

1. Description

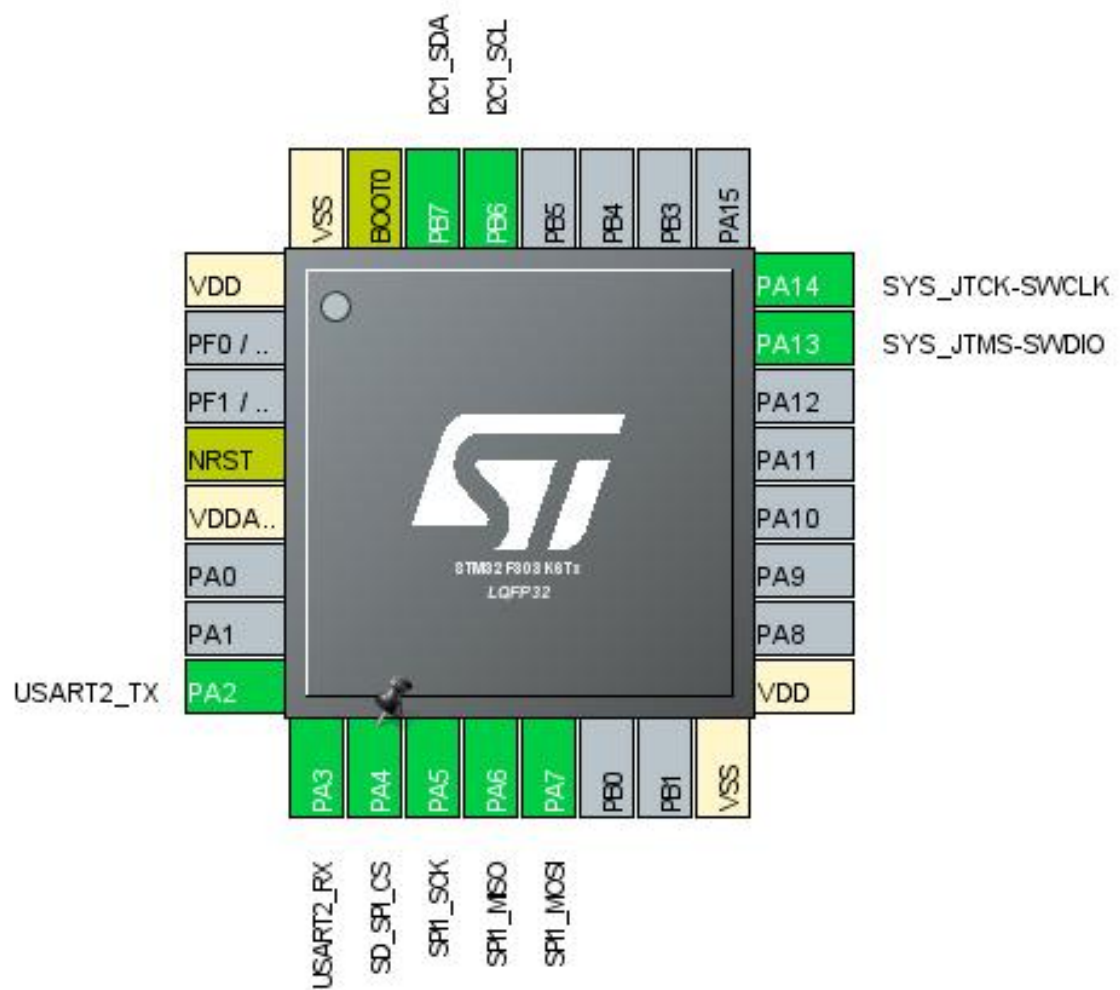
1.1. Project

| | |
|-----------------|-------------------|
| Project Name | Logger_303 |
| Board Name | custom |
| Generated with: | STM32CubeMX 5.3.0 |
| Date | 09/27/2019 |

