1. Description

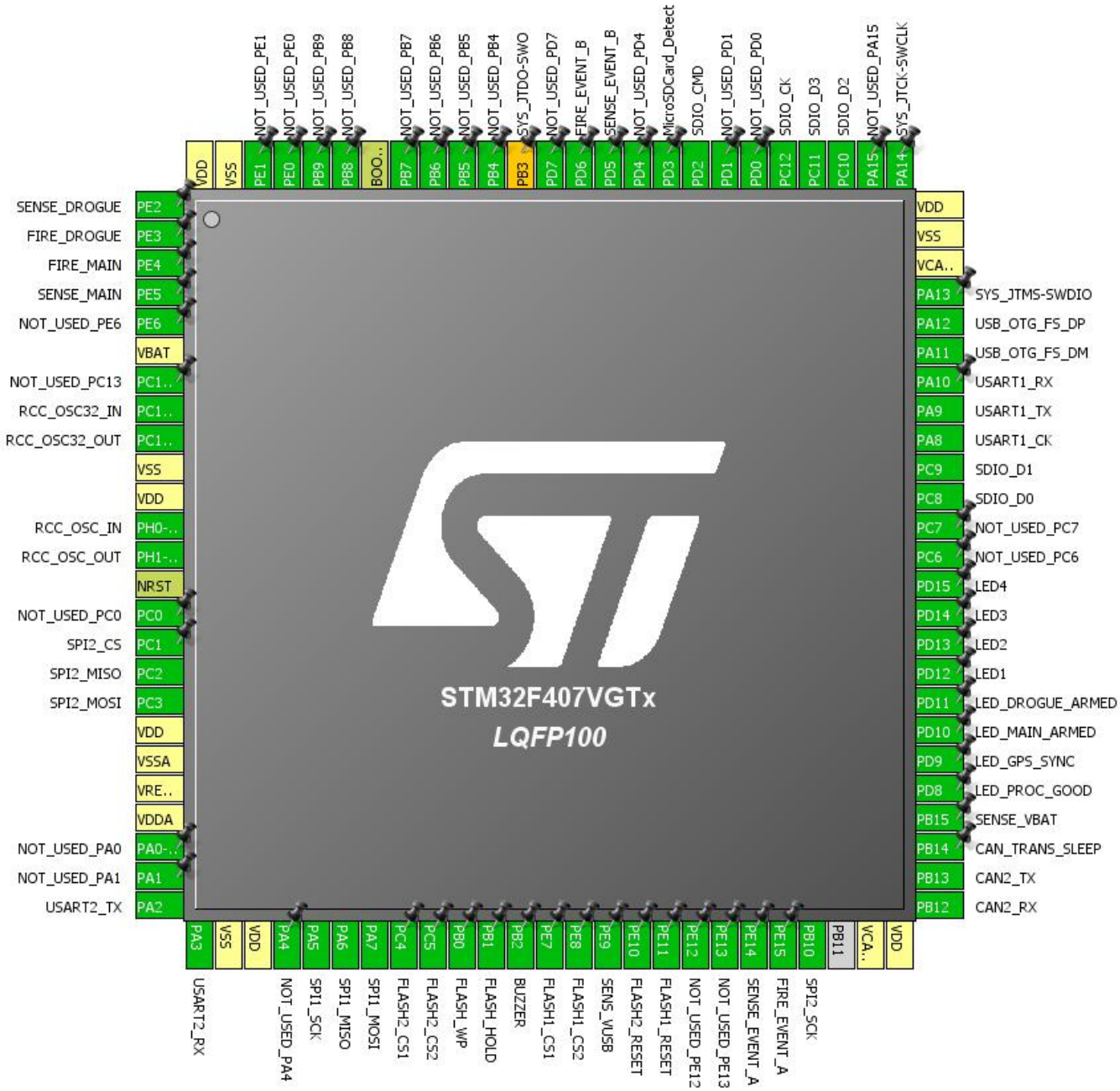
1.1. Project

Project Name	CriticalPCB_Rev2
Board Name	CriticalPCB_Rev2
Generated with:	STM32CubeMX 4.20.0
Date	04/03/2017

