
STM32
CubeMX

1. Description

1.1. Project

Project Name	CAN_Analyser
Board Name	custom
Generated with:	STM32CubeMX 6.11.1
Date	06/14/2024

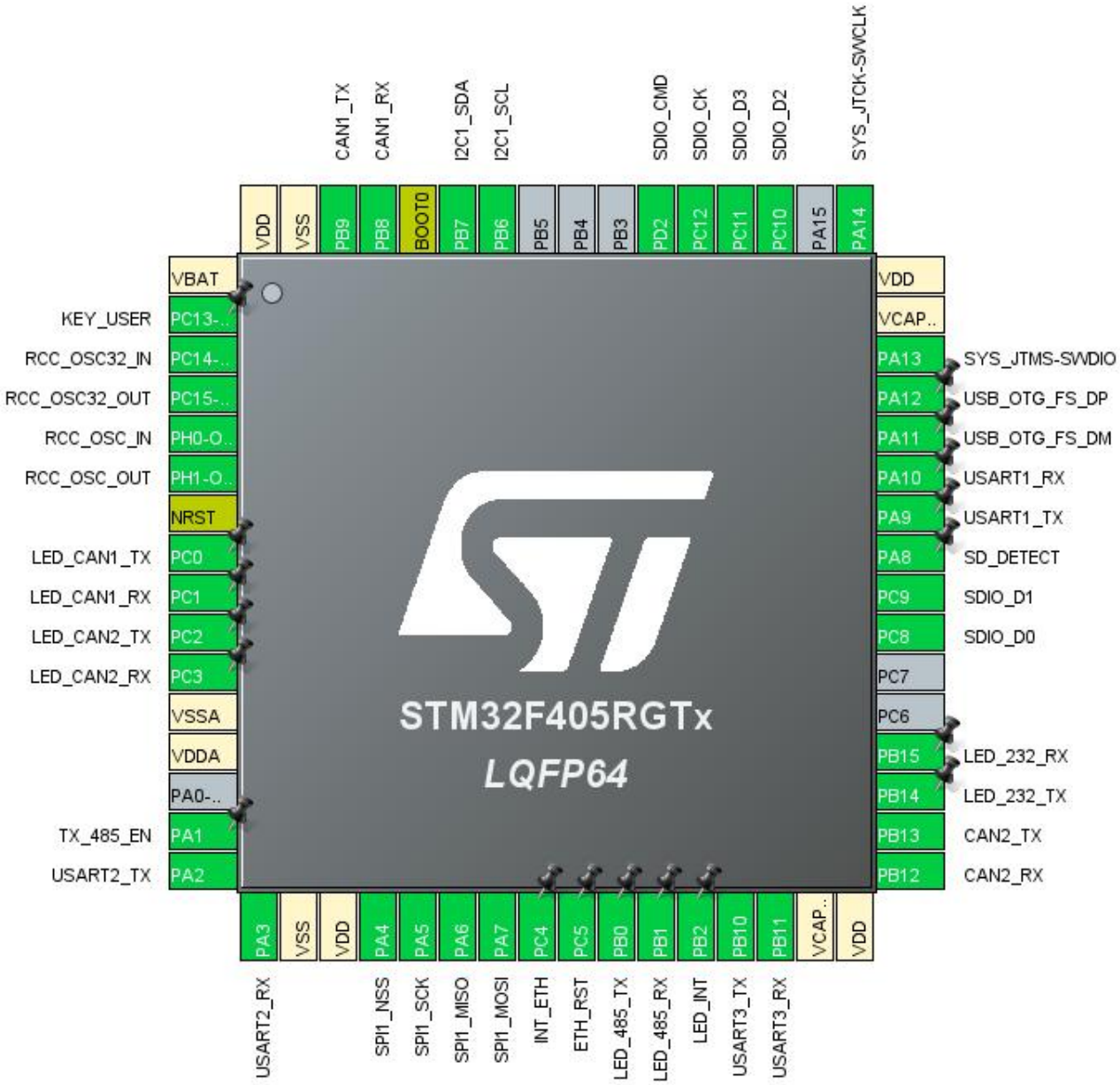
1.2. MCU

MCU Series	STM32F4
MCU Line	STM32F405/415
MCU name	STM32F405RGTx
MCU Package	LQFP64
MCU Pin number	64

