1. Description

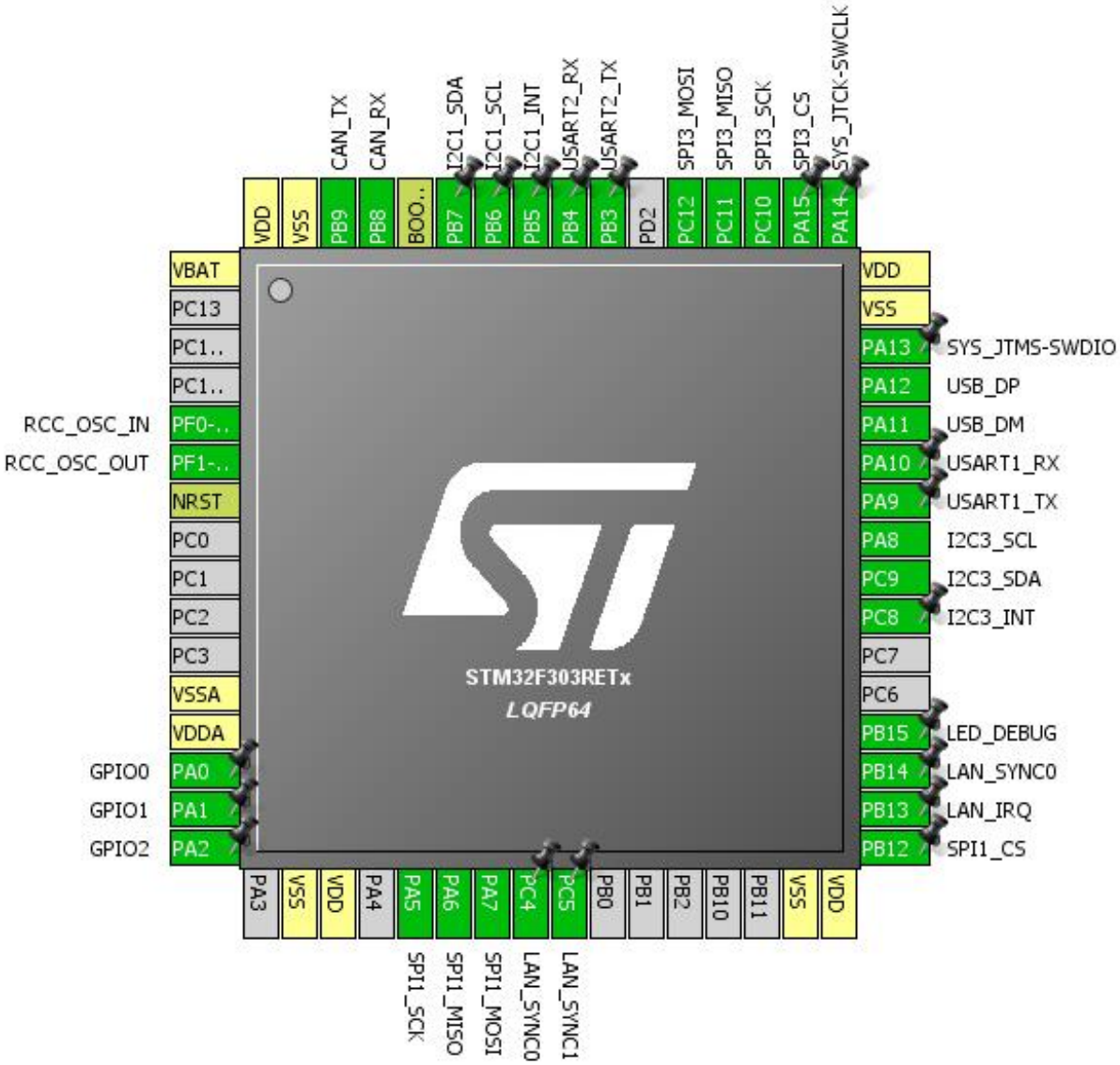
1.1. Project

Project Name	DieBieSlave_STM32F303RETx
Board Name	No information
Generated with:	STM32CubeMX 4.15.1
Date	12/04/2016

1.2. MCU

MCU Series	STM32F3
MCU Line	STM32F303
MCU name	STM32F303RETx
MCU Package	LQFP64
MCU Pin number	64

