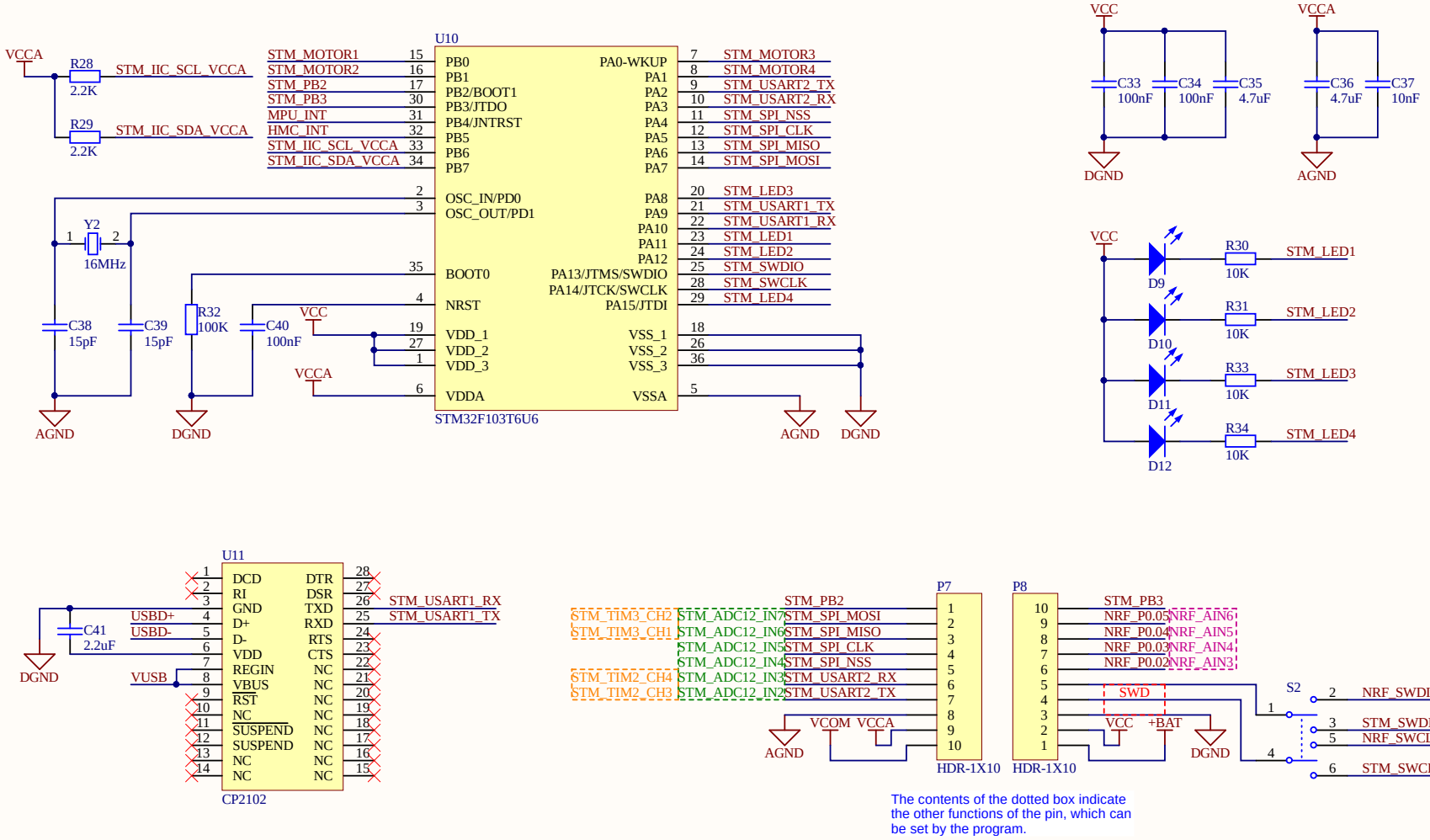
