## **AXE5-Eagle Software Installation**



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Document Author(s):	Steven Kravatsky, Erika Peter, Naji Naufel, ESC, Fue
	Xiong, Helmut Ploetz, Henry Alexander, Mark
	Travaglini
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Document	This document is still under development. All
Distribution:	specifications, procedures, and processes described in
	this document are subject to change without prior
	notice
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Please read the legal disclaimer at the end of this document.

## NOTE: All references to installation files labelled 24.2.0.40 for Quartus 24.2, should be replaced with 25.1.0.129 for Quartus 25.1

### **Table of Contents**

1.	Software Download and Installation	2
2.	Local Software download and install	2
2.1 Softw	vare download	2
2.1.1	Quartus Prime Pro download	3
3.	Licensing	22
4.	USB Programmer	25
5.	Environment Variables	26
6.	Remote Software and install	26
7.	VirtualBox Virtual Machine Installation (Linux lab only)	27
8. Legal Discl	aimer	28

## 1. Software Download and Installation

If the Quartus software will be run locally or a remote (cloud server), the steps to download and install the software will be different.

If the software will be used on a local computer, refer to the Section called Local Software download and install.

If the software will be run remotely, refer to the Section called Remote Software and install.

For a local install, the files are large, so the internet speed needs to be fast.

## 2. Local Software download and install

When running on a local computer, there will be 2 software packages to be installed.

The first one will be **Quartus 25.1 software package**. Within the Quartus 25.1 software package, Quartus, RiscFree (for the Nios V software) and Questa-Sim Intel FPGA Starter (for simulation) will all be installed.

The Power Thermal Calculator (stand-alone) version will also need to be downloaded and installed.

These steps are for Windows based install, because the workshops were run on Windows computers.

#### 2.1 Software download

## WDW

#### 2.1.1 Quartus Prime Pro download

#### Go to the Quartus Prime Pro 25.1 at

https://www.intel.com/content/www/us/en/software-kit/851653/intel-quartus-prime-proedition-design-software-version-25-1-for-windows.html

Which looks like:

	Date	Software Type	Software Package	Version	Operating Systems
1653	4/7/2025	FPGA Development Tools	✓ Quartus® Prime Pro	✓ 25.1 (Latest)	✓ Windows ✓
			functional and security updates. Users should keep th		al recommendations to help improve
ty. Addi	tional security updates	are planned and will be provided as they	become available. Users should promptly install the	latest version upon release.	
			removal from the web when support for all devices in subscribe to our subscribe to our customer notification		all devices supported by this version are
are usir	g floating license serve	er for Intel FPGA software, you need to up	ograde to the latest license daemon software (v11.19.	6.0). Intel FPGA software, version Pro. doesn't w	ork with old version of daemon software.
	load the daemon soft		-0	,,,,,,,,,,,	
		rt specific device families:			
efer to th	are versions that suppo e Device Support List ftware Selector				
efer to th se the So	e Device Support List ftware Selector	el® Quartus® Prime Pro Edition Software	Version 25.1		
efer to th se the So al Issues vledge Ba	e Device Support List ftware Selector and Patches for the In ase: Search for Errata.	el <sup>e</sup> Quartus <sup>e</sup> Prime Pro Edition Software	, Version 25.1.		
fer to th e the Sc al Issues /ledge Bi	e Device Support List ftware Selector and Patches for the In		, Version 25.1.		

Quartus Prime Pro (unlike the Quartus Prime Standard or Quartus Lite) supports Agilex 5.

2.1.1 **Select the Individual Files** to reduce the amount of space needed on a computer. (The complete install could be downloaded, if wished but it will use more space.)

