



1. Description

1.1. Project

Project Name	Scout_Robot_Firmware
Board Name	NUCLEO-L476RG
Generated with:	STM32CubeMX 6.8.0
Date	03/28/2023

1.2. MCU

MCU Series	STM32L4
MCU Line	STM32L4x6
MCU name	STM32L476RGTx
MCU Package	LQFP64
MCU Pin number	64

1.3. Core(s) information

Core(s)	Arm Cortex-M4
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3. Pins Configuration

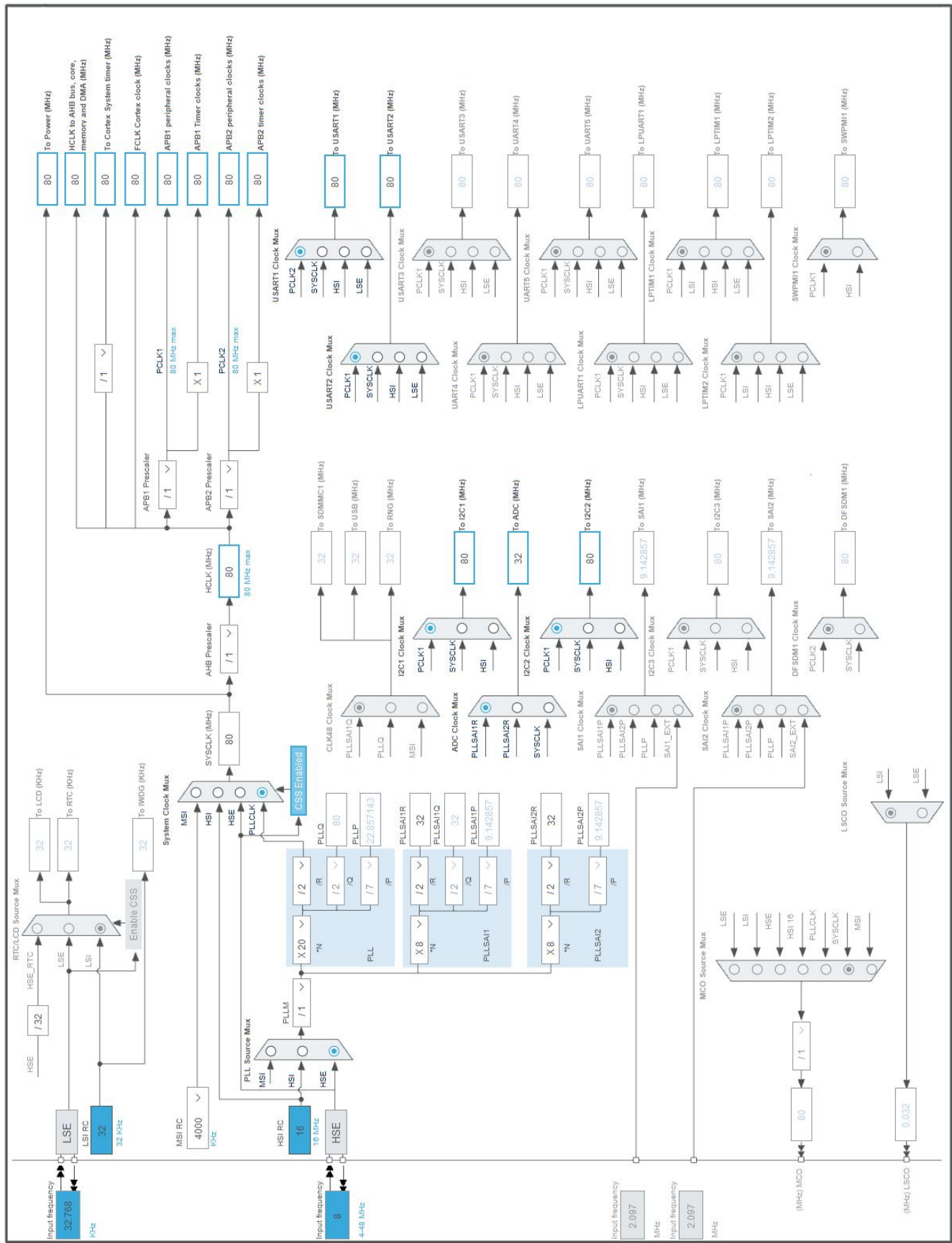
Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
2	PC13	I/O	GPIO_EXTI13	B1 [Blue PushButton]
3	PC14-OSC32_IN (PC14)	I/O	RCC_OSC32_IN	
4	PC15-OSC32_OUT (PC15)	I/O	RCC_OSC32_OUT	
5	PH0-OSC_IN (PH0)	I/O	RCC_OSC_IN	
6	PH1-OSC_OUT (PH1)	I/O	RCC_OSC_OUT	
7	NRST	Reset		
8	PC0	I/O	ADC1_IN1	MOT_A_CURR_ADC
9	PC1	I/O	ADC1_IN2	MOT_B_CURR_ADC
10	PC2	I/O	ADC1_IN3	MOT_C_CURR_ADC
11	PC3	I/O	ADC1_IN4	MOT_D_CURR_ADC
12	VSSA/VREF-	Power		
13	VDDA/VREF+	Power		
14	PA0 *	I/O	GPIO_Output	US_SENS_A_TRIG
15	PA1 *	I/O	GPIO_Output	US_SENS_B_TRIG
16	PA2	I/O	USART2_TX	USART_TX
17	PA3	I/O	USART2_RX	USART_RX
18	VSS	Power		
19	VDD	Power		
20	PA4 *	I/O	GPIO_Output	US_SENS_C_TRIG
21	PA5 *	I/O	GPIO_Output	LD2 [green Led]
22	PA6	I/O	ADC2_IN11	BAT_CURR_ADC
23	PA7	I/O	ADC2_IN12	V_BAT_ADC
24	PC4	I/O	ADC2_IN13	LIGHT_SENS_ADC
25	PC5	I/O	ADC2_IN14	V_CHRG_ADC
26	PB0 *	I/O	GPIO_Output	NRF_CSN
27	PB1 *	I/O	GPIO_Output	NRF_CE
28	PB2	I/O	GPIO_EXTI2	NRF_IRQ
29	PB10	I/O	I2C2_SCL	
30	PB11	I/O	I2C2_SDA	
31	VSS	Power		
32	VDD	Power		
34	PB13	I/O	SPI2_SCK	
35	PB14	I/O	SPI2_MISO	
36	PB15	I/O	SPI2_MOSI	
37	PC6	I/O	TIM3_CH1	MOT_A_PWM

