

Hands-on Professional Middleware für Cortex-M

prior to the day of the training



MDK-ARM Trainings Preparation

- Notebook and Tools
- Download and Installation of the MDK
- MCB4357: 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

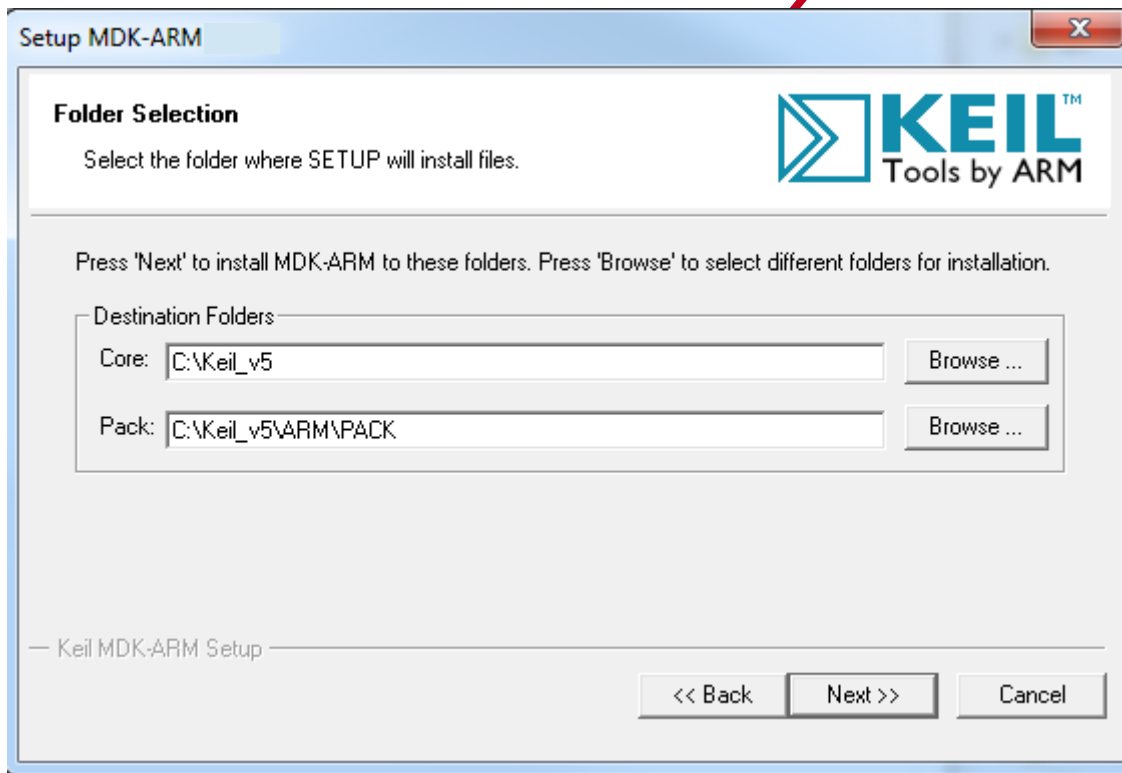
- Select Download (IF YOU ALREADY HAVE MDK SKIP TO SLIDE 9 "PACK INSTALLATION")



The screenshot shows the KEIL Tools by ARM website. The header includes the KEIL logo and navigation tabs for Products, Download, Events, Support, and Videos. The main content area is titled "Product Downloads for PSN xxxxx-xxxxx-". Below the title, there is a message: "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. Below this is a "Download" button with a downward arrow icon. At the bottom of the page, there is a footer with a grid of links: Products (Development Tools), Downloads (Hardware & Collateral, MDK-ARM), and Support (Knowledgebase).