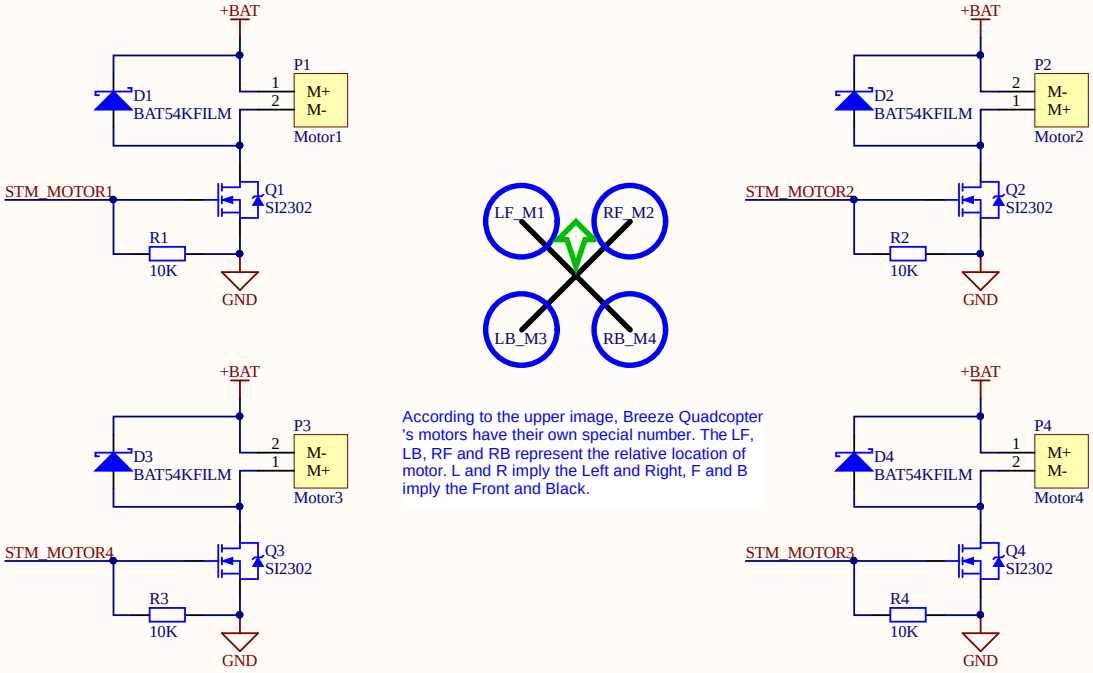
