

MDK-ARM Trainings Preparation

prior to the day of the training



MDK-ARM Trainings Preparation

- Notebook and Tools
- Download and Installation of the MDK
- NXP: Selection of Board and Target, Pack Installation
- STM: Selection of Board and Target, Pack Installation
- IFX: Selection of Board and Target, Pack Installation
- License Request and License Installation (PLEASE ONLY ONCE)
- Appendix, Manual Pack Installation

Notebook and Tools

- Notebook with local admin rights

- MS Windows XP, Vista, Win7, Win8
- pdf viewer

- MDK and Training needs:
 - 512MB RAM available,
 - 1GB ROM,
 - 2x USB

- Rights for connecting external USB Stick

- Mouse might be helpful (3rd USB slot)

Download and Installation of the MDK

- <https://www.keil.com/download/product/>





KEIL™
Tools by ARM

ARM

Home Products Download Events Support Search Keil.com... Go

Download Products

Select a product from the list below to download the latest version.

 MDK-ARM Version 5.16a (August 2015) Development environment for Cortex and ARM devices.	 C51 Version 9.54a (May 2015) Development tools for all 8051 devices.
 C251 Version 5.58 (October 2015) Development tools for all 80251 devices.	 C166 Version 7.55 (April 2015) Development tools for C166, XC166, & XC2000 MCUs.

Keil products use a [License Management](#) system - without a current license the product runs as a Lite/Evaluation edition with a few [Limitations](#).

Maintenance Status and Previous Versions

Enter a valid Product Serial Number (**PSN**) or License Code (**LIC**) to get access to all product versions available to you, or to check the status of your support and maintenance agreement.

Please enter a LIC or PSN to continue.

PSN or LIC:

Further information about installing your software is available in the [Read Me First](#) brochure.

- Enter PSN
(from email)

- Submit

Download and Installation of the MDK

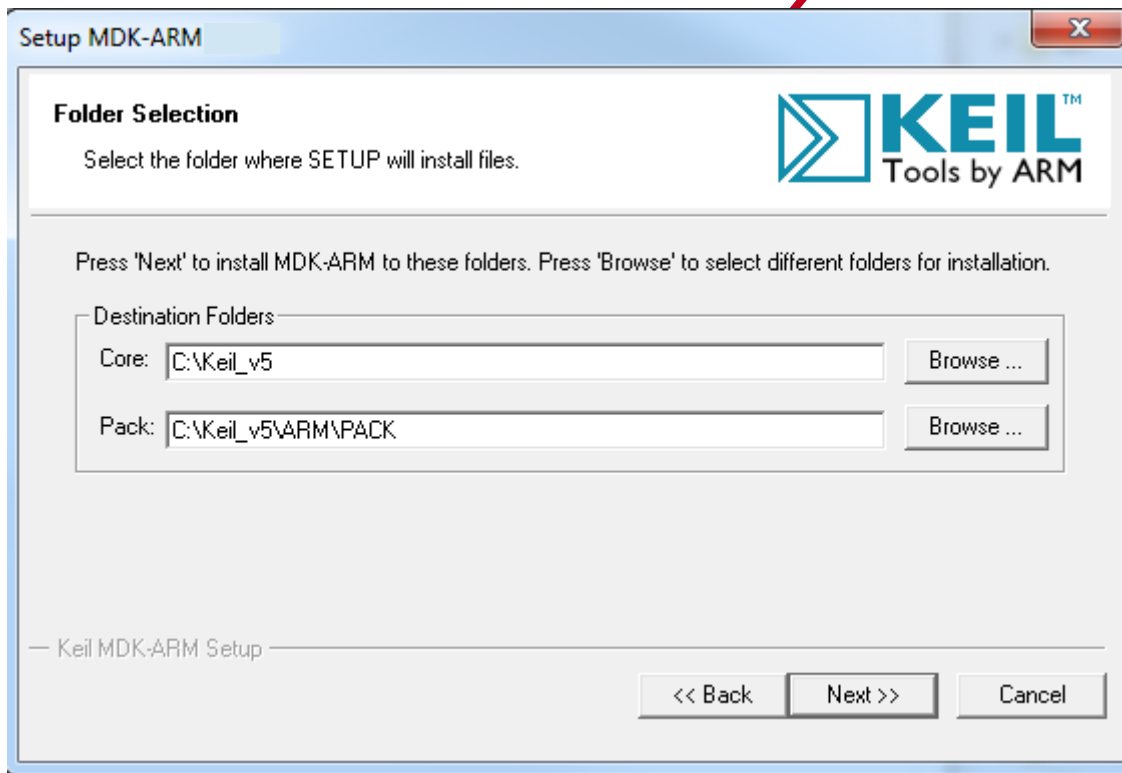
■ Select Download



The screenshot shows the KEIL Tools by ARM website. The header is blue with the KEIL logo and navigation links: Home, Products, Download, Events, Support, Videos, and a search bar. The main content area is white and features the heading "Product Downloads for PSN xxxxx-xxxxx-". Below this, there is a maintenance notice: "Maintenance for this PSN is current until [blank] The latest version of this product is MDK-ARM V5. [blank] released on [blank]". A blue link "Click to view this version's release notes" is provided. A prominent blue "Download" button with a downward arrow icon is visible. Below the button, another blue link "Click here to browse previous versions." is present. The footer is dark blue and contains a grid of links: Products (Development Tools), Downloads (Hardware & Collateral, MDK-ARM), and Support (Knowledgebase).

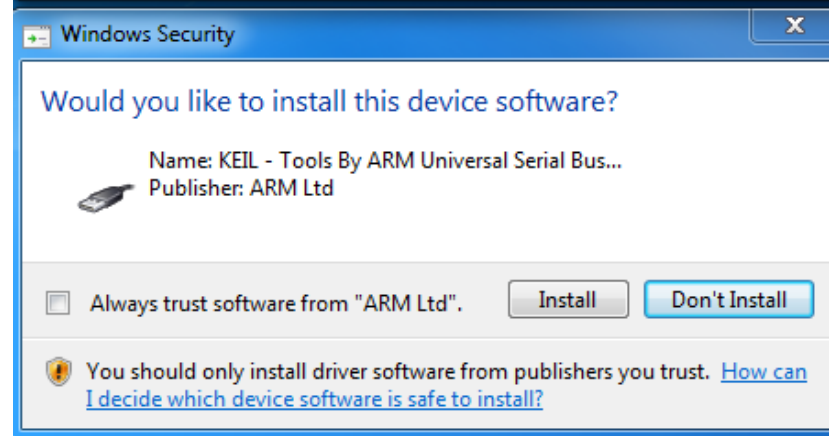
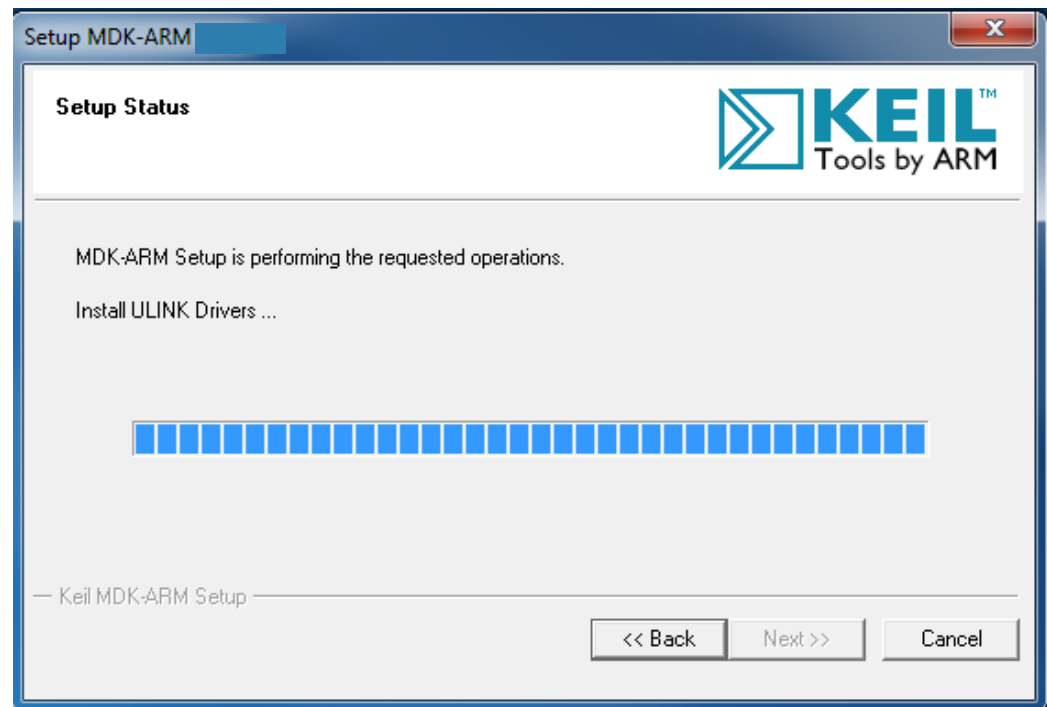
Download and Installation of the MDK

