

1. Description

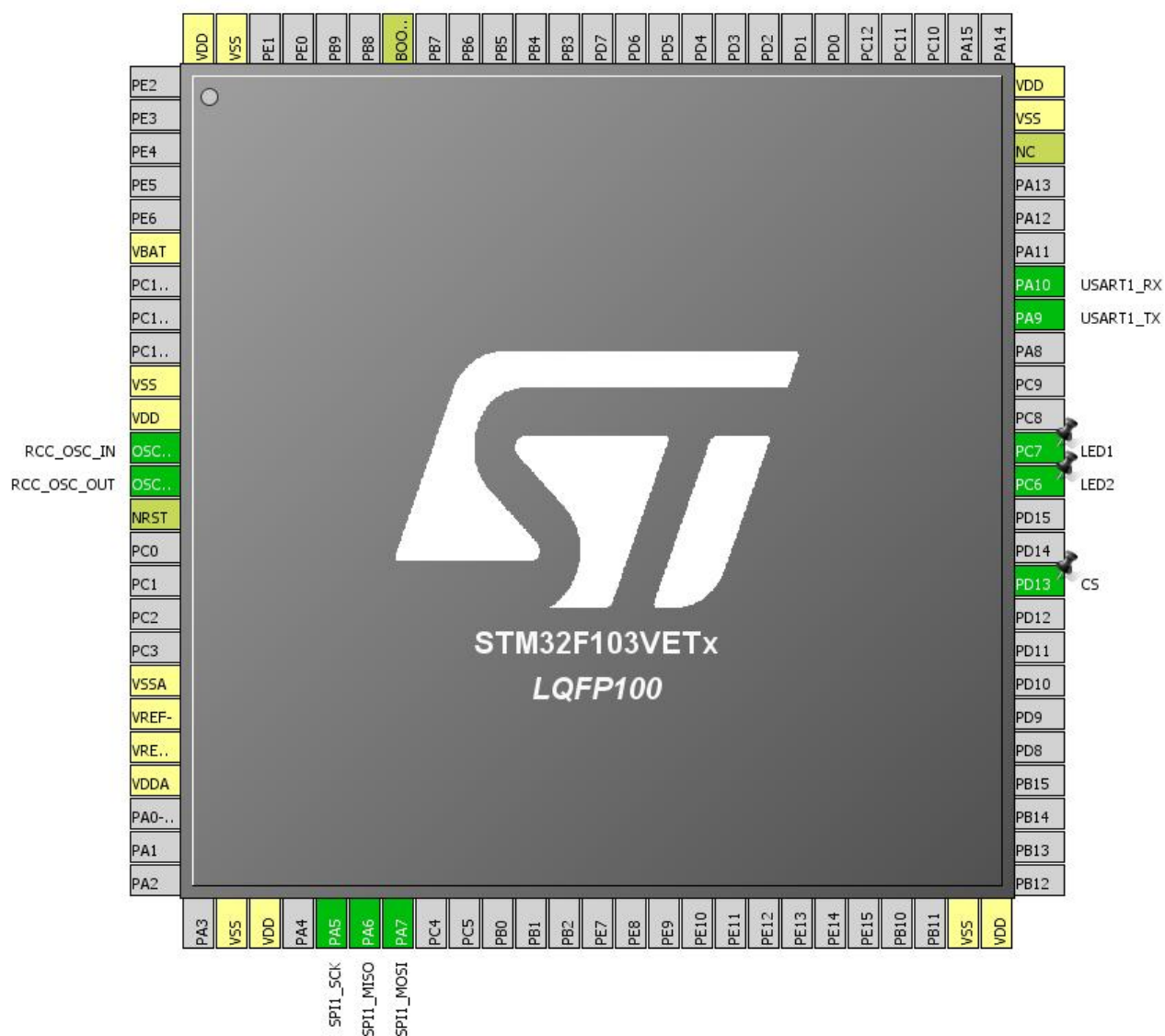
1.1. Project

| | |
|-----------------|--------------------|
| Project Name | at45dbxx_dataflash |
| Board Name | custom |
| Generated with: | STM32CubeMX 4.26.0 |
| Date | 08/10/2018 |

1.2. MCU

| | |
|----------------|---------------|
| MCU Series | STM32F1 |
| MCU Line | STM32F103 |
| MCU name | STM32F103VETx |
| MCU Package | LQFP100 |
| MCU Pin number | 100 |

