

# 1. Description

# 1.1. Project

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

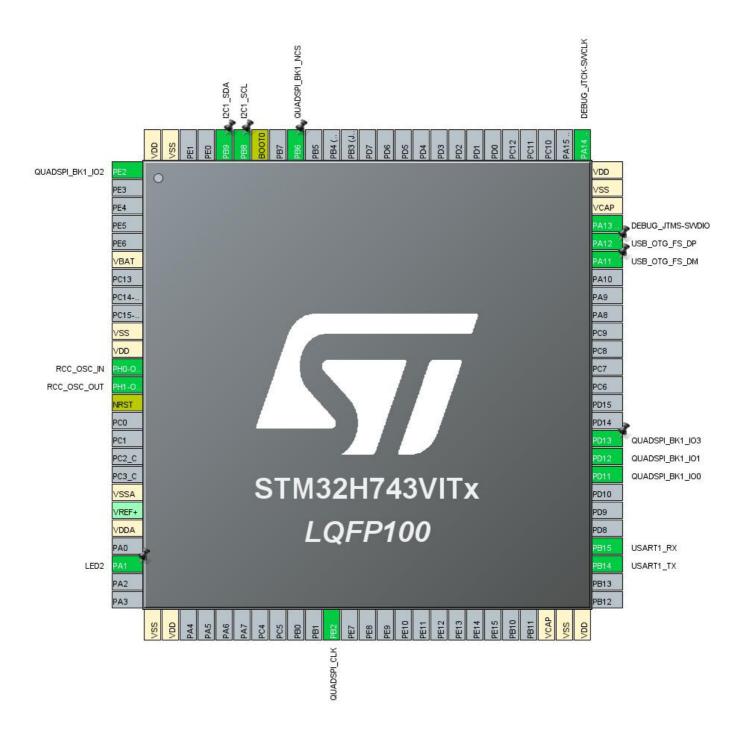
## 1.2. MCU

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

# 2. Pinout Configuration

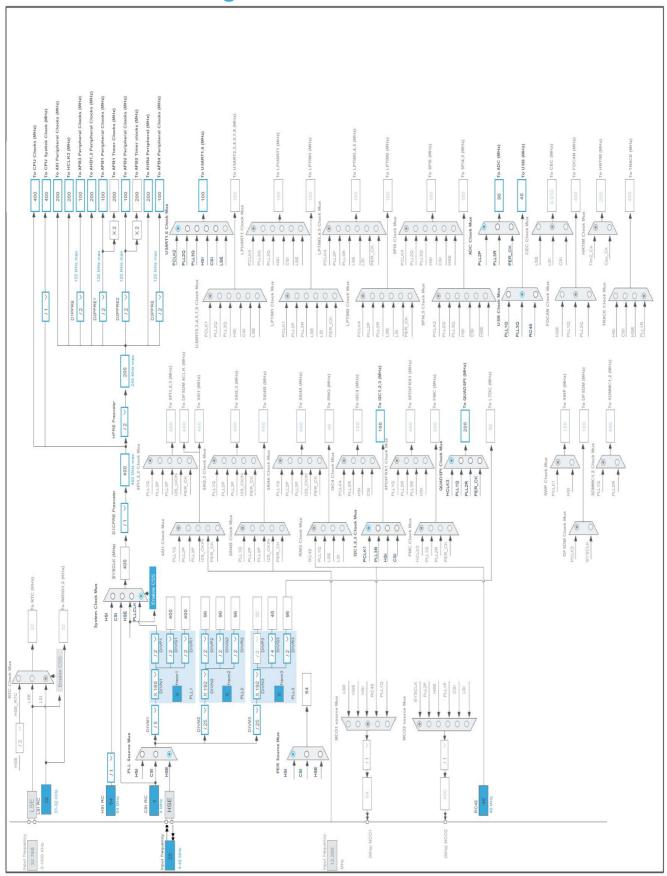


# 3. Pins Configuration

Pin Number	Pin Name	Pin Type	Alternate	Label
LQFP100	(function after		Function(s)	
	reset)			
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		
95	PB8	I/O	I2C1_SCL	
96	PB9	I/O	I2C1_SDA	
99	VSS	Power		
100	VDD	Power		

* The pin is affected with an I/O function		

# 4. Clock Tree Configuration



Page 5

# 1. Power Consumption Calculator report

### 1.1. Microcontroller Selection

Series	STM32H7
Line	STM32H743/753
мси	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	