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
1	PE2 *	I/O	GPIO_Input	SENSE_DROGUE
2	PE3 *	I/O	GPIO_Output	FIRE_DROGUE
3	PE4 *	I/O	GPIO_Output	FIRE_MAIN
4	PE5 *	I/O	GPIO_Input	SENSE_MAIN
5	PE6 *	I/O	GPIO_Output	NOT_USED_PE6
6	VBAT	Power		
7	PC13-ANTI_TAMP *	I/O	GPIO_Output	NOT_USED_PC13
8	PC14-OSC32_IN	I/O	RCC_OSC32_IN	
9	PC15-OSC32_OUT	I/O	RCC_OSC32_OUT	
10	VSS	Power		
11	VDD	Power		
12	PH0-OSC_IN	I/O	RCC_OSC_IN	
13	PH1-OSC_OUT	I/O	RCC_OSC_OUT	
14	NRST	Reset		
15	PC0 *	I/O	GPIO_Output	NOT_USED_PC0
16	PC1 *	I/O	GPIO_Output	SPI2_CS
17	PC2	I/O	SPI2_MISO	
18	PC3	I/O	SPI2_MOSI	
19	VDD	Power		
20	VSSA	Power		
21	VREF+	Power		
22	VDDA	Power		
23	PA0-WKUP *	I/O	GPIO_Output	NOT_USED_PA0
24	PA1 *	I/O	GPIO_Output	NOT_USED_PA1
25	PA2	I/O	USART2_TX	
26	PA3	I/O	USART2_RX	
27	VSS	Power		
28	VDD	Power		
29	PA4 *	I/O	GPIO_Output	NOT_USED_PA4
30	PA5	I/O	SPI1_SCK	
31	PA6	I/O	SPI1_MISO	
32	PA7	I/O	SPI1_MOSI	
33	PC4 *	I/O	GPIO_Output	FLASH2_CS1
34	PC5 *	I/O	GPIO_Output	FLASH2_CS2
35	PB0 *	I/O	GPIO_Output	FLASH_WP
36	PB1 *	I/O	GPIO_Output	FLASH_HOLD

