

## 1. Description

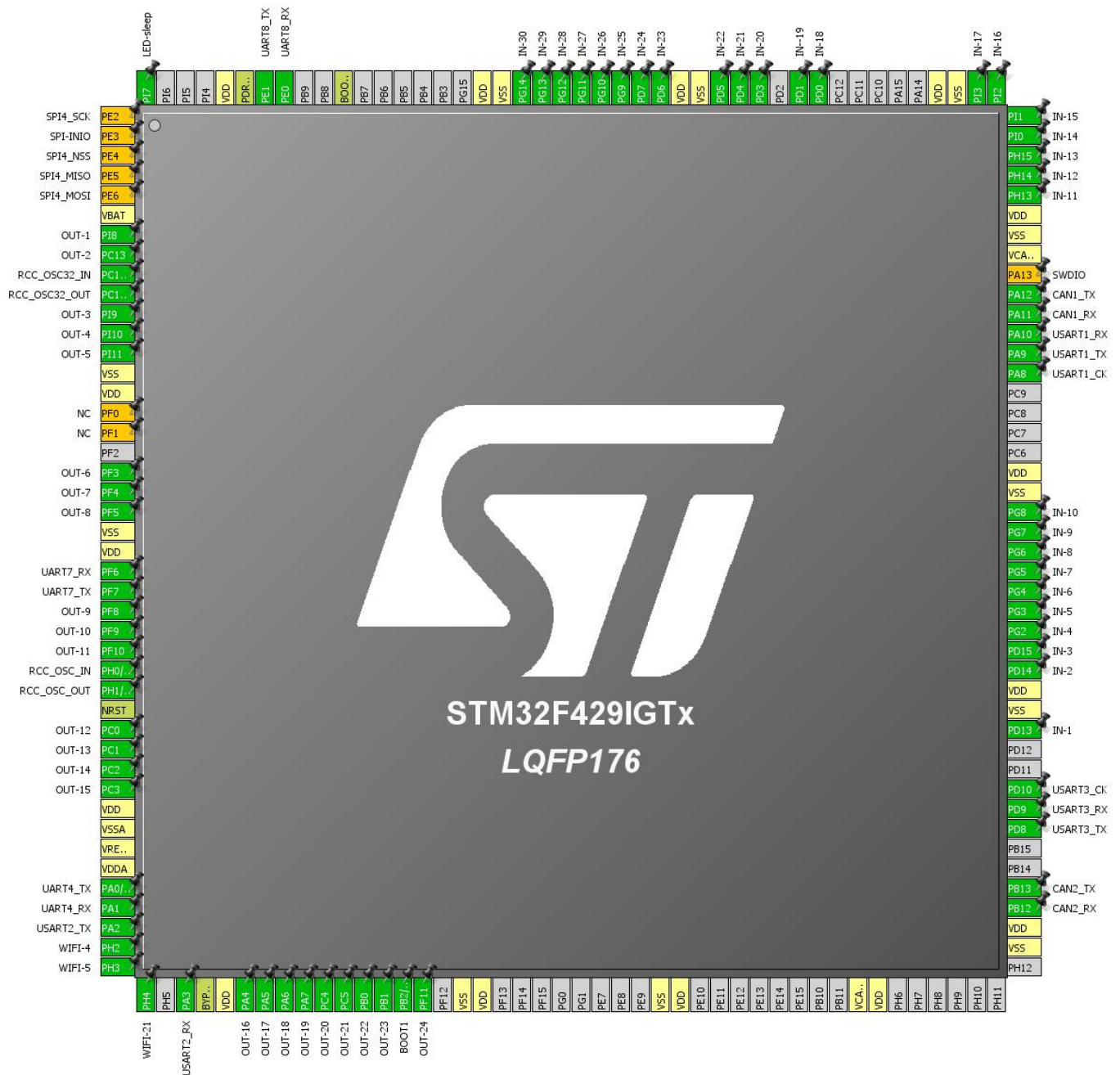
### 1.1. Project

Project Name	Main
Board Name	custom
Generated with:	STM32CubeMX 4.27.0
Date	10/23/2018

### 1.2. MCU

MCU Series	STM32F4
MCU Line	STM32F429/439
MCU name	STM32F429IGTx
MCU Package	LQFP176
MCU Pin number	176

