

STM32 CubeMX

1. Description

1.1. Project

Project Name	ProjektZespolowy
Board Name	NUCLEO-H743ZI2
Generated with:	STM32CubeMX 6.5.0
Date	05/25/2022

1.2. MCU

MCU Series	STM32H7
MCU Line	STM32H743/753
MCU name	STM32H743ZITx
MCU Package	LQFP144
MCU Pin number	144

1.3. Core(s) information

Core(s)	ARM Cortex-M7
---------	---------------



3. Pins Configuration

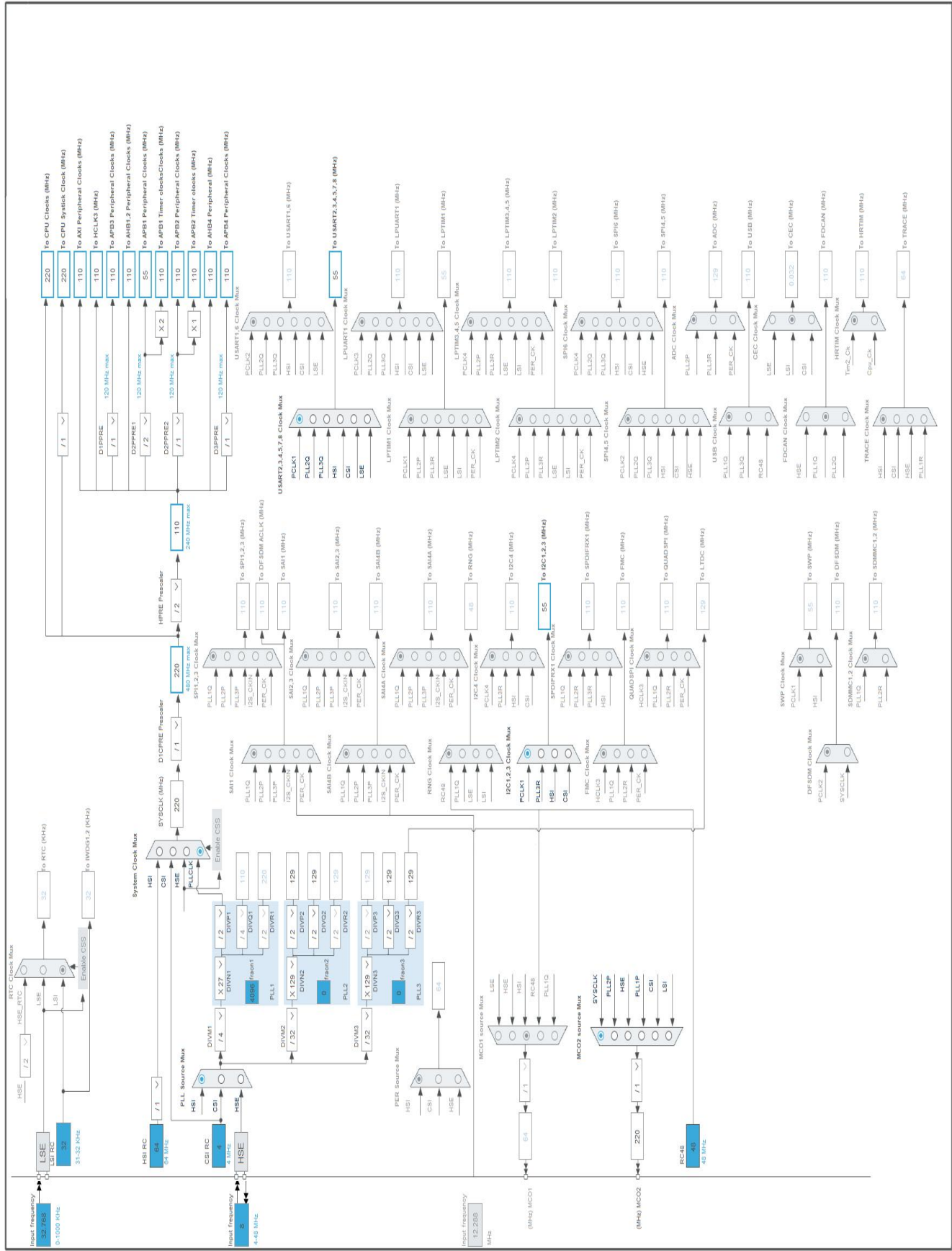
Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
3	PE4	I/O	DCMI_D4	
4	PE5	I/O	DCMI_D6	
5	PE6	I/O	DCMI_D7	
6	VBAT	Power		
7	PC13 *	I/O	GPIO_Input	B1 [Blue PushButton]
8	PC14-OSC32_IN (OSC32_IN)	I/O	RCC_OSC32_IN	
9	PC15-OSC32_OUT (OSC32_OUT) **	I/O	RCC_OSC32_OUT	
16	VSS	Power		
17	VDD	Power		
23	PH0-OSC_IN (PH0)	I/O	RCC_OSC_IN	
24	PH1-OSC_OUT (PH1)	I/O	RCC_OSC_OUT	
25	NRST	Reset		
30	VDD	Power		
31	VSSA	Power		
33	VDDA	Power		
36	PA2	I/O	USART2_TX	
37	PA3	I/O	USART2_RX	
38	VSS	Power		
39	VDD	Power		
40	PA4	I/O	DCMI_HSYNC	
42	PA6	I/O	DCMI_PIXCLK	
46	PB0 *	I/O	GPIO_Output	LD1 [Green Led]
51	VSS	Power		
52	VDD	Power		
56	PG0 *	I/O	GPIO_Input	ResetG0
57	PG1 *	I/O	GPIO_Output	PWDNPG1
61	VSS	Power		
62	VDD	Power		
71	VCAP	Power		
72	VDD	Power		
75	PB14 *	I/O	GPIO_Output	LD3 [Red Led]
77	PD8	I/O	USART3_TX	STLINK_RX
78	PD9	I/O	USART3_RX	STLINK_TX
79	PD10 *	I/O	GPIO_Output	USB_OTG_FS_PWR_EN

Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
83	VSS	Power		
84	VDD	Power		
92	PG7	I/O	GPIO_EXTI7	USB_OTG_FS_OVCR
94	VSS	Power		
95	VDD33_USB	Power		
96	PC6	I/O	DCMI_D0	
97	PC7	I/O	DCMI_D1	
99	PC9	I/O	RCC_MCO_2	
106	VCAP	Power		
107	VSS	Power		
108	VDD	Power		
117	PD3	I/O	DCMI_D5	
120	VSS	Power		
121	VDD	Power		
126	PG11	I/O	DCMI_D3	
130	VSS	Power		
131	VDD	Power		
136	PB6	I/O	I2C1_SCL	
137	PB7	I/O	DCMI_VSYNC	
138	BOOT0	Boot		
140	PB9	I/O	I2C1_SDA	
141	PE0	I/O	DCMI_D2	
143	PDR_ON	Reset		
144	VDD	Power		

* The pin is affected with an I/O function

** The pin is affected with a peripheral function but no peripheral mode is activated

4. Clock Tree Configuration



5. Software Project

5.1. Project Settings

Name	Value
Project Name	ProjektZespolowy
Project Folder	C:\Users\bttle\STM32CubeIDE\workspace_1.9.0\ProjektZespolowy
Toolchain / IDE	STM32CubeIDE
Firmware Package Name and Version	STM32Cube FW_H7 V1.10.0
Application Structure	Advanced
Generate Under Root	Yes
Do not generate the main()	No
Minimum Heap Size	0x200
Minimum Stack Size	0x400

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_USART3_UART_Init	USART3
5	MX_USART2_UART_Init	USART2
6	MX_DCMI_Init	DCMI
7	MX_I2C1_Init	I2C1
8	MX_JPEG_Init	JPEG