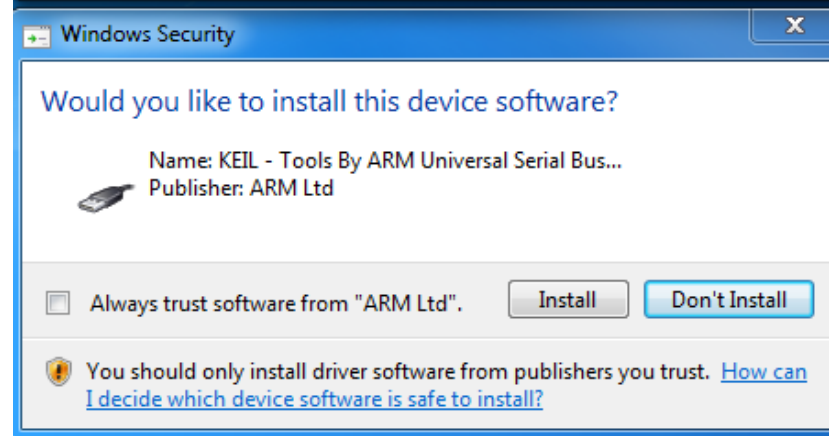
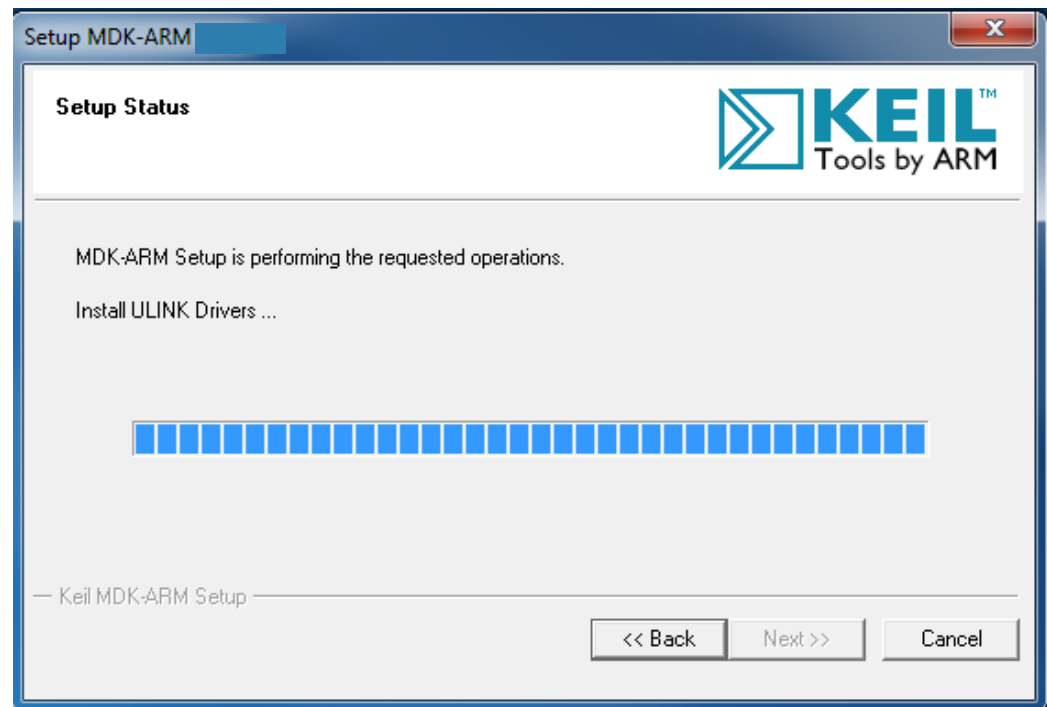
Download and Installation of the MDK

