code number on the stick is legitimate is one way, another is making sure the drive is the size advertised because most fake drives have a lower real capacity than listed by using smaller and much cheaper memory chips. The drive may even be reported as the right size in windows.

Software developers are also aware of this and some have written tools to help you identify if a drive is smaller than you expect and is therefore likely to be counterfeit. Here we have listed 5 for you to try that are designed to check for fake size drives.

1. **H2testw**

For several years H2testw has been known as the go-to tool for checking memory based flash drives to see if they are the correct capacity. The problem is it was developed back in 2008 when flash based media was smaller in size. A scan with H2testw can run into several hours or even days on newer large capacity drives, especially if they also have slow write speeds. However, it could be a price worth paying.

The method used in H2testw is very slow but is still one of the most thorough and reliable ways to scan the drive for a fake capacity. It isn't a fully destructive test because it only checks the free space on the drive, but the best way is to use H2testw on a cleanly formatted device, that way it will be checked completely.

H2testw works by writing large 1GB files to the free space and then reading them back. If the read data isn't the same as what was written, there's a possible issue. You can also select a custom amount of data to write which is useful if you suspect your drive might be a specific capacity. For instance, if you think the drive is only 4GB and not the full advertised 32GB, a test can be run on 6GB of data.
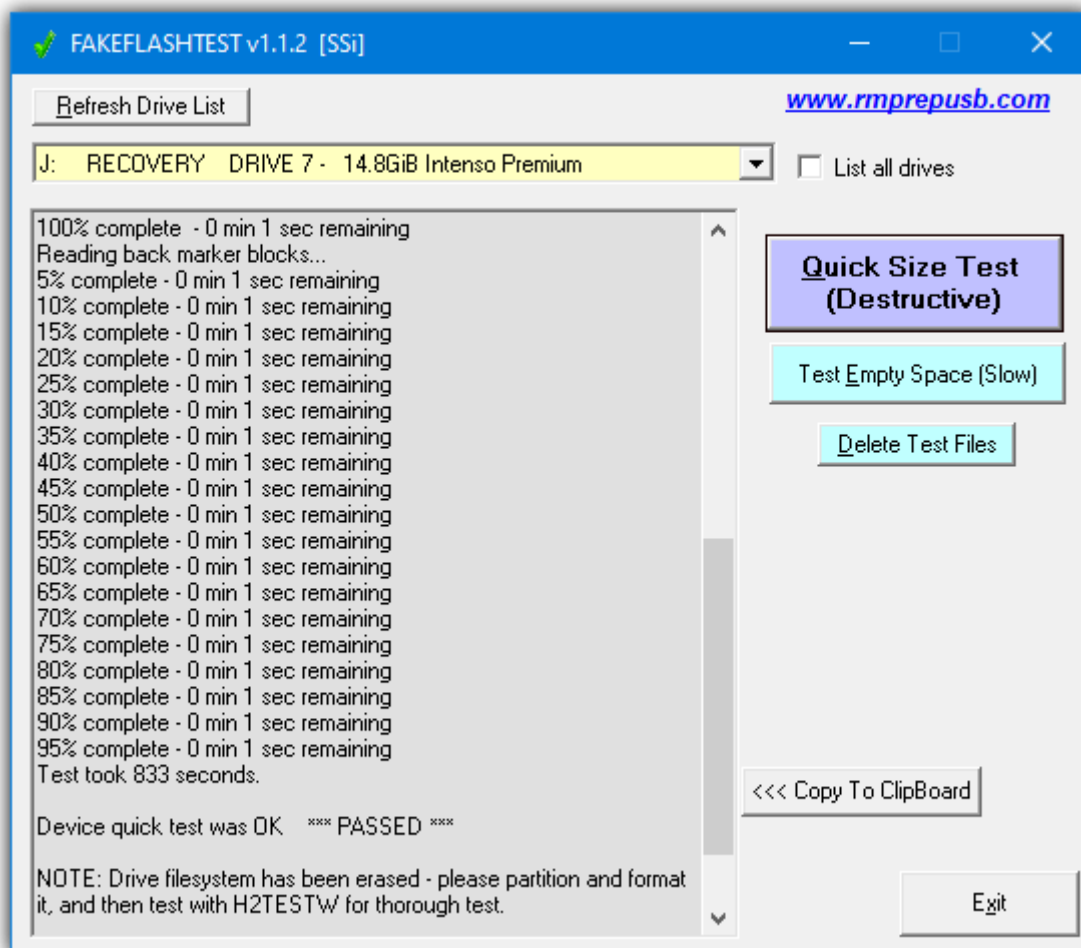
After it's done the software leaves the test files on the media, you can delete them or verify them again. If you have the time and want a very thorough test, try H2testw. It defaults to German language but you can easily change it in the GUI.

