

1. Description

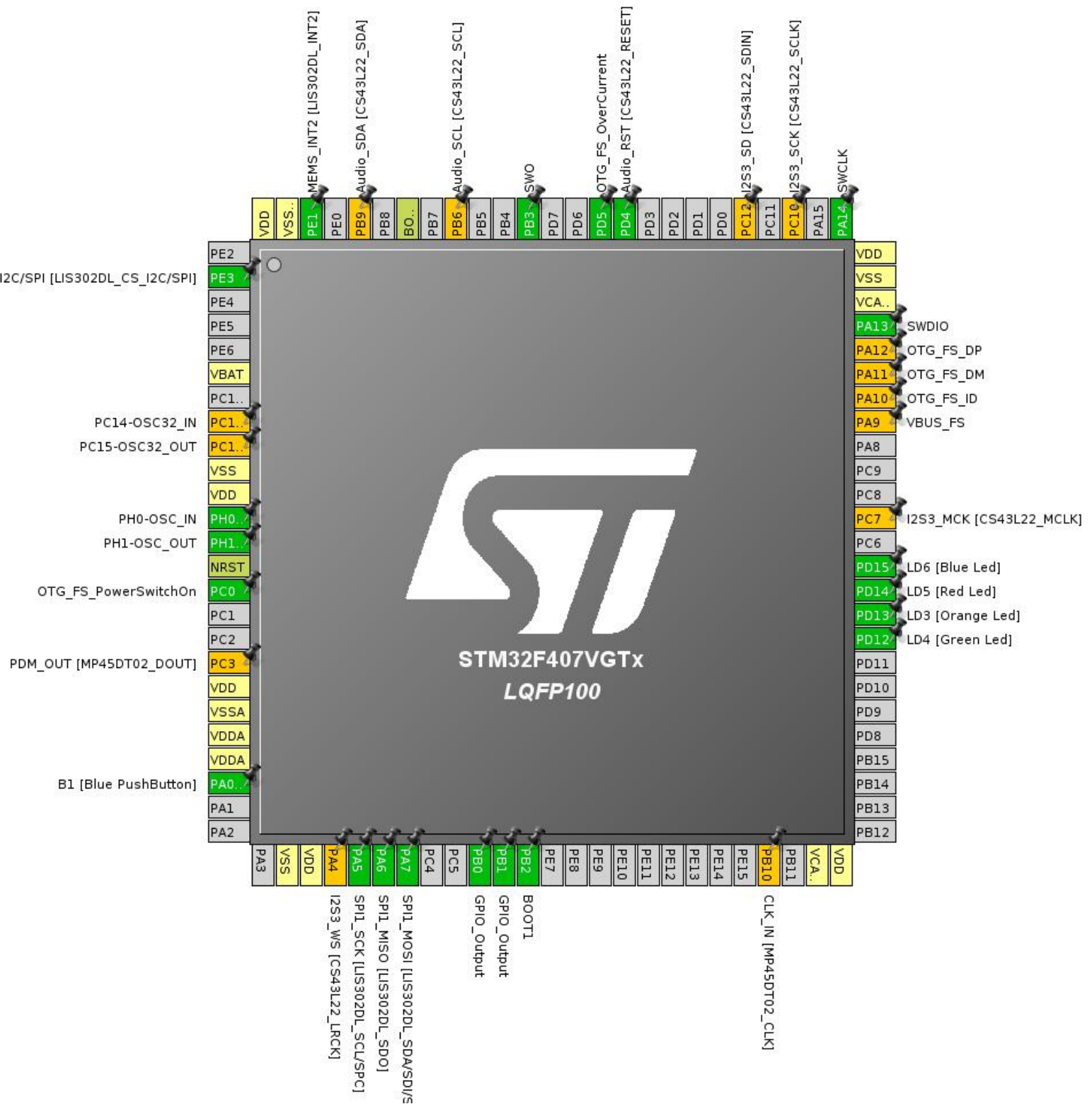
1.1. Project

| | |
|-----------------|-------------------|
| Project Name | SPI |
| Generated with: | STM32CubeMX 4.7.1 |
| Date | 05/22/2015 |

1.2. MCU

| | |
|----------------|---------------|
| MCU Serie | STM32F4 |
| MCU Line | STM32F407/417 |
| MCU name | STM32F407VGTx |
| MCU Package | LQFP100 |
| MCU Pin number | 100 |

2. Pinout Configuration



3. *IPs and Middlewares Configuration*

| IP | Mode | Fonction | Pin |
|------|--|----------------|-------------|
| RCC | High Speed Clock (HSE): Crystal/Ceramic Resonator | RCC_OSC_IN | PH0-OSC_IN |
| | | RCC_OSC_OUT | PH1-OSC_OUT |
| SPI1 | Mode: Full-Duplex Master | SPI1_MISO | PA6 |
| | | SPI1_MOSI | PA7 |
| | | SPI1_SCK | PA5 |
| SYS | Debug: SWD and Asynchronous Trace | SYS_JTMS-SWDIO | PA13 |
| | | SYS_JTCK-SWCLK | PA14 |
| | | SYS_JTDO-SWO | PB3 |