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

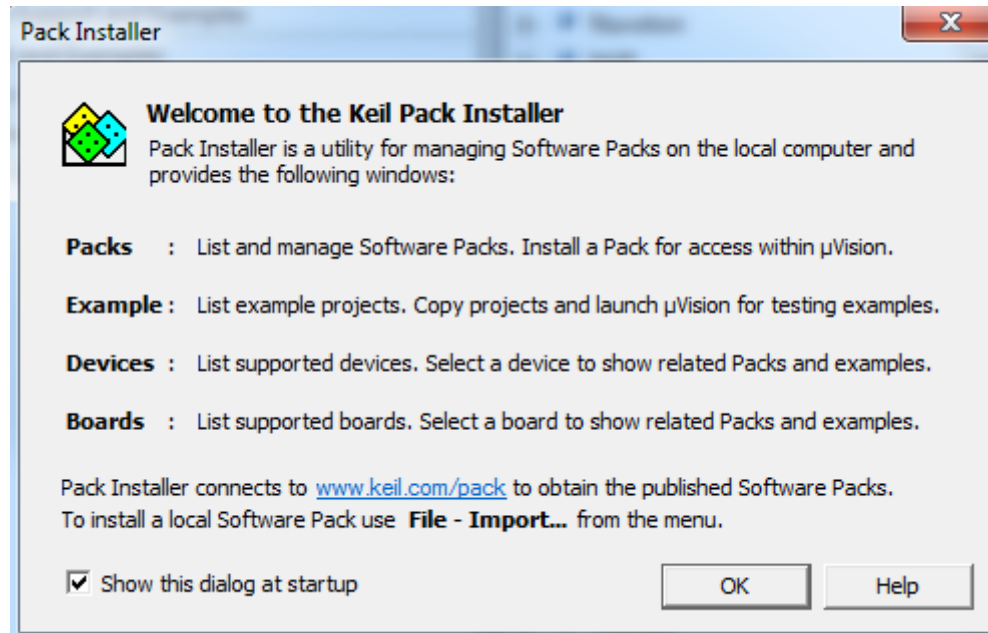


Download and Installation of the MDK

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

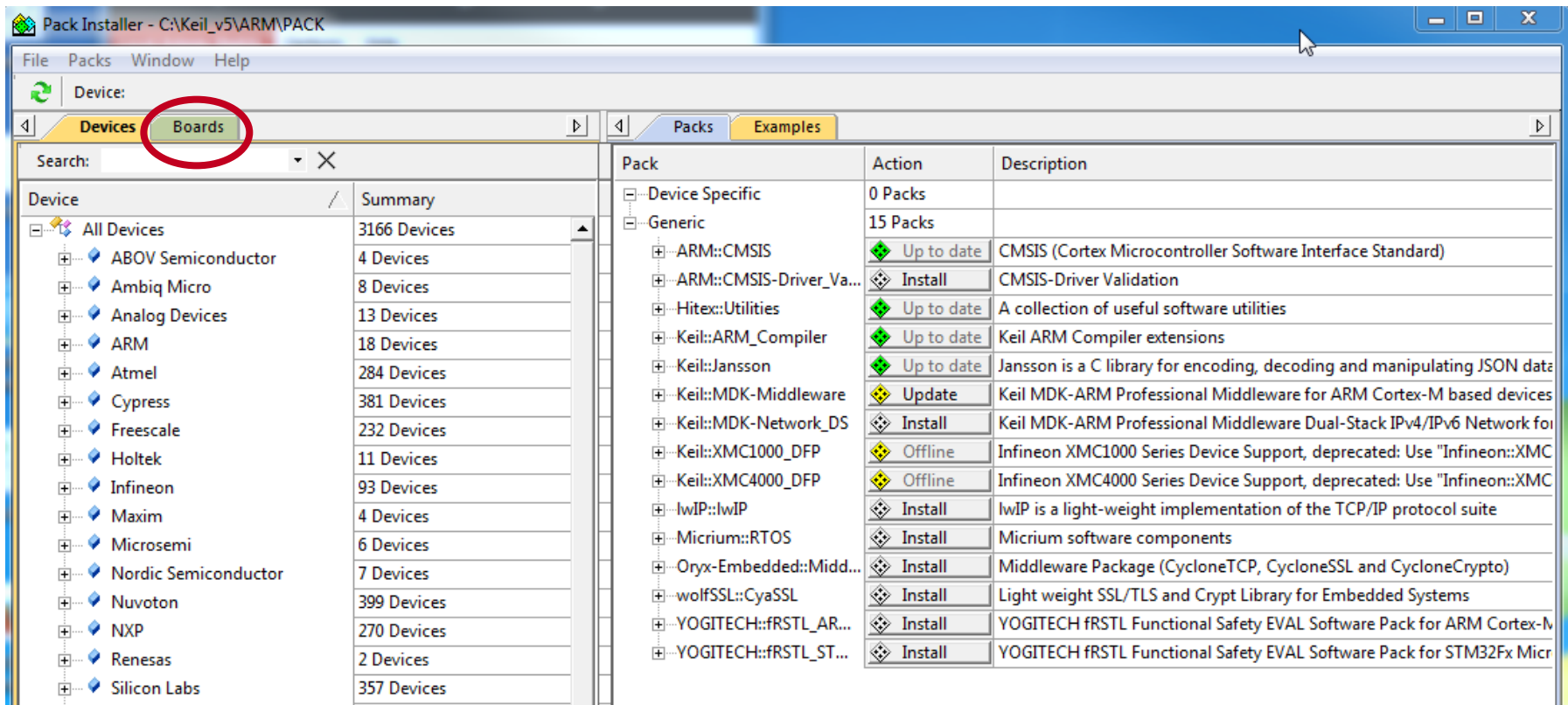


■ Acknowledge the pack installation



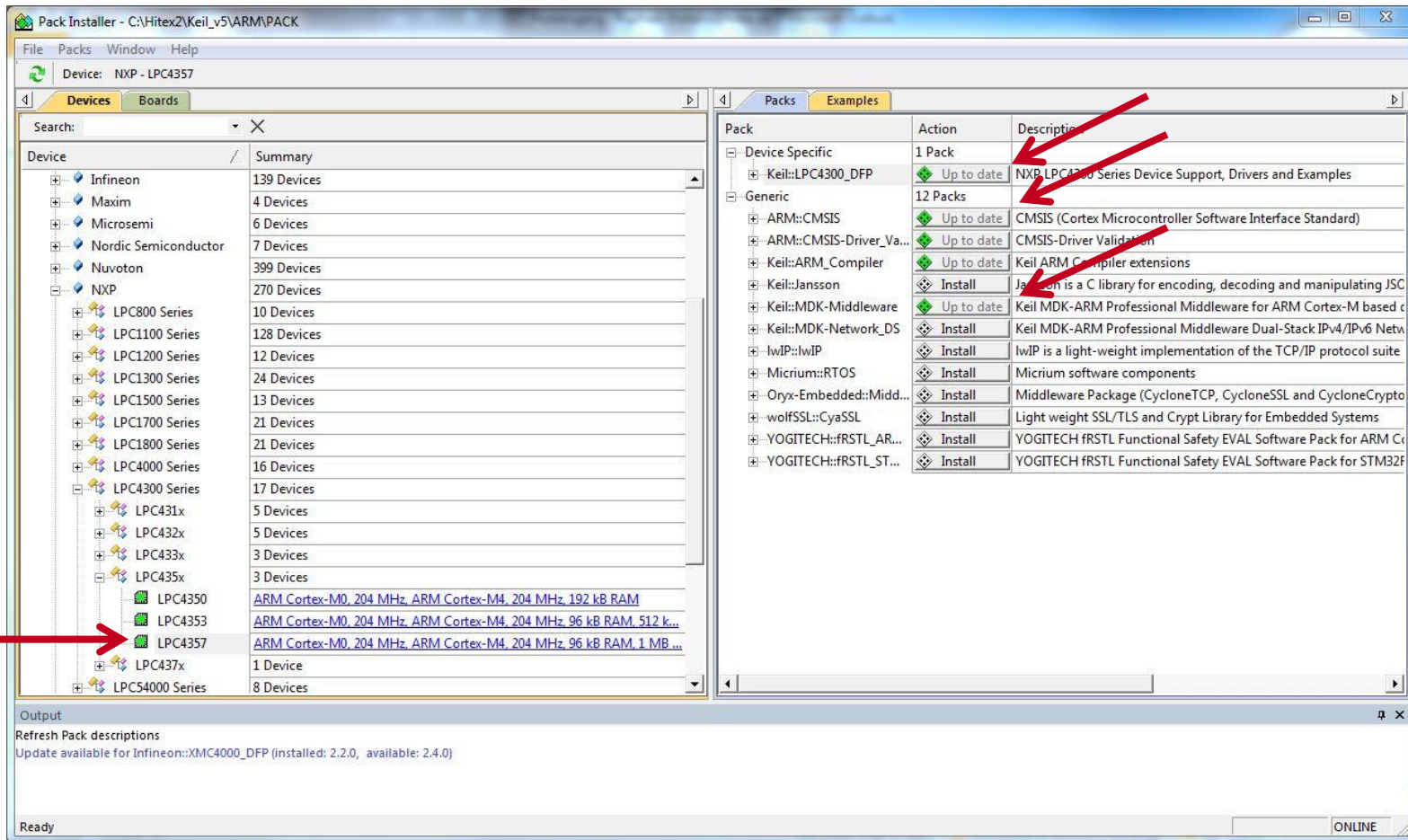
Pack Installation

