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# **STSW-STUSB012**

## **Firmware package documentation**

V1.0

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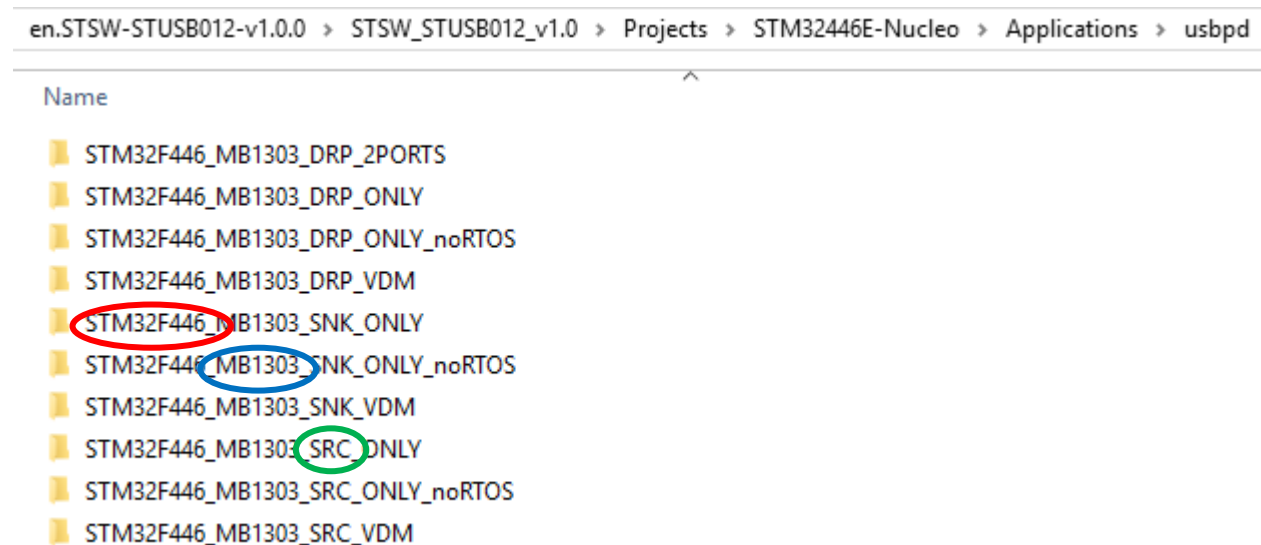
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# Projects content

- Projects folder provides different application examples in which each project name is prefix with MCU name: STM32F446 is example below



- Project name is build as: **MCU**name\_shieldref\_TypeCrole\_type

# Project Type

- Type = ONLY
  - Those projects are simple ones. Only mandatory features are present, with RTOS
- Type = ONLY\_noRTOS
  - Those projects are simple ones. Only mandatory features are present, without RTOS
- Type = VDM
  - Those projects are complex ones. Lot of optional features are present and could be disabled/enabled by compilation switch
- Type = 2PORTS
  - This project manages 2 STUSB1602 with single MCU

# Project Type options

ONLY	ONLY_noRTOS	VDM	2PORTS	Switch name	Comment
✓	✓	✓	✓	_TRACE	Trace enabled for debug using UART
✓	✓	✓	✓	_ERROR_RECOVERY	Enable error_recovery in lib stack. Mandatory for DRP compliance
✓	✓	✓	✓	_VCONN_SUPPORT	Enabled in SRC and DRP project for cable messaging
X	X	✓	✓	_SRC_CAPA_EXT	Enable source extended capability messages
X	X	✓	✓	_ADC_MONITORING	Enable MCU ADC usage for voltage reporting.
X	X	✓	✓	_VDM	Enable VDM messages possibility and needed for cable messages
☀	☀	☀	☀	SPI_ONE_LINE	Disabled by default. Allow to merge MOSI and MISO pins
X	X	☀	☀	_MANU_INFO	Disabled by default. Used to send/reply to manufacturer info messages
X	X	✓	✓	_ALERT	Allow to send Alert messages
X	X	✓	✓	_STATUS	Allow to send Status messages

# Project Type options (Cont'd)

ONLY	ONLY_noRTOS	VDM	2PORTS	Switch name	Comment
X	X	☀	☀	_BATTERY	Disabled by default. Used to send/reply to battery messages
X	X	✓	✓	USBPD_DATA	To setup and initialize USB IP in peripheral. Disabled by default on 'SRC' project
X	X	☀	✓	_CLASS_HID	To configure descriptor class in HID
X	X	✓	☀	_CLASS_BB	To configure descriptor class in Billboard
X	X	✓	☀	UNCHUNKED_SUPPORT	Allow support of unchunked messages
✓	X	✓	✓	USBPD_LED_SERVER	To enable LED server for VBUS/CC/role toggling
☀	☀	☀	☀	_GPIO_FOR_SRC	To drive 2 other voltages on top of 5V, in Source or DRP, using OpenDrain GPIOs (see <a href="#">here</a> )
☀	☀	☀	☀	_VVAR_FLASH	Allows to output DAC on ADD0 pin. DAC output value is always 1/10 of VBUS value

