

STM8

Tech.Desc.Library

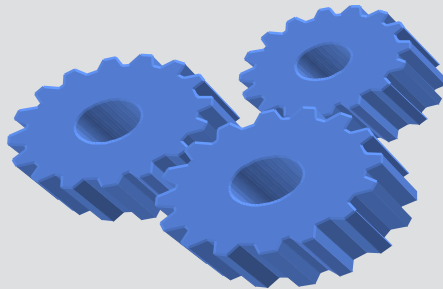


STM8 Firmware Library



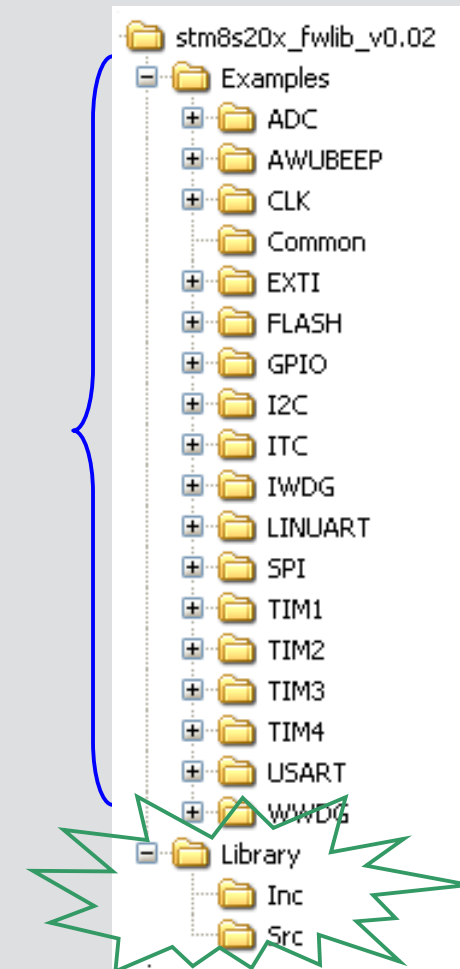
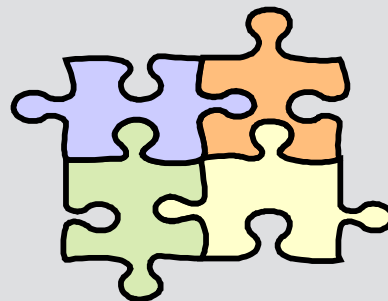
STM8 Library

- All in Strict ANSI-C
- MISRA C 2004 Compliant
- STVD tool chain + Cosmic compiler
- Self documented

