

## **Program EFM32 with Olimex ARM-JTAG-Coocox (CoLinkEx) with Keil MDK-ARM-Lite**

I like Energymicro Microcontrollers and I found some cheap Olimex Boards with them. Then I searched a cheap debugger/programmer, I found the CoLinkEx or similar the Olimex ARM-JTAG-COOCOX. And now I program some example for these EFM32 Olimex Boards.

Version 0.2	06.02.2013	Changes: <ul style="list-style-type: none"><li>- axf to bin convert is not necessary, Sorry for wrong information</li><li>- add Ulink2 to Project, you can now switch between CoLinkEx and Ulink2</li><li>- correct comments</li></ul>
Version 0.1	05.02.2013	Initial Version with one Blinky Example for EM-32G10F128 "00_Blinky_Keil_EM-32G10F128-H"

### Hardware:

- Olimex ARM-JTAG-Coocox (this is similar to the CoLinkEx)  
<https://www.olimex.com/Products/ARM/JTAG/ARM-JTAG-COOCOX/>

One of the following Olimex Energy Micro Boards:

- EM-32G10F128-H  
<https://www.olimex.com/Products/ARM/EnergyMicro/EM-32G210F128-H/>
- EM-32G880F128-H  
<https://www.olimex.com/Products/ARM/EnergyMicro/EM-32G880F128-H/>
- EM-32G880F128-STK  
<https://www.olimex.com/Products/ARM/EnergyMicro/EM-32G880F128-STK/>

### Software:

- Keil MDK-ARM v 4.60 Lite (Free Version)  
<https://www.keil.com/demo/eval/arm.htm>  
Please look also the installation Video for MDK-ARM (Subtitles Available)  
<https://www.youtube.com/watch?v=RXOOxby5nns&list=PL6-W3FoUyb48WFI5PQv3SDJj2G1t2FonV&index=1>
- CoLinkEx USB Driver Version 1.2.1:  
<https://www.olimex.com/Products/ARM/JTAG/ARM-JTAG-COOCOX/resources/ColinkExUsbDriver-1.2.1.exe>  
or  
<http://www.coocox.org/Colinkex.htm> (login required)
- CoMDKPlugin:  
<http://www.coocox.org/CoLinkGuide/CoMDKPlugin.html> (login required)
- Eventually it's helpful if you could test your CoLinkEx with the CoFlash, if it doesn't work in Keil MDK-ARM  
[http://coocox.org/CoFlash\\_Programmer.htm](http://coocox.org/CoFlash_Programmer.htm)

### Documents:

- CoLinkEx User Manual:  
[http://www.coocox.org/downloadfile/Colink/CoLinkEx\\_User\\_Manual.pdf](http://www.coocox.org/downloadfile/Colink/CoLinkEx_User_Manual.pdf)
- Olimex ARM-JTAG-Coocox Schematic:  
[https://www.olimex.com/Products/ARM/JTAG/ARM-JTAG-COOCOX/resources/ARM-JTAG-COOCOX\\_schematic.pdf](https://www.olimex.com/Products/ARM/JTAG/ARM-JTAG-COOCOX/resources/ARM-JTAG-COOCOX_schematic.pdf)
- How to use CoLinkEx MDK-ARM Plugin:  
<http://www.coocox.org/CoLinkGuide/Use-in-MDK.htm>

#### Board Documents:

Olimex EM-32G210F128-H Board:

<https://www.olimex.com/Products/ARM/EnergyMicro/EM-32G210F128-H/>

Olimex EM-32G880F128-H Board:

<https://www.olimex.com/Products/ARM/EnergyMicro/EM-32G880F128-H/>

Olimex EM-32G880F128-STK Board:

<https://www.olimex.com/Products/ARM/EnergyMicro/EM-32G880F128-STK/>

#### Microcontroller Datasheet:

I recommend you to download Simplicity Studio, there you could find all these Datasheets and a lot more.

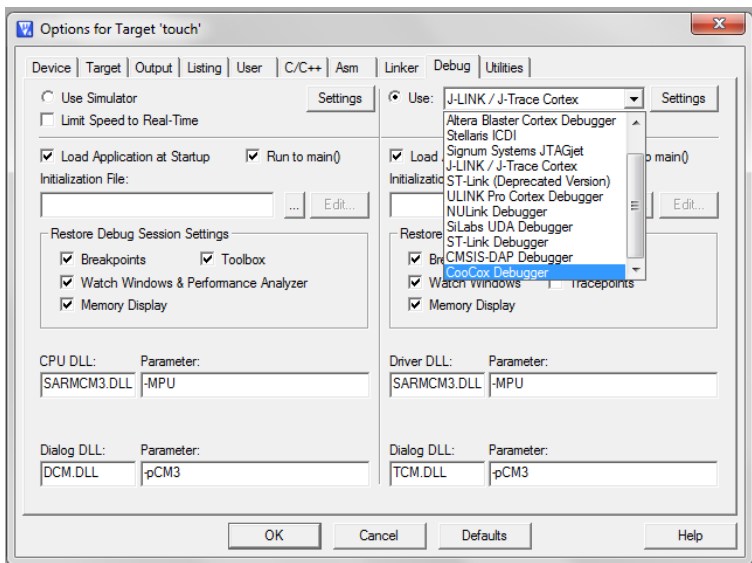
[http://cdn.energymicro.com/dl/zip/Simplicity\\_Studio\\_Setup.exe](http://cdn.energymicro.com/dl/zip/Simplicity_Studio_Setup.exe)