1.2. MCU

| | |
|----------------|---------------|
| MCU Series | STM32F3 |
| MCU Line | STM32F303 |
| MCU name | STM32F303K6Tx |
| MCU Package | LQFP32 |
| MCU Pin number | 32 |

2. Pinout Configuration

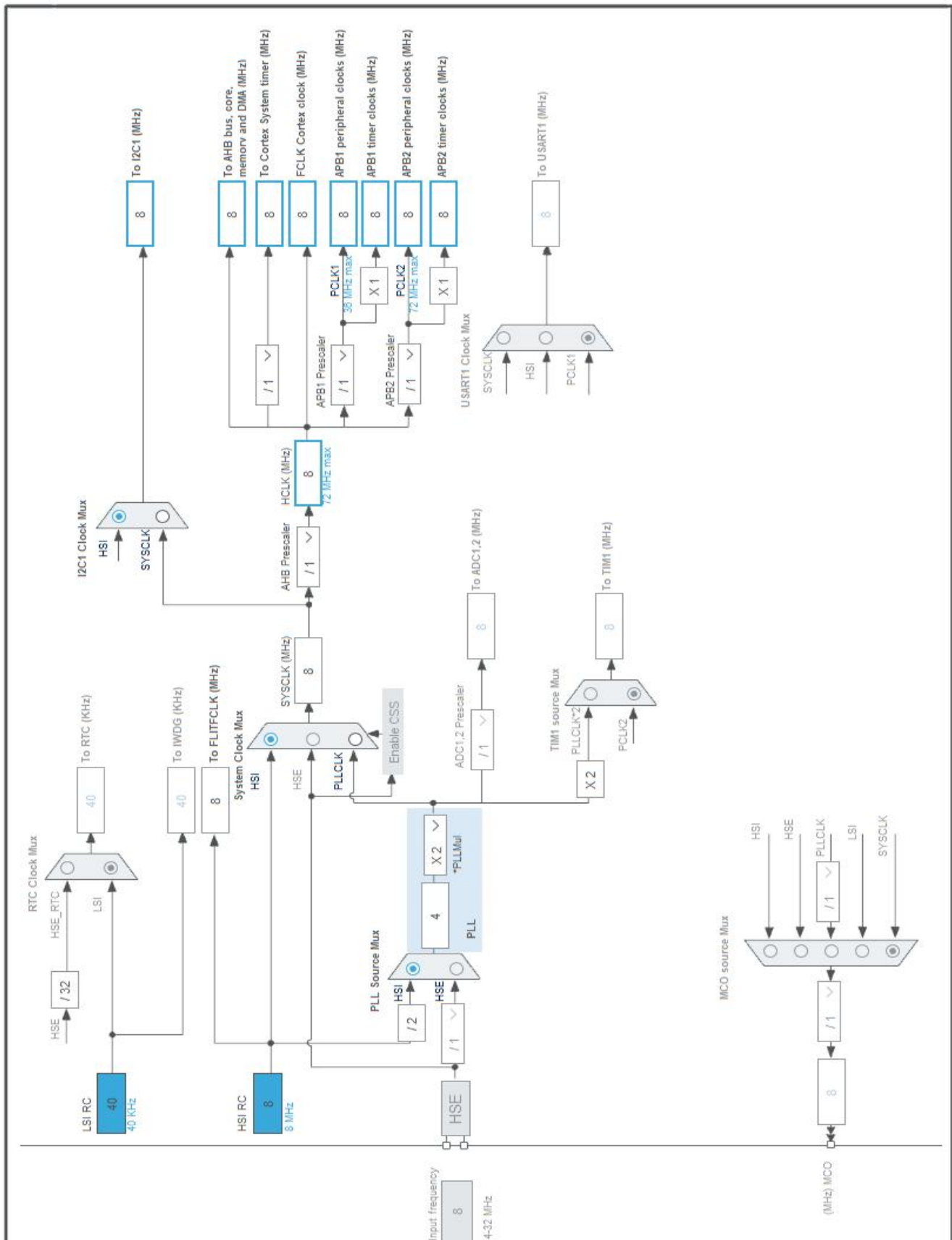


3. Pins Configuration

| Pin Number LQFP32 | Pin Name (function after reset) | Pin Type | Alternate Function(s) | Label |
|----------------------|---------------------------------------|----------|--------------------------|-----------|
| 1 | VDD | Power | | |
| 4 | NRST | Reset | | |
| 5 | VDDA/VREF+ | Power | | |
| 8 | PA2 | I/O | USART2_TX | |
| 9 | PA3 | I/O | USART2_RX | |
| 10 | PA4 * | I/O | GPIO_Output | SD_SPI_CS |
| 11 | PA5 | I/O | SPI1_SCK | |
| 12 | PA6 | I/O | SPI1_MISO | |
| 13 | PA7 | I/O | SPI1_MOSI | |
| 16 | VSS | Power | | |
| 17 | VDD | Power | | |
| 23 | PA13 | I/O | SYS_JTMS-SWDIO | |
| 24 | PA14 | I/O | SYS_JTCK-SWCLK | |
| 29 | PB6 | I/O | I2C1_SCL | |
| 30 | PB7 | I/O | I2C1_SDA | |
| 31 | BOOT0 | Boot | | |
| 32 | VSS | Power | | |

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. Software Project

5.1. Project Settings

| Name | Value |
|-----------------------------------|---|
| Project Name | Logger_303 |
| Project Folder | D:\Data\STM32CubeIDE\workspace_102\Logger_303 |
| Toolchain / IDE | STM32CubeIDE |
| Firmware Package Name and Version | STM32Cube FW_F3 V1.10.0 |

5.2. Code Generation Settings

| Name | Value |
|---|---------------------------------------|
| STM32Cube MCU packages and embedded software | Copy only the necessary library files |
| Generate peripheral initialization as a pair of '.c/.h' files | No |