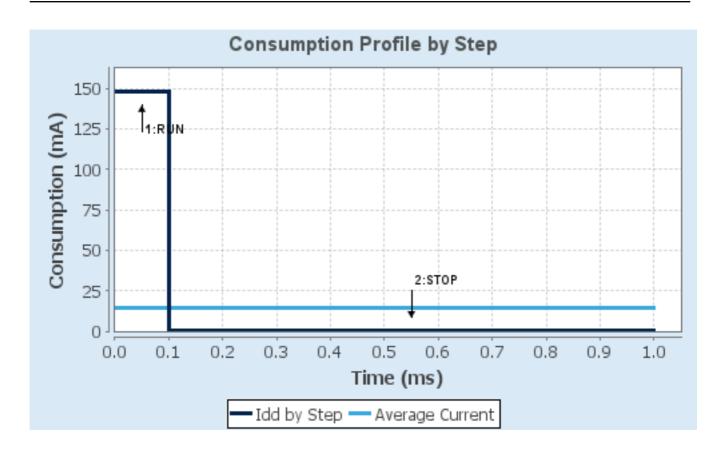
# 1.4. Sequence

	T	1
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 μΑ
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	No
consumption)	
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
8	MX_I2C1_Init	I2C1

# 3. Peripherals and Middlewares Configuration

#### 3.1. ADC3

mode: Temperature Sensor Channel

mode: Vrefint Channel3.1.1. Parameter Settings:

ADC\_Settings:

Clock Prescaler Asynchronous clock mode divided by 2 \*

Resolution ADC 16-bit resolution

Scan Conversion Mode

Continuous Conversion Mode

Disabled \*

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 ConversionsEnableEnable Regular OversamplingDisableOversampling Ratio1Number Of Conversion1

External Trigger Conversion Source Regular Conversion launched by software

External Trigger Conversion Edge None Rank 1

Channel Temperature Sensor

Sampling Time 810.5 Cycles \*

Offset Number No offset
Offset Signed Saturation Disable

ADC\_Injected\_ConversionMode:

Enable Injected Conversions Disable

**Analog Watchdog 1:** 

Enable Analog WatchDog1 Mode false

**Analog Watchdog 2:** 

Enable Analog WatchDog2 Mode false

**Analog Watchdog 3:** 

Enable Analog WatchDog3 Mode false

#### 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 AccessENABLEMPU Shareability PermissionDISABLEMPU Cacheable PermissionDISABLEMPU Bufferable PermissionDISABLE

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 Disable

**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. I2C1

12C: 12C

#### 3.4.1. 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 0x10C0ECFF \*

#### **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

#### 3.5. MEMORYMAP

mode: Activated

#### 3.6. QUADSPI

QuadSPI Mode: Bank1 with Quad SPI Lines

### 3.6.1. 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

#### 3.7. RCC

### High Speed Clock (HSE): Crystal/Ceramic Resonator

### 3.7.1. Parameter Settings:

#### **Power Parameters:**

SupplySource PWR\_LDO\_SUPPLY

Power Regulator Voltage Scale Power Regulator Voltage Scale 1

**RCC Parameters:** 

TIM Prescaler Selection Disabled
HSE Startup Timout Value (ms) 100
LSE Startup Timout 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

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

#### 3.8. SYS

**Timebase Source: TIM1** 

#### 3.9. USART1

**Mode: Asynchronous** 

### 3.9.1. 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 Disable **Data Inversion** Disable TX and RX Pins Swapping Enable Overrun DMA on RX Error Enable MSB First Disable

#### 3.10. USB\_OTG\_FS

### Mode: Device\_Only

#### 3.10.1. Parameter Settings:

Speed Full Speed 12MBit/s

Enable internal IP DMA

Low power

Disabled

Battery charging

Disabled

Link Power Management

Disabled

Use dedicated end point 1 interrupt

VBUS sensing

Disabled

Signal start of frame

Disabled

#### 3.11. USB DEVICE

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

#### 3.11.1. 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

#### 3.11.2. 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

DevEBox Project
Configuration Report

\* 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/SWDI O)	DEBUG_JTMS- SWDIO	n/a	n/a	n/a	
	PA14 (JTCK/SWC LK)	DEBUG_JTCK- SWCLK	n/a	n/a	n/a	
I2C1	PB8	I2C1_SCL	Alternate Function Open Drain	Pull-up *	Low	
	PB9	I2C1_SDA	Alternate Function Open Drain	Pull-up *	Low	
QUADSPI	PE2	QUADSPI_BK1_I O2	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_I O0	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD12	QUADSPI_BK1_I O1	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD13	QUADSPI_BK1_I O3	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.	<b>DMA</b>	confia	uration
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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			
I2C1 event interrupt	unused			
I2C1 error 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	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
<u> </u>			

