
STM32
CubeMX

1. Description

1.1. Project

Project Name	h7dev
Board Name	custom
Generated with:	STM32CubeMX 6.15.0
Date	02/11/2026

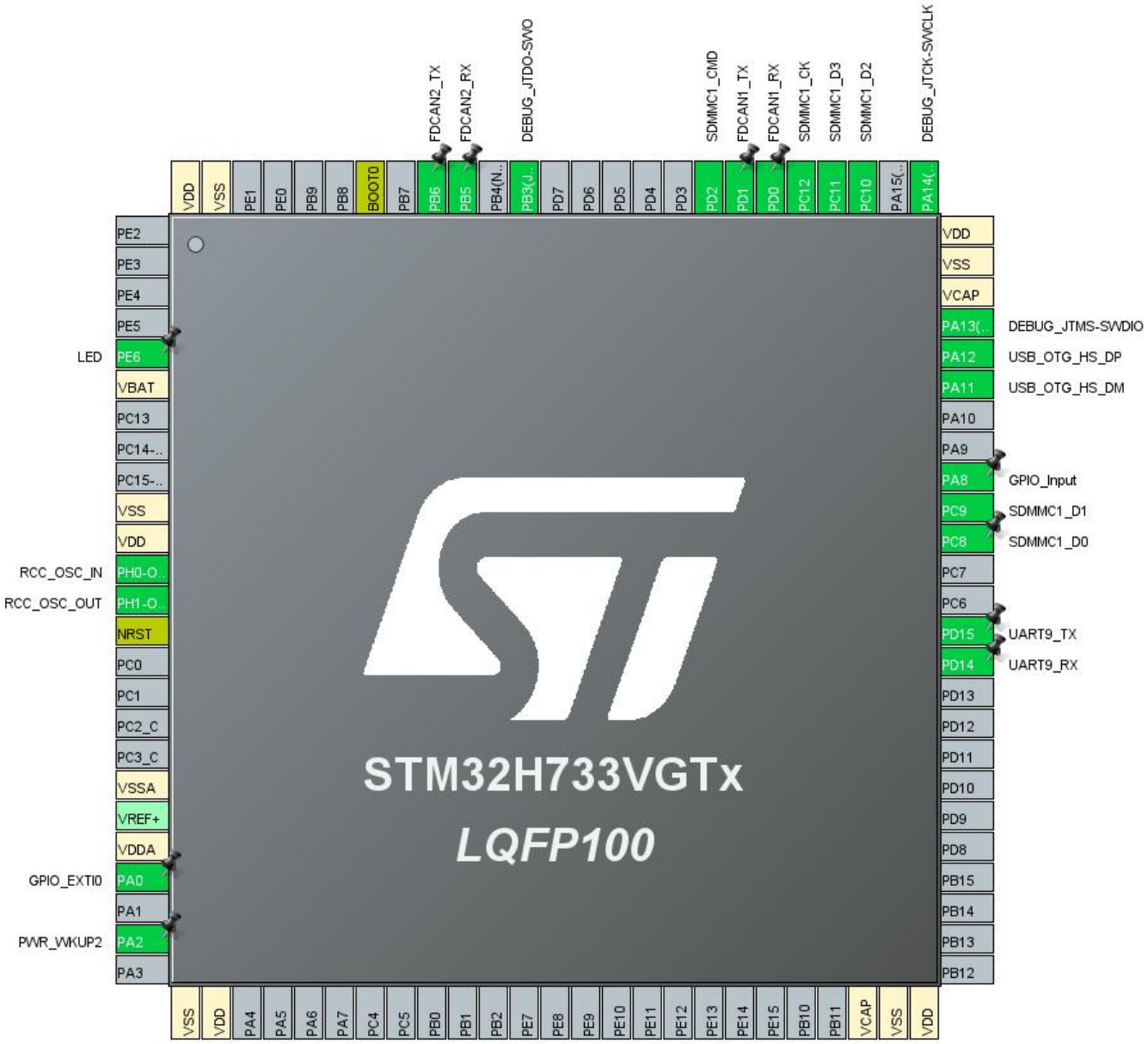
1.2. MCU

MCU Series	STM32H7
MCU Line	STM32H723/733
MCU name	STM32H733VGTx
MCU Package	LQFP100
MCU Pin number	100

