



Ki tSprout

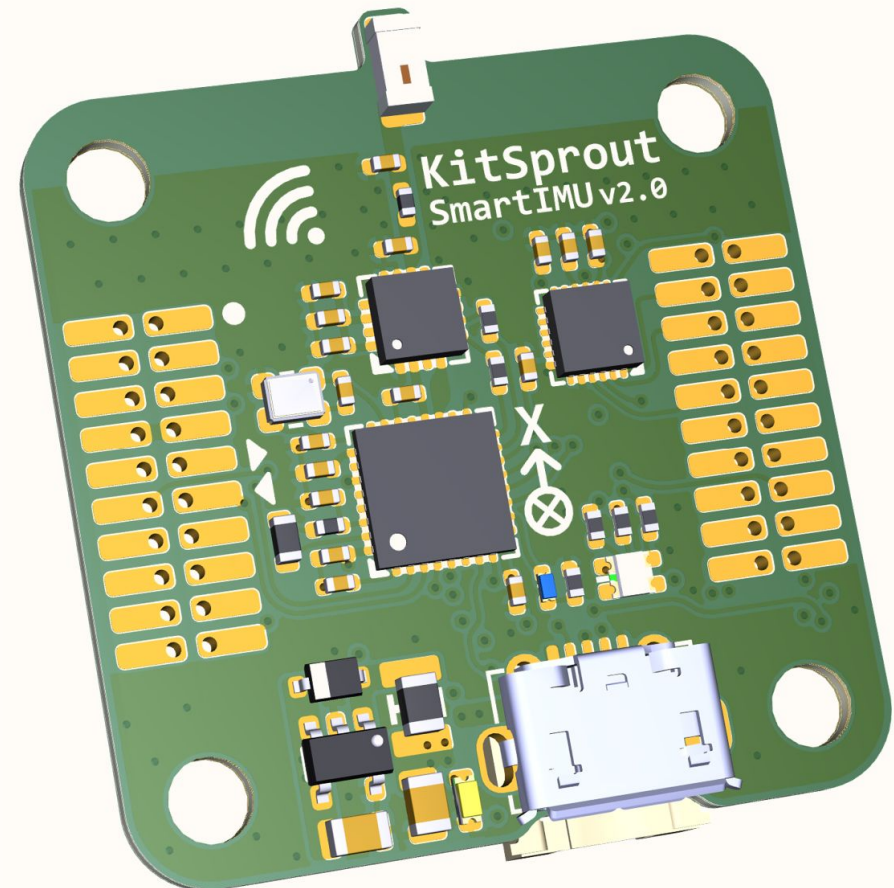
SmartIMU

06/02/18
Ver. v2.0
Lib. v3.5

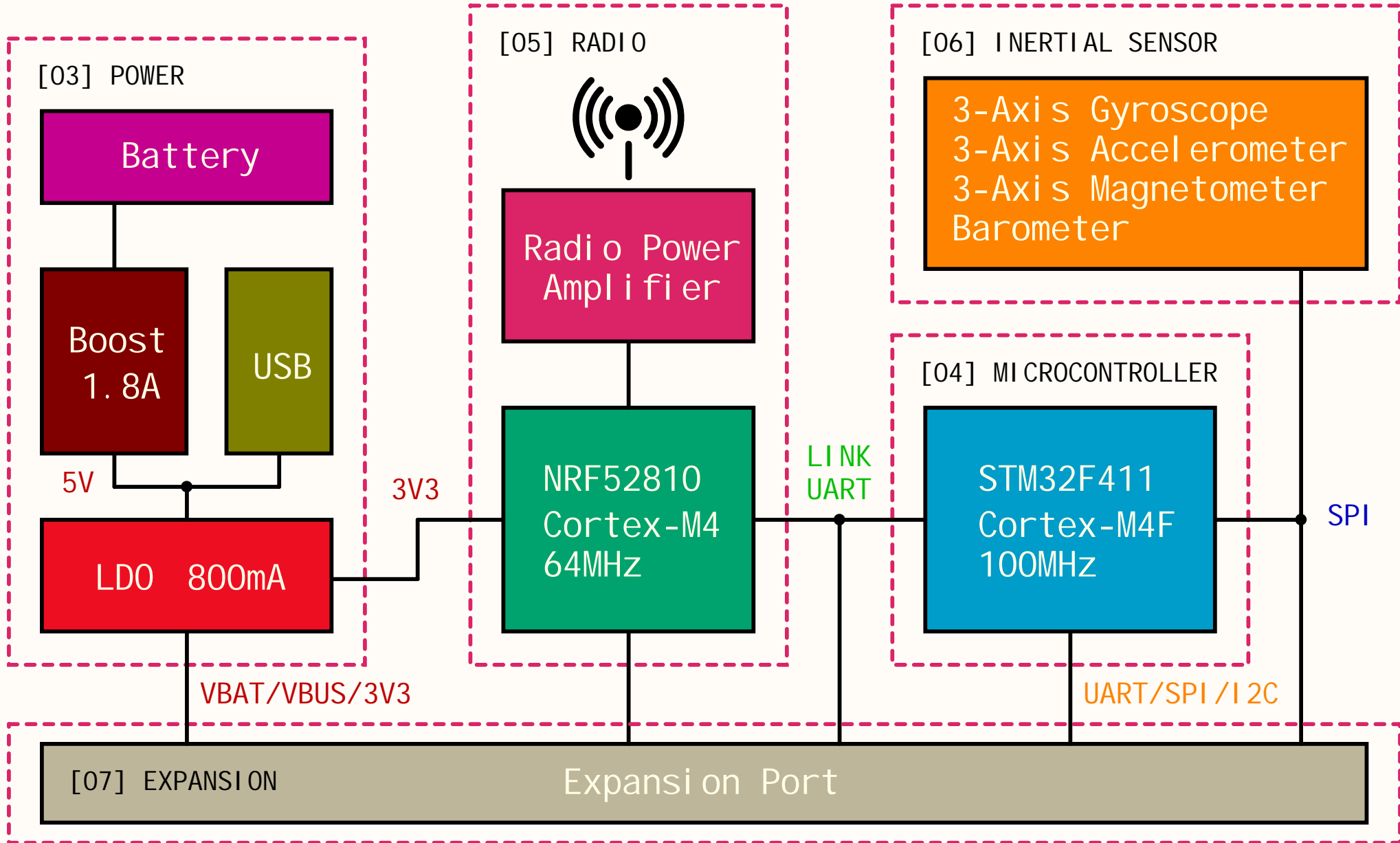
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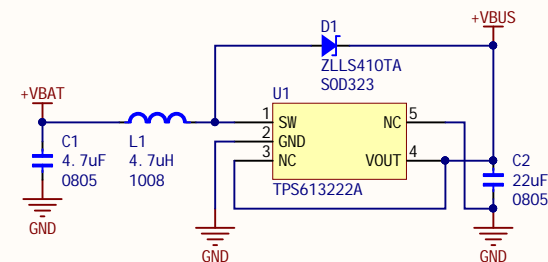
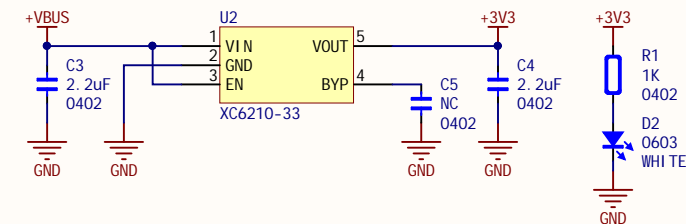


