1. Description

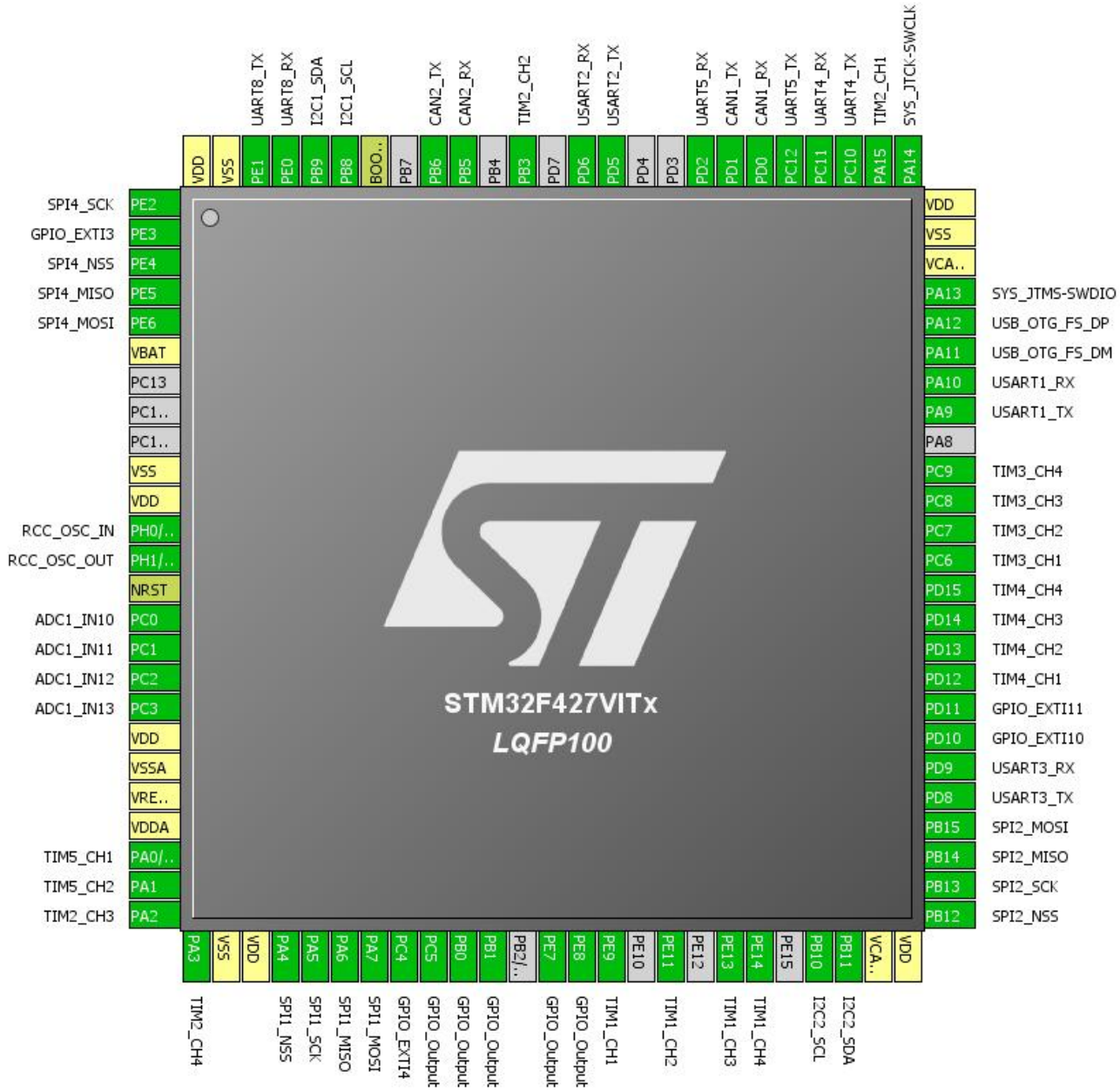
1.1. Project

Project Name	moon_bear_control_board
Generated with:	STM32CubeMX 4.2.0
Date	05/19/2014

1.2. MCU

MCU Serie	STM32F4
MCU Line	STM32F427/437
MCU name	STM32F427VITx
MCU Package	LQFP100
MCU Pin number	100

2. Pinout Configuration



3. IPs and Middlewares Configuration

IP	Mode	Fonction	Pin
ADC1	IN10	ADC1_IN10	PC0
	IN11	ADC1_IN11	PC1
	IN12	ADC1_IN12	PC2
	IN13	ADC1_IN13	PC3
CAN1	Mode	CAN1_RX	PD0
		CAN1_TX	PD1
CAN2	Mode	CAN2_RX	PB5
		CAN2_TX	PB6
I2C1	I2C: I2C	I2C1_SCL	PB8
		I2C1_SDA	PB9
I2C2	I2C: I2C	I2C2_SCL	PB10
		I2C2_SDA	PB11
RCC	High Speed Clock (HSE): Crystal/Ceramic Resonator	RCC_OSC_IN	PH0/OSC_IN
		RCC_OSC_OUT	PH1/OSC_OUT
SPI1	Mode: Full-Duplex Master	SPI1_MISO	PA6
		SPI1_MOSI	PA7
		SPI1_SCK	PA5
	Hardware NSS Signal	SPI1_NSS	PA4
SPI2	Mode: Full-Duplex Master	SPI2_MISO	PB14
		SPI2_MOSI	PB15
		SPI2_SCK	PB13
	Hardware NSS Signal	SPI2_NSS	PB12
SPI4	Mode: Full-Duplex Master	SPI4_MISO	PE5
		SPI4_MOSI	PE6
		SPI4_SCK	PE2
	Hardware NSS Signal	SPI4_NSS	PE4
SYS	Debug: Serial Wire Debug (SWD)	SYS_JTCK-SWCLK	PA14
		SYS_JTMS-SWDIO	PA13
TIM1	Channel1: PWM Generation CH1	TIM1_CH1	PE9
	Channel2: PWM Generation CH2	TIM1_CH2	PE11
	Channel3: PWM Generation CH3	TIM1_CH3	PE13
	Channel4: PWM Generation CH4	TIM1_CH4	PE14
TIM2	Channel1: Input Capture direct mode	TIM2_CH1	PA15
	Channel2: Input Capture direct mode	TIM2_CH2	PB3

