1. Description

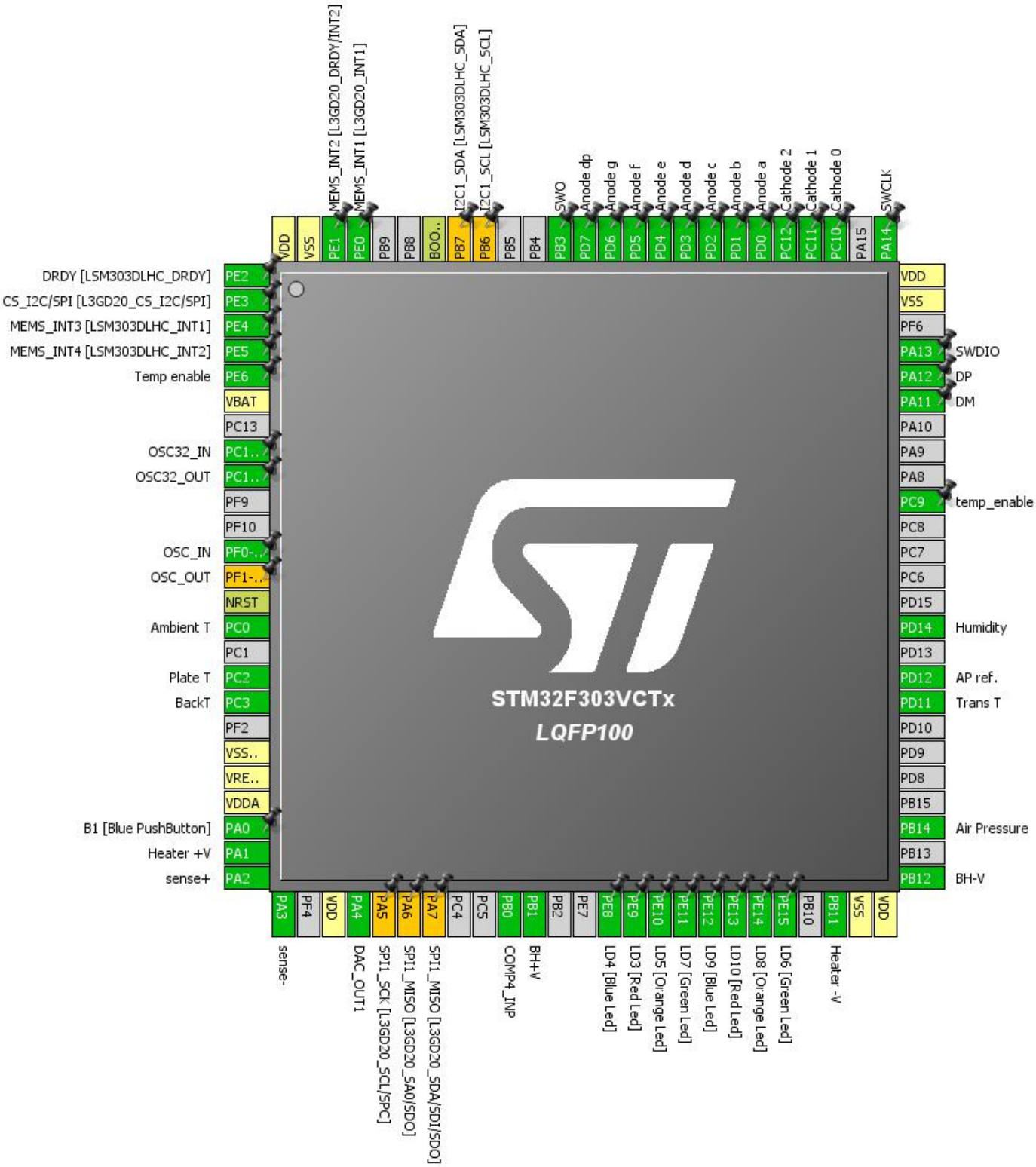
1.1. Project

Project Name	Convect
Generated with:	STM32CubeMX 4.7.0
Date	07/04/2015

1.2. MCU

MCU Serie	STM32F3
MCU Line	STM32F303
MCU name	STM32F303VCTx
MCU Package	LQFP100
MCU Pin number	100

2. Pinout Configuration



3. IPs and Middlewares Configuration

IP	Mode	Fonction	Pin
ADC1	IN3: IN3 Single-ended	ADC1_IN3	PA2
	IN4: IN4 Single-ended	ADC1_IN4	PA3
ADC2	IN6: IN6 Single-ended	ADC2_IN6	PC0
	IN8: IN8 Single-ended	ADC2_IN8	PC2
	IN9: IN9 Single-ended	ADC2_IN9	PC3
ADC3	IN8: IN8 Single-ended	ADC3_IN8	PD11
	IN11: IN11 Single-ended	ADC3_IN11	PD14
ADC4	IN4: IN4 Single-ended	ADC4_IN4	PB14
	IN9: IN9 Single-ended	ADC4_IN9	PD12
COMP4	Input [+]: INP	COMP4_INP	PB0
	Input [-]: 1/4 Internal VRef	N/A	N/A
DAC	OUT1 Configuration	DAC_OUT1	PA4
OPAMP3	Mode: Follower	OPAMP3_VINP	PA1
		OPAMP3_VOUT	PB1
OPAMP4	Mode: Follower	OPAMP4_VINP	PB11
		OPAMP4_VOUT	PB12
RCC	High Speed Clock (HSE): BYPASS Clock Source	RCC_OSC_IN	PF0-OSC_IN
	Low Speed Clock (LSE) : Crystal/Ceramic Resonator	RCC_OSC32_IN	PC14-OSC32_IN
		RCC_OSC32_OUT	PC15-OSC32_OUT
RTC	Alarm A: Internal Alarm A	N/A	N/A
SYS	Debug: Trace Asynchronous Sw	SYS_JTCK-SWCLK	PA14
		SYS_JTMS-SWDIO	PA13
		SYS_JTDO-TRACESWO	PB3
USB	Device (FS)	USB_DM	PA11
		USB_DP	PA12

