

1. Description

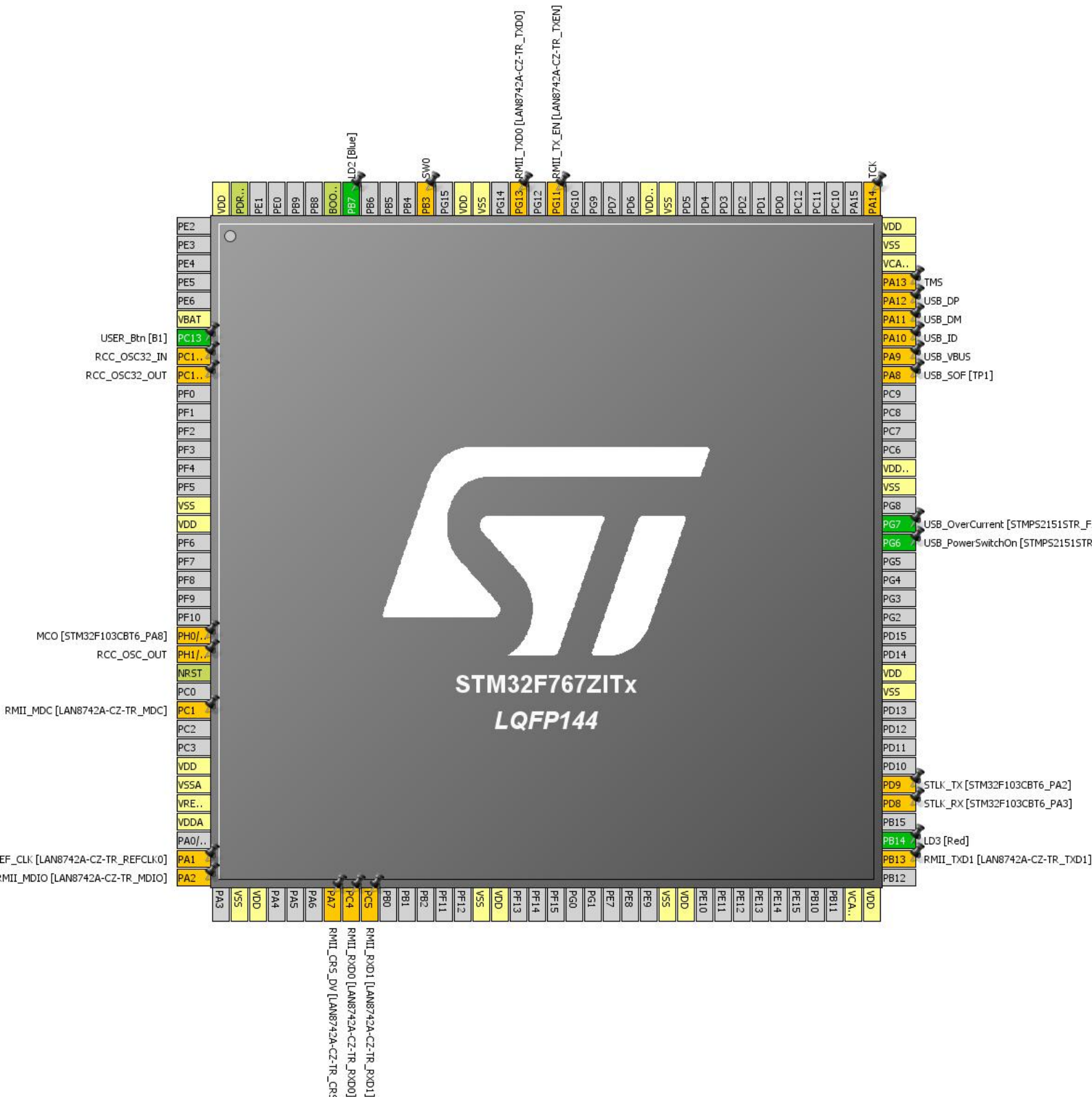
1.1. Project

Project Name	STM32F7T1
Board Name	NUCLEO-F767ZI
Generated with:	STM32CubeMX 4.21.0
Date	05/18/2017

1.2. MCU

MCU Series	STM32F7
MCU Line	STM32F7x7
MCU name	STM32F767ZITx
MCU Package	LQFP144
MCU Pin number	144