| 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. Power Consumption Calculator report

6.1. Microcontroller Selection

| | |
|-----------|---------------|
| Series | STM32F3 |
| Line | STM32F303 |
| MCU | STM32F303K6Tx |
| Datasheet | 025083_Rev5 |

6.2. Parameter Selection

| | |
|-------------|-----|
| Temperature | 25 |
| Vdd | 3.6 |

7. IPs and Middleware Configuration

7.1. I2C1

I2C: I2C

7.1.1. Parameter Settings:

Timing configuration:

| | |
|-------------------------------|---------------|
| I2C Speed Mode | Standard Mode |
| I2C Speed Frequency (KHz) | 100 |
| Rise Time (ns) | 0 |
| Fall Time (ns) | 0 |
| Coefficient of Digital Filter | 0 |
| Analog Filter | Enabled |
| Timing | 0x2000090E |

Slave Features:

| | |
|----------------------------------|----------|
| Clock No Stretch Mode | Disabled |
| General Call Address Detection | Disabled |
| Primary Address Length selection | 7-bit |
| Dual Address Acknowledged | Disabled |
| Primary slave address | 0 |

7.2. RCC

7.2.1. Parameter Settings:

System Parameters:

| | |
|-------------------|--------------------|
| VDD voltage (V) | 3.3 |
| Prefetch Buffer | Enabled |
| Flash Latency(WS) | 0 WS (1 CPU cycle) |

RCC Parameters:

| | |
|--------------------------------|------|
| HSI Calibration Value | 16 |
| HSE Startup Timeout Value (ms) | 100 |
| LSE Startup Timeout Value (ms) | 5000 |

7.3. SPI1

Mode: Full-Duplex Master

7.3.1. Parameter Settings:

Basic Parameters:

| | |
|--------------|-----------|
| Frame Format | Motorola |
| Data Size | 4 Bits |
| First Bit | MSB First |