1.3. Core(s) information

Core(s)	Arm Cortex-M7

2. Pinout Configuration



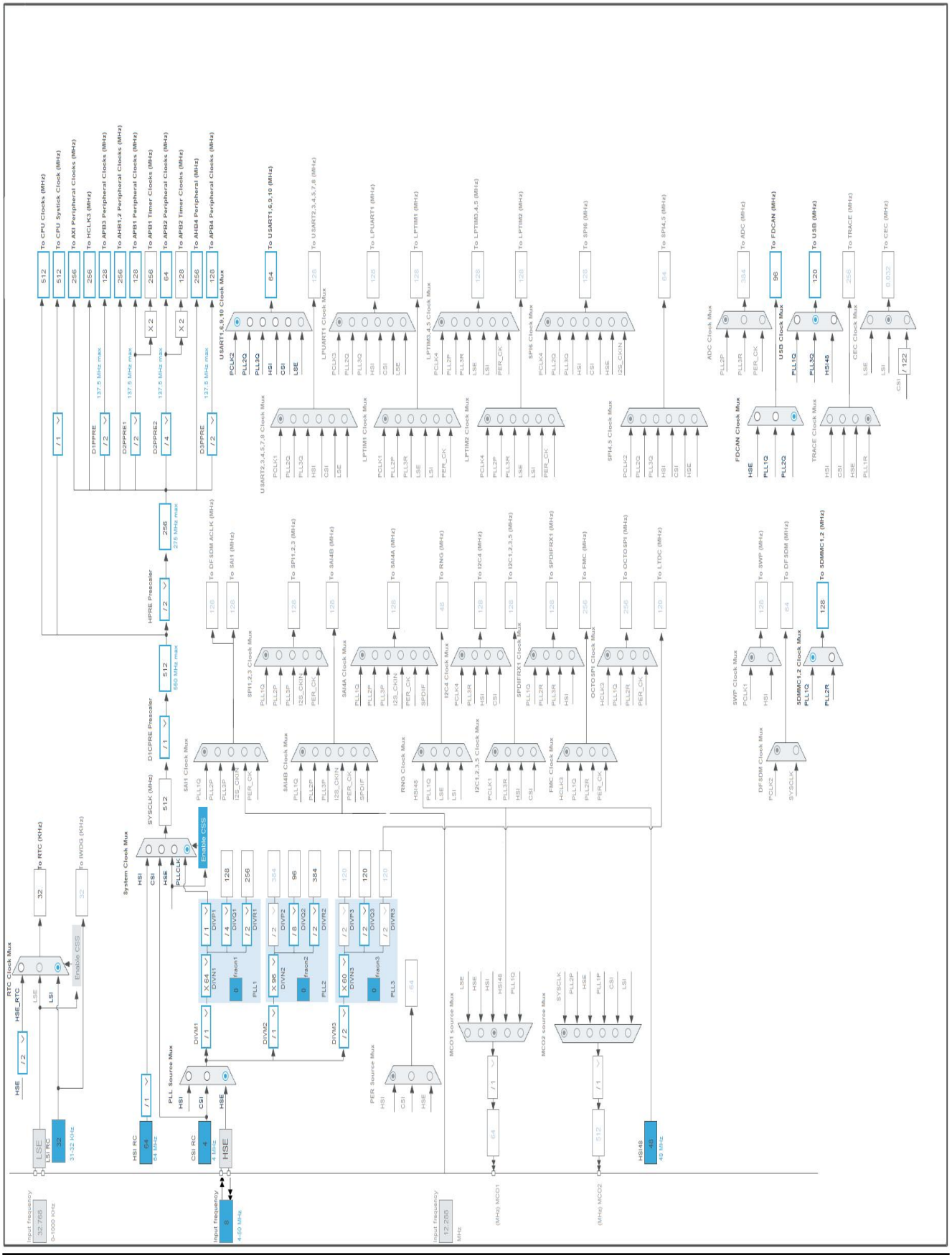
3. Pins Configuration

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
5	PE6 *	I/O	GPIO_Output	LED
6	VBAT	Power		
10	VSS	Power		
11	VDD	Power		
12	PH0-OSC_IN	I/O	RCC_OSC_IN	
13	PH1-OSC_OUT	I/O	RCC_OSC_OUT	
14	NRST	Reset		
19	VSSA	Power		
21	VDDA	Power		
22	PA0	I/O	GPIO_EXTI0	
24	PA2	I/O	PWR_WKUP2	
26	VSS	Power		
27	VDD	Power		
48	VCAP	Power		
49	VSS	Power		
50	VDD	Power		
61	PD14	I/O	UART9_RX	
62	PD15	I/O	UART9_TX	
65	PC8	I/O	SDMMC1_D0	
66	PC9	I/O	SDMMC1_D1	
67	PA8 *	I/O	GPIO_Input	
70	PA11	I/O	USB_OTG_HS_DM	
71	PA12	I/O	USB_OTG_HS_DP	
72	PA13(JTMS/SWDIO)	I/O	DEBUG_JTMS-SWDIO	
73	VCAP	Power		
74	VSS	Power		
75	VDD	Power		
76	PA14(JTCK/SWCLK)	I/O	DEBUG_JTCK-SWCLK	
78	PC10	I/O	SDMMC1_D2	
79	PC11	I/O	SDMMC1_D3	
80	PC12	I/O	SDMMC1_CK	
81	PD0	I/O	FDCAN1_RX	
82	PD1	I/O	FDCAN1_TX	
83	PD2	I/O	SDMMC1_CMD	
89	PB3(JTDO/TRACESWO)	I/O	DEBUG_JTDO-SWO	
91	PB5	I/O	FDCAN2_RX	

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
92	PB6	I/O	FDCAN2_TX	
94	BOOT0	Boot		
99	VSS	Power		
100	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



1. Power Consumption Calculator report

1.1. Microcontroller Selection

Series	STM32H7
Line	STM32H723/733
MCU	STM32H733VGTx
Datasheet	DS13314_Rev1

1.2. Parameter Selection

Temperature	25
Vdd	3.0

1.3. Battery Selection

Battery	Alkaline(9V)
Capacity	625.0 mAh
Self Discharge	0.3 %/month
Nominal Voltage	9.0 V
Max Cont Current	200.0 mA
Max Pulse Current	0.0 mA
Cells in series	1
Cells in parallel	1