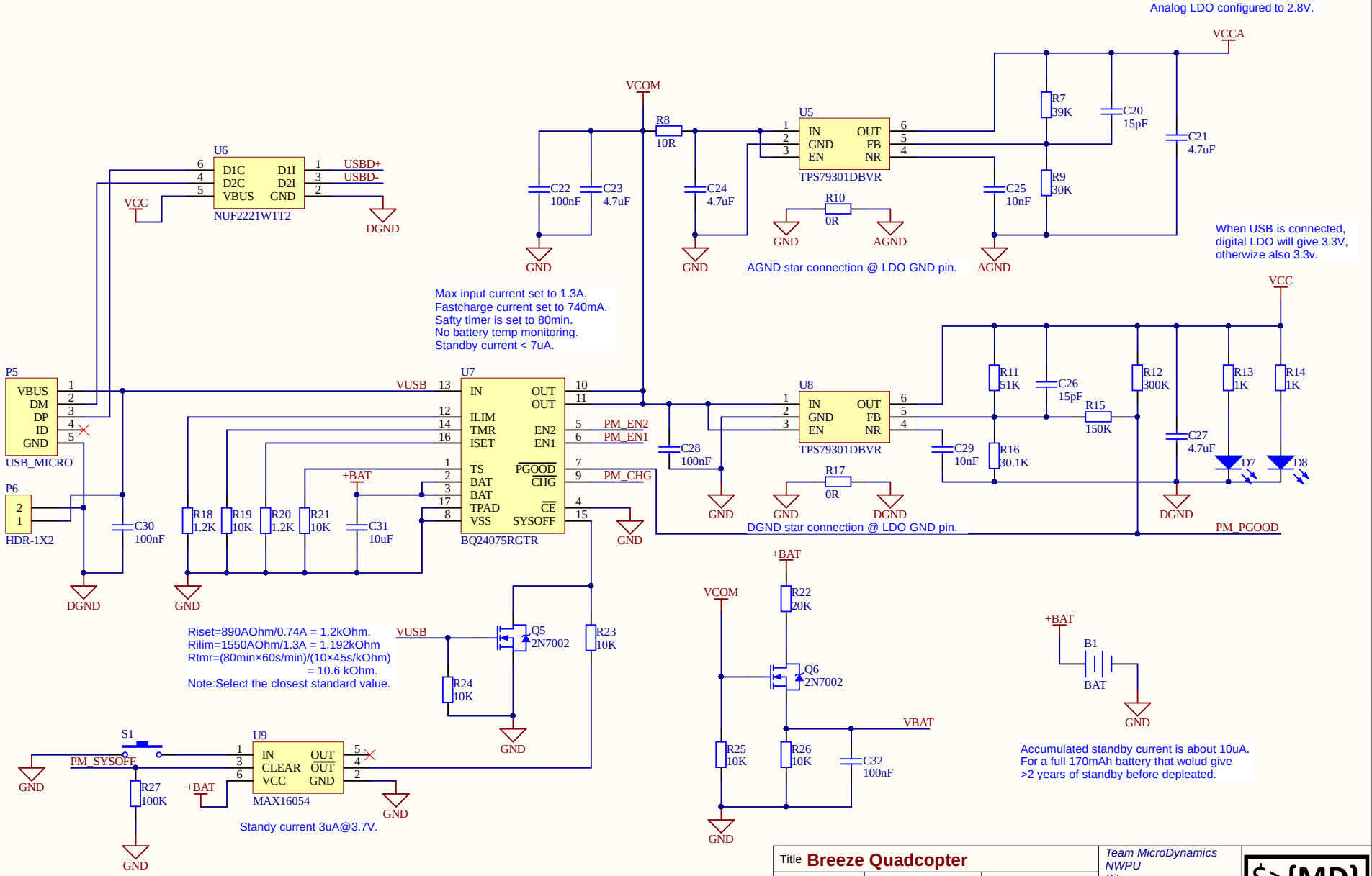

