1. Description

1.1. Project

Project Name	stm32test
Board Name	custom
Generated with:	STM32CubeMX 4.27.0
Date	01/04/2019

1.2. MCU

MCU Series	STM32L0
MCU Line	STM32L0x3
MCU name	STM32L053C8Tx
MCU Package	LQFP48
MCU Pin number	48

2. Pinout Configuration
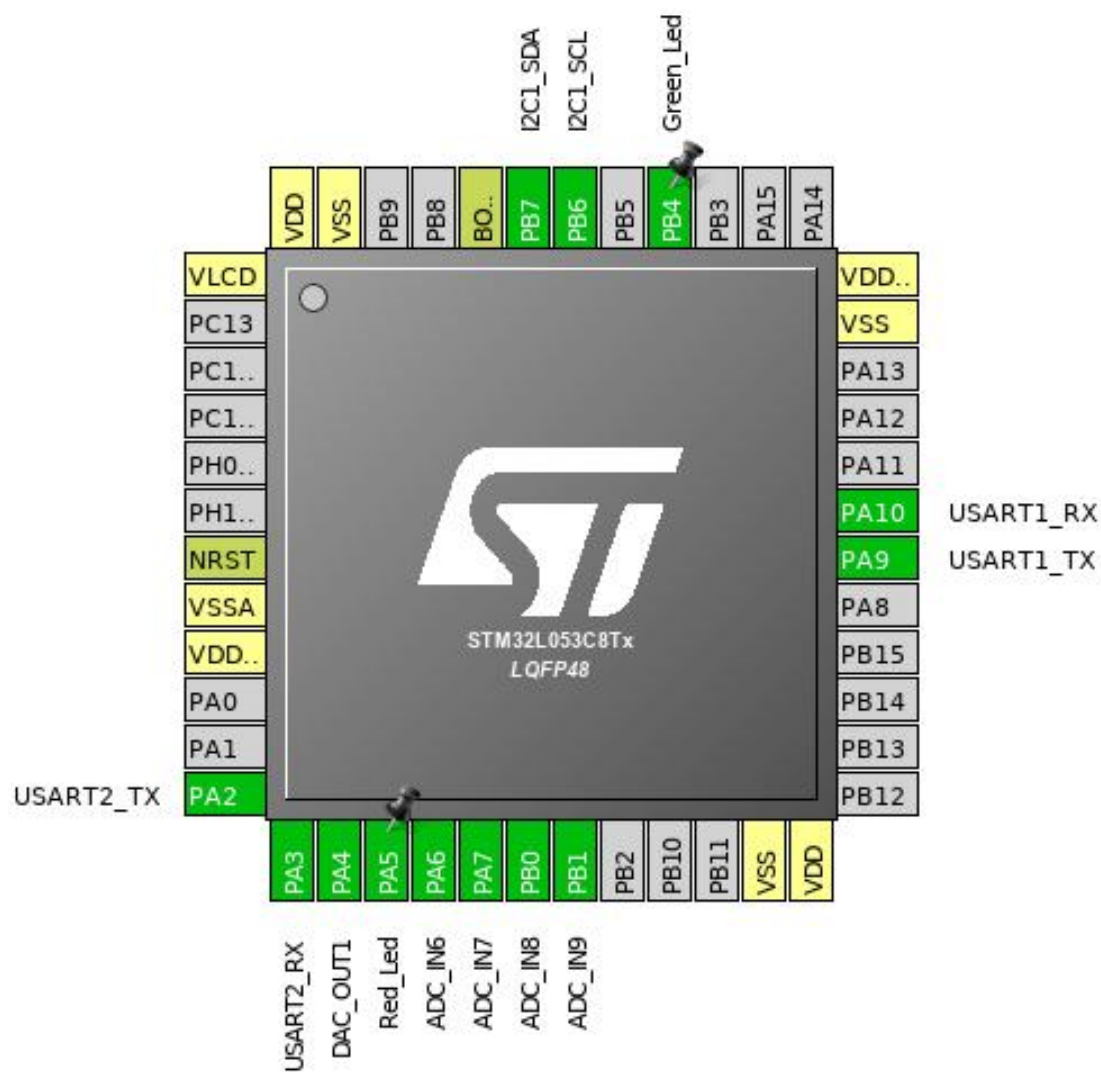
3. Pins Configuration

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VLCD	Power		
7	NRST	Reset		
8	VSSA	Power		
9	VDDA	Power		
12	PA2	I/O	USART2_TX	
13	PA3	I/O	USART2_RX	
