
STM32
CubeMX

1. Description

1.1. Project

Project Name	IFP
Board Name	STM32F407G-DISC1
Generated with:	STM32CubeMX 6.14.1
Date	06/04/2025

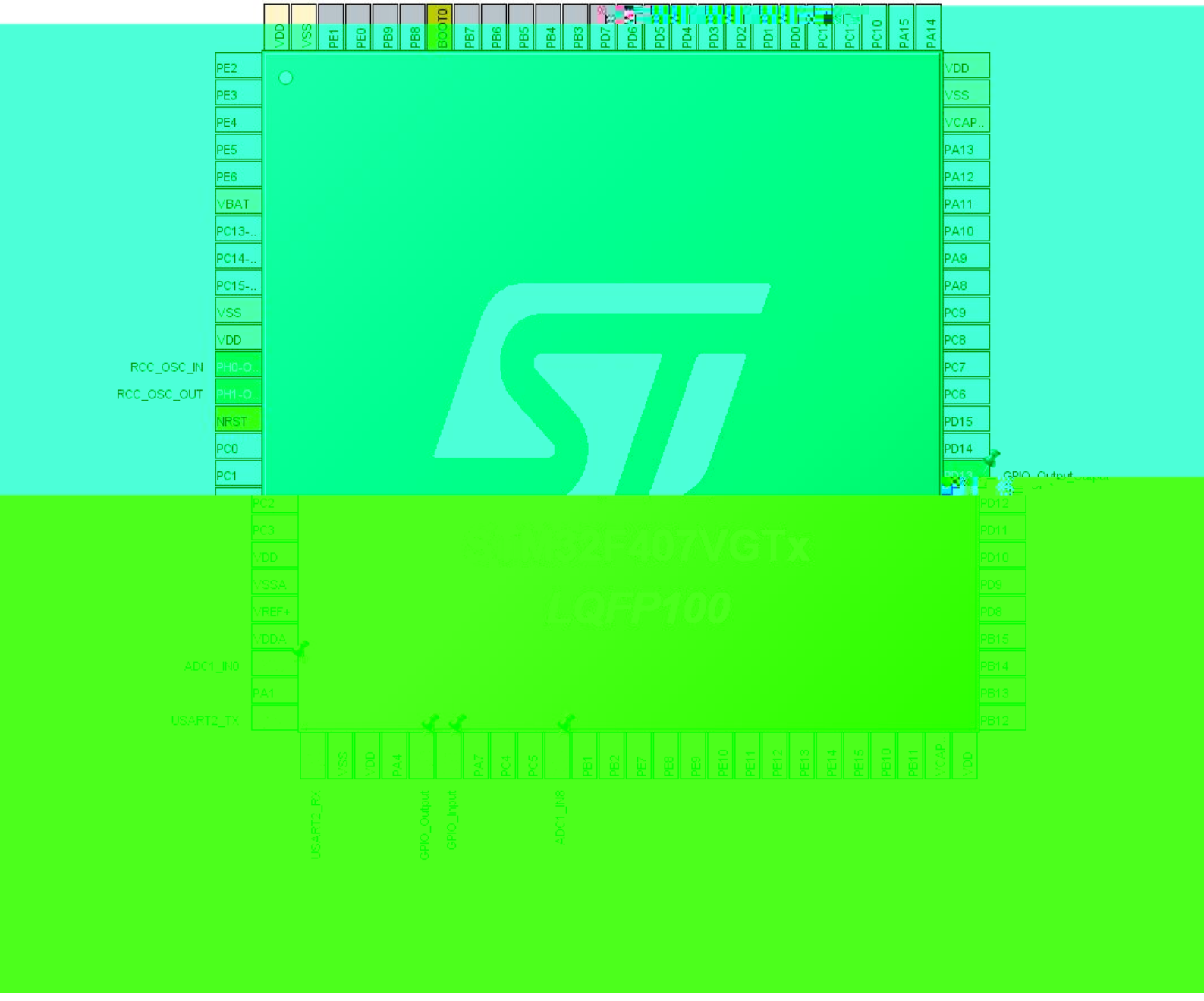
1.2. MCU

MCU Series	STM32F4
MCU Line	STM32F407/417
MCU name	STM32F407VGTx
MCU Package	LQFP100
MCU Pin number	100

