1. Description

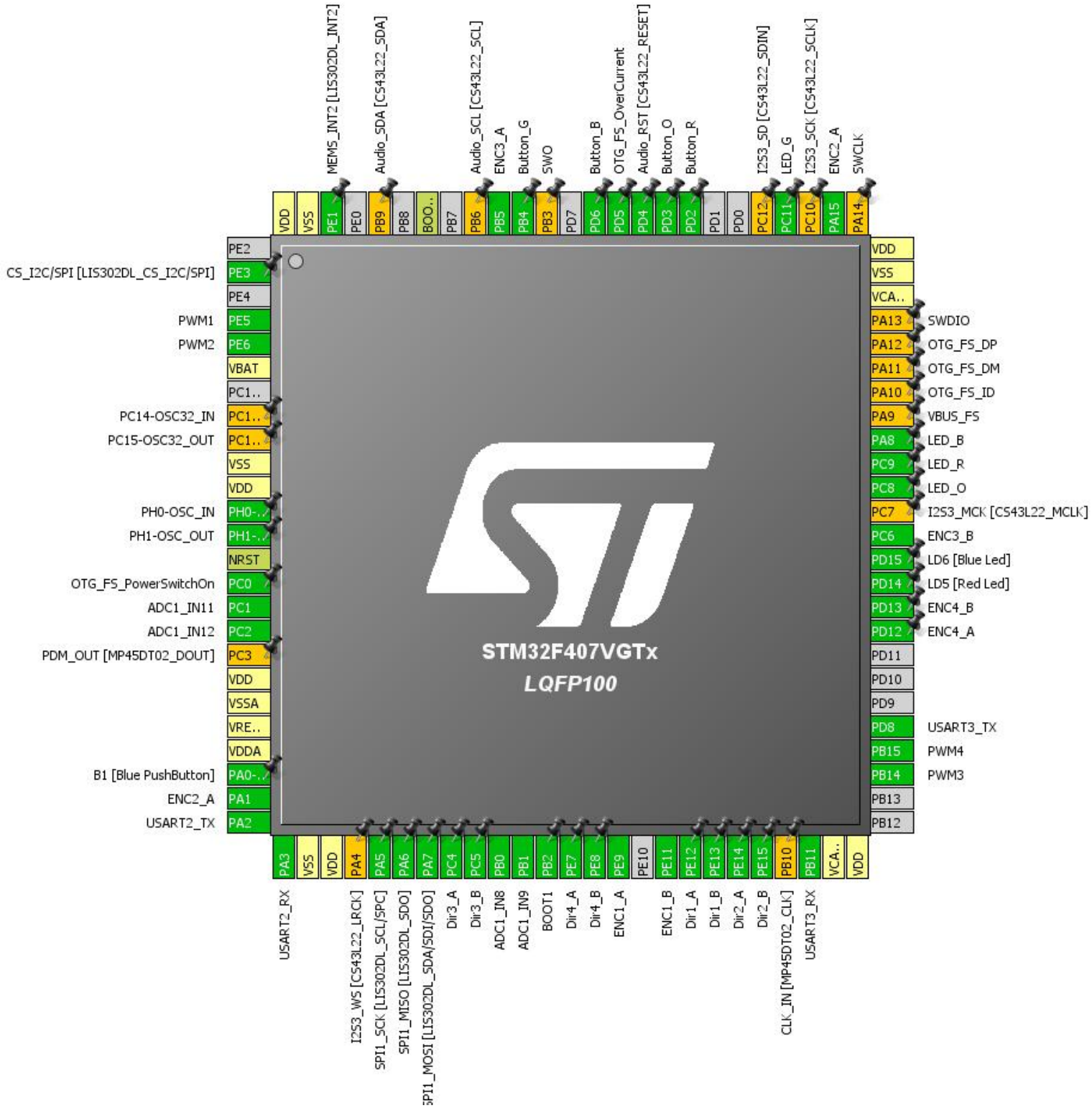
1.1. Project

Project Name	PooNim_CubeMX
Board Name	STM32F4DISCOVERY
Generated with:	STM32CubeMX 4.22.1
Date	10/12/2018