[Download H2testw](#)

2. **FakeFlashTest**

The FakeFlashTest utility is from the developer of the RMPrepUSB multipurpose USB tool. One component of RMPrepUSB is a quick test to check your drive and its real capacity, this is an extended and enhanced version of that and is released as a standalone executable. Unlike some other similar tools, FakeFlashTest is not that old so includes optimizations and methods better suited for modern flash media.

FakeFlashTest tries to fix the main issue with H2testw which is the long time it takes for the process to complete on larger or slower flash drives. The first test you can run is the same quick test found in RMPrepUSB itself. This writes and reads 512 bytes of data at set intervals across the drive and so finishes in less time. It starts at the end of the drive first so should pick up an undersized flash drive pretty quickly.

The second test is similar to H2testw and writes to the free space on the drive then reads it back to verify. The process has been optimized to hopefully complete the task much quicker than H2testw. The written files are read back at intervals of 3GB, 5GB, 9GB and 17GB. It means that if your fake drive really
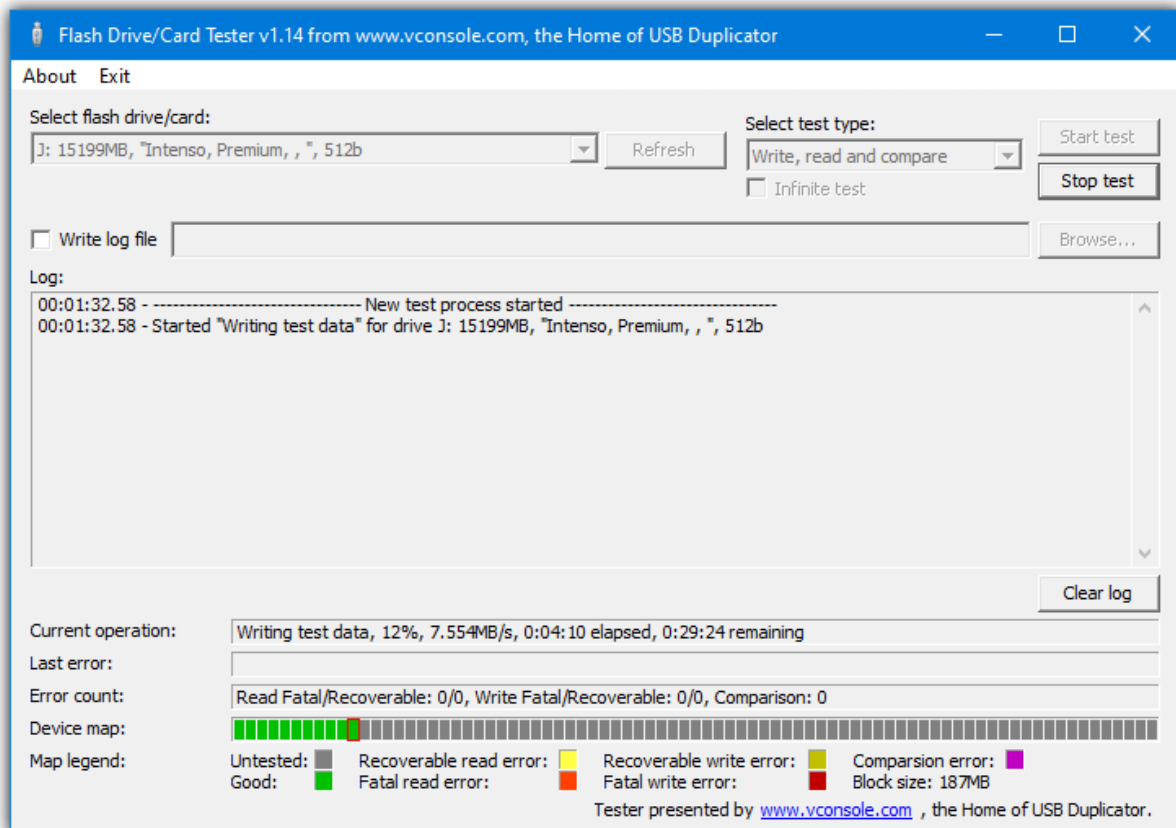
has a 4GB capacity, you should know after the 5GB read test and won't need to go any further.

