1. Description

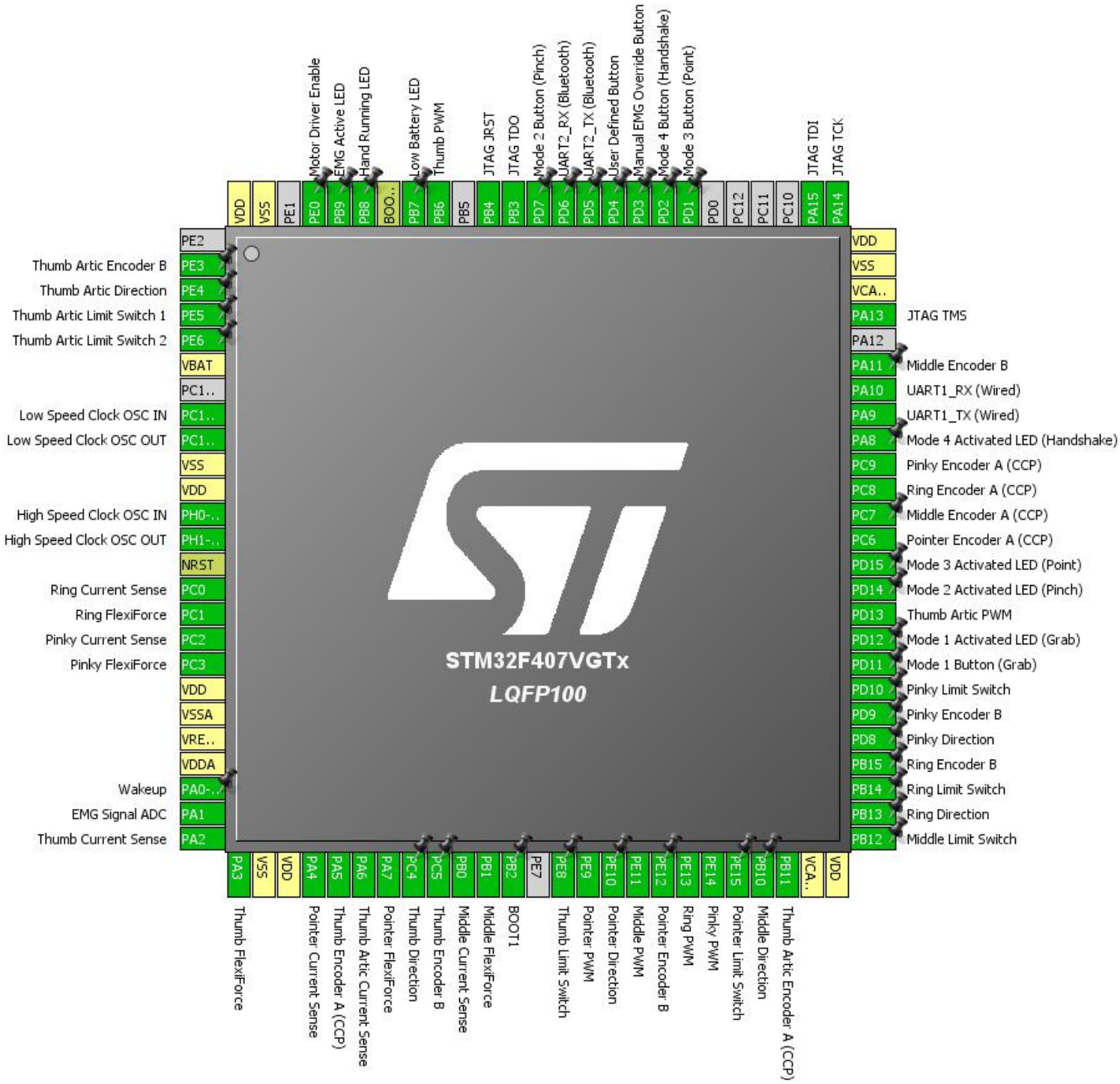
1.1. Project

Project Name	ProjectPinoutsCubeMXFile
Board Name	No information
Generated with:	STM32CubeMX 4.16.0
Date	10/26/2016