- 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



MCB4357 Pack Installation

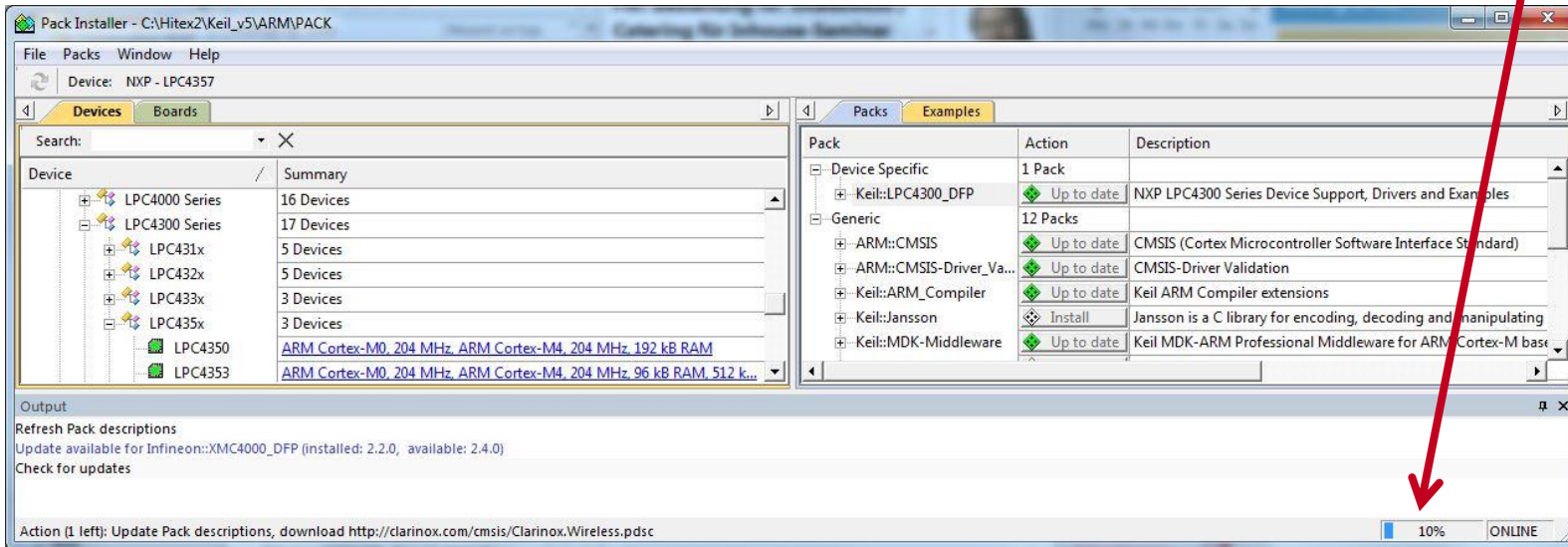
■ „Select the device **NXP::LPC4300::LPC4357**



and install ARM-CMSIS, Middleware and *_DFP

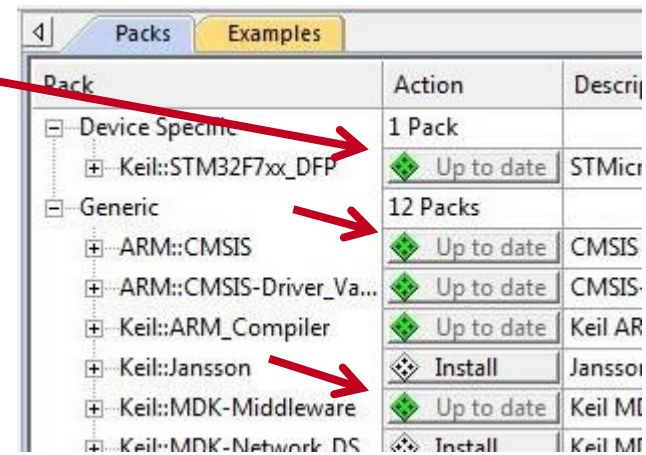
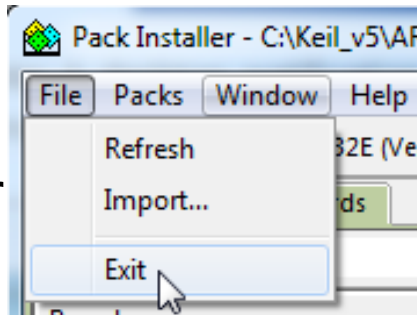
MCB4357 Pack Installation