## 2. Pinout Configuration



### 3. Pins Configuration

Pin Number LQFP176	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	PE2 *	I/O	SPI4_SCK	
2	PE3 *	I/O	SAI1_SD_B	SPI-INIO
3	PE4 *	I/O	SPI4_NSS	
4	PE5 *	I/O	SPI4_MISO	
5	PE6 *	I/O	SPI4_MOSI	
6	VBAT	Power		
7	PI8 **	I/O	GPIO_Output	OUT-1
8	PC13 **	I/O	GPIO_Output	OUT-2
9	PC14/OSC32_IN	I/O	RCC_OSC32_IN	
10	PC15/OSC32_OUT	I/O	RCC_OSC32_OUT	
11	PI9 **	I/O	GPIO_Output	OUT-3
12	PI10 **	I/O	GPIO_Output	OUT-4
13	PI11 **	I/O	GPIO_Output	OUT-5
14	VSS	Power		
15	VDD	Power		
16	PF0 *	I/O	I2C2_SDA	NC
17	PF1 *	I/O	I2C2_SCL	NC
19	PF3 **	I/O	GPIO_Output	OUT-6
20	PF4 **	I/O	GPIO_Output	OUT-7
21	PF5 **	I/O	GPIO_Output	OUT-8
22	VSS	Power		
23	VDD	Power		
24	PF6	I/O	UART7_RX	
25	PF7	I/O	UART7_TX	
26	PF8 **	I/O	GPIO_Output	OUT-9
27	PF9 **	I/O	GPIO_Output	OUT-10
28	PF10 **	I/O	GPIO_Output	OUT-11
29	PH0/OSC_IN	I/O	RCC_OSC_IN	
30	PH1/OSC_OUT	I/O	RCC_OSC_OUT	
31	NRST	Reset		
32	PC0 **	I/O	GPIO_Output	OUT-12
33	PC1 **	I/O	GPIO_Output	OUT-13
34	PC2 **	I/O	GPIO_Output	OUT-14
35	PC3 **	I/O	GPIO_Output	OUT-15
36	VDD	Power		
37	VSSA	Power		

Pin Number LQFP176	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
38	VREF+	Power		
39	VDDA	Power		
40	PA0/WKUP	I/O	UART4_TX	
41	PA1	I/O	UART4_RX	
42	PA2	I/O	USART2_TX	
43	PH2 **	I/O	GPIO_Output	WIFI-4
44	PH3 **	I/O	GPIO_Output	WIFI-5
45	PH4 **	I/O	GPIO_Output	WIFI-21
47	PA3	I/O	USART2_RX	
48	BYPASS_REG	Reset		
49	VDD	Power		
50	PA4 **	I/O	GPIO_Output	OUT-16
51	PA5 **	I/O	GPIO_Output	OUT-17
52	PA6 **	I/O	GPIO_Output	OUT-18
53	PA7 **	I/O	GPIO_Output	OUT-19
54	PC4 **	I/O	GPIO_Output	OUT-20
55	PC5 **	I/O	GPIO_Output	OUT-21
56	PB0 **	I/O	GPIO_Output	OUT-22
57	PB1 **	I/O	GPIO_Output	OUT-23
58	PB2/BOOT1 **	I/O	GPIO_Output	BOOT1
59	PF11 **	I/O	GPIO_Output	OUT-24
61	VSS	Power		
62	VDD	Power		
71	VSS	Power		
72	VDD	Power		
81	VCAP_1	Power		
82	VDD	Power		
90	VSS	Power		
91	VDD	Power		
92	PB12	I/O	CAN2_RX	
93	PB13	I/O	CAN2_TX	
96	PD8	I/O	USART3_TX	
97	PD9	I/O	USART3_RX	
98	PD10	I/O	USART3_CK	
101	PD13 **	I/O	GPIO_Input	IN-1
102	VSS	Power		
103	VDD	Power		
104	PD14 **	I/O	GPIO_Input	IN-2
105	PD15 **	I/O	GPIO_Input	IN-3