	Downloads		
	Installer (Recommended)	Individual Files	Copyleft Licensed Source
Se	lect the Quartus Prime Pro Ed	ition Part 1 as	
	Intel® Quartus® Prime Pro Edition Par	t 1	

Size: 3.1 GB

2.1.3 When the Legal Disclaimer appears, read it and select Accept as

Download QuartusProSetup-24.2.0.40-windows.exe

2.1.2

SHA1: fd535d3b88d8eacc839c440036225ab9b49265b7

ntel	Software	License A	Agreement

Legal Disclaimer	
PLEASE NOTE: This version of software ("Software") does not contain the latest functional a version, you must first acknowledge the following term, which supplements and supersedes any the Intel® FPGA Software License Subscription Agreement for the product (e.g., Intel® Quartt Compiler, Intel® FPGA SDK for OpenCL™, DSP Builder for Intel® FPGAs, or Advanced Lin Software:	y inconsistent provision in the version of ns® Prime Software, Intel® HLS
Intel does not give or enter into any condition, warranty, or other term:	
<ul> <li>with respect to any malfunctions or other errors in its Software caused by virus, infection developed or introduced by Intel; or</li> </ul>	n, worm or similar malicious code not
ii. to the effect that any Software will protect against all possible security threats, including Intel is not liable for any downtime or service interruption, for any lost or stolen data or s out of or relating to any such actions or intrusions or resulting from use of Software. Inte condition, warranty, or other term with respect to interoperability.	systems, or for any other damages arising
Intel does not warrant or assume responsibility for the accuracy or completeness of any informativity within the Software. Please click "Accept" below to continue the download process.	ation, text, graphics, links or other items
Accept	Reject
Terms of Use   Privacy   Legal Information   © Intel Corpo	pration

2.1.4 It should start downloading.

#### 2.1.5 Select the back button in the Browser to go back to the other files



## 2.1.6 Under the Individual files of Downloads

Installer (Recommended)	Individual Files	Copyleft Licensed Source

**Select one by one the following files** (and repeat as needed the legal disclaimer and the back button) for the following



Intel <sup>®</sup> Quartus <sup>®</sup> Prime Pro Edition Part 2	
Download QuartusProSetup-part2-24.2.0.40-windows.qdz	Size: 12.2 GB SHA1: 74fe87ec9223424e2389e665429b21f100c8a3a4
Questa*-Intel® FPGA and Starter Editions	
Download QuestaSetup-24.2.0.40-windows.exe	Size: 2.2 GB SHA1: 9d67fbaee4f76d81d550684993a16ea816858511
Intel Agilex® 5 device support (Requires Intel Agilex® com	nmon files) Size: 2.8 GB
Download agilex5-24.2.0.40.qdz	SHA1: f4ce890b1cf9805726f15c93f327e6c8f3ab9f2a
** Installation size: 5.88 GB	_
Intel® Agilex® common files	
Download agilex_common-24.2.0.40.qdz	Size: 9.8 GB SHA1: 85771732b120d8c02de265f7cd9711c635cee7af
** Installation size: 10.74 GB	
Ashling RiscFree IDE for Intel® FPGAs Download RiscFreeSetup-24.2.0.40-windows.exe	Size: 628.1 MB SHA1: 33ba0cd62cf6207eb07b98dccab99b450be21aac
Intel® FPGA Power Thermal Calculator	
Download ptc-24.2.0.40-windows.exe	Size: 402.2 MB SHA1: a54a76342b31d3ec03a9cb34fbe5fea3ecfc9349

The legal disclaimer will appear for the Agilex 5 devices and RiscFree IDE. The RiscFree IDE is used for software for Nios V (soft core processor).

2.1.7 The files will now be downloaded in the computer's default download directory (usually called downloads). The files will look like:

Name	Date modified	Туре	Size
∼ Today			
QuartusProSetup-part2-24.2.0.40-windows.qdz	7/25/2024 2:06 PM	QDZ File	12,834,09
agilex_common-24.2.0.40.qdz	7/25/2024 2:05 PM	QDZ File	10,226,66
💐 RiscFreeSetup-24.2.0.40-windows	7/25/2024 1:56 PM	Application	643,144 KB
agilex5-24.2.0.40.qdz	7/25/2024 1:57 PM	QDZ File	2,892,728
💐 ptc-24.2.0.40-windows	7/25/2024 1:55 PM	Application	411,839 KB
💐 QuartusProSetup-24.2.0.40-windows	7/25/2024 1:48 PM	Application	3,258,967
💐 Questa Setup-24.2.0.40-windows	7/25/2024 1:55 PM	Application	2,329,658

Note: Depending on the browser, there will be a circle showing the progress of the download files, so you might have wait a while.

- 2.1.8 Create a new directory on your computer ie c:\Quartus\_download251
- **2.1.9 Move all the above files to this new directory.** It will be easier to have the files in a directory to keep better track of the file such various versions of Quartus can be installed on a computer.