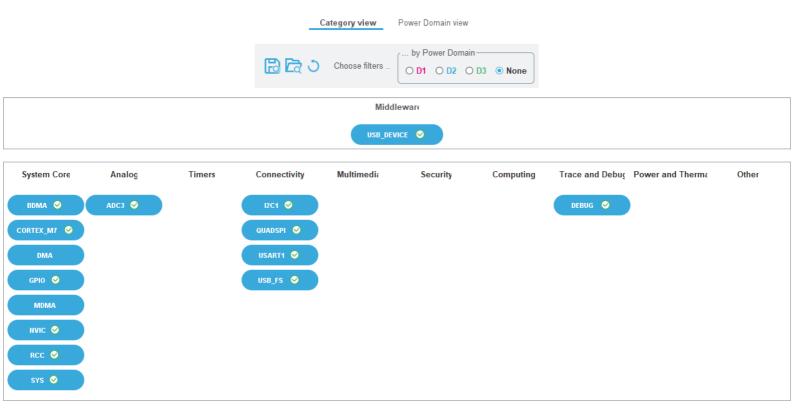
Enabled interrupt Table	Select for init	Generate IRQ	Call HAL handler
	sequence ordering	handler	
Pendable request for system service	false	true	false
System tick timer	false	true	true
TIM1 update interrupt	false	true	true
USB On The Go FS global interrupt	false	true	true
BDMA channel0 global interrupt	false	true	true

<sup>\*</sup> User modified value

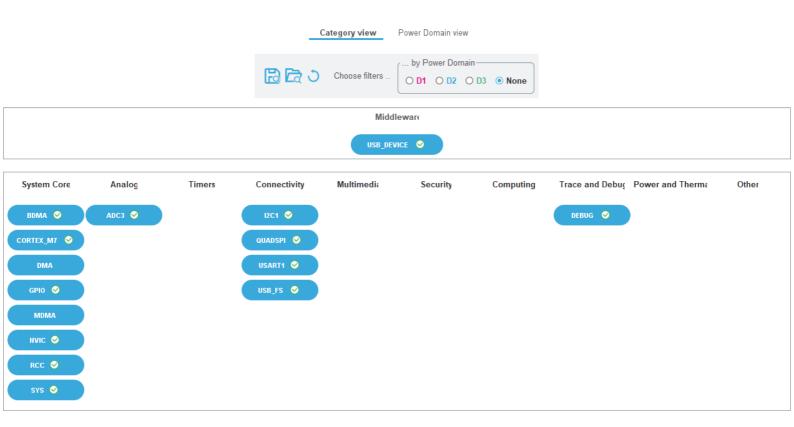
# 5. System Views

5.1. Category view

5.1.1. Current



## 5.1.2. Without filters



## 5.2. Power Domain view



Power Domain view

## 6. Docs & Resources

Type Link

BSDL files https://www.st.com/resource/en/bsdl\_model/stm32h7\_bsdl.zip

IBIS models https://www.st.com/resource/en/ibis\_model/stm32h7\_ibis.zip

System View https://www.st.com/resource/en/svd/stm32h7-svd.zip

Description

**Flyers** 

Presentations https://www.st.com/resource/en/product\_presentation/microcontrollers\_st

m32h7\_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\_functi

onal-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/flstm32h7rs.pdf

Security Bulletin https://www.st.com/resource/en/security\_bulletin/sb0023-eucleak-

https://www.st.com/resource/en/flyer/flpowerstbd.pdf

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-stm32cubemcu-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-revy-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-quadspiinterface-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
- 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/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
- 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/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-useerror-correction-code-ecc-management-for-internal-memories-protectionon-stm32-mcus-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application\_note/an4938-getting-started-with-stm32h74xig-and-stm32h75xig-mcu-hardware-development-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application\_note/an5537-how-to-use-adcoversampling-techniques-to-improve-signaltonoise-ratio-on-stm32-mcusstmicroelectronics.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
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