

1. Description

1.1. Project

Project Name	L476-DISCO-SERVO-TEST
Board Name	STM32L476G-DISCO
Generated with:	STM32CubeMX 6.8.0
Date	04/23/2023

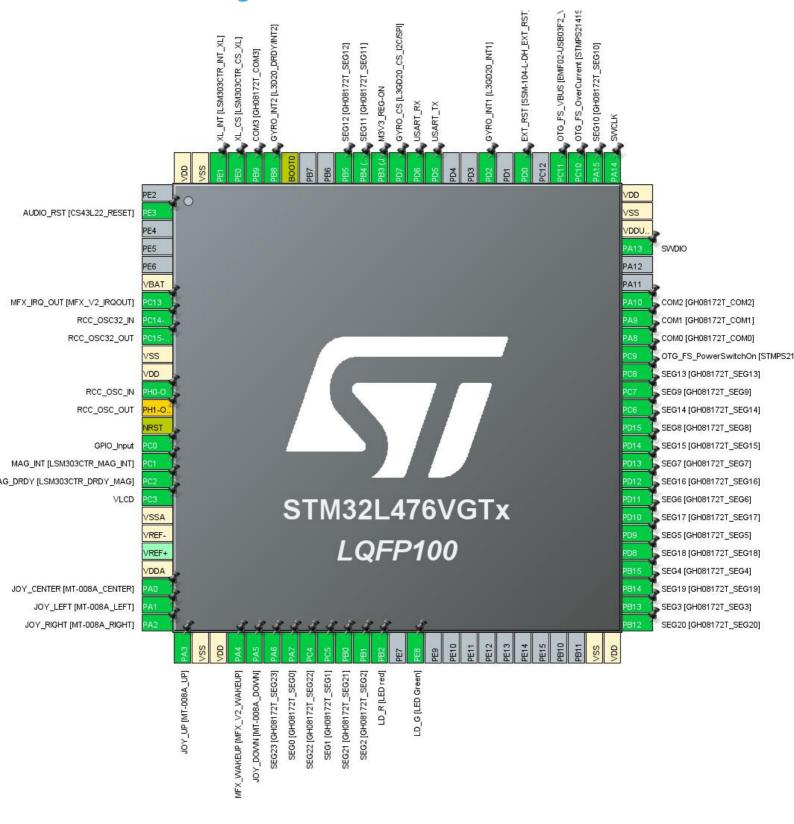
1.2. MCU

MCU Series	STM32L4
MCU Line	STM32L4x6
MCU name	STM32L476VGTx
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	Pin Type	Alternate Function(s)	Label
	reset)		, ,	
2	PE3 *	I/O	GPIO_Output	AUDIO_RST [CS43L22_RESET]
6	VBAT	Power		
7	PC13	I/O	GPIO_EXTI13	MFX_IRQ_OUT [MFX_V2_IRQOUT]
8	PC14-OSC32_IN (PC14)	I/O	RCC_OSC32_IN	
9	PC15-OSC32_OUT (PC15)	I/O	RCC_OSC32_OUT	
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		
15	PC0 *	I/O	GPIO_Input	
16	PC1 *	I/O	GPIO_Input	MAG_INT [LSM303CTR_MAG_INT]
17	PC2 *	I/O	GPIO_Input	MAG_DRDY [LSM303CTR_DRDY_MAG]
18	PC3	I/O	LCD_VLCD	VLCD
19	VSSA	Power		
20	VREF-	Power		
22	VDDA	Power		
23	PA0 *	I/O	GPIO_Input	JOY_CENTER [MT- 008A_CENTER]
24	PA1 *	I/O	GPIO_Input	JOY_LEFT [MT- 008A_LEFT]
25	PA2 *	I/O	GPIO_Input	JOY_RIGHT [MT- 008A_RIGHT]
26	PA3 *	I/O	GPIO_Input	JOY_UP [MT-008A_UP]
27	VSS	Power		
28	VDD	Power		
29	PA4	I/O	GPIO_EXTI4	MFX_WAKEUP [MFX_V2_WAKEUP]
30	PA5 *	I/O	GPIO_Input	JOY_DOWN [MT- 008A_DOWN]
31	PA6	I/O	LCD_SEG3	SEG23 [GH08172T_SEG23]
32	PA7	I/O	LCD_SEG4	SEG0 [GH08172T_SEG0]
33	PC4	I/O	LCD_SEG22	SEG22 [GH08172T_SEG22]

