

1. Description

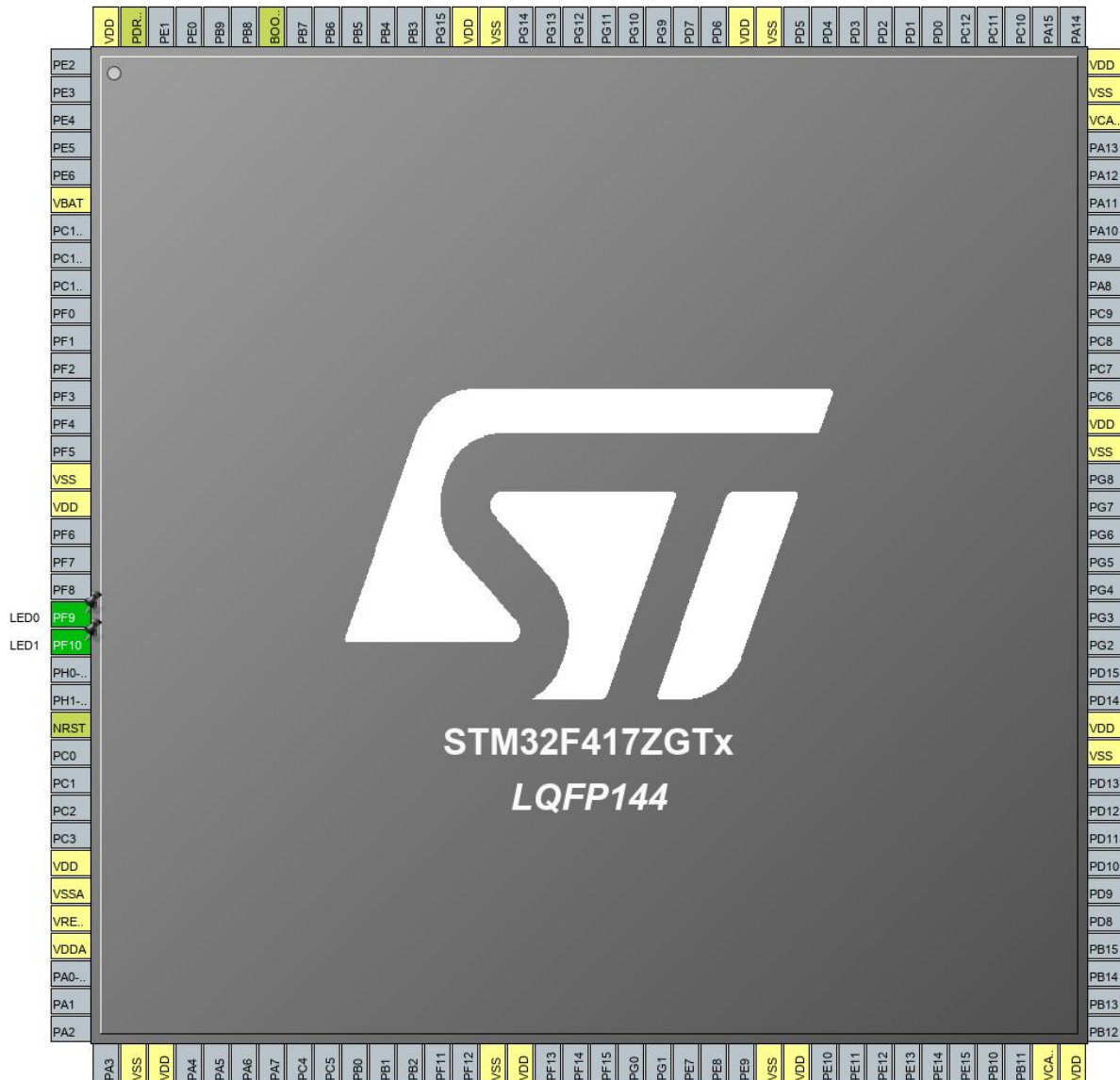
1.1. Project

| | |
|-----------------|-------------------|
| Project Name | LED |
| Board Name | custom |
| Generated with: | STM32CubeMX 5.1.0 |
| Date | 04/02/2019 |

1.2. MCU

| | |
|----------------|---------------|
| MCU Series | STM32F4 |
| MCU Line | STM32F407/417 |
| MCU name | STM32F417ZGTx |
| MCU Package | LQFP144 |
| MCU Pin number | 144 |