6. Power Consumption Calculator report

6.1. Microcontroller Selection

Series	STM32H7
Line	STM32H743/753
MCU	STM32H743ZITx
Datasheet	DS12110_Rev8

6.2. Parameter Selection

Temperature	25
Vdd	3.0

6.3. 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

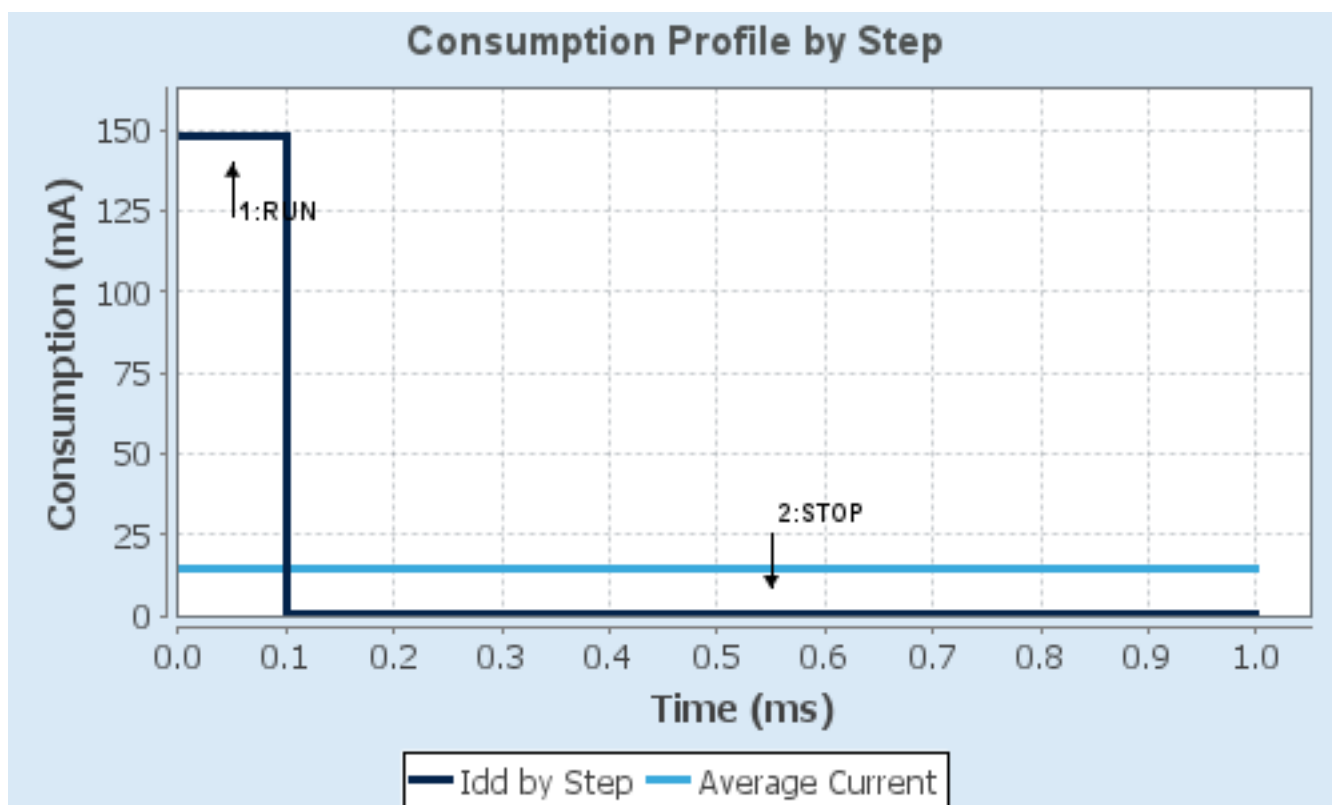
6.4. Sequence

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	105.46	124.98
Category	In DS Table	In DS Table

6.5. Results

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

6.6. Chart



7. Peripherals and Middlewares Configuration

7.1. DCMI

DCMI: Slave 8 bits External Synchro

7.1.1. Parameter Settings:

Mode Config:

Pixel clock polarity	Active on Falling edge
Vertical synchronization polarity	Active Low
Horizontal synchronization polarity	Active Low
Frequency of frame capture	All frames are captured
JPEG mode	Enabled *

Interface Capture Config:

Byte Select Mode	Interface captures all received bytes
Line Select Mode	Interface captures all received lines

7.2. I2C1

I2C: I2C

7.2.1. Parameter Settings:

Timing configuration:

Custom Timing	Disabled
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	0x10606BA1 *

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	0

7.3. JPEG

mode: Activated

7.3.1. Parameter Settings:

Version:

JPEG version jpeg1_v1_0

JPEG Software options:

ENCODE	Enabled
DECODE	Enabled
RGB_FORMAT	JPEG_ARGB8888
JPEG_SWAP_RG	0

7.4. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

Low Speed Clock (LSE) : BYPASS Clock Source

mode: Master Clock Output 2

7.4.1. Parameter Settings:

Power Parameters:

SupplySource	PWR_LDO_SUPPLY
Power Regulator Voltage Scale	Power Regulator Voltage Scale 2

RCC Parameters:

TIM Prescaler Selection	Disabled
HSE Startup Timeout Value (ms)	100
LSE Startup Timeout Value (ms)	5000
CSI Calibration Value	16
HSI Calibration Value	32

System Parameters:

VDD voltage (V)	3.3
Flash Latency(WS)	1 WS (2 CPU cycle)
Product revision	rev.Y

PLL range Parameters:

PLL1 clock Input range	Between 8 and 16 MHz
PLL1 clock Output range	Wide VCO range

7.5. SYS

Timebase Source: SysTick

7.6. USART2

Mode: Asynchronous

7.6.1. Parameter Settings:

Basic Parameters:

Baud Rate	9600 *
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

7.7. USART3

Mode: Asynchronous

7.7.1. 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

* User modified value

8. System Configuration

8.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
DCMI	PE4	DCMI_D4	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PE5	DCMI_D6	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PE6	DCMI_D7	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA4	DCMI_HSYNC	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA6	DCMI_PIXCLK	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC6	DCMI_D0	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC7	DCMI_D1	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PD3	DCMI_D5	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PG11	DCMI_D3	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PB7	DCMI_VSYNC	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PE0	DCMI_D2	Alternate Function Push Pull	No pull-up and no pull-down	Low	
I2C1	PB6	I2C1_SCL	Alternate Function Open Drain	No pull-up and no pull-down	Low	
	PB9	I2C1_SDA	Alternate Function Open Drain	No pull-up and no pull-down	Low	
RCC	PC14-OSC32_IN (OSC32_IN)	RCC_OSC32_IN	n/a	n/a	n/a	
	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	
	PC9	RCC_MCO_2	Alternate Function Push Pull	No pull-up and no pull-down	Low	
USART2	PA2	USART2_TX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA3	USART2_RX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
USART3	PD8	USART3_TX	Alternate Function Push Pull	No pull-up and no pull-down	Low	STLINK_RX
	PD9	USART3_RX	Alternate Function Push Pull	No pull-up and no pull-down	Low	STLINK_TX
Single Mapped Signals	PC15-OSC32_OUT	RCC_OSC32_OUT	n/a	n/a	n/a	
GPIO	PC13	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	B1 [Blue PushButton]
	PB0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD1 [Green Led]
	PG0	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	ResetG0
	PG1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	PWDNPG1
	PB14	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD3 [Red Led]
	PD10	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	USB_OTG_FS_PWR_EN

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PG7	GPIO_EXTI7	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	USB_OTG_FS_OVCR

8.2. DMA configuration

DMA request	Stream	Direction	Priority
USART2_RX	DMA1_Stream0	Peripheral To Memory	Low
USART2_TX	DMA1_Stream1	Memory To Peripheral	Low
DCMI	DMA1_Stream2	Peripheral To Memory	Low

USART2_RX: DMA1_Stream0 DMA request Settings:

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

USART2_TX: DMA1_Stream1 DMA request Settings:

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

DCMI: DMA1_Stream2 DMA request Settings:

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

8.3. BDMA configuration

nothing configured in DMA service

8.4. MDMA configuration

nothing configured in DMA service

8.5. NVIC configuration

8.5.1. 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
DMA1 stream0 global interrupt	true	0	0
DMA1 stream1 global interrupt	true	0	0
DMA1 stream2 global interrupt	true	0	0
USART2 global interrupt	true	0	0
PVD and AVD interrupts through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
EXTI line[9:5] interrupts	unused		
I2C1 event interrupt	unused		
I2C1 error interrupt	unused		
USART3 global interrupt	unused		
DCMI global interrupt	unused		
FPU global interrupt	unused		
JPEG global interrupt	unused		
HSEM1 global interrupt	unused		

8.5.2. 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
DMA1 stream0 global interrupt	false	true	true
DMA1 stream1 global interrupt	false	true	true
DMA1 stream2 global interrupt	false	true	true
USART2 global interrupt	false	true	true

* User modified value

9. System Views

9.1. Category view

9.1.1. Current

Category view

Power Domain view

Choose filters ...

... by Power Domain

D1

D2

D3

None

Middleware

System Core

Analog

Timers

Connectivity

Multimedia

Security

Computing

Trace and Debug

Power and Thermal

BDMA

CORTEX_M7

DMA

GPIO

MDMA

IVIC

RCC

SYS

I2C1

USART2

USART3

DCMI

JPEG

Page 20

9.1.2. Without filters

Category view

Power Domain view

Choose filters ...

... by Power Domain

D1

D2

D3

None

Middleware

System Core

Analog

Timers

Connectivity

Multimedia

Security

Computing

Trace and Debug

Power and Thermal

BDMA

CORTEX_M7

DMA

GPIO

MDMA

IVIC

RCC

SYS

I2C1

USART2

USART3

DCMI

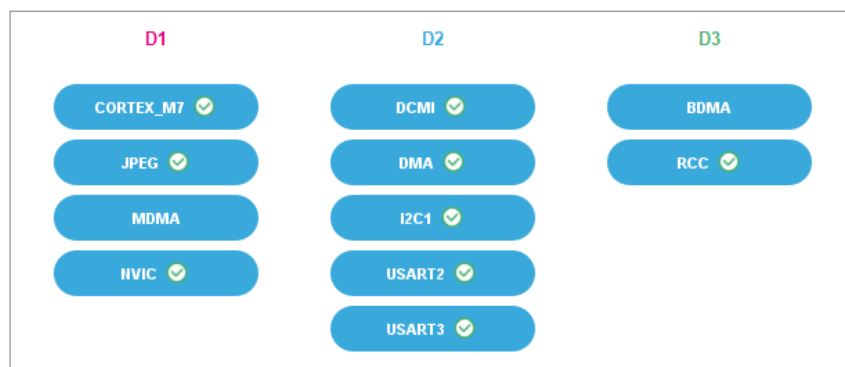
JPEG

Page 21

9.2. Power Domain view

Category view

Power Domain view



10. Docs & Resources

Type	Link
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
Training Material	https://www.st.com/resource/en/sales_guide/sg_sc2154.pdf
Training Material	https://www.st.com/resource/en/training_certification/faecp_stm32h7_dual_core_edr.pdf
Training Material	https://www.st.com/resource/en/training_certification/faecp_stm32h7_edr.pdf
Brochures	https://www.st.com/resource/en/brochure/brstm32h7.pdf
Brochures	https://www.st.com/resource/en/brochure/brstm32h7vl.pdf
Flyers	https://www.st.com/resource/en/flyer/flnucleolrwan.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
Application Notes	https://www.st.com/resource/en/application_note/an1181-electrostatic-discharge-sensitivity-measurement-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/an2639-soldering-recommendations-and-package-information-for-leadfree-ecopack-mcus