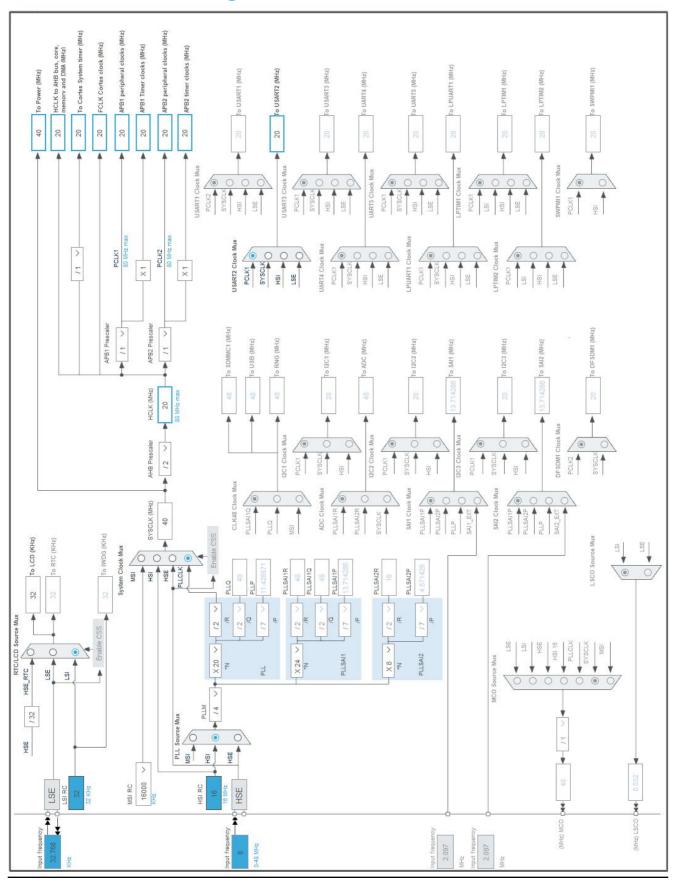
1.055400	Pin Name	Pin Type	Alternate	Label
LQFP100	(function after		Function(s)	
	reset)			
34	PC5	I/O	LCD_SEG23	SEG1 [GH08172T_SEG1]
35	PB0	I/O	LCD_SEG5	SEG21 [GH08172T_SEG21]
36	PB1	I/O	LCD_SEG6	SEG2 [GH08172T_SEG2]
37	PB2 *	I/O	GPIO_Output	LD_R [LED red]
39	PE8	I/O	TIM1_CH1N	LD_G [LED Green]
49	VSS	Power		
50	VDD	Power		
51	PB12	I/O	LCD_SEG12	SEG20 [GH08172T_SEG20]
52	PB13	I/O	LCD_SEG13	SEG3 [GH08172T_SEG3]
53	PB14	I/O	LCD_SEG14	SEG19 [GH08172T_SEG19]
54	PB15	I/O	LCD_SEG15	SEG4 [GH08172T_SEG4]
55	PD8	I/O	LCD_SEG28	SEG18 [GH08172T_SEG18]
56	PD9	I/O	LCD_SEG29	SEG5 [GH08172T_SEG5]
57	PD10	I/O	LCD_SEG30	SEG17 [GH08172T_SEG17]
58	PD11	I/O	LCD_SEG31	SEG6 [GH08172T_SEG6]
59	PD12	I/O	LCD_SEG32	SEG16 [GH08172T_SEG16]
60	PD13	I/O	LCD_SEG33	SEG7 [GH08172T_SEG7]
61	PD14	I/O	LCD_SEG34	SEG15 [GH08172T_SEG15]
62	PD15	I/O	LCD_SEG35	SEG8 [GH08172T_SEG8]
63	PC6	I/O	LCD_SEG24	SEG14 [GH08172T_SEG14]
64	PC7	I/O	LCD_SEG25	SEG9 [GH08172T_SEG9]
65	PC8	I/O	LCD_SEG26	SEG13 [GH08172T_SEG13]
66	PC9 *	I/O	GPIO_Output	OTG_FS_PowerSwitchOn [STMPS2141STR_EN]
67	PA8	I/O	LCD_COM0	COM0 [GH08172T_COM0]
68	PA9	I/O	LCD_COM1	COM1 [GH08172T_COM1]
69	PA10	I/O	LCD_COM2	COM2 [GH08172T_COM2]
72	PA13 (JTMS-SWDIO)	I/O	SYS_JTMS-SWDIO	SWDIO
73	VDDUSB	Power		
74	VSS	Power		
75	VDD	Power		
76	PA14 (JTCK-SWCLK)	I/O	SYS_JTCK-SWCLK	SWCLK
77	PA15 (JTDI)	I/O	LCD_SEG17	SEG10 [GH08172T_SEG10]
78	PC10	I/O	GPIO_EXTI10	OTG_FS_OverCurrent [STMPS2141STR_FAULT]
79	PC11 *	I/O	GPIO_Output	OTG_FS_VBUS [EMIF02- USB03F2_Vbus]
81	PD0	I/O	GPIO_EXTI0	EXT_RST [SSM-104-L- DH_EXT_RST]