Do note that the the quick test is destructive meaning anything on the drive will be overwritten, so make sure your files are backed up. The slower test is not meant to be destructive but can still corrupt your files if they are on a bad area of the drive, so it's highly advisable to backup first either way.

Download FakeFlashTest

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3. **Flash Drive/Card Tester**

Flash Drive/Card Tester is listed by its developer as a generic tool for testing flash drives or SD/CF cards but is especially useful for detecting counterfeit drives with fake capacity. It works in a similar way to H2testw by writing data to the device, reading it back and then comparing the two for differences. Any errors indicate a problem with the drive.
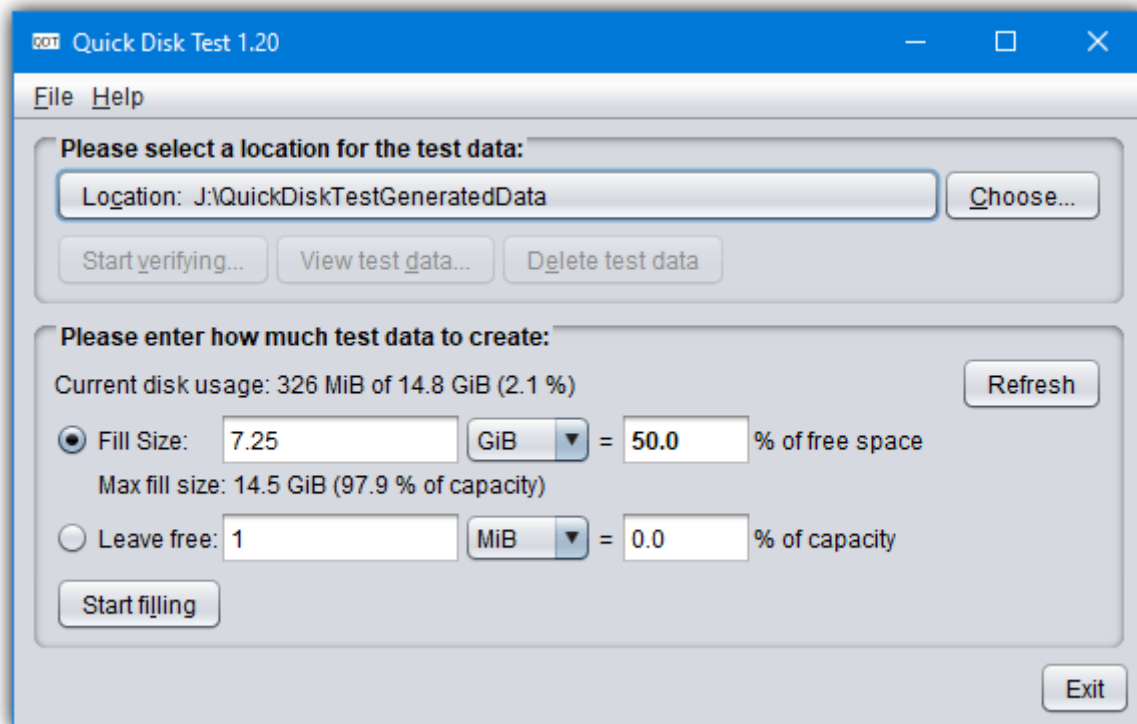

To run a full test select your flash drive from the drop down and choose the test type "write, read and compare", then start the test. If you don't have the time to run a full test on a large or slow drive, the data can be written to the drive now and compared later on using the separate test types of Write and then Read. Flash Drive/Card Tester officially comes as a setup installer but because it's only two files, we've zipped them up to create a portable version.

Download Flash Drive/Card Tester | **Flash Drive/Card Tester Portable**

4. **Quick Disk Test**

This tool is made in Java so it can run on other operating systems like Mac and Linux as well as Windows. It does obviously mean you need Java installed on your system. To run Quick Disk Test, you may have to right click on the .Jar file and select Open or Open with > "Java(TM) Java Platform Binary" as double click might not work.

