



1. Description

1.1. Project

Project Name	DevEBox
Board Name	custom
Generated with:	STM32CubeMX 6.14.0
Date	03/06/2025

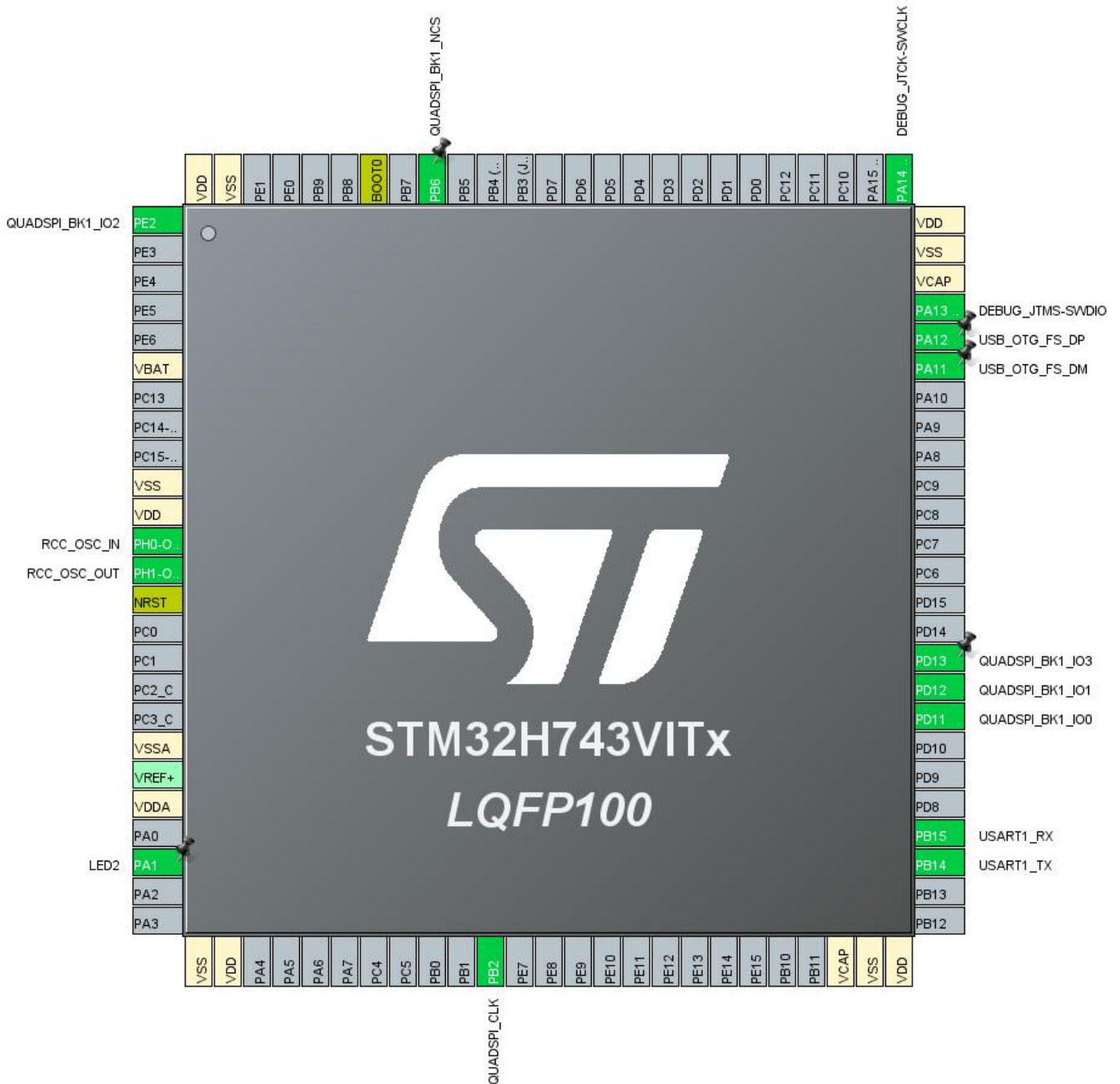
1.2. MCU

MCU Series	STM32H7
MCU Line	STM32H743/753
MCU name	STM32H743VITx
MCU Package	LQFP100
MCU Pin number	100

1.3. Core(s) information

Core(s)	ARM Cortex-M7
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2. Pinout Configuration