U10
VCCA
R28
2.2K
STM_IIC_SCL_VCCA
R29
2.2K
STM_IIC_SDA_VCCA
STM_MOTOR1 15
STM_MOTOR2 16
STM_PB2 17
STM_PB3 30
MPU_INT 31
HMC_INT 32
STM_IIC_SCL_VCCA 33
STM_IIC_SDA_VCCA 34
PB0
PB1
PB2/BOOT1
PB3/JTDO
PB4/JNTRST
PB5
PB6
PB7
PA0-WKUP 7 STM_MOTOR3
PA1 8 STM_MOTOR4
PA2 9 STM_USART2_TX
PA3 10 STM_USART2_RX
PA4 11 STM_SPI_NSS
PA5 12 STM_SPI_CLK
PA6 13 STM_SPI_MISO
PA7 14 STM_SPI_MOSI
2 OSC_IN/PD0
3 OSC_OUT/PD1
PA8 20 STM_LED3
PA9 21 STM_USART1_TX
PA10 22 STM_USART1_RX
PA11 23 STM_LED1
PA12 24 STM_LED2
35 BOOT0
PA13/JTMS/SWDIO 25 STM_SWDIO
PA14/JTCK/SWCLK 28 STM_SWCLK
4 NRST
PA15/JTDI 29 STM_LED4
19 VDD_1
27 VDD_2
1 VDD_3
VSS_1 18
VSS_2 26
VSS_3 36
6 VDDA
VSSA 5
STM32F103T6U6
Y2
16MHz
C38
15pF
C39
15pF
R32
100K
C40
100nF
VCC
VCCA
AGND
DGND
VCC
C33
100nF
C34
100nF
C35
4.7uF
DGND
VCCA
C36
4.7uF
C37
10nF
AGND
VCC
D9
R30
10K
STM_LED1
D10
R31
10K
STM_LED2
D11
R33
10K
STM_LED3
D12
R34
10K
STM_LED4
U11
DCD
RI
GND
D+
D-
VDD
REGIN
VBUS
RST
NC
SUSPEND
SUSPEND
NC
NC
DTR
DSR
TXD
RXD
RTS
CTS
NC
NC
NC
NC
NC
NC
NC
NC
STM_USART1_RX
STM_USART1_TX
CP2102
C41
2.2uF
USBD+
USBD-
VUSB
DGND
P7
P8
STM_TIM3_CH2
STM_TIM3_CH1
STM_TIM2_CH4
STM_TIM2_CH3
STM_ADC12_IN7
STM_ADC12_IN6
STM_ADC12_IN5
STM_ADC12_IN4
STM_ADC12_IN3
STM_ADC12_IN2
STM_PB2
STM_SPI_MOSI
STM_SPI_MISO
STM_SPI_CLK
STM_SPI_NSS
STM_USART2_RX
STM_USART2_TX
STM_PB3
NRF_P0.05 NRF_AIN6
NRF_P0.04 NRF_AIN5
NRF_P0.03 NRF_AIN4
NRF_P0.02 NRF_AIN3
SWD
VCC +BAT
VCOM VCCA
AGND
DGND
HDR-1X10
HDR-1X10
S2
NRF_SWDIO
STM_SWDIO
NRF_SWCLK
STM_SWCLK
The contents of the dotted box indicate the other functions of the pin, which can be set by the program.
Title Breeze Quadcopter
Size: A4
Author: myyerrol
Revision: V0.1
Date: 3/12/2017
Time: 15:10:50
Sheet 1 of 5
File: breeze_controller.SchDoc
Team MicroDynamics
NWPU
Xi'an
Shannxi
China
$>{MD}



