

1. Description

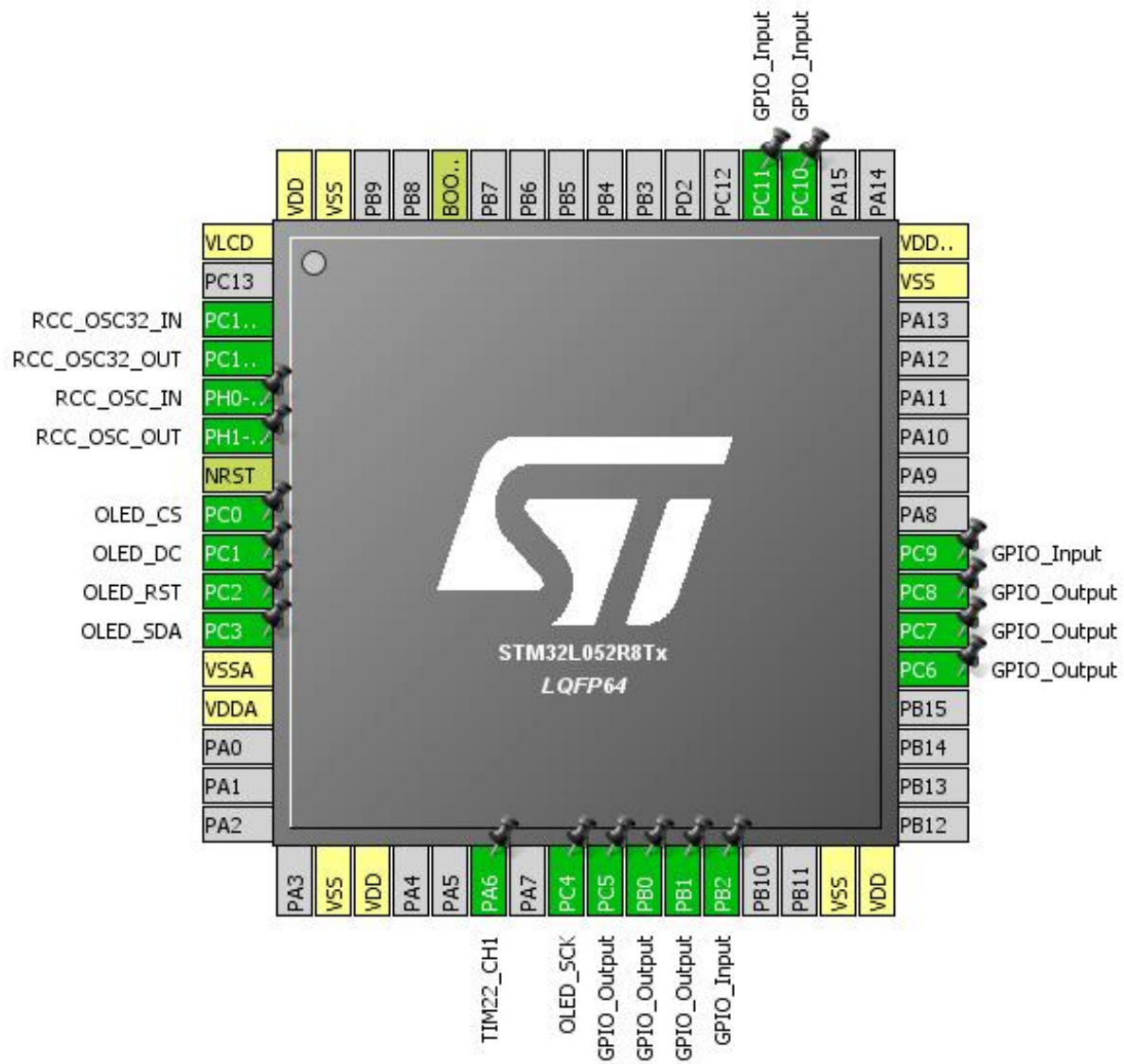
1.1. Project

Project Name	NTSC48t_SFW_Final
Board Name	custom
Generated with:	STM32CubeMX 4.26.0
Date	07/05/2018