- Start mdk5xx.exe as administrator and follow the instructions
- Do not change the suggested paths

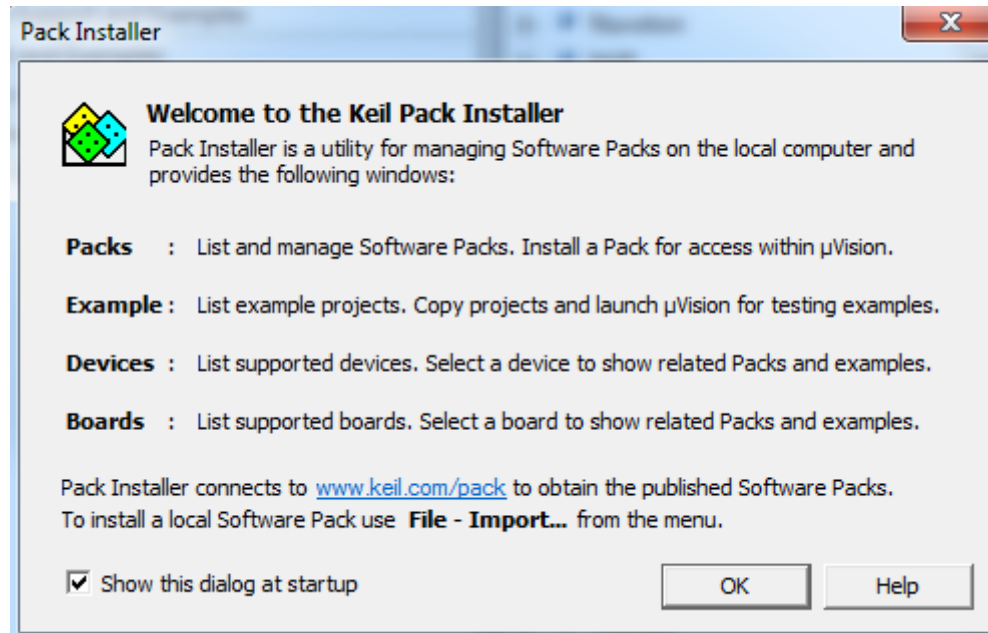


Download and Installation of the MDK

- Install all components and finish installation
- The pack installer will start

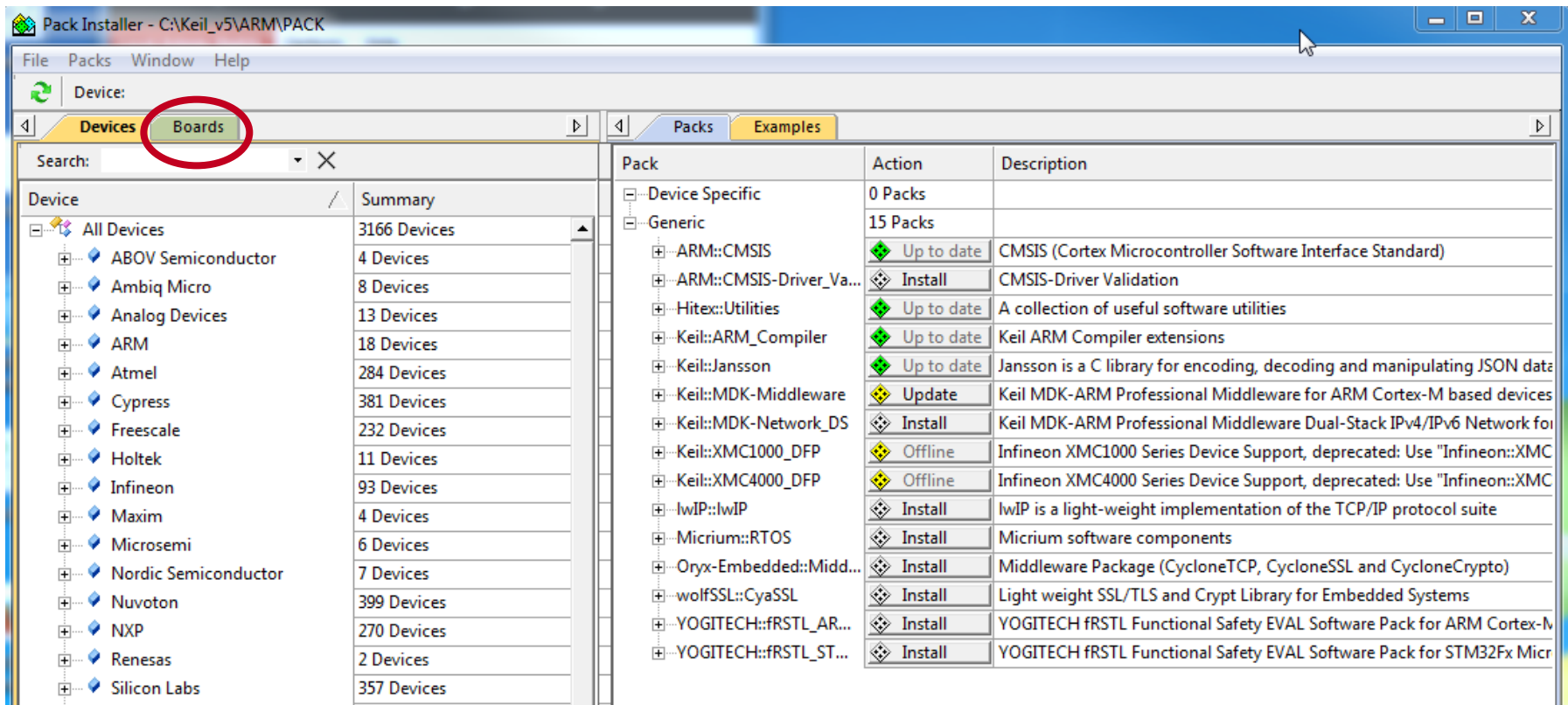


■ Acknowledge the pack installation



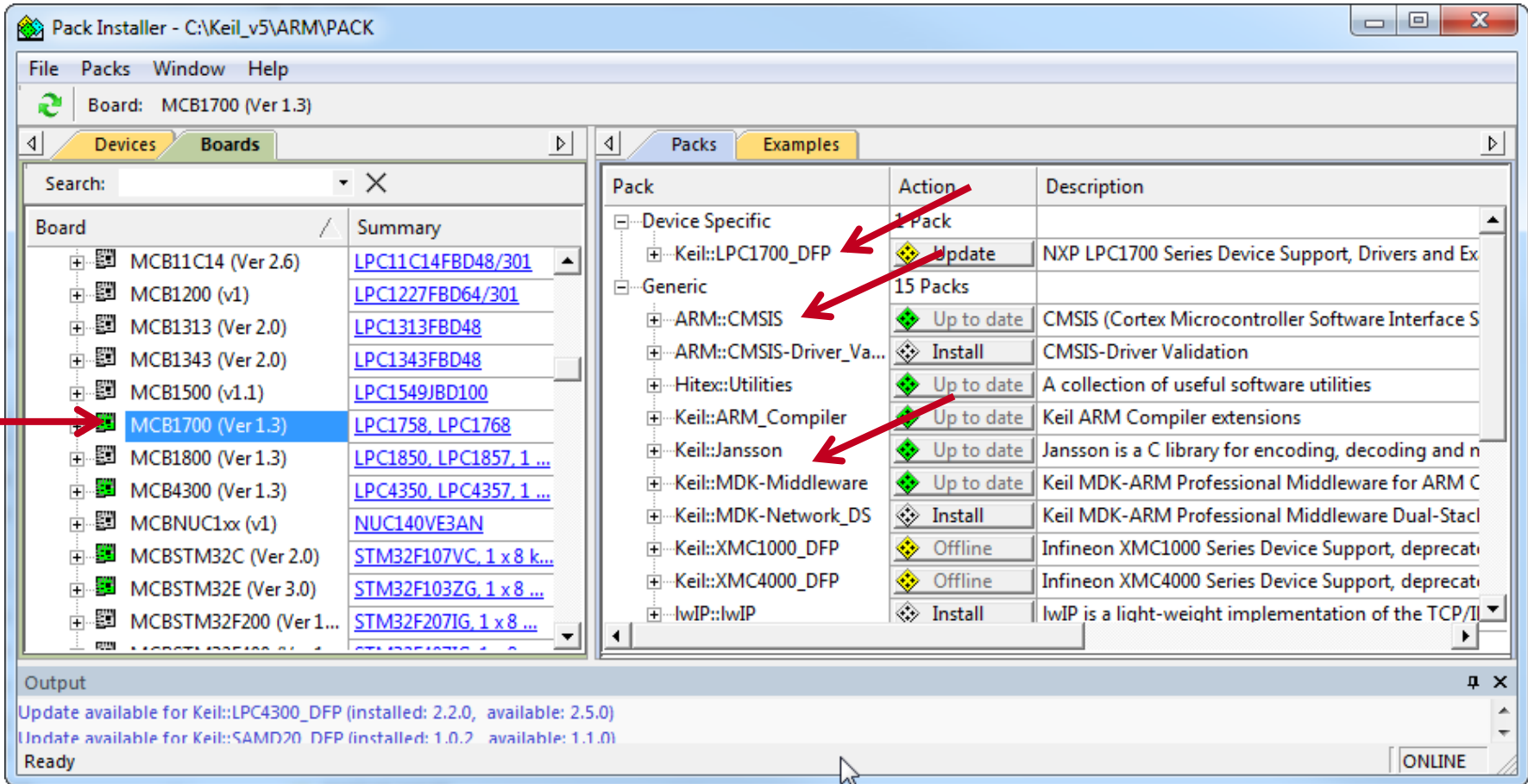
Pack Installation