1.2. MCU

MCU Series	STM32F4
MCU Line	STM32F407/417
MCU name	STM32F407VGTx
MCU Package	LQFP100
MCU Pin number	100

2. Pinout Configuration



3. Pins Configuration

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
2	PE3 *	I/O	GPIO_Output	CS_I2C/SPI [LIS302DL_CS_I2C/SPI]
4	PE5	I/O	TIM9_CH1	PWM1
5	PE6	I/O	TIM9_CH2	PWM2
6	VBAT	Power		
8	PC14-OSC32_IN **	I/O	RCC_OSC32_IN	PC14-OSC32_IN
9	PC15-OSC32_OUT **	I/O	RCC_OSC32_OUT	PC15-OSC32_OUT
10	VSS	Power		
11	VDD	Power		
12	PH0-OSC_IN	I/O	RCC_OSC_IN	PH0-OSC_IN
13	PH1-OSC_OUT	I/O	RCC_OSC_OUT	PH1-OSC_OUT
14	NRST	Reset		
15	PC0 *	I/O	GPIO_Output	OTG_FS_PowerSwitchOn
16	PC1	I/O	ADC1_IN11	
17	PC2	I/O	ADC1_IN12	
18	PC3 **	I/O	I2S2_SD	PDM_OUT [MP45DT02_DOUT]
19	VDD	Power		
20	VSSA	Power		
21	VREF+	Power		
22	VDDA	Power		
23	PA0-WKUP	I/O	GPIO_EXTI0	B1 [Blue PushButton]
24	PA1	I/O	TIM2_CH2	ENC2_A
25	PA2	I/O	USART2_TX	
26	PA3	I/O	USART2_RX	
27	VSS	Power		
28	VDD	Power		
29	PA4 **	I/O	I2S3_WS	I2S3_WS [CS43L22_LRCK]
30	PA5	I/O	SPI1_SCK	SPI1_SCK [LIS302DL_SCL/SPC]
31	PA6	I/O	SPI1_MISO	SPI1_MISO [LIS302DL_SDO]
32	PA7	I/O	SPI1_MOSI	SPI1_MOSI [LIS302DL_SDA/SDI/SDO]
33	PC4 *	I/O	GPIO_Output	Dir3_A
34	PC5 *	I/O	GPIO_Output	Dir3_B
35	PB0	I/O	ADC1_IN8	