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

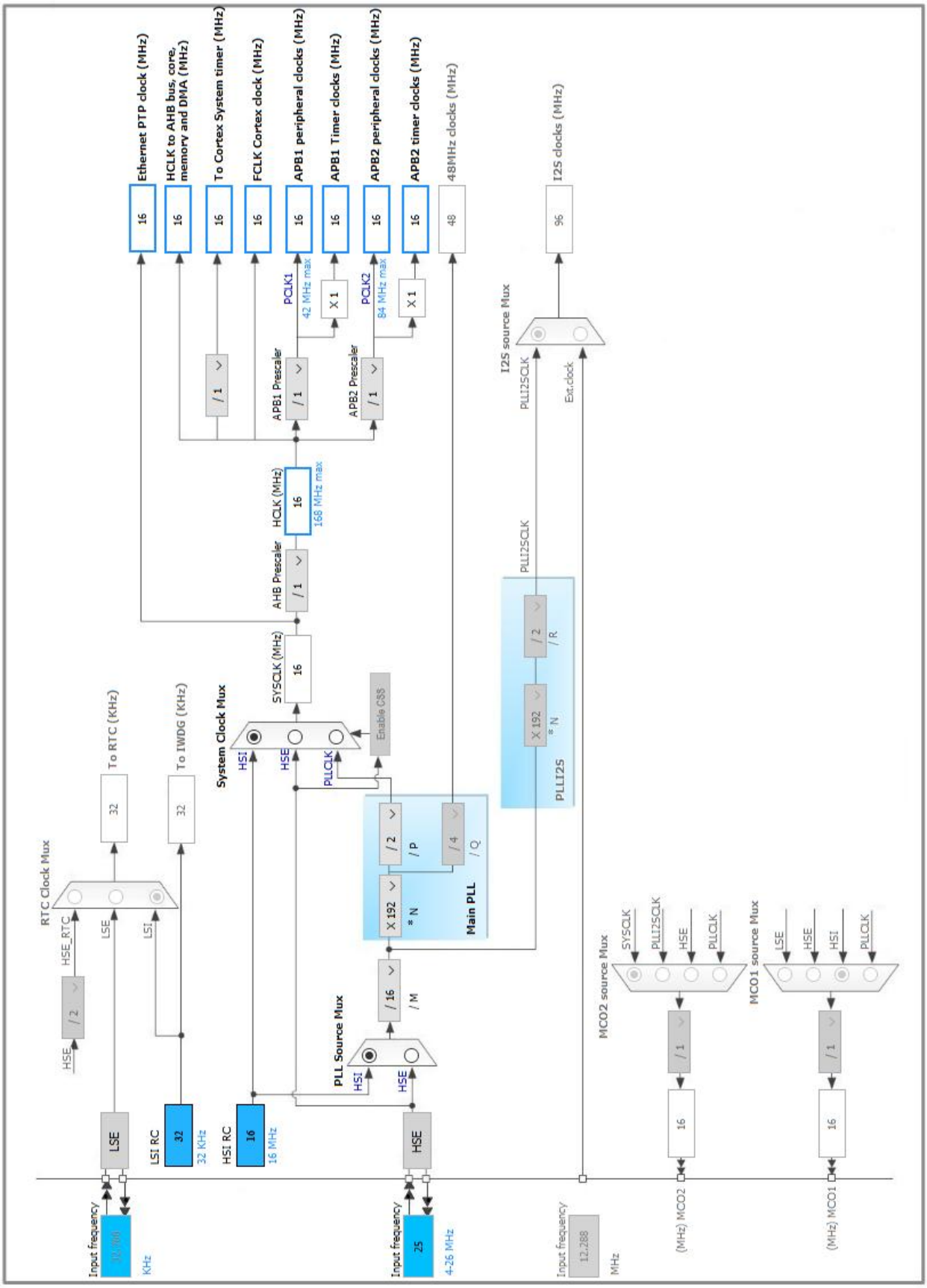
Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
2	PE3 *	I/O	GPIO_Input	Thumb Artic Encoder B
3	PE4 *	I/O	GPIO_Output	Thumb Artic Direction
4	PE5	I/O	GPIO_EXTI5	Thumb Artic Limit Switch 1
5	PE6	I/O	GPIO_EXTI6	Thumb Artic Limit Switch 2
6	VBAT	Power		
8	PC14-OSC32_IN	I/O	RCC_OSC32_IN	Low Speed Clock OSC IN
9	PC15-OSC32_OUT	I/O	RCC_OSC32_OUT	Low Speed Clock OSC OUT
10	VSS	Power		
11	VDD	Power		
12	PH0-OSC_IN	I/O	RCC_OSC_IN	High Speed Clock OSC IN
13	PH1-OSC_OUT	I/O	RCC_OSC_OUT	High Speed Clock OSC OUT
14	NRST	Reset		
15	PC0	I/O	ADC1_IN10	Ring Current Sense
16	PC1	I/O	ADC1_IN11	Ring FlexiForce
17	PC2	I/O	ADC1_IN12	Pinky Current Sense
18	PC3	I/O	ADC1_IN13	Pinky FlexiForce
19	VDD	Power		
20	VSSA	Power		
21	VREF+	Power		
22	VDDA	Power		
23	PA0-WKUP	I/O	SYS_WKUP	Wakeup
24	PA1	I/O	ADC1_IN1	EMG Signal ADC
25	PA2	I/O	ADC1_IN2	Thumb Current Sense
26	PA3	I/O	ADC1_IN3	Thumb FlexiForce
27	VSS	Power		
28	VDD	Power		
29	PA4	I/O	ADC1_IN4	Pointer Current Sense
30	PA5	I/O	TIM2_CH1	Thumb Encoder A (CCP)
31	PA6	I/O	ADC1_IN6	Thumb Artic Current Sense
32	PA7	I/O	ADC1_IN7	Pointer FlexiForce
33	PC4 *	I/O	GPIO_Output	Thumb Direction
34	PC5 *	I/O	GPIO_Input	Thumb Encoder B
35	PB0	I/O	ADC1_IN8	Middle Current Sense
36	PB1	I/O	ADC1_IN9	Middle FlexiForce
37	PB2 *	I/O	EVENTOUT	BOOT1