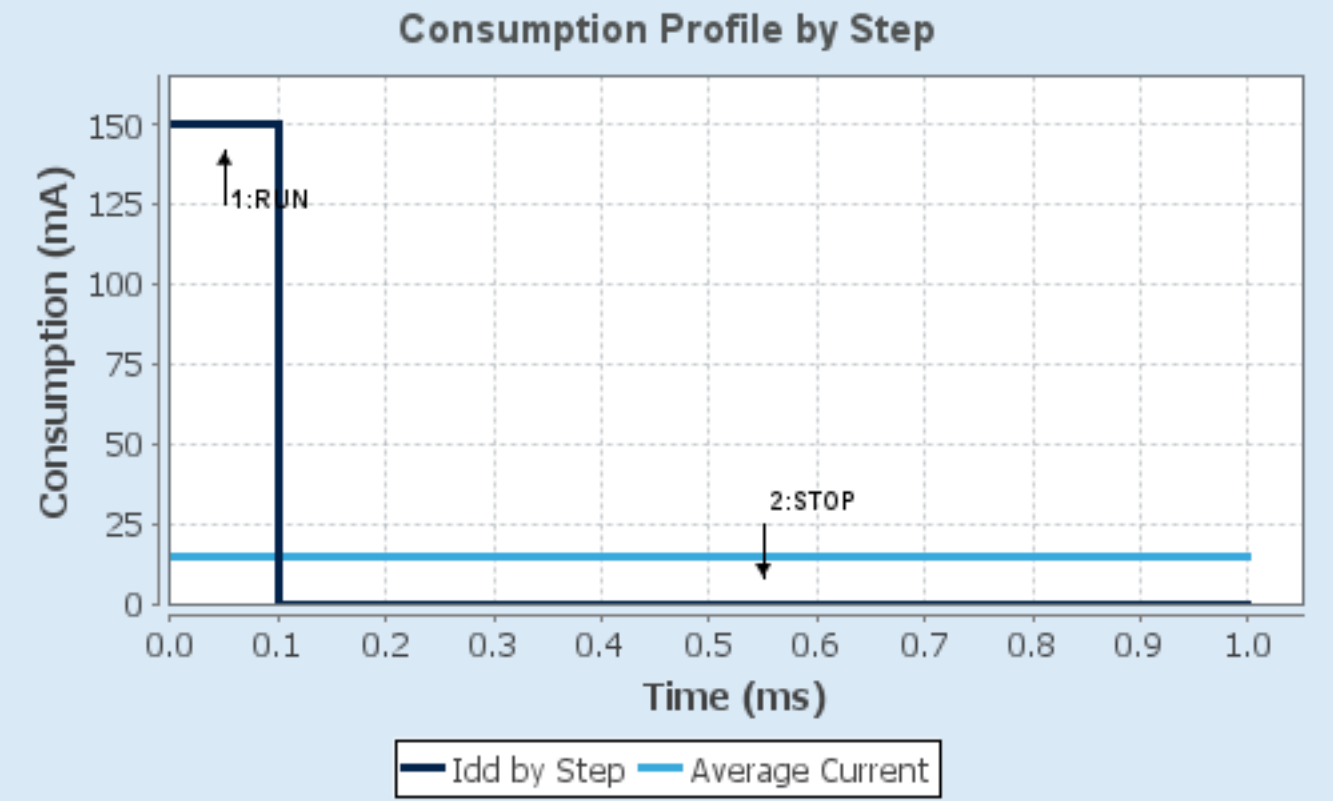
1.4. Sequence

Step	Step1	Step2
Mode	RUN	STOP
Vdd	3.0	3.0
Voltage Source	Battery	Battery
Range	VOS0: Scale0/Boost	SVOS5: System-Scale5
D1 Mode	DRUN	DSTANDBY
D2 Mode	DRUN	DSTANDBY
D3 Mode	DRUN	DSTOP
Fetch Type	SRAM1/FlashMode-ON/Cache	NA
CPU Frequency	550 MHz	0 Hz
Clock Configuration	HSE BYP PLL	ALL_CLOCKS_OFF
Clock Source Frequency	8 MHz	0 Hz
Peripherals		
Additional Cons.	0 mA	0 mA
Average Current	150 mA	94.5 µA
Duration	0.1 ms	0.9 ms
DMIPS	1177.0	0.0
Ta Max	104.75	124.99
Category	In DS Table	In DS Table

1.5. Results

Sequence Time	1 ms	Average Current	15.09 mA
Battery Life	1 day, 17 hours	Average DMIPS	1177.0 DMIPS

1.6. Chart


Consumption Profile by Step
Consumption (mA)
150
125
100
75
50
25
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. Software Project

2.1. Project Settings

Name	Value
Project Name	h7dev
Project Folder	C:\programs\Formula-Electric\Consolidated-
Toolchain / IDE	STM32CubeIDE
Firmware Package Name and Version	STM32Cube FW_H7 V1.11.2
Application Structure	Advanced
Generate Under Root	Yes
Do not generate the main()	No
Minimum Heap Size	0x00
Minimum Stack Size	0x400