Click the location button at the top to select a drive. How much data you want to write is up to you. For instance, you can choose to 30% fill the drive or fill it with a specific amount of data. Alternatively, use the leave free option to do the opposite. Fake drives are typically something like 2GB, 4GB, 8GB or 16GB so you could start with a percentage that will cover some or all of those capacities.
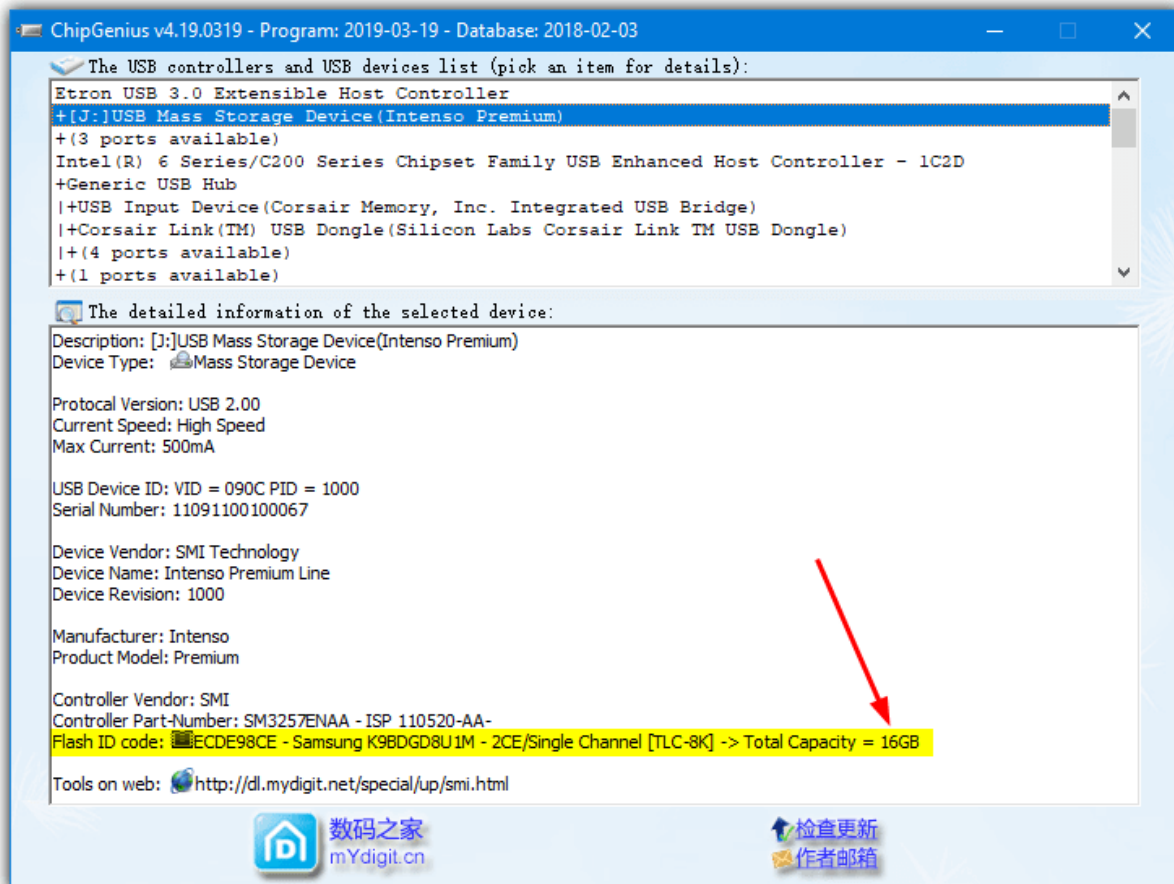

Data already on the drive is not overwritten but new data is added to fill to the selected amount. A useful function is being able to stop the process while writing data to the drive, restart the program later and continue filling where it left off. For some obscure reason, the drop down capacity menus go up to Yottabytes which you'll never need. For those that don't know, one Yottabyte is one Trillion Terrabytes!

Download Quick Disk Test

5. ChipGenius

The programs listed above all work in the same way which is to physically write data onto the disk and then read it back to see if the data is correct or corrupt. ChipGenius is completely different and actually doesn't touch the data on the drive at all. Instead, it reads the information from the flash memory chip inside the drive to see what it is and what it's true capacity should be.

Run the program and look for the information about the flash chip inside your device, a line will give the vendor and model number of the chip and hopefully its true capacity. If capacity is not shown, copy the other data on the line (Ctrl+C) and enter it into a search engine, which might offer some more information. Right click in the window to copy all the shown data to the clipboard.

Note: Be aware that ChipGenius generates a number of false positives with online virus scanners like VirusTotal. Don't download the program if this makes you uncomfortable.

Download ChipGenius (Russian site) **Direct Download of ChipGenius** (Password = usbdev.ru)

Final Note: Apart from ChipGenius, all other tools write data to the drive. Whether the tests are meant to be destructive or not, it is highly recommended to [backup anything still on the drive](). Data has been known to get destroyed when drives have real errors on them or capacity issues.