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
39	PE8	I/O	GPIO_EXTI8	Thumb Limit Switch
40	PE9	I/O	TIM1_CH1	Pointer PWM
41	PE10 *	I/O	GPIO_Output	Pointer Direction
42	PE11	I/O	TIM1_CH2	Middle PWM
43	PE12 *	I/O	GPIO_Input	Pointer Encoder B
44	PE13	I/O	TIM1_CH3	Ring PWM
45	PE14	I/O	TIM1_CH4	Pinky PWM
46	PE15	I/O	GPIO_EXTI15	Pointer Limit Switch
47	PB10 *	I/O	GPIO_Output	Middle Direction
48	PB11	I/O	TIM2_CH4	Thumb Artic Encoder A (CCP)
49	VCAP_1	Power		
50	VDD	Power		
51	PB12	I/O	GPIO_EXTI12	Middle Limit Switch
52	PB13 *	I/O	GPIO_Output	Ring Direction
53	PB14	I/O	GPIO_EXTI14	Ring Limit Switch
54	PB15 *	I/O	GPIO_Input	Ring Encoder B
55	PD8 *	I/O	GPIO_Output	Pinky Direction
56	PD9 *	I/O	GPIO_Input	Pinky Encoder B
57	PD10	I/O	GPIO_EXTI10	Pinky Limit Switch
58	PD11	I/O	GPIO_EXTI11	Mode 1 Button (Grab)
59	PD12 *	I/O	GPIO_Output	Mode 1 Activated LED (Grab)
60	PD13	I/O	TIM4_CH2	Thumb Artic PWM
61	PD14 *	I/O	GPIO_Output	Mode 2 Activated LED (Pinch)
62	PD15 *	I/O	GPIO_Output	Mode 3 Activated LED (Point)
63	PC6	I/O	TIM3_CH1	Pointer Encoder A (CCP)
64	PC7	I/O	TIM3_CH2	Middle Encoder A (CCP)
65	PC8	I/O	TIM3_CH3	Ring Encoder A (CCP)
66	PC9	I/O	TIM3_CH4	Pinky Encoder A (CCP)
67	PA8 *	I/O	GPIO_Output	Mode 4 Activated LED (Handshake)
68	PA9	I/O	USART1_TX	UART1_TX (Wired)
69	PA10	I/O	USART1_RX	UART1_RX (Wired)
70	PA11 *	I/O	GPIO_Input	Middle Encoder B
72	PA13	I/O	SYS_JTMS-SWDIO	JTAG TMS
73	VCAP_2	Power		
74	VSS	Power		

