



AN807: Recertifying a Customized Windows Driver Package

This application note discusses the Windows Hardware Quality Labs (WHQL) or WinQual process for recertifying a customized HLK driver package.

Driver recertification is required any time a certified driver is modified, which includes the modified VCP or USBXpress driver output from AN220: *C8051F32x and CP210x USB Driver Customization*.

There may be several fees to Microsoft and the certificate vendor associated with the WHQL recertification process. Silicon Labs itself does not charge or collect any fee for this process.

The driver recertification process is always changing. To ensure proper certification, refer to the latest documentation on the Microsoft Dev Center Dashboard website: <https://developer.microsoft.com/en-us/windows/hardware/dashboard-sign-in>. Silicon Labs is not responsible for failing submissions due to changes in Microsoft's submission process.

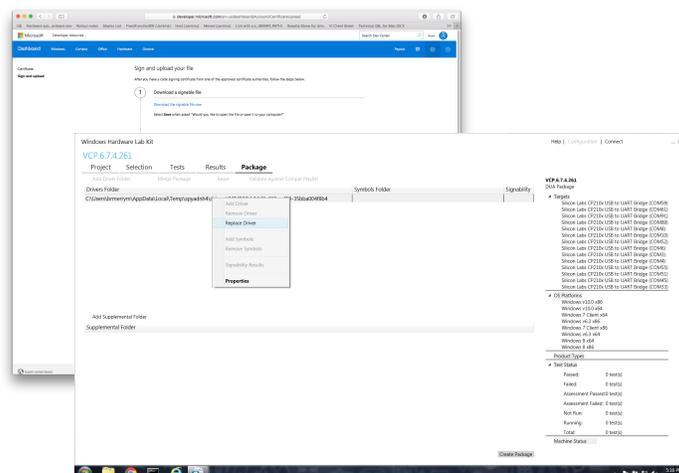
Note: Microsoft may require acceptance of multiple agreements before enabling the submission process. The required agreements must all be signed to fully certify the driver. These agreements are specific to Microsoft, so questions on them should be directed to them.

Note: This process may require adding <https://developer.microsoft.com> as a trusted website in a browser in order to upload the submission package.

Note: This document assumes that the customized driver package is already created using the AN220 USB Driver Customization Wizard and tested on the desired operating systems.

KEY POINTS

- This document describes how to recertify a customized driver for Windows.



1. Relevant Documentation

For additional information on drivers or the recertification process:

- *AN220: USB Driver Customization* — Available on www.silabs.com/interface-appnotes. This document and the accompanying software enable customization of the VCP and USBXpress drivers, which can be found at www.silabs.com/interface-software.
- Microsoft Dev Center Dashboard website — Provides the latest information and portal for driver recertification: <https://developer.microsoft.com/en-us/windows/hardware/dashboard-sign-in>.

2. Recertifying a Custom Driver

The following list outlines the steps required to recertify a customized driver. Additional information on each of these steps can be found in the following sections.

1. Purchase the appropriate certificate from a certificate vendor.
2. Contact Silicon Labs technical support (<http://www.silabs.com/support>) for reseller status. Please provide the driver used (VCP or USBXpress), driver version, and the WHQL registered company name.
3. Add your certificate to the Microsoft Hardware Dashboard.
4. Add the certificate to the certificate store on your computer.
5. Download a file to sign, sign it, and upload the signed file.
6. Download the DUA shell (a `.h1kx` file) from the driver shipped to you.
7. Download the signed files. Modify the `.inf` file as desired.
8. Download and install the latest version of HLK Studio. Open HLK Studio.
9. Change to the package tab. Right click on the driver and choose **[Replace Driver]**. Choose a folder with the signed driver files and your modified `.inf` file.
10. Click **[Create Package]**.
11. Sign from the certificate store on your computer. Save the `.h1kx` file.
12. In the Microsoft dashboard, click **[Upload New]** and choose your new `.h1kx` file.

Note: There may be a fee for each recertification operating system. For the latest fees see <https://developer.microsoft.com/en-us/windows/hardware/dashboard-sign-in>.

After the submission is complete and reviewed, download the signed catalog files and include them in the custom driver installation.