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
38	PC7	I/O	TIM3_CH2	MOT_B_PWM
39	PC8	I/O	TIM3_CH3	MOT_C_PWM
40	PC9	I/O	TIM3_CH4	MOT_D_PWM
41	PA8	I/O	TIM1_CH1	US_SENS_A_ECHO
42	PA9	I/O	TIM1_CH2	US_SENS_B_ECHO
43	PA10	I/O	TIM1_CH3	US_SENS_C_ECHO
44	PA11 *	I/O	GPIO_Output	CHRG_EN
45	PA12 *	I/O	GPIO_Output	PWR_LEDS_EN
46	PA13 (JTMS-SWDIO)	I/O	SYS_JTMS-SWDIO	TMS
47	VSS	Power		
48	VDDUSB	Power		
49	PA14 (JTCK-SWCLK)	I/O	SYS_JTCK-SWCLK	TCK
50	PA15 (JTDI) *	I/O	GPIO_Output	MOT_D_DIR
51	PC10 *	I/O	GPIO_Output	MOT_C_DIR
52	PC11 *	I/O	GPIO_Output	MOT_B_DIR
53	PC12 *	I/O	GPIO_Output	MOT_A_DIR
54	PD2 *	I/O	GPIO_Output	MOT_EN
55	PB3 (JTDO-TRACESWO) **	I/O	SYS_JTDO-SWO	SWO
57	PB5 *	I/O	GPIO_Output	WSLED_DIN
58	PB6	I/O	USART1_TX	
59	PB7	I/O	USART1_RX	
60	BOOT0	Boot		
61	PB8	I/O	I2C1_SCL	
62	PB9	I/O	I2C1_SDA	
63	VSS	Power		
64	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	Scout_Robot_Firmware
Project Folder	C:\Pliki\Studia\VI SEM\RM&SR\embedded_software\Scout_Robot_Firmware
Toolchain / IDE	STM32CubeIDE
Firmware Package Name and Version	STM32Cube FW_L4 V1.17.2
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_GPIO_Init	GPIO
3	MX_USART2_UART_Init	USART2
4	MX_ADC1_Init	ADC1
5	MX_ADC2_Init	ADC2
6	MX_I2C1_Init	I2C1
7	MX_I2C2_Init	I2C2
8	MX_SPI2_Init	SPI2
9	MX_TIM1_Init	TIM1
10	MX_TIM3_Init	TIM3
11	MX_USART1_UART_Init	USART1