2. Pinout Configuration



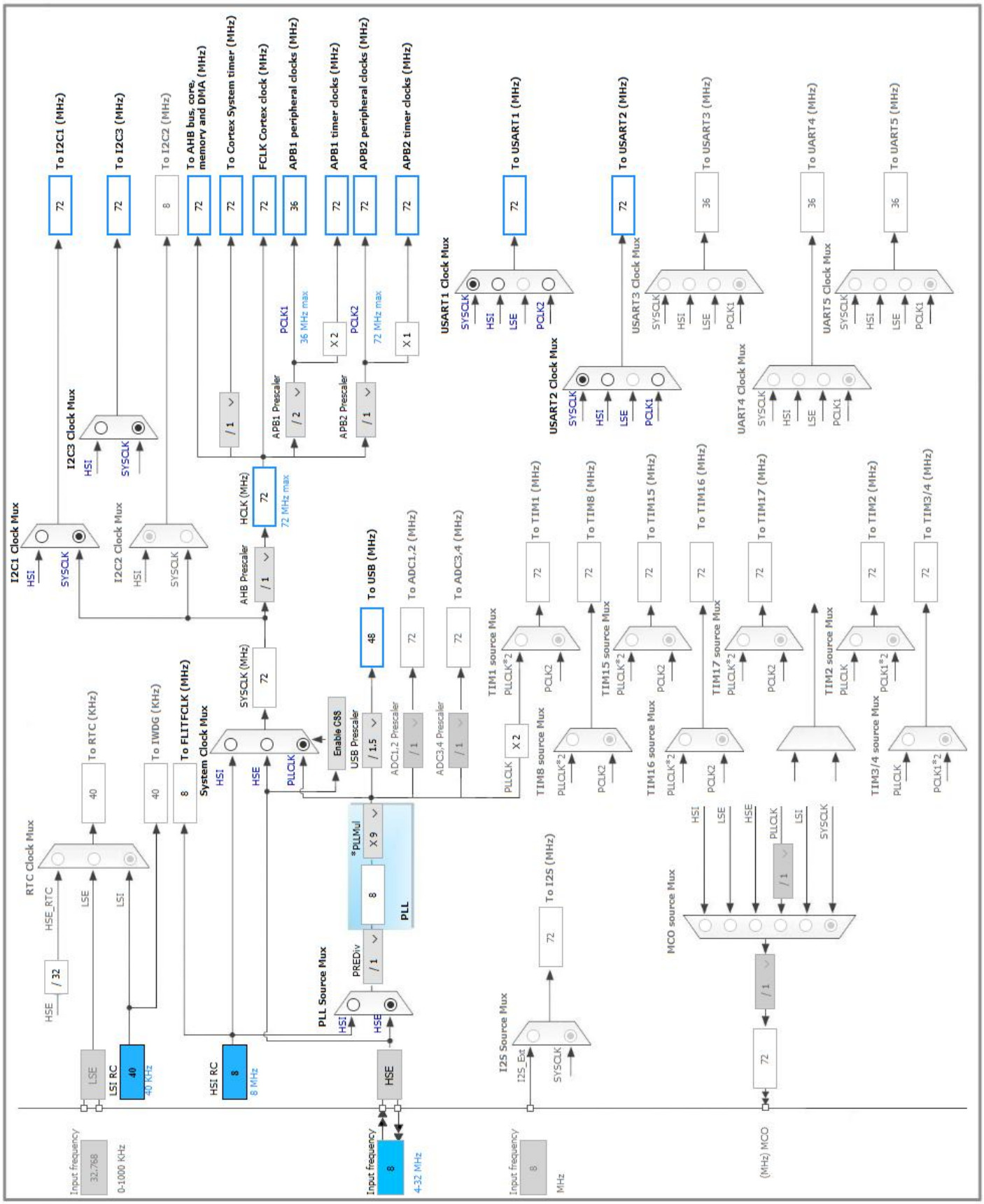
3. Pins Configuration

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
5	PF0-OSC_IN	I/O	RCC_OSC_IN	
6	PF1-OSC_OUT	I/O	RCC_OSC_OUT	
7	NRST	Reset		
12	VSSA	Power		
13	VDDA	Power		
14	PA0 *	I/O	GPIO_Output	GPIO0
15	PA1 *	I/O	GPIO_Output	GPIO1
16	PA2 *	I/O	GPIO_Output	GPIO2
18	VSS	Power		
19	VDD	Power		
21	PA5	I/O	SPI1_SCK	
22	PA6	I/O	SPI1_MISO	
23	PA7	I/O	SPI1_MOSI	
24	PC4 *	I/O	GPIO_Input	LAN_SYNC0
25	PC5 *	I/O	GPIO_Input	LAN_SYNC1
31	VSS	Power		
32	VDD	Power		
33	PB12 *	I/O	GPIO_Output	SPI1_CS
34	PB13 *	I/O	GPIO_Input	LAN_IRQ
35	PB14 *	I/O	GPIO_Input	LAN_SYNC0
36	PB15 *	I/O	GPIO_Output	LED_DEBUG
39	PC8 *	I/O	GPIO_Input	I2C3_INT
40	PC9	I/O	I2C3_SDA	
41	PA8	I/O	I2C3_SCL	
42	PA9	I/O	USART1_TX	
43	PA10	I/O	USART1_RX	
44	PA11	I/O	USB_DM	
45	PA12	I/O	USB_DP	
46	PA13	I/O	SYS_JTMS-SWDIO	
47	VSS	Power		
48	VDD	Power		
49	PA14	I/O	SYS_JTCK-SWCLK	
50	PA15 *	I/O	GPIO_Output	SPI3_CS
51	PC10	I/O	SPI3_SCK	
52	PC11	I/O	SPI3_MISO	