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
75	VDD	Power		
76	PA14	I/O	SYS_JTCK-SWCLK	JTAG TCK
77	PA15	I/O	SYS_JTDI	JTAG TDI
82	PD1	I/O	GPIO_EXTI1	Mode 3 Button (Point)
83	PD2	I/O	GPIO_EXTI2	Mode 4 Button (Handshake)
84	PD3	I/O	GPIO_EXTI3	Manual EMG Override Button
85	PD4	I/O	GPIO_EXTI4	User Defined Button
86	PD5	I/O	USART2_TX	UART2_TX (Bluetooth)
87	PD6	I/O	USART2_RX	UART2_RX (Bluetooth)
88	PD7	I/O	GPIO_EXTI7	Mode 2 Button (Pinch)
89	PB3	I/O	SYS_JTDO-SWO	JTAG TDO
90	PB4	I/O	SYS_JTRST	JTAG JRST
92	PB6	I/O	TIM4_CH1	Thumb PWM
93	PB7 *	I/O	GPIO_Output	Low Battery LED
94	BOOT0	Boot		
95	PB8 *	I/O	GPIO_Output	Hand Running LED
96	PB9 *	I/O	GPIO_Output	EMG Active LED
97	PE0 *	I/O	GPIO_Output	Motor Driver Enable
99	VSS	Power		
100	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. ADC1

mode: IN1
mode: IN2
mode: IN3
mode: IN4
mode: IN6
mode: IN7
mode: IN8
mode: IN9
mode: IN10
mode: IN11
mode: IN12
mode: IN13

5.1.1. Parameter Settings:

ADCs_Common_Settings:

Mode	Independent mode

ADC_Settings:

Clock Prescaler	PCLK2 divided by 2
Resolution	12 bits (15 ADC Clock cycles)
Data Alignment	Right alignment
Scan Conversion Mode	Disabled
Continuous Conversion Mode	Disabled
Discontinuous Conversion Mode	Disabled
DMA Continuous Requests	Disabled
End Of Conversion Selection	EOC flag at the end of single channel conversion

ADC_Regular_ConversionMode:

Number Of Conversion	1
External Trigger Conversion Edge	None
Rank	1
Channel	Channel 1
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

Low Speed Clock (LSE) : 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)	0 WS (1 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. SYS

Debug: JTAG (5 pins)

mode: System Wake-Up

Timebase Source: SysTick

5.4. TIM1

Channel1: PWM Generation CH1

Channel2: PWM Generation CH2

Channel3: PWM Generation CH3

Channel4: PWM Generation CH4

5.4.1. 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
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)

Break And Dead Time management - BRK Configuration:

BRK State	Disable
BRK Polarity	High

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

PWM Generation Channel 1:

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

PWM Generation Channel 2:

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

PWM Generation Channel 3:

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

PWM Generation Channel 4:

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

CH Idle State	Reset

5.5. TIM2

Channel1: Input Capture direct mode
Channel4: Input Capture direct mode

5.5.1. 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)

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 4:

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

5.6. TIM3

Channel1: Input Capture direct mode
Channel2: Input Capture direct mode
Channel3: Input Capture direct mode
Channel4: Input Capture direct mode

5.6.1. 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)

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

Input Capture Channel 4:

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

5.7. TIM4

Channel1: PWM Generation CH1
Channel2: PWM Generation CH2

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)

