1. Description

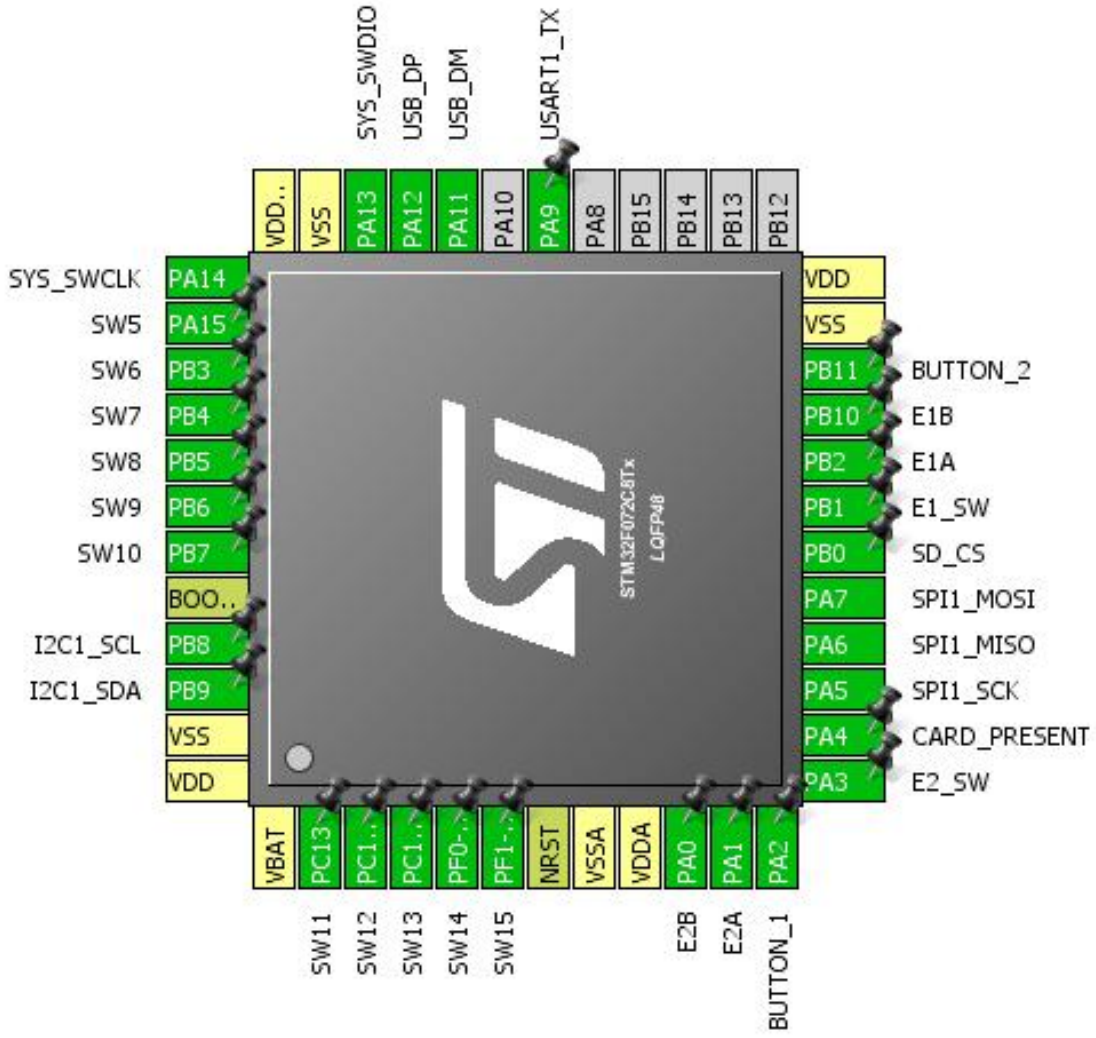
1.1. Project

Project Name	lul
Board Name	No information
Generated with:	STM32CubeMX 4.22.0
Date	08/10/2017

1.2. MCU

MCU Series	STM32F0
MCU Line	STM32F0x2
MCU name	STM32F072C8Tx
MCU Package	LQFP48
MCU Pin number	48

2. Pinout Configuration



(Rotated -90°)