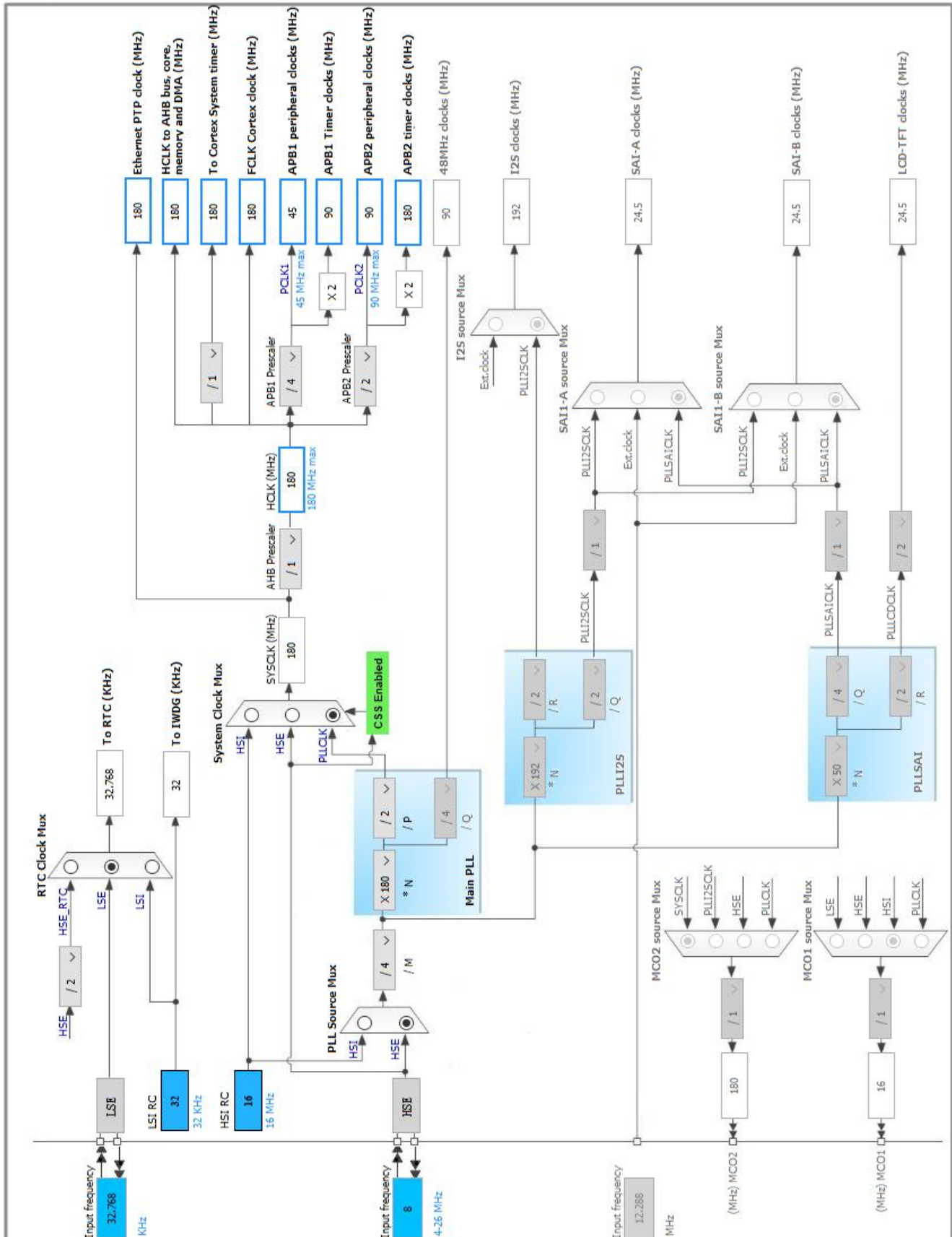
Pin Number LQFP176	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
106	PG2 **	I/O	GPIO_Input	IN-4
107	PG3 **	I/O	GPIO_Input	IN-5
108	PG4 **	I/O	GPIO_Input	IN-6
109	PG5 **	I/O	GPIO_Input	IN-7
110	PG6 **	I/O	GPIO_Input	IN-8
111	PG7 **	I/O	GPIO_Input	IN-9
112	PG8 **	I/O	GPIO_Input	IN-10
113	VSS	Power		
114	VDD	Power		
119	PA8	I/O	USART1_CK	
120	PA9	I/O	USART1_TX	
121	PA10	I/O	USART1_RX	
122	PA11	I/O	CAN1_RX	
123	PA12	I/O	CAN1_TX	
124	PA13 *	I/O	SYS_JTMS-SWDIO	SWDIO
125	VCAP_2	Power		
126	VSS	Power		
127	VDD	Power		
128	PH13 **	I/O	GPIO_Input	IN-11
129	PH14 **	I/O	GPIO_Input	IN-12
130	PH15 **	I/O	GPIO_Input	IN-13
131	PI0 **	I/O	GPIO_Input	IN-14
132	PI1 **	I/O	GPIO_Input	IN-15
133	PI2 **	I/O	GPIO_Input	IN-16
134	PI3 **	I/O	GPIO_Input	IN-17
135	VSS	Power		
136	VDD	Power		
142	PD0 **	I/O	GPIO_Input	IN-18
143	PD1 **	I/O	GPIO_Input	IN--19
145	PD3 **	I/O	GPIO_Input	IN-20
146	PD4 **	I/O	GPIO_Input	IN-21
147	PD5 **	I/O	GPIO_Input	IN-22
148	VSS	Power		
149	VDD	Power		
150	PD6 **	I/O	GPIO_Input	IN-23
151	PD7 **	I/O	GPIO_Input	IN-24
152	PG9 **	I/O	GPIO_Input	IN-25
153	PG10 **	I/O	GPIO_Input	IN-26
154	PG11 **	I/O	GPIO_Input	IN-27