6. Power Consumption Calculator report

6.1. Microcontroller Selection

Series	STM32L4
Line	STM32L4x6
MCU	STM32L476RGTx
Datasheet	DS10198_Rev4

6.2. Parameter Selection

Temperature	25
Vdd	3.0

6.3. 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

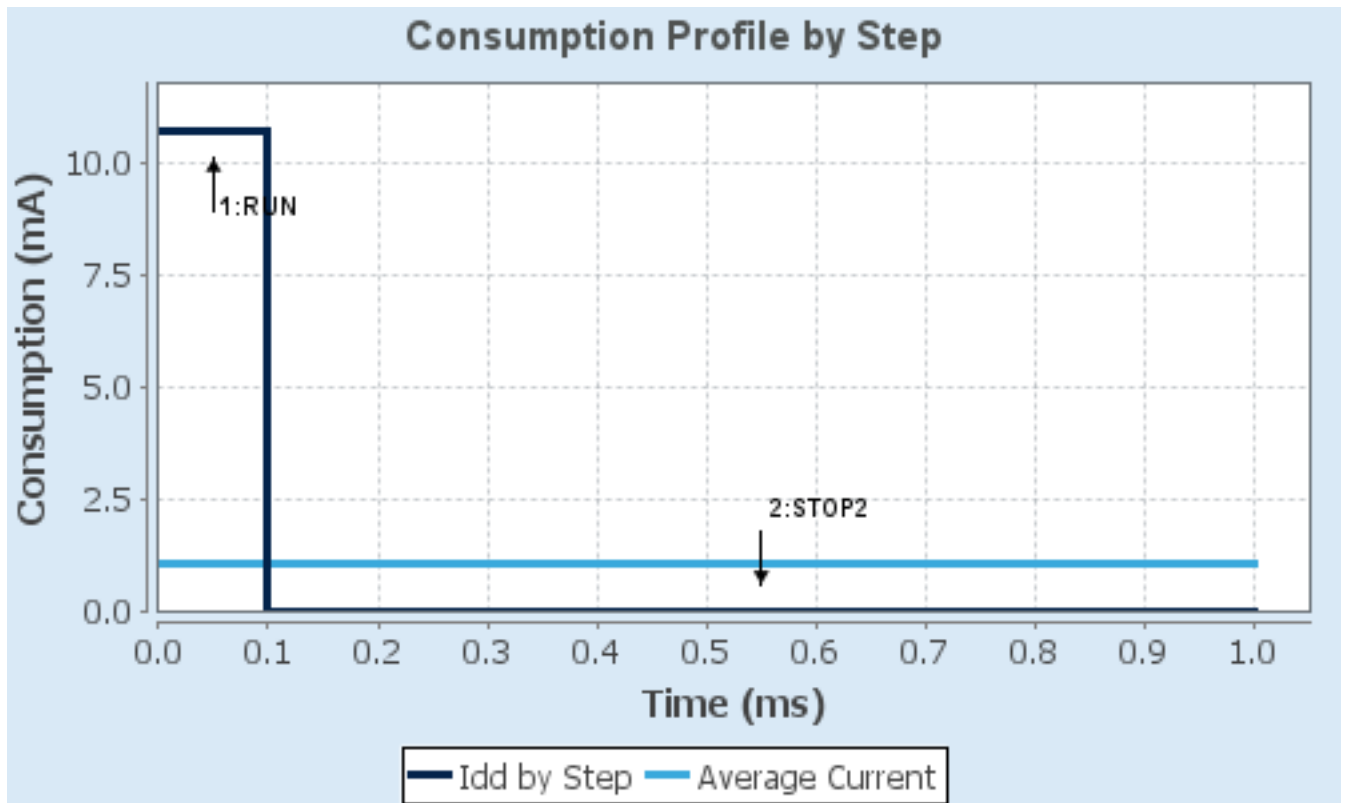
6.4. Sequence

Step	Step1	Step2
Mode	RUN	STOP2
Vdd	3.0	3.0
Voltage Source	Battery	Battery
Range	Range1-High	NoRange
Fetch Type	SRAM2	n/a
CPU Frequency	80 MHz	0 Hz
Clock Configuration	HSE PLL	ALL CLOCKS OFF
Clock Source Frequency	4 MHz	0 Hz
Peripherals		
Additional Cons.	0 mA	0 mA
Average Current	10.7 mA	1.18 μ A
Duration	0.1 ms	0.9 ms
DMIPS	100.0	0.0
Ta Max	103.56	105
Category	In DS Table	In DS Table

6.5. Results

Sequence Time	1 ms	Average Current	1.07 mA
Battery Life	4 months, 10 days, 3 hours	Average DMIPS	100.0 DMIPS

6.6. Chart



7. Peripherals and Middlewares Configuration

7.1. ADC1

IN1: IN1 Single-ended

IN2: IN2 Single-ended

IN3: IN3 Single-ended

IN4: IN4 Single-ended

7.1.1. Parameter Settings:

ADCs_Common_Settings:

Mode Independent mode

ADC_Settings:

Clock Prescaler Asynchronous clock mode divided by 1

Resolution ADC 12-bit resolution

Data Alignment Right alignment

Scan Conversion Mode Disabled

Continuous Conversion Mode Disabled

Discontinuous Conversion Mode Disabled

DMA Continuous Requests Disabled

End Of Conversion Selection End of single conversion

Overrun behaviour Overrun data preserved

Low Power Auto Wait Disabled

ADC_Regular_ConversionMode:

Enable Regular Conversions Enable

Enable Regular Oversampling Disable

Number Of Conversion 1

External Trigger Conversion Source Regular Conversion launched by software

External Trigger Conversion Edge None

Rank 1

Channel **Channel 2 ***

Sampling Time 2.5 Cycles

Offset Number No offset

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

7.2. ADC2

IN11: IN11 Single-ended

IN12: IN12 Single-ended

IN13: IN13 Single-ended