2.2. 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

2.3. Advanced Settings - Generated Function Calls

Rank	Function Name	Peripheral Instance Name
1	SystemClock_Config	RCC
2	MX_GPIO_Init	GPIO
3	MX_FDCAN2_Init	FDCAN2
4	MX_SDMMC1_SD_Init	SDMMC1
5	MX_FDCAN1_Init	FDCAN1
6	MX_UART9_Init	UART9
7	MX_RTC_Init	RTC
8	MX_USB_DEVICE_Init	USB_DEVICE
9	MX_FMAC_Init	FMAC

3. Peripherals and Middlewares Configuration

3.1. DEBUG

Debug: Trace Asynchronous Sw

3.2. FDCAN1

mode: Activated

3.2.1. Parameter Settings:

Basic Parameters:

Frame Format	Classic mode
Mode	Normal mode
Auto Retransmission	Disable
Transmit Pause	Disable
Protocol Exception	Disable
Nominal Sync Jump Width	1
Data Prescaler	1
Data Sync Jump Width	1
Data Time Seg1	1
Data Time Seg2	1
Message Ram Offset	0
Std Filters Nbr	0
Ext Filters Nbr	0
Rx Fifo0 Elmts Nbr	0
Rx Fifo0 Elmt Size	8 bytes data field
Rx Fifo1 Elmts Nbr	0
Rx Fifo1 Elmt Size	8 bytes data field
Rx Buffers Nbr	0
Rx Buffer Size	8 bytes data field
Tx Events Nbr	0
Tx Buffers Nbr	0
Tx Fifo Queue Elmts Nbr	0
Tx Fifo Queue Mode	FIFO mode
Tx Elmt Size	8 bytes data field

Clock Calibration Unit:

Clock Calibration	Disable

Bit Timings Parameters:

Nominal Prescaler	**6 ***
Nominal Time Quantum	**62.5 ***
Nominal Time Seg1	**12 ***
Nominal Time Seg2	

	3 *
Nominal Time for one Bit	1000
Nominal Baud Rate	**1000000 ***

3.3. FDCAN2
mode: Activated

3.3.1. Parameter Settings:

Basic Parameters:

Frame Format	**FD mode without BitRate Switching ***
Mode	Normal mode
Auto Retransmission	**Enable ***
Transmit Pause	Disable
Protocol Exception	Disable
Nominal Sync Jump Width	**2 ***
Data Prescaler	1
Data Sync Jump Width	**6 ***
Data Time Seg1	**17 ***
Data Time Seg2	**6 ***
Message Ram Offset	0
Std Filters Nbr	**1 ***
Ext Filters Nbr	0
Rx Fifo0 Elmts Nbr	**1 ***
Rx Fifo0 Elmt Size	8 bytes data field
Rx Fifo1 Elmts Nbr	0
Rx Fifo1 Elmt Size	8 bytes data field
Rx Buffers Nbr	0
Rx Buffer Size	8 bytes data field
Tx Events Nbr	0
Tx Buffers Nbr	0
Tx Fifo Queue Elmts Nbr	**1 ***
Tx Fifo Queue Mode	FIFO mode
Tx Elmt Size	8 bytes data field

Clock Calibration Unit:

Clock Calibration	Disable

Bit Timings Parameters:

Nominal Prescaler	**2 ***
Nominal Time Quantum	**20.833333333333332 ***

Nominal Time Seg1	**45 ***
Nominal Time Seg2	2
Nominal Time for one Bit	1000
Nominal Baud Rate	**1000000 ***

3.4. FMAC

mode: Mode

3.5. MEMORYMAP

mode: Activated

3.6. PWR

mode: Wake-Up 2

3.7. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

3.7.1. Parameter Settings:

Power Parameters:

SupplySource	PWR_LDO_SUPPLY
Power Regulator Voltage Scale	Power Regulator Voltage Scale 0

RCC Parameters:

TIM Prescaler Selection	Disabled
HSE Startup Timout Value (ms)	100
LSE Startup Timout Value (ms)	5000
CSI Calibration Value	16
HSI Calibration Value	64

