1. Description

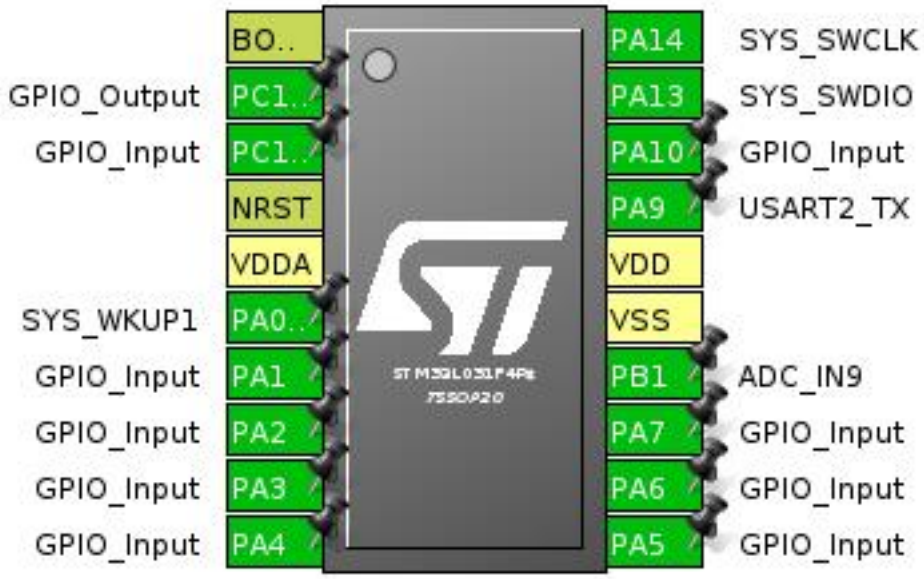
1.1. Project

Project Name	scales_lcd_read
Board Name	scales_lcd_read
Generated with:	STM32CubeMX 4.23.0
Date	11/05/2017

1.2. MCU

MCU Series	STM32L0
MCU Line	STM32L0x1
MCU name	STM32L031F4Px
MCU Package	TSSOP20
MCU Pin number	20