- Select tab **Boards** and follow the pack installation according to your derivate
- If the pack installation fails (limited download rights) please see the appendix of this document



LPC1700 Pack Installation

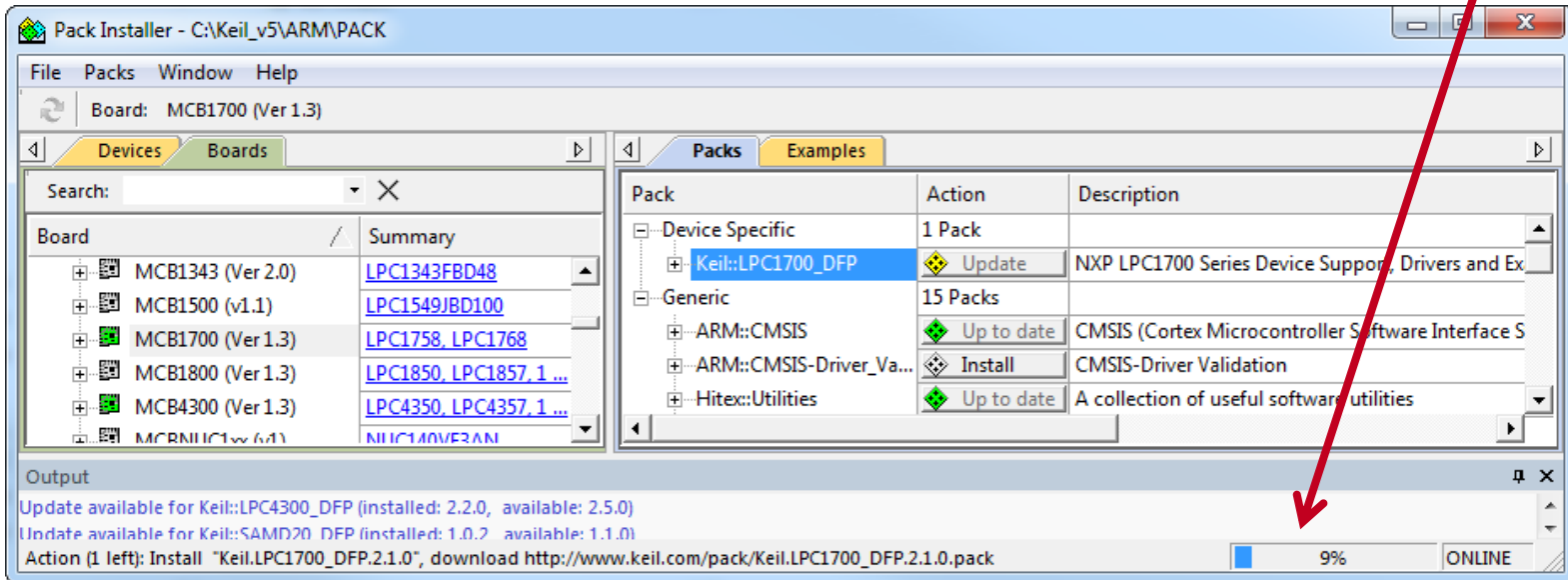
■ Select your board **MCB1700**



and install ARM-CMSIS, Middleware and *_DFP

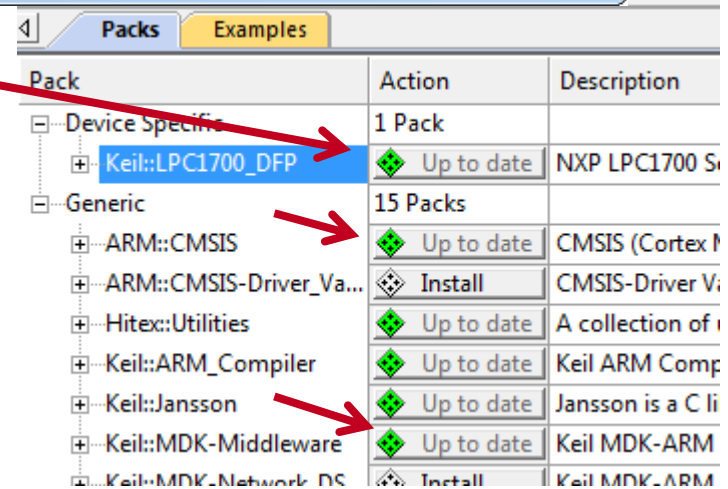
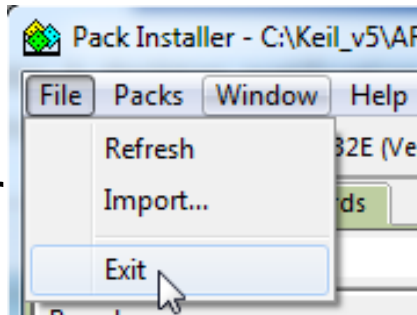
LPC1700 Pack Installation

