
STM32
CubeMX

1. Description

1.1. Project

Project Name	C0_UART_Tx
Board Name	custom
Generated with:	STM32CubeMX 6.9.1
Date	09/07/2023

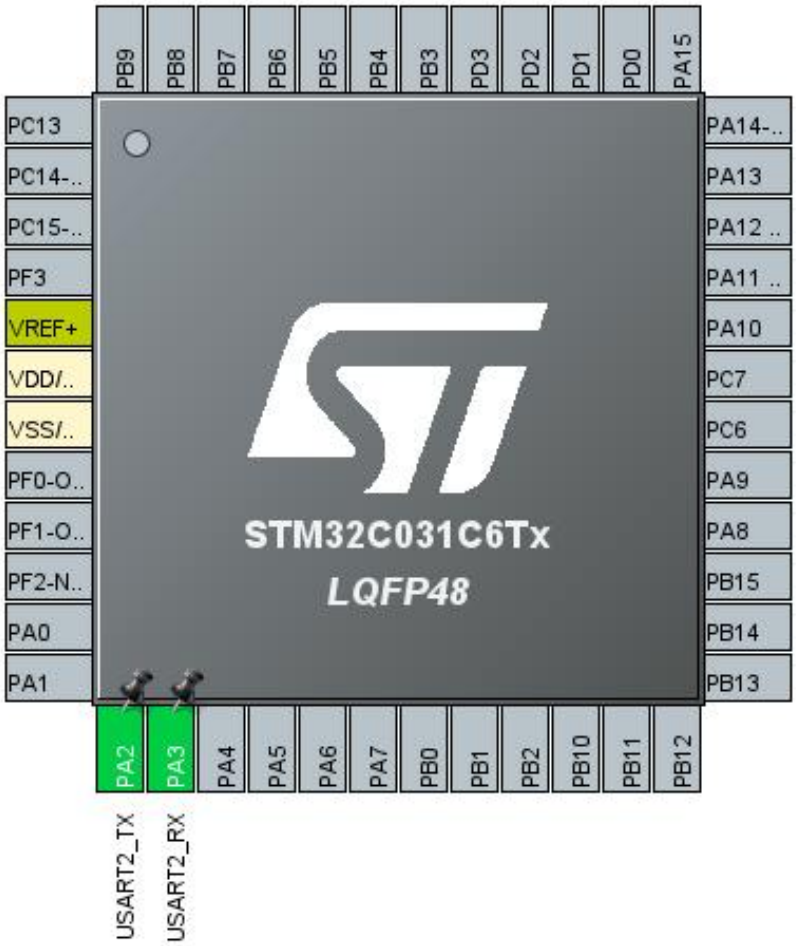
1.2. MCU

MCU Series	STM32C0
MCU Line	STM32C0x1
MCU name	STM32C031C6Tx
MCU Package	LQFP48
MCU Pin number	48

