



1. Description

1.1. Project

Project Name	EEZ DIB DCP405plus
Board Name	custom
Generated with:	STM32CubeMX 6.15.0
Date	10/12/2025

1.2. MCU

MCU Series	STM32H5
MCU Line	STM32H503
MCU name	STM32H503CBTx
MCU Package	LQFP48
MCU Pin number	48

1.3. Core(s) information

Core(s)	Arm Cortex-M33
---------	----------------

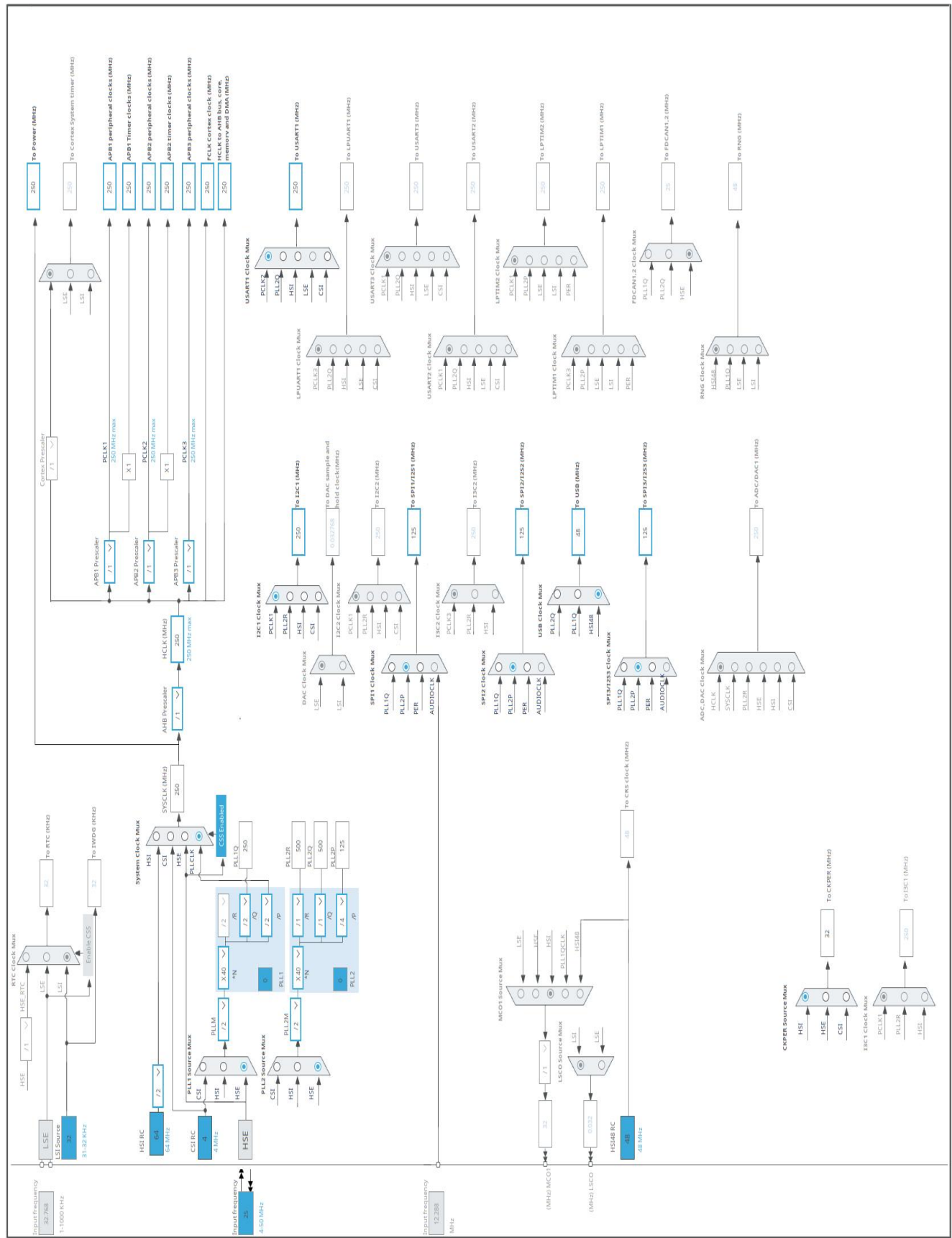
3. Pins Configuration

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
5	PH0-OSC_IN(PH0)	I/O	RCC_OSC_IN	
6	PH1-OSC_OUT(PH1)	I/O	RCC_OSC_OUT	
7	NRST	Reset		
8	VSSA	Power		
9	VDDA	Power		
10	PA0	I/O	SPI1_MISO	DIB_MISO
11	PA1	I/O	SPI1_NSS	DIB_CSA
12	PA2	I/O	SPI1_SCK	DIB_CLK
13	PA3	I/O	SPI3_MOSI	IOEXP_MOSI
14	PA4	I/O	SPI1_MOSI	DIB_MOSI
15	PA5	I/O	SPI2_SCK	DA_CLK
16	PA6	I/O	GPIO_EXTI6	IOEXP_IRQ
17	PA7	I/O	SPI2_MISO	DA_MISO
18	PB0	I/O	GPIO_EXTI0	DIB_IRQ
19	PB1	I/O	SPI2_MOSI	DA_MOSI