- See the progress of installation down at the right corner



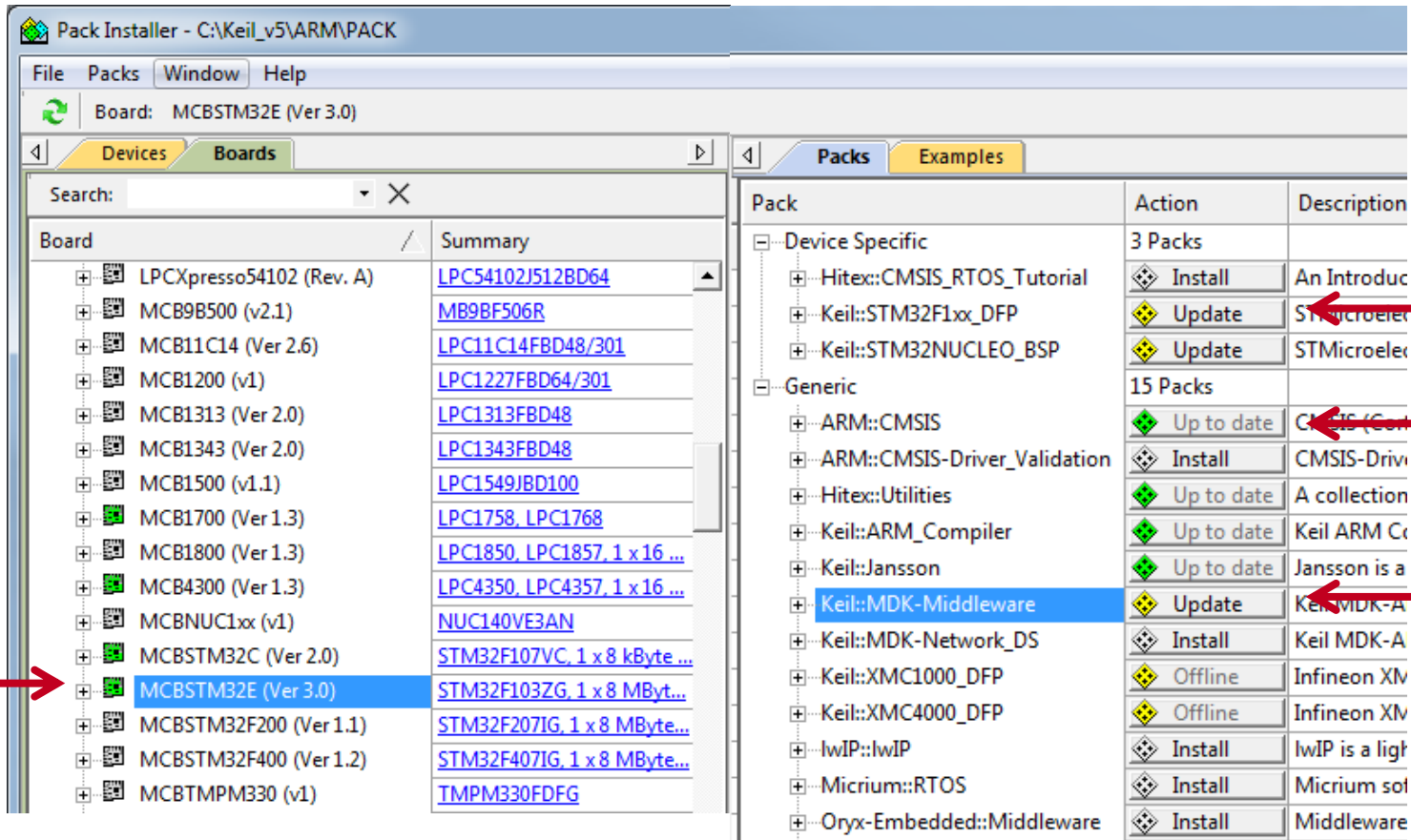
- Up to date after installation

- File / Exit will close pack installer



STM32 Pack Installation

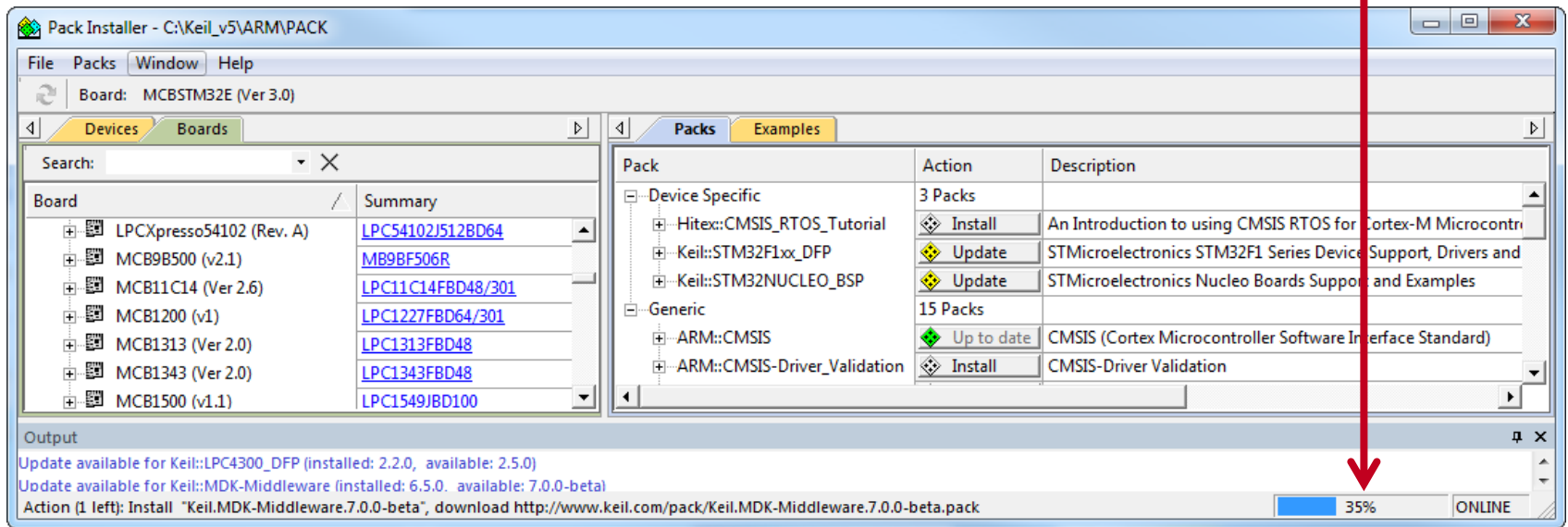
■ Select your board **MCBSTM32E**



and install ARM-CMSIS, Middleware and *_DFP

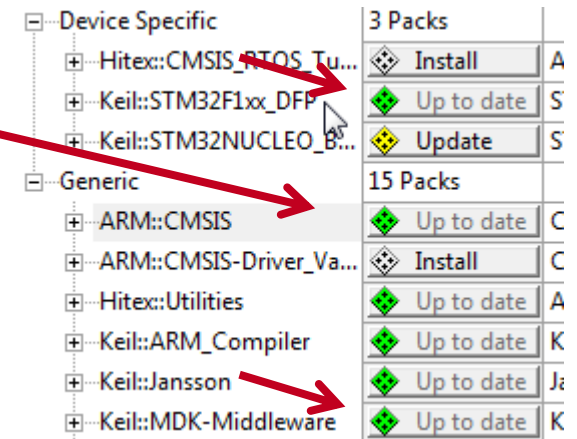
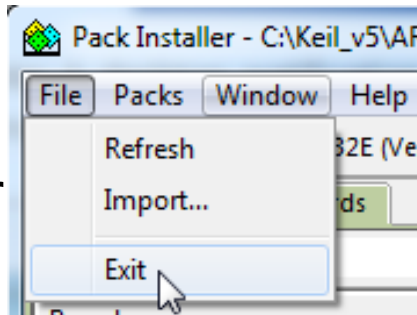
STM32 Pack Installation