IN14: IN14 Single-ended

7.2.1. Parameter Settings:

ADCs_Common_Settings:

Mode Independent mode

ADC_Settings:

Clock Prescaler Asynchronous clock mode divided by 1

Resolution ADC 12-bit resolution

Data Alignment Right alignment

Scan Conversion Mode Disabled

Continuous Conversion Mode Disabled

Discontinuous Conversion Mode Disabled

DMA Continuous Requests Disabled

End Of Conversion Selection End of single conversion

Overrun behaviour Overrun data preserved

Low Power Auto Wait Disabled

ADC_Regular_ConversionMode:

Enable Regular Conversions Enable

Enable Regular Oversampling Disable

Number Of Conversion 1

External Trigger Conversion Source Regular Conversion launched by software

External Trigger Conversion Edge None

Rank 1

Channel Channel 11

Sampling Time 2.5 Cycles

Offset Number No offset

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

7.3. I2C1

I2C: I2C

7.3.1. 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	0x10909CEC *

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

7.4. I2C2

I2C: I2C

7.4.1. 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	0x10909CEC *

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

7.5. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

Low Speed Clock (LSE) : Crystal/Ceramic Resonator

7.5.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Instruction Cache	Enabled
Prefetch Buffer	Enabled *
Data Cache	Enabled
Flash Latency(WS)	4 WS (5 CPU cycle)

RCC Parameters:

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

Power Parameters:

Power Regulator Voltage Scale	Power Regulator Voltage Scale 1
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7.6. SPI2

Mode: Full-Duplex Master

7.6.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	4 Bits
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	2
Baud Rate	40.0 MBits/s *
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

Advanced Parameters:

CRC Calculation	Disabled
NSSP Mode	Enabled
NSS Signal Type	Software

7.7. SYS

Debug: Serial Wire

Timebase Source: SysTick

7.8. TIM1

Trigger Source: ITR0

Channel1: Input Capture direct mode

Channel2: Input Capture direct mode

Channel3: Input Capture direct mode

7.8.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	65535
Internal Clock Division (CKD)	No Division
Repetition Counter (RCR - 8 bits value)	0
auto-reload preload	Disable
Slave Mode Controller	Slave mode 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 1:

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

Input Capture Channel 2:

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

Input Capture Channel 3:

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

7.9. TIM3

Channel1: PWM Generation CH1

Channel2: PWM Generation CH2

Channel3: PWM Generation CH3

Channel4: PWM Generation CH4

7.9.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	65535
Internal Clock Division (CKD)	No Division
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)

Clear Input:

Clear Input Source	Disable
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PWM Generation Channel 1:

Mode	PWM mode 1
Pulse (16 bits value)	0
Output compare preload	Enable
Fast Mode	Disable
CH Polarity	High

PWM Generation Channel 2:

Mode	PWM mode 1
Pulse (16 bits value)	0
Output compare preload	Enable
Fast Mode	Disable
CH Polarity	High

PWM Generation Channel 3:

Mode	PWM mode 1
Pulse (16 bits value)	0

Output compare preload	Enable
Fast Mode	Disable
CH Polarity	High

PWM Generation Channel 4:

Mode	PWM mode 1
Pulse (16 bits value)	0
Output compare preload	Enable
Fast Mode	Disable
CH Polarity	High

7.10. USART1

Mode: Asynchronous

7.10.1. 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

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

7.11. USART2

Mode: Asynchronous

7.11.1. 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

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
ADC1	PC0	ADC1_IN1	Analog mode for ADC conversion	No pull-up and no pull-down	n/a	MOT_A_CURR_ADC
	PC1	ADC1_IN2	Analog mode for ADC conversion	No pull-up and no pull-down	n/a	MOT_B_CURR_ADC
	PC2	ADC1_IN3	Analog mode for ADC conversion	No pull-up and no pull-down	n/a	MOT_C_CURR_ADC
	PC3	ADC1_IN4	Analog mode for ADC conversion	No pull-up and no pull-down	n/a	MOT_D_CURR_ADC
ADC2	PA6	ADC2_IN11	Analog mode for ADC conversion	No pull-up and no pull-down	n/a	BAT_CURR_ADC
	PA7	ADC2_IN12	Analog mode for ADC conversion	No pull-up and no pull-down	n/a	V_BAT_ADC
	PC4	ADC2_IN13	Analog mode for ADC conversion	No pull-up and no pull-down	n/a	LIGHT_SENS_ADC
	PC5	ADC2_IN14	Analog mode for ADC conversion	No pull-up and no pull-down	n/a	V_CHRG_ADC
I2C1	PB8	I2C1_SCL	Alternate Function Open Drain	No pull-up and no pull-down	Very High *	
	PB9	I2C1_SDA	Alternate Function Open Drain	No pull-up and no pull-down	Very High *	
I2C2	PB10	I2C2_SCL	Alternate Function Open Drain	No pull-up and no pull-down	Very High *	
	PB11	I2C2_SDA	Alternate Function Open Drain	No pull-up and no pull-down	Very High *	
RCC	PC14-OSC32_IN (PC14)	RCC_OSC32_IN	n/a	n/a	n/a	
	PC15-OSC32_OUT (PC15)	RCC_OSC32_OUT	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	
SPI2	PB13	SPI2_SCK	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PB14	SPI2_MISO	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PB15	SPI2_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
SYS	PA13 (JTMS-SWDIO)	SYS_JTMS-SWDIO	n/a	n/a	n/a	TMS
	PA14 (JTCK-SWCLK)	SYS_JTCK-SWCLK	n/a	n/a	n/a	TCK
TIM1	PA8	TIM1_CH1	Alternate Function Push Pull	No pull-up and no pull-down	Low	US_SENS_A_ECHO
	PA9	TIM1_CH2	Alternate Function Push Pull	No pull-up and no pull-down	Low	US_SENS_B_ECHO
	PA10	TIM1_CH3	Alternate Function Push Pull	No pull-up and no pull-down	Low	US_SENS_C_ECHO
TIM3	PC6	TIM3_CH1	Alternate Function Push Pull	No pull-up and no pull-down	Low	MOT_A_PWM
	PC7	TIM3_CH2	Alternate Function Push Pull	No pull-up and no pull-down	Low	MOT_B_PWM
	PC8	TIM3_CH3	Alternate Function Push Pull	No pull-up and no pull-down	Low	MOT_C_PWM
	PC9	TIM3_CH4	Alternate Function Push Pull	No pull-up and no pull-down	Low	MOT_D_PWM
USART1	PB6	USART1_TX	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PB7	USART1_RX	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
USART2	PA2	USART2_TX	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	USART_TX
	PA3	USART2_RX	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	USART_RX
Single Mapped Signals	PB3 (JTDO-TRACESWO)	SYS_JTDO-SWO	n/a	n/a	n/a	SWO
GPIO	PC13	GPIO_EXTI13	External Interrupt Mode with Falling edge trigger detection	No pull-up and no pull-down	n/a	B1 [Blue PushButton]
	PA0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	US_SENS_A_TRIG
	PA1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	US_SENS_B_TRIG
	PA4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	US_SENS_C_TRIG
	PA5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD2 [green Led]
	PB0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	NRF_CSN
	PB1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	NRF_CE
	PB2	GPIO_EXTI2	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	NRF_IRQ
	PA11	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	CHRG_EN
	PA12	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	PWR_LEDS_EN

