

1. Description

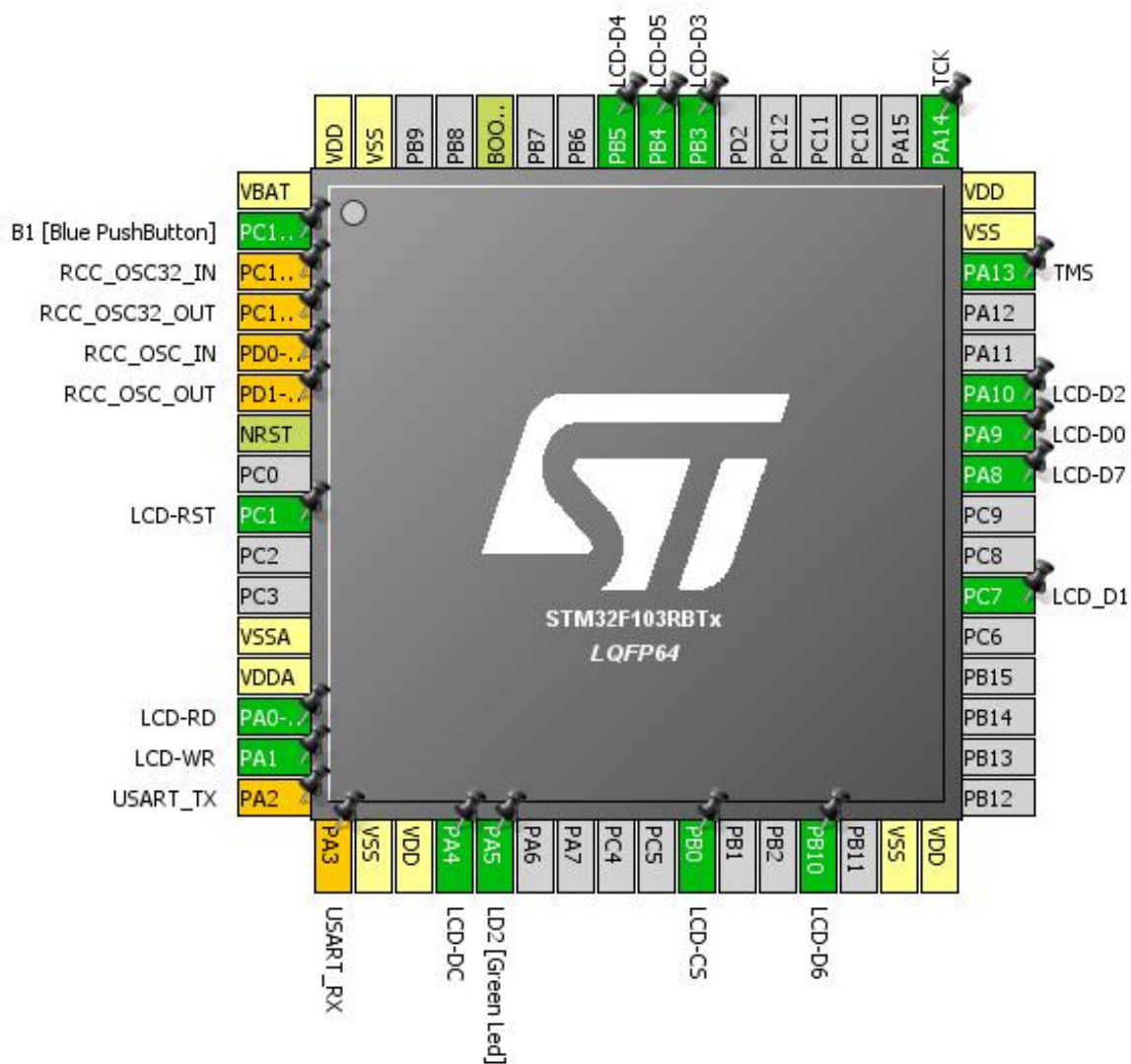
1.1. Project

Project Name	emWin
Board Name	NUCLEO-F103RB
Generated with:	STM32CubeMX 4.21.0
Date	11/21/2018

1.2. MCU

MCU Series	STM32F1
MCU Line	STM32F103
MCU name	STM32F103RBTx
MCU Package	LQFP64
MCU Pin number	64