1.3. Core(s) information

Core(s)	ARM Cortex-M0+

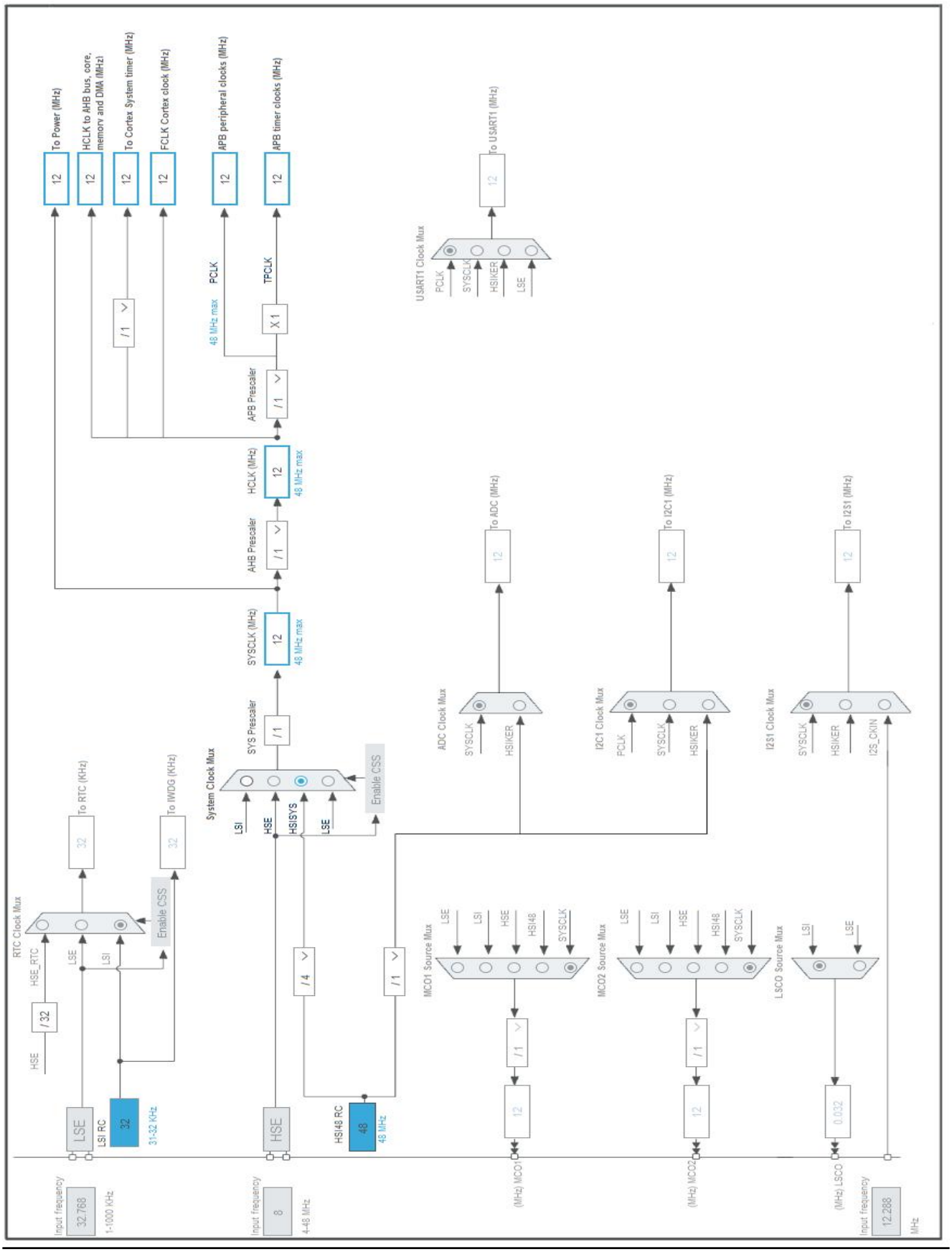
2. Pinout Configuration



3. Pins Configuration

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
5	VREF+	MonoIO		
6	VDD/VDDA	Power		
7	VSS/VSSA	Power		
13	PA2	I/O	USART2_TX	
14	PA3	I/O	USART2_RX	

4. Clock Tree Configuration



5. Software Project

5.1. Project Settings

Name	Value
Project Name	C0_UART_Tx
Project Folder	C:\Users\Rajkanna\STM32CubeIDE\Aug_Live\C0_UART_Tx
Toolchain / IDE	STM32CubeIDE
Firmware Package Name and Version	STM32Cube FW_C0 V1.1.0
Application Structure	Advanced
Generate Under Root	Yes
Do not generate the main()	No
Minimum Heap Size	0x200
Minimum Stack Size	0x400

5.2. Code Generation Settings

Name	Value
STM32Cube MCU packages and embedded software	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
Keep User Code 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
Enable Full Assert	No

5.3. Advanced Settings - Generated Function Calls

Rank	Function Name	Peripheral Instance Name
1	SystemClock_Config	RCC
2	MX_GPIO_Init	GPIO
3	MX_USART2_UART_Init	USART2

1. Power Consumption Calculator report

1.1. Microcontroller Selection

Series	STM32C0
Line	STM32C0x1
MCU	STM32C031C6Tx
Datasheet	DS00000_Rev0

1.2. Parameter Selection

Temperature	25
Vdd	3.0

1.3. Battery Selection

Battery	Li-SOCL2(AAA700)
Capacity	700.0 mAh
Self Discharge	0.08 %/month
Nominal Voltage	3.6 V
Max Cont Current	10.0 mA
Max Pulse Current	30.0 mA
Cells in series	1
Cells in parallel	1