1.3. Core(s) information

Core(s)	Arm Cortex-M4

2. Pinout Configuration



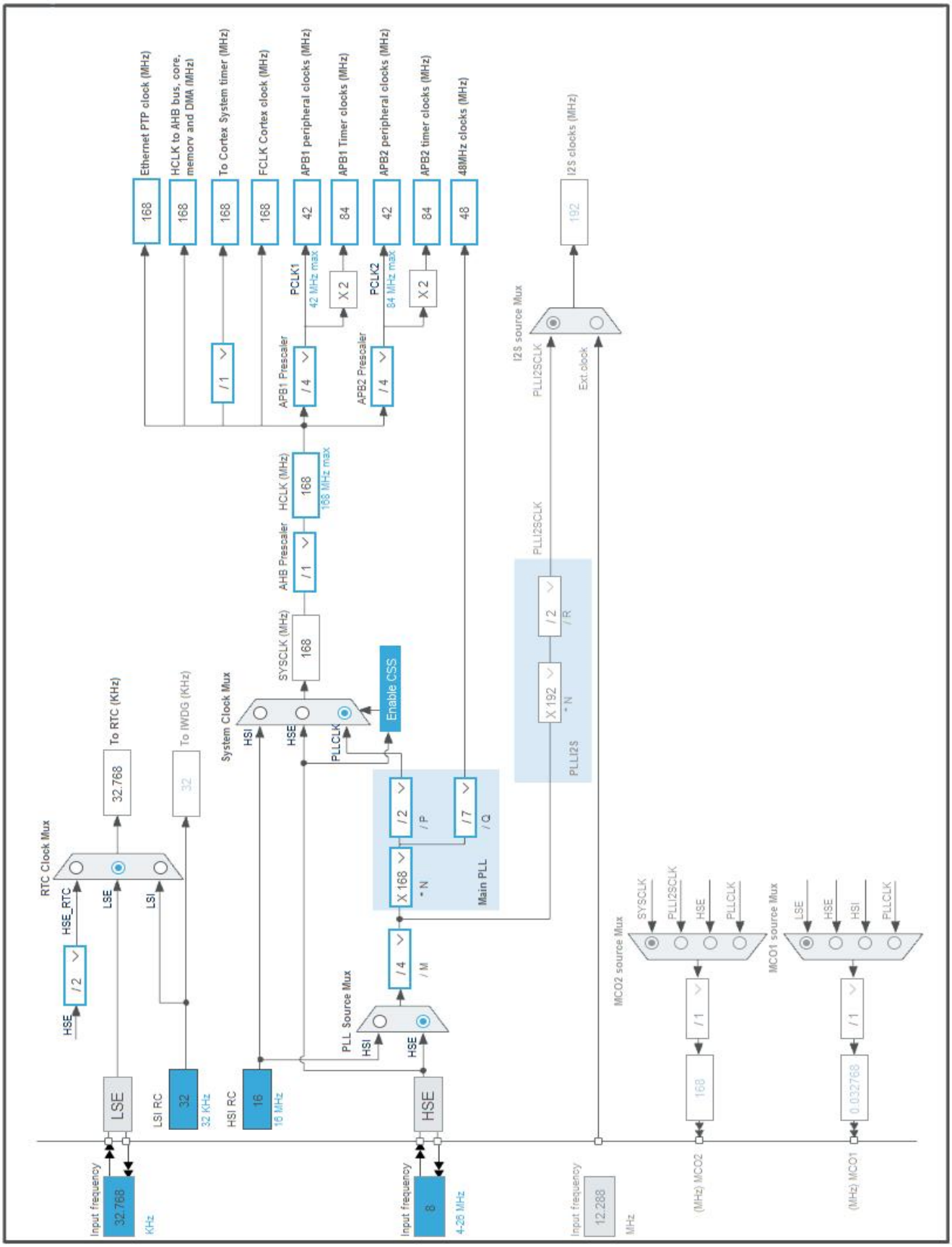
3. Pins Configuration

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
2	PC13-ANTI_TAMP *	I/O	GPIO_Input	KEY_USER
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	LED_CAN1_TX
9	PC1 *	I/O	GPIO_Output	LED_CAN1_RX
10	PC2 *	I/O	GPIO_Output	LED_CAN2_TX
11	PC3 *	I/O	GPIO_Output	LED_CAN2_RX
12	VSSA	Power		
13	VDDA	Power		
15	PA1 *	I/O	GPIO_Output	TX_485_EN
16	PA2	I/O	USART2_TX	
17	PA3	I/O	USART2_RX	
18	VSS	Power		
19	VDD	Power		
20	PA4	I/O	SPI1_NSS	
21	PA5	I/O	SPI1_SCK	
22	PA6	I/O	SPI1_MISO	
23	PA7	I/O	SPI1_MOSI	
24	PC4 *	I/O	GPIO_Input	INT_ETH
25	PC5 *	I/O	GPIO_Output	ETH_RST
26	PB0 *	I/O	GPIO_Output	LED_485_TX
27	PB1 *	I/O	GPIO_Output	LED_485_RX
28	PB2 *	I/O	GPIO_Output	LED_INT
29	PB10	I/O	USART3_TX	
30	PB11	I/O	USART3_RX	
31	VCAP_1	Power		
32	VDD	Power		
33	PB12	I/O	CAN2_RX	
34	PB13	I/O	CAN2_TX	
35	PB14 *	I/O	GPIO_Output	LED_232_TX
36	PB15 *	I/O	GPIO_Output	LED_232_RX
39	PC8	I/O	SDIO_D0	

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
40	PC9	I/O	SDIO_D1	
41	PA8 *	I/O	GPIO_Input	SD_DETECT
42	PA9	I/O	USART1_TX	
43	PA10	I/O	USART1_RX	
44	PA11	I/O	USB_OTG_FS_DM	
45	PA12	I/O	USB_OTG_FS_DP	
46	PA13	I/O	SYS_JTMS-SWDIO	
47	VCAP_2	Power		
48	VDD	Power		
49	PA14	I/O	SYS_JTCK-SWCLK	
51	PC10	I/O	SDIO_D2	
52	PC11	I/O	SDIO_D3	
53	PC12	I/O	SDIO_CK	
54	PD2	I/O	SDIO_CMD	