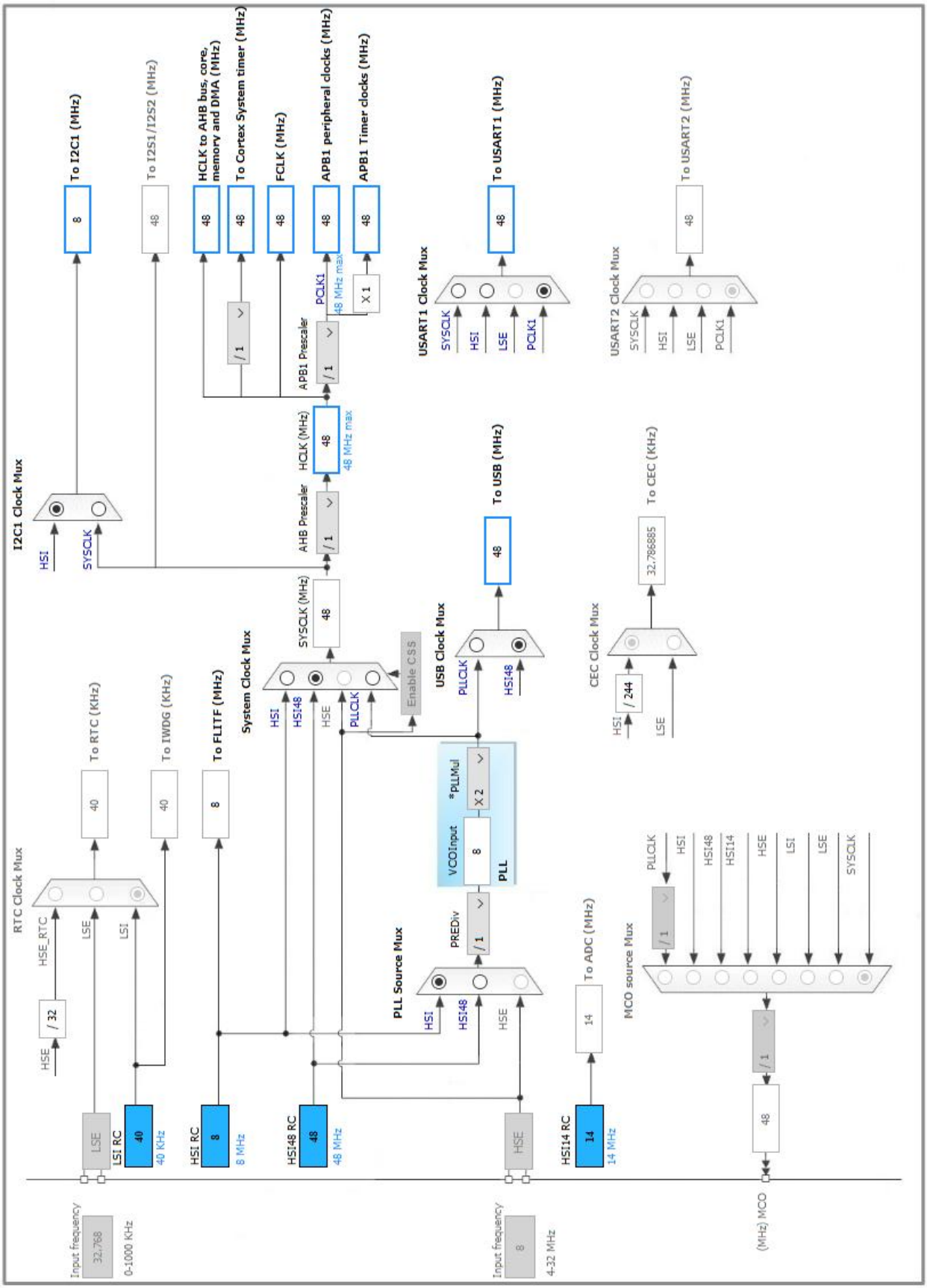
3. Pins Configuration

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
2	PC13 *	I/O	GPIO_Input	SW11
3	PC14-OSC32_IN *	I/O	GPIO_Input	SW12
4	PC15-OSC32_OUT *	I/O	GPIO_Input	SW13
5	PF0-OSC_IN *	I/O	GPIO_Input	SW14
6	PF1-OSC_OUT *	I/O	GPIO_Input	SW15
7	NRST	Reset		
8	VSSA	Power		
9	VDDA	Power		
10	PA0 *	I/O	GPIO_Input	E2B
11	PA1 *	I/O	GPIO_Input	E2A
12	PA2 *	I/O	GPIO_Input	BUTTON_1
13	PA3 *	I/O	GPIO_Input	E2_SW
14	PA4 *	I/O	GPIO_Input	CARD_PRESENT
15	PA5	I/O	SPI1_SCK	
16	PA6	I/O	SPI1_MISO	
17	PA7	I/O	SPI1_MOSI	
18	PB0 *	I/O	GPIO_Output	SD_CS
19	PB1 *	I/O	GPIO_Input	E1_SW
20	PB2 *	I/O	GPIO_Input	E1A
21	PB10 *	I/O	GPIO_Input	E1B
22	PB11 *	I/O	GPIO_Input	BUTTON_2
23	VSS	Power		
24	VDD	Power		
30	PA9	I/O	USART1_TX	
32	PA11	I/O	USB_DM	
33	PA12	I/O	USB_DP	
34	PA13	I/O	SYS_SWDIO	
35	VSS	Power		
36	VDDIO2	Power		
37	PA14	I/O	SYS_SWCLK	
38	PA15 *	I/O	GPIO_Input	SW5
39	PB3 *	I/O	GPIO_Input	SW6
40	PB4 *	I/O	GPIO_Input	SW7
41	PB5 *	I/O	GPIO_Input	SW8
42	PB6 *	I/O	GPIO_Input	SW9

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
43	PB7 *	I/O	GPIO_Input	SW10
44	BOOT0	Boot		
45	PB8	I/O	I2C1_SCL	
46	PB9	I/O	I2C1_SDA	
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. I2C1

I2C: I2C

5.1.1. 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	0x2000090E

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

5.2. SPI1

Mode: Full-Duplex Master

5.2.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	**8 Bits ***
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	**8 ***
Baud Rate	**6.0 MBits/s ***
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

Advanced Parameters:

CRC Calculation	Disabled
NSSP Mode	Enabled
NSS Signal Type	Software

5.3. SYS

mode: Debug Serial Wire

Timebase Source: SysTick

5.4. USART1

Mode: Single Wire (Half-Duplex)

5.4.1. Parameter Settings:

Basic Parameters:

Baud Rate	38400
Word Length	7 Bits (including Parity)
Parity	None
Stop Bits	1

Advanced Parameters:

Data Direction	**Transmit Only ***
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

5.5. USB

mode: Device (FS)

5.5.1. Parameter Settings:

Basic Parameters:

Speed	Full Speed 12MBit/s
Endpoint 0 Max Packet size	64 Bytes
Physical interface	Internal Phy

Power Parameters:

Low Power	Disabled
Link Power Management	Disabled

*** User modified value**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
I2C1	PB8	I2C1_SCL	Alternate Function Open Drain	Pull-up	**High ***	
	PB9	I2C1_SDA	Alternate Function Open Drain	Pull-up	**High ***	