1.2. MCU

MCU Series	STM32L0
MCU Line	STM32L0x2
MCU name	STM32L052R8Tx
MCU Package	LQFP64
MCU Pin number	64

2. Pinout Configuration

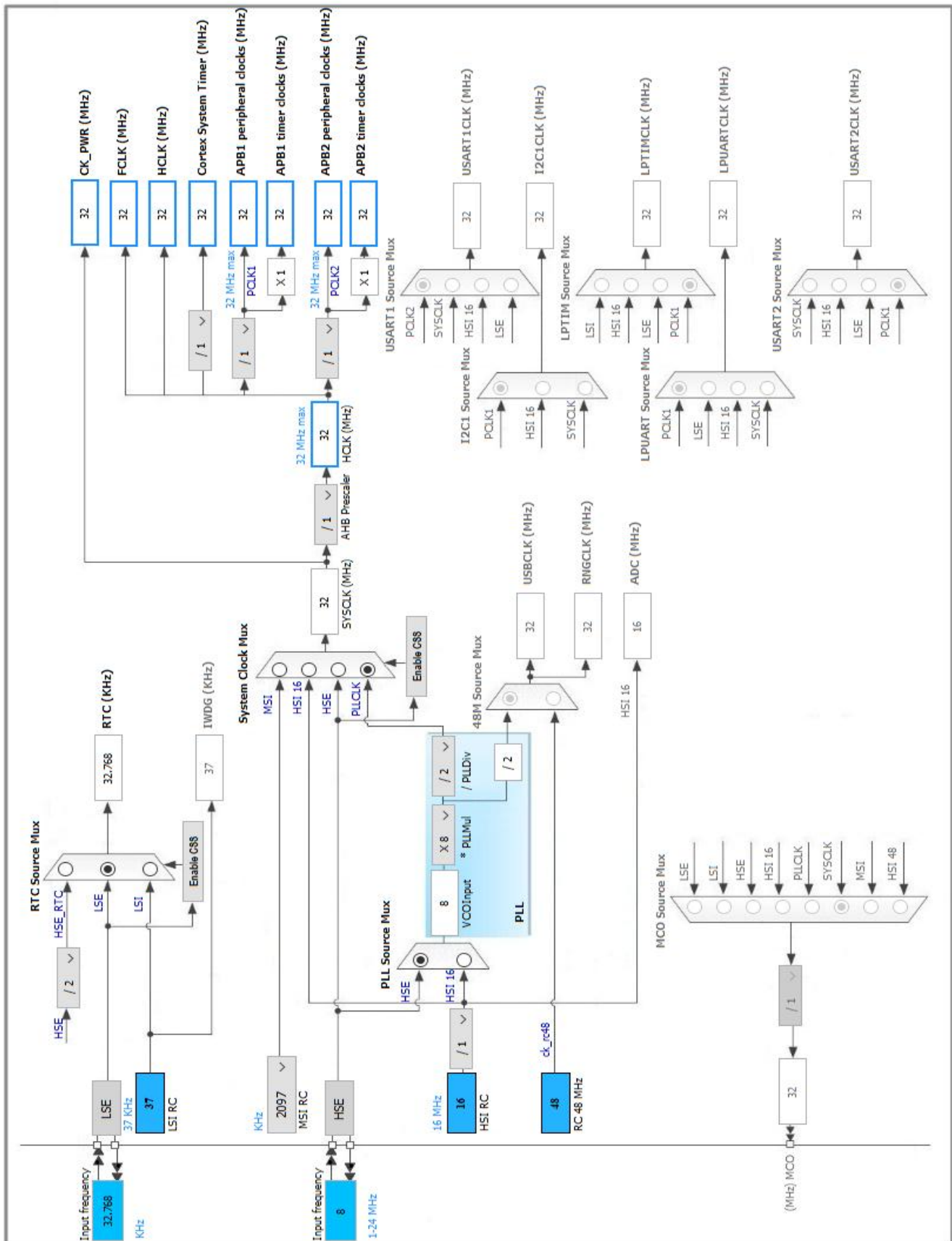


3. Pins Configuration

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VLCD	Power		
3	PC14-OSC32_IN	I/O	RCC_OSC32_IN	
4	PC15-OSC32_OUT	I/O	RCC_OSC32_OUT	
5	PH0-OSC_IN	I/O	RCC_OSC_IN	
6	PH1-OSC_OUT	I/O	RCC_OSC_OUT	
7	NRST	Reset		
8	PC0 *	I/O	GPIO_Output	OLED_CS
9	PC1 *	I/O	GPIO_Output	OLED_DC
10	PC2 *	I/O	GPIO_Output	OLED_RST
11	PC3 *	I/O	GPIO_Output	OLED_SDA
12	VSSA	Power		
13	VDDA	Power		
18	VSS	Power		
19	VDD	Power		
22	PA6	I/O	TIM22_CH1	
24	PC4 *	I/O	GPIO_Output	OLED_SCK
25	PC5 *	I/O	GPIO_Output	
26	PB0 *	I/O	GPIO_Output	
27	PB1 *	I/O	GPIO_Output	
28	PB2 *	I/O	GPIO_Input	
31	VSS	Power		
32	VDD	Power		
37	PC6 *	I/O	GPIO_Output	
38	PC7 *	I/O	GPIO_Output	
39	PC8 *	I/O	GPIO_Output	
40	PC9 *	I/O	GPIO_Input	
47	VSS	Power		
48	VDD_USB	Power		
51	PC10 *	I/O	GPIO_Input	
52	PC11 *	I/O	GPIO_Input	
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. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

Low Speed Clock (LSE) : Crystal/Ceramic Resonator

5.1.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Buffer Cache	Enabled
Prefetch	Disabled
Preread	Enabled
Flash Latency(WS)	1 WS (2 CPU cycle)

RCC Parameters:

HSI Calibration Value	16
MSI Calibration Value	0
HSE Startup Timeout Value (ms)	100
LSE Startup Timeout Value (ms)	5000
LSE Drive Capability	LSE oscillator high drive capability *

Power Parameters:

Power Regulator Voltage Scale	Power Regulator Voltage Scale 1
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5.2. RTC

mode: Activate Clock Source

mode: Activate Calendar

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	0
Minutes	0
Seconds	0
Day Light Saving: value of hour adjustment	Daylightsaving None
Store Operation	Storeoperation Reset

Calendar Date:

Week Day	Monday
Month	January
Date	1
Year	0

5.3. SYS

Timebase Source: SysTick

5.4. TIM22

Clock Source : Internal Clock

Channel1: PWM Generation CH1

5.4.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	3199 *