20	PB2	I/O	GPIO_EXTI2	ADC_IRQ
21	PB10	I/O	I2C1_SDA	DIB_SDA
22	VCAP	Power		
23	VSS	Power		
24	VDD	Power		
26	PB13	I/O	I2C1_SMBA	DIB_ALERT
27	PB14	I/O	USART1_TX	
28	PB15	I/O	SPI3_MISO	IOEXP_MISO
29	PA8 *	I/O	GPIO_Output	DAC_CS
30	PA9 *	I/O	GPIO_Output	ADC_CS
31	PA10 *	I/O	GPIO_Output	DIB_FAULT
32	PA11	I/O	USB_DM	
33	PA12	I/O	USB_DP	
34	PA13(JTMS/SWDIO)	I/O	DEBUG_JTMS-SWDIO	JTAG_DIO
35	VSS	Power		
36	VDD	Power		
37	PA14(JTCK/SWCLK)	I/O	DEBUG_JTCK-SWCLK	JTAG_CLK
38	PA15(JTDI)	I/O	SPI3_SCK	IOEXP_CLK
39	PB3(JTDO/TRACESWO)	I/O	DEBUG_JTDO-SWO	JTAG_SWO
40	PB4(NJTRST)	I/O	TIM1_CH2	AC_FREQ

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
42	PB6	I/O	I2C1_SCL	DIB_SCL
43	PB7	I/O	USART1_RX	
44	BOOT0	Boot		
46	VCAP	Power		
47	VSS	Power		
48	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	STM32H5
Line	STM32H503
MCU	STM32H503CBTx
Datasheet	DS00000_Rev0