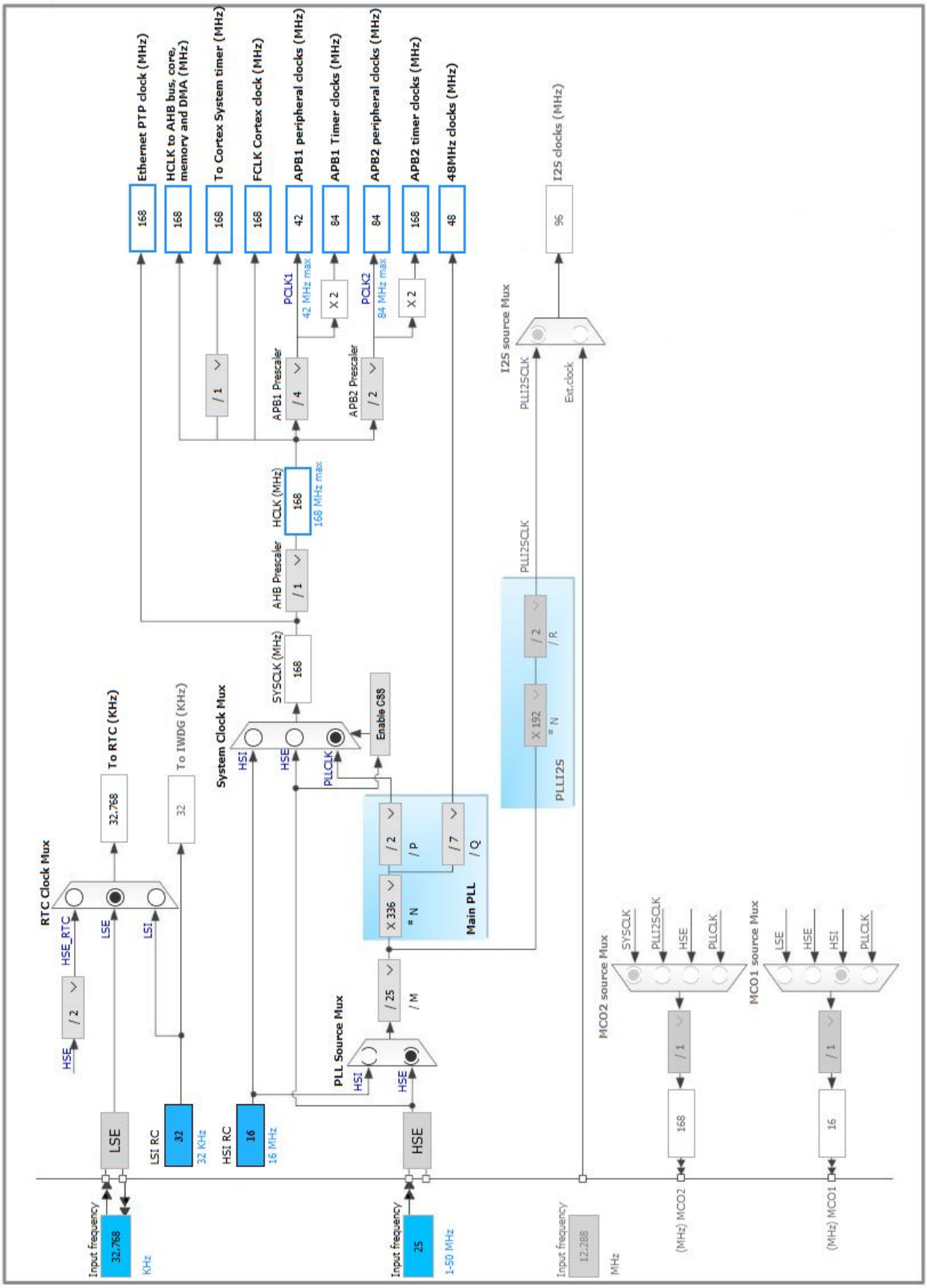
Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
37	PB2 *	I/O	GPIO_Output	BUZZER
38	PE7 *	I/O	GPIO_Output	FLASH1_CS1
39	PE8 *	I/O	GPIO_Output	FLASH1_CS2
40	PE9 *	I/O	GPIO_Input	SENS_VUSB
41	PE10 *	I/O	GPIO_Output	FLASH2_RESET
42	PE11 *	I/O	GPIO_Output	FLASH1_RESET
43	PE12 *	I/O	GPIO_Output	NOT_USED_PE12
44	PE13 *	I/O	GPIO_Output	NOT_USED_PE13
45	PE14 *	I/O	GPIO_Input	SENSE_EVENT_A
46	PE15 *	I/O	GPIO_Output	FIRE_EVENT_A
47	PB10	I/O	SPI2_SCK	
49	VCAP_1	Power		
50	VDD	Power		
51	PB12	I/O	CAN2_RX	
52	PB13	I/O	CAN2_TX	
53	PB14 *	I/O	GPIO_Output	CAN_TRANS_SLEEP
54	PB15 *	I/O	GPIO_Input	SENSE_VBAT
55	PD8 *	I/O	GPIO_Output	LED_PROC_GOOD
56	PD9 *	I/O	GPIO_Output	LED_GPS_SYNC
57	PD10 *	I/O	GPIO_Output	LED_MAIN_ARMED
58	PD11 *	I/O	GPIO_Output	LED_DROGUE_ARMED
59	PD12 *	I/O	GPIO_Output	LED1
60	PD13 *	I/O	GPIO_Output	LED2
61	PD14 *	I/O	GPIO_Output	LED3
62	PD15 *	I/O	GPIO_Output	LED4
63	PC6 *	I/O	GPIO_Output	NOT_USED_PC6
64	PC7 *	I/O	GPIO_Output	NOT_USED_PC7
65	PC8	I/O	SDIO_D0	
66	PC9	I/O	SDIO_D1	
67	PA8	I/O	USART1_CK	
68	PA9	I/O	USART1_TX	
69	PA10	I/O	USART1_RX	
70	PA11	I/O	USB_OTG_FS_DM	
71	PA12	I/O	USB_OTG_FS_DP	
72	PA13	I/O	SYS_JTMS-SWDIO	
73	VCAP_2	Power		
74	VSS	Power		
75	VDD	Power		
76	PA14	I/O	SYS_JTCK-SWCLK	