14	PA4	I/O	DAC_OUT1	
15	PA5	I/O	TIM2_CH1	Red_Led
16	PA6	I/O	ADC_IN6	
17	PA7	I/O	ADC_IN7	
18	PB0	I/O	ADC_IN8	
19	PB1	I/O	ADC_IN9	
23	VSS	Power		
24	VDD	Power		
30	PA9	I/O	USART1_TX	
31	PA10	I/O	USART1_RX	
35	VSS	Power		
36	VDD_USB	Power		
40	PB4 *	I/O	GPIO_Output	Green_Led
42	PB6	I/O	I2C1_SCL	
43	PB7	I/O	I2C1_SDA	
44	BOOT0	Boot		
47	VSS	Power		
48	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration
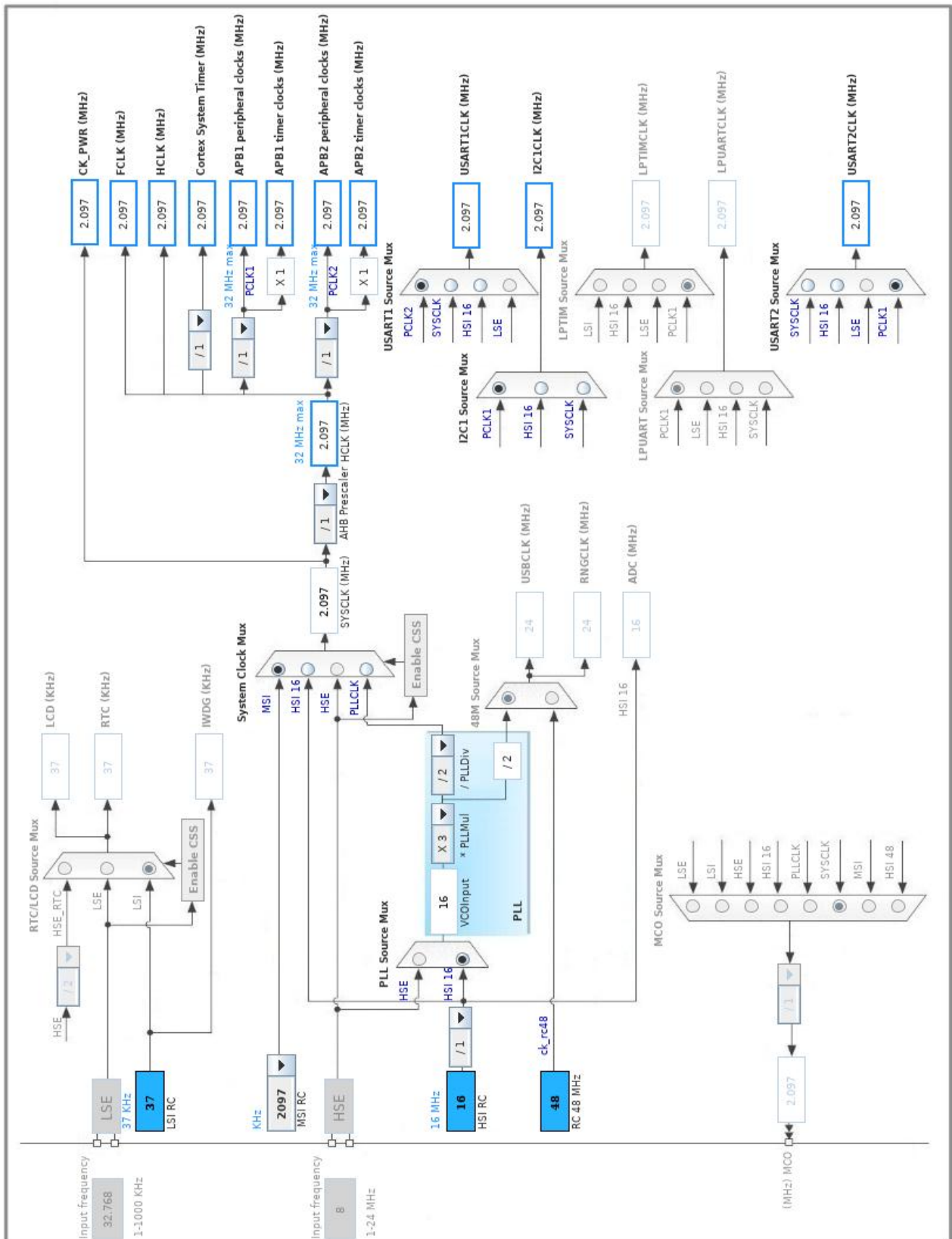
5. IPs and Middleware Configuration