2. Pinout Configuration

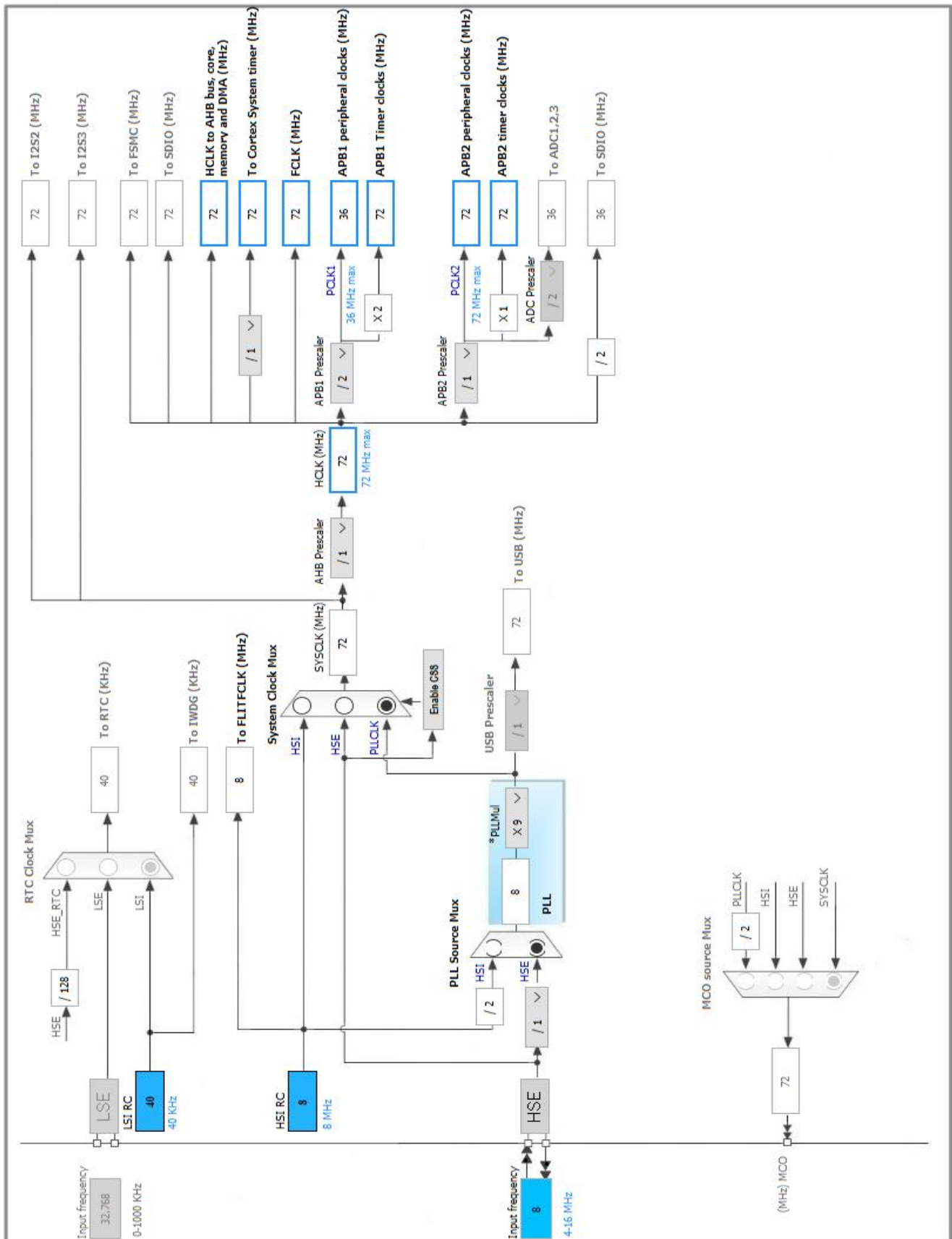


3. Pins Configuration

| Pin Number LQFP100 | Pin Name (function after reset) | Pin Type | Alternate Function(s) | Label |
|-----------------------|---------------------------------------|----------|--------------------------|-------|
| 6 | VBAT | Power | | |
| 10 | VSS | Power | | |
| 11 | VDD | Power | | |
| 12 | OSC_IN | I/O | RCC_OSC_IN | |
| 13 | OSC_OUT | I/O | RCC_OSC_OUT | |
| 14 | NRST | Reset | | |
| 19 | VSSA | Power | | |
| 20 | VREF- | Power | | |
| 21 | VREF+ | Power | | |
| 22 | VDDA | Power | | |
| 27 | VSS | Power | | |
| 28 | VDD | Power | | |
| 30 | PA5 | I/O | SPI1_SCK | |
| 31 | PA6 | I/O | SPI1_MISO | |
| 32 | PA7 | I/O | SPI1_MOSI | |
| 49 | VSS | Power | | |
| 50 | VDD | Power | | |
| 60 | PD13 * | I/O | GPIO_Output | CS |
| 63 | PC6 * | I/O | GPIO_Output | LED2 |
| 64 | PC7 * | I/O | GPIO_Output | LED1 |
| 68 | PA9 | I/O | USART1_TX | |
| 69 | PA10 | I/O | USART1_RX | |
| 73 | NC | NC | | |
| 74 | VSS | Power | | |
| 75 | VDD | Power | | |
| 94 | BOOT0 | Boot | | |
| 99 | VSS | Power | | |
| 100 | VDD | Power | | |