58	PB6	I/O	I2C1_SCL	
59	PB7	I/O	I2C1_SDA	
60	BOOT0	Boot		
61	PB8	I/O	CAN1_RX	
62	PB9	I/O	CAN1_TX	
63	VSS	Power		
64	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. Software Project

5.1. Project Settings

Name	Value
Project Name	CAN_Analyser
Project Folder	C:\Users\rinaldo.santos\STM32CubeIDE\CAN_Analyser
Toolchain / IDE	STM32CubeIDE
Firmware Package Name and Version	STM32Cube FW_F4 V1.28.0
Application Structure	Advanced
Generate Under Root	Yes
Do not generate the main()	No
Minimum Heap Size	0x400
Minimum Stack Size	0x800

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	Yes
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_DMA_Init	DMA
4	MX_CAN1_Init	CAN1
5	MX_CAN2_Init	CAN2
6	MX_RTC_Init	RTC
7	MX_SDIO_SD_Init	SDIO
8	MX_SPI1_Init	SPI1
9	MX_USART1_UART_Init	USART1
10	MX_USART2_UART_Init	USART2
11	MX_FATFS_Init	FATFS

Rank	Function Name	Peripheral Instance Name
12	MX_USB_DEVICE_Init	USB_DEVICE
13	MX_I2C1_Init	I2C1
14	MX_USART3_UART_Init	USART3
15	MX_CRC_Init	CRC
16	MX_RNG_Init	RNG

1. Power Consumption Calculator report

1.1. Microcontroller Selection

Series	STM32F4
Line	STM32F405/415
MCU	STM32F405RGTx
Datasheet	DS8626_Rev8

1.2. Parameter Selection

Temperature	25
Vdd	3.3

1.3. Battery Selection

Battery	Li-SOCL2(A3400)
Capacity	3400.0 mAh
Self Discharge	0.08 %/month
Nominal Voltage	3.6 V
Max Cont Current	100.0 mA
Max Pulse Current	200.0 mA
Cells in series	1
Cells in parallel	1

