1. Description

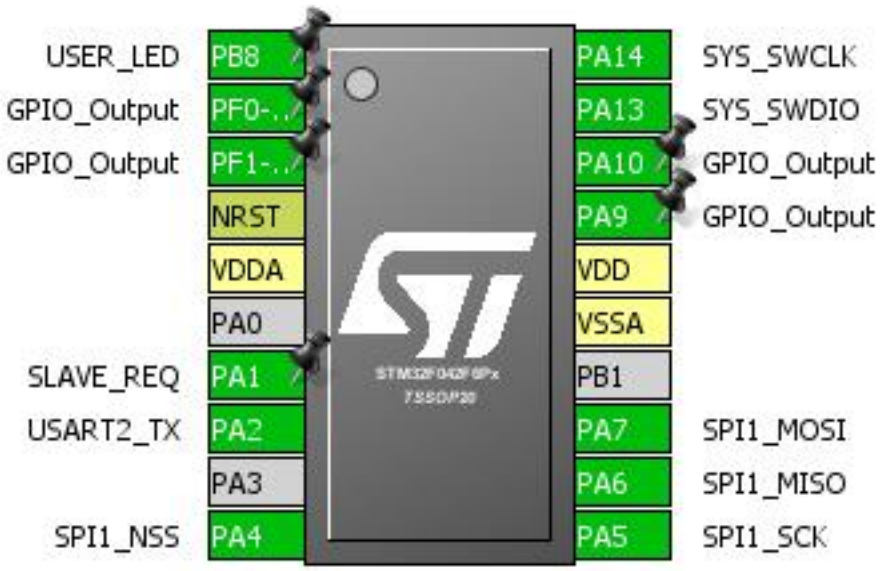
1.1. Project

Project Name	my_adb
Board Name	custom
Generated with:	STM32CubeMX 4.27.0
Date	03/26/2022

1.2. MCU

MCU Series	STM32F0
MCU Line	STM32F0x2
MCU name	STM32F042F6Px
MCU Package	TSSOP20
MCU Pin number	20