- See the progress of installation down at the right corner



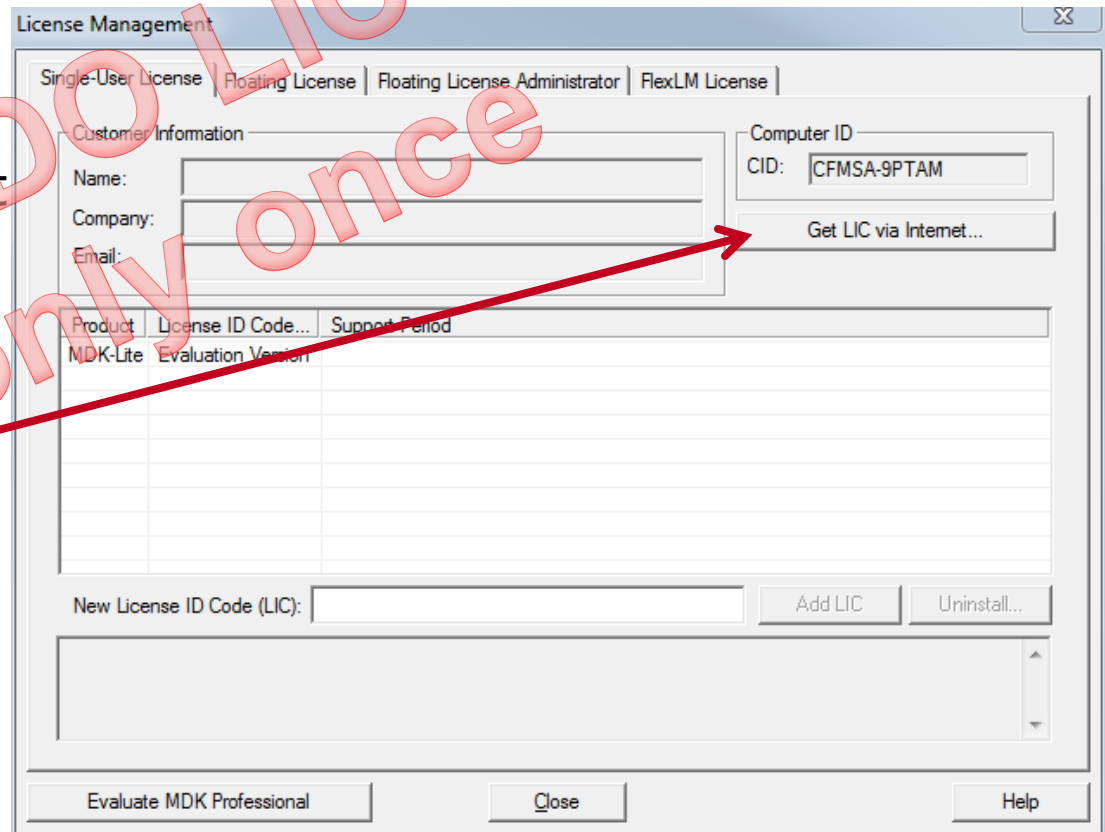
- Up to date after installation

- 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

KEIL™
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.

Enter Your Computer ID (CID):

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:

Obtaining a License ID Code (LIC)