1.2. Parameter Selection

Temperature	25
Vdd	3.0

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

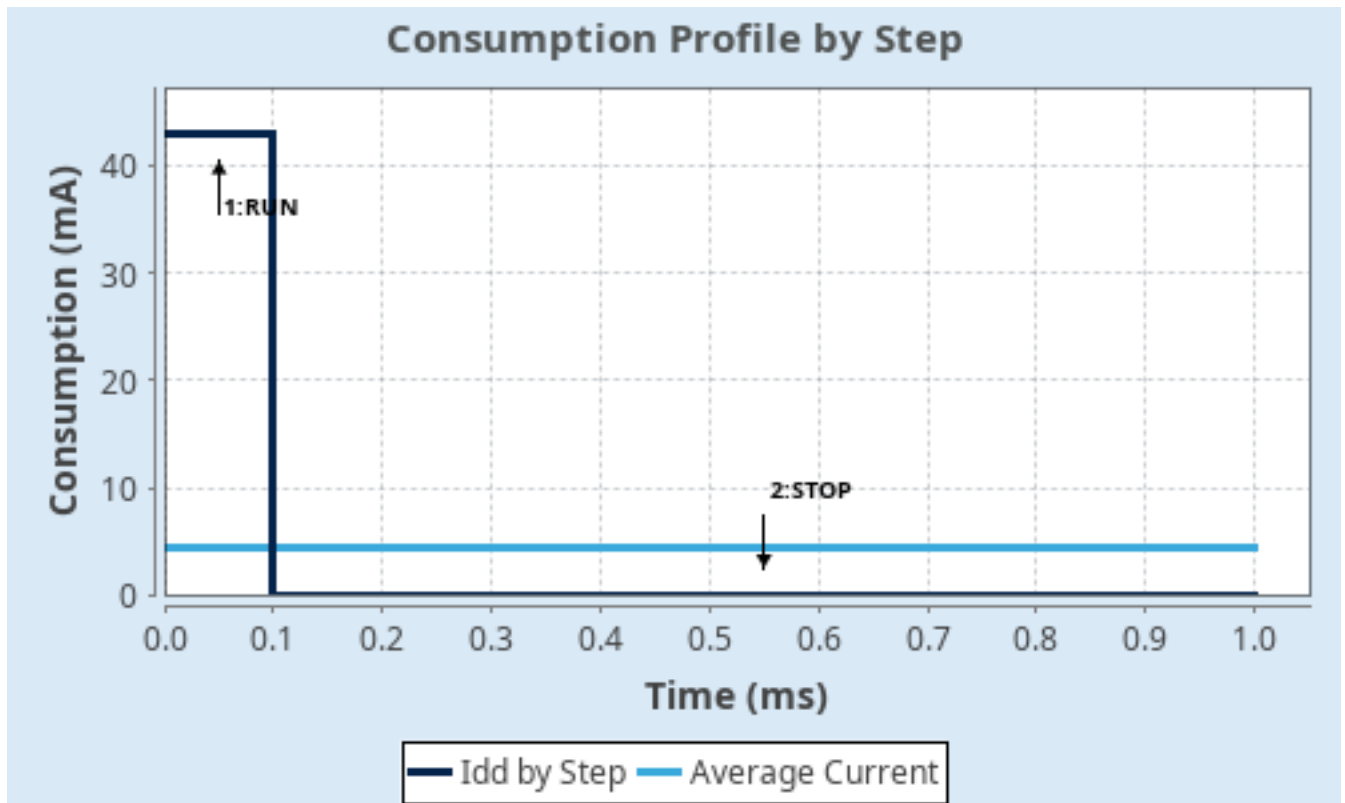
1.4. Sequence

Step	Step1	Step2
Mode	RUN	STOP
Vdd	3.0	3.0
Voltage Source	Battery	Battery
Range	VOS0: Scale0	SVOS5: System-Scale5
Fetch Type	FLASH/Cache 2Ways	Flash-PowerDownSleep
CPU Frequency	250 MHz	0 Hz
Clock Configuration	HSE BYP PLL ALL_IPs_ON ALL RAM RETENTION	ALL_CLOCKS_OFF
Clock Source Frequency	8 MHz	0 Hz
Peripherals		
Additional Cons.	0 mA	0 mA
Average Current	43 mA	52 µA
Duration	0.1 ms	0.9 ms
DMIPS	535.0	0.0
Ta Max	119.19	124.99
Category	In DS Table	In DS Table

1.5. Results

Sequence Time	1 ms	Average Current	4.35 mA
Battery Life	1 month, 2 days, 3 hours	Average DMIPS	535.0 DMIPS

1.6. Chart



2. Software Project

2.1. Project Settings

Name	Value
Project Name	EEZ DIB DCP405plus
Project Folder	/home/denis/BACKUP/EEZ/PCB/KiCad/EEZ DIB DCP405plus/CubeMX
Toolchain / IDE	EWARM V9.20
Firmware Package Name and Version	STM32Cube FW_H5 V1.5.0
Application Structure	Advanced
Generate Under Root	No
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 all used libraries into the project folder
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_USB_PCD_Init	USB
4	MX_I2C1_SMBUS_Init	I2C1
5	MX_SPI1_Init	SPI1
6	MX_SPI2_Init	SPI2
7	MX_SPI3_Init	SPI3
8	MX_USART1_UART_Init	USART1
9	MX_TIM1_Init	TIM1