- See the progress of installation down at the right corner



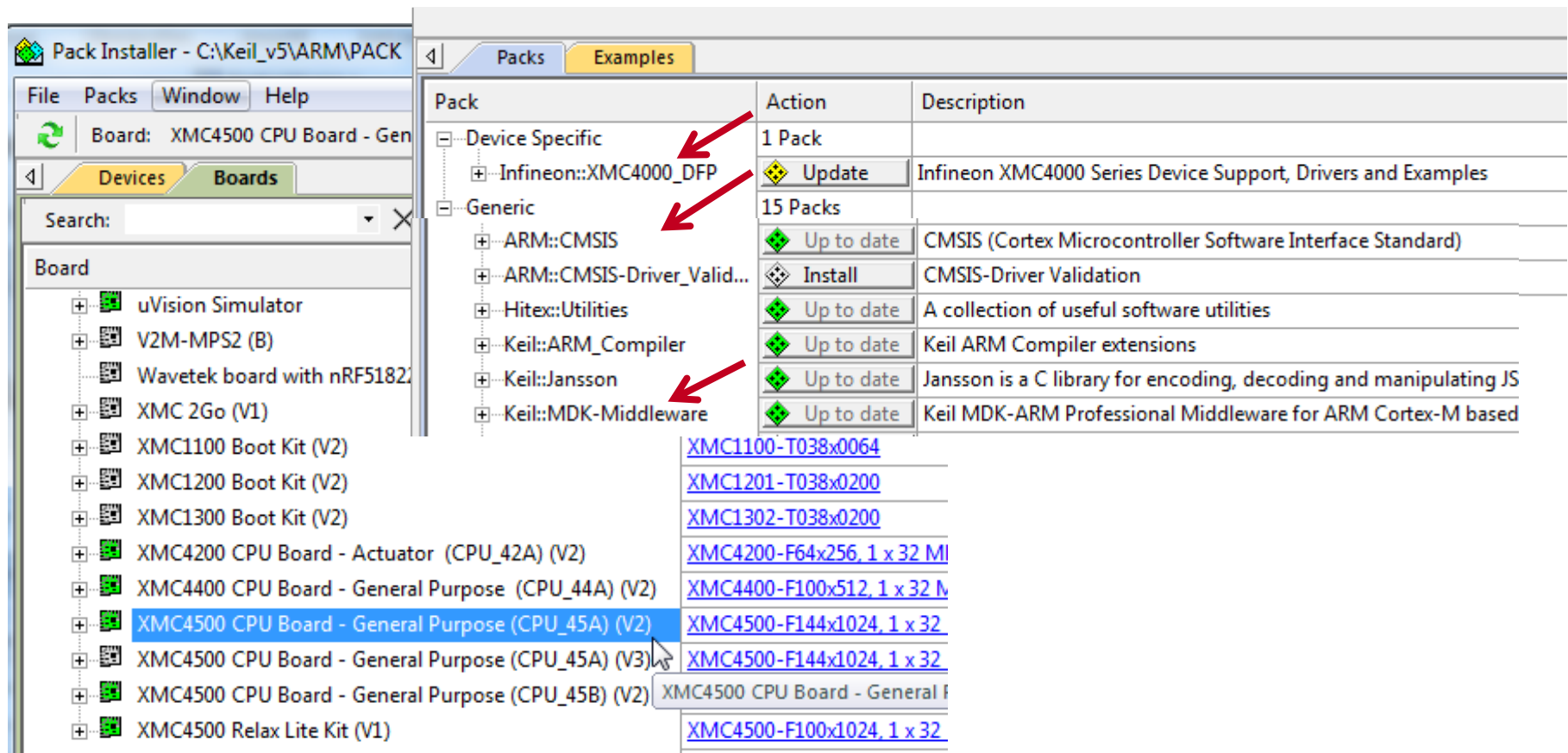
- Up to date after installation

- File / Exit will close pack installer



XMC4500 Pack Installation

■ Select your board **XMC4500 CPU Board (CPU_45A) (V2)**



The screenshot shows the Pack Installer interface. On the left, the 'Boards' tab is active, and 'XMC4500 CPU Board - General Purpose (CPU_45A) (V2)' is selected. The main area shows a list of packs under the 'Generic' category. Three red arrows point to 'Infineon::XMC4000_DFP', 'ARM::CMSIS', and 'Keil::MDK-Middleware'. The 'Action' column shows 'Update' for the DFP pack and 'Up to date' for the others. The 'Description' column provides details for each pack.

Pack	Action	Description
Device Specific	1 Pack	
+ Infineon::XMC4000_DFP	Update	Infineon XMC4000 Series Device Support, Drivers and Examples
Generic	15 Packs	
+ ARM::CMSIS	Up to date	CMSIS (Cortex Microcontroller Software Interface Standard)
+ ARM::CMSIS-Driver_Valid...	Install	CMSIS-Driver Validation
+ Hitex::Utilities	Up to date	A collection of useful software utilities
+ Keil::ARM_Compiler	Up to date	Keil ARM Compiler extensions
+ Keil::Jansson	Up to date	Jansson is a C library for encoding, decoding and manipulating JS
+ Keil::MDK-Middleware	Up to date	Keil MDK-ARM Professional Middleware for ARM Cortex-M based

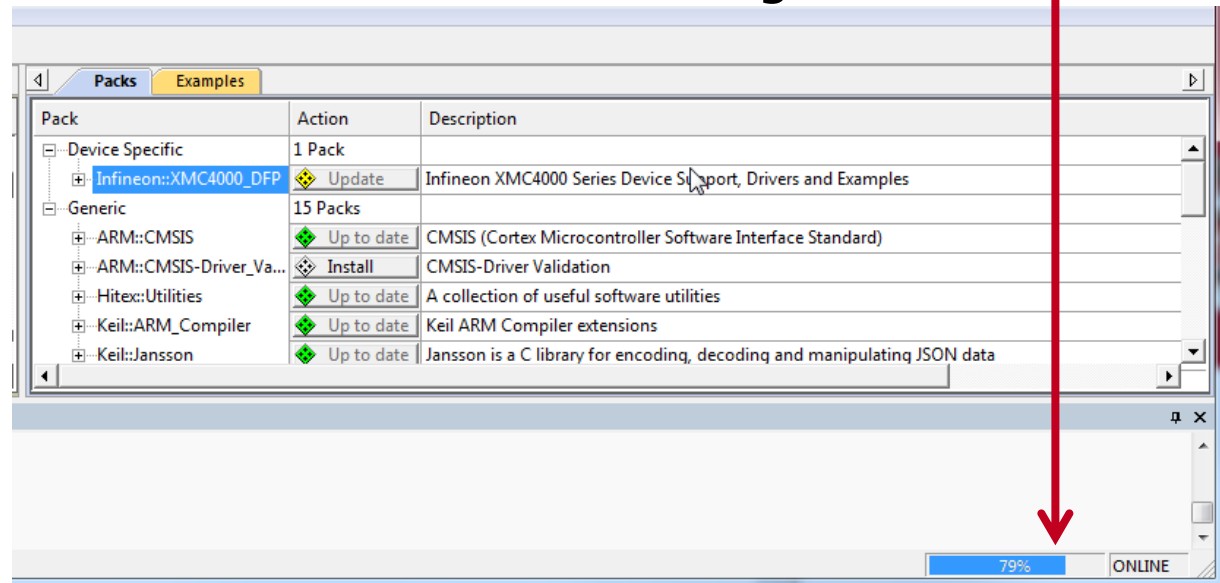
Additional board options listed in the 'Boards' list include:

- XMC1100 Boot Kit (V2)
- XMC1200 Boot Kit (V2)
- XMC1300 Boot Kit (V2)
- XMC4200 CPU Board - Actuator (CPU_42A) (V2)
- XMC4400 CPU Board - General Purpose (CPU_44A) (V2)
- XMC4500 CPU Board - General Purpose (CPU_45A) (V2)
- XMC4500 CPU Board - General Purpose (CPU_45A) (V3)
- XMC4500 CPU Board - General Purpose (CPU_45B) (V2)
- XMC4500 Relax Lite Kit (V1)

and install ARM-CMSIS, Middleware and *_DFP

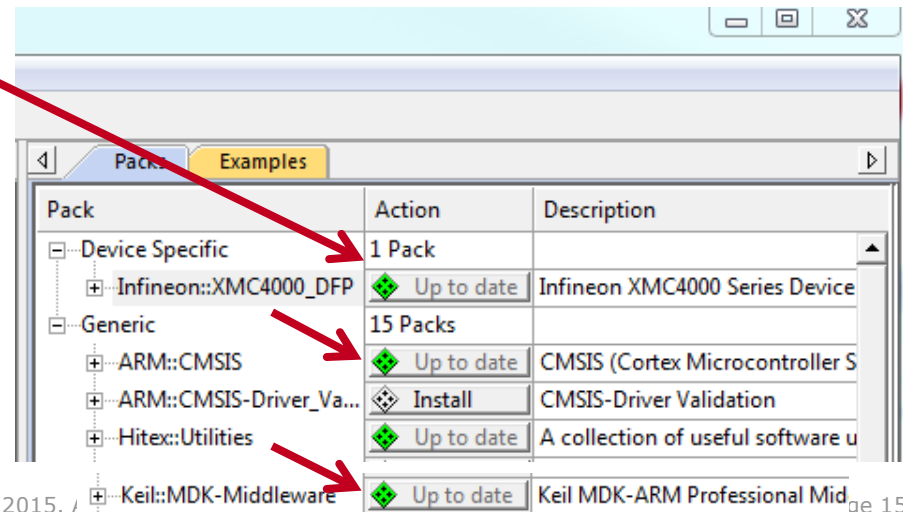
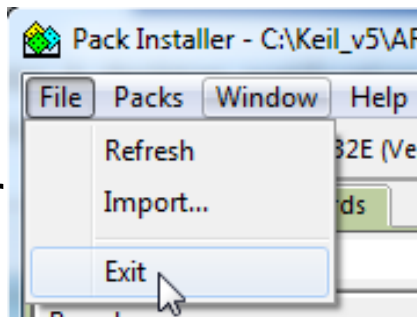
XMC4500 Pack Installation