This PC > Local Disk (C:) > Quartus_download242				
1 $i$				
Name	Date modified	Туре	Size	
💐 QuestaSetup-24.2.0.40-windows	7/25/2024 1:55 PM	Application	2,329,658 KB	
DuartusProSetup-part2-24.2.0.40-windows.qdz	7/25/2024 2:06 PM	QDZ File	12,834,091 KB	
agilex_common-24.2.0.40.qdz	7/25/2024 2:05 PM	QDZ File	10,226,662 KB	
💐 RiscFreeSetup-24.2.0.40-windows	7/25/2024 1:56 PM	Application	643,144 KB	
agilex5-24.2.0.40.qdz	7/25/2024 1:57 PM	QDZ File	2,892,728 KB	
💐 ptc-24.2.0.40-windows	7/25/2024 1:55 PM	Application	411,839 KB	
💐 QuartusProSetup-24.2.0.40-windows	7/25/2024 1:48 PM	Application	3,258,967 KB	

#### 2.1.10 Select QuartusProSetup-25.1.0.129-windows

2.1.11 On some computers, it may be possible that you need to sign in for admin access in order to install software. It may be a while for the Quartus to appear.

#### 2.1.12 Quartus window will appear as

🕥 Installing Intel Quartus P	rime Pro Edition 24.2.0.40	—		$\times$
intel	Setup - Intel Quartus Prime Pro Edition 24.2.0.40			
	Welcome to the Intel Quartus Prime Pro Edition 24.2.0.40 Setup Wizard.			
	< Back	Next >	Can	cel

#### 2.1.13 Select Next

#### 2.1.14 Read the License Agreement and **select I accept the agreement as**

🕥 Installing Intel Quartus Prime Pro Edition 24.2.0.40	_		
License Agreement		inte	
You can view the full license agreements on the Quartus Prime software download page or use theinstall command-line to get the license agreement files before the installation. You must accept the terms of the a continuing with the installation.			
QUARTUS PRIME AND INTEL FPGA IP LICENSE AGREEMENT, VERSION 24.2         Intel, Quartus and the Intel logos are trademarks of Intel Corporation or its subsidiaries in the US and other countries. Any other trademarks and trade names referenced here are the property of their respective owners.         DO NOT DOWNLOAD, INSTALL, ACCESS, COPY, OR USE ANY PORTION OF THE LICENSED SOFTWARE UNTIL YOU HAVE READ AND ACCEPTED THE TERMS AND CONDITIONS OF THIS AGREEMENT. BY INSTALLING, COPYING, ACCESSING, OR USING THE LICENSED SOFTWARE. YOU AGREE TO BE LEGALLY BOUND BY THE		I	
Do you accept this license? I accept the agreement			
nstallBuilder Sack	Next >	Cancel	

#### 2.1.15 Select Next

### 2.1.16 **Select the directory**. The default directory can be left as



S Installing Intel Qu	uartus Prime Pro Edition 24.2.0.40		_	
Installation direct	ory			intel
	where Intel Quartus Prime Pro Edition 24.2.0.40 will be installed C:\intelFPGA_pro\24.2			
InstallBuilder		< Back	Next >	Cancel

#### 2.1.17 Select Next

#### 2.1.18 Ensure that the following items are enabled (and in blue) as

S Installing Intel Quartus Prime Pro Edition 24.2.0.40

#### Select Components

## intel.

 $\times$ 

#### Select components

Select the components you want to install	You can add additional device support to an existing Quartus Prime software installation without having to reinstall the entire software package. Use the Install Devices command on the Tools menu in the Quartus Prime software to get started. Select a component for more information
InstallBuilder	
	< Back Next > Cancel