1.3. Core(s) information

Core(s)	Arm Cortex-M4

2. Pinout Configuration

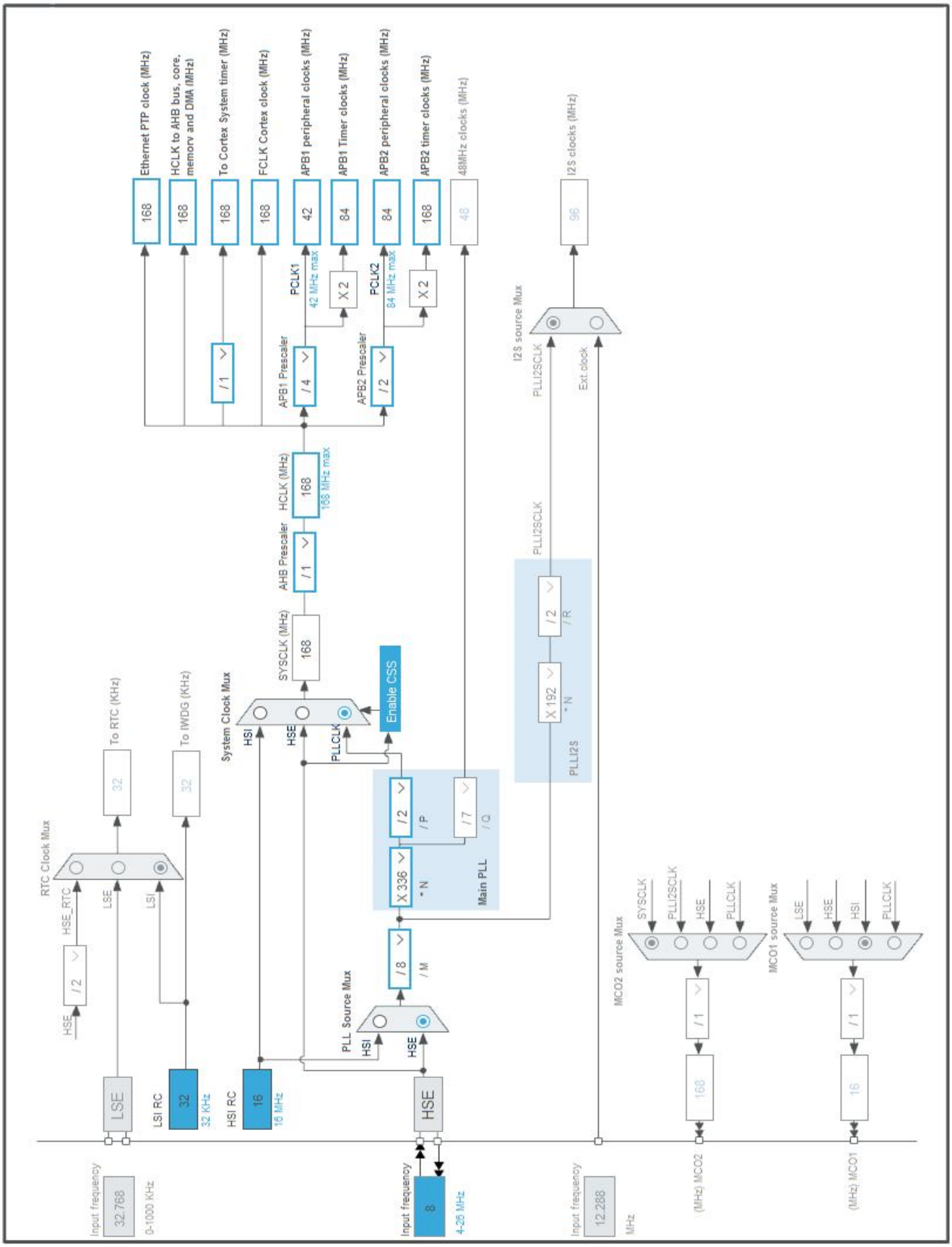


3. Pins Configuration

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
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	VDD	Power		
20	VSSA	Power		
21	VREF+	Power		
22	VDDA	Power		
23	PA0-WKUP	I/O	ADC1_IN0	
25	PA2	I/O	USART2_TX	
26	PA3	I/O	USART2_RX	
27	VSS	Power		
28	VDD	Power		
30	PA5 *	I/O	GPIO_Output	
31	PA6 *	I/O	GPIO_Input	