- See the progress of installation down at the right corner



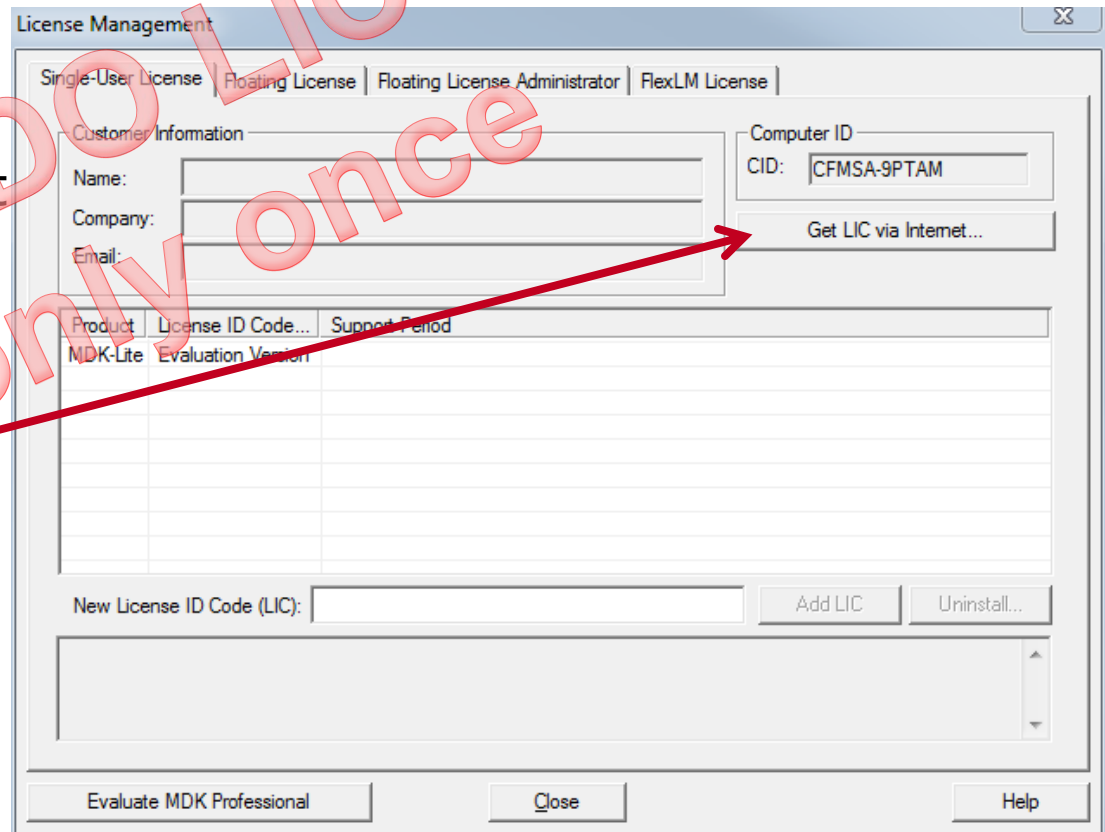
- **Up to date** after installation

- File / Exit will close pack installer



License Request and License Installation

- You will need the PSN number which came per e-mail from Hitex concerning the MDK-ARM power training. It will provide a time limited license.
- Start the MDK5 **as administrator** (context menu / run as administrator)
- Start File/License management
- Select "Get LIC via Internet"



License Request and License Installation

- Follow the instructions and insert PSN number

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Tools by ARM

Home / Product Licensing

Single-User License

Enter your Product Serial Number (PSN) and computer ID (CID) for this product. **Be sure to include dashes.**

Please make certain your e-mail address is correct. After you enter your PSN and CID, we will send you a License ID Code (LIC). Please make sure any spam blocker you use is configured to allow e-mails from keil.com.

Obtaining a License ID Code (LIC)

You are about to register a Product and obtain a License ID Code (LIC).

The following information must be sent to www.keil.com:

Product Serial Number (PSN)
Computer ID Number (CID): CFMSA-9PTAM

Notes:

- You may register the product manually at <http://www.keil.com/license/install.htm>.
- After registering, you will receive an e-mail containing the LIC for your computer.
- Enter the LIC into the New License ID Code field.

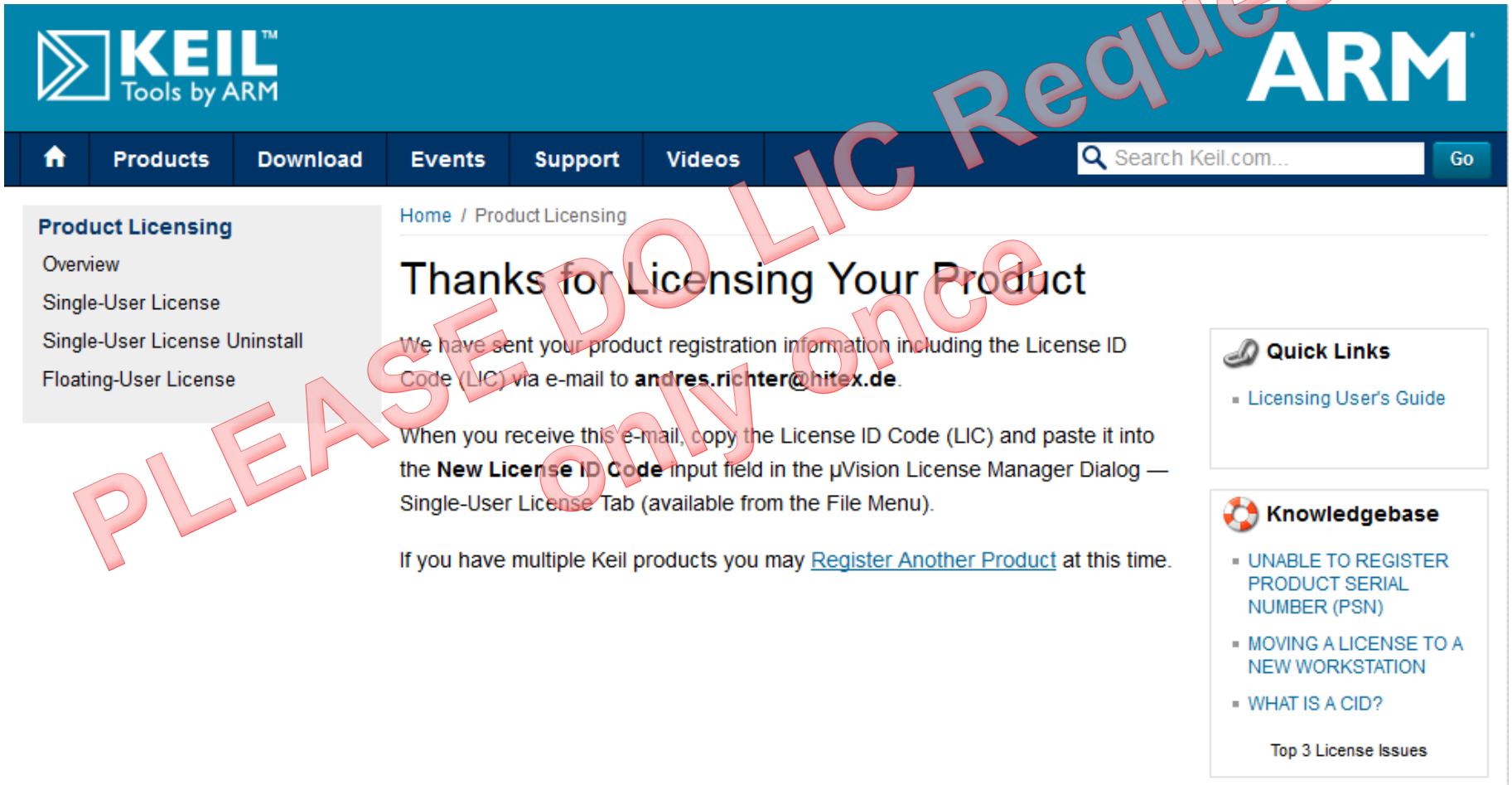
Computer ID (CID): CFMSA-9PTAM

Product Serial # (PSN):

PC Description:

Enter a description of the PC on which this license is registered.
For example: LAB PC, Office Computer, Laptop, John's PC, etc.

