1. Description

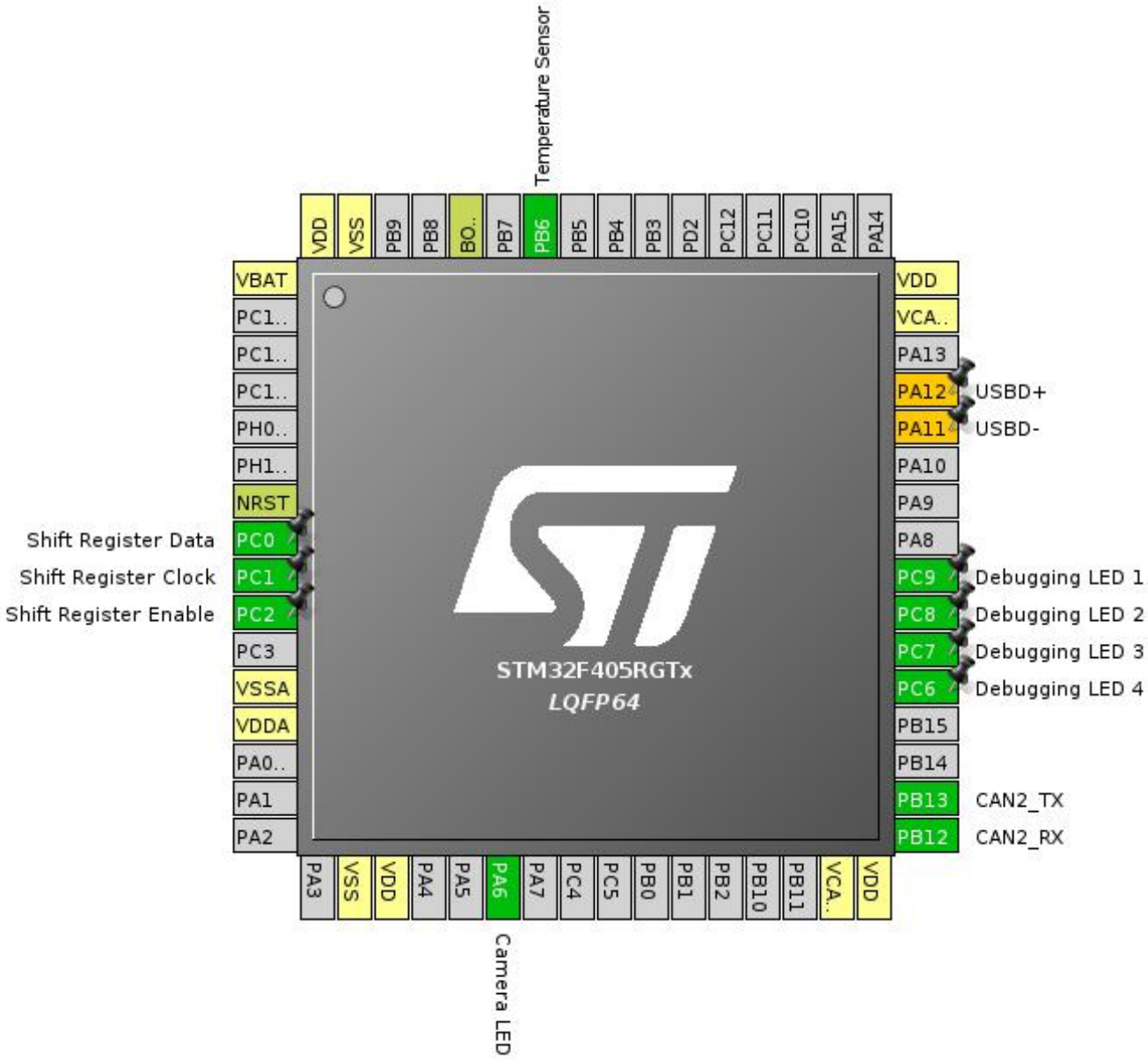
1.1. Project

Project Name	Applicaton-Board
Board Name	Applicaton-Board
Generated with:	STM32CubeMX 4.11.0
Date	12/02/2015