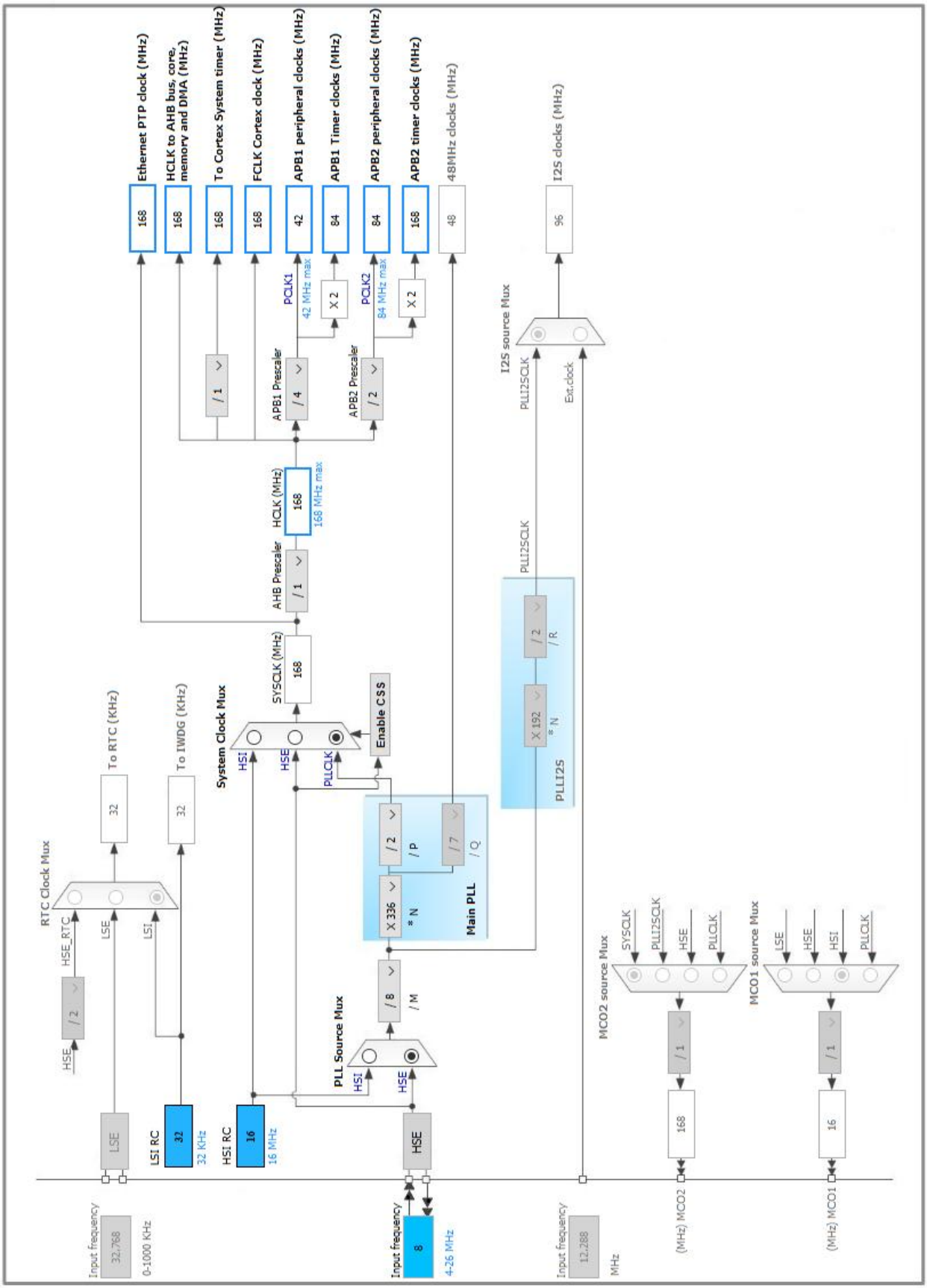
Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
36	PB1	I/O	ADC1_IN9	
37	PB2 *	I/O	GPIO_Input	BOOT1
38	PE7 *	I/O	GPIO_Output	Dir4_A
39	PE8 *	I/O	GPIO_Output	Dir4_B
40	PE9	I/O	TIM1_CH1	ENC1_A
42	PE11	I/O	TIM1_CH2	ENC1_B
43	PE12 *	I/O	GPIO_Output	Dir1_A
44	PE13 *	I/O	GPIO_Output	Dir1_B
45	PE14 *	I/O	GPIO_Output	Dir2_A
46	PE15 *	I/O	GPIO_Output	Dir2_B
47	PB10 **	I/O	I2S2_CK	CLK_IN [MP45DT02_CLK]
48	PB11	I/O	USART3_RX	
49	VCAP_1	Power		
50	VDD	Power		
53	PB14	I/O	TIM12_CH1	PWM3
54	PB15	I/O	TIM12_CH2	PWM4
55	PD8	I/O	USART3_TX	
59	PD12	I/O	TIM4_CH1	ENC4_A
60	PD13	I/O	TIM4_CH2	ENC4_B
61	PD14 *	I/O	GPIO_Output	LD5 [Red Led]
62	PD15 *	I/O	GPIO_Output	LD6 [Blue Led]
63	PC6	I/O	TIM3_CH1	ENC3_B
64	PC7 **	I/O	I2S3_MCK	I2S3_MCK [CS43L22_MCLK]
65	PC8 *	I/O	GPIO_Output	LED_O
66	PC9 *	I/O	GPIO_Output	LED_R
67	PA8 *	I/O	GPIO_Output	LED_B
68	PA9 **	I/O	USB_OTG_FS_VBUS	VBUS_FS
69	PA10 **	I/O	USB_OTG_FS_ID	OTG_FS_ID
70	PA11 **	I/O	USB_OTG_FS_DM	OTG_FS_DM
71	PA12 **	I/O	USB_OTG_FS_DP	OTG_FS_DP
72	PA13 **	I/O	SYS_JTMS-SWDIO	SWDIO
73	VCAP_2	Power		
74	VSS	Power		
75	VDD	Power		
76	PA14 **	I/O	SYS_JTCK-SWCLK	SWCLK
77	PA15	I/O	TIM2_CH1	ENC2_A
78	PC10 **	I/O	I2S3_CK	I2S3_SCK [CS43L22_SCLK]
79	PC11 *	I/O	GPIO_Output	LED_G