2. Pinout Configuration

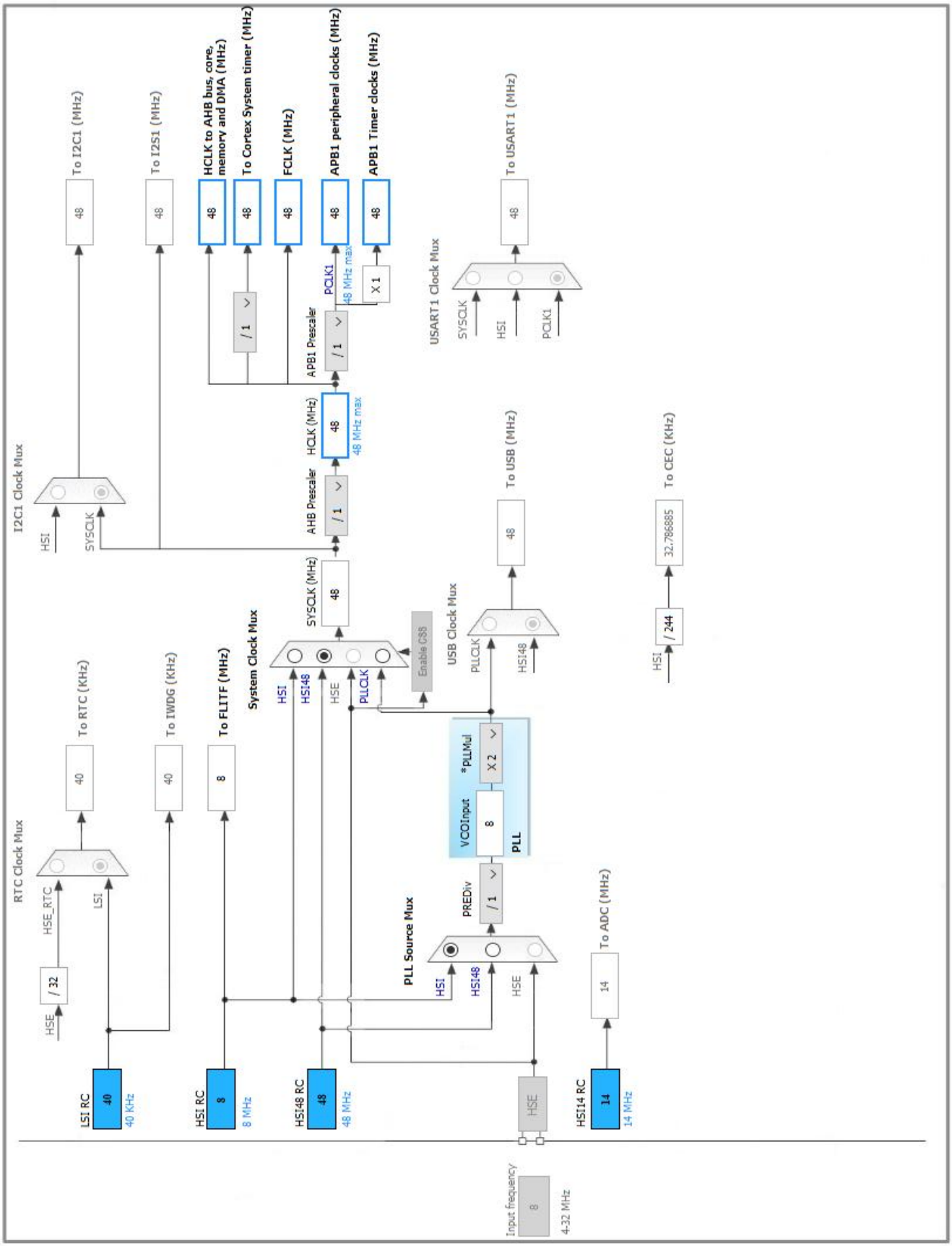


3. Pins Configuration

Pin Number TSSOP20	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	PB8 *	I/O	GPIO_Output	USER_LED
2	PF0-OSC_IN *	I/O	GPIO_Output	
3	PF1-OSC_OUT *	I/O	GPIO_Output	
4	NRST	Reset		
5	VDDA	Power		
7	PA1 *	I/O	GPIO_Output	SLAVE_REQ
8	PA2	I/O	USART2_TX	
10	PA4	I/O	SPI1_NSS	
11	PA5	I/O	SPI1_SCK	
12	PA6	I/O	SPI1_MISO	
13	PA7	I/O	SPI1_MOSI	
15	VSSA	Power		
16	VDD	Power		
17	PA9 *	I/O	GPIO_Output	
18	PA10 *	I/O	GPIO_Output	
19	PA13	I/O	SYS_SWDIO	
20	PA14	I/O	SYS_SWCLK	

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. SPI1

Mode: Full-Duplex Slave

Hardware NSS Signal: Hardware NSS Input Signal

5.1.1. Parameter Settings:

Basic Parameters:

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

Clock Parameters:

Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

Advanced Parameters:

CRC Calculation	Disabled
NSS Signal Type	Input Hardware

5.2. SYS

mode: Debug Serial Wire

Timebase Source: SysTick

5.3. TIM2

Clock Source : Internal Clock

5.3.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**47 ***
Counter Mode	Up
Counter Period (AutoReload Register - 32 bits value)	**4294967295 ***
Internal Clock Division (CKD)	No Division
auto-reload preload	Disable

Trigger Output (TRGO) Parameters:

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

5.4. TIM16

mode: Activated

5.4.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**47 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**65535 ***
Internal Clock Division (CKD)	No Division
Repetition Counter (RCR - 8 bits value)	0
auto-reload preload	Disable

5.5. TIM17

mode: Activated

5.5.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**47 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**10000 ***
Internal Clock Division (CKD)	No Division
Repetition Counter (RCR - 8 bits value)	0
auto-reload preload	Disable

5.6. USART2

Mode: Single Wire (Half-Duplex)

5.6.1. Parameter Settings:

Basic Parameters:

Baud Rate	**115200 ***
Word Length	8 Bits (including Parity)
Parity	None
Stop Bits	1

Advanced Parameters:

Data Direction	**Transmit Only ***
Over Sampling	16 Samples
Single Sample	Disable

Advanced Features:

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
SPI1	PA4	SPI1_NSS	Alternate Function Push Pull	No pull-up and no pull-down	**High ***	
	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	
USART2	PA2	USART2_TX	Alternate Function Open Drain	Pull-up	**High ***	
GPIO	PB8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	USER_LED
	PF0-OSC_IN	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PF1-OSC_OUT	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PA1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	SLAVE_REQ
	PA9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PA10	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	

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
TIM16 global interrupt	true	0	0
TIM17 global interrupt	true	3	0
SPI1 global interrupt	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		
TIM2 global interrupt	unused		
USART2 global interrupt	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F0
Line	STM32F0x2
MCU	STM32F042F6Px
Datasheet	025832_Rev5

7.2. Parameter Selection

Temperature	25
Vdd	3.6

8. Software Project

8.1. Project Settings

Name	Value
Project Name	my_adb
Project Folder	C:\Users\allen\Desktop\repos\usb2ps2\firmware\quad_test
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F0 V1.9.0

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	No
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