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
53	PC12	I/O	SPI3_MOSI	
55	PB3	I/O	USART2_TX	
56	PB4	I/O	USART2_RX	
57	PB5 *	I/O	GPIO_Input	I2C1_INT
58	PB6	I/O	I2C1_SCL	
59	PB7	I/O	I2C1_SDA	
60	BOOT0	Boot		
61	PB8	I/O	CAN_RX	
62	PB9	I/O	CAN_TX	
63	VSS	Power		
64	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. CAN

mode: Mode

5.1.1. Parameter Settings:

Bit Timings Parameters:

Prescaler (for Time Quantum)	16
Time Quantum	**444.44444444444446 ***
Time Quanta in Bit Segment 1	1 Time
Time Quanta in Bit Segment 2	1 Time
Time for one Bit	**1333 ***
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. I2C1

I2C: I2C

5.2.1. Parameter Settings:

Timing configuration:

I2C Speed Mode	**Fast Mode ***
I2C Speed Frequency (KHz)	400
Rise Time (ns)	0
Fall Time (ns)	0
Coefficient of Digital Filter	0
Analog Filter	Enabled

Timing	**0x00702681 ***

Slave Features:

Clock No Stretch Mode	Disabled
General Call Address Detection	Disabled
Primary Address Length selection	7-bit
Dual Address Acknowledged	Disabled
Primary slave address	0

5.3. I2C3

I2C: I2C

5.3.1. Parameter Settings:

Timing configuration:

I2C Speed Mode	Standard Mode
I2C Speed Frequency (KHz)	100
Rise Time (ns)	0
Fall Time (ns)	0
Coefficient of Digital Filter	0
Analog Filter	Enabled
Timing	**0x10808DD3 ***

Slave Features:

Clock No Stretch Mode	Disabled
General Call Address Detection	Disabled
Primary Address Length selection	7-bit
Dual Address Acknowledged	Disabled
Primary slave address	0

5.4. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

5.4.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Prefetch Buffer	Enabled
Flash Latency(WS)	2 WS (3 CPU cycle)

RCC Parameters:

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

5.5. SPI1

Mode: Full-Duplex Master

5.5.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	4 Bits
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	**8 ***
Baud Rate	**9.0 MBits/s ***
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

Advanced Parameters:

CRC Calculation	Disabled
NSSP Mode	Enabled
NSS Signal Type	Software

5.6. SPI3

Mode: Full-Duplex Master

5.6.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	4 Bits
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	2
Baud Rate	**18.0 MBits/s ***

Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

Advanced Parameters:

CRC Calculation	Disabled
NSSP Mode	Enabled
NSS Signal Type	Software

5.7. SYS

Debug: Serial Wire

Timebase Source: SysTick

5.8. USART1

Mode: Asynchronous

5.8.1. Parameter Settings:

Basic Parameters:

Baud Rate	38400
Word Length	7 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
TX and RX Pins Swapping	Disable
Overrun	Enable
DMA on RX Error	Enable
MSB First	Disable

5.9. USART2

Mode: Asynchronous

5.9.1. Parameter Settings:

Basic Parameters:

Baud Rate	38400
Word Length	7 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
TX and RX Pins Swapping	Disable
Overrun	Enable
DMA on RX Error	Enable
MSB First	Disable

5.10. USB

mode: Device (FS)

5.10.1. Parameter Settings:

Basic Parameters:

Speed	Full Speed 12MBit/s
Endpoint 0 Max Packet size	8 Bytes
Physical interface	Internal Phy

Power Parameters:

Low Power	Disabled
Link Power Management	Disabled

5.11. USB_DEVICE

Class For FS IP: Communication Device Class (Virtual Port Com)

5.11.1. Parameter Settings:

Basic Parameters:

USBD_MAX_NUM_INTERFACES (Maximum number of supported interfaces)	1
USBD_MAX_NUM_CONFIGURATION (Maximum number of supported configuration)	1
USBD_MAX_STR_DESC_SIZ (Maximum size for the string descriptors)	512
USBD_SUPPORT_USER_STRING (Enable user string descriptor)	Disabled
USBD_SELF_POWERED (Enabled self power)	Enabled
USBD_DEBUG_LEVEL (USBD Debug Level)	0: No debug message

