1. Description

1.1. Project

Project Name	Custom_HID
Board Name	CDC
Generated with:	STM32CubeMX 4.21.0
Date	08/24/2018

1.2. MCU

MCU Series	STM32F4
MCU Line	STM32F429/439
MCU name	STM32F429BITx
MCU Package	LQFP208
MCU Pin number	208

1.3. Caution

The report was generated although the configuration was in a modified state. It may be not accurate

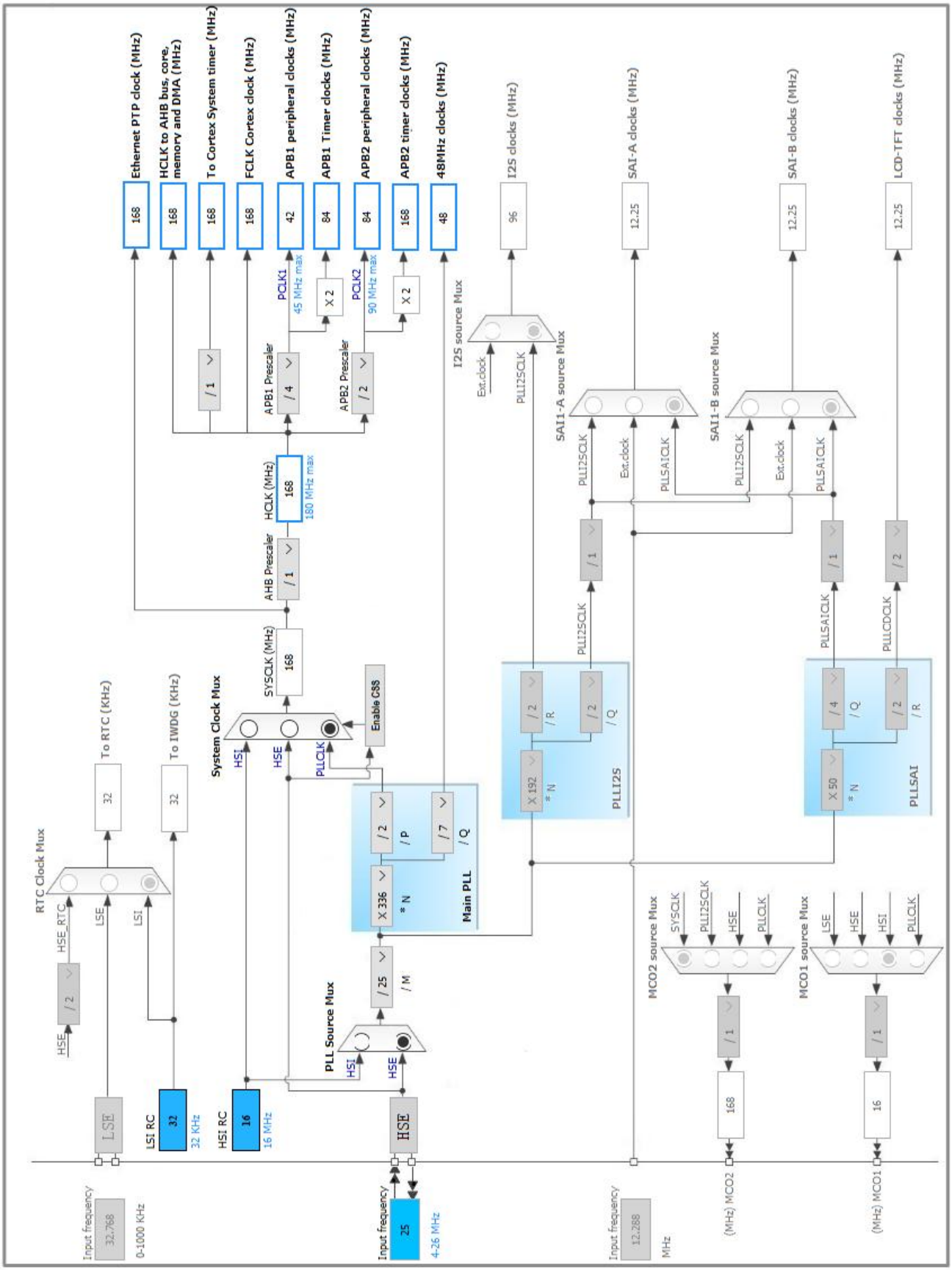
2. Pinout Configuration

3. Pins Configuration

Pin Number LQFP208	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
6	VBAT	Power		
14	VSS	Power		
15	VDD	Power		
25	VSS	Power		
26	VDD	Power		
32	PH0/OSC_IN	I/O	RCC_OSC_IN	
33	PH1/OSC_OUT	I/O	RCC_OSC_OUT	
34	NRST	Reset		
39	VDD	Power		
40	VSSA	Power		
41	VREF+	Power		
42	VDDA	Power		
51	VSS	Power		
52	VDD	Power		
59	VDD	Power		
60	VSS	Power		
72	VSS	Power		
73	VDD	Power		
82	VSS	Power		
83	VDD	Power		
92	VCAP_1	Power		
93	VSS	Power		
94	VDD	Power		
103	VDD	Power		
106	PB14	I/O	USB_OTG_HS_DM	
107	PB15	I/O	USB_OTG_HS_DP	
114	VSS	Power		
115	VDD	Power		
124	VDD	Power		
125	VSS	Power		
136	VSS	Power		
137	VDD	Power		
143	PA9	I/O	USART1_TX	
144	PA10	I/O	USART1_RX	
148	VCAP_2	Power		
149	VSS	Power		

Pin Number LQFP208	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
150	VDD	Power		
158	VDD	Power		
170	VSS	Power		
171	VDD	Power		
184	VSS	Power		
185	VDD	Power		
197	BOOT0	Boot		
202	VSS	Power		
203	PDR_ON	Reset		
204	VDD	Power		

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

5.1.1. 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 Timout Value (ms)	100
LSE Startup Timout Value (ms)	5000

Power Parameters:

Power Regulatror Voltage Scale	Power Regulator Voltage Scale 1
Power Over Drive	Disabled

5.2. SYS

Timebase Source: SysTick

5.3. USART1

Mode: Asynchronous

5.3.1. 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

5.4. USB_OTG_HS

Internal FS Phy: Device_Only

5.4.1. Parameter Settings:

Speed	Device Full Speed 12MBit/s
Endpoint 0 Max Packet size	64 Bytes
Enable internal IP DMA	Disabled
Physical interface	Internal Phy
Low power	Disabled
Link Power Management	Disabled
Use dedicated end point 1 interrupt	Disabled
VBUS sensing	Disabled
Signal start of frame	Disabled

5.5. USB_DEVICE