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

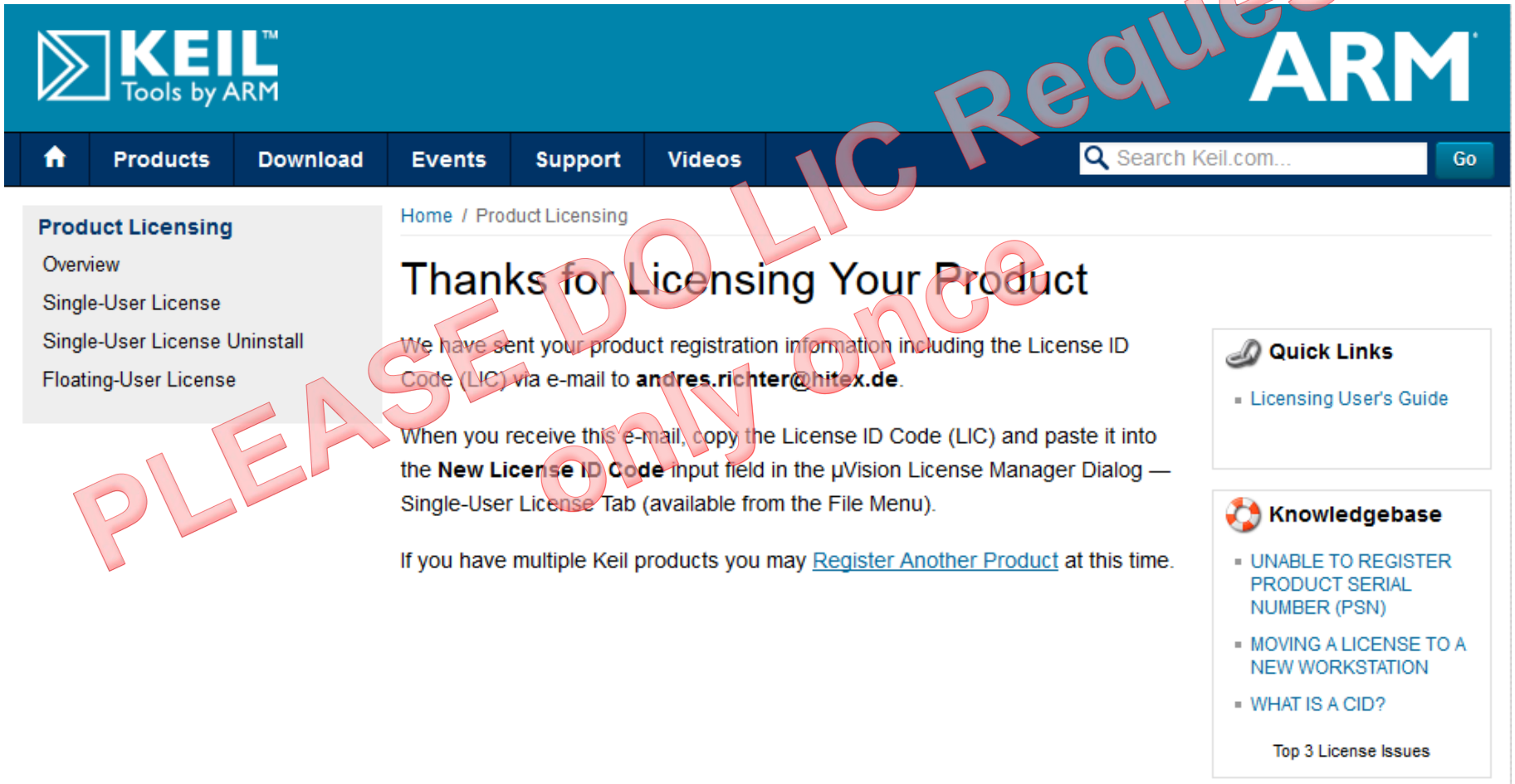
The following information must be sent to www.keil.com:

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.

OK Cancel



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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

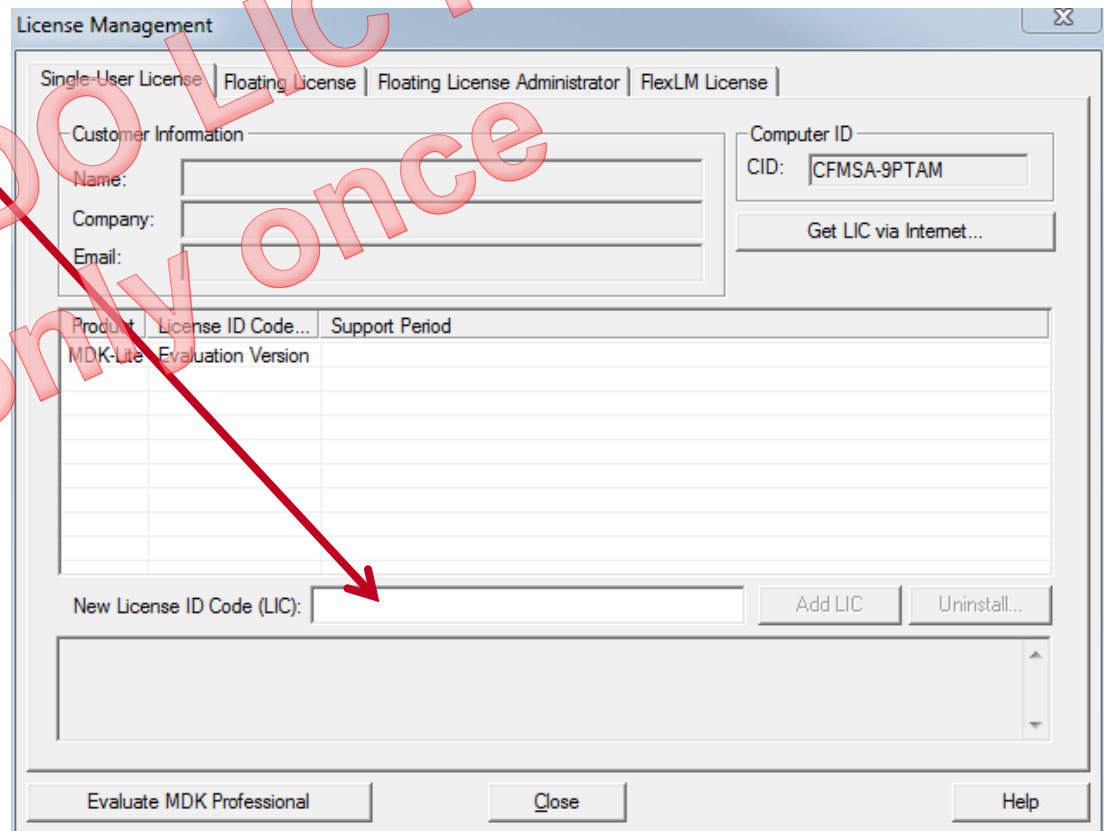
- UNABLE TO REGISTER PRODUCT SERIAL NUMBER (PSN)
- MOVING A LICENSE TO A NEW WORKSTATION
- WHAT IS A CID?