IP	Mode	Fonction	Pin
	Channel3: Input Capture direct mode	TIM2_CH3	PA2
	Channel4: Input Capture direct mode	TIM2_CH4	PA3
TIM3	Channel1: PWM Generation CH1	TIM3_CH1	PC6
	Channel2: PWM Generation CH2	TIM3_CH2	PC7
	Channel3: PWM Generation CH3	TIM3_CH3	PC8
	Channel4: PWM Generation CH4	TIM3_CH4	PC9
TIM4	Channel1: PWM Generation CH1	TIM4_CH1	PD12
	Channel2: PWM Generation CH2	TIM4_CH2	PD13
	Channel3: PWM Generation CH3	TIM4_CH3	PD14
	Channel4: PWM Generation CH4	TIM4_CH4	PD15
TIM5	Channel1: Input Capture direct mode	TIM5_CH1	PA0/WKUP
	Channel2: Input Capture direct mode	TIM5_CH2	PA1
UART4	Mode: Asynchronous	UART4_RX	PC11
		UART4_TX	PC10
UART5	Mode: Asynchronous	UART5_RX	PD2
		UART5_TX	PC12
UART8	Mode: Asynchronous	UART8_RX	PE0
		UART8_TX	PE1
USART1	Mode: Asynchronous	USART1_RX	PA10
		USART1_TX	PA9
USART2	Mode: Asynchronous	USART2_RX	PD6
		USART2_TX	PD5
USART3	Mode: Asynchronous	USART3_RX	PD9
		USART3_TX	PD8
USB_OTG_FS	Mode: Device_Only	USB_OTG_FS_DM	PA11
		USB_OTG_FS_DP	PA12

4. Pins Configuration

Pin	Pos	Function(s)	Label
PE2	1	SPI4_SCK	
PE3	2	GPIO_EXTI3	
PE4	3	SPI4_NSS	
PE5	4	SPI4_MISO	
PE6	5	SPI4_MOSI	
PH0/OSC_IN	12	RCC_OSC_IN	
PH1/OSC_OUT	13	RCC_OSC_OUT	
PC0	15	ADC1_IN10	
PC1	16	ADC1_IN11	
PC2	17	ADC1_IN12	
PC3	18	ADC1_IN13	
PA0/WKUP	23	TIM5_CH1	
PA1	24	TIM5_CH2	
PA2	25	TIM2_CH3	
PA3	26	TIM2_CH4	
PA4	29	SPI1_NSS	
PA5	30	SPI1_SCK	
PA6	31	SPI1_MISO	
PA7	32	SPI1_MOSI	
PC4	33	GPIO_EXTI4	
PC5 *	34	GPIO_Output	
PB0 *	35	GPIO_Output	
PB1 *	36	GPIO_Output	
PE7 *	38	GPIO_Output	
PE8 *	39	GPIO_Output	
PE9	40	TIM1_CH1	
PE11	42	TIM1_CH2	
PE13	44	TIM1_CH3	
PE14	45	TIM1_CH4	
PB10	47	I2C2_SCL	
PB11	48	I2C2_SDA	
PB12	51	SPI2_NSS	
PB13	52	SPI2_SCK	
PB14	53	SPI2_MISO	
PB15	54	SPI2_MOSI	
PD8	55	USART3_TX	
PD9	56	USART3_RX	
PD10	57	GPIO_EXTI10	
PD11	58	GPIO_EXTI11	

Pin	Pos	Function(s)	Label
PD12	59	TIM4_CH1	
PD13	60	TIM4_CH2	
PD14	61	TIM4_CH3	
PD15	62	TIM4_CH4	
PC6	63	TIM3_CH1	
PC7	64	TIM3_CH2	
PC8	65	TIM3_CH3	
PC9	66	TIM3_CH4	
PA9	68	USART1_TX	
PA10	69	USART1_RX	
PA11	70	USB_OTG_FS_DM	
PA12	71	USB_OTG_FS_DP	
PA13	72	SYS_JTMS-SWDIO	
PA14	76	SYS_JTCK-SWCLK	
PA15	77	TIM2_CH1	
PC10	78	UART4_TX	
PC11	79	UART4_RX	
PC12	80	UART5_TX	
PD0	81	CAN1_RX	
PD1	82	CAN1_TX	
PD2	83	UART5_RX	
PD5	86	USART2_TX	
PD6	87	USART2_RX	
PB3	89	TIM2_CH2	
PB5	91	CAN2_RX	
PB6	92	CAN2_TX	
PB8	95	I2C1_SCL	
PB9	96	I2C1_SDA	
PE0	97	UART8_RX	
PE1	98	UART8_TX	

* The pin is affected with an I/O function

5. Power Plugin report

5.1. Microcontroller Selection

Serie	STM32F4
Line	STM32F427/437
MCU	STM32F427VITx
Datasheet	024030_Rev3

5.2. Parameter Selection

Temperature	25
Vdd	null

5.3. Battery Selection

Battery	Not set
Capacity	0.0 mAh
Self discharge	0.0 %/month
Nominal voltage	0.0 V
Max Cont Current	0.0 mA
Max Pulse Current	0.0 mA
Cells in series	1
Cells in parallel	1