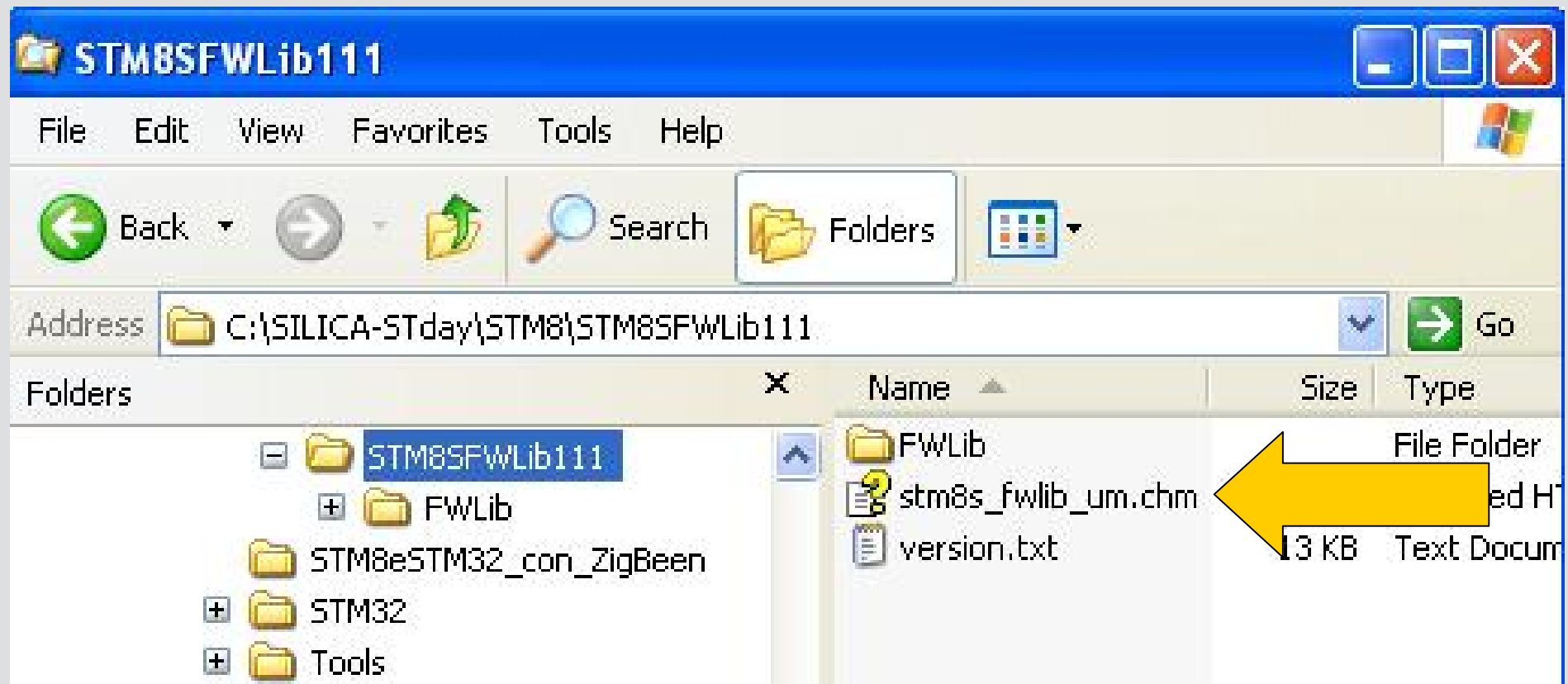


STM8 Examples

- Set of examples for each STM8 peripheral
- Running on STMicroelectronics STM8 evalboard and can be easily tailored to any other hardware



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STM8S Firmware Library



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The **STM8S Firmware Library** is a complete package, consisting of device drivers for all of the standard device p Access line STM8S20x and STM8S10x 8-bit Flash microcontrollers.

This library is a firmware package which contains a collection of routines, data structures and macros covering th a description of the device drivers plus a set of examples for each peripheral. The firmware library allows any without the need for in-depth study of each peripheral's specifications.

Using the firmware library has two advantages: It saves significant time that would otherwise be spent in coding

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Using the firmware library has two advantages: It saves significant time that would other development and integration costs.

The manual is structured as follows:

- [Firmware library overview](#)
- [Coding rules and conventions.](#)
- [Package description](#)
- [Peripheral Examples](#)

Manual tab sheets description:

- *Modules*: Lists the different modules that compose this Library.
- *Data Structures*: Lists the variables, defines, structures, ...
- *Files*: Lists all the files and global.
- *Directories*: List of directories.

[Release Notes](#) for STM8S Firmware Library

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Firmware Library Overview

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Coding rules and conventions