Pin Number LQFP176	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
155	PG12 **	I/O	GPIO_Input	IN-28
156	PG13 **	I/O	GPIO_Input	IN-29
157	PG14 **	I/O	GPIO_Input	IN-30
158	VSS	Power		
159	VDD	Power		
166	BOOT0	Boot		
169	PE0	I/O	UART8_RX	
170	PE1	I/O	UART8_TX	
171	PDR_ON	Reset		
172	VDD	Power		
176	PI7 **	I/O	GPIO_Input	LED-sleep

\*\* 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. CAN1

mode: Mode

#### 5.1.1. Parameter Settings:

##### Bit Timings Parameters:

Prescaler (for Time Quantum)	10 *
Time Quantum	222.2222222222223 *
Time Quanta in Bit Segment 1	6 Times *
Time Quanta in Bit Segment 2	2 Times *
ReSynchronization Jump Width	1 Time

##### Basic Parameters:

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

##### Advanced Parameters:

Operating Mode	Normal
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### 5.2. CAN2

mode: Mode

#### 5.2.1. Parameter Settings:

##### Bit Timings Parameters:

Prescaler (for Time Quantum)	10 *
Time Quantum	222.2222222222223 *
Time Quanta in Bit Segment 1	6 Times *
Time Quanta in Bit Segment 2	2 Times *
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
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### 5.3. IWDG

**mode: Activated**

#### 5.3.1. Parameter Settings:

**Clocking:**

IWDG counter clock prescaler	4
IWDG down-counter reload value	4095

### 5.4. RCC

**High Speed Clock (HSE): Crystal/Ceramic Resonator**

**Low Speed Clock (LSE) : Crystal/Ceramic Resonator**

#### 5.4.1. 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
TIM Prescaler Selection	Disabled
HSE Startup Timeout Value (ms)	100
LSE Startup Timeout Value (ms)	5000

**Power Parameters:**

Power Regulator Voltage Scale	Power Regulator Voltage Scale 1
Power Over Drive	Enabled

### 5.5. RTC

**mode: Activate Clock Source**

**mode: Activate Calendar**

### 5.5.1. 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

## 5.6. SYS

**Timebase Source: SysTick**

## 5.7. UART4

**Mode: Asynchronous**

### 5.7.1. 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

## 5.8. UART7

**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. UART8

**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

## 5.10. USART1

**Mode: Synchronous**

### 5.10.1. 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

**Clock Parameters:**

Clock Polarity                      Low  
Clock Phase                      One Edge  
Clock Last Bit                      Disable

## 5.11. USART2

**Mode: Asynchronous**

### 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  
Over Sampling                      16 Samples

## 5.12. USART3

**Mode: Synchronous**

### 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

**Clock Parameters:**

Clock Polarity                      Low  
Clock Phase                      One Edge  
Clock Last Bit                      Disable