2.1 Obtain a Certificate

The first step requires buying a code signing certificate from a certificate vendor. The specific certificate required is the Extended Validation (EV) type.

Then, create an account with the Microsoft Dev Center Dashboard by visiting <https://developer.microsoft.com/en-us/windows/hardware/dashboard-sign-in> and applying for an account.

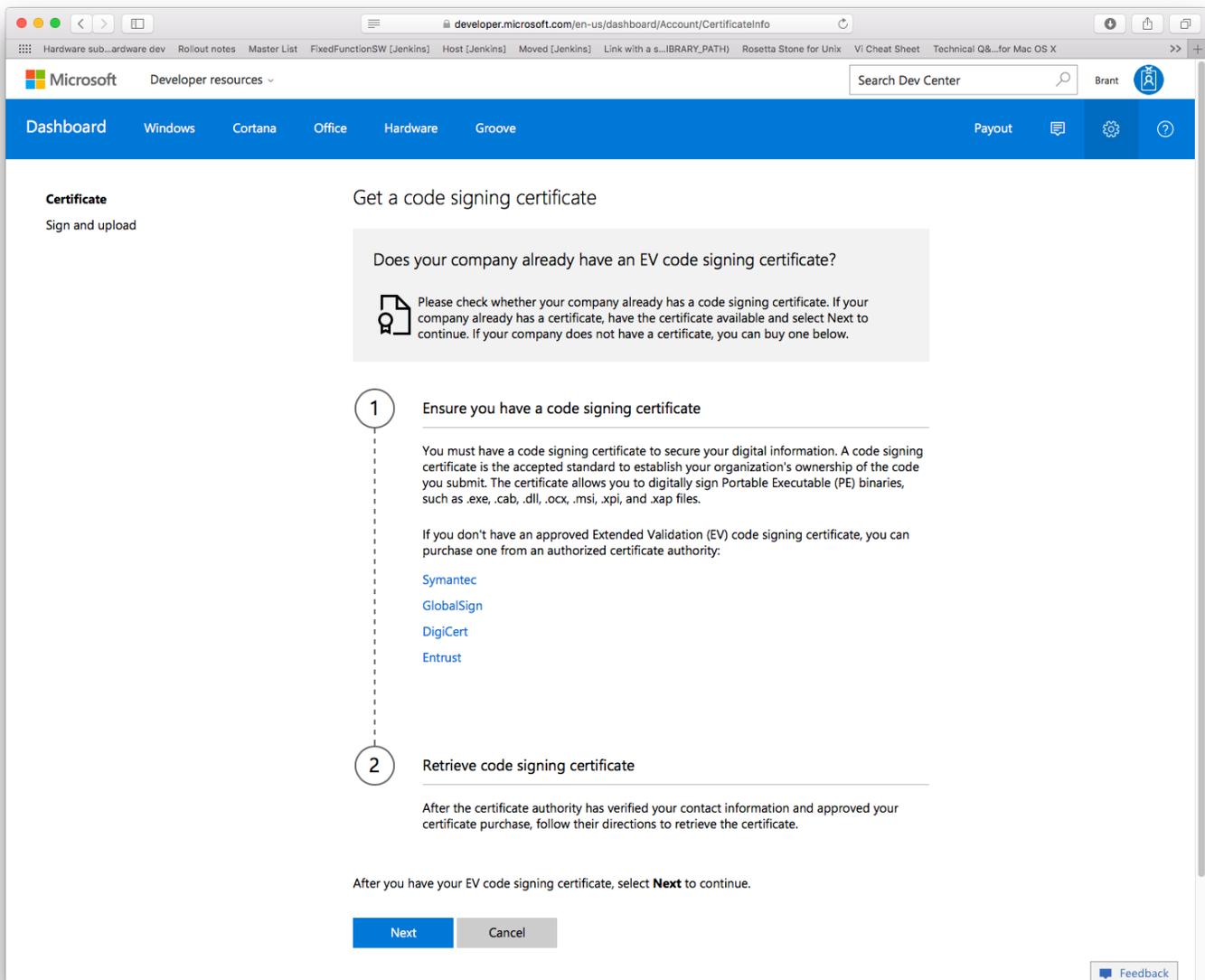


Figure 2.1. Acquire a New Digital Certificate

After obtaining the certificate, add it to the certificate store on your computer by going to **[Manage certificates]>[Add a new certificate]**.