3. *Peripherals and Middlewares Configuration*

3.1. BOOTPATH

mode: Activated

3.2. DEBUG

Debug: Trace Asynchronous Sw

3.3. I2C1

I2C: SMBus-Alert-mode

3.3.1. Parameter Settings:

Timing configuration:

I2C Speed Mode	Standard Mode
I2C Speed Frequency (KHz)	100
Rise Time (ns)	0
Fall Time (ns)	0
Coefficient of Digital Filter	0
Analog Filter	Enabled
Timing	0x60808CD3 *

SMBus Features:

Packet Error Check Mode	PEC Disabled
Peripheral Mode	Peripheral Mode Smbus Slave

SMBus Slave Features:

Clock No Stretch Mode	Disabled
General Call Address Detection	Disabled
Primary Address Length selection	7-bit
Dual Address Acknowledged	Disabled
Primary slave address	1

Timeout configuration:

Extended Clock Timeout	Disabled
Idle Clock Timeout Detection	Disabled
Timeout Time (ns)	25000000
Timeout	0x00008BEB *

3.4. MEMORYMAP

mode: Activated

3.5. PWR

mode: Power saving mode

mode: Privilege attributes

3.5.1. PWR Privilege :

Privilege PWR:

PWR Privilege	Disable
---------------	---------

3.6. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

3.6.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Flash Latency(WS)	5 WS (6 CPU cycle)
Flash Programming Delay	2

RCC Parameters:

HSI Calibration Value	64
CSI Calibration Value	16
HSE Startup Timeout Value (ms)	100
LSE Startup Timeout Value (ms)	5000

Power Parameters:

Power Regulator Voltage Scale	Power Regulator Voltage Scale 0
-------------------------------	---------------------------------

PLL1/2/3 Parameters:

PLL2 input frequency range	Between 8 and 16 MHz
----------------------------	----------------------

3.7. SPI1

Mode: Full-Duplex Slave

Hardware NSS Signal: Hardware NSS Input Signal

3.7.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	4 Bits
First Bit	MSB First

Clock Parameters:

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

CRC Parameters:

CRC Calculation	Disabled
-----------------	----------

Advanced Parameters:

NSS Signal Type	Input Hardware
Fifo Threshold	Fifo Threshold 01 Data
Nss Polarity	Nss Polarity Low
Master Ss Idleness	00 Cycle
Master Inter Data Idleness	00 Cycle
Master Receiver Auto Susp	Disable
Master Keep Io State	Master Keep Io State Disable
IO Swap	Disabled
Ready Signal Polarity	High

3.8. SPI2

Mode: Full-Duplex Master

3.8.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	4 Bits
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	2
Baud Rate	62.5 MBits/s *
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

CRC Parameters:

CRC Calculation	Disabled
-----------------	----------

Advanced Parameters:

NSSP Mode	Enabled
NSS Signal Type	Software
Fifo Threshold	Fifo Threshold 01 Data
Nss Polarity	Nss Polarity Low
Master Ss Idleness	00 Cycle
Master Inter Data Idleness	00 Cycle
Master Receiver Auto Susp	Disable

Master Keep Io State	Master Keep Io State Disable
IO Swap	Disabled
Ready Master Management	Internal
Ready Signal Polarity	High

3.9. SPI3

Mode: Full-Duplex Master

3.9.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	4 Bits
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	2
Baud Rate	62.5 MBits/s *
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

CRC Parameters:

CRC Calculation	Disabled
-----------------	----------

Advanced Parameters:

NSSP Mode	Enabled
NSS Signal Type	Software
Fifo Threshold	Fifo Threshold 01 Data
Nss Polarity	Nss Polarity Low
Master Ss Idleness	00 Cycle
Master Inter Data Idleness	00 Cycle
Master Receiver Auto Susp	Disable
Master Keep Io State	Master Keep Io State Disable
IO Swap	Disabled
Ready Master Management	Internal
Ready Signal Polarity	High

3.10. SYS

Timebase Source: SysTick

3.11. TIM1

Channel2: Input Capture direct mode

3.11.1. Parameter Settings:

Counter Settings:

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

Trigger Output (TRGO) Parameters:

Master/Slave Mode (MSM bit)	Disable (Trigger input effect not delayed)
Trigger Event Selection TRGO	Reset (UG bit from TIMx_EGR)
Trigger Event Selection TRGO2	Reset (UG bit from TIMx_EGR)