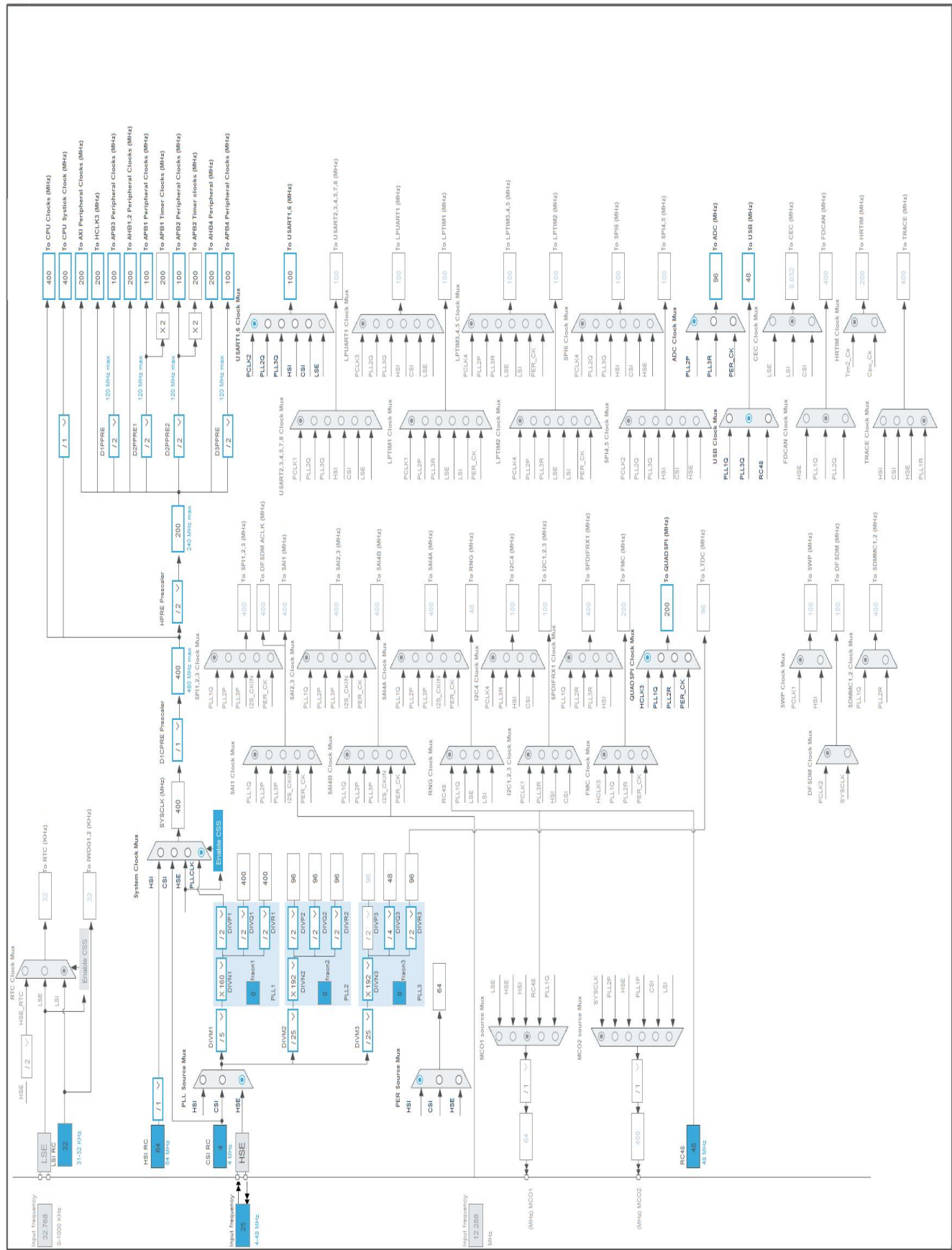


3. Pins Configuration

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	PE2	I/O	QUADSPI_BK1_IO2	
6	VBAT	Power		
10	VSS	Power		
11	VDD	Power		
12	PH0-OSC_IN (PH0)	I/O	RCC_OSC_IN	
13	PH1-OSC_OUT (PH1)	I/O	RCC_OSC_OUT	
14	NRST	Reset		
19	VSSA	Power		
21	VDDA	Power		
23	PA1 *	I/O	GPIO_Output	LED2
26	VSS	Power		
27	VDD	Power		
36	PB2	I/O	QUADSPI_CLK	
48	VCAP	Power		
49	VSS	Power		
50	VDD	Power		
53	PB14	I/O	USART1_TX	
54	PB15	I/O	USART1_RX	
58	PD11	I/O	QUADSPI_BK1_IO0	
59	PD12	I/O	QUADSPI_BK1_IO1	
60	PD13	I/O	QUADSPI_BK1_IO3	
70	PA11	I/O	USB_OTG_FS_DM	
71	PA12	I/O	USB_OTG_FS_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	
92	PB6	I/O	QUADSPI_BK1_NCS	
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	STM32H743/753
MCU	STM32H743VITx
Datasheet	DS12110_Rev8