5.1. ADC

mode: IN6

mode: IN7

mode: IN8

mode: IN9

5.1.1. Parameter Settings:

ADC_Settings:

Clock Prescaler	Synchronous clock mode divided by 1
Resolution	ADC 12-bit resolution
Data Alignment	Right alignment
Scan Direction	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 Frequency Mode	Disabled
Auto Off	Disabled
Oversampling Mode	Disabled

ADC_Regular_ConversionMode:

Sampling Time	1.5 Cycles
External Trigger Conversion Source	Regular Conversion launched by software
External Trigger Conversion Edge	None

WatchDog:

Enable Analog WatchDog Mode	false

5.2. DAC

mode: OUT1 Configuration

5.2.1. Parameter Settings:

DAC Out1 Settings:

Output Buffer	Enable
Trigger	None

5.3. I2C1

I2C: I2C

5.3.1. Parameter Settings:

Timing configuration:

I2C Speed Mode	Standard Mode
I2C Speed Frequency (KHz)	100
Rise Time (ns)	0
Fall Time (ns)	0
Coefficient of Digital Filter	0
Analog Filter	Enabled
Timing	0x00000708

Slave Features:

Clock No Stretch Mode	Disabled
General Call Address Detection	Disabled
Primary Address Length selection	7-bit
Dual Address Acknowledged	Disabled
Primary slave address	0

5.4. SYS

Timebase Source: SysTick

5.5. TIM2

Clock Source   : Internal Clock

Channel1: PWM Generation CH1

5.5.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	0
Internal Clock Division (CKD)	No Division

Trigger Output (TRGO) Parameters:

Master/Slave Mode (MSM bit)	Disable (Trigger input effect not delayed)
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

PWM Generation Channel 1:

Mode	PWM mode 1
Pulse (16 bits value)	0
Fast Mode	Disable
CH Polarity	High

5.6. TIM6

mode: Activated

5.6.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	0

Trigger Output (TRGO) Parameters:

Trigger Event Selection	**Enable (CNT_EN) ***

5.7. USART1

Mode: Asynchronous

5.7.1. Parameter Settings:

Basic Parameters:

Baud Rate	115200
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 |

5.8. USART2

Mode: Asynchronous

5.8.1. Parameter Settings:

Basic Parameters:

Baud Rate	115200
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	PA6	ADC_IN6	Analog mode	No pull-up and no pull-down	n/a	
	PA7	ADC_IN7	Analog mode	No pull-up and no pull-down	n/a	
	PB0	ADC_IN8	Analog mode	No pull-up and no pull-down	n/a	
	PB1	ADC_IN9	Analog mode	No pull-up and no pull-down	n/a	
DAC	PA4	DAC_OUT1	Analog mode	No pull-up and no pull-down	n/a	
I2C1	PB6	I2C1_SCL	Alternate Function Open Drain	Pull-up	**Very High** *	
	PB7	I2C1_SDA	Alternate Function Open Drain	Pull-up	**Very High** *	
TIM2	PA5	TIM2_CH1	Alternate Function Push Pull	No pull-up and no pull-down	Low	Red_Led
USART1	PA9	USART1_TX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High** *	
	PA10	USART1_RX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High** *	
USART2	PA2	USART2_TX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High** *	
	PA3	USART2_RX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High** *	
GPIO	PB4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	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
USART1 global interrupt / USART1 wake-up interrupt through EXTI line 25	true	0	0
USART2 global interrupt / USART2 wake-up interrupt through EXTI line 26	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash and EEPROM global interrupt	unused		
RCC and CRS global interrupt	unused		
ADC1, COMP1 and COMP2 interrupts (COMP interrupts through EXTI lines 21 and 22)	unused		
TIM2 global interrupt	unused		
TIM6 global interrupt and DAC1/DAC2 underrun error interrupts	unused		
I2C1 event global interrupt / I2C1 wake-up interrupt through EXTI line 23	unused		

* User modified value

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32L0
Line	STM32L0x3
MCU	STM32L053C8Tx
Datasheet	025844_Rev7

7.2. Parameter Selection

Temperature	25
Vdd	3.0

8. Software Pack Report

9. Software Project

9.1. Project Settings

Name	Value
Project Name	stm32test
Project Folder	/home/jon/KODMOD/stm32test
Toolchain / IDE	Makefile
Firmware Package Name and Version	STM32Cube FW_L0 V1.10.0

9.2. 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)	No