According to the upper image, Breeze Quadcopter 's motors have their own special number. The LF, LB, RF and RB represent the relative location of motor. L and R imply the Left and Right, F and B imply the Front and Black.

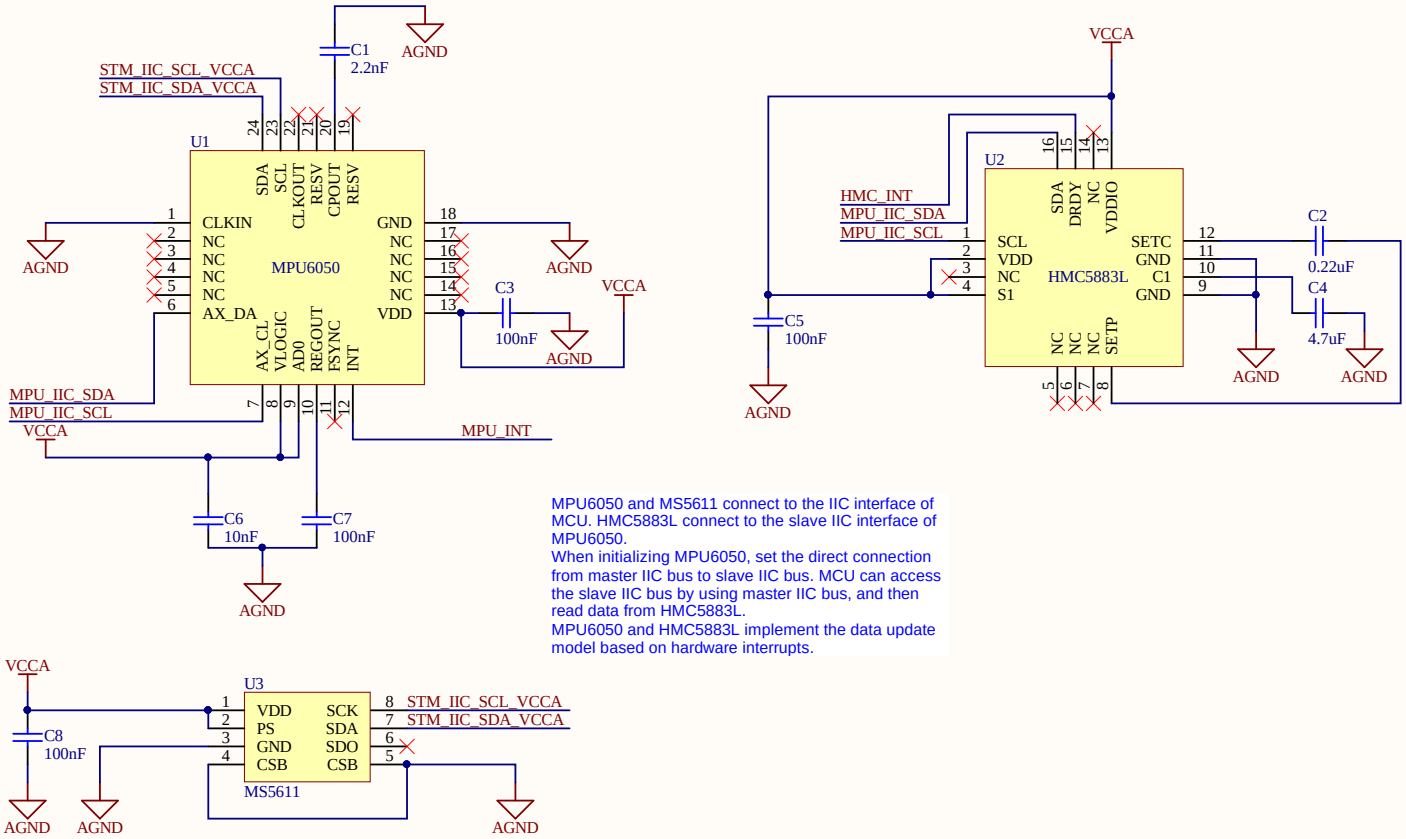
Title **Breeze Quadcopter**			*Team MicroDynamics* *NWPU* *Xi'an* *Shannxi* *China*
Size: A4	Author: myyerrol	Revision: V0.1	
Date: 3/12/2017	Time: 15:10:50	Sheet 2 of 5	
File: breeze_motor.SchDoc			