and-mpus-stmicroelectronics.pdf

- Application Notes https://www.st.com/resource/en/application_note/an2834-how-to-get-the-best-adc-accuracy-in-stm32-microcontrollers-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an2867-oscillator-design-guide-for-stm8afals-stm32-mcus-and-mpus-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/an4013-stm32-crossseries-timer-overview-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/an4229-how-to-implement-a-vocoder-solution-using-stm32-microcontrollers-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an4230-stm32-microcontroller-random-number-generation-validation-using-the-nist-statistical-test-suite-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/an4635-minimization-of-power-consumption-using-lpuart-for-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/an4759-using-the-hardware-realtime-clock-rtc-and-the-tamper-management-unit-tamp-with-stm32-microcontrollers-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/an4838-managing-memory-protection-unit-in-stm32-mcus-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/an4861-lcdtft-display-controller-ltdc-on-stm32-mcus-stmicroelectronics.pdf

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

Application Notes https://www.st.com/resource/en/application_note/an4908-stm32-usart-automatic-baud-rate-detection-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/an4938-getting-started-with-stm32h74xig-and-stm32h75xig-hardware-development-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/an4996-hardware-jpeg-

codec-peripheral-in-stm32f7677xxx-and-
stm32h743534555475750a3b3b0xx-microcontrollers-
stmicroelectronics.pdf

- Application Notes https://www.st.com/resource/en/application_note/an5020-digital-camera-interface-dcmi-on-stm32-mcus-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/an5036-thermal-management-guidelines-for-stm32-applications-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/an5156-introduction-to-stm32-microcontrollers-security-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an5200-getting-started-with-stm32h7-series-sdmmc-host-controller-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an5224-stm32-dmamux-the-dma-request-router-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an5225-usb-typec-power-delivery-using-stm32-mcus-and-mpus-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an5293-migration-guide-from-stm32f7-series-and-stm32h743753-line-to-stm32h7a37b3-and-stm32h7b0-value-line-devices-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/an5337-stm32h7-series-lifetime-estimates-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an5342-error-correction-code-ecc-management-for-internal-memories-protection-on-stm32h7-series-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an5348-fdcan-

peripheral-on-stm32-devices-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/an5405-fdcan-protocol-used-in-the-stm32-bootloader-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5543-enhanced-methods-to-handle-spi-communication-on-stm32-devices-stmicroelectronics.pdf

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

Application Notes https://www.st.com/resource/en/application_note/an5690-vrefbuf-peripheral-applications-and-trimming-technique-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/an1202_freertos_guide-for_related_Tools_freertos-guide-stmicroelectronics.pdf

& Software

Application Notes https://www.st.com/resource/en/application_note/an1602_semihosting_in_for_related_Tools_truestudio-how-to-do-semihosting-in-truestudio-stmicroelectronics.pdf

& Software

Application Notes https://www.st.com/resource/en/application_note/an1801_stm32cubeprog_for_related_Tools_rammer_in_truestudio-installing-stm32cubeprogrammer-in-truestudio-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/atollic_editing_keyboard_for_related_Tools_shortcuts-atollic-editing-keyboard-shortcuts-stmicroelectronics.pdf

& Software

Application Notes https://www.st.com/resource/en/application_note/iar_to_atollic_truestudio_for_related_Tools_migration_guide-truestudio-for-arm-migration-guide-iar-embedded-workbench-to-truestudio-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/stm32cubemx_installation_in_truestudio-stm32cubemx-installation-in-truestudio-stmicroelectronics.pdf

& Software

Application Notes [https://www.st.com/resource/en/application_note/an2606-stm32-](https://www.st.com/resource/en/application_note/an2606-stm32-for-related-Tools-microcontroller-system-memory-boot-mode-stmicroelectronics.pdf)
for related Tools [microcontroller-system-memory-boot-mode-stmicroelectronics.pdf](https://www.st.com/resource/en/application_note/an2606-stm32-for-related-Tools-microcontroller-system-memory-boot-mode-stmicroelectronics.pdf)
& Software