35	PB0	I/O	ADC1_IN8	
49	VCAP_1	Power		
50	VDD	Power		
60	PD13 *	I/O	GPIO_Output	
73	VCAP_2	Power		
74	VSS	Power		
75	VDD	Power		
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	STM32F4
Line	STM32F407/417
MCU	STM32F407VGTx
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

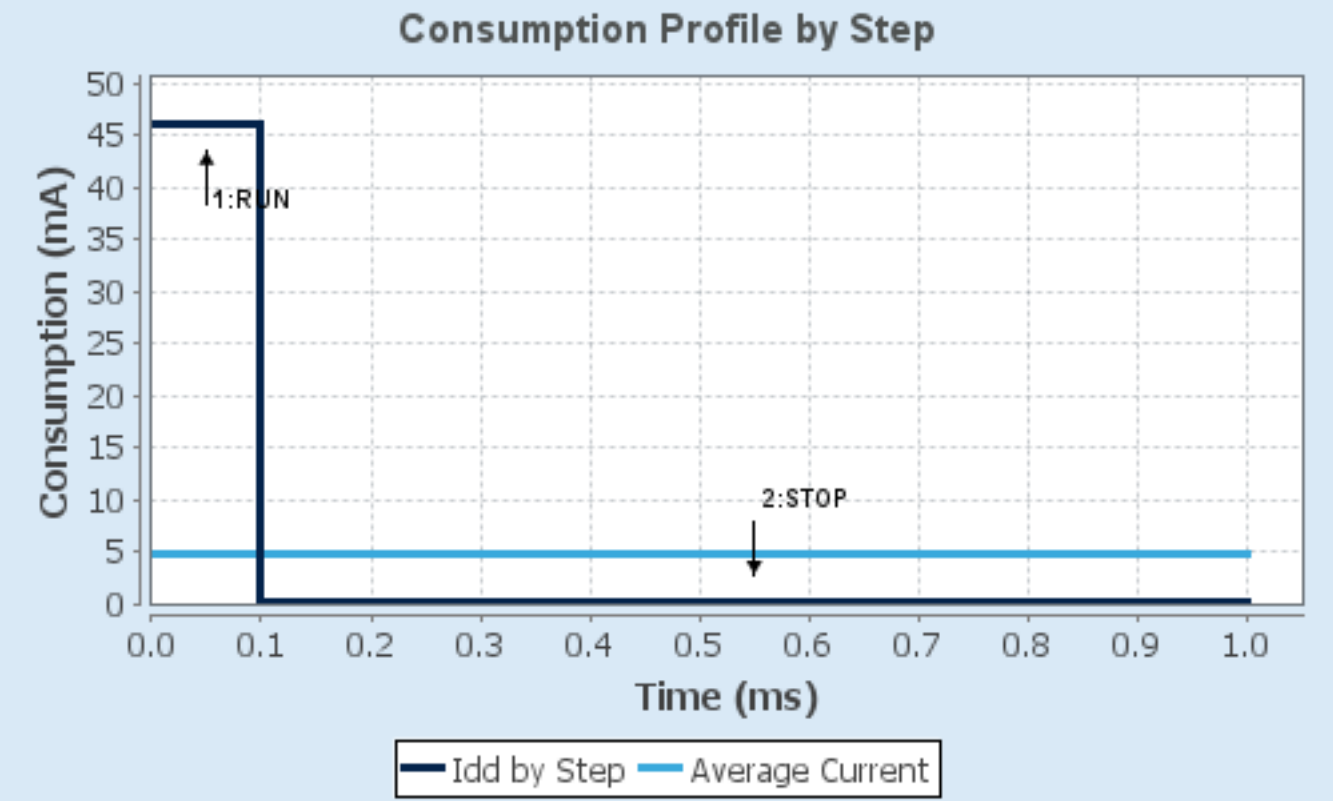
1.4. Sequence

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	98.47	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. Software Project