MiddleWare	Mode

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

4. Pins Configuration

Pin	Pos	Function(s)	Label
PE2	1	GPIO_EXTI2	DRDY [LSM303DLHC_DRDY]
PE3 *	2	GPIO_Output	CS_I2C/SPI [L3GD20_CS_I2C/SPI]
PE4	3	GPIO_EXTI4	MEMS_INT3 [LSM303DLHC_INT1]
PE5	4	GPIO_EXTI5	MEMS_INT4 [LSM303DLHC_INT2]
PE6 *	5	GPIO_Output	Temp enable
PC14-OSC32_IN	8	RCC_OSC32_IN	OSC32_IN
PC15-OSC32_OUT	9	RCC_OSC32_OUT	OSC32_OUT
PF0-OSC_IN	12	RCC_OSC_IN	OSC_IN
PF1-OSC_OUT **	13	RCC_OSC_OUT	OSC_OUT
PC0	15	ADC2_IN6	Ambient T
PC2	17	ADC2_IN8	Plate T
PC3	18	ADC2_IN9	BackT
PA0 *	23	GPIO_Input	B1 [Blue PushButton]
PA1	24	OPAMP3_VINP	Heater +V
PA2	25	ADC1_IN3	sense+
PA3	26	ADC1_IN4	sense-
PA4	29	DAC_OUT1	
PA5 **	30	SPI1_SCK	SPI1_SCK [L3GD20_SCL/SPC]
PA6 **	31	SPI1_MISO	SPI1_MISO [L3GD20_SA0/SDO]
PA7 **	32	SPI1_MOSI	SPI1_MISO [L3GD20_SDA/SDI/SDO]
PB0	35	COMP4_INP	
PB1	36	OPAMP3_VOUT	BH+V
PE8 *	39	GPIO_Output	LD4 [Blue Led]
PE9 *	40	GPIO_Output	LD3 [Red Led]
PE10 *	41	GPIO_Output	LD5 [Orange Led]
PE11 *	42	GPIO_Output	LD7 [Green Led]
PE12 *	43	GPIO_Output	LD9 [Blue Led]
PE13 *	44	GPIO_Output	LD10 [Red Led]
PE14 *	45	GPIO_Output	LD8 [Orange Led]
PE15 *	46	GPIO_Output	LD6 [Green Led]
PB11	48	OPAMP4_VINP	Heater -V
PB12	51	OPAMP4_VOUT	BH-V
PB14	53	ADC4_IN4	Air Pressure
PD11	58	ADC3_IN8	Trans T
PD12	59	ADC4_IN9	AP ref.
PD14	61	ADC3_IN11	Humidity
PC9 *	66	GPIO_Output	temp_enable
PA11	70	USB_DM	DM
PA12	71	USB_DP	DP

Pin	Pos	Function(s)	Label
PA13	72	SYS_JTMS-SWDIO	SWDIO
PA14	76	SYS_JTCK-SWCLK	SWCLK
PC10 *	78	GPIO_Output	Cathode 0
PC11 *	79	GPIO_Output	Cathode 1
PC12 *	80	GPIO_Output	Cathode 2
PD0 *	81	GPIO_Output	Anode a
PD1 *	82	GPIO_Output	Anode b
PD2 *	83	GPIO_Output	Anode c
PD3 *	84	GPIO_Output	Anode d
PD4 *	85	GPIO_Output	Anode e
PD5 *	86	GPIO_Output	Anode f
PD6 *	87	GPIO_Output	Anode g
PD7 *	88	GPIO_Output	Anode dp
PB3	89	SYS_JTDO-TRACESWO	SWO
PB6 **	92	I2C1_SCL	I2C1_SCL [LSM303DLHC_SCL]
PB7 **	93	I2C1_SDA	I2C1_SDA [LSM303DLHC_SDA]
PE0	97	GPIO_EXTI0	MEMS_INT1 [L3GD20_INT1]
PE1	98	GPIO_EXTI1	MEMS_INT2 [L3GD20_DRDY/INT2]

* The pin is affected with an I/O function

** The pin is affected with a peripheral function but no peripheral mode is activated

5. Power Plugin report

5.1. Microcontroller Selection

Serie	STM32F3
Line	STM32F303
MCU	STM32F303VCTx
Datasheet	023353_Rev10

5.2. Parameter Selection

Temperature	25
Vdd	3.6

6. Software Project

6.1. Project Settings

Name	Value
Project Name	Convect
Project Folder	C:\Users\Aubrey\Documents\Convect
Toolchain / IDE	TrueSTUDIO 4.3.1
Firmware Package Name and Version	STM32Cube FW_F3 V1.1.1

6.2. 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	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)	Yes

6.3. Toolchains Settings

Name	Value
Compiler Optimizations	Balanced Size/Speed