Input Capture Channel 2:

Polarity Selection	Rising Edge
IC Selection	Direct
Prescaler Division Ratio	No division
Input Filter (4 bits value)	0

3.12. USART1

Mode: Asynchronous

3.12.1. 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
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

3.13. USB

Mode: Device_Only

3.13.1. Parameter Settings:

Basic Parameters:

Speed	Full Speed 12MBit/s
Physical interface	Internal Phy
Signal start of frame	Disabled

Power Parameters:

Low Power	Disabled
Link Power Management	Disabled
Battery Charging	Disabled

EndPoint Parameters:

Bulk double buffer	Disabled
Iso single buffer	Disabled

*** 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	JTAG_DIO
	PA14(JTCK/SWCLK)	DEBUG_JTCK-SWCLK	n/a	n/a	n/a	JTAG_CLK
	PB3(JTDO/TRACESWO)	DEBUG_JTDO-SWO	n/a	n/a	n/a	JTAG_SWO
I2C1	PB10	I2C1_SDA	Alternate Function Open Drain	No pull-up and no pull-down	Low	DIB_SDA
	PB13	I2C1_SMBA	Alternate Function Open Drain	No pull-up and no pull-down	Low	DIB_ALERT
	PB6	I2C1_SCL	Alternate Function Open Drain	No pull-up and no pull-down	Low	DIB_SCL
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	
SPI1	PA0	SPI1_MISO	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	DIB_MISO
	PA1	SPI1_NSS	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	DIB_CSA
	PA2	SPI1_SCK	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	DIB_CLK
	PA4	SPI1_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	DIB_MOSI
SPI2	PA5	SPI2_SCK	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	DA_CLK
	PA7	SPI2_MISO	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	DA_MISO
	PB1	SPI2_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	DA_MOSI
SPI3	PA3	SPI3_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	High *	IOEXP_MOSI
	PB15	SPI3_MISO	Alternate Function Push Pull	No pull-up and no pull-down	High *	IOEXP_MISO
	PA15(JTDI)	SPI3_SCK	Alternate Function Push Pull	No pull-up and no pull-down	High *	IOEXP_CLK
TIM1	PB4(NJTRS)	TIM1_CH2	Alternate Function Push Pull	No pull-up and no pull-down	Low	AC_FREQ

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	T)					
USART1	PB14	USART1_TX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PB7	USART1_RX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
USB	PA11	USB_DM	n/a	n/a	n/a	
	PA12	USB_DP	n/a	n/a	n/a	
GPIO	PA6	GPIO_EXTI6	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	IOEXP_IRQ
	PB0	GPIO_EXTI0	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	DIB_IRQ
	PB2	GPIO_EXTI2	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	ADC_IRQ
	PA8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	DAC_CS
	PA9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	ADC_CS
	PA10	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	DIB_FAULT

4.2. GPDMA1

4.3. GPDMA2

4.4. LINKEDLIST

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	15	0
Flash non-secure global interrupt	unused		
RCC non-secure global interrupt	unused		
EXTI Line0 interrupt	unused		
EXTI Line2 interrupt	unused		
EXTI Line6 interrupt	unused		
TIM1 Break interrupt	unused		
TIM1 Update interrupt	unused		
TIM1 Trigger and Commutation interrupts	unused		
TIM1 Capture Compare interrupt	unused		
I2C1 Event interrupt	unused		
I2C1 Error interrupt	unused		
SPI1 global interrupt	unused		
SPI2 global interrupt	unused		
SPI3 global interrupt	unused		
USART1 global interrupt	unused		
USB FS global interrupt	unused		
FPU 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	true
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

Enabled interrupt Table	Select for init sequence ordering	Generate IRQ handler	Call HAL handler
Pendable request for system service	false	true	false
System tick timer	false	true	true