System Parameters:

VDD voltage (V)	3.3
Flash Latency(WS)	3 WS (4 CPU cycle)

PLL range Parameters:

PLL1 input frequency range	Between 8 and 16 MHz
PLL2 input frequency range	Between 8 and 16 MHz
PLL3 input frequency range	Between 4 and 8 MHz
PLL1 clock Output range	Wide VCO range
PLL2 clock Output range	Wide VCO range
PLL3 clock Output range	Wide VCO range

3.8. RTC

mode: Activate Clock Source

mode: Activate Calendar

3.8.1. 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

3.9. SDMMC1

Mode: SD 4 bits Wide bus

3.9.1. Parameter Settings:

SDMMC parameters:

Clock transition on which the bit capture is made	Rising transition
SDMMC Clock output enable when the bus is idle	Disable the power save for the clock
SDMMC hardware flow control	**The hardware control flow is enabled ***
SDMMC clock divide factor	**9 ***
Is external transceiver present ?	no

3.10. SYS

Timebase Source: TIM6

3.11. UART9

Mode: Asynchronous

3.11.1. Parameter Settings:

Basic Parameters:

Baud Rate	**57600 ***
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
Fifo Mode	FIFO mode disable
Txfifo Threshold	1 eighth full configuration
Rxfifo Threshold	1 eighth full configuration

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

3.12. USB_OTG_HS

Internal FS Phy: Device_Only

3.12.1. Parameter Settings:

Speed	Device Full Speed 12MBit/s
Enable internal IP DMA	Disabled
Physical interface	Internal Phy
Low power	Disabled
Link Power Management	Disabled

Use dedicated end point 1 interrupt	Disabled
VBUS sensing	Disabled

3.13. FREERTOS

Interface: CMSIS_V2

3.13.1. 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	**1024 ***
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	15360
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	Disabled
USE_TRACE_FACILITY	Enabled
USE_STATS_FORMATTING_FUNCTIONS	Disabled

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	2048

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

3.13.2. 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

3.13.3. Advanced settings:

Newlib settings (see parameter description first):

USE_NEWLIB_REENTRANT	**Enabled ***

Project settings (see parameter description first):

Use FW pack heap file	Enabled

3.14. USB_DEVICE

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

3.14.1. 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
USBD_LPM_ENABLED (Link Power Management)	1: Link Power Management supported

Class Parameters:

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

3.14.2. Device Descriptor:

Device Descriptor:

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

Device Descriptor HS:

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**

4. System Configuration

4.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
DEBUG	PA13(JTMS/SWDIO)	DEBUG_JTMS-SWDIO	n/a	n/a	n/a	
	PA14(JTCK/SWCLK)	DEBUG_JTCK-SWCLK	n/a	n/a	n/a	
	PB3(JTDO/TRACESWO)	DEBUG_JTDO-SWO	n/a	n/a	n/a	
FDCAN1	PD0	FDCAN1_RX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PD1	FDCAN1_TX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
FDCAN2	PB5	FDCAN2_RX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PB6	FDCAN2_TX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
PWR	PA2	PWR_WKUP2	n/a	n/a	n/a	
RCC	PH0-OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PH1-OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
SDMMC1	PC8	SDMMC1_D0	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PC9	SDMMC1_D1	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PC10	SDMMC1_D2	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PC11	SDMMC1_D3	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PC12	SDMMC1_CK	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD2	SDMMC1_CMD	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
UART9	PD14	UART9_RX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PD15	UART9_TX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
USB_OTG_HS	PA11	USB_OTG_HS_DM	n/a	n/a	n/a	
	PA12	USB_OTG_HS_DP	n/a	n/a	n/a	
GPIO	PE6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED
	PA0	GPIO_EXTI0	**External Interrupt Mode with Falling edge trigger detection**	No pull-up and no pull-down	n/a	
	PA8	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	