1.2. MCU

MCU Series	STM32F4
MCU Line	STM32F405/415
MCU name	STM32F405RGTx
MCU Package	LQFP64
MCU Pin number	64

2. Pinout Configuration



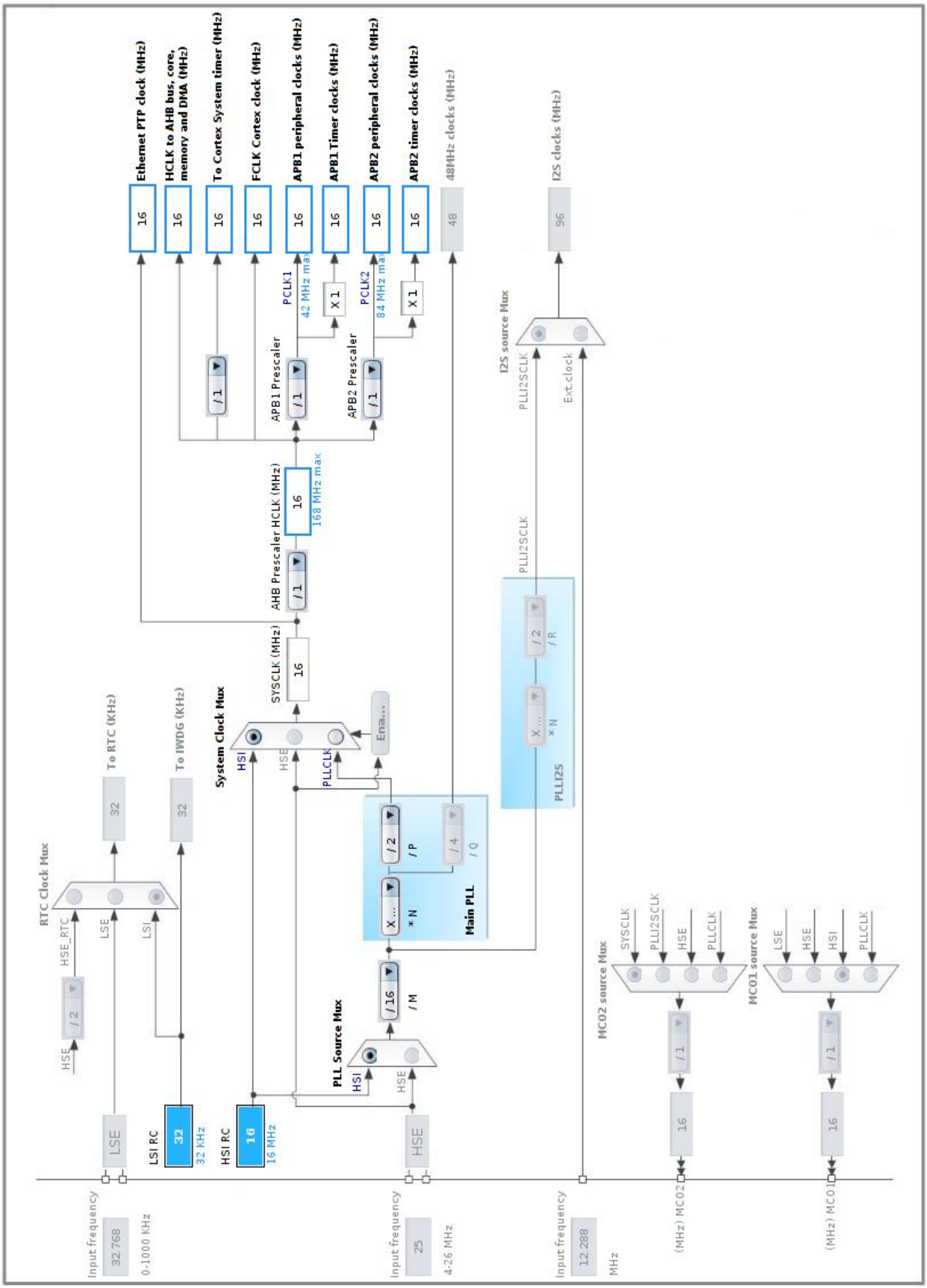
3. Pins Configuration

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
7	NRST	Reset		
8	PC0 *	I/O	GPIO_Output	Shift Register Data
9	PC1 *	I/O	GPIO_Input	Shift Register Clock
10	PC2 *	I/O	GPIO_Output	Shift Register Enable
12	VSSA	Power		
13	VDDA	Power		
18	VSS	Power		
19	VDD	Power		
22	PA6	I/O	TIM3_CH1	Camera LED
31	VCAP_1	Power		
32	VDD	Power		
33	PB12	I/O	CAN2_RX	
34	PB13	I/O	CAN2_TX	
37	PC6 *	I/O	GPIO_Output	Debugging LED 4
38	PC7 *	I/O	GPIO_Output	Debugging LED 3
39	PC8 *	I/O	GPIO_Output	Debugging LED 2
40	PC9 *	I/O	GPIO_Output	Debugging LED 1
44	PA11 **	I/O	USB_OTG_FS_DM	USBD-
45	PA12 **	I/O	USB_OTG_FS_DP	USBD+
47	VCAP_2	Power		
48	VDD	Power		
58	PB6	I/O	TIM4_CH1	Temperature Sensor
60	BOOT0	Boot		
63	VSS	Power		
64	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)	16
Time Quantum	**1000.0 ***
Time Quanta in Bit Segment 1	1 Time
Time Quanta in Bit Segment 2	1 Time
Time for one Bit	**3000 ***
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. TIM3

Channel1: PWM Generation CH1

5.2.1. 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

5.3. TIM4

Channel1: PWM Generation CH1

5.3.1. 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

*** 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	**High ***	
	PB13	CAN2_TX	Alternate Function Push Pull	No pull-up and no pull-down	**High ***	
TIM3	PA6	TIM3_CH1	Alternate Function Push Pull	No pull-up and no pull-down	Low	Camera LED
TIM4	PB6	TIM4_CH1	Alternate Function Push Pull	No pull-up and no pull-down	Low	Temperature Sensor
Single Mapped Signals	PA11	USB_OTG_FS_DM	Alternate Function Push Pull	No pull-up and no pull-down	**High ***	USBD-