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
77	PA15 *	I/O	GPIO_Output	NOT_USED_PA15
78	PC10	I/O	SDIO_D2	
79	PC11	I/O	SDIO_D3	
80	PC12	I/O	SDIO_CK	
81	PD0 *	I/O	GPIO_Output	NOT_USED_PD0
82	PD1 *	I/O	GPIO_Output	NOT_USED_PD1
83	PD2	I/O	SDIO_CMD	
84	PD3	I/O	GPIO_EXTI3	MicroSDCard_Detect
85	PD4 *	I/O	GPIO_Output	NOT_USED_PD4
86	PD5 *	I/O	GPIO_Input	SENSE_EVENT_B
87	PD6 *	I/O	GPIO_Output	FIRE_EVENT_B
88	PD7 *	I/O	GPIO_Output	NOT_USED_PD7
89	PB3 **	I/O	SYS_JTDO-SWO	
90	PB4 *	I/O	GPIO_Output	NOT_USED_PB4
91	PB5 *	I/O	GPIO_Output	NOT_USED_PB5
92	PB6 *	I/O	GPIO_Output	NOT_USED_PB6
93	PB7 *	I/O	GPIO_Output	NOT_USED_PB7
94	BOOT0	Boot		
95	PB8 *	I/O	GPIO_Output	NOT_USED_PB8
96	PB9 *	I/O	GPIO_Output	NOT_USED_PB9
97	PE0 *	I/O	GPIO_Output	NOT_USED_PE0
98	PE1 *	I/O	GPIO_Output	NOT_USED_PE1
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. CAN2

mode: Mode

5.1.1. Parameter Settings:

Bit Timings Parameters:

Prescaler (for Time Quantum)	**21 ***
Time Quantum	**500.0 ***
Time Quanta in Bit Segment 1	**13 Times ***
Time Quanta in Bit Segment 2	**2 Times ***
Time for one Bit	**8000 ***
ReSynchronization Jump Width	1 Time

Basic Parameters:

Time Triggered Communication Mode	Disable
Automatic Bus-Off Management	Disable
Automatic Wake-Up Mode	Disable
No-Automatic Retransmission	Disable
Receive Fifo Locked Mode	Disable
Transmit Fifo Priority	Disable

Advanced Parameters:

Operating Mode	Normal

5.2. RCC

High Speed Clock (HSE): BYPASS Clock Source

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)	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. RTC

mode: Activate Clock Source

mode: Activate Calendar

Alarm A: Internal Alarm

5.3.1. Parameter Settings:

General:

Hour Format	Hourformat 24
Asynchronous Predivider value	127
Synchronous Predivider value	255

Calendar Time:

Data Format	BCD data format
Hours	0
Minutes	0
Seconds	0
Day Light Saving: value of hour adjustment	Daylightsaving None
Store Operation	Storeoperation Reset

Calendar Date:

Week Day	Monday
Month	January
Date	1
Year	0

Alarm A:

Hours	0
Minutes	0
Seconds	0
Sub Seconds	0
Alarm Mask Date Week day	Disable
Alarm Mask Hours	Disable
Alarm Mask Minutes	Disable
Alarm Mask Seconds	Disable