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Account settings
Programs
Agreements
Manage users
Manage certificates
Contact info
Submitted feedback

Certificate management

Manage all of your certificates in a single location. You will see analytics associated with your applications based on the certificate information.

[Add a new certificate](#)

Certificate list

Name	Thumbprint	Type	Expiration date
Silicon Laboratories Inc.		EV	10/22/2018 4:59:59 PM

Feedback

Figure 2.2. Adding a New Digital Certificate

2.2 Contact Silicon Labs to Become a Reseller

Contact Silicon Labs technical support (www.silabs.com/support) to become a reseller. Please specify:

- The type of driver (VCP or USBXpress).
- The driver version.
- The name of the company registered to the Windows Live and Windows Dev Center account.

Once receiving this information, Silicon Labs will create a shipping label for you in the Microsoft Dev Center Dashboard.

Note: Serial enumeration is an option that can be selected using the AN220 USB Driver Customization Wizard. There are two drivers available on the Silicon Labs website (www.silabs.com/interface-software), but one of these drivers is a DUA recertification of the other. The desired serial enumeration setting does not need to be communicated to Silicon Labs.

2.3 Signing a File

Download a file to sign with the certificate, sign it, and upload the signed file to the Microsoft Dev Center Dashboard.

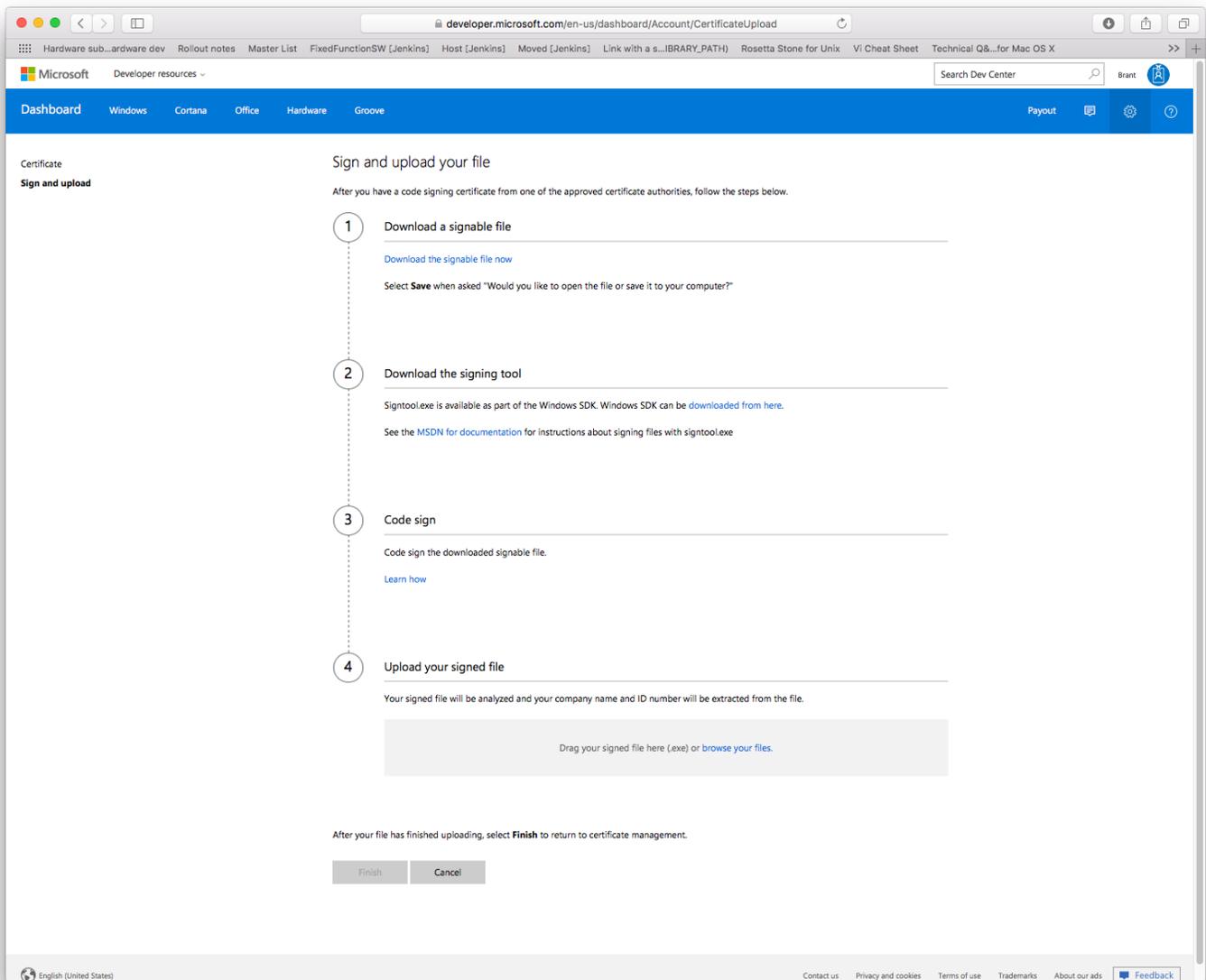


Figure 2.3. Sign and Upload Your File

2.4 Download the DUA Shell

Next, download the Driver Update Acceptable (DUA) shell, which is a .h1kx file from the driver shipped to you by Silicon Labs.

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Search drivers for