[02] BLOCK DIAGRAM

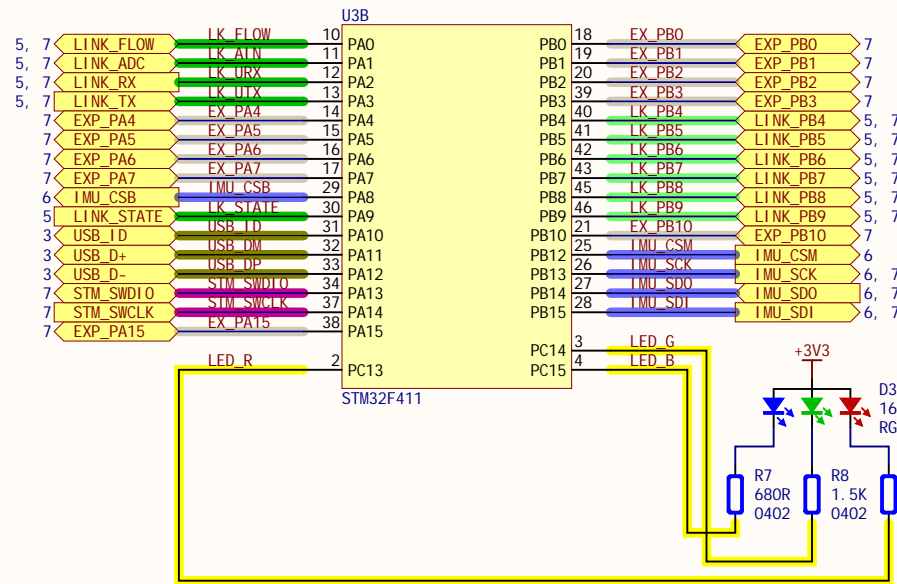
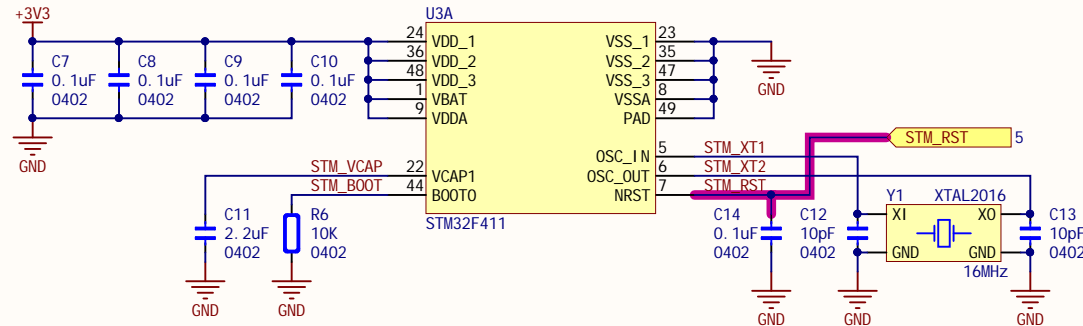


Low-Dropout Linear Regulator

VIN: 6V(MAX), VOUT: 3V3/800mA



[04] MI CROCONTROLLER. SchDoc

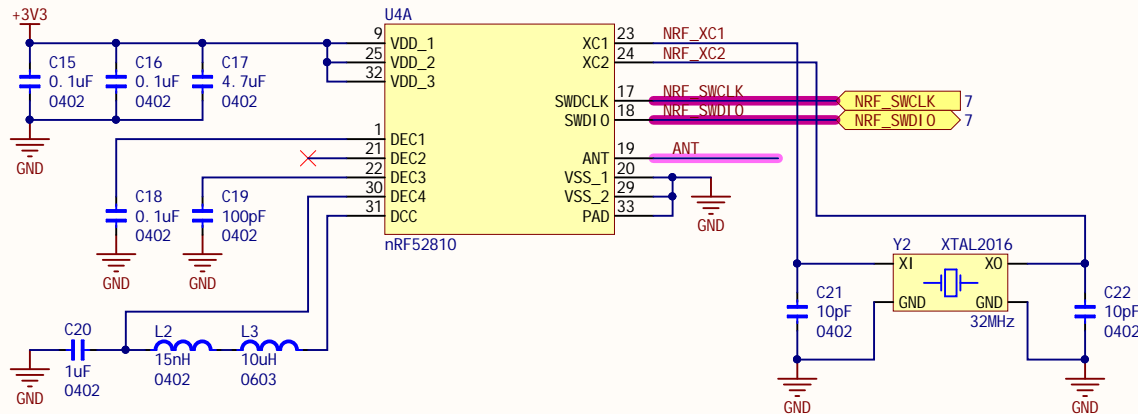


STM32F411CE

- . CORTEX-M4 (WITH FPU) 100 MHz
- . 256 Kbytes of Flash memory
- . 128 Kbytes of SRAM