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 NOT LIC Request
only once

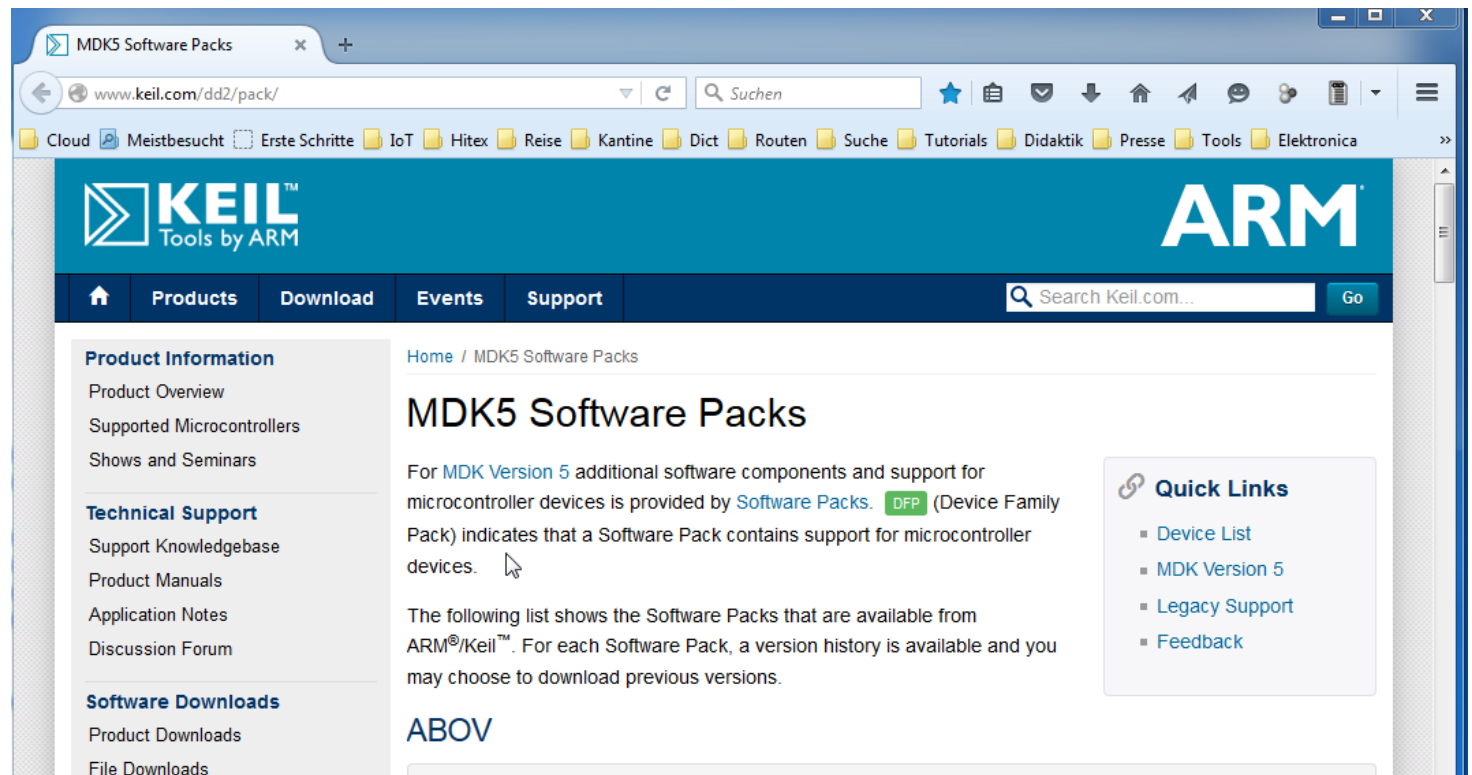


MDK-ARM Trainings Preparation

- 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**

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)