2. Pinout Configuration



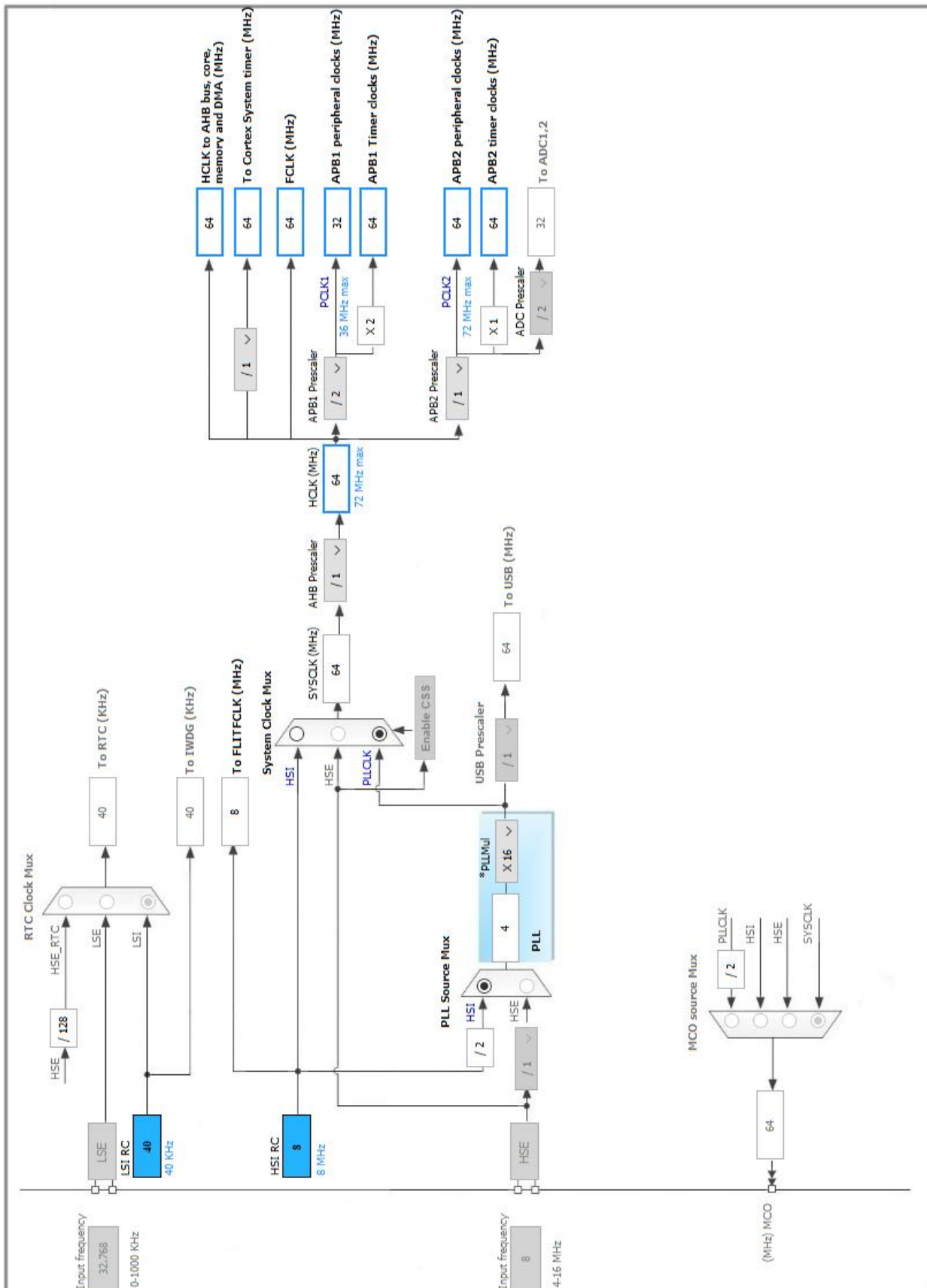
3. Pins Configuration

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
2	PC13-TAMPER-RTC	I/O	GPIO_EXTI13	B1 [Blue PushButton]
3	PC14-OSC32_IN *	I/O	RCC_OSC32_IN	
4	PC15-OSC32_OUT *	I/O	RCC_OSC32_OUT	
5	PD0-OSC_IN *	I/O	RCC_OSC_IN	
6	PD1-OSC_OUT *	I/O	RCC_OSC_OUT	
7	NRST	Reset		
9	PC1 **	I/O	GPIO_Output	LCD-RST
12	VSSA	Power		
13	VDDA	Power		
14	PA0-WKUP **	I/O	GPIO_Output	LCD-RD
15	PA1 **	I/O	GPIO_Output	LCD-WR
16	PA2 *	I/O	USART2_TX	USART_TX
17	PA3 *	I/O	USART2_RX	USART_RX
18	VSS	Power		
19	VDD	Power		
20	PA4 **	I/O	GPIO_Output	LCD-DC
21	PA5 **	I/O	GPIO_Output	LD2 [Green Led]
26	PB0 **	I/O	GPIO_Output	LCD-CS
29	PB10 **	I/O	GPIO_Output	LCD-D6
31	VSS	Power		
32	VDD	Power		
38	PC7 **	I/O	GPIO_Output	LCD_D1
41	PA8 **	I/O	GPIO_Output	LCD-D7
42	PA9 **	I/O	GPIO_Output	LCD-D0
43	PA10 **	I/O	GPIO_Output	LCD-D2
46	PA13	I/O	SYS_JTMS-SWDIO	TMS
47	VSS	Power		
48	VDD	Power		
49	PA14	I/O	SYS_JTCK-SWCLK	TCK
55	PB3 **	I/O	GPIO_Output	LCD-D3
56	PB4 **	I/O	GPIO_Output	LCD-D5
57	PB5 **	I/O	GPIO_Output	LCD-D4
60	BOOT0	Boot		
63	VSS	Power		
64	VDD	Power		

** The pin is affected with an I/O function

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

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. SYS

Debug: Serial Wire

Timebase Source: SysTick

* User modified value

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
SYS	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	TMS
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	TCK
Single Mapped Signals	PC14-OSC32_IN	RCC_OSC32_IN	n/a	n/a	n/a	
	PC15-OSC32_OUT	RCC_OSC32_OUT	n/a	n/a	n/a	