Silicon Labs CP2130 USB to SPI Bridge
 Shared product ID: 1152921504607015916
 Private product ID: 13842925709113152

Package Acceptance Preparation Validation Catalog creation Manual review Sign Finalize

Your submission is certified! Your signed packages are available below, where you can add DUA packages and create shipping labels. Any shipping labels you created earlier are processing.

Packages and signing properties

Upload new **Download DUA shell**

Name	Date	Submission Id	Status
1777023 - Initial	11/10/2015	1152921504626103778	Finalize

Download signed files Download initial package

Additional certifications
 We found no additional certifications. More Information

Certification [See more info](#)

External
 11/9/2015

Distribution

New shipping label Publish all pending

1777023 (Initial Package) [Less ^](#)

Search within 1777023 for Search shipping labels for

Creator	Destination	Created date	Release date	Status
Migrated_Downlevel_1777023 Silicon Laboratories Inc.	Windows Update	12/23/2016	11/9/2015	Finalize
Migrated_W10_1777023_26096 Silicon Laboratories Inc.	Windows Update	12/23/2016	11/9/2015	Finalize

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Figure 2.4. Download the DUA Shell

2.5 Download the Signed Files

Download the signed files. Modify the .inf file as desired or copy in the updated files from the output of the AN220 USB Driver Customization Wizard.

2.6 Download and Open HLK Studio

Download and install the latest version of the HLK Studio from the Microsoft Dev Center Dashboard. Then, open the HLK Studio software.

Note: Old versions of HLK Studio will fail to open .h1kx files created with a newer version of HLK Studio.

Note: Windows 10 version 1607 is not required to run HLK Studio for Windows 10 version 1607.