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
83	PD2	I/O	GPIO_EXTI2	GYRO_INT1 [L3GD20_INT1]
86	PD5	I/O	USART2_TX	USART_TX
87	PD6	I/O	USART2_RX	USART_RX
88	PD7 *	I/O	GPIO_Output	GYRO_CS [L3GD20_CS_I2C/SPI]
89	PB3 (JTDO-TRACESWO) *	I/O	GPIO_Output	M3V3_REG-ON
90	PB4 (NJTRST)	I/O	LCD_SEG8	SEG11 [GH08172T_SEG11]
91	PB5	I/O	LCD_SEG9	SEG12 [GH08172T_SEG12]
94	воото	Boot		
95	PB8	I/O	GPIO_EXTI8	GYRO_INT2 [L3D20_DRDY/INT2]
96	PB9	I/O	LCD_COM3	COM3 [GH08172T_COM3]
97	PE0 *	I/O	GPIO_Output	XL_CS [LSM303CTR_CS_XL]
98	PE1	I/O	GPIO_EXTI1	XL_INT [LSM303CTR_INT_XL]
99	VSS	Power		
100	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	L476-DISCO-SERVO-TEST
Project Folder	D:\projects\L476-DISCO-SERVO-TEST
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	No
consumption)	
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_LCD_Init	LCD
4	MX_TIM1_Init	TIM1
5	MX_USART2_UART_Init	USART2

6. Power Consumption Calculator report

6.1. Microcontroller Selection

Series	STM32L4
Line	STM32L4x6
MCU	STM32L476VGTx
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

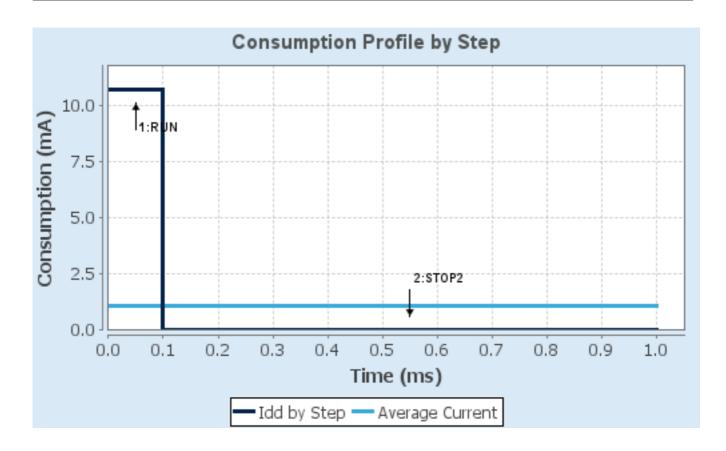
6.4. Sequence

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 µA
Duration	0.1 ms	0.9 ms
DMIPS	100.0	0.0
Ta Max	103.65	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	Average DMIPS	100.0 DMIPS
	days, 3 hours	_	

6.6. Chart



7. Peripherals and Middlewares Configuration

7.1. LCD

Mode: 1/4 Duty Cycle

mode: SEG3 mode: SEG4 mode: SEG5 mode: SEG6 mode: SEG8 mode: SEG9 mode: SEG12 mode: SEG13 mode: SEG14 mode: SEG15 mode: SEG17 mode: SEG22 mode: SEG23 mode: SEG24 mode: SEG25 mode: SEG26 mode: SEG28 mode: SEG29 mode: SEG30 mode: SEG31 mode: SEG32 mode: SEG33

7.1.1. Parameter Settings:

Clock Parameters:

mode: SEG34 mode: SEG35

Clock Prescaler 16 Clock Divider

Basic Parameters:

Duty Selection 1/4 **Bias Selector** 1/4 Multiplex mode Disable

Advanced Parameters:

Voltage Source Selection Internal
Contrast Control 2.60V

Dead Time Duration

High Drive

Disable

Pulse ON Duration

Disabled

Blink Mode

Disabled

Blink Frequency

fLCD/8

7.2. RCC

High Speed Clock (HSE): BYPASS Clock Source

Low Speed Clock (LSE): Crystal/Ceramic Resonator

7.2.1. Parameter Settings:

System Parameters:

VDD voltage (V)

Instruction Cache

Prefetch Buffer

Data Cache

3.3

Enabled

Enabled*

Flash Latency(WS) 1 WS (2 CPU cycle)

RCC Parameters:

HSI Calibration Value 16

MSI Calibration Value 0

MSI Auto Calibration Disabled

HSE Startup Timout Value (ms) 100

LSE Startup Timout Value (ms) 5000

Power Parameters:

Power Regulator Voltage Scale Power Regulator Voltage Scale 1

7.3. SYS

Debug: Serial Wire

Timebase Source: SysTick

7.4. TIM1

Clock Source: Internal Clock
Channel1: PWM Generation CH1N

7.4.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value) 19 *
Counter Mode Up

Counter Period (AutoReload Register - 16 bits value) 20000 *
Internal Clock Division (CKD) No Division

Repetition Counter (RCR - 8 bits value) 0

auto-reload preload Enable *

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)

Break And Dead Time management - BRK Configuration:

BRK State Disable
BRK Polarity High
BRK Filter (4 bits value) 0

BRK Sources Configuration

Digital Input
COMP1
Disable
COMP2
Disable
DFSDM
Disable

Break And Dead Time management - BRK2 Configuration:

BRK2 State Disable
BRK2 Polarity High
BRK2 Filter (4 bits value) 0

BRK2 Sources Configuration

Digital Input
COMP1
COMP2
Disable
DFSDM
Disable

Break And Dead Time management - Output Configuration:

Automatic Output State Disable

Off State Selection for Run Mode (OSSR) Disable

Off State Selection for Idle Mode (OSSI) Disable

Lock Configuration Off

Clear Input:

Clear Input Source Disable

PWM Generation Channel 1N:

Mode PWM mode 1

Pulse (16 bits value)

5000 *

Output compare preload Enable
Fast Mode Disable
CHN Polarity High
CHN Idle State Reset

7.5. USART2

Mode: Asynchronous

7.5.1. 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 Disable TX and RX Pins Swapping Enable Overrun 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	Max	User Label
				down	Speed	
LCD	PC3	LCD_VLCD	Alternate Function Push Pull	No pull-up and no pull-down	Low	VLCD
	PA6	LCD_SEG3	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG23 [GH08172T_SEG23]
	PA7	LCD_SEG4	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG0 [GH08172T_SEG0]
	PC4	LCD_SEG22	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG22 [GH08172T_SEG22]
	PC5	LCD_SEG23	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG1 [GH08172T_SEG1]
	PB0	LCD_SEG5	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG21 [GH08172T_SEG21]
	PB1	LCD_SEG6	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG2 [GH08172T_SEG2]
	PB12	LCD_SEG12	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG20 [GH08172T_SEG20]
	PB13	LCD_SEG13	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG3 [GH08172T_SEG3]
	PB14	LCD_SEG14	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG19 [GH08172T_SEG19]
	PB15	LCD_SEG15	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG4 [GH08172T_SEG4]
	PD8	LCD_SEG28	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG18 [GH08172T_SEG18]
	PD9	LCD_SEG29	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG5 [GH08172T_SEG5]
	PD10	LCD_SEG30	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG17 [GH08172T_SEG17]
	PD11	LCD_SEG31	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG6 [GH08172T_SEG6]
	PD12	LCD_SEG32	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG16 [GH08172T_SEG16]
	PD13	LCD_SEG33	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG7 [GH08172T_SEG7]
	PD14	LCD_SEG34	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG15 [GH08172T_SEG15]
	PD15	LCD_SEG35	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG8 [GH08172T_SEG8]
	PC6	LCD_SEG24	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG14 [GH08172T_SEG14]
	PC7	LCD_SEG25	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG9 [GH08172T_SEG9]
	PC8	LCD_SEG26	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG13 [GH08172T_SEG13]
	PA8	LCD_COM0	Alternate Function Push Pull	No pull-up and no pull-down	Low	COM0 [GH08172T_COM0]
	PA9	LCD_COM1	Alternate Function Push Pull	No pull-up and no pull-down	Low	COM1 [GH08172T_COM1]
	PA10	LCD_COM2	Alternate Function Push Pull	No pull-up and no pull-down	Low	COM2 [GH08172T_COM2]
	PA15 (JTDI)	LCD_SEG17	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG10 [GH08172T_SEG10]
	PB4	LCD_SEG8	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG11