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

5.8. USART1

Mode: Asynchronous

5.8.1. 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

5.9. USART2

Mode: Asynchronous

5.9.1. 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

*** 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	PC0	ADC1_IN10	Analog mode	No pull-up and no pull-down	n/a	Ring Current Sense
	PC1	ADC1_IN11	Analog mode	No pull-up and no pull-down	n/a	Ring FlexiForce
	PC2	ADC1_IN12	Analog mode	No pull-up and no pull-down	n/a	Pinky Current Sense
	PC3	ADC1_IN13	Analog mode	No pull-up and no pull-down	n/a	Pinky FlexiForce
	PA1	ADC1_IN1	Analog mode	No pull-up and no pull-down	n/a	EMG Signal ADC
	PA2	ADC1_IN2	Analog mode	No pull-up and no pull-down	n/a	Thumb Current Sense
	PA3	ADC1_IN3	Analog mode	No pull-up and no pull-down	n/a	Thumb FlexiForce
	PA4	ADC1_IN4	Analog mode	No pull-up and no pull-down	n/a	Pointer Current Sense
	PA6	ADC1_IN6	Analog mode	No pull-up and no pull-down	n/a	Thumb Artic Current Sense
	PA7	ADC1_IN7	Analog mode	No pull-up and no pull-down	n/a	Pointer FlexiForce
	PB0	ADC1_IN8	Analog mode	No pull-up and no pull-down	n/a	Middle Current Sense
	PB1	ADC1_IN9	Analog mode	No pull-up and no pull-down	n/a	Middle FlexiForce
RCC	PC14-OSC32_IN	RCC_OSC32_IN	n/a	n/a	n/a	Low Speed Clock OSC IN
	PC15-OSC32_OUT	RCC_OSC32_OUT	n/a	n/a	n/a	Low Speed Clock OSC OUT
	PH0-OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	High Speed Clock OSC IN
	PH1-OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	High Speed Clock OSC OUT
SYS	PA0-WKUP	SYS_WKUP	n/a	n/a	n/a	Wakeup
	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	JTAG TMS
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	JTAG TCK
	PA15	SYS_JTDI	n/a	n/a	n/a	JTAG TDI
	PB3	SYS_JTDO-SWO	n/a	n/a	n/a	JTAG TDO
	PB4	SYS_JTRST	n/a	n/a	n/a	JTAG JRST
TIM1	PE9	TIM1_CH1	Alternate Function Push Pull	No pull-up and no pull-down	Low	Pointer PWM
	PE11	TIM1_CH2	Alternate Function Push Pull	No pull-up and no pull-down	Low	Middle PWM
	PE13	TIM1_CH3	Alternate Function Push Pull	No pull-up and no pull-down	Low	Ring PWM
	PE14	TIM1_CH4	Alternate Function Push Pull	No pull-up and no pull-down	Low	Pinky PWM
TIM2	PA5	TIM2_CH1	Alternate Function Push Pull	No pull-up and no pull-down	Low	Thumb Encoder A (CCP)
	PB11	TIM2_CH4	Alternate Function Push Pull	No pull-up and no pull-down	Low	Thumb Artic Encoder A