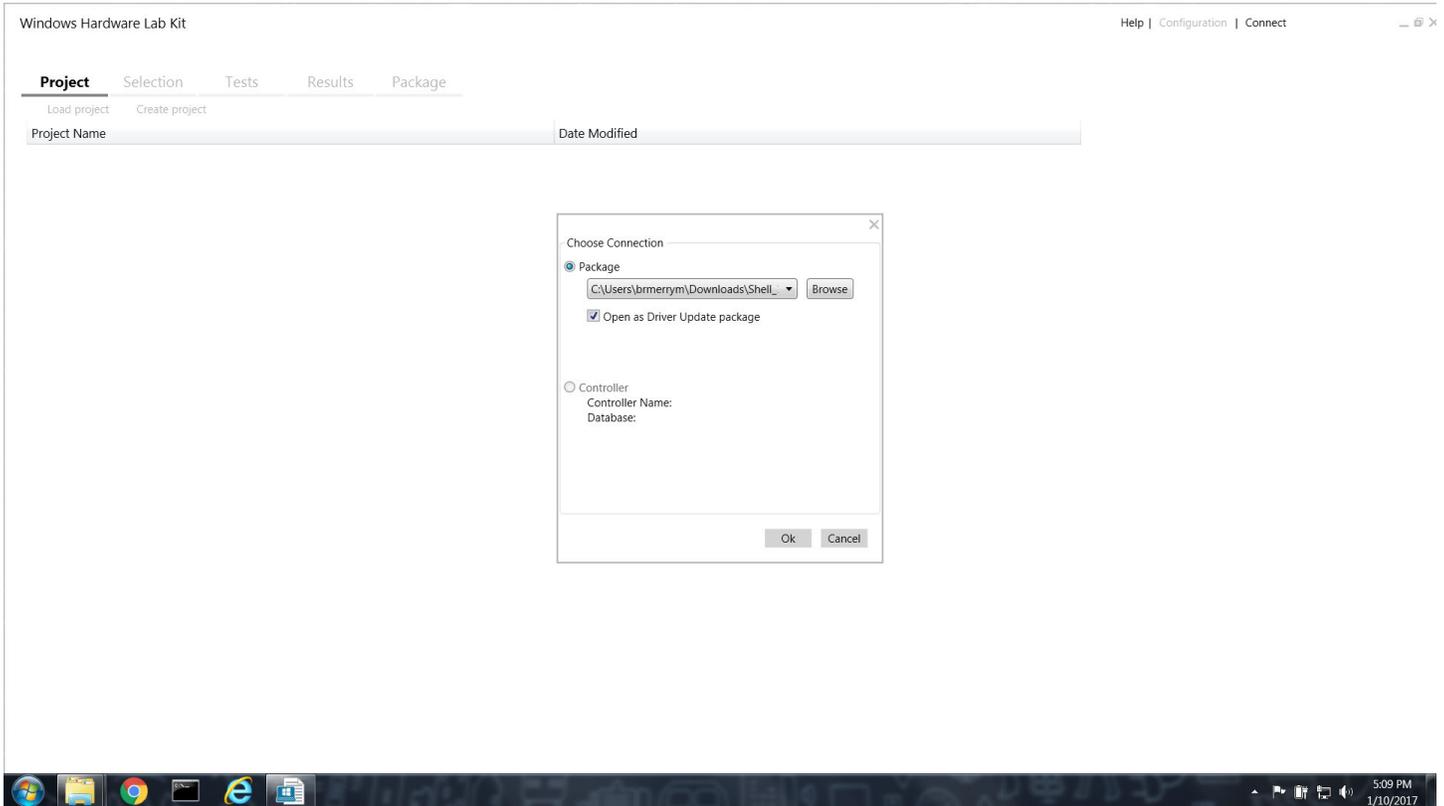


Figure 2.5. Open HLK Studio

2.7 Replace the Driver

Change to the **[Package]** tab. Right click on the driver and choose **[Replace Driver]**. Choose the folder with the signed driver files and your modified .inf file.

