1. Description

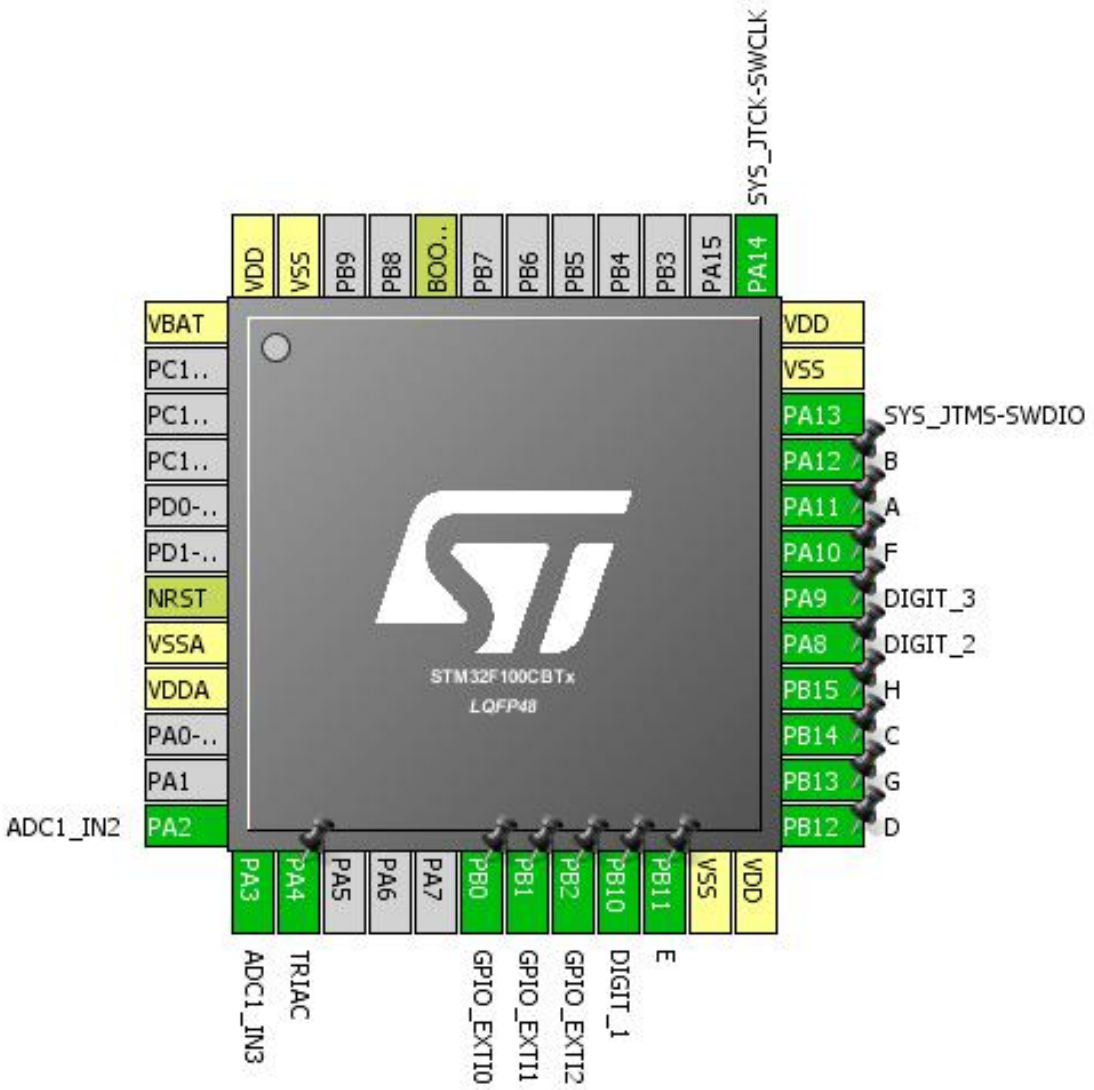
1.1. Project

Project Name	thermo
Board Name	thermo
Generated with:	STM32CubeMX 4.18.0
Date	01/30/2017

1.2. MCU

MCU Series	STM32F1
MCU Line	STM32F100 Value Line
MCU name	STM32F100CBTx
MCU Package	LQFP48
MCU Pin number	48