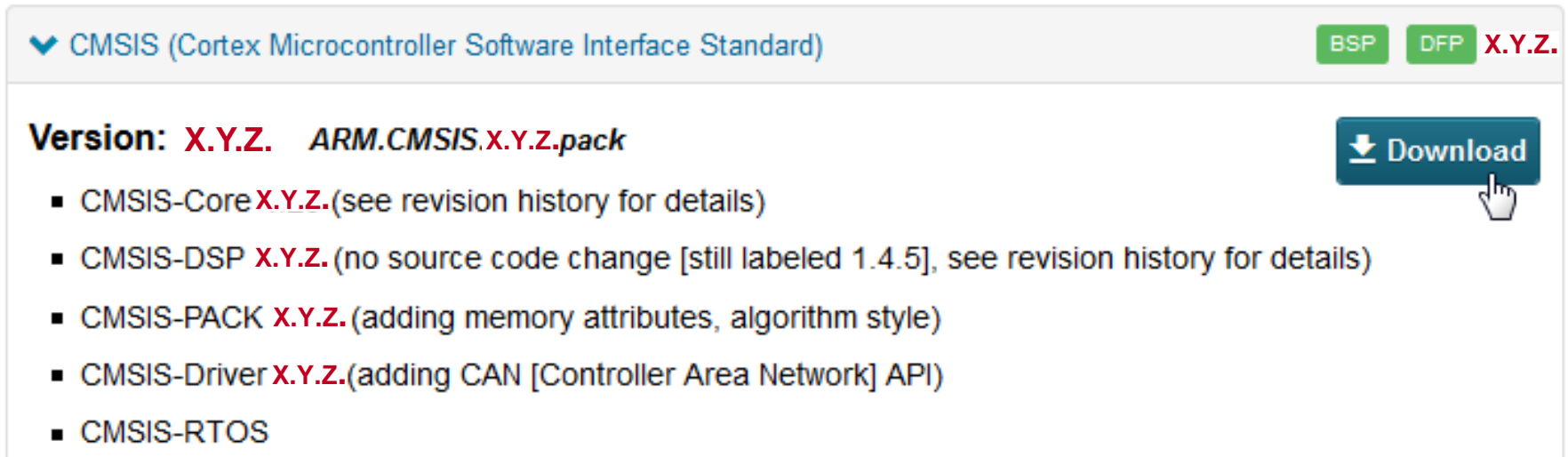


Manual Pack Installation

■ Download **CMSIS**

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

ARM



▼ CMSIS (Cortex Microcontroller Software Interface Standard) BSP DFP **X.Y.Z.**

Version: X.Y.Z. *ARM.CMSIS.X.Y.Z.pack* [Download](#)

- 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
 - Scroll down and download current *__DFP

Infineon

▶ 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

LPC NXP4357 (MCB4357)

▶ Analog Devices ARM Cortex-M4 CM4xx Family Device Support	BSP	DFP	1.0.1	↓
▶ ARM MCM4357 ...	BSP	DFP	1.1.0	↓

■ MCB4357

▼ NXP LPC4300 Series Device Support, Drivers and Examples

BSP DFP 2.5.0

Version: 2.5.0 *Keil.LPC4300_DFP.2.5.0.pack*

Download

Updated CMSIS drivers:

- I2C, MCI, EMAC, I2S, SPI, USART, USB Device, USB Host: Updated initialization, uninitialization and power procedures
- I2S, SPI, USART, USB Device, USB Host: Corrected status bit-field race conditions
- MCI:

-- Interrupt processing optimized

-- Data timeout handling corrected

Updated example USB device VirtualCOM

Version: 2.4.0 *Keil.LPC4300_DFP.2.4.0.pack*

Download

Device support:

- updated device features

Updated CMSIS Driver:

- I2S: improved fs divider calculation
- MCI: avoid DMA buffer alignment issues
- USART:

-- corrected disabling of receive DMA channel when aborting Receive or Transfer

-- moved fract_div_lookup_table from header file to driver .c file

Updated Example for USB Device Mass Storage

Version: 2.3.0 *Keil.LPC4300_DFP.2.3.0.pack*

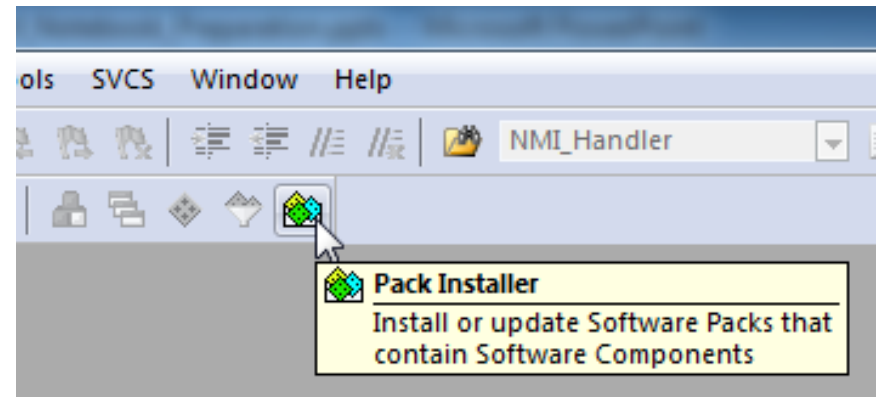
Download

Required PACKs: ARM.CMSIS.4.3.0.pack, Keil.MDK-Middleware.6.3.0.pack,
Keil.ARM_Compiler.1.0.0.pack

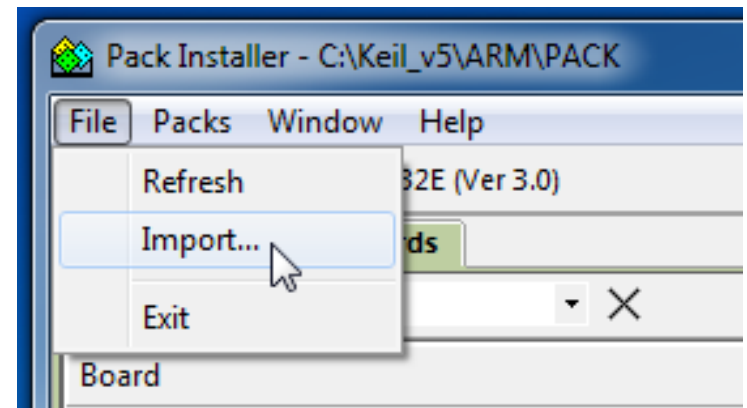
Updated drivers:

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.

Hitex GmbH
Greschbachstr. 12
76229 Karlsruhe

Phone: +49 721 9628-0
Fax: +49 721 9628-149
E-Mail: info@hitex.de

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