## 5.13. WWDG

mode: Activated

### 5.13.1. Parameter Settings:

#### Watchdog Clocking:

WWDG counter clock prescaler	1
WWDG window value	64
WWDG free-running downcounter value	64

#### Watchdog Interrupt:

Early wakeup interrupt	Disable
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## 5.14. FREERTOS

mode: Enabled

### 5.14.1. Config parameters:

#### Versions:

FreeRTOS version	9.0.0
CMSIS-RTOS version	1.02

#### Kernel settings:

USE_PREEMPTION	Enabled
CPU_CLOCK_HZ	SystemCoreClock
TICK_RATE_HZ	1000
MAX_PRIORITIES	7
MINIMAL_STACK_SIZE	128
MAX_TASK_NAME_LEN	16
USE_16_BIT_TICKS	Disabled
IDLE_SHOULD_YIELD	<b>Disabled *</b>
USE_MUTEXES	Enabled
USE_RECURSIVE_MUTEXES	<b>Enabled *</b>
USE_COUNTING_SEMAPHORES	<b>Enabled *</b>
QUEUE_REGISTRY_SIZE	8
USE_APPLICATION_TASK_TAG	Disabled
ENABLE_BACKWARD_COMPATIBILITY	<b>Disabled *</b>
USE_PORT_OPTIMISED_TASK_SELECTION	Enabled
USE_TICKLESS_IDLE	Disabled
USE_TASK_NOTIFICATIONS	Enabled

#### Memory management settings:

Memory Allocation	Dynamic
TOTAL_HEAP_SIZE	15360
Memory Management scheme	heap_4

#### Hook function related definitions:

USE_IDLE_HOOK	Disabled
USE_TICK_HOOK	<b>Enabled *</b>
USE_MALLOC_FAILED_HOOK	<b>Enabled *</b>
USE_DAEMON_TASK_STARTUP_HOOK	Disabled
CHECK_FOR_STACK_OVERFLOW	Disabled

#### Run time and task stats gathering related definitions:

GENERATE_RUN_TIME_STATS	Disabled
USE_TRACE_FACILITY	Disabled
USE_STATS_FORMATTING_FUNCTIONS	Disabled

#### Co-routine related definitions:

USE_CO_ROUTINES	Disabled
MAX_CO_ROUTINE_PRIORITIES	2

#### Software timer definitions:

USE_TIMERS	Disabled
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#### Interrupt nesting behaviour configuration:

LIBRARY_LOWEST_INTERRUPT_PRIORITY	15
LIBRARY_MAX_SYSCALL_INTERRUPT_PRIORITY	5

### 5.14.2. Include parameters:

#### Include definitions:

vTaskPrioritySet	Enabled
uxTaskPriorityGet	Enabled
vTaskDelete	Enabled
vTaskCleanUpResources	<b>Enabled *</b>
vTaskSuspend	Enabled
vTaskDelayUntil	<b>Enabled *</b>
vTaskDelay	Enabled
xTaskGetSchedulerState	Enabled
xTaskResumeFromISR	Enabled
xQueueGetMutexHolder	<b>Enabled *</b>
xSemaphoreGetMutexHolder	<b>Enabled *</b>
pcTaskGetTaskName	Disabled
uxTaskGetStackHighWaterMark	Disabled
xTaskGetCurrentTaskHandle	Disabled

eTaskGetState	Disabled
xEventGroupSetBitFromISR	Disabled
xTimerPendFunctionCall	Disabled
xTaskAbortDelay	<b>Enabled *</b>
xTaskGetHandle	Disabled

\* User modified value

## 6. System Configuration

### 6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
CAN1	PA11	CAN1_RX	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PA12	CAN1_TX	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
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	
UART4	PA0/WKUP	UART4_TX	Alternate Function Push Pull	Pull-up	Very High *	
	PA1	UART4_RX	Alternate Function Push Pull	Pull-up	Very High *	
UART7	PF6	UART7_RX	Alternate Function Push Pull	Pull-up	Very High *	
	PF7	UART7_TX	Alternate Function Push Pull	Pull-up	Very High *	
UART8	PE0	UART8_RX	Alternate Function Push Pull	Pull-up	Very High *	
	PE1	UART8_TX	Alternate Function Push Pull	Pull-up	Very High *	
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 *	



IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
USART2	PA2	USART2_TX	Alternate Function Push Pull	Pull-up	Very High *	
	PA3	USART2_RX	Alternate Function Push Pull	Pull-up	Very High *	
USART3	PD8	USART3_TX	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PD9	USART3_RX	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PD10	USART3_CK	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
Single Mapped Signals	PE2	SPI4_SCK	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PE3	SAI1_SD_B	Alternate Function Push Pull	No pull-up and no pull-down	Low	SPI-INIO
	PE4	SPI4_NSS	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PE5	SPI4_MISO	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PE6	SPI4_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PF0	I2C2_SDA	Alternate Function Open Drain	Pull-up	Very High *	NC
	PF1	I2C2_SCL	Alternate Function Open Drain	Pull-up	Very High *	NC
	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	SWDIO
GPIO	PI8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-1
	PC13	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-2
	PI9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-3
	PI10	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-4
	PI11	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-5
	PF3	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-6
	PF4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-7
	PF5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-8
	PF8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-9
	PF9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-10
	PF10	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-11
	PC0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-12
	PC1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-13

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PC2	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-14
	PC3	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-15
	PH2	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	WIFI-4
	PH3	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	WIFI-5
	PH4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	WIFI-21
	PA4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-16
	PA5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-17
	PA6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-18
	PA7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-19
	PC4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-20
	PC5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-21
	PB0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-22
	PB1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-23
	PB2/BOOT1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	BOOT1
	PF11	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OUT-24
	PD13	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-1
	PD14	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-2
	PD15	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-3
	PG2	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-4
	PG3	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-5
	PG4	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-6
	PG5	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-7
	PG6	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-8
	PG7	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-9
	PG8	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-10
	PH13	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-11
	PH14	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-12
	PH15	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-13
	PI0	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-14
	PI1	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-15
	PI2	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-16
	PI3	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-17
	PD0	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-18
	PD1	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN--19
	PD3	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-20
	PD4	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-21
	PD5	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-22
	PD6	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-23
	PD7	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-24
	PG9	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-25

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PG10	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-26
	PG11	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-27
	PG12	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-28
	PG13	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-29
	PG14	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	IN-30
	PI7	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	LED-sleep

## 6.2. DMA configuration

DMA request	Stream	Direction	Priority
USART2_RX	DMA1_Stream5	Peripheral To Memory	Low
USART1_RX	DMA2_Stream2	Peripheral To Memory	Low

### USART2\_RX: DMA1\_Stream5 DMA request Settings:

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

### USART1\_RX: DMA2\_Stream2 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	15	0
System tick timer	true	15	0
Window watchdog interrupt	true	5	0
DMA1 stream5 global interrupt	true	5	0
CAN1 RX0 interrupts	true	6	0
USART1 global interrupt	true	7	0
USART2 global interrupt	true	8	0
USART3 global interrupt	true	9	0
UART4 global interrupt	true	10	0
DMA2 stream2 global interrupt	true	5	0
UART7 global interrupt	true	11	0
UART8 global interrupt	true	11	0
PVD interrupt through EXTI line 16		unused	
Flash global interrupt		unused	
RCC global interrupt		unused	
CAN1 TX interrupts		unused	
CAN1 RX1 interrupt		unused	
CAN1 SCE interrupt		unused	
CAN2 TX interrupts		unused	
CAN2 RX0 interrupts		unused	
CAN2 RX1 interrupt		unused	
CAN2 SCE interrupt		unused	
FPU global interrupt		unused	

\* User modified value

## 7. Power Consumption Calculator report

### 7.1. Microcontroller Selection

Series	STM32F4
Line	STM32F429/439
MCU	STM32F429IGTx
Datasheet	024030_Rev9

### 7.2. Parameter Selection

Temperature	25
Vdd	null

## 8. Software Project

### 8.1. Project Settings

Name	Value
Project Name	Main
Project Folder	F:\work\\Main
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F4 V1.21.0

### 8.2. Code Generation Settings

Name	Value
STM32Cube Firmware Library Package	Copy all used libraries into the project folder
Generate peripheral initialization as a pair of '.c/.h' files	Yes
Backup previously generated files 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

## ***9. Software Pack Report***