* User modified value

5. System Views

5.1. Category view

5.1.1. Current

Middleware

System Core	Analog	Timers	Connectivity	Multimedia	Security	Computing	Trace and Debug	Power and Thermal	Utilities	Other
CORTEX_M33_NS		TIM1 ✓	I2C1 ✓				DEBUG ✓	PWR ✓	LINKEDLIST	
GPDMA1			SPI1 ✓							
GPDMA2			SPI2 ✓							
GPIO ✓			SPI3 ✓							
NVIC ✓			USART1 ✓							
RCC ✓			USB ✓							
SYS ✓										

6. Docs & Resources

Type	Link
BSDL files	https://www.st.com/resource/en/bsdl_model/stm32h5-bsdl.zip
IBIS models	https://www.st.com/resource/en/ibis_model/stm32h5-ibis.zip
System View Description	https://www.st.com/resource/en/svd/stm32h5-svd.zip
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_software_development_tools.pdf
Presentations	https://www.st.com/resource/en/product_presentation/microcontrollers-stm32h5-series-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-stm32-entry-level-graphics.pdf
Presentations	https://www.st.com/resource/en/product_presentation/stm32-graphics-solution-overview.pdf
Presentations	https://www.st.com/resource/en/product_presentation/stm32-graphics-solutions-detailed.pdf
Brochures	https://www.st.com/resource/en/brochure/products-and-solutions-for-plcs-and-smart-i-os.pdf
Flyers	https://www.st.com/resource/en/flyer/flstm32nucleo.pdf
Flyers	https://www.st.com/resource/en/flyer/flstm32h5.pdf
Security Bulletin	https://www.st.com/resource/en/technical_note/tn1474-security-bulletin-tn1474stpsirt-information-on-softwarebased--microarchitectural-timing-sidechannel-attacks-on-mcus-with-trustzone-for--armv8m-stmicroelectronics.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-uart-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/an4989-stm32-microcontroller-debug-toolbox-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/an4899-stm32-microcontroller-gpio-hardware-settings-and-lowpower-consumption-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5612-esd-protection-of-stm32-mcus-and-mpus-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

Application Notes https://www.st.com/resource/en/application_note/an5852-migrating-from-stm32f401-stm32f410-and-stm32f411-to-stm32h503-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5925-stm32cube-mcu-package-examples-for-stm32h5-series-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5927-i3c-protocol-used-in-the-stm32-bootloader-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5930-guidelines-for-power-management-on-stm32h5-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5711-getting-started-with-stm32h5-mcu-hardware-development-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4879-introduction-to-usb-hardware-and-pcb-guidelines-using-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5225-introduction-to-usb-typec-power-delivery-for-stm32-mcus-and-mpus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5342--how-to-use-error-correction-code-ecc-management-for-internal-memories-protection-on-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5872-introduction-to

the-system-architecture-and-performance-in-the-stm32h5-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4894-how-to-use-eeeprom-emulation-on-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5537-how-to-use-adc-oversampling-techniques-to-improve-signal-to-noise-ratio-on-stm32-mcus-stmicroelectronics.pdf

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/an6014-introduction-to-sfspi-versions-for-stm32h5-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

Application Notes https://www.st.com/resource/en/application_note/an4013-introduction-to-timers-for-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4277-how-to-use-pwm-shutdown-for-motor-control-and-digital-power-conversion-on-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4759-introduction-to-using-the-hardware-realtime-clock-rtc-and-the-tamper-management-unit-tamp-with-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4908-getting-started-with-uart-automatic-baud-rate-detection-for-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5156-introduction-to

security-for-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5212-how-to-use-stm32-cache-to-optimize-performance-and-power-efficiency-for-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5593-how-to-use-the-gpdma-for-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5879-introduction-to-i3c-for-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5543-guidelines-for-enhanced-spi-communication-on-stm32-mcus-and-mpus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5959-migrating-within-the-stm32h5-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an6008-getting-started-with-debug-authentication-da-for-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5348-introduction-to-fdcan-peripherals-for-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/cd00211314-how-to-optimize-the-adc-accuracy-in-the-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an2639-soldering-recommendations-and-package-information-for-leadfree-ecopack2-mcus-and-mpus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an6202-how-to-calibrate-internal-rc-oscillators-on-stm32h5-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an6246-guidelines-for-estimating-stm32h5-mcus-lifetime-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4566-how-to-extend-the-dac-performance-on-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4657-stm32-inapplication-programming-iap-using-the-usart-stmicroelectronics.pdf
for related Tools
& Software

