1. Description

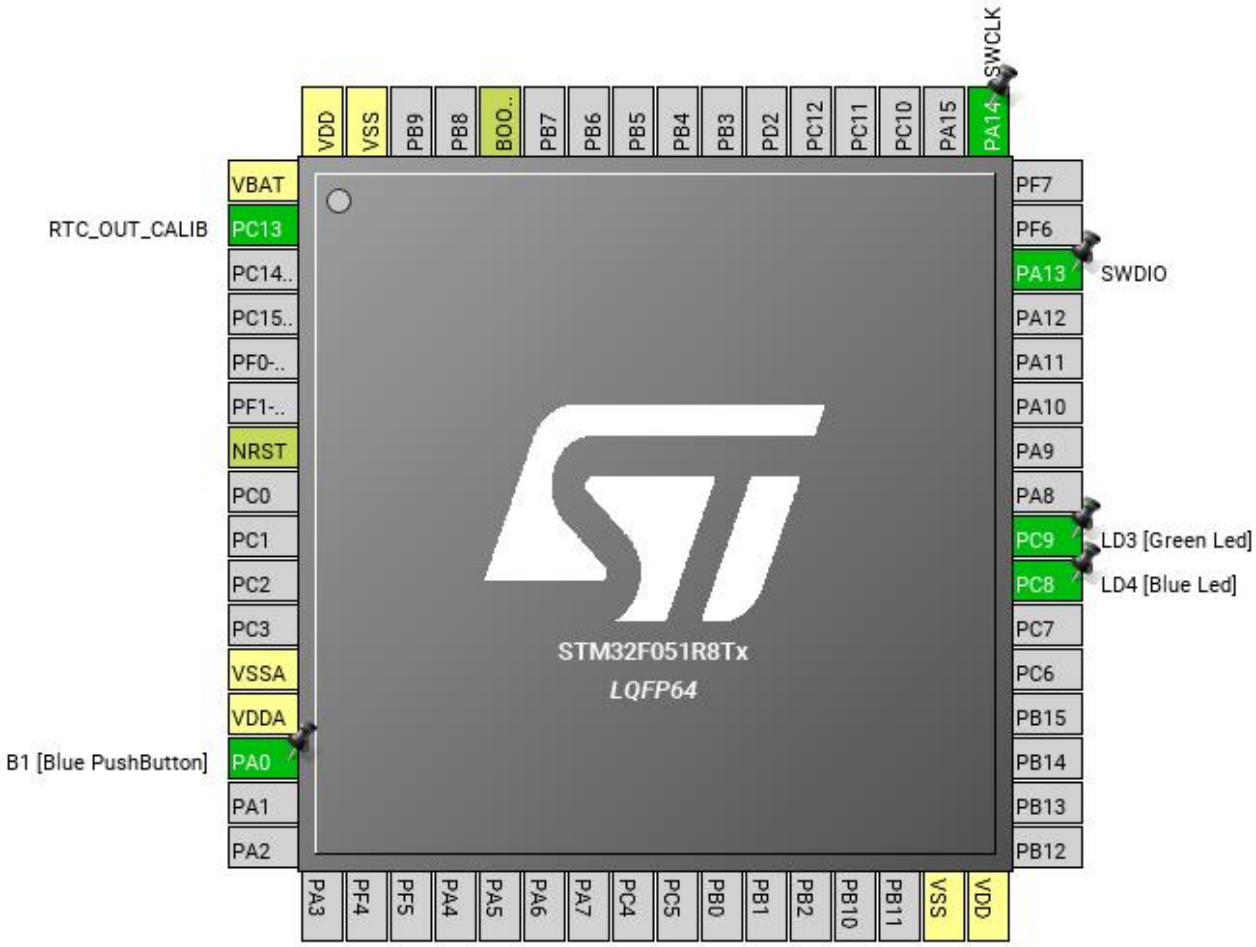
1.1. Project

Project Name	hal_rtc_test
Board Name	STM32F0DISCOVERY
Generated with:	STM32CubeMX 4.16.1
Date	09/28/2016

1.2. MCU

MCU Series	STM32F0
MCU Line	STM32F0x1
MCU name	STM32F051R8Tx
MCU Package	LQFP64
MCU Pin number	64