2.1. Project Settings

Name	Value
Project Name	IFP
Project Folder	C:\Users\deepa\STM32CubeIDE\workspace_1.18.1\IFP
Toolchain / IDE	STM32CubeIDE
Firmware Package Name and Version	STM32Cube FW_F4 V1.28.2
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	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_ADC1_Init	ADC1
4	MX_USART2_UART_Init	USART2

3. Peripherals and Middlewares Configuration

3.1. ADC1

mode: IN0

mode: IN8

3.1.1. Parameter Settings:

ADCs_Common_Settings:

Mode	Independent mode

ADC_Settings:

Clock Prescaler	PCLK2 divided by 4
Resolution	12 bits (15 ADC Clock cycles)
Data Alignment	Right alignment
Scan Conversion Mode	Enabled
Continuous Conversion Mode	Disabled
Discontinuous Conversion Mode	Disabled
DMA Continuous Requests	Disabled
End Of Conversion Selection	EOC flag at the end of single channel conversion

ADC_Regular_ConversionMode:

Number Of Conversion	**2 ***
External Trigger Conversion Source	Regular Conversion launched by software
External Trigger Conversion Edge	None
Rank	1
Channel	Channel 0
Sampling Time	**15 Cycles ***
Rank	**2 ***
Channel	**Channel 8 ***
Sampling Time	**15 Cycles ***

ADC_Injected_ConversionMode:

Number Of Conversions	0

WatchDog:

Enable Analog WatchDog Mode	false

3.2. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

3.2.1. 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

3.3. SYS

Timebase Source: SysTick

3.4. USART2

Mode: Asynchronous

3.4.1. 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

*** User modified value**

4. System Configuration

4.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
ADC1	PA0-WKUP	ADC1_IN0	Analog mode	No pull-up and no pull-down	n/a	
	PB0	ADC1_IN8	Analog mode	No pull-up and no pull-down	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	
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 ***	
GPIO	PA5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PA6	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PD13	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	

4.2. DMA configuration

nothing configured in DMA service

4.3. NVIC configuration

4.3.1. 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	0	0
System tick timer	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
ADC1, ADC2 and ADC3 global interrupts	unused		
USART2 global interrupt	unused		
FPU global interrupt	unused		