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Package description

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Peripheral Examples



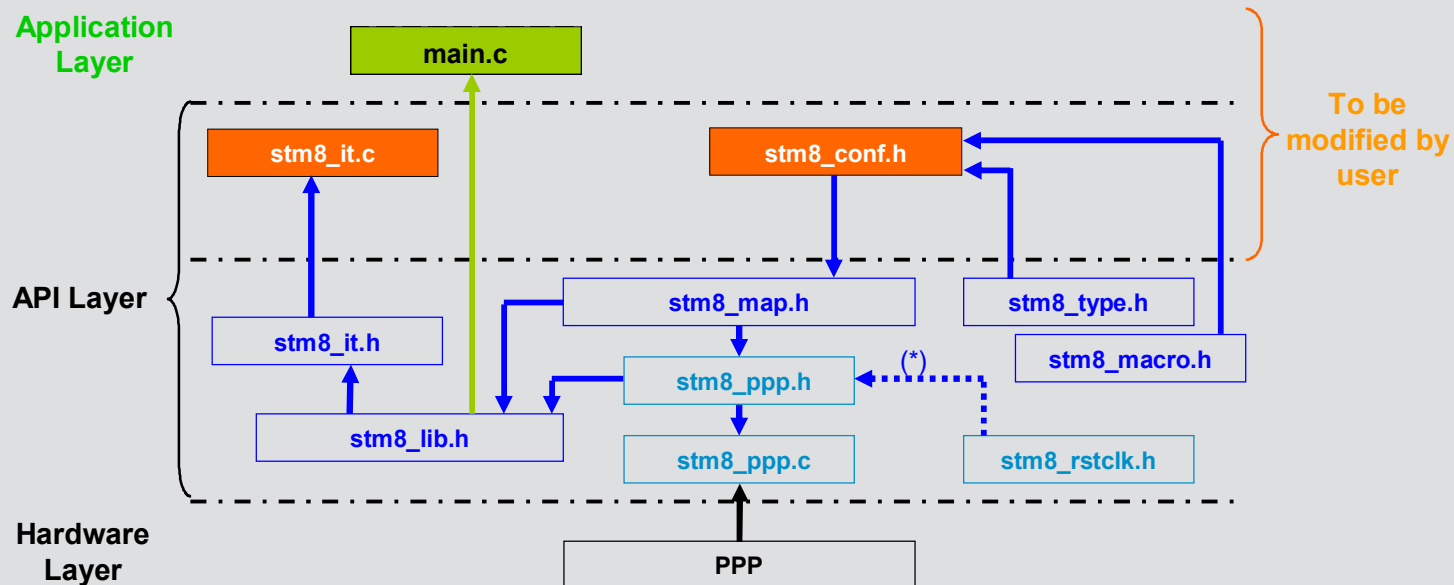
STM8 Coding conventions

- **All firmware is coded in ANSI-C**
 - **Strict ANSI-C** for all library peripheral files and examples
 - **MISRA C 2004** compliant (checked by PC-LINT software)
- **PPP** is used to reference any peripheral acronym, e.g. *TIM1* for Timer1.
- Registers & Structures
 - **STM8 registers are mapped in the microcontroller address space**
 - FW library registers have the same names as in STM8 Datasheets & reference manuals.
 - **All registers hardware accesses are performed through a C structures**
 - Work with only one base address and indirect addressing
 - Improve code re-use : e.g. the same structure to handle and initialize the same peripherals (i.e. GPIO)



STM8 Library Structure

- Common types and constants
- Peripheral registers' addresses
 - Organized in structures with a base address
- Peripherals pointers initialization if #DEBUG defined
- Peripheral API code :
 - Bit fields / Masks
 - Peripheral user Structure
 - Low-level & API functions to perform basic operations offered by the peripheral
- Global headers (includes all)
- Configuration file
- Interrupt functions source code
- User application source code



- (*) Some peripherals used other peripherals routines:
- rstclk to get the master clock frequency
 - tim3 to calibrate the LSI