Alarm Sub Second Mask	All Alarm SS fields are masked.
Alarm Date Week Day Sel	Date
Alarm Date	1

5.4. SDIO

Mode: SD 4 bits Wide bus

5.4.1. Parameter Settings:

SDIO parameters:

SDIOCLK clock divide factor	0

5.5. SPI1

Mode: Full-Duplex Master

5.5.1. 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

5.6. SPI2

Mode: Full-Duplex Master

5.6.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	8 Bits
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	2
Baud Rate	**21.0 MBits/s ***
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

Advanced Parameters:

CRC Calculation	Disabled
NSS Signal Type	Software

5.7. SYS

Debug: Serial Wire

Timebase Source: SysTick

5.8. TIM1

Clock Source : Internal Clock

5.8.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**128 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**62625 ***
Internal Clock Division (CKD)	No Division
Repetition Counter (RCR - 8 bits value)	0

Trigger Output (TRGO) Parameters:

Master/Slave Mode	**Enable (sync between this TIM (Master) and its Slaves (through TRGO)) ***
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

5.9. TIM2

Slave Mode: Trigger Mode
Trigger Source: ITR0
Clock Source : Internal Clock

5.9.1. Parameter Settings:

Counter Settings:

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

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. TIM3

Slave Mode: Trigger Mode
Trigger Source: ITR0
Clock Source : Internal Clock

5.10.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**1000 ***
Internal Clock Division (CKD)	No Division
Slave Mode Controller	Trigger Mode

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)

5.11. USART1

Mode: Synchronous

5.11.1. 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

Clock Parameters:

Clock Polarity	Low
Clock Phase	One Edge
Clock Last Bit	Disable

5.12. USART2

Mode: Asynchronous

5.12.1. Parameter Settings:

Basic Parameters:

Baud Rate	**57600 ***
Word Length	8 Bits (including Parity)
Parity	None
Stop Bits	1

Advanced Parameters:

Data Direction	Receive and Transmit
Over Sampling	16 Samples

5.13. USB_OTG_FS

Mode: Device_Only

5.13.1. Parameter Settings:

Speed	Device Full Speed 12MBit/s
Endpoint 0 Max Packet size	64 Bytes
Enable internal IP DMA	Disabled
Low power	Disabled
Link Power Management	Disabled
VBUS sensing	Enabled
Signal start of frame	Disabled

5.14. FATFS

mode: SD Card

5.14.1. Set Defines:

Version:

FATFS version	R0.11

Function Parameters:

FS_TINY (Tiny mode)	Disabled
FS_READONLY (Read-only mode)	Disabled
FS_MINIMIZE (Minimization level)	Disabled
USE_STRFUNC (String functions)	Enabled with LF -> CRLF conversion
USE_FIND (Find functions)	Disabled
USE_MKFS (Make filesystem function)	Enabled
USE_FORWARD (Forward function)	Disabled
USE_LABEL (Volume label functions)	Disabled
USE_FASTSEEK (Fast seek function)	Enabled

Locale and Namespace Parameters:

CODE_PAGE (Code page on target)	Latin 1 (Windows)
USE_LFN (Use Long Filename)	Disabled
MAX_LFN (Max Long Filename)	255
LFN_UNICODE (Enable Unicode)	ANSI/OEM
STRF_ENCODE (Character encoding)	UTF-8
FS_RPATH (Relative Path)	Disabled

Physical Drive Parameters:

VOLUMES (Logical drives)	1
MAX_SS (Maximum Sector Size)	512
MIN_SS (Minimum Sector Size)	512
MULTI_PARTITION (Volume partitions feature)	Disabled

USE_TRIM (Erase feature)	Disabled
FS_NOFSINFO (Force full FAT scan)	0

System Parameters:

FS_NORTC (Timestamp feature)	Dynamic timestamp
NORTC_YEAR (Year for timestamp)	2015
NORTC_MON (Month for timestamp)	6
NORTC_MDAY (Day for timestamp)	4
WORD_ACCESS (Platform dependent access option)	Byte access
FS_REENTRANT (Re-Entrancy)	Disabled
FS_TIMEOUT (Timeout ticks)	1000
SYNC_t (O/S sync object)	osSemaphoreId
FS_LOCK (Number of files opened simultaneously)	**10 ***

5.14.2. IPs instances:

SDIO/SDMMC:

SDIO instance	SDIO

*** User modified value**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
CAN2	PB12	CAN2_RX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PB13	CAN2_TX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
RCC	PC14-OSC32_IN	RCC_OSC32_IN	n/a	n/a	n/a	
	PC15-OSC32_OUT	RCC_OSC32_OUT	n/a	n/a	n/a	
	PH0-OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PH1-OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
SDIO	PC8	SDIO_D0	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PC9	SDIO_D1	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PC10	SDIO_D2	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PC11	SDIO_D3	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PC12	SDIO_CK	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD2	SDIO_CMD	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
SPI1	PA5	SPI1_SCK	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PA6	SPI1_MISO	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PA7	SPI1_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
SPI2	PC2	SPI2_MISO	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PC3	SPI2_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PB10	SPI2_SCK	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
SYS	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	
	PA14	SYS_JTCK-	n/a	n/a	n/a	

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
		SWCLK				
USART1	PA8	USART1_CK	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PA9	USART1_TX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PA10	USART1_RX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
USART2	PA2	USART2_TX	Alternate Function Push Pull	Pull-up	**Very High ***	
	PA3	USART2_RX	Alternate Function Push Pull	Pull-up	**Very High ***	
USB_OTG_FS	PA11	USB_OTG_FS_DM	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PA12	USB_OTG_FS_DP	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
Single Mapped Signals	PB3	SYS_JTDO-SWO	n/a	n/a	n/a	
GPIO	PE2	GPIO_Input	Input mode	**Pull-up ***	n/a	SENSE_DROGUE
	PE3	GPIO_Output	Output Push Pull	**Pull-down ***	**Very High ***	FIRE_DROGUE
	PE4	GPIO_Output	Output Push Pull	**Pull-down ***	**Very High ***	FIRE_MAIN
	PE5	GPIO_Input	Input mode	**Pull-up ***	**n/a**	SENSE_MAIN
	PE6	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PE6
	PC13-ANTI_TAMP	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PC13
	PC0	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PC0
	PC1	GPIO_Output	Output Push Pull	**Pull-up ***	**Very High ***	SPI2_CS
	PA0-WKUP	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PA0
	PA1	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PA1
	PA4	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PA4
	PC4	GPIO_Output	Output Push Pull	**Pull-up ***	**Very High ***	FLASH2_CS1
	PC5	GPIO_Output	Output Push Pull	**Pull-up ***	**Very High ***	FLASH2_CS2