#### Download Datasheets:

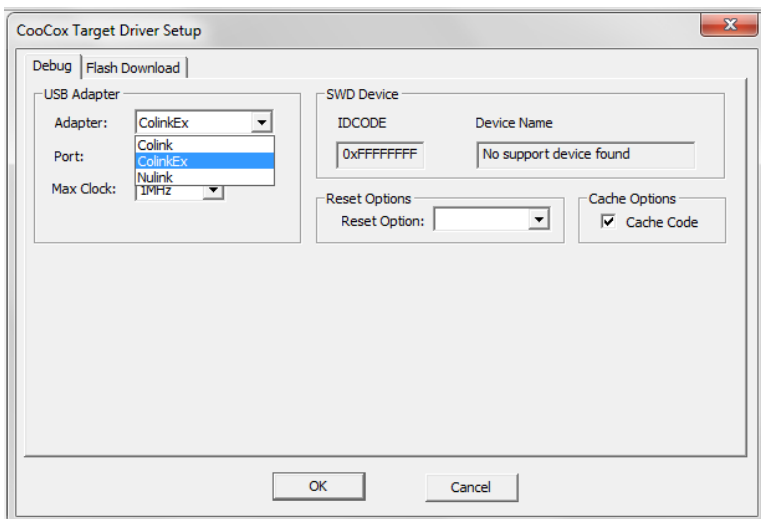
- EFM32 Cortex M3 Reference Manual:  
[http://cdn.energymicro.com/dl/devices/pdf/d0002\\_efm32\\_cortex-m3\\_reference\\_manual.pdf](http://cdn.energymicro.com/dl/devices/pdf/d0002_efm32_cortex-m3_reference_manual.pdf)
- EFM32 Gecko Referenz Manual:  
[http://cdn.energymicro.com/dl/devices/pdf/d0001\\_efm32g\\_reference\\_manual.pdf](http://cdn.energymicro.com/dl/devices/pdf/d0001_efm32g_reference_manual.pdf)
- EFM32 Gecko EFM32G210xxxx Datasheet:  
[http://cdn.energymicro.com/dl/devices/pdf/d0004\\_efm32g210\\_datasheet.pdf](http://cdn.energymicro.com/dl/devices/pdf/d0004_efm32g210_datasheet.pdf)
- EFM32 Gecko EFM32G210xxxx Datasheet:  
[http://cdn.energymicro.com/dl/devices/pdf/d0009\\_efm32g880\\_datasheet.pdf](http://cdn.energymicro.com/dl/devices/pdf/d0009_efm32g880_datasheet.pdf)

To do:

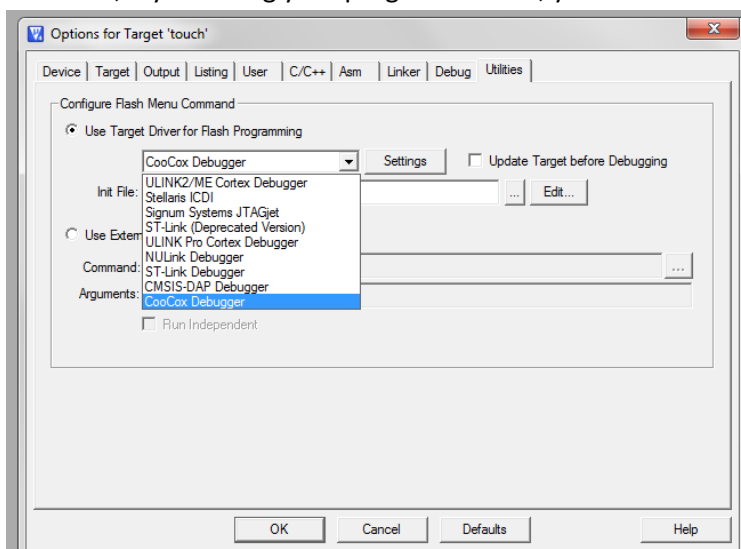
1. Install Keil MDK-ARM (look also Video)
2. Install CoLinkEx USB Driver
3. Install CoMDKPlugin
4. Restart Keil MDK-ARM
5. Now you could find under Debug -> Use of the configuration dialog selects "CooCox Debugger".



6. Click Settings, select "Colink or ColinkEx" as the Adapter, click on FlashDownload and Set Alogorithm, select the correct uC Typ (different Flash Memory)



7. Then, if you debug your program in flash, you also have to configure Utilities by selecting "CooCox Debugger" for Flash Programming.



8. Debug your project.