Class Parameters:

USBD_CDC_INTERVAL (Number of micro-frames interval)	1000

5.11.2. Device Descriptor:

Device Descriptor:

VID (Vendor IDentifier)	1155
LANGID_STRING (Language Identifier)	English(United States)
MANUFACTURER_STRING (Manufacturer Identifier)	STMicroelectronics

Device Descriptor FS:

PID (Product IDentifier)	22336
PRODUCT_STRING (Product Identifier)	STM32 Virtual ComPort
SERIALNUMBER_STRING (Serial number)	00000000001A
CONFIGURATION_STRING (Configuration Identifier)	CDC Config
INTERFACE_STRING (Interface Identifier)	CDC Interface

*** User modified value**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
CAN	PB8	CAN_RX	Alternate Function Push Pull	No pull up pull down	**High ***	
	PB9	CAN_TX	Alternate Function Push Pull	No pull up pull down	**High ***	
I2C1	PB6	I2C1_SCL	Alternate Function Open Drain	Pull up	**High ***	
	PB7	I2C1_SDA	Alternate Function Open Drain	Pull up	**High ***	
I2C3	PC9	I2C3_SDA	Alternate Function Open Drain	Pull up	**High ***	
	PA8	I2C3_SCL	Alternate Function Open Drain	Pull up	**High ***	
RCC	PF0-OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PF1-OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
SPI1	PA5	SPI1_SCK	Alternate Function Push Pull	No pull up pull down	**High ***	
	PA6	SPI1_MISO	Alternate Function Push Pull	No pull up pull down	**High ***	
	PA7	SPI1_MOSI	Alternate Function Push Pull	No pull up pull down	**High ***	
SPI3	PC10	SPI3_SCK	Alternate Function Push Pull	No pull up pull down	**High ***	
	PC11	SPI3_MISO	Alternate Function Push Pull	No pull up pull down	**High ***	
	PC12	SPI3_MOSI	Alternate Function Push Pull	No pull up pull down	**High ***	
SYS	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	
USART1	PA9	USART1_TX	Alternate Function Push Pull	Pull up	**High ***	
	PA10	USART1_RX	Alternate Function Push Pull	Pull up	**High ***	
USART2	PB3	USART2_TX	Alternate Function Push Pull	Pull up	**High ***	
	PB4	USART2_RX	Alternate Function Push Pull	Pull up	**High ***	
USB	PA11	USB_DM	n/a	n/a	n/a	
	PA12	USB_DP	n/a	n/a	n/a	
GPIO	PA0	GPIO_Output	Output Push Pull	No pull up pull down	Low	GPIO0
	PA1	GPIO_Output	Output Push Pull	No pull up pull down	Low	GPIO1
	PA2	GPIO_Output	Output Push Pull	No pull up pull down	Low	GPIO2
	PC4	GPIO_Input	Input mode	No pull up pull down	n/a	LAN_SYNC0

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PC5	GPIO_Input	Input mode	No pull up pull down	n/a	LAN_SYNC1
	PB12	GPIO_Output	Output Push Pull	No pull up pull down	Low	SPI1_CS
	PB13	GPIO_Input	Input mode	No pull up pull down	n/a	LAN_IRQ
	PB14	GPIO_Input	Input mode	No pull up pull down	n/a	LAN_SYNC0
	PB15	GPIO_Output	Output Push Pull	No pull up pull down	Low	LED_DEBUG
	PC8	GPIO_Input	Input mode	No pull up pull down	n/a	I2C3_INT
	PA15	GPIO_Output	Output Push Pull	No pull up pull down	Low	SPI3_CS
	PB5	GPIO_Input	Input mode	No pull up pull down	n/a	I2C1_INT

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
USB low priority interrupt remap	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
USB high priority or CAN_TX interrupts	unused		
USB low priority or CAN_RX0 interrupts	unused		
CAN_RX1 interrupt	unused		
CAN_SCE interrupt	unused		
I2C1 event global interrupt / I2C1 wake-up interrupt through EXTI line 23	unused		
I2C1 error interrupt	unused		
SPI1 global interrupt	unused		
USART1 global interrupt / USART1 wake-up interrupt through EXTI line 25	unused		
USART2 global interrupt / USART2 wake-up interrupt through EXTI line 26	unused		
SPI3 global interrupt	unused		
I2C3 event interrupt / I2C3 wake-up interrupt through EXTI line 27	unused		
I2C3 error interrupt	unused		
USB high priority interrupt remap	unused		
Floating point unit interrupt	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F3
Line	STM32F303
MCU	STM32F303RETx
Datasheet	026415_Rev4

7.2. Parameter Selection

Temperature	25
Vdd	3.6