#### 2.1.19 Select Next

#### 2.1.20 The Summary window will appear as



S Installing Intel Quartus Prime Pro Edition 24.2.0.40

Ready	to Install	
-------	------------	--

Summary:	
Installation directory: C:\intelFPGA_pro\24.2 Required disk space: 60063 MB Available disk space: 296132 MB	
The Quartus Prime software requires that your system have sufficient physical RAM to compile designs targeting specific devices. For detailed memory requirements for a particular device, you can check the "Memory Recommendations" section in the "Quartus Prime Software and Device Support Release Notes".	or
https://www.intel.com/content/www/us/en/programmable/documentation/lit-rn.html	
You can obtain a software license from the Intel FPGA Self Service Licensing Center:	
https://www.intel.com/content/www/us/en/support/programmable/licensing/support-center.html	
For more information about Intel FPGA software, go to:	
https://www.intel.com/content/www/us/en/products/programmable.html	
InstallBuilder	
< Back Next > Cancel	

#### 2.1.21 It will then install as:

Installing Vait while Setup installs Intel Quartus Prime Pro Edition 24.2.0.40 Installing npacking files	inte
Installing	
-	
tallBuilder	

#### 2.1.22 The install can take a while. (Time depends on the computer being used).

2.1.23 It will then show the following:

🕥 Installing Intel Quartus Pri	me Pro Edition 24.2.0.40	<u> </u>		×
last a l	Intel Quartus Prime Pro Edition 24.2.0.40 Installation Complete			
intel.	Intel Quartus Prime Pro Edition 24.2.0.40 Installation Complete Setup has finished installing Intel Quartus Prime Pro Edition 24.2.0.40. <ul> <li>Launch USB Blaster driver installation</li> <li>Launch USB Blaster II driver installation</li> <li>Install JTAG Server as a Windows service and run automatically when Windows starts</li> <li>Create shortcuts on Desktop</li> <li>Launch Quartus Prime Pro Edition</li> <li>Provide your feedback</li> </ul>			
	< Back Fi	nish	Cano	el

#### 2.1.24 Select Finish

2.1.25 When the window of

## WDW

Device Driver Installation Wizard

Welcome f Installation This wizard helps computers device	on Wizard! you install the so es need in order t	! oftware drivers th	-
		N. c.	
	< Back	Next >	Cancel

#### Appears, select **Next**

#### 2.1.26 Select Finish for the window of

Device Driver Installation Wizard

Completing the De Installation Wizard	
The drivers were successfully in: You can now connect your devi came with instructions, please re	ce to this computer. If your device
Driver Name ✓ Altera Altera USB-Blaster	Status Ready to use
< Back	Finish Cancel

## 2.1.27 There are two device drivers so another Device Driver window will appear. Select **Next**

Device Driver Installation Wizard



#### 2.1.28 Select Finish for

## WDW

Completing the De Installation Wizard	
The drivers were successfully in:	stalled on this computer.
You can now connect your devi came with instructions, please re	ce to this computer. If your device ad them first.
Driver Name ✔ Altera (WinUSB) JTAG c	Status Ready to use

#### 2.1.29 Quartus 2025.1 will now open as

_				
Quartus Prime Pro Edition			-	
Eile Edit View Project Assignments Processing Tools Windo	w Help		Search	0
📙 🔁 🕞 🤟 🛍 🛍 🗘 🖸 📃				
Project Navigator Q 🖡 🛛 🛛	🕈 Home 🗵		IP Catalog	4 0 X
🔈 Compilation Hierarchy			Q < <filter>&gt;</filter>	× E,
	New Project Wizzed		<ul> <li>Installed IP</li> <li>Project Directory</li> <li>No Selection Availa</li> </ul>	ble
			<ul> <li>Library</li> <li>Basic Functions</li> <li>Bridges and Adapte</li> </ul>	irs
	Documentation Training Support What's New		DSP     Interface Protocols	
			<ul> <li>Interface Protocols</li> <li>Memory Interfaces</li> </ul>	and Controllers
			<ul> <li>Processors and Per</li> </ul>	ipherals
			<ul> <li>University Program</li> <li>Search for Partner IP</li> </ul>	
🛕 Hierarchy 📋 Files 💕 Design Units 🕐 IP Components	Other Development Environments		Ŭ	
Tasks 🕴 🛙 🕷				
Project Files	<del>7</del> (Α), <sup>-</sup> Σ <sup>-1</sup> C++			
Open	FPGA AI Suite DSP Builder oneAPI			
Platform Designer IP Catalog	PPGAALSURE DSP builder OneAPT			
Analysis				
<ul> <li>Signal Tap Logic Analyzer</li> <li>Finish Design</li> <li>Programmer</li> </ul>				
•	Close page after project load			
	Don't show this screen again	intel.	4 + Add	•
8 0 0 00 00 00 00 <<	Use Regular Expressions Show Non-matching MEInd.			
+ (0) (0) (0) (0) (0)				Message ID
				message 10