2. Pinout Configuration



3. Pins Configuration

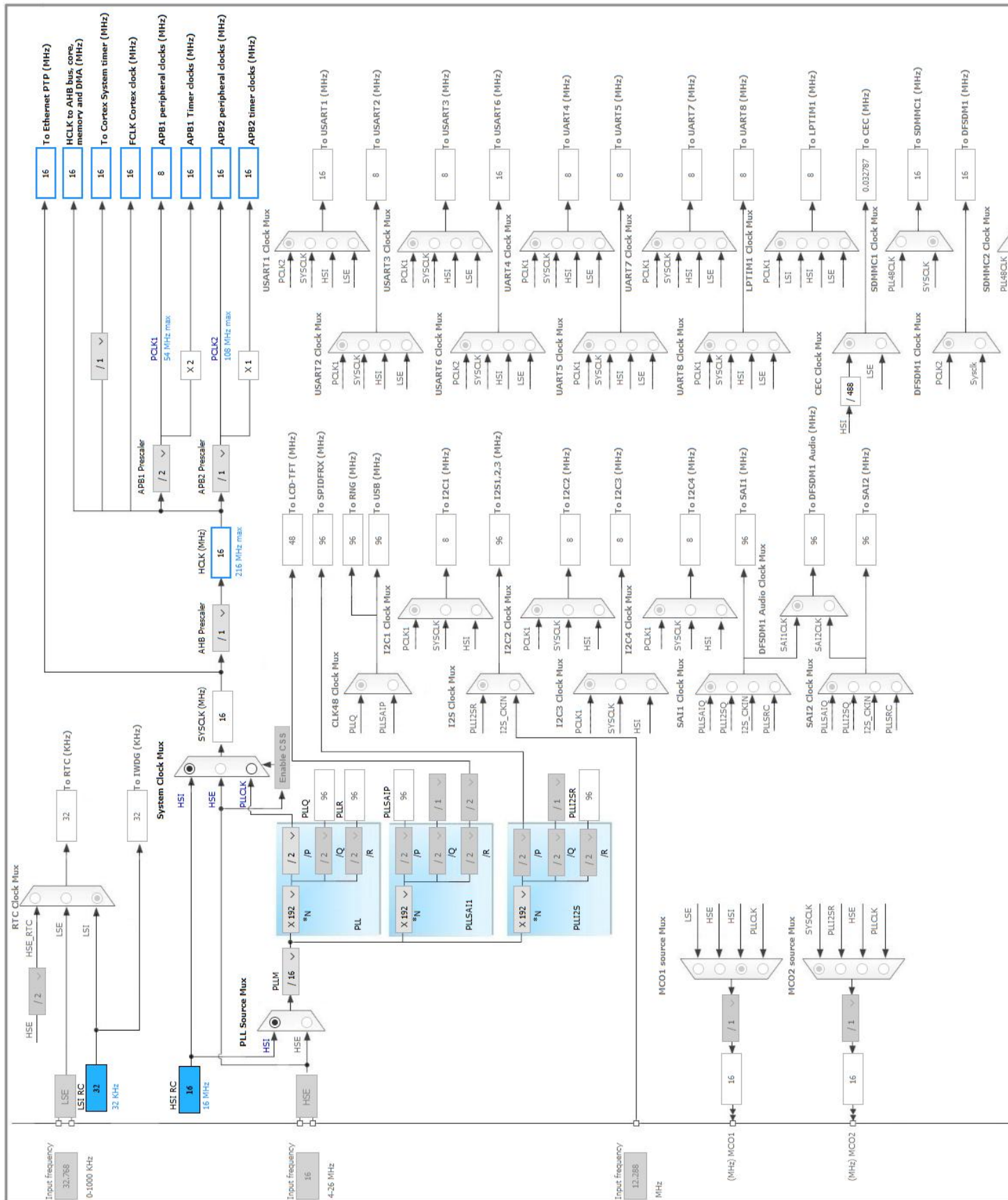
Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
6	VBAT	Power		
7	PC13	I/O	GPIO_EXTI13	USER_Btn [B1]
8	PC14/OSC32_IN *	I/O	RCC_OSC32_IN	
9	PC15/OSC32_OUT *	I/O	RCC_OSC32_OUT	
16	VSS	Power		
17	VDD	Power		
23	PH0/OSC_IN *	I/O	RCC_OSC_IN	MCO [STM32F103CBT6_PA8]
24	PH1/OSC_OUT *	I/O	RCC_OSC_OUT	
25	NRST	Reset		
27	PC1 *	I/O	ETH_MDC	RMII_MDC [LAN8742A-CZ- TR_MDC]
30	VDD	Power		
31	VSSA	Power		
32	VREF+	Power		
33	VDDA	Power		
35	PA1 *	I/O	ETH_REF_CLK	RMII_REF_CLK [LAN8742A-CZ- TR_REFCLK0]
36	PA2 *	I/O	ETH_MDIO	RMII_MDIO [LAN8742A-CZ- TR_MDIO]
38	VSS	Power		
39	VDD	Power		
43	PA7 *	I/O	ETH_CRS_DV	RMII_CRS_DV [LAN8742A- CZ-TR_CRS_DV]
44	PC4 *	I/O	ETH_RXD0	RMII_RXD0 [LAN8742A-CZ- TR_RXD0]
45	PC5 *	I/O	ETH_RXD1	RMII_RXD1 [LAN8742A-CZ- TR_RXD1]
51	VSS	Power		
52	VDD	Power		
61	VSS	Power		
62	VDD	Power		
71	VCAP_1	Power		
72	VDD	Power		
74	PB13 *	I/O	ETH_TXD1	RMII_TXD1 [LAN8742A-CZ- TR_TXD1]

Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
75	PB14 **	I/O	GPIO_Output	LD3 [Red]
77	PD8 *	I/O	USART3_TX	STLK_RX [STM32F103CBT6_PA3]
78	PD9 *	I/O	USART3_RX	STLK_TX [STM32F103CBT6_PA2]
83	VSS	Power		
84	VDD	Power		
91	PG6 **	I/O	GPIO_Output	USB_PowerSwitchOn [STMP2151STR_EN]
92	PG7 **	I/O	GPIO_Input	USB_OverCurrent [STMP2151STR_FAULT]
94	VSS	Power		
95	VDDUSB	Power		
100	PA8 *	I/O	USB_OTG_FS_SOF	USB_SOF [TP1]
101	PA9 *	I/O	USB_OTG_FS_VBUS	USB_VBUS
102	PA10 *	I/O	USB_OTG_FS_ID	USB_ID
103	PA11 *	I/O	USB_OTG_FS_DM	USB_DM
104	PA12 *	I/O	USB_OTG_FS_DP	USB_DP
105	PA13 *	I/O	SYS_JTMS-SWDIO	TMS
106	VCAP_2	Power		
107	VSS	Power		
108	VDD	Power		
109	PA14 *	I/O	SYS_JTCK-SWCLK	TCK
120	VSS	Power		
121	VDDSDMMC	Power		
126	PG11 *	I/O	ETH_TX_EN	RMII_TX_EN [LAN8742A- CZ-TR_TXEN]
128	PG13 *	I/O	ETH_TXD0	RMII_TXD0 [LAN8742A-CZ- TR_TXD0]
130	VSS	Power		
131	VDD	Power		
133	PB3 *	I/O	SYS_JTDO-SWO	SW0
137	PB7 **	I/O	GPIO_Output	LD2 [Blue]
138	BOOT0	Boot		
143	PDR_ON	Reset		
144	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. SYS

Timebase Source: SysTick

*** User modified value**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
Single Mapped Signals	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	MCO [STM32F103CBT6_PA8]
	PH1/OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
	PC1	ETH_MDC	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	RMII_MDC [LAN8742A-CZ-TR_MDC]
	PA1	ETH_REF_CLK	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	RMII_REF_CLK [LAN8742A-CZ-TR_REFCLK0]
	PA2	ETH_MDIO	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	RMII_MDIO [LAN8742A-CZ-TR_MDIO]
	PA7	ETH_CRS_DV	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	RMII_CRS_DV [LAN8742A-CZ-TR_CRS_DV]
	PC4	ETH_RXD0	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	RMII_RXD0 [LAN8742A-CZ-TR_RXD0]
	PC5	ETH_RXD1	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	RMII_RXD1 [LAN8742A-CZ-TR_RXD1]
	PB13	ETH_TXD1	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	RMII_TXD1 [LAN8742A-CZ-TR_TXD1]
	PD8	USART3_TX	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	STLK_RX [STM32F103CBT6_PA3]
	PD9	USART3_RX	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	STLK_TX [STM32F103CBT6_PA2]
	PA8	USB_OTG_FS_SOF	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	USB_SOF [TP1]
	PA9	USB_OTG_FS_VBUS	Input mode	No pull-up and no pull-down	n/a	USB_VBUS
	PA10	USB_OTG_FS_ID	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	USB_ID

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PA11	USB_OTG_FS_DM	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	USB_DM
	PA12	USB_OTG_FS_DP	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	USB_DP
	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	TMS
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	TCK
	PG11	ETH_TX_EN	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	RMII_TX_EN [LAN8742A-CZ-TR_TXEN]
	PG13	ETH_TXD0	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	RMII_TXD0 [LAN8742A-CZ-TR_TXD0]
	PB3	SYS_JTDO-SWO	n/a	n/a	n/a	SW0
GPIO	PC13	GPIO_EXTI13	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	USER_Btn [B1]
	PB14	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD3 [Red]
	PG6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	USB_PowerSwitchOn [STMPS2151STR_EN]
	PG7	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	USB_OverCurrent [STMPS2151STR_FAULT]
	PB7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD2 [Blue]

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
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
EXTI line[15:10] interrupts	unused		
FPU global interrupt	unused		

* User modified value

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F7
Line	STM32F7x7
MCU	STM32F767ZITx
Datasheet	029041_Rev3

7.2. Parameter Selection

Temperature	25
Vdd	3.6

8. Software Project

8.1. Project Settings

Name	Value
Project Name	STM32F7T1
Project Folder	E:\STM32\workspace_f4\STM32F7T1
Toolchain / IDE	SW4STM32
Firmware Package Name and Version	STM32Cube FW_F7 V1.7.0

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