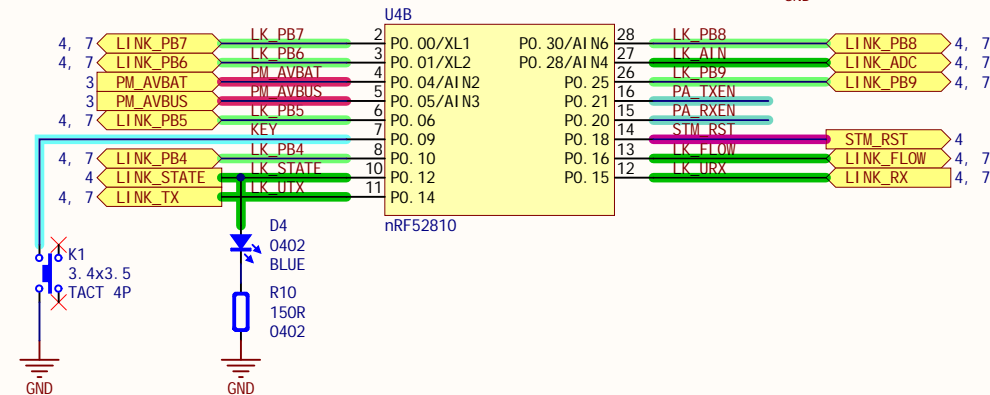
LK. FLOW	PA0	T2C1(AF1)	T5C1(AF2)	AI N0(ADC1)
LK. AIN	PA1	T2C2(AF1)	T5C2(AF2)	AI N1(ADC1)
LK. URX	PA2			U2TX(AF7)
LK. UTX	PA3			U2RX(AF7)
EX. PA4	PA4		S1CS(AF5)	AI N4(ADC1)
EX. PA5	PA5	T2C1(AF1)	S1CK(AF5)	AI N5(ADC1)
EX. PA6	PA6	T3C1(AF2)	S1S0(AF5)	AI N6(ADC1)
EX. PA7	PA7	T3C2(AF2)	S1SI(AF5)	AI N7(ADC1)
IMU. CSB	PA8			
LK. STATE	PA9	T1C2(AF1)		U1TX(AF7)
USB. ID	PA10			
USB. DM	PA11			U6TX(AF8)
USB. DP	PA12			U6RX(AF8)
ST. SWDI0	PA13			
ST. SWCLK	PA14			
EX. PA15	PA15	T2C1(AF1)	S3CS(AF6)	U1TX(AF7)
EX. PB0	PB0	T3C3(AF2)		AI N8(ADC1)
EX. PB1	PB1	T3C4(AF2)		AI N9(ADC1)
EX. PB2	PB2			
EX. PB3	PB3	T2C2(AF1)	S3CK(AF6)	U1RX(AF7)
LK. PB4	PB4	T3C1(AF2)	S3S0(AF6)	
LK. PB5	PB5	T3C2(AF2)	S3SI(AF6)	
LK. PB6	PB6	T4C1(AF2)	I1CL(AF4)	U1TX(AF7)
LK. PB7	PB7	T4C2(AF2)	I1DA(AF4)	U1RX(AF7)
LK. PB8	PB8	T4C3(AF2)	I1CL(AF4)	
LK. PB9	PB9	T4C4(AF2)	I1DA(AF4)	I2DA(AF9)
EX. PB10	PB10	T2C3(AF1)		I2CL(AF4)
IMU. CSM	PB12		S2CS(AF5)	
IMU. SCK	PB13		S2CK(AF5)	
IMU. SDO	PB14		S2S0(AF5)	
IMU. SDI	PB15		S2SI(AF5)	

[05] RADIO. SchDoc



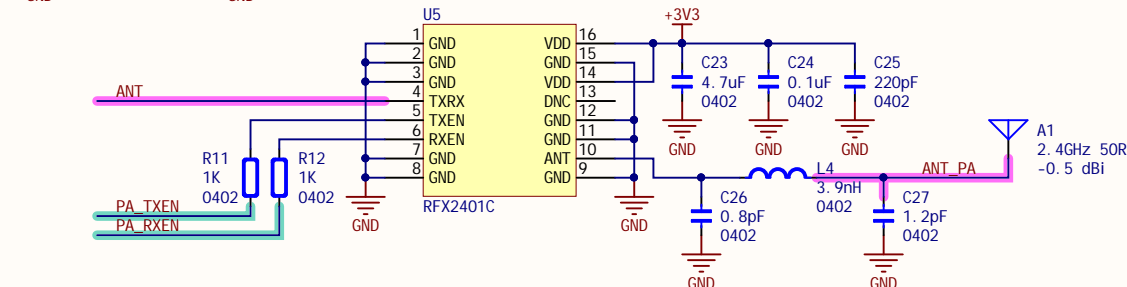
NRF51810

- CORTEX-M4 (WITHOUT FPU) 64 MHz
- 192 kB flash and 24 kB RAM
- 2.4GHz Radio / Bluetooth 5
- -20 to +4 dBm TX power (4 dB steps)
- -96 dBm sensitivity