Application Notes [https://www.st.com/resource/en/application_note/an4323-getting-started-](https://www.st.com/resource/en/application_note/an4323-getting-started-with-stemwin-library-stmicroelectronics.pdf)
for related Tools [with-stemwin-library-stmicroelectronics.pdf](https://www.st.com/resource/en/application_note/an4323-getting-started-with-stemwin-library-stmicroelectronics.pdf)
& Software

Application Notes [https://www.st.com/resource/en/application_note/an4435-guidelines-for-](https://www.st.com/resource/en/application_note/an4435-guidelines-for-obtaining-ulcsaiec-607301603351-class-b-certification-in-any-stm32-application-stmicroelectronics.pdf)
for related Tools [obtaining-ulcsaiec-607301603351-class-b-certification-in-any-stm32-](https://www.st.com/resource/en/application_note/an4435-guidelines-for-obtaining-ulcsaiec-607301603351-class-b-certification-in-any-stm32-application-stmicroelectronics.pdf)
& Software [application-stmicroelectronics.pdf](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 [https://www.st.com/resource/en/application_note/an4502-stm32-](https://www.st.com/resource/en/application_note/an4502-stm32-smbuspmbus-embedded-software-expansion-for-stm32cube-stmicroelectronics.pdf)
for related Tools [smbuspmbus-embedded-software-expansion-for-stm32cube-](https://www.st.com/resource/en/application_note/an4502-stm32-smbuspmbus-embedded-software-expansion-for-stm32cube-stmicroelectronics.pdf)
& Software [stmicroelectronics.pdf](https://www.st.com/resource/en/application_note/an4502-stm32-smbuspmbus-embedded-software-expansion-for-stm32cube-stmicroelectronics.pdf)

Application Notes [https://www.st.com/resource/en/application_note/an4635-minimization-of-](https://www.st.com/resource/en/application_note/an4635-minimization-of-power-consumption-using-lpuart-for-stm32-microcontrollers-stmicroelectronics.pdf)
for related Tools [power-consumption-using-lpuart-for-stm32-microcontrollers-](https://www.st.com/resource/en/application_note/an4635-minimization-of-power-consumption-using-lpuart-for-stm32-microcontrollers-stmicroelectronics.pdf)
& Software [stmicroelectronics.pdf](https://www.st.com/resource/en/application_note/an4635-minimization-of-power-consumption-using-lpuart-for-stm32-microcontrollers-stmicroelectronics.pdf)

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

Application Notes [https://www.st.com/resource/en/application_note/an4759-using-the-](https://www.st.com/resource/en/application_note/an4759-using-the-hardware-realtime-clock-rtc-and-the-tamper-management-unit-tamp-with-stm32-microcontrollers-stmicroelectronics.pdf)
for related Tools [hardware-realtime-clock-rtc-and-the-tamper-management-unit-tamp-with-](https://www.st.com/resource/en/application_note/an4759-using-the-hardware-realtime-clock-rtc-and-the-tamper-management-unit-tamp-with-stm32-microcontrollers-stmicroelectronics.pdf)
& Software [stm32-microcontrollers-stmicroelectronics.pdf](https://www.st.com/resource/en/application_note/an4759-using-the-hardware-realtime-clock-rtc-and-the-tamper-management-unit-tamp-with-stm32-microcontrollers-stmicroelectronics.pdf)

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

Application Notes [https://www.st.com/resource/en/application_note/an4891-stm32h72x-](https://www.st.com/resource/en/application_note/an4891-stm32h72x-stm32h73x-and-singlecore-stm32h74x75x-system-architecture-and-performance-stmicroelectronics.pdf)
for related Tools [stm32h73x-and-singlecore-stm32h74x75x-system-architecture-and-](https://www.st.com/resource/en/application_note/an4891-stm32h72x-stm32h73x-and-singlecore-stm32h74x75x-system-architecture-and-performance-stmicroelectronics.pdf)
& Software [performance-stmicroelectronics.pdf](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/an5001-stm32cube-](https://www.st.com/resource/en/application_note/an5001-stm32cube-expansion-package-for-stm32h7-series-mdma-stmicroelectronics.pdf)
for related Tools [expansion-package-for-stm32h7-series-mdma-stmicroelectronics.pdf](https://www.st.com/resource/en/application_note/an5001-stm32cube-expansion-package-for-stm32h7-series-mdma-stmicroelectronics.pdf)
& Software