4.2. DMA configuration

nothing configured in DMA service

4.3. BDMA configuration

nothing configured in DMA service

4.4. MDMA configuration

nothing configured in DMA service

4.5. NVIC configuration

4.5.1. 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
EXTI line0 interrupt	true	5	0
FDCAN2 interrupt 0	true	5	0
FDCAN2 interrupt 1	true	5	0
SDMMC1 global interrupt	true	5	0
TIM6 global interrupt, DAC1_CH1 and DAC1_CH2 underrun error interrupts	true	15	0
USB On The Go HS global interrupt	true	5	0
PVD/AVD through EXTI Line detection Interrupt	unused		
Tamper and TimeStamp interrupts through the EXTI line	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
FDCAN1 interrupt 0	unused		
FDCAN1 interrupt 1	unused		
FDCAN calibration unit interrupt	unused		
USB On The Go HS End Point 1 Out global interrupt	unused		
USB On The Go HS End Point 1 In global interrupt	unused		
FPU global interrupt	unused		
HSEM1 global interrupt	unused		
FMAC interrupt	unused		
UART9 global interrupt	unused		

4.5.2. 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

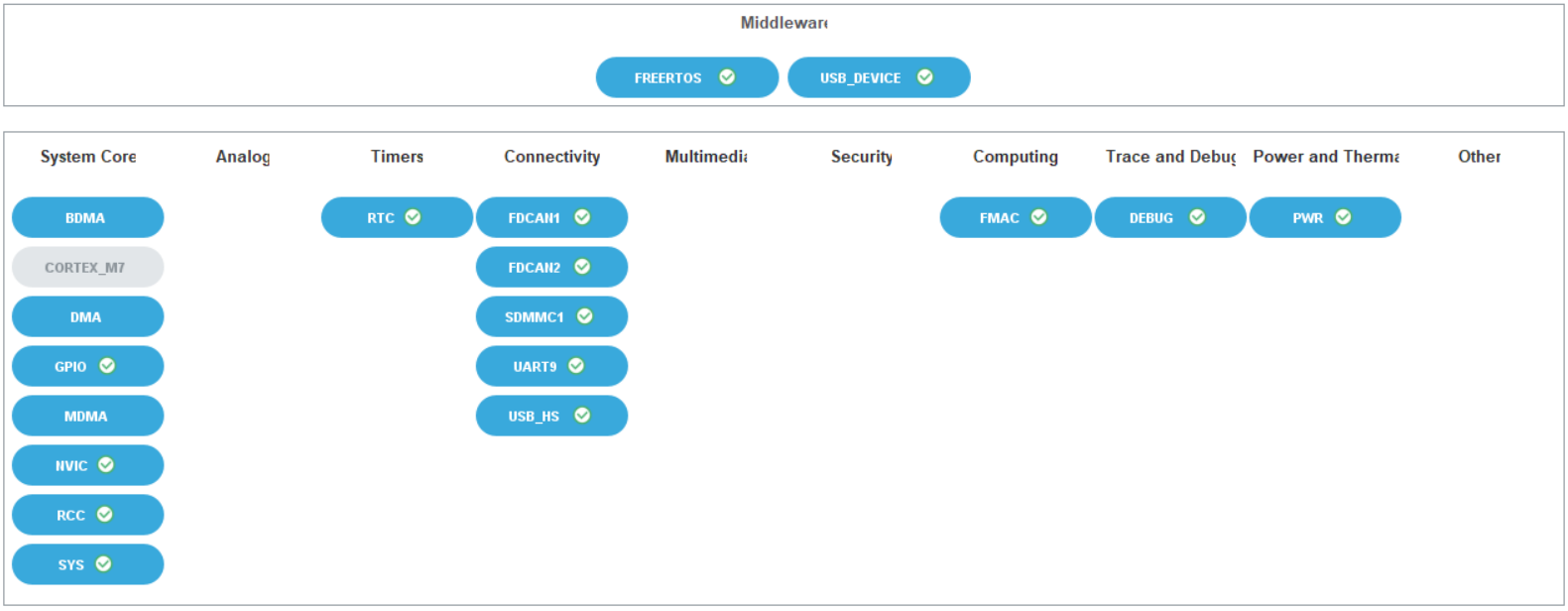
Enabled interrupt Table	Select for init sequence ordering	Generate IRQ handler	Call HAL handler
Memory management fault	false	true	false
Pre-fetch fault, memory access fault	false	true	false
Undefined instruction or illegal state	false	true	false
System service call via SWI instruction	false	false	false
Debug monitor	false	true	false
Pendable request for system service	false	false	false
System tick timer	false	false	true
EXTI line0 interrupt	false	true	true
FDCAN2 interrupt 0	false	true	true
FDCAN2 interrupt 1	false	true	true
SDMMC1 global interrupt	false	true	true
TIM6 global interrupt, DAC1_CH1 and DAC1_CH2 underrun error interrupts	false	true	true
USB On The Go HS global interrupt	false	true	true