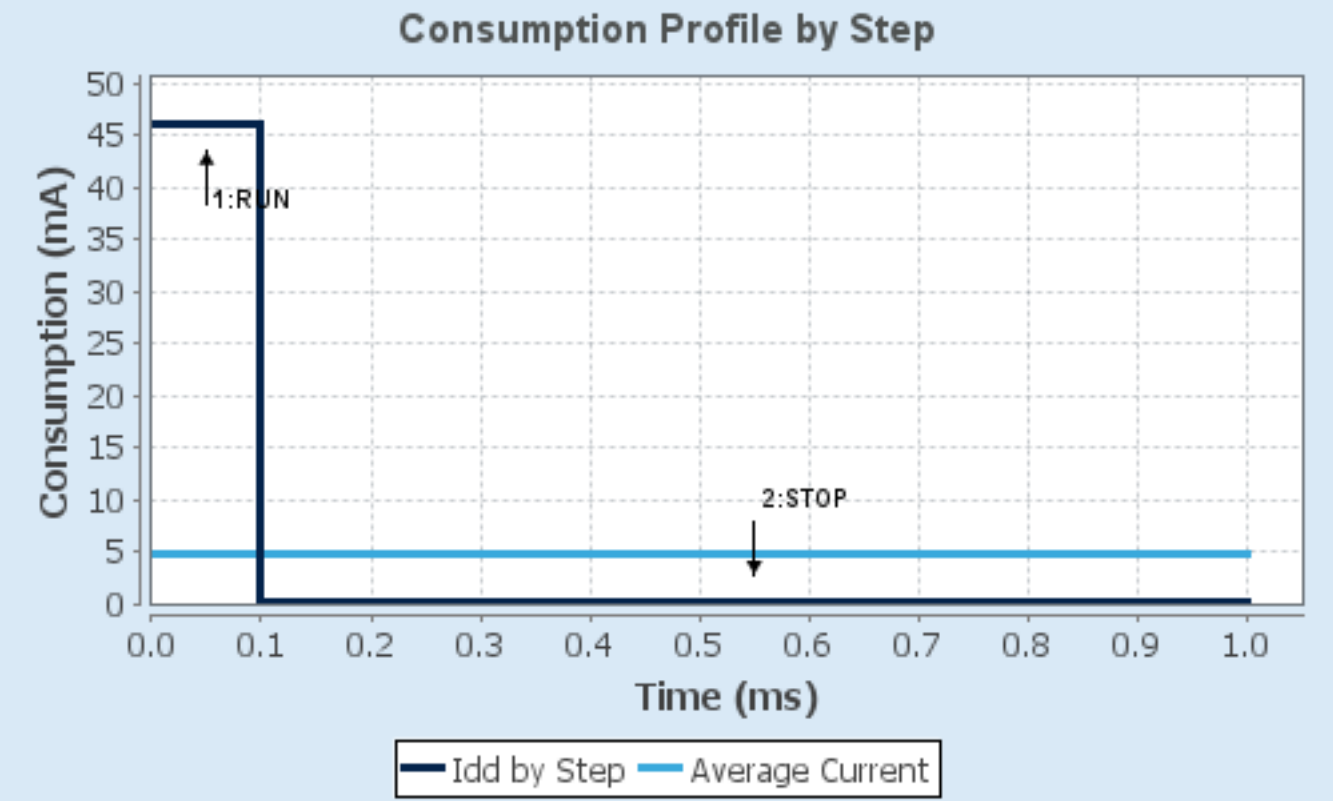
1.4. Sequence

Step	Step1	Step2
Mode	RUN	STOP
Vdd	3.3	3.3
Voltage Source	Battery	Battery
Range	Scale1-High	No Scale
Fetch Type	FLASH	n/a
CPU Frequency	168 MHz	0 Hz
Clock Configuration	HSE PLL	Regulator_LP Flash-PwrDwn
Clock Source Frequency	4 MHz	0 Hz
Peripherals		
Additional Cons.	0 mA	0 mA
Average Current	46 mA	280 µA
Duration	0.1 ms	0.9 ms
DMIPS	210.0	0.0
Ta Max	98.02	104.96
Category	In DS Table	In DS Table

1.5. Results

Sequence Time	1 ms	Average Current	4.85 mA
Battery Life	29 days, 4 hours	Average DMIPS	210.0 DMIPS

1.6. Chart


Consumption Profile by Step
Consumption (mA)
50
45
40
35
30
25
20
15
10
5
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. CAN1

mode: Activated

2.1.1. Parameter Settings:

Bit Timings Parameters:

Prescaler (for Time Quantum)	**6 ***
Time Quantum	**142.85714285714286 ***
Time Quanta in Bit Segment 1	**11 Times ***
Time Quanta in Bit Segment 2	**2 Times ***
Time for one Bit	**2000 ***
Baud Rate	**500000 ***
ReSynchronization Jump Width	1 Time