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
						(CCP)
TIM3	PC6	TIM3_CH1	Alternate Function Push Pull	No pull-up and no pull-down	Low	Pointer Encoder A (CCP)
	PC7	TIM3_CH2	Alternate Function Push Pull	No pull-up and no pull-down	Low	Middle Encoder A (CCP)
	PC8	TIM3_CH3	Alternate Function Push Pull	No pull-up and no pull-down	Low	Ring Encoder A (CCP)
	PC9	TIM3_CH4	Alternate Function Push Pull	No pull-up and no pull-down	Low	Pinky Encoder A (CCP)
TIM4	PD13	TIM4_CH2	Alternate Function Push Pull	No pull-up and no pull-down	Low	Thumb Artic PWM
	PB6	TIM4_CH1	Alternate Function Push Pull	No pull-up and no pull-down	Low	Thumb PWM
USART1	PA9	USART1_TX	Alternate Function Push Pull	Pull-up	**Very High ***	UART1_TX (Wired)
	PA10	USART1_RX	Alternate Function Push Pull	Pull-up	**Very High ***	UART1_RX (Wired)
USART2	PD5	USART2_TX	Alternate Function Push Pull	Pull-up	**Very High ***	UART2_TX (Bluetooth)
	PD6	USART2_RX	Alternate Function Push Pull	Pull-up	**Very High ***	UART2_RX (Bluetooth)
GPIO	PE3	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	Thumb Artic Encoder B
	PE4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Thumb Artic Direction
	PE5	GPIO_EXTI5	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	Thumb Artic Limit Switch 1
	PE6	GPIO_EXTI6	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	Thumb Artic Limit Switch 2
	PC4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Thumb Direction
	PC5	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	Thumb Encoder B
	PB2	EVENTOUT	Alternate Function Push Pull	No pull-up and no pull-down	Low	BOOT1
	PE8	GPIO_EXTI8	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	Thumb Limit Switch
	PE10	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Pointer Direction
	PE12	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	Pointer Encoder B
	PE15	GPIO_EXTI15	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	Pointer Limit Switch
	PB10	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Middle Direction
	PB12	GPIO_EXTI12	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	Middle Limit Switch
	PB13	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Ring Direction
	PB14	GPIO_EXTI14	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	Ring Limit Switch
	PB15	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	Ring Encoder B
	PD8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Pinky Direction
	PD9	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	Pinky Encoder B
	PD10	GPIO_EXTI10	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	Pinky Limit Switch

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PD11	GPIO_EXTI11	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	Mode 1 Button (Grab)
	PD12	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Mode 1 Activated LED (Grab)
	PD14	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Mode 2 Activated LED (Pinch)
	PD15	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Mode 3 Activated LED (Point)
	PA8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Mode 4 Activated LED (Handshake)
	PA11	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	Middle Encoder B
	PD1	GPIO_EXTI1	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	Mode 3 Button (Point)
	PD2	GPIO_EXTI2	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	Mode 4 Button (Handshake)
	PD3	GPIO_EXTI3	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	Manual EMG Override Button
	PD4	GPIO_EXTI4	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	User Defined Button
	PD7	GPIO_EXTI7	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	Mode 2 Button (Pinch)
	PB7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Low Battery LED
	PB8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Hand Running LED
	PB9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	EMG Active LED
	PE0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Motor Driver Enable

6.2. DMA configuration

nothing configured in DMA service

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
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
EXTI line1 interrupt	unused		
EXTI line2 interrupt	unused		
EXTI line3 interrupt	unused		
EXTI line4 interrupt	unused		
ADC1, ADC2 and ADC3 global interrupts	unused		
EXTI line[9:5] interrupts	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		
USART1 global interrupt	unused		
USART2 global interrupt	unused		
EXTI line[15:10] interrupts	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_Rev7

7.2. Parameter Selection

Temperature	25
Vdd	3.3

7.3. Battery Selection

Battery	Our Battery
Capacity	4400.0 mAh
Self Discharge	0.0 %/month
Nominal Voltage	7.4 V
Max Cont Current	2200.0 mA
Max Pulse Current	2200.0 mA
Cells in series	1
Cells in parallel	1

7.4. Sequence

Step	Step1	Step2
Mode	RUN	SLEEP
Vdd	3.3	3.3
Voltage Source	Battery	Battery
Range	Scale1-High	Scale1-High
Fetch Type	RAM/FLASH/ART	RAM/FLASH

Clock Configuration	HSE PLL	HSE PLL
Clock Source Frequency	4.0 MHz	4.0 MHz
CPU Frequency	168.0 MHz	168.0 MHz
Peripherals	ADC1 GPIOA GPIOB GPIOC GPIOD GPIOE GPIOH PWR SYS TIM1 TIM2 TIM3 TIM4 USART1 USART2	ADC1
Additional Cons.	0 mA	0 mA
Average Current	48.3 mA	13.99 mA
Duration	1 ms	1 ms
DMIPS	210.0	210.0
Ta Max	98.15	103.01
Category	In DS Table	In DS Table

7.5. RESULTS

Sequence Time	2 ms	Average Current	31.15 mA
Battery Life	5 days, 21 hours	Average DMIPS	210.0 DMIPS

7.6. Chart