2. Pinout Configuration

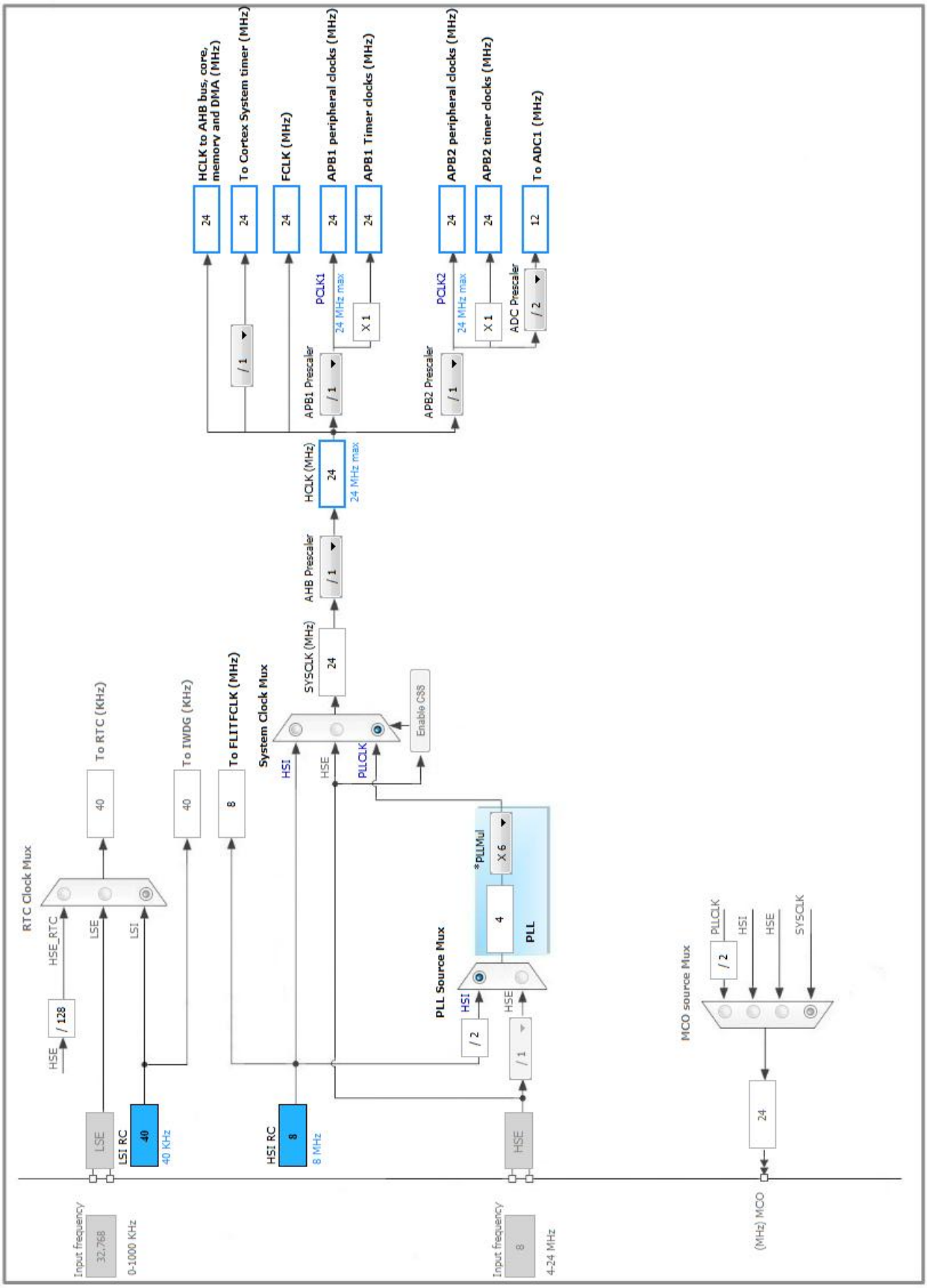


3. Pins Configuration

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
7	NRST	Reset		
8	VSSA	Power		
9	VDDA	Power		
12	PA2	I/O	ADC1_IN2	
13	PA3	I/O	ADC1_IN3	
14	PA4 *	I/O	GPIO_Output	TRIAC
18	PB0	I/O	GPIO_EXTI0	
19	PB1	I/O	GPIO_EXTI1	
20	PB2	I/O	GPIO_EXTI2	
21	PB10 *	I/O	GPIO_Output	DIGIT_1
22	PB11 *	I/O	GPIO_Output	E
23	VSS	Power		
24	VDD	Power		
25	PB12 *	I/O	GPIO_Output	D
26	PB13 *	I/O	GPIO_Output	G
27	PB14 *	I/O	GPIO_Output	C
28	PB15 *	I/O	GPIO_Output	H
29	PA8 *	I/O	GPIO_Output	DIGIT_2
30	PA9 *	I/O	GPIO_Output	DIGIT_3
31	PA10 *	I/O	GPIO_Output	F
32	PA11 *	I/O	GPIO_Output	A
33	PA12 *	I/O	GPIO_Output	B
34	PA13	I/O	SYS_JTMS-SWDIO	
35	VSS	Power		
36	VDD	Power		
37	PA14	I/O	SYS_JTCK-SWCLK	
44	BOOT0	Boot		
47	VSS	Power		
48	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. ADC1