Basic Parameters:

Time Triggered Communication Mode	Disable
Automatic Bus-Off Management	Disable
Automatic Wake-Up Mode	Disable
Automatic Retransmission	Disable
Receive Fifo Locked Mode	Disable
Transmit Fifo Priority	Disable

Advanced Parameters:

Operating Mode	Normal

2.2. CAN2

mode: Activated

2.2.1. Parameter Settings:

Bit Timings Parameters:

Prescaler (for Time Quantum)	**6 ***
Time Quantum	**142.85714285714286 ***
Time Quanta in Bit Segment 1	**11 Times ***
Time Quanta in Bit Segment 2	**2 Times ***
Time for one Bit	**2000 ***
Baud Rate	**500000 ***
ReSynchronization Jump Width	1 Time

Basic Parameters:

Time Triggered Communication Mode	Disable
Automatic Bus-Off Management	Disable
Automatic Wake-Up Mode	Disable
Automatic Retransmission	Disable
Receive Fifo Locked Mode	Disable
Transmit Fifo Priority	Disable

Advanced Parameters:

Operating Mode	Normal

2.3. CRC

mode: Activated

2.4. I2C1

I2C: I2C

2.4.1. Parameter Settings:

Master Features:

I2C Speed Mode	**Fast Mode ***
I2C Clock Speed (Hz)	400000
Fast Mode Duty Cycle	Duty cycle Tlow/Thigh = 2

Slave Features:

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

2.5. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

Low Speed Clock (LSE) : Crystal/Ceramic Resonator

2.5.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Instruction Cache	Enabled
Prefetch Buffer	Enabled
Data Cache	Enabled

Flash Latency(WS)	5 WS (6 CPU cycle)

RCC Parameters:

HSI Calibration Value	16
HSE Startup Timout Value (ms)	100
LSE Startup Timout Value (ms)	5000

Power Parameters:

Power Regulator Voltage Scale	Power Regulator Voltage Scale 1

2.6. RNG

mode: Activated

2.7. RTC

mode: Activate Clock Source

mode: Activate Calendar

2.7.1. Parameter Settings:

General:

Hour Format	Hourformat 24
Asynchronous Predivider value	127
Synchronous Predivider value	255

Calendar Time:

Data Format	**Binary data format ***
Hours	**11 ***
Minutes	**25 ***
Seconds	0
Day Light Saving: value of hour adjustment	Daylightsaving None
Store Operation	Storeoperation Reset

Calendar Date:

Week Day	**Thursday ***
Month	**May ***
Date	1
Year	**24 ***

2.8. SDIO

Mode: SD 4 bits Wide bus

2.8.1. Parameter Settings:

SDIO parameters:

Clock transition on which the bit capture is made	Rising transition
SDIO Clock divider bypass	Disable
SDIO Clock output enable when the bus is idle	Disable the power save for the clock
SDIO hardware flow control	The hardware control flow is disabled
SDIOCLK clock divide factor	0

2.9. SPI1

Mode: Full-Duplex Master

Hardware NSS Signal: Hardware NSS Output Signal

2.9.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	8 Bits
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	2
Baud Rate	**21.0 MBits/s ***
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

Advanced Parameters:

CRC Calculation	Disabled
NSS Signal Type	Output Hardware

2.10. SYS

Debug: Serial Wire

Timebase Source: TIM6

2.11. USART1

Mode: Asynchronous

2.11.1. 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

2.12. USART2

Mode: Asynchronous

2.12.1. 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

2.13. USART3

Mode: Asynchronous

2.13.1. 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

2.14. USB_OTG_FS

Mode: Device_Only

2.14.1. Parameter Settings:

Speed	Device Full Speed 12MBit/s
Low power	Disabled
Link Power Management	Disabled
VBUS sensing	Disabled
Signal start of frame	Disabled

2.15. FATFS

mode: SD Card

2.15.1. Set Defines:

Version:

FATFS version	R0.12c

Function Parameters:

FS_READONLY (Read-only mode)	Disabled
FS_MINIMIZE (Minimization level)	Disabled
USE_STRFUNC (String functions)	Enabled with LF -> CRLF conversion
USE_FIND (Find functions)	Disabled
USE_MKFS (Make filesystem function)	Enabled
USE_FASTSEEK (Fast seek function)	Enabled
USE_EXPAND (Use f_expand function)	**Enabled ***
USE_CHMOD (Change attributes function)	Disabled
USE_LABEL (Volume label functions)	Disabled
USE_FORWARD (Forward function)	Disabled