	PD0-OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PD1-OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
	PA2	USART2_TX	Alternate Function Push Pull	n/a	Low	USART_TX
	PA3	USART2_RX	*	No pull-up and no pull-down	n/a	USART_RX
GPIO	PC13-TAMPER-RTC	GPIO_EXTI13	External Interrupt Mode with Falling edge trigger detection	No pull-up and no pull-down	n/a	B1 [Blue PushButton]
	PC1	GPIO_Output	Output Push Pull	n/a	Low	LCD-RST
	PA0-WKUP	GPIO_Output	Output Push Pull	n/a	Low	LCD-RD
	PA1	GPIO_Output	Output Push Pull	n/a	Low	LCD-WR
	PA4	GPIO_Output	Output Push Pull	n/a	Low	LCD-DC
	PA5	GPIO_Output	Output Push Pull	n/a	Low	LD2 [Green Led]
	PB0	GPIO_Output	Output Push Pull	n/a	Low	LCD-CS
	PB10	GPIO_Output	Output Push Pull	n/a	Low	LCD-D6
	PC7	GPIO_Output	Output Push Pull	n/a	Low	LCD_D1
	PA8	GPIO_Output	Output Push Pull	n/a	Low	LCD-D7
	PA9	GPIO_Output	Output Push Pull	n/a	Low	LCD-D0
	PA10	GPIO_Output	Output Push Pull	n/a	Low	LCD-D2
	PB3	GPIO_Output	Output Push Pull	n/a	Low	LCD-D3
	PB4	GPIO_Output	Output Push Pull	n/a	Low	LCD-D5
	PB5	GPIO_Output	Output Push Pull	n/a	Low	LCD-D4

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
EXTI line[15:10] interrupts	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		

* User modified value

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F1
Line	STM32F103
MCU	STM32F103RBTx
Datasheet	13587_Rev17

7.2. Parameter Selection

Temperature	25
Vdd	3.3

8. Software Project

8.1. Project Settings

Name	Value
Project Name	emWin
Project Folder	F:\emWin\emWin
Toolchain / IDE	SW4STM32
Firmware Package Name and Version	STM32Cube FW_F1 V1.4.0

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	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