mode: IN2

mode: IN3

mode: Temperature Sensor Channel

mode: Vrefint Channel

5.1.1. Parameter Settings:

ADC_Settings:	
Data Alignment	Right alignment
Scan Conversion Mode	Disabled
Continuous Conversion Mode	Disabled
Discontinuous Conversion Mode	Disabled
ADC_Regular_ConversionMode:	
Enable Regular Conversions	Enable
Number Of Conversion	1
External Trigger Conversion Source	Regular Conversion launched by software
Rank	1
Channel	**Channel 3 ***
Sampling Time	1.5 Cycles
ADC_Injected_ConversionMode:	
Number Of Conversions	**1 ***
External Trigger Source	Injected Conversion launched by software
Injected Conversion Mode	None
Rank	1
Channel	Channel 2
Sampling Time	**13.5 Cycles ***
Injected Offset	0
WatchDog:	
Enable Analog WatchDog Mode	false

5.2. SYS

Debug: Serial Wire

Timebase Source: SysTick

5.3. TIM6

mode: Activated

5.3.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**99 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**999 ***

Trigger Output (TRGO) Parameters:

Trigger Event Selection	Reset (UG bit from TIMx_EGR)

5.4. TIM7

mode: Activated

5.4.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**23999 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**999 ***

Trigger Output (TRGO) Parameters:

Trigger Event Selection	Reset (UG bit from TIMx_EGR)

5.5. TIM16

mode: Activated

5.5.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**23999 ***
Counter Mode	Up

Counter Period (AutoReload Register - 16 bits value)	**9999 ***
Internal Clock Division (CKD)	No Division
Repetition Counter (RCR - 8 bits value)	0

5.6. TIM17

mode: Activated

5.6.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**23 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**92 ***
Internal Clock Division (CKD)	No Division
Repetition Counter (RCR - 8 bits value)	0

*** User modified value**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
ADC1	PA2	ADC1_IN2	Analog mode	n/a	n/a	
	PA3	ADC1_IN3	Analog mode	n/a	n/a	
SYS	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	
GPIO	PA4	GPIO_Output	Output Push Pull	n/a	Low	TRIAC
	PB0	GPIO_EXTI0	**External Interrupt Mode with Falling edge trigger detection**	**Pull-up ***	n/a	
	PB1	GPIO_EXTI1	**External Interrupt Mode with Falling edge trigger detection**	**Pull-up ***	n/a	
	PB2	GPIO_EXTI2	**External Interrupt Mode with Falling edge trigger detection**	**Pull-up ***	n/a	
	PB10	GPIO_Output	Output Push Pull	**n/a**	Low	DIGIT_1
	PB11	GPIO_Output	Output Push Pull	**n/a**	Low	E
	PB12	GPIO_Output	Output Push Pull	**n/a**	Low	D
	PB13	GPIO_Output	Output Push Pull	**n/a**	Low	G
	PB14	GPIO_Output	Output Push Pull	**n/a**	Low	C
	PB15	GPIO_Output	Output Push Pull	**n/a**	Low	H
	PA8	GPIO_Output	Output Push Pull	**n/a**	Low	DIGIT_2
	PA9	GPIO_Output	Output Push Pull	**n/a**	Low	DIGIT_3
	PA10	GPIO_Output	Output Push Pull	**n/a**	Low	F
	PA11	GPIO_Output	Output Push Pull	**n/a**	Low	A
	PA12	GPIO_Output	Output Push Pull	**n/a**	Low	B

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 line0 interrupt	true	2	0
EXTI line1 interrupt	true	2	0
EXTI line2 interrupt	true	2	0
TIM1 update interrupt and TIM16 global interrupt	true	1	0
TIM1 trigger and commutation interrupts and TIM17 global interrupt	true	0	0
TIM6 global interrupt and DAC underrun error interrupts	true	0	0
TIM7 global interrupt	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
ADC1 global interrupt	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F1
Line	STM32F100 Value Line
MCU	STM32F100CBTx
Datasheet	16455_Rev8

7.2. Parameter Selection

Temperature	25
Vdd	3.3

8. Software Project

8.1. Project Settings

Name	Value
Project Name	thermo
Project Folder	C:\workspace\thermo
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	Yes
Backup previously generated files when re-generating	Yes
Delete previously generated files when not re-generated	Yes
Set all free pins as analog (to optimize the power consumption)	Yes