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	(NJTRST)				<u>'</u>	[GH08172T_SEG11]
	PB5	LCD_SEG9	Alternate Function Push Pull	No pull-up and no pull-down	Low	SEG12 [GH08172T_SEG12]
	PB9	LCD_COM3	Alternate Function Push Pull	No pull-up and no pull-down	Low	COM3 [GH08172T_COM3]
RCC	PC14- OSC32_IN (PC14)	RCC_OSC32_IN	n/a	n/a	n/a	
	PC15- OSC32_OU T (PC15)	RCC_OSC32_O UT	n/a	n/a	n/a	
	PH0- OSC_IN (PH0)	RCC_OSC_IN	n/a	n/a	n/a	
SYS	PA13 (JTMS- SWDIO)	SYS_JTMS- SWDIO	n/a	n/a	n/a	SWDIO
	PA14 (JTCK- SWCLK)	SYS_JTCK- SWCLK	n/a	n/a	n/a	SWCLK
TIM1	PE8	TIM1_CH1N	Alternate Function Push Pull	No pull-up and no pull-down	Low	LD_G [LED Green]
USART2	PD5	USART2_TX	Alternate Function Push Pull	Pull-up *	Very High	USART_TX
	PD6	USART2_RX	Alternate Function Push Pull	Pull-up *	Very High	USART_RX
Single Mapped Signals	PH1- OSC_OUT (PH1)	RCC_OSC_OUT	n/a	n/a	n/a	
GPIO	PE3	GPIO_Output	Output Push Pull	No pull-up and no pull-down	High *	AUDIO_RST [CS43L22_RESET]
	PC13	GPIO_EXTI13	External Event Mode with Rising edge trigger detection *	No pull-up and no pull-down	n/a	MFX_IRQ_OUT [MFX_V2_IRQOUT]
	PC0	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PC1	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	MAG_INT [LSM303CTR_MAG_INT]
	PC2	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	MAG_DRDY [LSM303CTR_DRDY_MA G]
	PA0	GPIO_Input	Input mode	Pull-down *	n/a	JOY_CENTER [MT- 008A_CENTER]
	PA1	GPIO_Input	Input mode	Pull-down *	n/a	JOY_LEFT [MT- 008A_LEFT]
	PA2	GPIO_Input	Input mode	Pull-down *	n/a	JOY_RIGHT [MT- 008A_RIGHT]

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PA3	GPIO_Input	Input mode	Pull-down *	n/a	JOY_UP [MT-008A_UP]
	PA4	GPIO_EXTI4	External Event Mode with Rising edge trigger detection *	No pull-up and no pull-down	n/a	MFX_WAKEUP [MFX_V2_WAKEUP]
	PA5	GPIO_Input	Input mode	Pull-down *	n/a	JOY_DOWN [MT- 008A_DOWN]
	PB2	GPIO_Output	Output Push Pull	Pull-up *	Very High	LD_R [LED red]
	PC9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OTG_FS_PowerSwitchOn [STMPS2141STR_EN]
	PC10	GPIO_EXTI10	External Event Mode with Rising edge trigger detection *	No pull-up and no pull-down	n/a	OTG_FS_OverCurrent [STMPS2141STR_FAULT]
	PC11	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OTG_FS_VBUS [EMIF02- USB03F2_Vbus]
	PD0	GPIO_EXTI0	External Event Mode with Rising edge trigger detection *	No pull-up and no pull-down	n/a	EXT_RST [SSM-104-L- DH_EXT_RST]
	PD2	GPIO_EXTI2	External Event Mode with Rising edge trigger detection *	No pull-up and no pull-down	n/a	GYRO_INT1 [L3GD20_INT1]
	PD7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Very High	GYRO_CS [L3GD20_CS_I2C/SPI]
	PB3 (JTDO- TRACESWO	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	M3V3_REG-ON
	PB8	GPIO_EXTI8	External Event Mode with Rising edge	No pull-up and no pull-down	n/a	GYRO_INT2 [L3D20_DRDY/INT2]
	PE0	GPIO_Output	trigger detection * Output Push Pull	No pull-up and no pull-down	Low	XL_CS [LSM303CTR_CS_XL]
	PE1	GPIO_EXTI1	External Event Mode with Rising edge trigger detection *	No pull-up and no pull-down	n/a	XL_INT [LSM303CTR_INT_XL]

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	
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		
USART2 global interrupt	unused		
LCD global interrupt	unused		
FPU global interrupt		unused	

8.3.2. NVIC Code generation

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

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 https://www.st.com/resource/en/svd/stm32l4_svd.zip

Description

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 https://www.st.com/resource/en/svd/stm32l4_svd.zip

Description

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/stm32l4_marketing-

pres.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_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

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