First Name:



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ARM

Home / Product Licensing

Thanks for Licensing Your Product

We have sent your product registration information including the License ID Code (LIC) via e-mail to andres.richter@hitex.de.

When you receive this e-mail, copy the License ID Code (LIC) and paste it into the **New License ID Code** input field in the µVision License Manager Dialog — Single-User License Tab (available from the File Menu).

If you have multiple Keil products you may [Register Another Product](#) at this time.

Product Licensing

- Overview
- Single-User License
- Single-User License Uninstall
- Floating-User License

Quick Links

- Licensing User's Guide

Knowledgebase

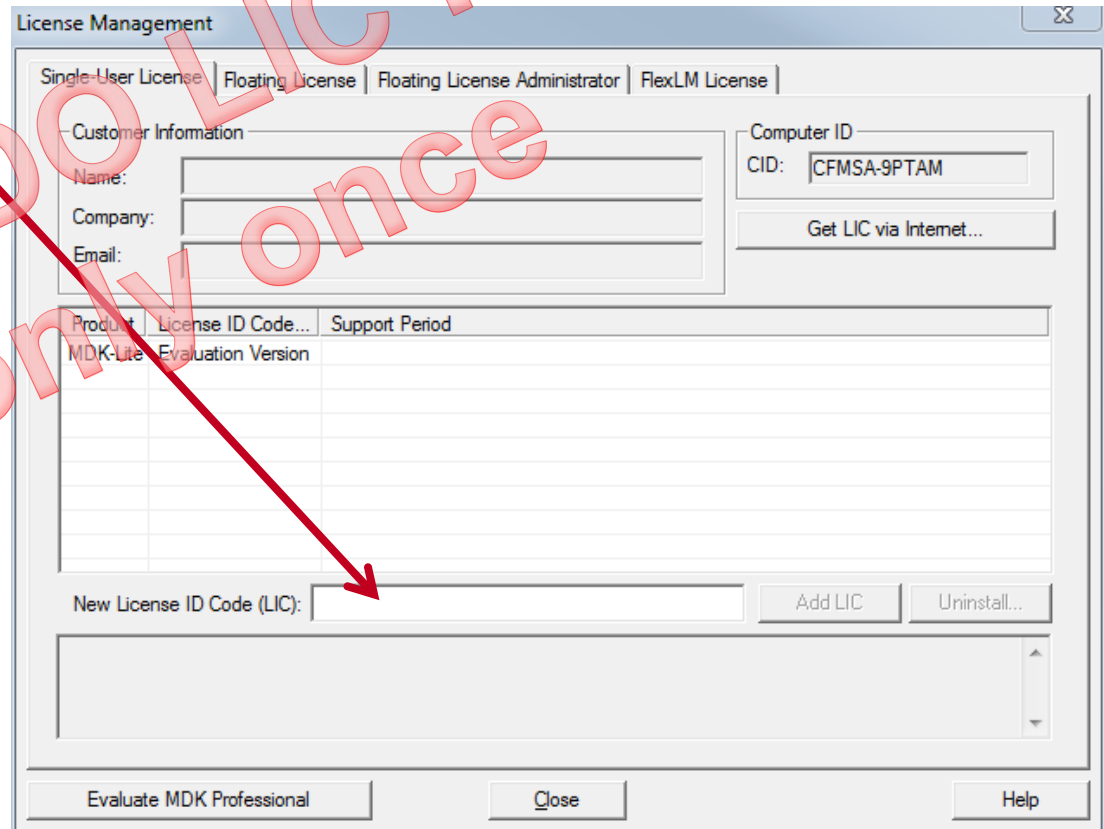
- UNABLE TO REGISTER PRODUCT SERIAL NUMBER (PSN)
- MOVING A LICENSE TO A NEW WORKSTATION
- WHAT IS A CID?

Top 3 License Issues

License Request and License Installation

- You will get the LIC (license id code) via email
- Copy / paste to "New License ID Code"
- Select "Add LIC"
- Close license manager and restart MDK5

PLEASE DO LIC Request only once

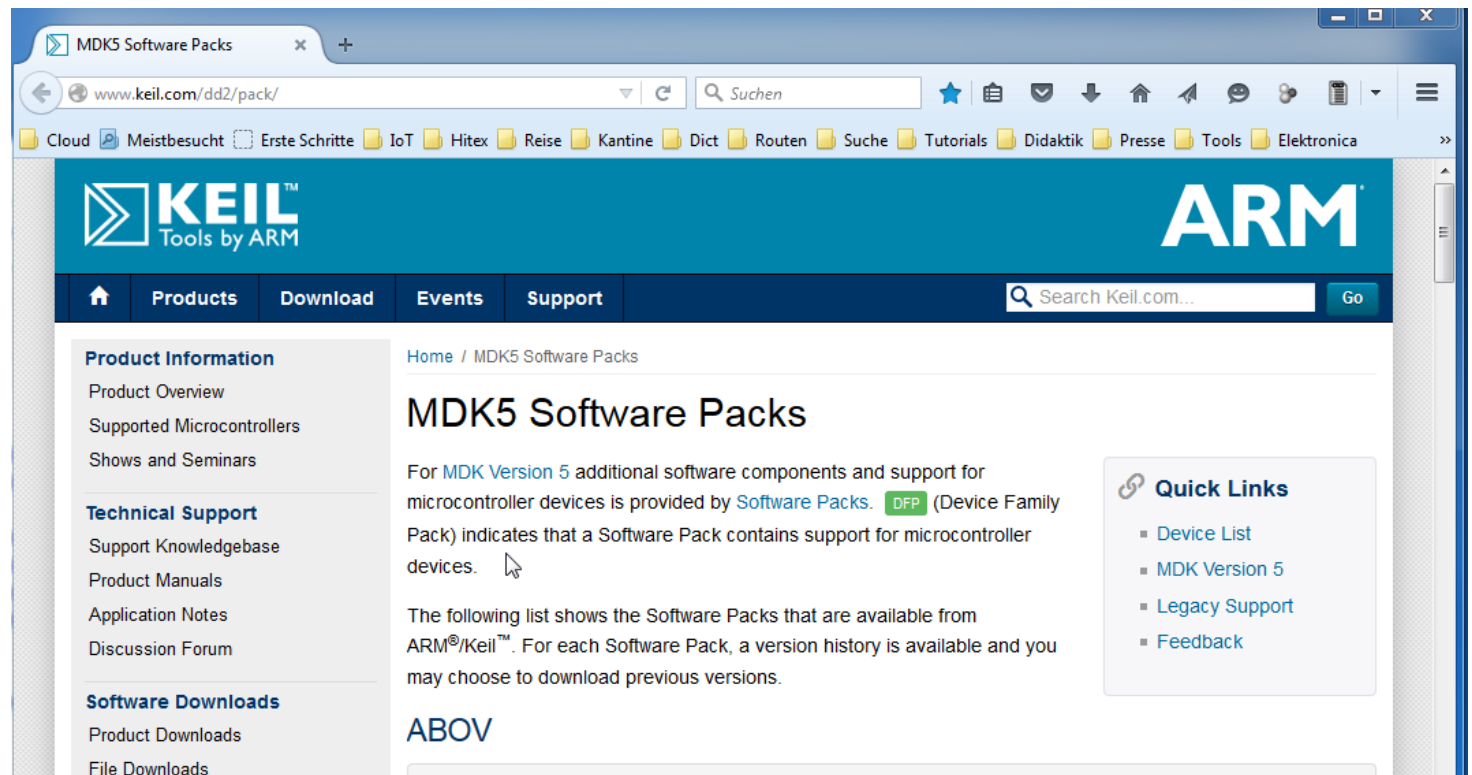


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- **Appendix, Manual Pack Installation**