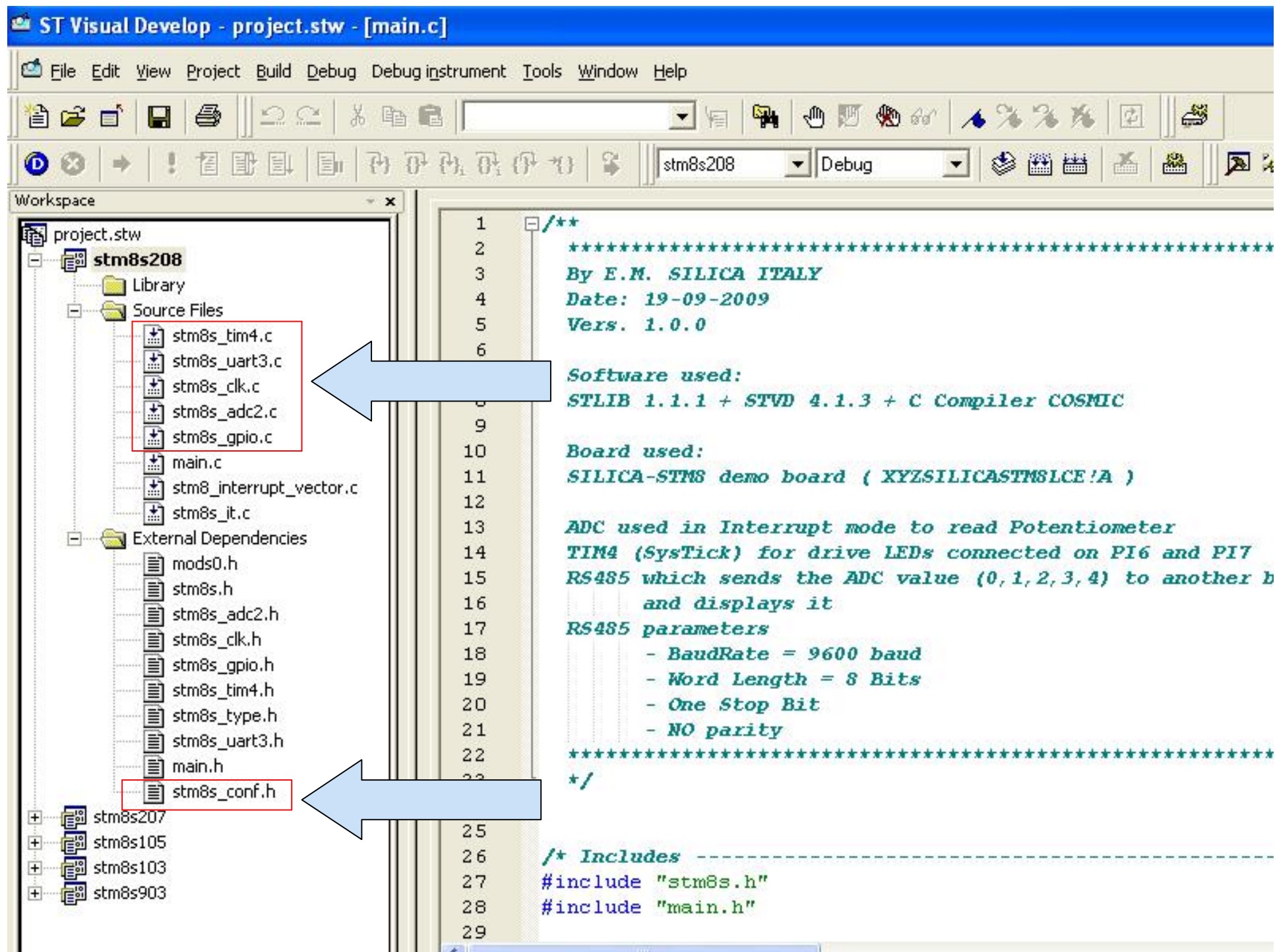
STM8 Using the Library

- **To use the peripheral PPP:**
 - stm8_ppp.c and stm8_ppp.h files must be included into the project
 - Edit the **stm8_conf.h** file and uncomment the following lines :
 - #define _PPP (1)
- **Include only "stm8_lib.h" in your application source code**



STM8 Using the Library / Cont.

- You have to initialize the PPP peripheral by calling the *PPP_Init* function.
- At this stage the PPP peripheral is initialized. In some peripherals, it can be necessary to call the *PPP_Cmd* function in order to enable the peripheral.
- To access the entire functionalities of the PPP peripheral, the user can use a set of dedicated functions. These functions are specific to the peripheral and for more details refer to STM8 Firmware Library User Manual.
- The *PPP_DeInit* function can be used to set all PPP peripheral registers to their reset values.
- The *PPP_StructInit* function can be used to set all structure members to a default value before calling the *PPP_Init* function.
- You can find various coding examples in each peripheral examples firmwares.



LINK



ST-MCU

<http://www.st.com/mcu/index.html>

STM8S

<http://www.st.com/mcu/inhtml-pages-stm8s.html>

Documents and files for family STM8S

<http://www.st.com/mcu/modules.php?name=mcu&file=familiesdocs&FAM=113>

STM8L

<http://www.st.com/mcu/inhtml-pages-stm8l.html>

Documents and files for family STM8L

<http://www.st.com/mcu/familiesdocs-120.html>

Touch sensing software suite

http://www.st.com/mcu/inhtml-pages-touch_sense_sw_lib.html

MCU Training & Seminars

http://www.st.com/mcu/inhtml-pages-mcu_train.html

Product Brochures & Selectors

http://www.st.com/stonline/products/promlit/p_microcontrollers.htm

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