Clock Parameters:

| | |
|---------------------------|----------------------|
| Prescaler (for Baud Rate) | 2 |
| Baud Rate | 4.0 MBits/s * |
| Clock Polarity (CPOL) | Low |
| Clock Phase (CPHA) | 1 Edge |

Advanced Parameters:

| | |
|-----------------|----------|
| CRC Calculation | Disabled |
| NSSP Mode | Enabled |
| NSS Signal Type | Software |

7.4. SYS

Debug: Serial Wire

Timebase Source: SysTick

7.5. USART2

Mode: Asynchronous

7.5.1. Parameter Settings:

Basic Parameters:

| | |
|-------------|---------------------------|
| Baud Rate | 38400 |
| Word Length | 8 Bits (including Parity) |
| Parity | None |
| Stop Bits | 1 |

Advanced Parameters:

| | |
|----------------|----------------------|
| Data Direction | Receive and Transmit |
| Over Sampling | 16 Samples |
| Single Sample | Disable |

Advanced Features:

| | |
|-------------------------------|---------|
| TX Pin Active Level Inversion | Disable |
| RX Pin Active Level Inversion | Disable |
| Data Inversion | Disable |
| TX and RX Pins Swapping | Disable |
| Overrun | Enable |

| | |
|-----------------|---------|
| DMA on RX Error | Enable |
| MSB First | Disable |

*** User modified value**

8. System Configuration

8.1. GPIO configuration

| IP | Pin | Signal | GPIO mode | GPIO pull/up pull down | Max Speed | User Label |
|--------|------|----------------|-------------------------------|------------------------|---------------|------------|
| I2C1 | PB6 | I2C1_SCL | Alternate Function Open Drain | Pull up | High * | |
| | PB7 | I2C1_SDA | Alternate Function Open Drain | Pull up | High * | |
| SPI1 | PA5 | SPI1_SCK | Alternate Function Push Pull | No pull up pull down | High * | |
| | PA6 | SPI1_MISO | Alternate Function Push Pull | No pull up pull down | High * | |
| | PA7 | SPI1_MOSI | Alternate Function Push Pull | No pull up pull down | High * | |
| SYS | PA13 | SYS_JTMS-SWDIO | n/a | n/a | n/a | |
| | PA14 | SYS_JTCK-SWCLK | n/a | n/a | n/a | |
| USART2 | PA2 | USART2_TX | Alternate Function Push Pull | No pull up pull down | High * | |
| | PA3 | USART2_RX | Alternate Function Push Pull | No pull up pull down | High * | |
| GPIO | PA4 | GPIO_Output | Output Push Pull | No pull up pull down | Low | SD_SPI_CS |

8.2. DMA configuration

nothing configured in DMA service

8.3. NVIC configuration

| Interrupt Table | Enable | Preenmption Priority | SubPriority |
|---|--------|----------------------|-------------|
| Non maskable interrupt | true | 0 | 0 |
| Hard fault interrupt | true | 0 | 0 |
| Memory management fault | true | 0 | 0 |
| Pre-fetch fault, memory access fault | true | 0 | 0 |
| Undefined instruction or illegal state | true | 0 | 0 |
| System service call via SWI instruction | true | 0 | 0 |
| Debug monitor | true | 0 | 0 |
| Pendable request for system service | true | 0 | 0 |
| System tick timer | true | 0 | 0 |
| PVD interrupt through EXTI line 16 | unused | | |
| Flash global interrupt | unused | | |
| RCC global interrupt | unused | | |
| I2C1 event global interrupt / I2C1 wake-up interrupt through EXT line 23 | unused | | |
| I2C1 error interrupt | unused | | |
| SPI1 global interrupt | unused | | |
| USART2 global interrupt / USART2 wake-up interrupt through EXT line 26 | unused | | |
| Floating point unit interrupt | unused | | |

* User modified value

9. Software Pack Report