#### 2.1.30 Select **File -> Exit** to close Quartus.

2.1.31 The next step is download and install the Intel FPGA Power Thermal Calculator. There is a reason for installing this as a separate download (even through the PTC is within Quartus). The reason is in "real life" that you

might want to see the approx. power of a device (to see if it would be even suitable in terms of power) before a RTL design is even created but without downloading and installing the entire Quartus software. The stand-alone PTC is fast to install, requires no license file and allows you to see the approx. power quickly. Knowing the approx. power would allow a quick target of which device would be suitable so that Quartus work could follow.

#### 2.1.32 Go to the Intel website of

Intel<sup>®</sup> Quartus<sup>®</sup> Prime Pro Edition Design Software Version 25.1 for Windows

#### 2.1.33 Select Under Downloads -> Individual Files



#### 2.1.34 Scroll down the webpage to Power Thermal Calculator



#### 2.1.35 Double Click on the Download for the Power Thermal Calculator

Intel® FPGA Power Thermal Calculator

 Download
 Size: 402.2 MB

 ptc-24.2.0.40-windows.exe
 SHA1: a54a76342b31c

Size: 402.2 MB SHA1: a54a76342b31d3ec03a9cb34fbe5fea3ecfc9349

- 2.1.36 The file will download
- 2.1.37 After the file is downloaded (by default, it will be in the download folder of your computer), **double-click the application file** as

💐 ptc-24.2.0.40-windows 8/1/2024 9:09 AM Application 411,839 KB

2.1.38 The window will appear

🕥 Installing Intel FPGA Powe	er Thermal Calculator 24.2.0.40	—		$\times$
intel	Setup - Intel FPGA Power Thermal Calculator 24.2.0.40			
intel.	Welcome to the Intel FPGA Power Thermal Calculator 24.2.0.40 Setup Wizard	Ι.		
	< Back Ne	xt >	Can	cel

#### 2.1.39 Select Next

#### 2.1.40 Read the License Agreement, and then select the I accept the agreement

S Installing Intel FPGA Power Thermal Calculator 24.2.0.40 —		$\times$
License Agreement	inte	el.
You can view the full license agreements on the Quartus Prime software download page. You must accept the terms of the agreement before continuing with the installation.	e	
QUARTUS PRIME AND INTEL FPGA IP LICENSE AGREEMENT, VERSION 24.2         Intel, Quartus and the Intel logos are trademarks of Intel Corporation or its subsidiaries in the US and other countries. Any other trademarks and trade names referenced here are the property of their respective owners.         DO NOT DOWNLOAD, INSTALL, ACCESS, COPY, OR USE ANY PORTION OF THE LICENSED SOFTWARE UNTIL YOU HAVE READ AND ACCEPTED THE TERMS AND CONDITIONS OF THIS AGREEMENT. BY INSTALLING, COPYING, ACCESSING, OR USING THE LICENSED SOFTWARE, YOU AGREE TO BE LEGALLY BOUND BY THE         Do you accept this license? <ul> <li>I accept the agreement</li> <li>I do not accept the agreement</li> <li>I do not accept the agreement</li> </ul>		1
InstallBuilder 	Cancel	

#### 2.1.41 Select Next

2.1.42 Select the Installation Directory. It can be selected as the default one as



🕥 Installing Intel FPGA Power Thermal Calculator 24.2.0.40		_	
Installation Directory			intel.
Specify the directory where Intel FPGA Power Thermal Calculator 24.2.0.40 will be inst	alled		
Installation Directory C:\intelFPGA_pro\24.2	<b>2</b>		
InstallBuilder	< Back	Next >	Cancel

#### 2.1.43 Select Next

2.1.44 The summary page will appear

S Installing Intel FPGA Power Thermal Calculator 24.2.0.40			—		$\times$
Ready to Install				in	tel
Summary: Installation directory: C:\intelFPGA_pro\24.2 Required disk space: 556 MB Available disk space: 233701 MB					
You can obtain a software license from the Intel FPGA Self Service Licensing Center: https://www.intel.com/content/www/us/en/support/programmable/licensing/support-ce	enter.html				
For more information about Intel FPGA software, go to: https://www.intel.com/content/www/us/en/products/programmable.html					
InstallBuilder	< Back	N	ext >	Can	cel