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
80	PC12 **	I/O	I2S3_SD	I2S3_SD [CS43L22_SDIN]
83	PD2	I/O	GPIO_EXTI2	Button_R
84	PD3	I/O	GPIO_EXTI3	Button_O
85	PD4 *	I/O	GPIO_Output	Audio_RST [CS43L22_RESET]
86	PD5 *	I/O	GPIO_Input	OTG_FS_OverCurrent
87	PD6	I/O	GPIO_EXTI6	Button_B
89	PB3 **	I/O	SYS_JTDO-SWO	SWO
90	PB4	I/O	GPIO_EXTI4	Button_G
91	PB5	I/O	TIM3_CH2	ENC3_A
92	PB6 **	I/O	I2C1_SCL	Audio_SCL [CS43L22_SCL]
94	BOOT0	Boot		
96	PB9 **	I/O	I2C1_SDA	Audio_SDA [CS43L22_SDA]
98	PE1	I/O	GPIO_EXTI1	MEMS_INT2 [LIS302DL_INT2]
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. IPs and Middleware Configuration

5.1. ADC1

mode: IN8

mode: IN9

mode: IN11

mode: IN12

mode: Temperature Sensor Channel

5.1.1. Parameter Settings:

ADCs_Common_Settings:

Mode	Independent mode

ADC_Settings:

Clock Prescaler	PCLK2 divided by 4
Resolution	12 bits (15 ADC Clock cycles)
Data Alignment	Right alignment
Scan Conversion Mode	**Enabled ***
Continuous Conversion Mode	**Enabled ***
Discontinuous Conversion Mode	Disabled
DMA Continuous Requests	**Enabled ***
End Of Conversion Selection	**EOC flag at the end of all conversions ***

ADC_Regular_ConversionMode:

Number Of Conversion	**5 ***
External Trigger Conversion Source	Regular Conversion launched by software
External Trigger Conversion Edge	None
Rank	1
Channel	Channel 8
Sampling Time	3 Cycles
Rank	**2 ***
Channel	Channel 8
Sampling Time	3 Cycles
Rank	**3 ***
Channel	Channel 8
Sampling Time	3 Cycles
Rank	**4 ***
Channel	Channel 8

Sampling Time	3 Cycles
Rank	**5 ***
Channel	Channel 8
Sampling Time	3 Cycles

ADC_Injected_ConversionMode:

Number Of Conversions	0

WatchDog:

Enable Analog WatchDog Mode	false

5.2. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

5.2.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Instruction Cache	Enabled
Prefetch Buffer	Enabled
Data Cache	Enabled
Flash Latency(WS)	5 WS (6 CPU cycle)

RCC Parameters:

HSI Calibration Value	16
HSE Startup Timout Value (ms)	100
LSE Startup Timout Value (ms)	5000

Power Parameters:

Power Regulatror Voltage Scale	Power Regulator Voltage Scale 1

5.3. SPI1

Mode: Full-Duplex Master

5.3.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	8 Bits
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	2
Baud Rate	**42.0 MBits/s ***
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

Advanced Parameters:

CRC Calculation	Disabled
NSS Signal Type	Software

5.4. SYS

Timebase Source: SysTick

5.5. TIM1

Combined Channels: Encoder Mode

5.5.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**2048 ***
Internal Clock Division (CKD)	No Division
Repetition Counter (RCR - 8 bits value)	0