4.3.2. NVIC Code generation

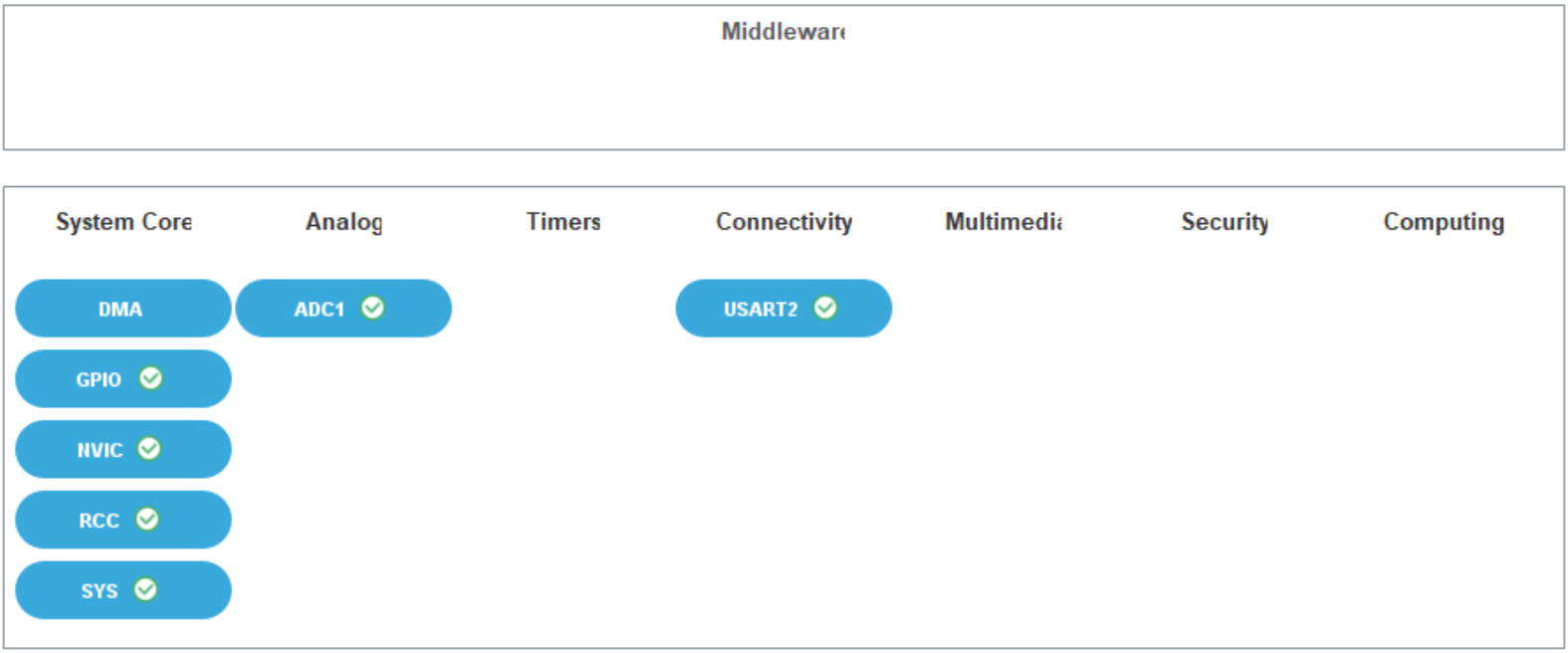
Enabled interrupt Table	Select for init sequence ordering	Generate IRQ handler	Call HAL handler
Non maskable interrupt	false	true	false
Hard fault interrupt	false	true	false
Memory management fault	false	true	false
Pre-fetch fault, memory access fault	false	true	false
Undefined instruction or illegal state	false	true	false
System service call via SWI instruction	false	true	false
Debug monitor	false	true	false
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



6. Docs & Resources

Type	Link
BSDL files	https://www.st.com/resource/en/bsdl_model/stm32f405-415_407-417_bsdl.zip
IBIS models	https://www.st.com/resource/en/ibis_model/stm32f405-415_407-417_ibis.zip
System View Description	https://www.st.com/resource/en/svd/stm32f4-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_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
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/flstm32trust.pdf
Product Certifications	https://www.st.com/resource/en/certification_document/stm32_authentication_can.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/an2945-stm8s-and-stm32-mcus-a-consistent-832bit-product-line-for-painless-migration-stmicroelectronics.pdf