#### 2.1.45 Select Next

2.1.46 It will then install as



S Installing Intel FPGA Power Thermal Calculator 24.2.0.40		—	
Installing			intel
Wait while Setup installs Intel FPGA Power Thermal Calculator 24.2.0.40 Installing Unpacking files			
nstallBuilder			
	< Back	Next >	Cancel

#### 2.1.47 Once it is complete, it will show the window as

🕥 Installing Intel FPGA Pov	er Thermal Calculator 24.2.0.40		—		$\times$
	Intel FPGA Power Thermal Calculator 24.2.0.4	40 Installation Comple	ete		
intel.	Setup has finished installing Intel FPGA Power Therm	nal Calculator 24.2.0.40.			
		< Back Fit	nish	Cance	el
8 Select Finish					

## 3. Licensing

The Quartus software (when targeting Agilex 5) needs a free license. The Questa-Sim Intel FPGA Starter and NIOS-V /m 32-bit RISC-V soft processor also needs a free license.

To license the Quartus and Questa-Sim Intel, which is free license software, go to

Intel® FPGA Licensing Support Center and select License Generation for Self Service Licensing Center. You will need to login and program your NIC # to get a license file.

#### **Step 2: License Generation**

Generate a license file from the Intel® FPGA Self-Service Licensing Center.



#### If already enrolled in the Intel® FPGA Self-Service Licensing Center:

Sign In



Already enrolled ? - Sign In here

If you are not enrolled in:

## Enroll

If you don't already have access to the Intel® FPGA Self Service Licensing Center (SSLC), **enroll** to get an account.



Sign up for Evaluation or No-Cost Licenses:

Intel® FPGA Self-Service Licensing Center			
Home Licenses $\checkmark$ Computers and License Files $\checkmark$ Admins $\checkmark$ Si	ign up for Evaluation or No-Cost Licenses Reports Help $\checkmark$		
Hi! Welcome to the	Intel         PRODUCTS         SUPPORT         SOLUTIONS         EXCELOPESS         PARTNESS         A         Conversion         Q         Intel PROJ Solid         Intel PROJ Solid         Solid         Products         Q         Intel Products         Q         Intel Products         Conversion         Q         Intel Products         Solid         Products         D <thd< th=""> <thd< th=""> <thd< th="">         D</thd<></thd<></thd<>		
new Licensing Center.	Company information       Our Committee E       Diversity & Inclusion       Communities       Investor Relations       Contact Us       Neuroscom         Intel       If       In       Im		
Try the new License Assistant	complete by bound up down in the start half all all all all all all all all all		

Create the following licenses, repeat the same steps for the creation of each license.

<ul> <li>Agilex™ 5 E-Series FPGA Software</li> <li>Enablement (License: SW-AGILEX-5E)</li> </ul>	2025-09-23
O Questa*-Intel® FPGA Starter Edition (License: SW-QUESTA)	2025-09-23
O Nios® V/m Microcontroller Intel® FPGA IP (License: IP-NIOSVM)	2025-09-23

A license file will be sent to your registered e-mail address for each license.

Save the attached license file to the computer where you will use the license. It is recommended to save the file with the extension.**dat**.

Do not use double-byte characters or spaces when renaming the file and when saving in the folder path

Perform the following steps to install the licenses:

- 1. Save the license.dat file. The preferred location is:
  - Windows\* :<drive>:\flexlm
  - Linux: /usr/local/flexlm/licenses

- 2. Set the OS environment variables. In Windows:
- a. Open the System Properties window by pressing the Windows key and "R". This will open the Run window. Type the following Run command:

SystemPropertiesAdvanced

Then hit enter.