2. Pinout Configuration

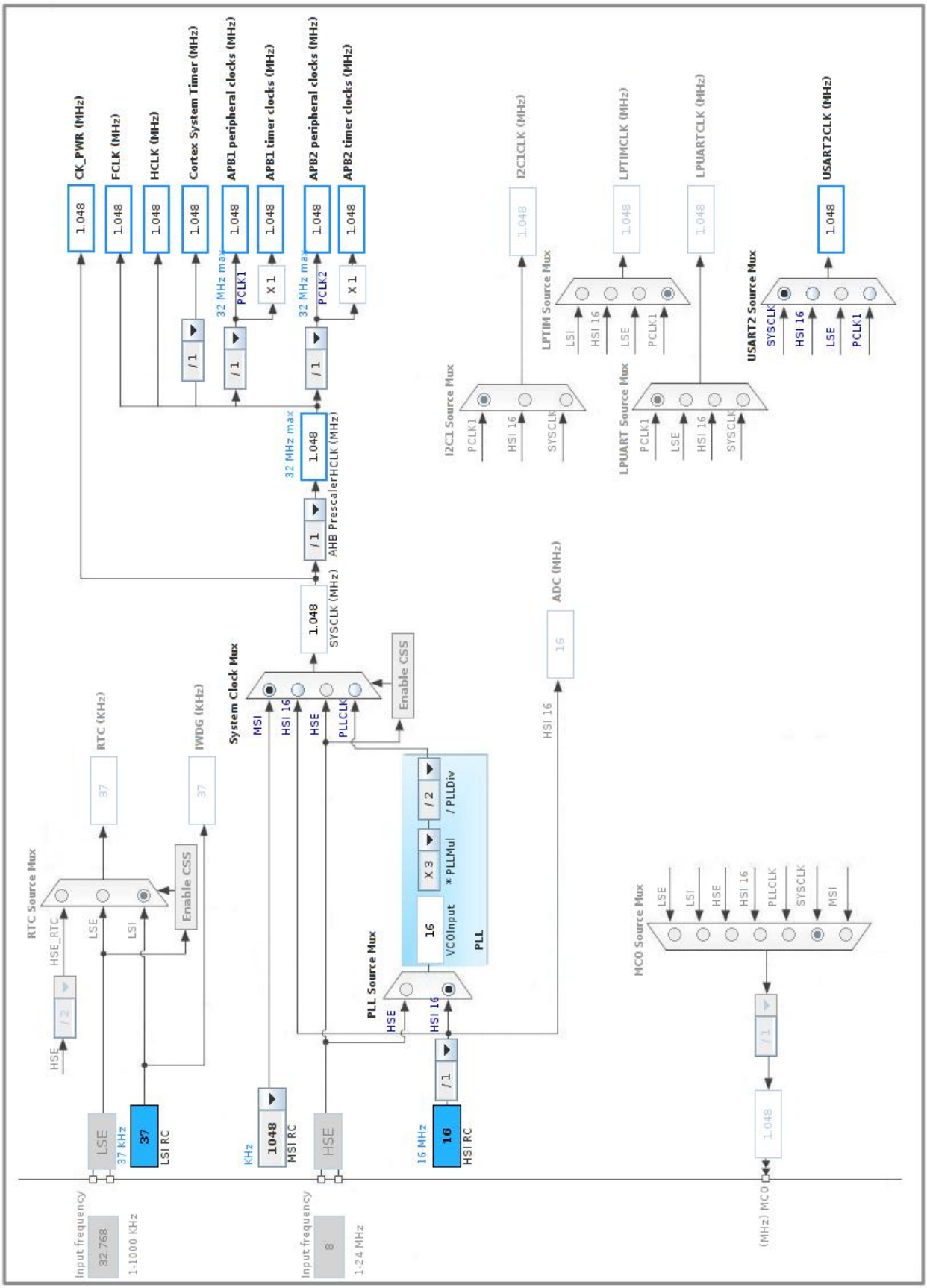


3. Pins Configuration

Pin Number TSSOP20	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	BOOT0	Boot		
2	PC14-OSC32_IN *	I/O	GPIO_Output	
3	PC15-OSC32_OUT *	I/O	GPIO_Input	
4	NRST	Reset		
5	VDDA	Power		
6	PA0-CK_IN	I/O	SYS_WKUP1	
7	PA1 *	I/O	GPIO_Input	
8	PA2 *	I/O	GPIO_Input	
9	PA3 *	I/O	GPIO_Input	
10	PA4 *	I/O	GPIO_Input	
11	PA5 *	I/O	GPIO_Input	
12	PA6 *	I/O	GPIO_Input	
13	PA7 *	I/O	GPIO_Input	
14	PB1	I/O	ADC_IN9	
15	VSS	Power		
16	VDD	Power		
17	PA9	I/O	USART2_TX	
18	PA10 *	I/O	GPIO_Input	
19	PA13	I/O	SYS_SWDIO	
20	PA14	I/O	SYS_SWCLK	

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. ADC

mode: IN9

5.1.1. Parameter Settings:

ADC_Settings:

Clock Prescaler	Synchronous clock mode divided by 1
Resolution	**ADC 10-bit resolution ***
Data Alignment	Right alignment
Scan Direction	Forward
Continuous Conversion Mode	**Enabled ***
Discontinuous Conversion Mode	Disabled
DMA Continuous Requests	Disabled
End Of Conversion Selection	End of single conversion
Overrun behaviour	Overrun data preserved
Low Power Auto Wait	**Enabled ***
Low Frequency Mode	Disabled
Auto Off	Disabled
Oversampling Mode	Disabled

ADC_Regular_ConversionMode:

Sampling Time	**7.5 Cycles ***
External Trigger Conversion Source	Regular Conversion launched by software
External Trigger Conversion Edge	None

WatchDog:

Enable Analog WatchDog Mode	false

5.2. SYS

mode: Debug Serial Wire
mode: System Wake-Up 1
Timebase Source: SysTick

5.3. USART2

Mode: Single Wire (Half-Duplex)

5.3.1. Parameter Settings:

Basic Parameters:

Baud Rate	**57600 ***
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:

Auto Baudrate	Disable
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**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
ADC	PB1	ADC_IN9	Analog mode	No pull-up and no pull-down	n/a	
SYS	PA0-CK_IN	SYS_WKUP1	n/a	n/a	n/a	
	PA13	SYS_SWDIO	n/a	n/a	n/a	
	PA14	SYS_SWCLK	n/a	n/a	n/a	
USART2	PA9	USART2_TX	Alternate Function Open Drain	Pull-up	**Very High ***	
GPIO	PC14-OSC32_IN	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PC15-OSC32_OUT	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA1	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA2	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA3	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA4	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA5	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA6	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA7	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA10	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	

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
System service call via SWI instruction	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 and EEPROM global interrupt	unused		
RCC global interrupt	unused		
ADC1, COMP1 and COMP2 interrupts (COMP interrupts through EXTI lines 21 and 22)	unused		
USART2 global interrupt / USART2 wake-up interrupt through EXTI line 26	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32L0
Line	STM32L0x1
MCU	STM32L031F4Px
Datasheet	027063_Rev4

7.2. Parameter Selection

Temperature	25
Vdd	3.0

8. Software Project

8.1. Project Settings

Name	Value
Project Name	scales_lcd_read
Project Folder	/home/peter/repos/bathroom_scales/stm32L031F4/scales_lcd_read/scales_lcd_r
Toolchain / IDE	SW4STM32
Firmware Package Name and Version	STM32Cube FW_L0 V1.10.0

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)	Yes