Title **Breeze Quadcopter**		
Size: A4	Author: myyerrol	Revision: V0.1
Date: 3/12/2017	Time: 15:10:50	Sheet 3 of 5
File: breeze_power.SchDoc		

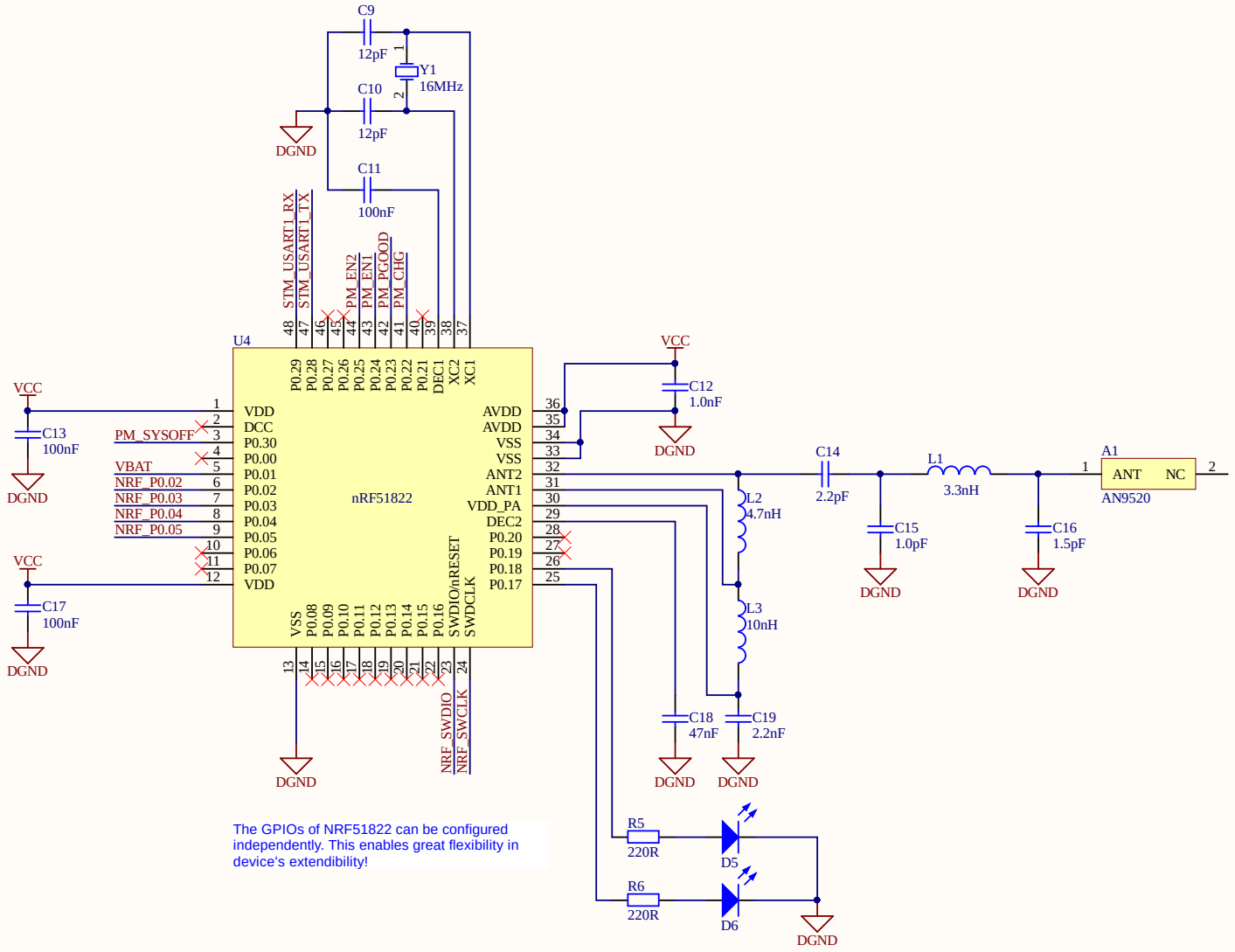
Team MicroDynamics
NWPU
Xi'an
Shannxi
China

$>{MD}

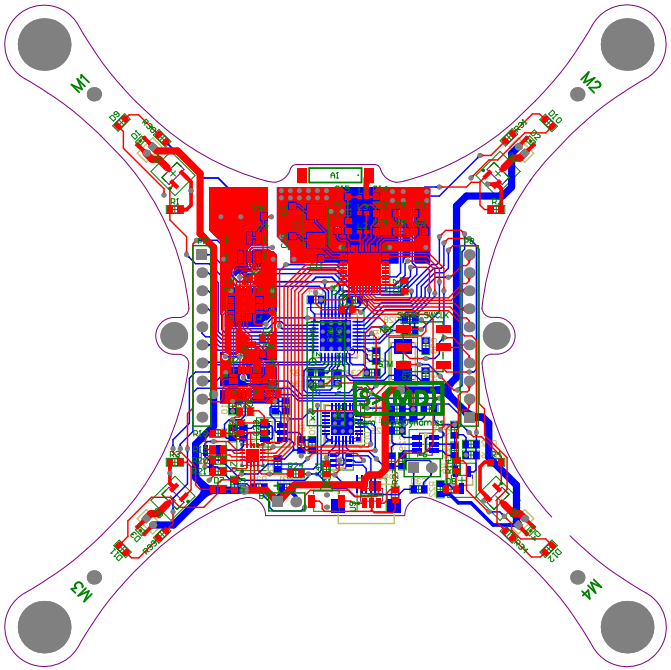


MPU6050 and MS5611 connect to the IIC interface of MCU. HMC5883L connect to the slave IIC interface of MPU6050.
When initializing MPU6050, set the direct connection from master IIC bus to slave IIC bus. MCU can access the slave IIC bus by using master IIC bus, and then read data from HMC5883L.
MPU6050 and HMC5883L implement the data update model based on hardware interrupts.