Locale and Namespace Parameters:

CODE_PAGE (Code page on target)	Latin 1
USE_LFN (Use Long Filename)	**Enabled with dynamic working buffer on the STACK ***
MAX_LFN (Max Long Filename)	255
LFN_UNICODE (Enable Unicode)	ANSI/OEM
STRF_ENCODE (Character encoding)	UTF-8
FS_RPATH (Relative Path)	Disabled

Physical Drive Parameters:

VOLUMES (Logical drives)	1
MAX_SS (Maximum Sector Size)	**4096 ***
MIN_SS (Minimum Sector Size)	512
MULTI_PARTITION (Volume partitions feature)	Disabled
USE_TRIM (Erase feature)	Disabled

FS_NOFSINFO (Force full FAT scan)	0

System Parameters:

FS_TINY (Tiny mode)	Disabled
FS_EXFAT (Support of exFAT file system)	**Enabled ***
FS_NORTC (Timestamp feature)	Dynamic timestamp
FS_REENTRANT (Re-Entrancy)	Enabled
FS_TIMEOUT (Timeout ticks)	1000
USE_MUTEX	Disabled
SYNC_t (O/S sync object)	osSemaphoreId_t
FS_LOCK (Number of files opened simultaneously)	2

2.15.2. Advanced Settings:

SDIO/SDMMC:

SDIO instance	SDIO
Use dma template	Enabled
BSP code for SD	Generic

2.15.3. Platform Settings:

Detect_SDIO	PA8

2.16. FREERTOS

Interface: CMSIS_V2

2.16.1. Config parameters:

API:

FreeRTOS API	CMSIS v2

Versions:

FreeRTOS version	10.3.1
CMSIS-RTOS version	2.00

MPU/FPU:

ENABLE_MPU	Disabled
ENABLE_FPU	Disabled

Kernel settings:

USE_PREEMPTION	Enabled
CPU_CLOCK_HZ	SystemCoreClock
TICK_RATE_HZ	1000

MAX_PRIORITIES	56
MINIMAL_STACK_SIZE	**256 ***
MAX_TASK_NAME_LEN	16
USE_16_BIT_TICKS	Disabled
IDLE_SHOULD_YIELD	Enabled
USE_MUTEXES	Enabled
USE_RECURSIVE_MUTEXES	Enabled
USE_COUNTING_SEMAPHORES	Enabled
QUEUE_REGISTRY_SIZE	8
USE_APPLICATION_TASK_TAG	Disabled
ENABLE_BACKWARD_COMPATIBILITY	Enabled
USE_PORT_OPTIMISED_TASK_SELECTION	Disabled
USE_TICKLESS_IDLE	Disabled
USE_TASK_NOTIFICATIONS	Enabled
RECORD_STACK_HIGH_ADDRESS	Disabled

Memory management settings:

Memory Allocation	Dynamic / Static
TOTAL_HEAP_SIZE	**32768 ***
Memory Management scheme	heap_4

Hook function related definitions:

USE_IDLE_HOOK	Disabled
USE_TICK_HOOK	Disabled
USE_MALLOC_FAILED_HOOK	Disabled
USE_DAEMON_TASK_STARTUP_HOOK	Disabled
CHECK_FOR_STACK_OVERFLOW	Disabled

Run time and task stats gathering related definitions:

GENERATE_RUN_TIME_STATS	**Enabled ***
USE_TRACE_FACILITY	Enabled
USE_STATS_FORMATTING_FUNCTIONS	**Enabled ***

Co-routine related definitions:

USE_CO_ROUTINES	Disabled
MAX_CO_ROUTINE_PRIORITIES	2

Software timer definitions:

USE_TIMERS	Enabled
TIMER_TASK_PRIORITY	2
TIMER_QUEUE_LENGTH	10
TIMER_TASK_STACK_DEPTH	512

Interrupt nesting behaviour configuration:

LIBRARY_LOWEST_INTERRUPT_PRIORITY	15
LIBRARY_MAX_SYSCALL_INTERRUPT_PRIORITY	5

Added with 10.2.1 support:

MESSAGE_BUFFER_LENGTH_TYPE	size_t
USE_POSIX_ERRNO	Disabled

CMSIS-RTOS V2 flags:

USE_OS2_THREAD_SUSPEND_RESUME	Enabled
USE_OS2_THREAD_ENUMERATE	Enabled
USE_OS2_EVENTFLAGS_FROM_ISR	Enabled
USE_OS2_THREAD_FLAGS	Enabled
USE_OS2_TIMER	Enabled
USE_OS2_MUTEX	Enabled

2.16.2. Include parameters:

Include definitions:

vTaskPrioritySet	Enabled
uxTaskPriorityGet	Enabled
vTaskDelete	Enabled
vTaskCleanUpResources	Disabled
vTaskSuspend	Enabled
vTaskDelayUntil	Enabled
vTaskDelay	Enabled
xTaskGetSchedulerState	Enabled
xTaskResumeFromISR	Enabled
xQueueGetMutexHolder	Enabled
xSemaphoreGetMutexHolder	Disabled
pcTaskGetTaskName	Disabled
uxTaskGetStackHighWaterMark	Enabled
xTaskGetCurrentTaskHandle	Enabled
eTaskGetState	Enabled
xEventGroupSetBitFromISR	Disabled
xTimerPendFunctionCall	Enabled
xTaskAbortDelay	Disabled
xTaskGetHandle	Disabled
uxTaskGetStackHighWaterMark2	Disabled

2.16.3. Advanced settings:

Newlib settings (see parameter description first):

USE_NEWLIB_REENTRANT	**Enabled ***

Project settings (see parameter description first):

Use FW pack heap file	Enabled

2.17. USB_DEVICE

Class For FS IP: Communication Device Class (Virtual Port Com)

2.17.1. Parameter Settings:

Basic Parameters:

USBD_MAX_NUM_INTERFACES (Maximum number of supported interfaces)	1
USBD_MAX_NUM_CONFIGURATION (Maximum number of supported configuration)	1
USBD_MAX_STR_DESC_SIZ (Maximum size for the string descriptors)	512
USBD_SELF_POWERED (Enabled self power)	Enabled
USBD_DEBUG_LEVEL (USBD Debug Level)	0: No debug message

Class Parameters:

USB CDC Rx Buffer Size	2048
USB CDC Tx Buffer Size	2048

2.17.2. Device Descriptor:

Device Descriptor:

VID (Vendor IDentifier)	1155
LANGID_STRING (Language Identifier)	English(United States)
MANUFACTURER_STRING (Manufacturer Identifier)	STMicroelectronics

Device Descriptor FS:

PID (Product IDentifier)	22336
PRODUCT_STRING (Product Identifier)	STM32 Virtual ComPort
CONFIGURATION_STRING (Configuration Identifier)	CDC Config
INTERFACE_STRING (Interface Identifier)	CDC Interface

*** User modified value**

3. System Configuration

3.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
CAN1	PB8	CAN1_RX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PB9	CAN1_TX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
CAN2	PB12	CAN2_RX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PB13	CAN2_TX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
I2C1	PB6	I2C1_SCL	Alternate Function Open Drain	No pull-up and no pull-down	**Very High ***	
	PB7	I2C1_SDA	Alternate Function Open Drain	No pull-up and no pull-down	**Very High ***	
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	
SDIO	PC8	SDIO_D0	Alternate Function Push Pull	**Pull-up ***	Very High	
	PC9	SDIO_D1	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PC10	SDIO_D2	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PC11	SDIO_D3	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PC12	SDIO_CK	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD2	SDIO_CMD	Alternate Function Push Pull	**Pull-up ***	Very High	
SPI1	PA4	SPI1_NSS	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PA5	SPI1_SCK	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PA6	SPI1_MISO	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PA7	SPI1_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
SYS	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	
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 ***	
USART3	PB10	USART3_TX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PB11	USART3_RX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
USB_OTG_FS	PA11	USB_OTG_FS_DM	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PA12	USB_OTG_FS_DP	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
GPIO	PC13-ANTI_TAMP	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	KEY_USER
	PC0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_CAN1_TX
	PC1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_CAN1_RX
	PC2	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_CAN2_TX
	PC3	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_CAN2_RX
	PA1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	TX_485_EN
	PC4	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	INT_ETH
	PC5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	ETH_RST
	PB0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_485_TX
	PB1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_485_RX
	PB2	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_INT
	PB14	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_232_TX
	PB15	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_232_RX
	PA8	GPIO_Input	Input mode	**Pull-up ***	n/a	SD_DETECT