*** User modified value**

5. System Views

5.1. Category view

5.1.1. Current



6. Docs & Resources

Type	Link
BSDL files	https://www.st.com/resource/en/bsdl_model/stm32h7_bsdl.zip
IBIS models	https://www.st.com/resource/en/ibis_model/stm32h7_ibis.zip
System View Description	https://www.st.com/resource/en/svd/stm32h7-svd.zip
Presentations	https://www.st.com/resource/en/product_presentation/microcontrollers_stm32h7_series_product_overview.pdf
Presentations	https://www.st.com/resource/en/product_presentation/stm32-stm8_embedded_software_solutions.pdf
Presentations	https://www.st.com/resource/en/product_presentation/stm32_eval-tools_portfolio.pdf
Presentations	https://www.st.com/resource/en/product_presentation/stm32_stm8_functional-safety-packages.pdf
Presentations	https://www.st.com/resource/en/product_presentation/stm32-stm8_software_development_tools.pdf
Presentations	https://www.st.com/resource/en/product_presentation/microcontrollers_stm32h72x-3x_line_product-overview.pdf
Presentations	https://www.st.com/resource/en/product_presentation/microcontrollers-stm32-family-overview.pdf
Presentations	https://www.st.com/resource/en/product_presentation/microcontrollers-stm32h7rs-lines-overview.pdf
Brochures	https://www.st.com/resource/en/brochure/brstm32h7.pdf
Flyers	https://www.st.com/resource/en/flyer/flstm32nucleo.pdf
Flyers	https://www.st.com/resource/en/flyer/flstm32trust.pdf
Flyers	https://www.st.com/resource/en/flyer/flstm32h7rs.pdf
Security Bulletin	https://www.st.com/resource/en/technical_note/tn1489-security-bulletin-tn1489stpsirt-physical-attacks-on-stm32-and-stm32cube-firmware-stmicroelectronics.pdf
Security Bulletin	https://www.st.com/resource/en/security_bulletin/sb0023-eucleak-protection-statement-for-stmicroelectronics-certified-products-

	stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an1709-emc-design-guide-for-stm8-stm32-and-legacy-mcus-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an2606-stm32-microcontroller-system-memory-boot-mode-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an3126-audio-and-waveform-generation-using-the-dac-in-stm32-products-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an3155-usart-protocol-used-in-the-stm32-bootloader-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an3156-usb-dfu-protocol-used-in-the-stm32-bootloader-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an4221-i2c-protocol-used-in-the-stm32-bootloader-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an4286-spi-protocol-used-in-the-stm32-bootloader-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an4655-virtually-increasing-the-number-of-serial-communication-peripherals-in-stm32-applications-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an4750-handling-of-soft-errors-in-stm32-applications-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an4776-generalpurpose-timer-cookbook-for-stm32-microcontrollers-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an4803-highspeed-si-simulations-using-ibis-and-boardlevel-simulations-using-hyperlynx-si-on-stm32-mcus-and-mpus-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an4839-level-1-cache-on-stm32f7-series-and-stm32h7-series-stmicroelectronics.pdf
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