2. Pinout Configuration

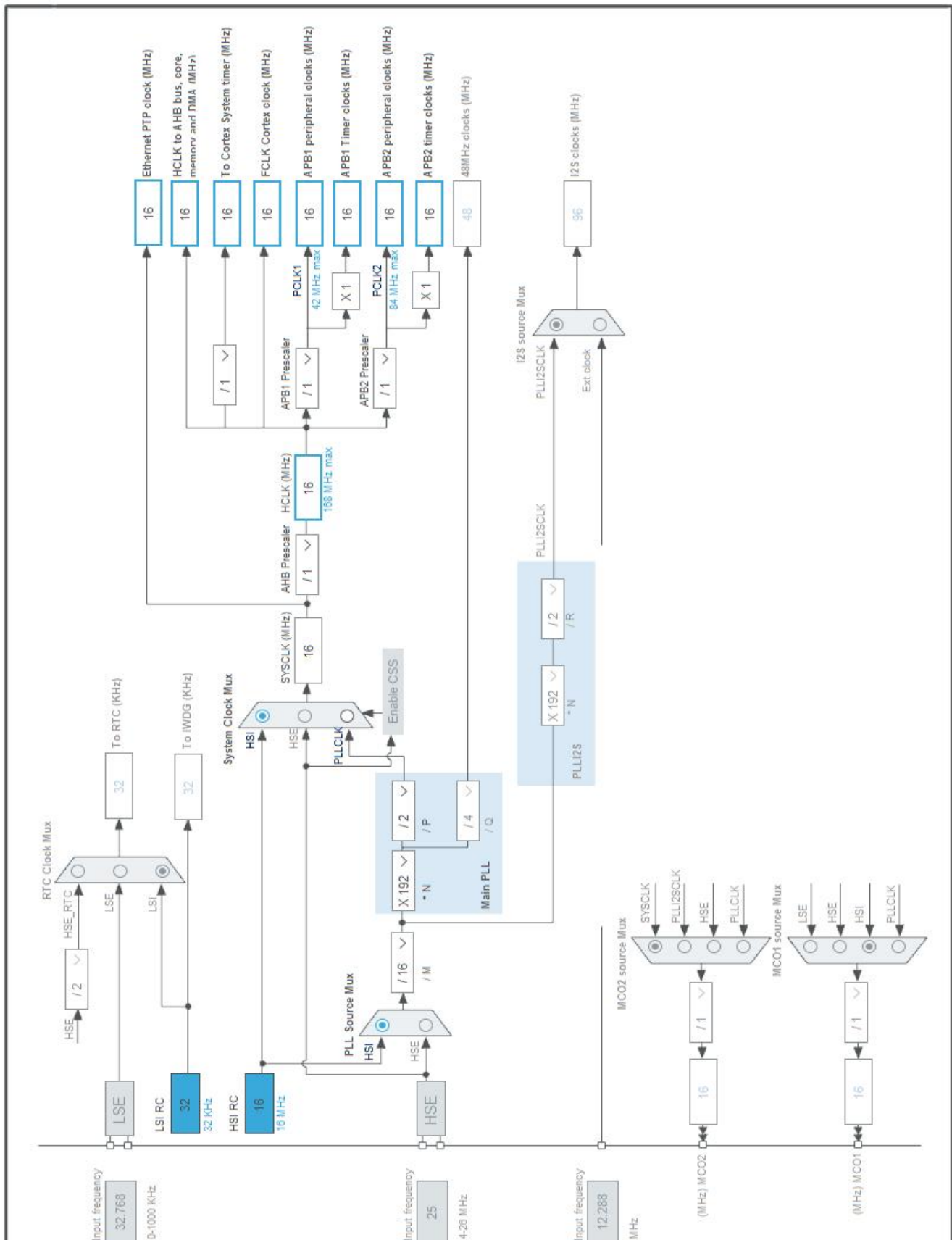


3. Pins Configuration

| Pin Number LQFP144 | Pin Name (function after reset) | Pin Type | Alternate Function(s) | Label |
|-----------------------|---------------------------------------|----------|--------------------------|-------|
| 6 | VBAT | Power | | |
| 16 | VSS | Power | | |
| 17 | VDD | Power | | |
| 21 | PF9 * | I/O | GPIO_Output | LED0 |
| 22 | PF10 * | I/O | GPIO_Output | LED1 |
| 25 | NRST | Reset | | |
| 30 | VDD | Power | | |
| 31 | VSSA | Power | | |
| 32 | VREF+ | Power | | |
| 33 | VDDA | Power | | |
| 38 | VSS | Power | | |
| 39 | VDD | Power | | |
| 51 | VSS | Power | | |
| 52 | VDD | Power | | |
| 61 | VSS | Power | | |
| 62 | VDD | Power | | |
| 71 | VCAP_1 | Power | | |
| 72 | VDD | Power | | |
| 83 | VSS | Power | | |
| 84 | VDD | Power | | |
| 94 | VSS | Power | | |
| 95 | VDD | Power | | |
| 106 | VCAP_2 | Power | | |
| 107 | VSS | Power | | |
| 108 | VDD | Power | | |
| 120 | VSS | Power | | |
| 121 | VDD | Power | | |
| 130 | VSS | Power | | |
| 131 | VDD | Power | | |
| 138 | BOOT0 | Boot | | |
| 143 | PDR_ON | Reset | | |
| 144 | VDD | 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 | LED |
| Project Folder | D:\8-studyMakeMeHappy\26_stm32cube\03_project\02_LED\LED |
| Toolchain / IDE | MDK-ARM V5 |
| Firmware Package Name and Version | STM32Cube FW_F4 V1.24.0 |

5.2. Code Generation Settings

| Name | Value |
|---|---|
| STM32Cube Firmware Library Package | Copy all used libraries into the project folder |
| 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 | STM32F4 |
| Line | STM32F407/417 |
| MCU | STM32F417ZGTx |
| Datasheet | 022063_Rev8 |

6.2. Parameter Selection

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

7. IPs and Middleware Configuration

7.1. RCC

7.1.1. Parameter Settings:

System Parameters:

| | |
|-------------------|--------------------|
| VDD voltage (V) | 3.3 |
| Instruction Cache | Enabled |
| Prefetch Buffer | Enabled |
| Data Cache | 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 |

Power Parameters:

| | |
|-------------------------------|---------------------------------|
| Power Regulator Voltage Scale | Power Regulator Voltage Scale 1 |
|-------------------------------|---------------------------------|

7.2. SYS

Timebase Source: SysTick

* User modified value

8. System Configuration

8.1. GPIO configuration

| IP | Pin | Signal | GPIO mode | GPIO pull/up pull down | Max Speed | User Label |
|------|------|-------------|------------------|-----------------------------|-----------|------------|
| GPIO | PF9 | GPIO_Output | Output Push Pull | No pull-up and no pull-down | Low | LED0 |
| | PF10 | GPIO_Output | Output Push Pull | No pull-up and no pull-down | Low | LED1 |

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 | | |
| FPU global interrupt | unused | | |

* User modified value

9. Software Pack Report