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

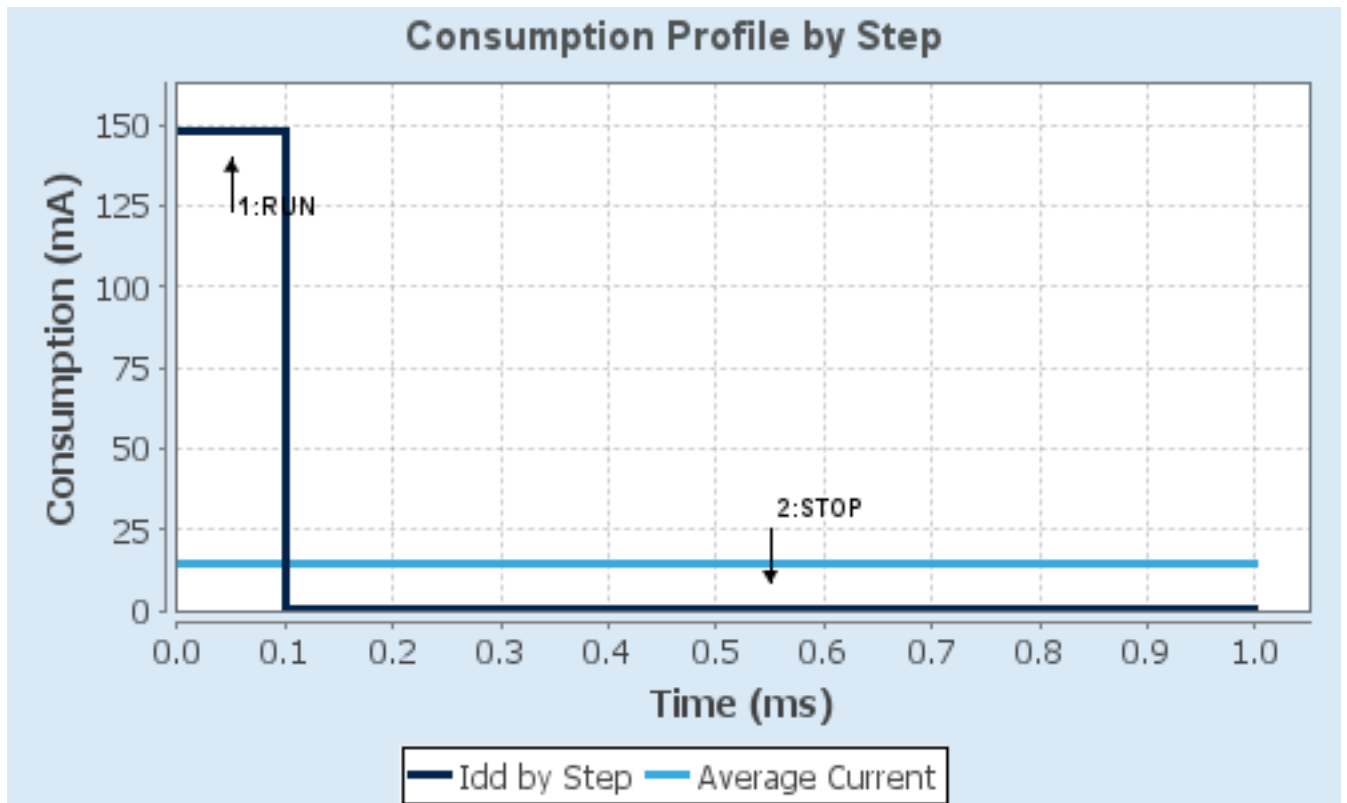
1.4. Sequence

Step	Step1	Step2
Mode	RUN	STOP
Vdd	3.0	3.0
Voltage Source	Battery	Battery
Range	VOS0: Scale0-High	SVOS5: System-Scale5
D1 Mode	DRUN/CRUN	DSTANDBY
D2 Mode	DRUN	DSTANDBY
D3 Mode	DRUN	DSTOP
Fetch Type	ITCM	NA
CPU Frequency	480 MHz	0 Hz
Clock Configuration	HSE BYP PLL	Flash-OFF
Clock Source Frequency	24 MHz	0 Hz
Peripherals		
Additional Cons.	0 mA	0 mA
Average Current	148 mA	150 μ A
Duration	0.1 ms	0.9 ms
DMIPS	1027.0	0.0
Ta Max	105.02	124.98
Category	In DS Table	In DS Table