Class For HS IP: Custom Human Interface Device Class (HID)

5.5.1. Parameter Settings:

Basic Parameters:

VirtualMode	CustomHid
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)	Enabled
USBD_SELF_POWERED (Enabled self power)	Enabled
USBD_DEBUG_LEVEL (USBD Debug Level)	0: No debug message

Class Parameters:

USBD_CUSTOM_HID_REPORT_DESC_SIZE (Total length for Report descriptor (IN ENDPOINT))	2
USBD_CUSTOMHID_OUTREPORT_BUF_SIZE (Maximum report buffer size (OUT ENDPOINT))	2

5.5.2. Device Descriptor:

Device Descriptor:

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

Device Descriptor HS:

PID (Product IDentifier)	**22352 ***
PRODUCT_STRING (Product Identifier)	STM32 Custom Human interface
SERIALNUMBER_STRING (Serial number)	00000000001A
CONFIGURATION_STRING (Configuration Identifier)	Custom HID Config
INTERFACE_STRING (Interface Identifier)	Custom HID 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
RCC	PH0/OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PH1/OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
USART1	PA9	USART1_TX	Alternate Function Push Pull	Pull-up	**Very High ***	
	PA10	USART1_RX	Alternate Function Push Pull	Pull-up	**Very High ***	
USB_OTG_HS	PB14	USB_OTG_HS_DM	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	
	PB15	USB_OTG_HS_DP	Alternate Function Push Pull	No pull-up and no pull-down	**Very High ***	

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 On The Go HS global interrupt	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
USART1 global interrupt	unused		
USB On The Go HS End Point 1 Out global interrupt	unused		
USB On The Go HS End Point 1 In global interrupt	unused		
FPU global interrupt	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F4
Line	STM32F429/439
MCU	STM32F429BITx
Datasheet	024030_Rev8

7.2. Parameter Selection

Temperature	25
Vdd	null

8. Software Project

8.1. Project Settings

Name	Value
Project Name	Custom_HID
Project Folder	D:\practise\temp\CDC\Custom_HID
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F4 V1.16.0

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	No
Delete previously generated files when not re-generated	Yes
Set all free pins as analog (to optimize the power consumption)	No