	PA12	USB_OTG_FS_DP	Alternate Function Push Pull	No pull-up and no pull-down	**High ***	USBD+
GPIO	PC0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Shift Register Data
	PC1	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	Shift Register Clock
	PC2	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Shift Register Enable
	PC6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Debugging LED 4
	PC7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Debugging LED 3
	PC8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Debugging LED 2
	PC9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Debugging LED 1

6.2. DMA configuration

nothing configured in DMA service

6.3. NVIC configuration

Interrupt Table	Enable	Preenmption Priority	SubPriority
System tick timer	true	0	0
Non maskable interrupt	unused		
Memory management fault	unused		
Pre-fetch fault, memory access fault	unused		
Undefined instruction or illegal state	unused		
Debug monitor	unused		
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
TIM3 global interrupt	unused		
TIM4 global interrupt	unused		
CAN2 TX interrupts	unused		
CAN2 RX0 interrupts	unused		
CAN2 RX1 interrupt	unused		
CAN2 SCE interrupt	unused		

*** User modified value**

7. Power Plugin report

7.1. Microcontroller Selection

Series	STM32F4
Line	STM32F405/415
MCU	STM32F405RGTx
Datasheet	022152_Rev5

7.2. Parameter Selection

Temperature	25
Vdd	3.3

8. Software Project

8.1. Project Settings

Name	Value
Project Name	Applicaton-Board
Project Folder	/home/lukeinator/Documents/Applicaton-Board
Toolchain / IDE	EWARM
Firmware Package Name and Version	STM32Cube FW_F4 V1.9.0

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	No
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