23/09/2025

1. Description

1.1. Project

Project Name	robot_chat_code
Board Name	custom
Generated with:	STM32CubeMX 6.9.2
Date	09/23/2025

1.2. MCU

MCU Series	STM32WB
MCU Line	STM32WBx5
MCU name	STM32WB55CCUx
MCU Package	UFQFPN48
MCU Pin number	48

1.3. Core(s) information

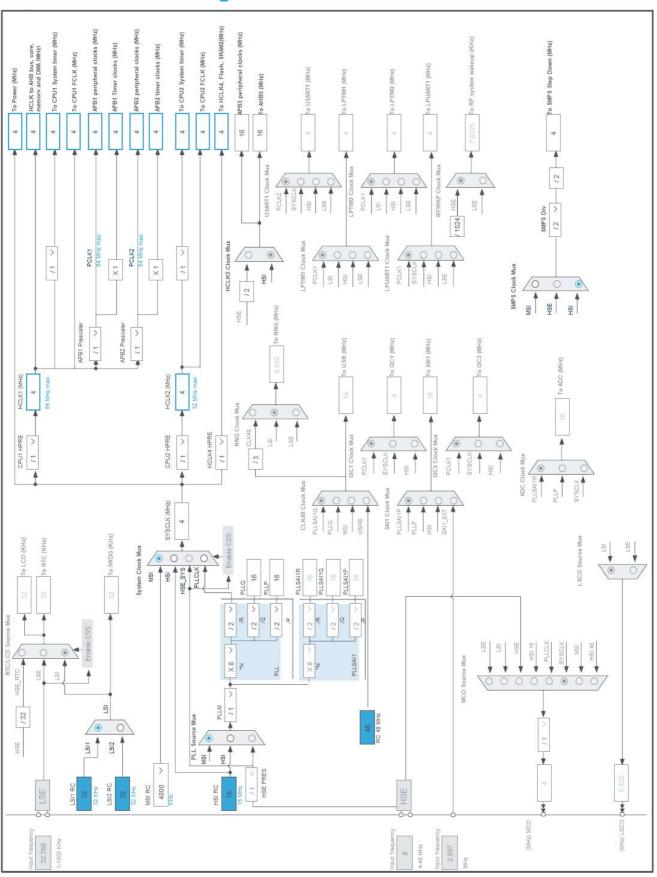|	
Core(s)	ARM Cortex-M4

2. Pinout Configuration

3. Pins Configuration

Pin Number UFQFPN48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
7	NRST	Reset		
8	VDDA	Power		
20	VDD	Power		
22	VSSRF	Power		
23	VDDRF	Power		
26	AT0	NC		
27	AT1	NC		
31	VFBSMPS	Power		
32	VSSSMPS	Power		
33	VLXSMPS	Power		
34	VDDSMPS	Power		
35	VDD	Power		
40	VDDUSB	Power		
48	VDD	Power		

4. Clock Tree Configuration

5. Software Project

5.1. Project Settings

Name	Value
Project Name	robot_chat_code
Project Folder	C:\Users\david\OneDrive\Bureau\Projet_ESE\Projet_Robot_Chat\Software
Toolchain / IDE	STM32CubeIDE
Firmware Package Name and Version	STM32Cube FW_WB V1.17.3
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	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

5.3. Advanced Settings - Generated Function Calls

Rank	Function Name	Peripheral Instance Name
1	SystemClock_Config	RCC
2	MX_MEMORYMAP_Init	MEMORYMAP

1. Power Consumption Calculator report

1.1. Microcontroller Selection

Series	STM32WB
Line	STM32WBx5
MCU	STM32WB55CCUx
Datasheet	DS11929_Rev3

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	STOP2
Vdd	3.0	3.0
Voltage Source	Battery	Battery
Range	Range1-High	NoRange
Fetch Type	SRAM1/Flash-PowerDown	FLASH/ART/CACHE
CPU Frequency	64 MHz	0 Hz
Clock Configuration	HSI PLL Regulator_ON	ALL CLOCKS OFF Regulator_ON
Clock Source Frequency	16 MHz	0 Hz
Peripherals		
Additional Cons.	0 mA	0 mA
Average Current	8.8 mA	1.85 µA
Duration	0.1 ms	0.9 ms
DMIPS	80.0	0.0
Ta Max	104.34	105
Category	In DS Table	In DS Table

1.5. Results

Sequence Time	1 ms	Average Current	881.66 µA
Battery Life	5 months, 7 days, 21 hours	Average DMIPS	8.0 DMIPS

1.6. Chart

Consumption Profile by Step

2. Peripherals and Middlewares Configuration

2.1. MEMORYMAP

mode: Activated

2.2. RCC

2.2.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Instruction Cache	Enabled
Prefetch Buffer	Enabled
Data Cache	Enabled
Flash Latency(WS)	0 WS (1 CPU cycle)

RCC Parameters:

HSI Calibration Value	16
MSI Calibration Value	0
MSI Auto Calibration	Disabled
MSI State	Enabled
HSI State	Enabled
HSE Startup Timout Value (ms)	100
LSE Startup Timout Value (ms)	5000

Power Parameters:

Power Regulator Voltage Scale	Power Regulator Voltage Scale 1

Peripherals Clock Configuration:

Generate the peripherals clock configuration	TRUE

2.3. SYS

Timebase Source: SysTick

* User modified value

3. System Configuration

3.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label

3.2. DMA configuration

nothing configured in DMA service

3.3. NVIC configuration

3.3.1. NVIC

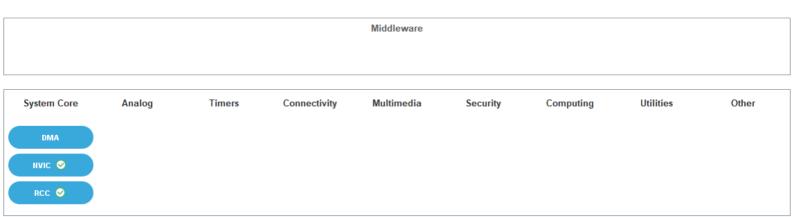| Interrupt Table	Enable	Preenmption Priority	SubPriority
Non maskable interrupt	true	0	0
Hard fault interrupt	true	0	0
Memory management fault	true	0	0
Prefetch fault, memory access fault	true	0	0
Undefined instruction or illegal state	true	0	0
System service call via SWI instruction	true	0	0
Debug monitor	true	0	0
Pendable request for system service	true	0	0
System tick timer	true	15	0
PVD/PVM0/PVM2 interrupts through EXTI lines 16/31/33	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
CPU2 SEV interrupt through EXTI line 40 and PWR CPU2 HOLD wake-up interrupt	unused		
PWR switching on the fly, end of BLE activity, end of 802.15.4 activity, end of critical radio phase interrupt	unused		
FPU global interrupt	unused		

3.3.2. 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
Prefetch 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

4. System Views

4.1. Category view

4.1.1. Current

5. Docs & Resources

Type   Link