3.2. DMA configuration

DMA request	Stream	Direction	Priority
SPI1_RX	DMA2_Stream0	Peripheral To Memory	**Very High ***
SPI1_TX	DMA2_Stream5	Memory To Peripheral	**High ***
SDIO_RX	DMA2_Stream3	Peripheral To Memory	Low
SDIO_TX	DMA2_Stream6	Memory To Peripheral	Low

SPI1_RX: DMA2_Stream0 DMA request Settings:

Mode:	Normal
Use fifo:	Disable
Peripheral Increment:	Disable
Memory Increment:	**Enable ***
Peripheral Data Width:	Byte
Memory Data Width:	Byte

SPI1_TX: DMA2_Stream5 DMA request Settings:

Mode:	Normal
Use fifo:	Disable
Peripheral Increment:	Disable
Memory Increment:	**Enable ***
Peripheral Data Width:	Byte
Memory Data Width:	Byte

SDIO_RX: DMA2_Stream3 DMA request Settings:

Mode:	**Peripheral Flow Control ***
Use fifo:	**Enable ***
FIFO Threshold:	Full
Peripheral Increment:	Disable
Memory Increment:	**Enable ***
Peripheral Data Width:	**Word ***
Memory Data Width:	Word
Peripheral Burst Size:	**4 Increment ***
Memory Burst Size:	4 Increment

SDIO_TX: DMA2_Stream6 DMA request Settings:

Mode:	**Peripheral Flow Control ***
Use fifo:	**Enable ***
FIFO Threshold:	Full
Peripheral Increment:	Disable
Memory Increment:	**Enable ***
Peripheral Data Width:	**Word ***
Memory Data Width:	Word
Peripheral Burst Size:	**4 Increment ***
Memory Burst Size:	4 Increment

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
Memory management fault	true	0	0
Pre-fetch fault, memory access fault	true	0	0
Undefined instruction or illegal state	true	0	0
System service call via SWI instruction	true	0	0
Debug monitor	true	0	0
Pendable request for system service	true	15	0
System tick timer	true	15	0
CAN1 RX0 interrupts	true	5	0
CAN1 RX1 interrupt	true	5	0
SPI1 global interrupt	true	5	0
USART1 global interrupt	true	5	0
USART2 global interrupt	true	5	0
USART3 global interrupt	true	5	0
SDIO global interrupt	true	5	0
TIM6 global interrupt, DAC1 and DAC2 underrun error interrupts	true	15	0
DMA2 stream0 global interrupt	true	5	0
DMA2 stream3 global interrupt	true	5	0
CAN2 RX0 interrupts	true	5	0
CAN2 RX1 interrupt	true	5	0
USB On The Go FS global interrupt	true	5	0
DMA2 stream5 global interrupt	true	5	0
DMA2 stream6 global interrupt	true	5	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
CAN1 TX interrupts	unused		
CAN1 SCE interrupt	unused		
I2C1 event interrupt	unused		
I2C1 error interrupt	unused		
CAN2 TX interrupts	unused		
CAN2 SCE interrupt	unused		
HASH and RNG global interrupts	unused		
FPU global 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
Memory management fault	false	true	false
Pre-fetch fault, memory access fault	false	true	false
Undefined instruction or illegal state	false	true	false
System service call via SWI instruction	false	false	false
Debug monitor	false	true	false
Pendable request for system service	false	false	false
System tick timer	false	false	true
CAN1 RX0 interrupts	false	true	true
CAN1 RX1 interrupt	false	true	true
SPI1 global interrupt	false	true	true
USART1 global interrupt	false	true	true
USART2 global interrupt	false	true	true
USART3 global interrupt	false	true	true
SDIO global interrupt	false	true	true
TIM6 global interrupt, DAC1 and DAC2 underrun error interrupts	false	true	true
DMA2 stream0 global interrupt	false	true	true
DMA2 stream3 global interrupt	false	true	true
CAN2 RX0 interrupts	false	true	true
CAN2 RX1 interrupt	false	true	true
USB On The Go FS global interrupt	false	true	true
DMA2 stream5 global interrupt	false	true	true
DMA2 stream6 global interrupt	false	true	true

*** User modified value**

4. System Views

4.1. Category view

4.1.1. Current

5. Docs & Resources

Type	Link