2. Pinout Configuration

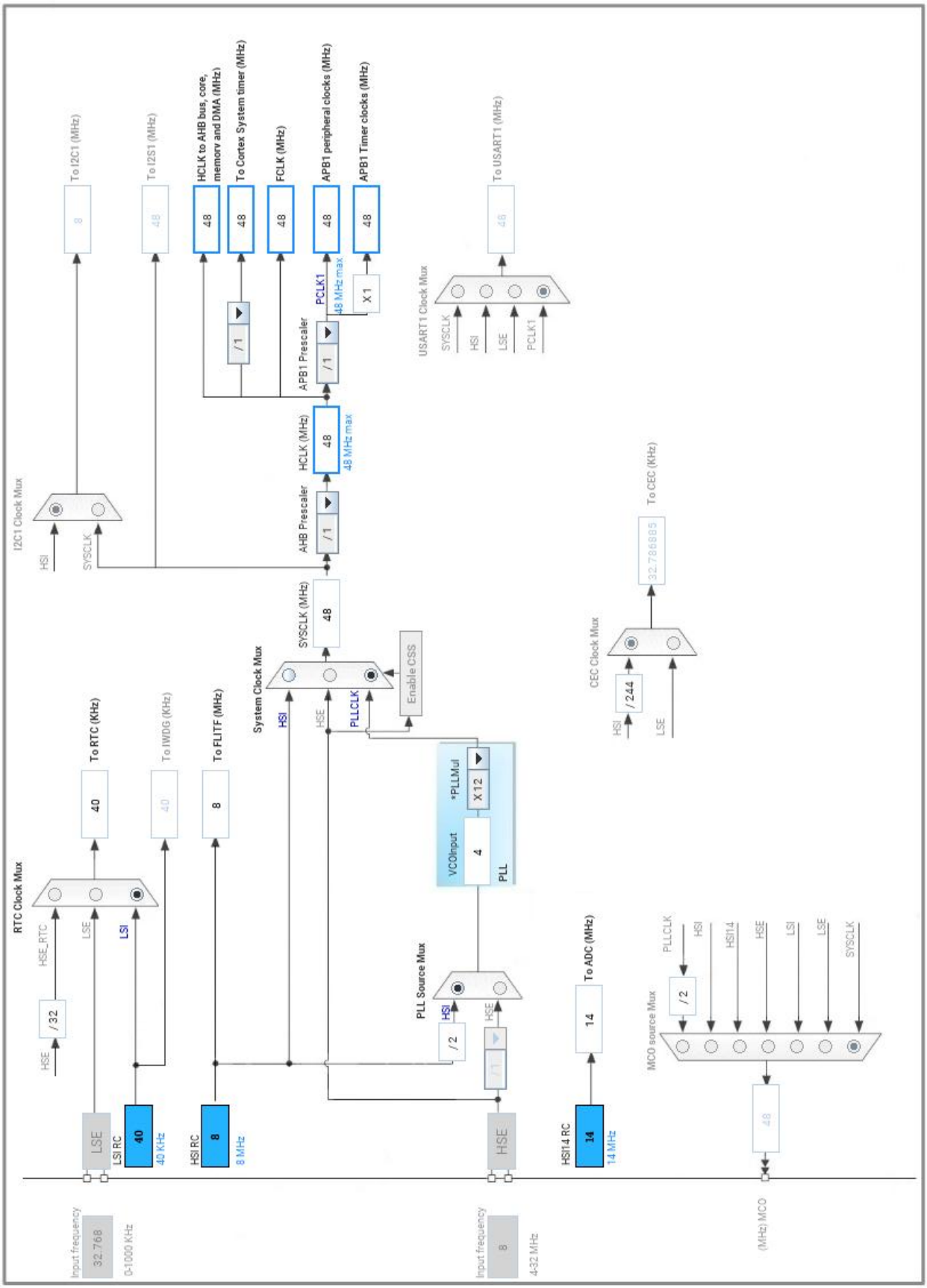


3. Pins Configuration

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
2	PC13	I/O	RTC_OUT_CALIB	
7	NRST	Reset		
12	VSSA	Power		
13	VDDA	Power		
14	PA0	I/O	GPIO_EXTI0	B1 [Blue PushButton]
31	VSS	Power		
32	VDD	Power		
39	PC8 *	I/O	GPIO_Output	LD4 [Blue Led]
40	PC9 *	I/O	GPIO_Output	LD3 [Green Led]
46	PA13	I/O	SYS_SWDIO	SWDIO
49	PA14	I/O	SYS_SWCLK	SWCLK
60	BOOT0	Boot		
63	VSS	Power		
64	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. ADC

mode: Temperature Sensor Channel

mode: Vrefint Channel

mode: Vbat Channel

5.1.1. Parameter Settings:

ADC_Settings:

Clock Prescaler	Asynchronous clock mode
Resolution	ADC 12-bit resolution
Data Alignment	Right alignment
Scan Conversion Mode	Forward
Continuous Conversion Mode	Disabled
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	Disabled
Low Power Auto Power Off	Disabled

ADC_Regular_ConversionMode:

Sampling Time	1.5 Cycles
External Trigger Conversion Edge	None

WatchDog:

Enable Analog WatchDog Mode	false

5.2. RTC

Calibration: Calibration 512Hz

5.2.1. Parameter Settings:

General:

Hour Format	Hourformat 24
Asynchronous Predivider value	127
Synchronous Predivider value	255

Calendar Time:

Data Format	BCD data format
Hours	**23 ***
Minutes	**58 ***
Seconds	0
Day Light Saving: value of hour adjustment	Daylightsaving None
Store Operation	Storeoperation Reset

Calendar Date:

Week Day	Monday
Month	**October ***
Date	1
Year	**16 ***

Calibration:

Calibration	Signal has a regular waveform at 512Hz

5.3. SYS

mode: 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
RTC	PC13	RTC_OUT_CALIB	n/a	n/a	n/a	
SYS	PA13	SYS_SWDIO	n/a	n/a	n/a	SWDIO
	PA14	SYS_SWCLK	n/a	n/a	n/a	SWCLK
GPIO	PA0	GPIO_EXTI0	**External Event Mode with Rising edge trigger detection ***	No pull-up and no pull-down	n/a	B1 [Blue PushButton]
	PC8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD4 [Blue Led]
	PC9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD3 [Green Led]

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 Line16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
ADC and COMP interrupts (COMP interrupts through EXTI lines 21 and 22)	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F0
Line	STM32F0x1
MCU	STM32F051R8Tx
Datasheet	022265_Rev6

7.2. Parameter Selection

Temperature	25
Vdd	3.6

8. Software Project

8.1. Project Settings

Name	Value
Project Name	hal_rtc_test
Project Folder	/home/thomas.muth/Project/STM32/STM32F0/hal_rtc_test
Toolchain / IDE	SW4STM32
Firmware Package Name and Version	STM32Cube FW_F0 V1.6.0

8.2. Code Generation Settings

Name	Value
STM32Cube Firmware Library Package	Add necessary library files as reference in the toolchain project configuration file
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