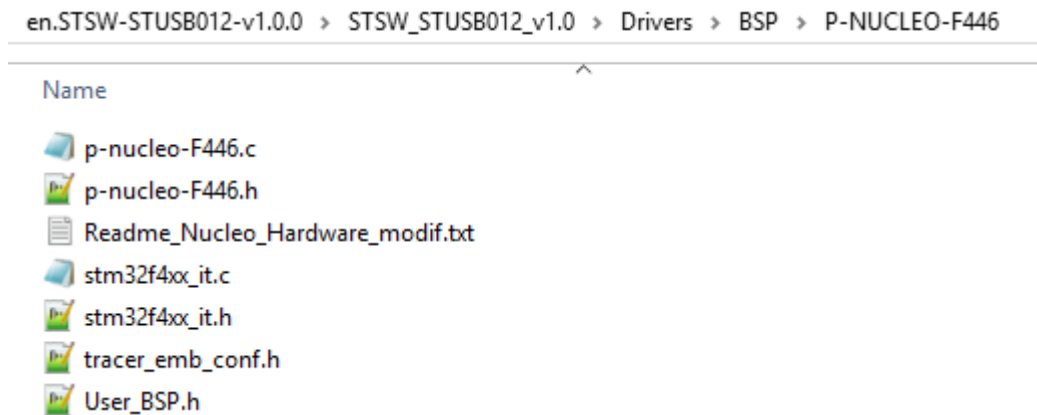
 Not supported and can't be enabled in current project

 Not supported by default but can be enabled in current project

 Supported by default (and can be disabled) in current project

# Shield-MCU setup

- MCU and board related settings are part of BSP folder. MCU name is found in folder name: see stm32F446 example below



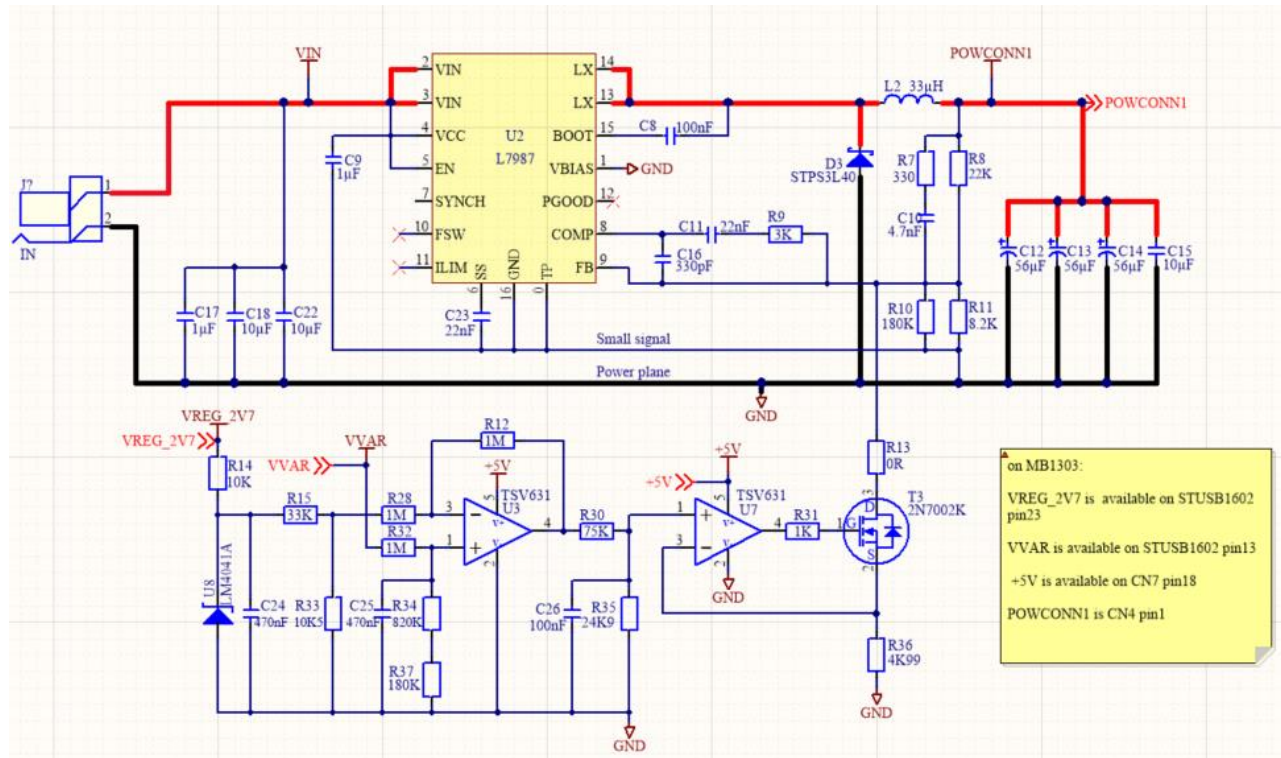
- In BSP file, Readme\_Nucleo\_Hardware\_modif.txt file gives instructions on modifications to be done on Nucleo board used in order to use MB1303 shield





# \_VVAR\_FLASH

- Hardware implementation proposal using \_VVAR\_FLASH switch.
- Enabling this switch will allow to output 1/10 of PDO voltage selected for VBUS on VVAR-ADD0 stusb1602 pin



# Thank you

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