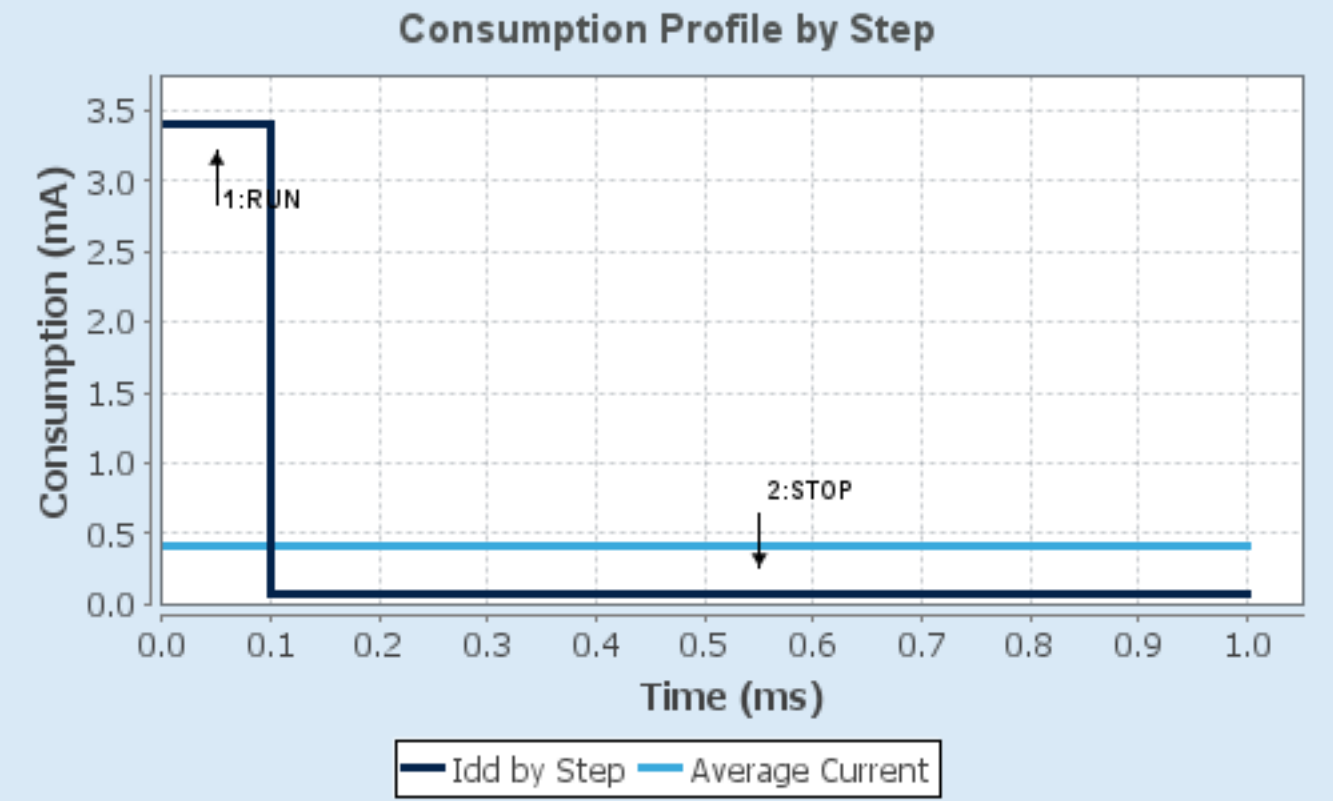
1.4. Sequence

Step	Step1	Step2
Mode	RUN	STOP
Vdd	3.0	3.0
Voltage Source	Battery	Battery
Range	NaN/SMPS	NaN/SMPS
Fetch Type	FLASH/PREFETCH	Flash-PowerDownSleep
CPU Frequency	48 MHz	0 Hz
Clock Configuration	HSE	ALL_CLOCKS_OFF
Clock Source Frequency	48 MHz	0 Hz
Peripherals		
Additional Cons.	0 mA	0 mA
Average Current	3.4 mA	73.5 µA
Duration	0.1 ms	0.9 ms
DMIPS	60.0	0.0
Ta Max	104.53	104.99
Category	In DS Table	In DS Table

1.5. Results

Sequence Time	1 ms	Average Current	406.15 µA
Battery Life	2 months, 10 days, 20 hours	Average DMIPS	60.0 DMIPS

1.6. Chart


Consumption Profile by Step
Consumption (mA)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1:RUN
2:STOP
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Time (ms)
Idd by Step
Average Current