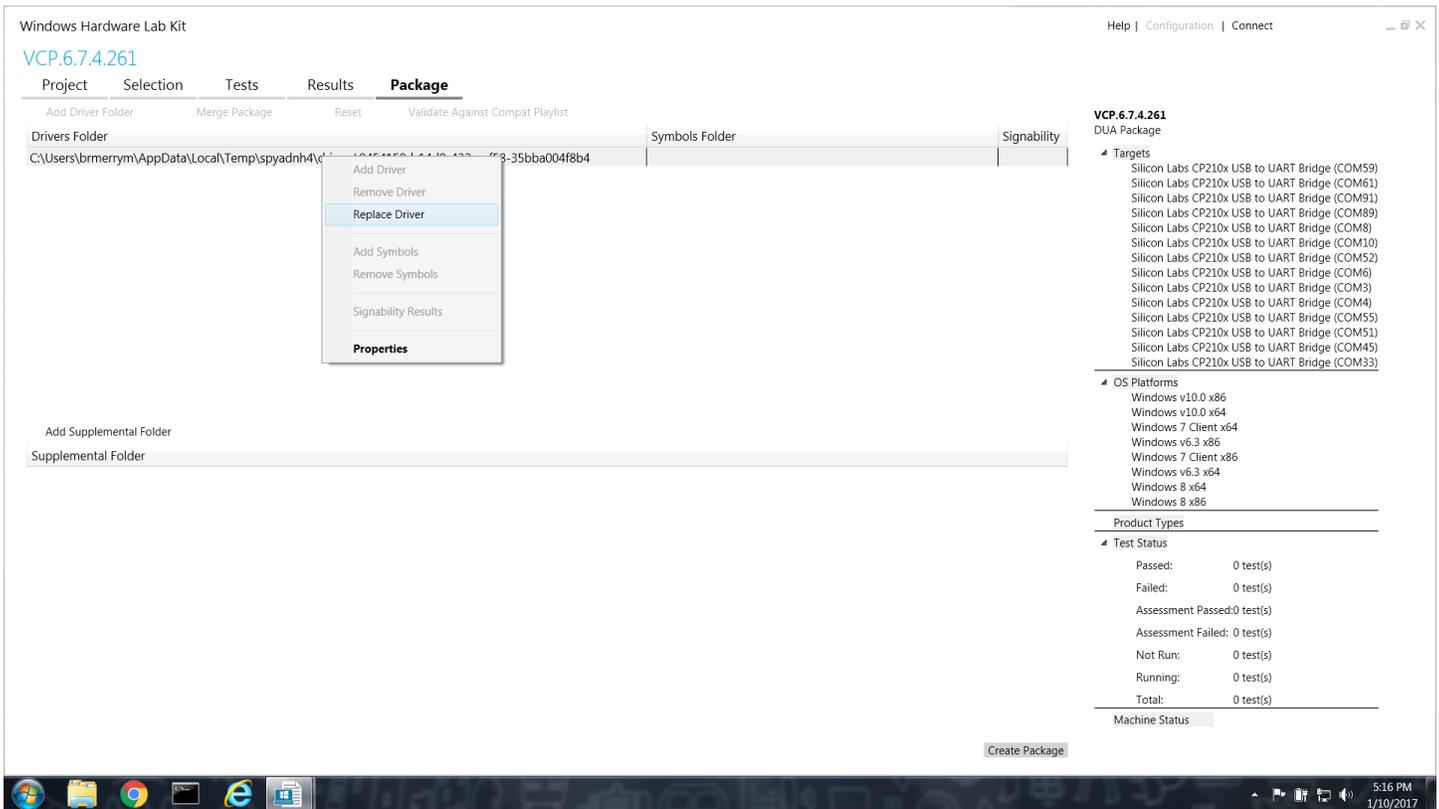


Figure 2.6. Replace the Driver

2.8 Create the Package

After adding the driver to the HLK Studio, create the package by clicking the **[Create Package]** button.