- b. Next click the Environment Variables button near the bottom.
- c. Go to New to make to set the tree variables, for example

Variable name	LM_LICENSE_FILE
variable value	Questa-Sim Intel FPGA Starter location in drive

To specify more than one license location with the LM\_LICENSE\_FILE environment variable, modify the existing LM\_LICENSE\_FILE environment variable and separate the different paths with semicolons (;), as shown in the following example:

Nueva variable del siste	ema	$\times$
<u>N</u> ombre de la	LM_LICENSE_FILE	
<u>V</u> alor de la	C:\flexIm\LR-190528_License.dat;LR-190529_License.dat;LR-190530_License.dat	
Examinar directorio	Exa <u>m</u> inar archivo Aceptar Cancelar	

3. Open Quartus software. Go to Tools -> License Setup and select LM\_LICENSE\_FILE variable.



## 4. USB Programmer

Before programming the Arrow AXE-5 Eagle board, the USB Programmer needs to be installed.

4.1. The USB Programmer is needed for Arrow USB Programmer that is on the AXE-5 dev board can be found at the Trenz website

Download | Trenz Electronic GmbH Online Shop (DE) (trenz-electronic.de)

And selecting the following (The website can be translated to English)



4.2 Verify the installation was successful.

Plug the USB cable into the micro USB connector of the Arrow Blaster module. Plug the other end of the cable into the USB type A connector of the PC.



Open the Device Manager.

If the following appears, then it is successful.

- 🗸 🏺 Universal Serial Bus controllers
  - USB Serial Converter A
  - 🖡 USB Serial Converter B

However, if there are two entries under Other Devices then **an additional driver installation is required.** 

Click on the following link to install the FTDI D2XX Direct Drivers for Windows.

### 5. Environment Variables

5.1 Add an environment variable for the Nios processor tools as shown in the figure below.

ystem Properties	× Environment Variables	
Computer Name Hardware Advanced System Protection Remote	User variables for a08473	
You must be logged on as an Administrator to make most of these changes.	Variable	Value
Perromance Visual effects, processor scheduling, memory usage, and virtual memory Settings	Path QSYS_ROOTDIR QUARTUS_ROOTDIR QUARTUS_ROOTDIR QUARTUS_ROOTDIR_OVERRI_	C:\Users\a08473\AppData\Local\Microsoft\WindowsApps;C:\Users D:\intelFPGA_pro\24.2\qsys\bin D:\intelFPGA_pro\24.1\quartus D:\intelFPGA_lire\19.1
User Profiles Desktop settings related to your sign-in Settings	SOPC_KIT_NIOS2 TEMP TMP	1 C:\Users\a08473\AppData\Local\Temp C:\Users\a08473\AppData\Local\Temp
Startup and Recovery		New Edit Delete
System startup, system failure, and debugging information	System variables	
Settings	Variable	Value
	_PSLockDownPolicy	0
Environment Variables	chassis ComSpec DriverData	Notebook C:\WINDOWS\system32\cmd.exe C:\Windows\System32\Drivers\DriverData
OK Cancel Apply	LATTICE_INI_PATH model	C:\lsc_env 7550

## 6. Remote Software and install

6.1 If you are using the CloudLabs Virtual Machines, the Quartus software and lab source material will be pre-installed and licensed.

## 7. VirtualBox Virtual Machine Installation (Linux lab only)

The Linux lab needs a Linux host to create a Linux bootable system for the AXE5-Eagle board. Download the Oracle VirtualBox Manager. Then download and unzip the Ubuntu 22.04 LTs VM image. You need approximately 40GB of free disk space to download and extract the VM.

7.1 Download and install the <u>VirtualBox manager for Windows</u>.

7.2 Navigate to the <u>Workshops</u> page. Click on **Download the Ubuntu 22.04 LTs Virtual Machine**. This will take a while depending on your internet connection (18 GB file size).

7.3 Extract the Virtual Machine by right clicking on Ubuntu\_2204\_LTS\_xxxx.zip. This can take approximately 10 minutes depending on the performance of your laptop.

7.4 Open the VirtualBox Manager. Select Machine  $\rightarrow$  Add. Navigate to the **Agilex 5 Workshop** VirtualBox Machine Definition file and select **open**.

7.5 Use the Settings option to make changes to the System based on your laptop. Click on System and then the **Motherboard tab** to adjust **Base Memory**. Click on The **Processor tab** to adjust the **number of processors**.

7.6 The password for the VirtualBox VM is **root**. This must be used when executing super user **sudo** commands.

7.7 Download and install <u>Tera Term terminal emulator</u>.

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