Application Notes https://www.st.com/resource/en/application_note/an4841-digital-signal-processing-for-stm32-microcontrollers-using-cmsis-stmicroelectronics.pdf
for related Tools

& Software

Application Notes https://www.st.com/resource/en/application_note/an5360-getting-started-for-related-Tools-with-projects-based-on-the-stm32mp1-series-in-stm32cubeide-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5361-getting-started-for-related-Tools-with-projects-based-on-dualcore-stm32h7-microcontrollers-in-stm32cubeide-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5394-getting-started-for-related-Tools-with-projects-based-on-the-stm32l5-series-in-stm32cubeide-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5418-how-to-build-a-simple-usbp-d-sink-application-with-stm32cubemx-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5426-migrating-graphics-middleware-projects-from-stm32cubemx-540-to-stm32cubemx-550-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5564-getting-started-for-related-Tools-with-projects-based-on-dualcore-stm32wl-microcontrollers-in-stm32cubeide-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5731-stm32cubemx-and-stm32cubeide-threadsafesolution-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5925-stm32cube-mcu-package-examples-for-stm32h5-series-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4502-stm32-smbus-pmbus-expansion-package-for-stm32cube-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4879-introduction-to-usb-hardware-and-pcb-guidelines-using-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5952-how-to-use-cmake-in-stm32cubeide-stmicroelectronics.pdf

& Software

Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an6007-getting-started-with-stirot-st-immutable-root-of-trust-for-stm32h5-mcus-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5054-how-to-perform-secure-programming-using-stm32cube programmer-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an6127-getting-started-with-stm32h7rx7sx-mcus-in-stm32cubeide-stmicroelectronics.pdf
Errata Sheets	https://www.st.com/resource/en/errata_sheet/es0561-stm32h503cbebkbrb-device-errata-stmicroelectronics.pdf
Datasheet	https://www.st.com/resource/en/datasheet/dm00903063.pdf
Programming Manuals	https://www.st.com/resource/en/programming_manual/pm0264-stm32-cortexm33-mcus-and-mpus-programming-manual-stmicroelectronics.pdf
Reference Manuals	https://www.st.com/resource/en/reference_manual/rm0492-stm32h503-line-armbased-32bit-mcus-stmicroelectronics.pdf
Technical Notes & Articles	https://www.st.com/resource/en/technical_note/tn1163-description-of-wlcsp-for-microcontrollers-and-recommendations-for-its-use-stmicroelectronics.pdf
Technical Notes & Articles	https://www.st.com/resource/en/technical_note/tn1204-tape-and-reel-shipping-media-for-stm32-microcontrollers-in-bga-packages-stmicroelectronics.pdf
Technical Notes & Articles	https://www.st.com/resource/en/technical_note/tn1205-tape-and-reel-shipping-media-for-stm8-and-stm32-microcontrollers-in-fpn-packages-stmicroelectronics.pdf
Technical Notes & Articles	https://www.st.com/resource/en/technical_note/tn1206-tape-and-reel-shipping-media-for-stm8-and-stm32-microcontrollers-in-qfp-packages-stmicroelectronics.pdf
Technical Notes & Articles	https://www.st.com/resource/en/technical_note/tn1207-tape-and-reel-shipping-media-for-stm8-and-stm32-microcontrollers-in-so-packages-stmicroelectronics.pdf
Technical Notes & Articles	https://www.st.com/resource/en/technical_note/tn1208-tape-and-reel-shipping-media-for-stm8-and-stm32-microcontrollers-in-tssop-and-ssop-packages-stmicroelectronics.pdf

Technical Notes & Articles	https://www.st.com/resource/en/technical_note/tn1433-reference-device-marking-schematics-for-stm32-microcontrollers-and-microprocessors-stmicroelectronics.pdf
User Manuals	https://www.st.com/resource/en/user_manual/um3150-stm32h5-series-safety-manual-stmicroelectronics.pdf
User Manuals	https://www.st.com/resource/en/user_manual/um3267-stm32h5-series-ulcsaiec-607301603351-selftest-library-user-guide-stmicroelectronics.pdf