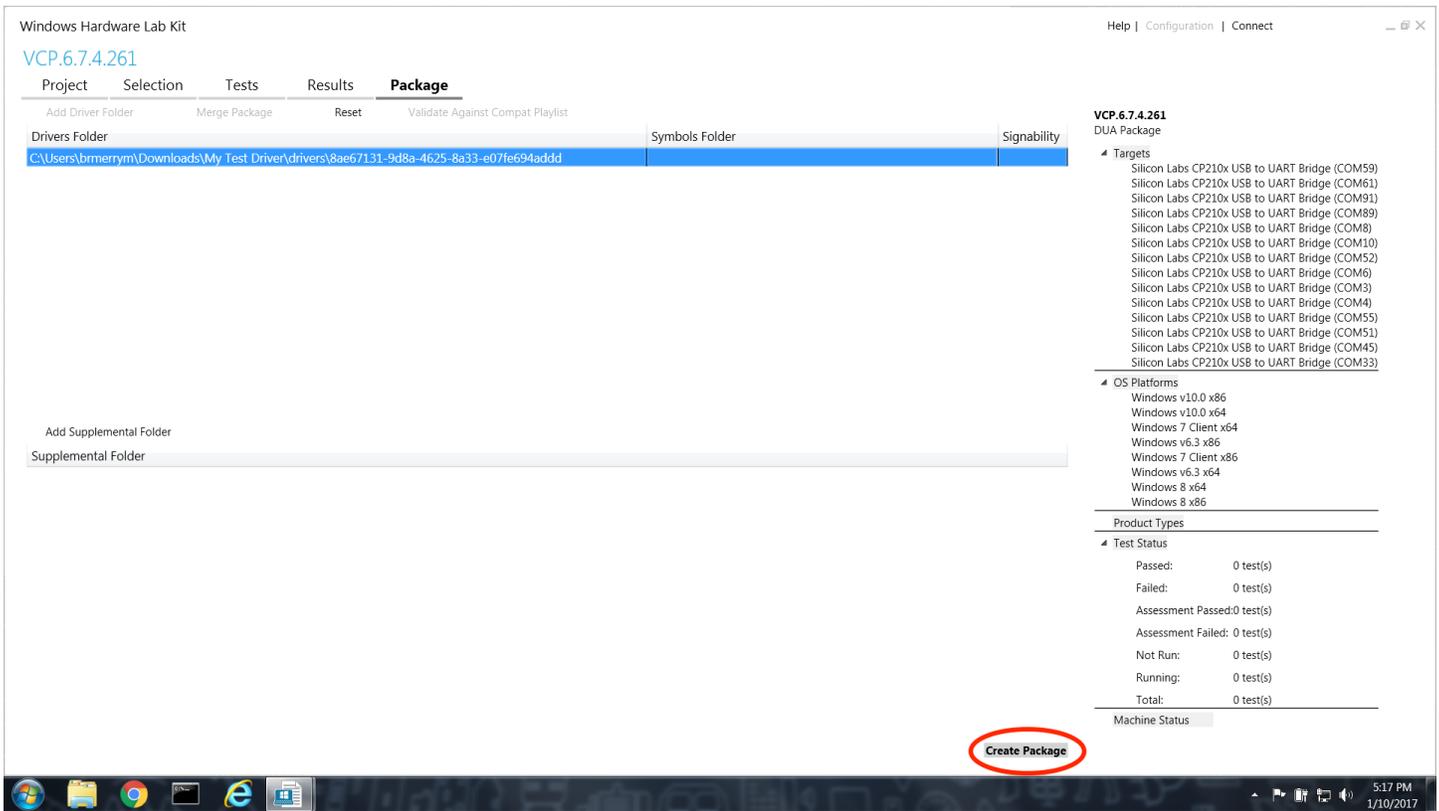


Figure 2.7. Create the Package

2.9 Sign the Package

Sign the package using the certificate store on your computer and save the .h1kx file.