Title **Breeze Quadcopter**			*Team MicroDynamics* *NWPU* *Xi'an* *Shannxi* *China*
Size: A4	Author: myyerrol	Revision: V0.1	
Date: 3/12/2017	Time: 15:10:50	Sheet 4 of 5	
File: breeze_sensor.SchDoc			



Title **Breeze Quadcopter**			*Team MicroDynamics NWPU Xi'an Shannxi China*
Size: A4	Author: myyerrol	Revision: V0.1	$>{MD}
Date: 3/12/2017	Time: 15:10:50	Sheet 5 of 5	
File: breeze_wireless.SchDoc			



${MD}	Author: myyerrol	Title: **Breeze Quadcopter**
	Time: 15:10:51	
Team MicroDynamics NWPU Xi'an, Shannxi China	Date: 3/12/2017	File Content: Cheap, easy-to-use and intelligent quadcopter.
	Revison: V0.1	File Name: breeze_pcb.PcbDoc

Bill of Materials

Breeze Quadcopter

Source Data From: breeze_electronics_design.PrjPcb
Project: breeze_electronics_design.PrjPcb
Variant: None

Creation Date: 3/12/2017 15:10:53
Print Date: 12-Mar-17 3:10:58 PM

Footprint	Comment	LibRef	Designator	Description	Quantity
AN9520	AN9520	AN9520	A1	2.4GHz Wireless Communication Antenna	1
HDR-1X2	BAT	BAT	B1	Battery	1
SMD-0603	CAP-0603	CAP-0603	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41	Capacitor	41
SOD-523	BAT54KFILM	BAT54KFILM	D1, D2, D3, D4	Schottky Diode	4
SMD-0603	LED-0603	LED-0603	D5, D6, D7, D8, D9, D10, D11, D12	LED	8
SMD-0402	IND-0402	IND-0402	L1, L2, L3	Inductor	3
HDRM-1X2	Motor1	Motor_A	P1	Motor Header	1
HDRM-1X2	Motor2	Motor_B	P2	Motor Header	1
HDRM-1X2	Motor3	Motor_B	P3	Motor Header	1
HDRM-1X2	Motor4	Motor_A	P4	Motor Header	1
USB_MICRO	USB_MICRO	USB_MICRO	P5	Micro USB	1
HDR-1X2	HDR-1X2	HDR-1X2	P6	Header 1X2	1
HDR-1X10	HDR-1X10	HDR-1X10	P7, P8	Header 1X10	2
SOT-23	SI2302	SI2302	Q1, Q2, Q3, Q4	N-Channel Enhancement Mode Field Effect Transistor	4
SOT-23	2N7002	2N7002	Q5, Q6	N-Channel Enhancement Mode Field Effect Transistor	2
SMD-0603	RES-0603	RES-0603	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34	Resistor	34
SKRELGE010	SKRELGE010	SKRELGE010	S1	Switch	1
MSS-22D18G2	MSS-22D18G2	MSS-22D18G2	S2	Double-Pole, Double-Throw Switch	1
QFN-24	MPU6050	MPU6050	U1	6-axis Motion Tracking IC	1
LPCC-16	HMC5883L	HMC5883L	U2	3-Axis Digital Compass IC	1
MS5611	MS5611	MS5611	U3	High Resolution Altimeter IC	1
QFN-48	nRF51822	nRF51822	U4	Multiprotocol Bluetooth 4.0 low energy/2.4 GHz RF SoC	1
SOT-23-6	TPS79301DBVR	TPS79301DBVR	U5, U8	200-mA RF Low-Dropout Regulator	2
SOT-363	NUF2221W1T2	NUF2221W1T2	U6	USB Upstream Terminator with ESD Protection	1
VQFN-16	BQ24075RGTR	BQ24075RGTR	U7	1.5-A USB-Friendly Li-Ion Battery Charger and Power-Path Management IC	1
SOT-23-6	MAX16054	MAX16054	U9	On/Off Controller with Debounce and ±15kV ESD Protection	1
VFQFPN-36	STM32F103T6U6	STM32F103T6U6	U10	ARM Cortex-M3 MCU	1
QFN-28	CP2102	CP2102	U11	Highly-integrated USB-to-UART Bridge Controller	1
SMD-5032	XTAL-5032	XTAL-5032	Y1, Y2	Passive Crystal Oscillator	2
					121

Approved **Notes**