2. Peripherals and Middlewares Configuration

2.1. RCC

2.1.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Instruction Cache	Enabled
Prefetch Buffer	Disabled
Data Cache	Enabled
Flash Latency(WS)	0 WS (1 CPU cycle)

RCC Parameters:

HSI Calibration Value	64
HSE Startup Timout Value (ms)	100
LSE Startup Timout Value (ms)	5000

2.2. USART2

Mode: Asynchronous

2.2.1. 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
ClockPrescaler	1

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**

3. System Configuration

3.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
USART2	PA2	USART2_TX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA3	USART2_RX	Alternate Function Push Pull	No pull-up and no pull-down	Low	

3.2. DMA configuration

nothing configured in DMA service

3.3. NVIC configuration

3.3.1. NVIC

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	3	0
Flash global interrupt	unused		
RCC global interrupt	unused		
USART2 interrupt	unused		

3.3.2. NVIC Code generation

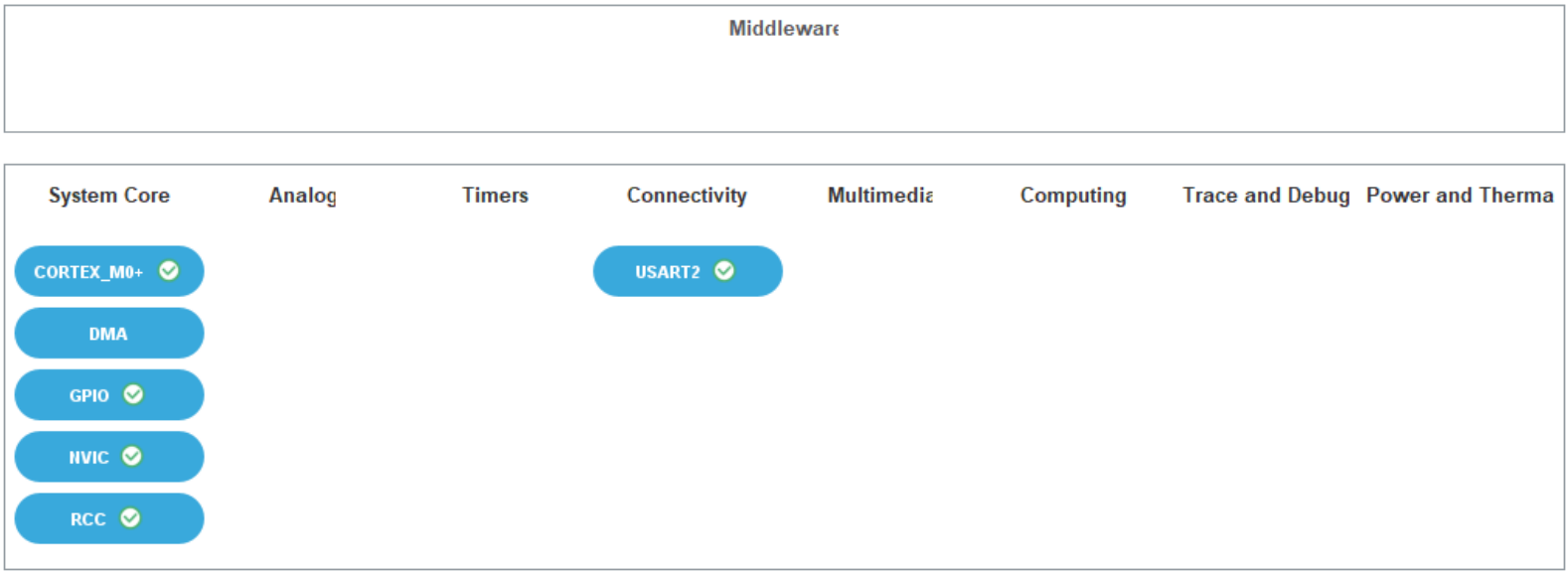
Enabled interrupt Table	Select for init sequence ordering	Generate IRQ handler	Call HAL handler
Non maskable interrupt	false	true	false
Hard fault interrupt	false	true	false
System service call via SWI instruction	false	true	false
Pendable request for system service	false	true	false
System tick timer	false	true	true

*** User modified value**

4. System Views

4.1. Category view

4.1.1. Current



5. Docs & Resources

Type	Link