Manual Pack Installation

- Your pack installation may fail if your download options are restricted by IT rules.
- The workaround is a manual download and installation:
- Visit www.keil.com/pack (-> www.keil.com/dd2/pack)

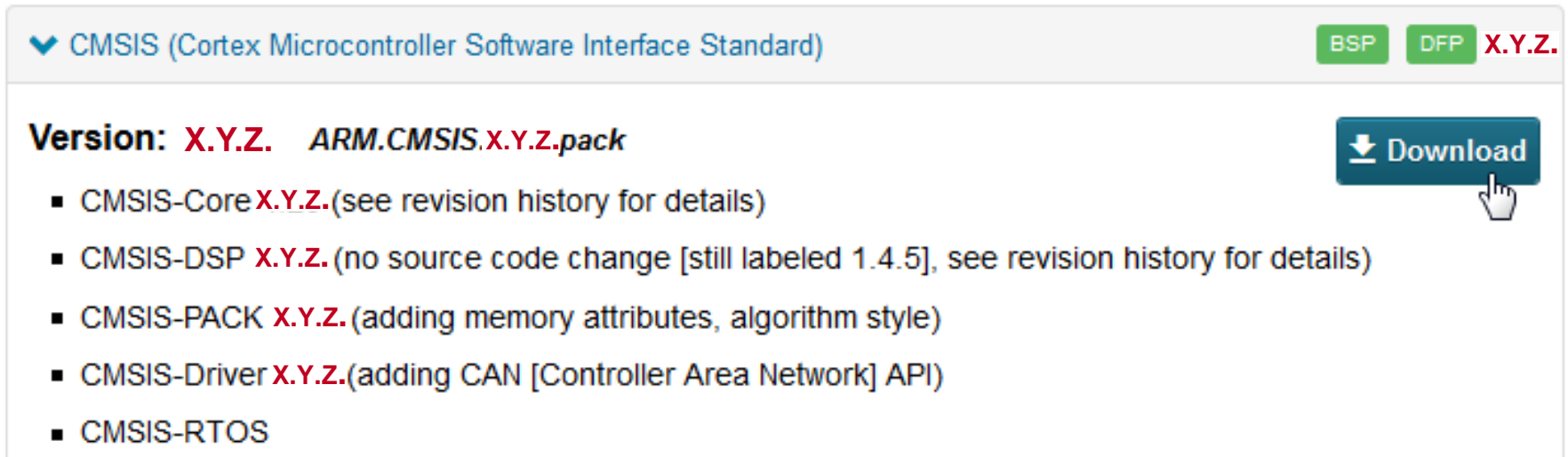


Manual Pack Installation

■ Download **CMSIS**

- Scroll down to ARM and unfold CMSIS
- Download current CMSIS pack (at top of the list)

ARM



The screenshot shows a web interface for downloading CMSIS packs. At the top, there is a header for 'CMSIS (Cortex Microcontroller Software Interface Standard)' with a dropdown arrow on the left and 'BSP', 'DFP', and 'X.Y.Z.' on the right. Below this, the 'Version: X.Y.Z.' is displayed, followed by the pack name 'ARM.CMSIS.X.Y.Z.pack'. A blue 'Download' button with a download icon and a hand cursor is positioned to the right of the pack name. Below the pack name, there is a list of components:

- CMSIS-Core X.Y.Z. (see revision history for details)
- CMSIS-DSP X.Y.Z. (no source code change [still labeled 1.4.5], see revision history for details)
- CMSIS-PACK X.Y.Z. (adding memory attributes, algorithm style)
- CMSIS-Driver X.Y.Z. (adding CAN [Controller Area Network] API)
- CMSIS-RTOS

Manual Pack Installation

- Download matching Device Support Packages
 - Select Keil (for Infineon XMC4000 contact Hitex)
 - Scroll down and download current *_*_DFP

The screenshot shows a list of device support packages. The 'Infineon' section is highlighted with a red box and arrow, with '(XMC4000)' written next to it. The 'Keil' section is also highlighted with a red box and arrow, with '(STM32, LPC1700)' written next to it. The list includes:

- Infineon TLE986x Series Device Support (BSP, DFP 1.2.1)
- Infineon TLE987x Series Device Support (BSP, DFP 1.2.1)
- Infineon XMC1000 Series Device Support (BSP, DFP 2.1.0)
- Infineon XMC4000 Series Device Support, Drivers and Examples (BSP, DFP 2.3.0)
- Keil Analog Devices ARM Cortex-M4 CM4xx Family Device Support (BSP, DFP 1.0.1)
- Keil ARM M0/M0+ Family Device Support (BSP, DFP 1.1.0)

■ STM32F1

▼ [STMicroelectronics STM32F1 Series Device Support, Drivers and Examples](#) BSP DFP 2.0.0

Version: 2.0.0 *Keil.STM32F1xx_DFP.2.0.0.pack* [Download](#)

Requires MDK-Middleware Version 6.5.0 and CMSIS Version 4.4.0

Updated CMSIS-Drivers

- CMSIS-Driver API V2.0 compliant
- Added CMSIS-Driver for CAN

Updated Examples:

- Updated Board Support and all examples for MCBSTM32C and MCBSTM32E
- Added examples for CAN

■ LPC1700

▼ [NXP LPC1700 Series Device Support, Drivers and Examples for MCB1700 and LPC1788-32](#) BSP DFP 2.1.0

Version: 2.1.0 *Keil.LPC1700_DFP.2.1.0.pack* [Download](#)

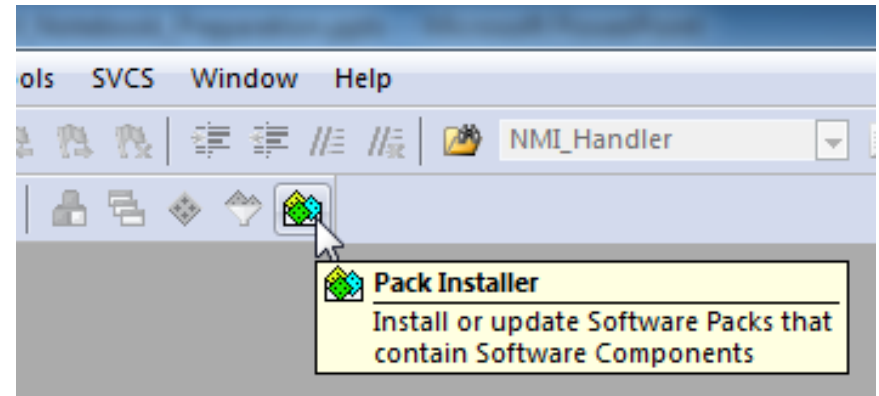
Added full support for LPC177x/8x devices:

- CMSIS and Peripheral drivers
- Board support and examples for Embedded Artists LPC1788-32 DK
- External Memory Controller configuration in system file

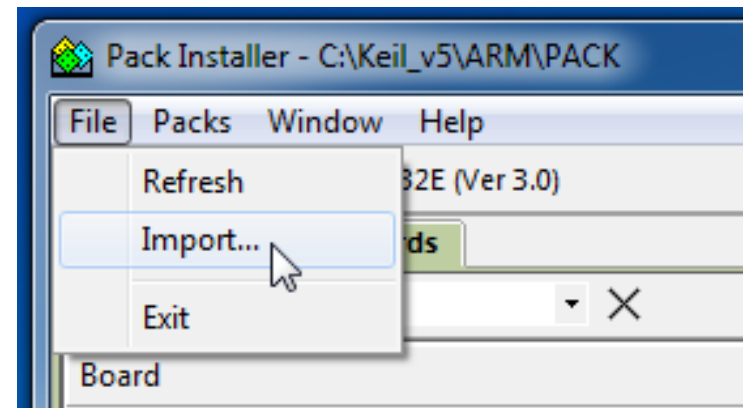
Added new CMSIS drivers:

Manual Pack Installation

- Install the downloaded files manually in the pack installer
 - open pack installer, e.g. from μ Vision IDE



- Select **File / Import**
- Select the appropriate packs
ARM.CMSIS.xxx.pack
Keil.<derivate>._DFP.x.x.x.pack



Thank you for preparing.
Have an interesting and
successful training.

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