Trigger Output (TRGO) Parameters:

Master/Slave Mode	Disable (no sync between this TIM (Master) and its Slaves
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

Encoder:

Encoder Mode	**Encoder Mode TI1 and TI2 ***
____ Parameters for Channel 1 ____	
Polarity	Rising Edge
IC Selection	Direct
Prescaler Division Ratio	No division
Input Filter	**5 ***
____ Parameters for Channel 2 ____	
Polarity	Rising Edge
IC Selection	Direct
Prescaler Division Ratio	No division
Input Filter	**5 ***

5.6. TIM2

Combined Channels: Encoder Mode

5.6.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 32 bits value)	0
Internal Clock Division (CKD)	No Division

Trigger Output (TRGO) Parameters:

Master/Slave Mode	Disable (no sync between this TIM (Master) and its Slaves
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

Encoder:

Encoder Mode	Encoder Mode TI1
____ Parameters for Channel 1 ____	
Polarity	Rising Edge
IC Selection	Direct
Prescaler Division Ratio	No division
Input Filter	0
____ Parameters for Channel 2 ____	
Polarity	Rising Edge
IC Selection	Direct
Prescaler Division Ratio	No division
Input Filter	0

5.7. TIM3

Combined Channels: Encoder Mode

5.7.1. Parameter Settings:

Counter Settings:

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

Trigger Output (TRGO) Parameters:

Master/Slave Mode	Disable (no sync between this TIM (Master) and its Slaves
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

Encoder:

Encoder Mode	Encoder Mode TI1
____ Parameters for Channel 1 ____	
Polarity	Rising Edge
IC Selection	Direct
Prescaler Division Ratio	No division
Input Filter	0
____ Parameters for Channel 2 ____	
Polarity	Rising Edge
IC Selection	Direct
Prescaler Division Ratio	No division
Input Filter	0

5.8. TIM4

Combined Channels: Encoder Mode

5.8.1. Parameter Settings:

Counter Settings:

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

Trigger Output (TRGO) Parameters:

Master/Slave Mode	Disable (no sync between this TIM (Master) and its Slaves
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

Encoder:

Encoder Mode	Encoder Mode TI1
____ Parameters for Channel 1 ____	
Polarity	Rising Edge
IC Selection	Direct
Prescaler Division Ratio	No division
Input Filter	0
____ Parameters for Channel 2 ____	
Polarity	Rising Edge
IC Selection	Direct

Prescaler Division Ratio	No division
Input Filter	0

5.9. TIM5

mode: Clock Source

5.9.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**41999 ***
Counter Mode	Up
Counter Period (AutoReload Register - 32 bits value)	**199 ***
Internal Clock Division (CKD)	No Division

Trigger Output (TRGO) Parameters:

Master/Slave Mode	Disable (no sync between this TIM (Master) and its Slaves
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

5.10. TIM9

Channel1: PWM Generation CH1
Channel2: PWM Generation CH2

5.10.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**33599 ***
Internal Clock Division (CKD)	No Division

PWM Generation Channel 1:

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

PWM Generation Channel 2:

Mode	PWM mode 1
Pulse (16 bits value)	0

Fast Mode	Disable
CH Polarity	High

5.11. TIM12

Channel1: PWM Generation CH1
Channel2: PWM Generation CH2

5.11.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**16799 ***
Internal Clock Division (CKD)	No Division

PWM Generation Channel 1:

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

PWM Generation Channel 2:

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

5.12. USART2

Mode: Asynchronous

5.12.1. 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

5.13. USART3

Mode: Multiprocessor Communication

5.13.1. 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
Wake-Up Method	Idle Line