Application Notes	https://www.st.com/resource/en/application_note/an3070-managing-the-driver-enable-signal-for-rs485-and-iolink-communications-with-the-stm32s-usart-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/an3154-can-protocol-used-in-the-stm32-bootloader-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/an3364-migration-and-compatibility-guidelines-for-stm32-microcontroller-applications-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an3371-using-the-hardware-realtime-clock-rtc-in-stm32-f0-f2-f3-f4-and-l1-series-of-mcus-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an3997-audio-playback-and-recording-using-the-stm32f4discovery-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an3998-pdm-audio-software-decoding-on-stm32-microcontrollers-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an4031-using-the-stm32f2-stm32f4-and-stm32f7-series-dma-controller-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an4073-how-to-improve-adc-accuracy-when-using-stm32f2xx-and-stm32f4xx-microcontrollers-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an4076-two-or-three-shunt-resistor-based-current-sensing-circuit-design-in-3phase-inverters-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/an4488-getting-started-with-stm32f4xxxx-mcu-hardware-development-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an4547-migrating-from-stm32f407xx417xx-to-stm32f427xx429xx437xx439xx-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/an4640-peripherals-interconnections-on-stm32f4057xx-stm32f4157xx-stm32f42xxx-stm32f43xxx-stm32f446xx-and-stm32f469479xx-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/an4739-stm32cube-firmware-examples-for-stm32f4-series-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/an4821-migrating-from-stm32f405415-line-and-stm32f407417-line-to-stm32l4-series-and-stm32l4-series-microcontrollers-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an4850-stm32-mcus-spreadspectrum-clock-generation-principles-properties-and-implementation-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/an4995-using-an-

	electromyogram-technique-to-detect-muscle-activity-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an5027-interfacing-pdm-digital-microphones-using-stm32-mcus-and-mpus-stmicroelectronics.pdf
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Application Notes	https://www.st.com/resource/en/application_note/an2867-guidelines-for-oscillator-design-on-stm8afals-and-stm32-mcusmpus-stmicroelectronics.pdf
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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
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for related Tools & Software	receivers-for-infrared-remote-control-protocols-using-stm32f10xxx-microcontrollers-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an3241-qvga-tftlcd-direct-drive-using-the-stm32f10xx-fsmc-peripheral-stmicroelectronics.pdf
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Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an3988-clock-configuration-tool-for-stm32f40xx41xx427x437x-microcontrollers-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an3990-upgrading-stm32f4discovery-board-firmware-using-a-usb-key-stmicroelectronics.pdf
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& Software	
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4044-floating-point-unit-demonstration-on-stm32-microcontrollers-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4323-getting-started-with-stemwin-library-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4365-using-stm32f4-mcu-power-modes-with-best-dynamic-efficiency-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4435-guidelines-for-obtaining-ulcsaiec-607301603351-class-b-certification-in-any-stm32-application-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4457-implementing-an-emulated-uart-on-stm32f4-microcontrollers-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4499-stm32--nrf51822-bluetooth-low-energy-system-solution-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4657-stm32-inapplication-programming-iap-using-the-usart-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4666-parallel-synchronous-transmission-using-gpio-and-dma-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4678-full-duplex-spi-emulation-for-stm32f4-microcontrollers-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4701-proprietary-code-readout-protection-on-microcontrollers-of-the-stm32f4-series-stmicroelectronics.pdf
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Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4758-proprietary-code-readout-protection-on-stm32l4-stm32l4-stm32g4-and-stm32wb-series-mcus-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4841-digital-signal-processing-for-stm32-microcontrollers-using-cmsis-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4968-proprietary-code-read-out-protection-pcrop-on-stm32f72xxx-and-stm32f73xxx-microcontrollers-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5056-integration-guide-for-the-xcubesbsfu-stm32cube-expansion-package-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5360-getting-started-with-projects-based-on-the-stm32mp1-series-in-stm32cubeide-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5361-getting-started-with-projects-based-on-dualcore-stm32h7-microcontrollers-in-stm32cubeide-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5394-getting-started-with-projects-based-on-the-stm32l5-series-in-stm32cubeide-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5418-how-to-build-a-simple-usbpd-sink-application-with-stm32cubemx-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5426-migrating-graphics-middleware-projects-from-stm32cubemx-540-to-stm32cubemx-550-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5464-position-control-of-a-threephase-permanent-magnet-motor-using-xcubemcsdk-or-xcubemcsdkful-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5564-getting-started-with-projects-based-on-dualcore-stm32wl-microcontrollers-in-stm32cubeide-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an5698-adapting-the-

for related Tools & Software	xcubestl-functional-safety-package-for-stm32-iec-61508-compliant-to-other-safety-standards-stmicroelectronics.pdf
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