1.5. Results

Sequence Time	1 ms	Average Current	14.94 mA
Battery Life	1 day, 17 hours	Average DMIPS	1027.2001 DMIPS

1.6. Chart



2. Software Project

2.1. Project Settings

Name	Value
Project Name	DevEBox
Project Folder	C:\Users\Butch\STM32CubeIDE\workspace_1.18.0\DevEBox
Toolchain / IDE	STM32CubeIDE
Firmware Package Name and Version	STM32Cube FW_H7 V1.12.1
Application Structure	Advanced
Generate Under Root	Yes
Do not generate the main()	No
Minimum Heap Size	0x200
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	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

2.3. Advanced Settings - Generated Function Calls

Rank	Function Name	Peripheral Instance Name
1	MX_GPIO_Init	GPIO
2	SystemClock_Config	RCC
3	MX_BDMA_Init	BDMA
4	MX_QUADSPI_Init	QUADSPI
5	MX_ADC3_Init	ADC3
6	MX_USB_DEVICE_Init	USB_DEVICE
7	MX_USART1_UART_Init	USART1

3. Peripherals and Middlewares Configuration

3.1. ADC3

mode: Temperature Sensor Channel

mode: Vrefint Channel

3.1.1. Parameter Settings:

ADC_Settings:

Clock Prescaler	Asynchronous clock mode divided by 2 *
Resolution	ADC 16-bit resolution
Scan Conversion Mode	Disabled
Continuous Conversion Mode	Enabled *
Discontinuous Conversion Mode	Disabled
End Of Conversion Selection	End of single conversion
Overrun behaviour	Overrun data overwritten *
Left Bit Shift	No bit shift
Conversion Data Management Mode	DMA One Shot Mode *
Low Power Auto Wait	Disabled

ADC_Regular_ConversionMode:

Enable Regular Conversions	Enable
Enable Regular Oversampling	Disable
Oversampling Ratio	1
Number Of Conversion	1
External Trigger Conversion Source	Regular Conversion launched by software
External Trigger Conversion Edge	None
<u>Rank</u>	1
Channel	Channel Temperature Sensor
Sampling Time	810.5 Cycles *
Offset Number	No offset
Offset Signed Saturation	Disable

ADC_Injected_ConversionMode:

Enable Injected Conversions	Disable
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Analog Watchdog 1:

Enable Analog WatchDog1 Mode	false
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Analog Watchdog 2:

Enable Analog WatchDog2 Mode	false
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Analog Watchdog 3:

Enable Analog WatchDog3 Mode	false
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3.2. CORTEX_M7

3.2.1. Parameter Settings:

Speculation default mode Settings:

Speculation default mode Disabled

Cortex Interface Settings:

CPU ICache Disabled

CPU DCache Disabled

Cortex Memory Protection Unit Control Settings:

MPU Control Mode **Background Region Privileged accesses only + MPU Disabled during hard fault, NMI and FAULTMASK handlers ***

Cortex Memory Protection Unit Region 0 Settings:

MPU Region **Enabled ***
MPU Region Base Address **0x38000000 ***
MPU Region Size **64KB ***
MPU SubRegion Disable **0x0 ***
MPU TEX field level **level 1 ***
MPU Access Permission **ALL ACCESS PERMITTED ***
MPU Instruction Access ENABLE
MPU Shareability Permission DISABLE
MPU Cacheable Permission DISABLE
MPU Bufferable Permission DISABLE

Cortex Memory Protection Unit Region 1 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 2 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 3 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 4 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 5 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 6 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 7 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 8 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 9 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 10 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 11 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 12 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 13 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 14 Settings:

MPU Region Disabled

Cortex Memory Protection Unit Region 15 Settings:

MPU Region Disabled

3.3. DEBUG

Debug: Serial Wire

3.4. MEMORYMAP

mode: Activated

3.5. QUADSPI

QuadSPI Mode: Bank1 with Quad SPI Lines

3.5.1. Parameter Settings:

General Parameters:

Clock Prescaler	2 *
Fifo Threshold	4 *
Sample Shifting	No Sample Shifting
Flash Size	22 *
Chip Select High Time	1 Cycle
Clock Mode	Low
Flash ID	Flash ID 1
Dual Flash	Disabled

3.6. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

3.6.1. Parameter Settings:

Power Parameters:

SupplySource	PWR_LDO_SUPPLY
Power Regulator Voltage Scale	Power Regulator Voltage Scale 1

RCC Parameters:

TIM Prescaler Selection	Disabled
HSE Startup Timeout Value (ms)	100
LSE Startup Timeout Value (ms)	5000
CSI Calibration Value	32
HSI Calibration Value	64

System Parameters:

VDD voltage (V)	3.3
Flash Latency(WS)	2 WS (3 CPU cycle)
Product revision	rev.V

PLL range Parameters:

PLL1 clock Input range	Between 4 and 8 MHz
PLL2 input frequency range	Between 1 and 2 MHz
PLL3 input frequency range	Between 1 and 2 MHz
PLL1 clock Output range	Wide VCO range
PLL2 clock Output range	Wide VCO range
PLL3 clock Output range	Wide VCO range

3.7. SYS

Timebase Source: TIM1

3.8. USART1

Mode: Asynchronous

3.8.1. 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
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

3.9. USB_OTG_FS

Mode: Device_Only

3.9.1. Parameter Settings:

Speed	Full Speed 12MBit/s
Enable internal IP DMA	Disabled
Low power	Disabled
Battery charging	Disabled
Link Power Management	Disabled
Use dedicated end point 1 interrupt	Disabled
VBUS sensing	Disabled
Signal start of frame	Disabled

3.10. USB_DEVICE

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

3.10.1. 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

3.10.2. 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

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	
QUADSPI	PE2	QUADSPI_BK1_IO2	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PB2	QUADSPI_CLK	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PD11	QUADSPI_BK1_IO0	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PD12	QUADSPI_BK1_IO1	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PD13	QUADSPI_BK1_IO3	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PB6	QUADSPI_BK1_NCS	Alternate Function Push Pull	Pull-up *	Very High *	
RCC	PH0-OSC_IN (PH0)	RCC_OSC_IN	n/a	n/a	n/a	
	PH1-OSC_OUT (PH1)	RCC_OSC_OUT	n/a	n/a	n/a	
USART1	PB14	USART1_TX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PB15	USART1_RX	Alternate Function Push Pull	Pull-up *	Low	
USB_OTG_FS	PA11	USB_OTG_FS_DM	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA12	USB_OTG_FS_DP	Alternate Function Push Pull	No pull-up and no pull-down	Low	
GPIO	PA1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED2

4.2. DMA configuration

nothing configured in DMA service

4.3. BDMA configuration

DMA request	Stream	Direction	Priority
ADC3	BDMA_Channel0	Peripheral To Memory	Low

ADC3: BDMA_Channel0 DMA request Settings:

Mode: **Circular ***
Peripheral Increment: Disable
Memory Increment: **Enable ***
Peripheral Data Width: Half Word
Memory Data Width: Half Word

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	0	0
System tick timer	true	0	0
TIM1 update interrupt	true	15	0
USB On The Go FS global interrupt	true	0	0
BDMA channel0 global interrupt	true	0	0
PVD and AVD interrupts through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
USART1 global interrupt	unused		
FPU global interrupt	unused		
QUADSPI global interrupt	unused		
USB On The Go FS End Point 1 Out global interrupt	unused		
USB On The Go FS End Point 1 In global interrupt	unused		
HSEM1 global interrupt	unused		
ADC3 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
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	true	false
Debug monitor	false	true	false
Pendable request for system service	false	true	false
System tick timer	false	true	true

Enabled interrupt Table	Select for init sequence ordering	Generate IRQ handler	Call HAL handler
TIM1 update interrupt	false	true	true
USB On The Go FS global interrupt	false	true	true
BDMA channel0 global interrupt	false	true	true




* User modified value

5. System Views

5.1. Category view

5.1.1. Current

Category view Power Domain view

   Choose filters ...