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

5.1.1. Parameter Settings:

System Parameters:

| | |
|-------------------|--------------------|
| VDD voltage (V) | 3.3 |
| Prefetch Buffer | Enabled |
| Flash Latency(WS) | 2 WS (3 CPU cycle) |

RCC Parameters:

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

5.2. SPI1

Mode: Full-Duplex Master

5.2.1. Parameter Settings:

Basic Parameters:

| | |
|--------------|-----------|
| Frame Format | Motorola |
| Data Size | 8 Bits |
| First Bit | MSB First |

Clock Parameters:

| | |
|---------------------------|-----------------------|
| Prescaler (for Baud Rate) | 4 * |
| Baud Rate | 18.0 MBits/s * |
| Clock Polarity (CPOL) | Low |
| Clock Phase (CPHA) | 1 Edge |

Advanced Parameters:

| | |
|-----------------|----------|
| CRC Calculation | Disabled |
| NSS Signal Type | Software |

5.3. SYS

Debug: No Debug

Timebase Source: SysTick

5.4. USART1

Mode: Asynchronous

5.4.1. Parameter Settings:

Basic Parameters:

| | |
|-------------|---------------------------|
| Baud Rate | 115200 |
| Word Length | 8 Bits (including Parity) |
| Parity | None |
| Stop Bits | 1 |

Advanced Parameters:

| | |
|----------------|----------------------|
| Data Direction | Receive and Transmit |
| Over Sampling | 16 Samples |

* User modified value

6. System Configuration

6.1. GPIO configuration

| IP | Pin | Signal | GPIO mode | GPIO pull/up pull down | Max Speed | User Label |
|--------|---------|-------------|------------------------------|-----------------------------|---------------|------------|
| RCC | OSC_IN | RCC_OSC_IN | n/a | n/a | n/a | |
| | OSC_OUT | RCC_OSC_OUT | n/a | n/a | n/a | |
| SPI1 | PA5 | SPI1_SCK | Alternate Function Push Pull | n/a | High * | |
| | PA6 | SPI1_MISO | Input mode | No pull-up and no pull-down | n/a | |
| | PA7 | SPI1_MOSI | Alternate Function Push Pull | n/a | High * | |
| USART1 | PA9 | USART1_TX | Alternate Function Push Pull | n/a | High * | |
| | PA10 | USART1_RX | Input mode | No pull-up and no pull-down | n/a | |
| GPIO | PD13 | GPIO_Output | Output Push Pull | No pull-up and no pull-down | Low | CS |
| | PC6 | GPIO_Output | Output Push Pull | No pull-up and no pull-down | Low | LED2 |
| | PC7 | GPIO_Output | Output Push Pull | No pull-up and no pull-down | Low | LED1 |

6.2. DMA configuration

nothing configured in DMA service

6.3. 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 |
| Prefetch 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 | | |
| SPI1 global interrupt | unused | | |
| USART1 global interrupt | unused | | |

* User modified value

7. Power Consumption Calculator report

7.1. Microcontroller Selection

| | |
|-----------|---------------|
| Series | STM32F1 |
| Line | STM32F103 |
| MCU | STM32F103VETx |
| Datasheet | 14611_Rev12 |

7.2. Parameter Selection

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

8. Software Project

8.1. Project Settings

| Name | Value |
|-----------------------------------|--|
| Project Name | at45dbxx_dataflash |
| Project Folder | D:\[project]\stm32f103vet6\github\at45dbxx_dataflash |
| Toolchain / IDE | MDK-ARM V5 |
| Firmware Package Name and Version | STM32Cube FW_F1 V1.6.1 |

8.2. Code Generation Settings

| Name | Value |
|---|---------------------------------------|
| STM32Cube Firmware Library Package | Copy only the necessary library files |
| 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 |

9. Software Pack Report