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PA15 (JTDI)	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	MOT_D_DIR
	PC10	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	MOT_C_DIR
	PC11	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	MOT_B_DIR
	PC12	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	MOT_A_DIR
	PD2	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	MOT_EN
	PB5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	WSLED_DIN

8.2. DMA configuration

nothing configured in DMA service

8.3. NVIC configuration

8.3.1. 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	0	0
PVD/PVM1/PVM2/PVM3/PVM4 interrupts through EXTI lines 16/35/36/37/38	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
EXTI line2 interrupt	unused		
ADC1 and ADC2 interrupts	unused		
TIM1 break interrupt and TIM15 global interrupt	unused		
TIM1 update interrupt and TIM16 global interrupt	unused		
TIM1 trigger and commutation interrupts and TIM17 global interrupt	unused		
TIM1 capture compare interrupt	unused		
TIM3 global interrupt	unused		
I2C1 event interrupt	unused		
I2C1 error interrupt	unused		
I2C2 event interrupt	unused		
I2C2 error interrupt	unused		
SPI2 global interrupt	unused		
USART1 global interrupt	unused		
USART2 global interrupt	unused		
EXTI line[15:10] interrupts	unused		
FPU global interrupt	unused		

8.3.2. 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

Enabled interrupt Table	Select for init sequence ordering	Generate IRQ handler	Call HAL handler
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

9. System Views

9.1. Category view

9.1.1. Current

10. Docs & Resources

Type	Link
BSDL files	https://www.st.com/resource/en/bsdl_model/stm32l4_bsdl.zip
IBIS models	https://www.st.com/resource/en/ibis_model/stm32l4_ibis.zip
System View Description	https://www.st.com/resource/en/svd/stm32l4_svd.zip
BSDL files	https://www.st.com/resource/en/bsdl_model/stm32l4_bsdl.zip
IBIS models	https://www.st.com/resource/en/ibis_model/stm32l4_ibis.zip
System View Description	https://www.st.com/resource/en/svd/stm32l4_svd.zip
Presentations	https://www.st.com/resource/en/product_presentation/stm32-stm8_embedded_software_solutions.pdf
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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_sc2157.pdf
Brochures	https://www.st.com/resource/en/brochure/brstm32ulp.pdf
Flyers	https://www.st.com/resource/en/flyer/flstm32l4.pdf
Flyers	https://www.st.com/resource/en/flyer/flstm32nucleo.pdf
Flyers	https://www.st.com/resource/en/flyer/flstmcsuite.pdf
Flyers	https://www.st.com/resource/en/flyer/flstm32trust.pdf
Flyers	https://www.st.com/resource/en/flyer/flstm32gui.pdf
Magazine Articles	https://www.st.com/resource/en/magazine/design-elektronik_august2017.pdf
Magazine Articles	https://www.st.com/resource/en/magazine/design-

	elektronik_october2016.pdf
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