4. Pins Configuration

| Pin | Pos | Function(s) | Label |
|-------------------|-----|-----------------|----------------------------------|
| PE3 * | 2 | GPIO_Output | CS_I2C/SPI [LIS302DL_CS_I2C/SPI] |
| PC14-OSC32_IN ** | 8 | RCC_OSC32_IN | PC14-OSC32_IN |
| PC15-OSC32_OUT ** | 9 | RCC_OSC32_OUT | PC15-OSC32_OUT |
| PH0-OSC_IN | 12 | RCC_OSC_IN | PH0-OSC_IN |
| PH1-OSC_OUT | 13 | RCC_OSC_OUT | PH1-OSC_OUT |
| PC0 * | 15 | GPIO_Output | OTG_FS_PowerSwitchOn |
| PC3 ** | 18 | I2S2_SD | PDM_OUT [MP45DT02_DOUT] |
| PA0-WKUP | 23 | GPIO_EXTI0 | B1 [Blue PushButton] |
| PA4 ** | 29 | I2S3_WS | I2S3_WS [CS43L22_LRCK] |
| PA5 | 30 | SPI1_SCK | SPI1_SCK [LIS302DL_SCL/SPC] |
| PA6 | 31 | SPI1_MISO | SPI1_MISO [LIS302DL_SDO] |
| PA7 | 32 | SPI1_MOSI | SPI1_MOSI [LIS302DL_SDA/SDI/SDO] |
| PB0 * | 35 | GPIO_Output | |
| PB1 * | 36 | GPIO_Output | |
| PB2 * | 37 | GPIO_Input | BOOT1 |
| PB10 ** | 47 | I2S2_CK | CLK_IN [MP45DT02_CLK] |
| PD12 * | 59 | GPIO_Output | LD4 [Green Led] |
| PD13 * | 60 | GPIO_Output | LD3 [Orange Led] |
| PD14 * | 61 | GPIO_Output | LD5 [Red Led] |
| PD15 * | 62 | GPIO_Output | LD6 [Blue Led] |
| PC7 ** | 64 | I2S3_MCK | I2S3_MCK [CS43L22_MCLK] |
| PA9 ** | 68 | USB_OTG_FS_VBUS | VBUS_FS |
| PA10 ** | 69 | USB_OTG_FS_ID | OTG_FS_ID |
| PA11 ** | 70 | USB_OTG_FS_DM | OTG_FS_DM |
| PA12 ** | 71 | USB_OTG_FS_DP | OTG_FS_DP |
| PA13 | 72 | SYS_JTMS-SWDIO | SWDIO |
| PA14 | 76 | SYS_JTCK-SWCLK | SWCLK |
| PC10 ** | 78 | I2S3_CK | I2S3_SCK [CS43L22_SCLK] |
| PC12 ** | 80 | I2S3_SD | I2S3_SD [CS43L22_SDIN] |
| PD4 * | 85 | GPIO_Output | Audio_RST [CS43L22_RESET] |
| PD5 * | 86 | GPIO_Input | OTG_FS_OverCurrent |
| PB3 | 89 | SYS_JTDO-SWO | SWO |
| PB6 ** | 92 | I2C1_SCL | Audio_SCL [CS43L22_SCL] |
| PB9 ** | 96 | I2C1_SDA | Audio_SDA [CS43L22_SDA] |
| PE1 | 98 | GPIO_EXTI1 | MEMS_INT2 [LIS302DL_INT2] |

* The pin is affected with an I/O function

** The pin is affected with a peripheral function but no peripheral mode is activated

5. Power Plugin report

5.1. Microcontroller Selection

| | |
|-----------|---------------|
| Serie | STM32F4 |
| Line | STM32F407/417 |
| MCU | STM32F407VGTx |
| Datasheet | 022152_Rev5 |

5.2. Parameter Selection

| | |
|-------------|-----|
| Temperature | 25 |
| Vdd | 3.3 |

6. Software Project

6.1. Project Settings

| Name | Value |
|-----------------------------------|--|
| Project Name | SPI |
| Project Folder | /home/radek/STM32Projects/stm32f4_ft800_cube |
| Toolchain / IDE | TrueSTUDIO |
| Firmware Package Name and Version | STM32Cube FW_F4 V1.5.0 |

6.2. Code Generation Settings

| Name | Value |
|---|--|
| STM32Cube Firmware Library Package | Add necessary library files as reference in the toolchain project configuration file |
| Generate peripheral initialization as a pair of '.c/.h' files | Yes |
| Backup previously generated files when re-generating | No |
| Delete previously generated files when not re-generated | Yes |
| Set all free pins as analog (to optimize the power consumption) | No |

6.3. Toolchains Settings

| Name | Value |
|------------------------|---------------------|
| Compiler Optimizations | Balanced Size/Speed |