RFX2401C

- Freq. 2.4 GHz to 2.525 GHz
- PA with up to +22 dBm output power
- LNA with 2.5 dB noise figure



MODE

PA_TXEN

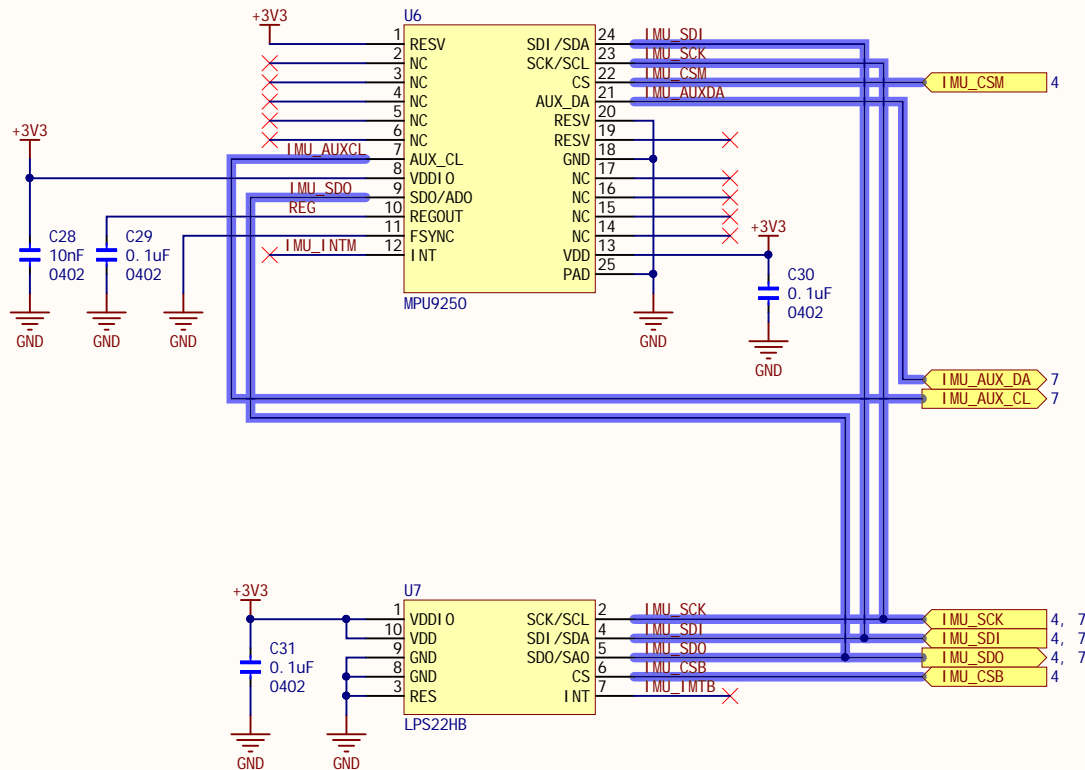
PA_RXEN

TX active
RX active
Shutdown

H
L
L

X
H
L

[06] INERTIAL SENSOR. SchDoc



MPU9250(MPU6500)

- . Gyroscope ($\pm 250/500/1000/2000$ dps)
- . Accelerometer ($\pm 2/4/8/16$ g)
- . Device ID = 0x71
- . I2C Address = 0xD0 (1101000X)

MPU9250(AK8963)

- . Magnetometer (± 4900 uT)
- . Device ID = 0x48
- . I2C Address = 0x18 (00011000X)

LPS22HB

- . Barometer (260-1260 hPa)
- . Thermometer ($-40/+85$ degC)
- . Device ID = 0xB1
- . I2C Address = 0xB8

[07] EXPANSION. SchDoc