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PB0	GPIO_Output	Output Push Pull	**Pull-down ***	**Very High ***	FLASH_WP
	PB1	GPIO_Output	Output Push Pull	**Pull-down ***	**Very High ***	FLASH_HOLD
	PB2	GPIO_Output	Output Push Pull	**Pull-down ***	Low	BUZZER
	PE7	GPIO_Output	Output Push Pull	**Pull-up ***	**Very High ***	FLASH1_CS1
	PE8	GPIO_Output	Output Push Pull	**Pull-up ***	**Very High ***	FLASH1_CS2
	PE9	GPIO_Input	Input mode	**Pull-up ***	**n/a**	SENS_VUSB
	PE10	GPIO_Output	Output Push Pull	**Pull-up ***	**Very High ***	FLASH2_RESET
	PE11	GPIO_Output	Output Push Pull	**Pull-up ***	**Very High ***	FLASH1_RESET
	PE12	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PE12
	PE13	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PE13
	PE14	GPIO_Input	Input mode	**Pull-up ***	n/a	SENSE_EVENT_A
	PE15	GPIO_Output	Output Push Pull	**Pull-down ***	**Very High ***	FIRE_EVENT_A
	PB14	GPIO_Output	Output Push Pull	**Pull-down ***	Low	CAN_TRANS_SLEEP
	PB15	GPIO_Input	Input mode	**Pull-up ***	n/a	SENSE_VBAT
	PD8	GPIO_Output	Output Push Pull	**Pull-down ***	Low	LED_PROC_GOOD
	PD9	GPIO_Output	Output Push Pull	**Pull-down ***	Low	LED_GPS_SYNC
	PD10	GPIO_Output	Output Push Pull	**Pull-down ***	Low	LED_MAIN_ARMED
	PD11	GPIO_Output	Output Push Pull	**Pull-down ***	Low	LED_DROGUE_ARMED
	PD12	GPIO_Output	Output Push Pull	**Pull-down ***	Low	LED1
	PD13	GPIO_Output	Output Push Pull	**Pull-down ***	Low	LED2
	PD14	GPIO_Output	Output Push Pull	**Pull-down ***	Low	LED3
	PD15	GPIO_Output	Output Push Pull	**Pull-down ***	Low	LED4
	PC6	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PC6
	PC7	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PC7
	PA15	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PA15
	PD0	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PD0
	PD1	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PD1
	PD3	GPIO_EXTI3	**External Interrupt**	**Pull-up ***	n/a	MicroSDCard_Detect

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
			Mode with Falling edge trigger detection			
	PD4	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PD4
	PD5	GPIO_Input	Input mode	**Pull-up ***	n/a	SENSE_EVENT_B
	PD6	GPIO_Output	Output Push Pull	**Pull-down ***	**Very High ***	FIRE_EVENT_B
	PD7	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PD7
	PB4	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PB4
	PB5	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PB5
	PB6	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PB6
	PB7	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PB7
	PB8	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PB8
	PB9	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PB9
	PE0	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PE0
	PE1	GPIO_Output	Output Push Pull	**Pull-down ***	Low	NOT_USED_PE1

6.2. DMA configuration

DMA request	Stream	Direction	Priority
USART2_TX	DMA1_Stream6	Memory To Peripheral	**Very High ***

USART2_TX: DMA1_Stream6 DMA request Settings:

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

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 line3 interrupt	true	1	0
DMA1 stream6 global interrupt	true	0	0
TIM1 update interrupt and TIM10 global interrupt	true	4	0
TIM2 global interrupt	true	2	0
TIM3 global interrupt	true	3	0
USART1 global interrupt	true	0	0
USART2 global interrupt	true	0	0
SDIO global interrupt	true	0	0
CAN2 RX0 interrupts	true	1	0
CAN2 RX1 interrupt	true	1	0
USB On The Go FS global interrupt	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
TIM1 break interrupt and TIM9 global interrupt	unused		
TIM1 trigger and commutation interrupts and TIM11 global interrupt	unused		
TIM1 capture compare interrupt	unused		
SPI1 global interrupt	unused		
SPI2 global interrupt	unused		
RTC alarms A and B interrupt through EXTI line 17	unused		
CAN2 TX interrupts	unused		
CAN2 SCE 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_Rev7

7.2. Parameter Selection

Temperature	25
Vdd	3.3

8. Software Project

8.1. Project Settings

Name	Value
Project Name	CriticalPCB_Rev2
Project Folder	C:\Users\julien\git\criticalpcb_rev2
Toolchain / IDE	TrueSTUDIO
Firmware Package Name and Version	STM32Cube FW_F4 V1.15.0

8.2. Code Generation Settings

Name	Value
STM32Cube Firmware Library Package	Copy only the necessary library files
Generate peripheral initialization as a pair of '.c/.h' files	Yes
Backup previously generated files when re-generating	No
Delete previously generated files when not re-generated	Yes
Set all free pins as analog (to optimize the power consumption)	No