Application Notes [https://www.st.com/resource/en/application_note/an5014-stm32h7x3-](https://www.st.com/resource/en/application_note/an5014-stm32h7x3-smart-power-management-expansion-package-for-stm32cube-stmicroelectronics.pdf)
for related Tools [smart-power-management-expansion-package-for-stm32cube-](https://www.st.com/resource/en/application_note/an5014-stm32h7x3-smart-power-management-expansion-package-for-stm32cube-stmicroelectronics.pdf)
& Software [stmicroelectronics.pdf](https://www.st.com/resource/en/application_note/an5014-stm32h7x3-smart-power-management-expansion-package-for-stm32cube-stmicroelectronics.pdf)

Application Notes [---

Page 28](https://www.st.com/resource/en/application_note/an5033-stm32cube-</p></div><div data-bbox=)

for related Tools & Software [mcu-package-examples-for-stm32h7-series-stmicroelectronics.pdf](#)

Application Notes [https://www.st.com/resource/en/application_note/an5054-secure-programming-using-stm32cube programmer-stmicroelectronics.pdf](#)

for related Tools & Software

Application Notes [https://www.st.com/resource/en/application_note/an5056-integration-guide-for-the-xcubesbsfu-stm32cube-expansion-package-stmicroelectronics.pdf](#)

for related Tools & Software

Application Notes [https://www.st.com/resource/en/application_note/an5360-getting-started-with-projects-based-on-the-stm32mp1-series-in-stm32cubeide-stmicroelectronics.pdf](#)

for related Tools & Software

Application Notes [https://www.st.com/resource/en/application_note/an5361-getting-started-with-projects-based-on-dualcore-stm32h7-microcontrollers-in-stm32cubeide-stmicroelectronics.pdf](#)

for related Tools & Software

Application Notes [https://www.st.com/resource/en/application_note/an5394-getting-started-with-projects-based-on-the-stm32l5-series-in-stm32cubeide-stmicroelectronics.pdf](#)

for related Tools & Software

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

for related Tools & Software

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

for related Tools & Software

Application Notes [https://www.st.com/resource/en/application_note/an5534-stm32h735gdk-firmware-upgrade-for-atbased-emw3080-wifi-module-stmicroelectronics.pdf](#)

for related Tools & Software

Application Notes [https://www.st.com/resource/en/application_note/an5564-getting-started-with-projects-based-on-dualcore-stm32wl-microcontrollers-in-stm32cubeide-stmicroelectronics.pdf](#)

for related Tools & Software

Application Notes [https://www.st.com/resource/en/application_note/an4865-lowpower-timer-lptim-applicative-use-cases-on-stm32-mcus-and-mpus-stmicroelectronics.pdf](#)

for related Tools & Software

Application Notes [https://www.st.com/resource/en/application_note/an5698-adapting-the-xcubestl-functional-safety-package-for-stm32-iec-61508-compliant-to-](#)

& Software	other-safety-standards-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5731-stm32cubemx-and-stm32cubeide-threadsafe-solution-stmicroelectronics.pdf
Design Notes & Tips	https://www.st.com/resource/en/design_tip/dt0117-microphone-array-beamforming-in-the-pcm-and-pdm-domain-stmicroelectronics.pdf
Errata Sheets	https://www.st.com/resource/en/errata_sheet/es0392-stm32h742xig-and-stm32h743xig-device-limitations-stmicroelectronics.pdf
Datasheet	https://www.st.com/resource/en/datasheet/dm00387108.pdf
Programming Manuals	https://www.st.com/resource/en/programming_manual/pm0253-stm32f7-series-and-stm32h7-series-cortexm7-processor-programming-manual-stmicroelectronics.pdf
Reference Manuals	https://www.st.com/resource/en/reference_manual/rm0433-stm32h742-stm32h743753-and-stm32h750-value-line-advanced-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