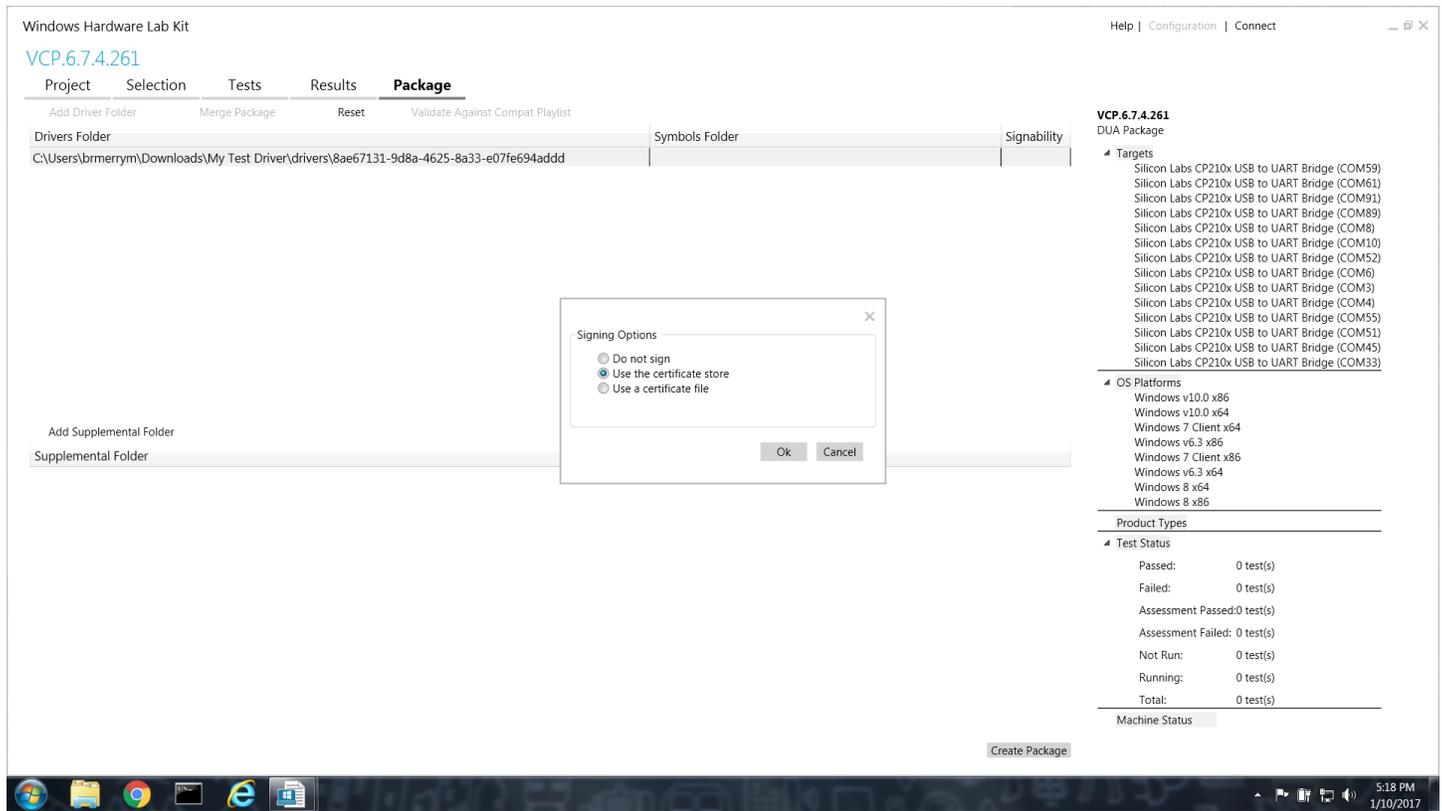


Figure 2.8. Sign the Package

2.10 Upload the Package

In the Microsoft Dev Center Dashboard, click **[Upload New]** and choose your new .h1kx file.

The screenshot shows the Microsoft Dev Center dashboard for a driver package named 'Silicon Labs CP2130 USB to SPI Bridge'. The dashboard includes a navigation bar with 'Dashboard', 'Windows', 'Cortana', 'Office', 'Hardware', and 'Groove'. A search bar is present in the top right. The main content area shows a progress bar with steps: Package Acceptance, Preparation, Validation, Catalog creation, Manual review, Sign, and Finalize. Below the progress bar, there is a section for 'Packages and signing properties' with a 'Driver name' field containing 'My Company's Driver'. A red arrow points to a large grey box with the text 'Drag your packages here (.h1kx, .hick) or browse your files'. Below this is a table with columns: Name, Date, Submission Id, Status, and More. The table contains one row: '1777023 - Initial', '11/10/2015', '1152921504626103778', and 'Finalize'. There are also sections for 'Additional certifications', 'Certification', 'External', and 'Distribution'. At the bottom, there is a 'New shipping label' button and a table of shipping labels with columns for Name, Creator, Destination, Created date, Release date, and Status. The table contains two rows of shipping labels, both with a 'Finalize' status.

Figure 2.9. Upload the New Package

3. Revision History

3.1 Revision 0.2

March 10, 2017

Updated document formatting.

Updated recertification steps to match the new flow from Microsoft.

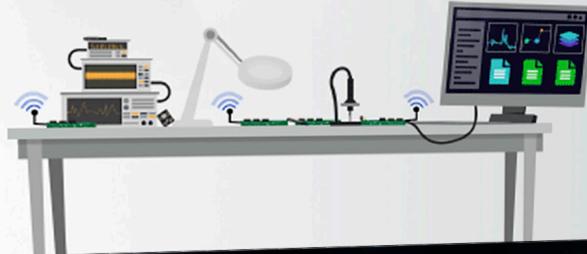
3.2 Revision 0.1

November 2013

Initial revision.

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