*** User modified value**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
ADC1	PC1	ADC1_IN11	Analog mode	No pull-up and no pull-down	n/a	
	PC2	ADC1_IN12	Analog mode	No pull-up and no pull-down	n/a	
	PB0	ADC1_IN8	Analog mode	No pull-up and no pull-down	n/a	
	PB1	ADC1_IN9	Analog mode	No pull-up and no pull-down	n/a	
RCC	PH0-OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	PH0-OSC_IN
	PH1-OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	PH1-OSC_OUT
SPI1	PA5	SPI1_SCK	Alternate Function Push Pull	No pull-up and no pull-down	Low	SPI1_SCK [LIS302DL_SCL/SPC]
	PA6	SPI1_MISO	Alternate Function Push Pull	No pull-up and no pull-down	Low	SPI1_MISO [LIS302DL_SDO]
	PA7	SPI1_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	Low	SPI1_MOSI [LIS302DL_SDA/SDI/SDO]
TIM1	PE9	TIM1_CH1	Alternate Function Push Pull	**Pull-up ***	Low	ENC1_A
	PE11	TIM1_CH2	Alternate Function Push Pull	**Pull-up ***	Low	ENC1_B
TIM2	PA1	TIM2_CH2	Alternate Function Push Pull	**Pull-up ***	Low	ENC2_A
	PA15	TIM2_CH1	Alternate Function Push Pull	**Pull-up ***	Low	ENC2_A
TIM3	PC6	TIM3_CH1	Alternate Function Push Pull	**Pull-up ***	Low	ENC3_B
	PB5	TIM3_CH2	Alternate Function Push Pull	**Pull-up ***	Low	ENC3_A
TIM4	PD12	TIM4_CH1	Alternate Function Push Pull	**Pull-up ***	Low	ENC4_A
	PD13	TIM4_CH2	Alternate Function Push Pull	**Pull-up ***	Low	ENC4_B
TIM9	PE5	TIM9_CH1	Alternate Function Push Pull	**Pull-up ***	**High ***	PWM1
	PE6	TIM9_CH2	Alternate Function Push Pull	**Pull-up ***	**High ***	PWM2
TIM12	PB14	TIM12_CH1	Alternate Function Push Pull	**Pull-up ***	**High ***	PWM3
	PB15	TIM12_CH2	Alternate Function Push Pull	**Pull-up ***	**High ***	PWM4
USART2	PA2	USART2_TX	Alternate Function Push Pull	Pull-up	**Very High ***	
	PA3	USART2_RX	Alternate Function Push Pull	Pull-up	**Very High ***	
USART3	PB11	USART3_RX	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
	PD8	USART3_TX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
Single Mapped Signals	PC14-OSC32_IN	RCC_OSC32_IN	n/a	n/a	n/a	PC14-OSC32_IN
	PC15-OSC32_OUT	RCC_OSC32_OUT	n/a	n/a	n/a	PC15-OSC32_OUT
	PC3	I2S2_SD	Alternate Function Push Pull	No pull-up and no pull-down	Low	PDM_OUT [MP45DT02_DOUT]
	PA4	I2S3_WS	Alternate Function Push Pull	No pull-up and no pull-down	Low	I2S3_WS [CS43L22_LRCK]
	PB10	I2S2_CK	Alternate Function Push Pull	No pull-up and no pull-down	Low	CLK_IN [MP45DT02_CLK]
	PC7	I2S3_MCK	Alternate Function Push Pull	No pull-up and no pull-down	Low	I2S3_MCK [CS43L22_MCLK]
	PA9	USB_OTG_FS_VBUS	Input mode	No pull-up and no pull-down	n/a	VBUS_FS
	PA10	USB_OTG_FS_ID	Alternate Function Push Pull	No pull-up and no pull-down	Low	OTG_FS_ID
	PA11	USB_OTG_FS_DM	Alternate Function Push Pull	No pull-up and no pull-down	Low	OTG_FS_DM
	PA12	USB_OTG_FS_DP	Alternate Function Push Pull	No pull-up and no pull-down	Low	OTG_FS_DP
	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	SWDIO
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	SWCLK
	PC10	I2S3_CK	Alternate Function Push Pull	No pull-up and no pull-down	Low	I2S3_SCK [CS43L22_SCLK]
	PC12	I2S3_SD	Alternate Function Push Pull	No pull-up and no pull-down	Low	I2S3_SD [CS43L22_SDIN]
	PB3	SYS_JTDO-SWO	n/a	n/a	n/a	SWO
	PB6	I2C1_SCL	Alternate Function Open Drain	Pull-up	Low	Audio_SCL [CS43L22_SCL]
	PB9	I2C1_SDA	Alternate Function Open Drain	Pull-up	Low	Audio_SDA [CS43L22_SDA]
GPIO	PE3	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	CS_I2C/SPI [LIS302DL_CS_I2C/SPI]
	PC0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OTG_FS_PowerSwitchOn
	PA0-WKUP	GPIO_EXTI0	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	B1 [Blue PushButton]
	PC4	GPIO_Output	Output Push Pull	**Pull-down ***	Low	Dir3_A
	PC5	GPIO_Output	Output Push Pull	**Pull-down ***	Low	Dir3_B
	PB2	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	BOOT1