SPI1	PA5	SPI1_SCK	Alternate Function Push Pull	No pull-up and no pull-down	**High ***	
	PA6	SPI1_MISO	Alternate Function Push Pull	No pull-up and no pull-down	**High ***	
	PA7	SPI1_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	**High ***	
SYS	PA13	SYS_SWDIO	n/a	n/a	n/a	
	PA14	SYS_SWCLK	n/a	n/a	n/a	
USART1	PA9	USART1_TX	Alternate Function Open Drain	Pull-up	**High ***	
USB	PA11	USB_DM	n/a	n/a	n/a	
	PA12	USB_DP	n/a	n/a	n/a	
GPIO	PC13	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	SW11
	PC14-OSC32_IN	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	SW12
	PC15-OSC32_OUT	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	SW13
	PF0-OSC_IN	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	SW14
	PF1-OSC_OUT	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	SW15
	PA0	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	E2B
	PA1	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	E2A
	PA2	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	BUTTON_1
	PA3	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	E2_SW
	PA4	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	CARD_PRESENT
	PB0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	SD_CS
	PB1	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	E1_SW
	PB2	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	E1A
	PB10	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	E1B
	PB11	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	BUTTON_2
	PA15	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	SW5
	PB3	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	SW6
	PB4	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	SW7

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PB5	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	SW8
	PB6	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	SW9
	PB7	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	SW10

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 and VDDIO2 supply comparator interrupts through EXTI lines 16 and 31	unused		
Flash global interrupt	unused		
RCC and CRS global interrupts	unused		
I2C1 event global interrupt / I2C1 wake-up interrupt through EXTI line 23	unused		
SPI1 global interrupt	unused		
USART1 global interrupt / USART1 wake-up interrupt through EXTI line 25	unused		
USB global interrupt / USB wake-up interrupt through EXTI line 18	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F0
Line	STM32F0x2
MCU	STM32F072C8Tx
Datasheet	025004_Rev4

7.2. Parameter Selection

Temperature	25
Vdd	3.6