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	99 *
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 2 *
Pulse (16 bits value)	0
Fast Mode	Disable
CH Polarity	High

*** User modified value**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
RCC	PC14-OSC32_IN	RCC_OSC32_IN	n/a	n/a	n/a	
	PC15-OSC32_OUT	RCC_OSC32_OUT	n/a	n/a	n/a	
	PH0-OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PH1-OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
TIM22	PA6	TIM22_CH1	Alternate Function Push Pull	No pull-up and no pull-down	Low	
GPIO	PC0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OLED_CS
	PC1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OLED_DC
	PC2	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OLED_RST
	PC3	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OLED_SDA
	PC4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OLED_SCK
	PC5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB2	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PC6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PC7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PC8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PC9	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PC10	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PC11	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	

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 line 16	unused		
Flash and EEPROM global interrupt	unused		
RCC and CRS global interrupt	unused		
TIM22 global interrupt	unused		

* User modified value

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32L0
Line	STM32L0x2
MCU	STM32L052R8Tx
Datasheet	025936_Rev7

7.2. Parameter Selection

Temperature	25
Vdd	null

8. Software Project

8.1. Project Settings

Name	Value
Project Name	NTSC48t_SFW_Final
Project Folder	D:\\NTSC_48\\CompetitionFiles\\Shared Files\\Embedded Syetem
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_L0 V1.10.0

8.2. Code Generation Settings

Name	Value
STM32Cube Firmware Library Package	Copy all used libraries into the project folder
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)	No

9. Software Pack Report