... by Power Domain

☐ D1 ☐ D2 ☐ D3 ☒ None




Middleware

USB_DEVICE ✓

System Core	Analog	Timers	Connectivity	Multimedia	Security	Computing	Trace and Debug	Power and Thermal	Other
BDMA ✓	ADC3 ✓		QUADSPI ✓				DEBUG ✓		
CORTEX_M7 ✓			USART1 ✓						
DMA			USB_FS ✓						
GPIO ✓									
MDMA									
IVIC ✓									
RCC ✓									
SYS ✓									

5.1.2. Without filters

Category view Power Domain view

   Choose filters ...

... by Power Domain

☐ D1 ☐ D2 ☐ D3 ☒ None

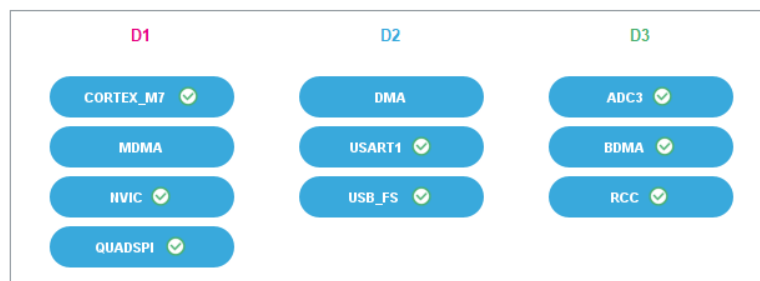
Middleware

USB_DEVICE ✓

System Core	Analog	Timers	Connectivity	Multimedia	Security	Computing	Trace and Debug	Power and Thermal	Other
BDMA ✓	ADC3 ✓		QUADSPI ✓				DEBUG ✓		
CORTEX_M7 ✓			USART1 ✓						
DMA			USB_FS ✓						
GPIO ✓									
MDMA									
NVIC ✓									
RCC ✓									
SYS ✓									

5.2. Power Domain view

Category view Power Domain view



6. Docs & Resources

Type	Link
BSDL files	https://www.st.com/resource/en/bsdl_model/stm32h7_bsd1.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-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/flpowerstbd.pdf
Flyers	https://www.st.com/resource/en/flyer/flstm32h7rs.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/an4539-hrtim-cookbook-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4566-extending-the-dac-performance-of-stm32-microcontrollers-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

Application Notes https://www.st.com/resource/en/application_note/an4891-stm32h72x-stm32h73x-and-singlecore-stm32h74x75x-system-architecture-and-performance-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4936-migration-of-microcontroller-applications-from-stm32f7-series-to-stm32h743753-line

stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4989-stm32-microcontroller-debug-toolbox-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4990-getting-started-with-sigmadelta-digital-interface-on-applicable-stm32-microcontrollers-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5027-interfacing-pdm-digital-microphones-using-stm32-mcus-and-mpus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5033-stm32cube-mcu-package-examples-for-stm32h7-series-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5073-receiving-spdif-audio-stream-with-the-stm32f4f7h7-series-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5312-migration-from-revy-to-revv-for-stm32h743753-and-stm32h750-value-line-microcontrollers-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5354-getting-started-with-the-stm32h7-series-mcu-16bit-adc-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4760-quadspi-interface-on-stm32-microcontrollers-and-microprocessors-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4899-stm32-microcontroller-gpio-hardware-settings-and-lowpower-consumption-stmicroelectronics.pdf

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Application Notes https://www.st.com/resource/en/application_note/an5293-migration-guide-from-stm32f7-series-to-stmh74x75x-stm32h72x73x-and-stmh7a37bx-devices-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4991-how-to-wake-up-an-stm32-microcontroller-from-lowpower-mode-with-the-usart-or-the-lpuart-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4838-introduction-to-memory-protection-unit-management-on-stm32-mcus-stmicroelectronics.pdf

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Application Notes https://www.st.com/resource/en/application_note/an5036-guidelines-for-thermal-management-on-stm32-applications-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5405-how-to-use-fdcan-bootloader-protocol-on-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5690-how-to-use-vrefbuf-peripheral-on-stm32-mcus-and-mpus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4230-introduction-to-random-number-generation-validation-using-the-nist-statistical-test-suite-for-stm32-mcus-and-mpus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an2867-guidelines-for-oscillator-design-on-stm8afals-and-stm32-mcus-mpus-stmicroelectronics.pdf

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fdcan-peripherals-for-stm32-mcus-stmicroelectronics.pdf

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