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PE7	GPIO_Output	Output Push Pull	**Pull-down ***	Low	Dir4_A
	PE8	GPIO_Output	Output Push Pull	**Pull-down ***	Low	Dir4_B
	PE12	GPIO_Output	Output Push Pull	**Pull-down ***	Low	Dir1_A
	PE13	GPIO_Output	Output Push Pull	**Pull-down ***	Low	Dir1_B
	PE14	GPIO_Output	Output Push Pull	**Pull-down ***	Low	Dir2_A
	PE15	GPIO_Output	Output Push Pull	**Pull-down ***	Low	Dir2_B
	PD14	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD5 [Red Led]
	PD15	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD6 [Blue Led]
	PC8	GPIO_Output	Output Push Pull	**Pull-down ***	Low	LED_O
	PC9	GPIO_Output	Output Push Pull	**Pull-down ***	Low	LED_R
	PA8	GPIO_Output	Output Push Pull	**Pull-down ***	Low	LED_B
	PC11	GPIO_Output	Output Push Pull	**Pull-down ***	Low	LED_G
	PD2	GPIO_EXTI2	**External Interrupt Mode with Falling edge trigger detection**	No pull-up and no pull-down	n/a	Button_R
	PD3	GPIO_EXTI3	**External Interrupt Mode with Falling edge trigger detection**	No pull-up and no pull-down	n/a	Button_O
	PD4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Audio_RST [CS43L22_RESET]
	PD5	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	OTG_FS_OverCurrent
	PD6	GPIO_EXTI6	**External Interrupt Mode with Falling edge trigger detection**	No pull-up and no pull-down	n/a	Button_B
	PB4	GPIO_EXTI4	**External Interrupt Mode with Falling edge trigger detection**	No pull-up and no pull-down	n/a	Button_G
	PE1	GPIO_EXTI1	**External Event Mode with Rising edge trigger detection ***	No pull-up and no pull-down	n/a	MEMS_INT2 [LIS302DL_INT2]

6.2. DMA configuration

DMA request	Stream	Direction	Priority
ADC1	DMA2_Stream0	Peripheral To Memory	Low

ADC1: DMA2_Stream0 DMA request Settings:

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

6.3. NVIC configuration

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
EXTI line2 interrupt	true	0	0
EXTI line3 interrupt	true	0	0
EXTI line4 interrupt	true	0	0
ADC1, ADC2 and ADC3 global interrupts	true	0	0
EXTI line[9:5] interrupts	true	0	0
USART2 global interrupt	true	0	0
TIM5 global interrupt	true	0	0
DMA2 stream0 global interrupt	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
EXTI line0 interrupt	unused		
TIM1 break interrupt and TIM9 global interrupt	unused		
TIM1 update interrupt and TIM10 global interrupt	unused		
TIM1 trigger and commutation interrupts and TIM11 global interrupt	unused		
TIM1 capture compare interrupt	unused		
TIM2 global interrupt	unused		
TIM3 global interrupt	unused		
TIM4 global interrupt	unused		
SPI1 global interrupt	unused		
USART3 global interrupt	unused		
TIM8 break interrupt and TIM12 global interrupt	unused		
FPU global interrupt	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F4
Line	STM32F407/417
MCU	STM32F407VGTx
Datasheet	022152_Rev8

7.2. Parameter Selection

Temperature	25
Vdd	3.3