

# Arrow SmartEverything Fox

## Multisensor IoT Board

23 Aug 2015 Rev 3.0

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		Designed by	C.Pino
		Checked by	C.Pino
		Approved by	C.Pino
Title Arrow SmartEverything Fox - Multisensor IoT Sigfox board			
Size A3	Document Number <Doc>	Rev 3.0	
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# Signal Mapping

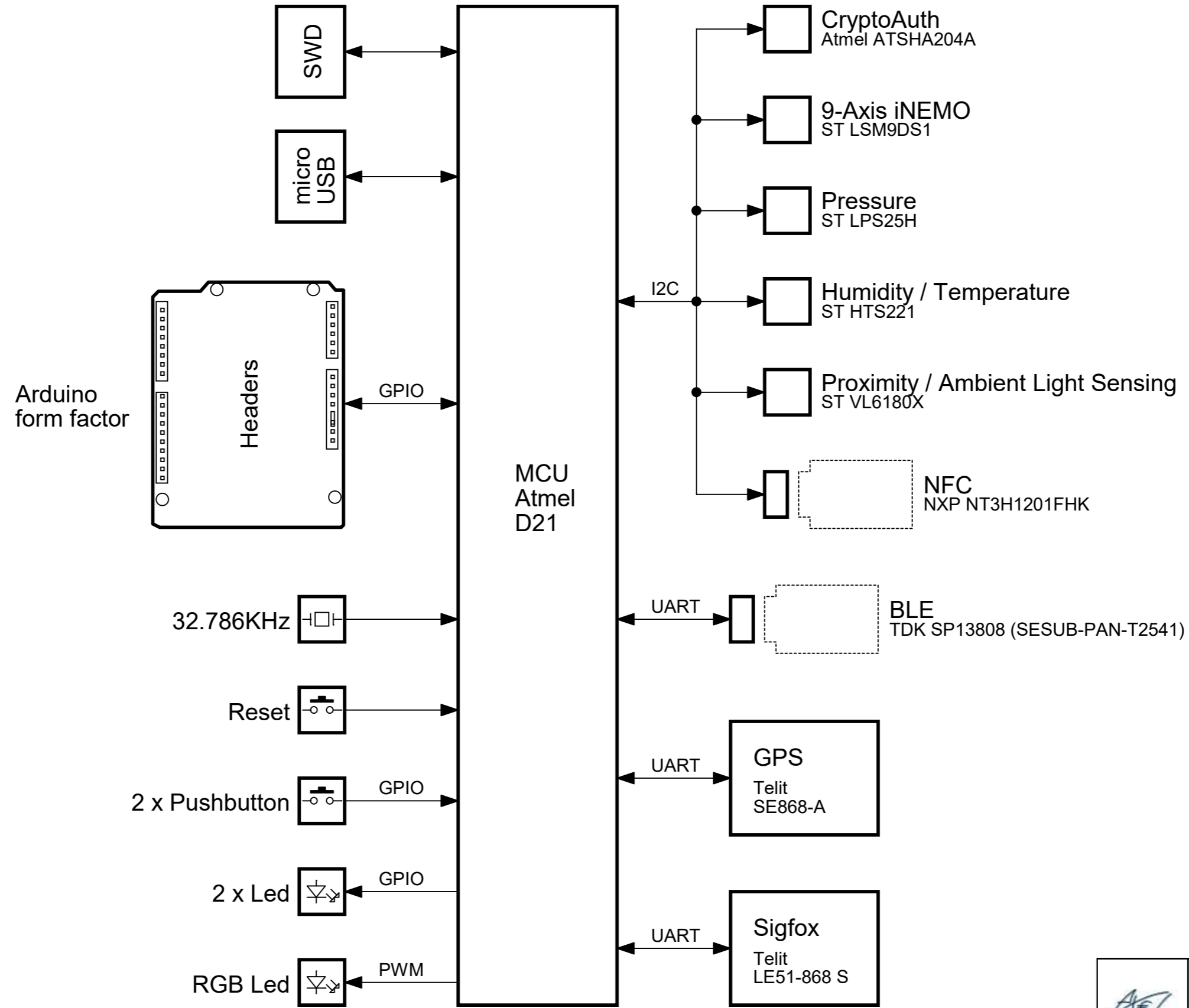
GPIO	SIGNAL
PA00	XIN32
PA01	XOUT32
PA02	HEADER A0
PA03	AREF
PA04	HEADER A3
PA05	HEADER A4
PA06	HEADER ~8
PA07	HEADER ~9
PA08	GPS_TXD
PA09	GPS_RXD
PA10	HEADER TX
PA11	HEADER RX
PA12	LED RGB RED
PA13	IOE_RESET#
PA14	HEADER ~4
PA15	HEADER ~5
PA16	HEADER ~11 / MOSI
PA17	HEADER ~13 / SCK
PA18	HEADER ~10 / SS
PA19	HEADER ~12 / MISO
PA20	HEADER ~6
PA21	HEADER ~7
PA22	SDA
PA23	SCL
PA24	USB_DM
PA25	USB_DP
PA27	PUSHBUTTON PB2
PA30	SWCLK
PA31	SWDIO


GPIO	SIGNAL
PB00	PUSHBUTTON PB1
PB01	LED D1
PB02	HEADER A5
PB03	LED D2
PB04	EXT_PWR
PB05	REG_ON
PB06	IOE_INT#
PB07	9AX_DEN
PB08	HEADER A1
PB09	HEADER A2
PB10	LED RGB BLUE
PB11	LED RGB GREEN
PB12	SFX_TXD
PB13	SFX_RXD
PB14	SFX_RTS
PB15	SFX_CTS
PB16	BLE_TXD
PB17	BLE_RXD
PB22	BLE_RTS
PB23	BLE_CTS
PB30	HEADER ~3
PB31	HEADER ~2

GPIO	SIGNAL
IO00	9AX_INT2_A/G
IO01	9AX_INT1_A/G
IO02	9AX_INT_M
IO03	9AX_DRDY_M
IO04	PRE_INT
IO05	ALS_GPIO0
IO06	ALS_GPIO1
IO07	BLE_RESET#
IO10	SFX_STDBY_STS
IO11	SFX_RESET#
IO12	SFX_RADIO_STS
IO13	SFX_WAKEUP
IO14	NFC_FD
IO15	HUT_DRDY
IO16	GPS_FORCE_ON#
IO17	GPS_RESET#

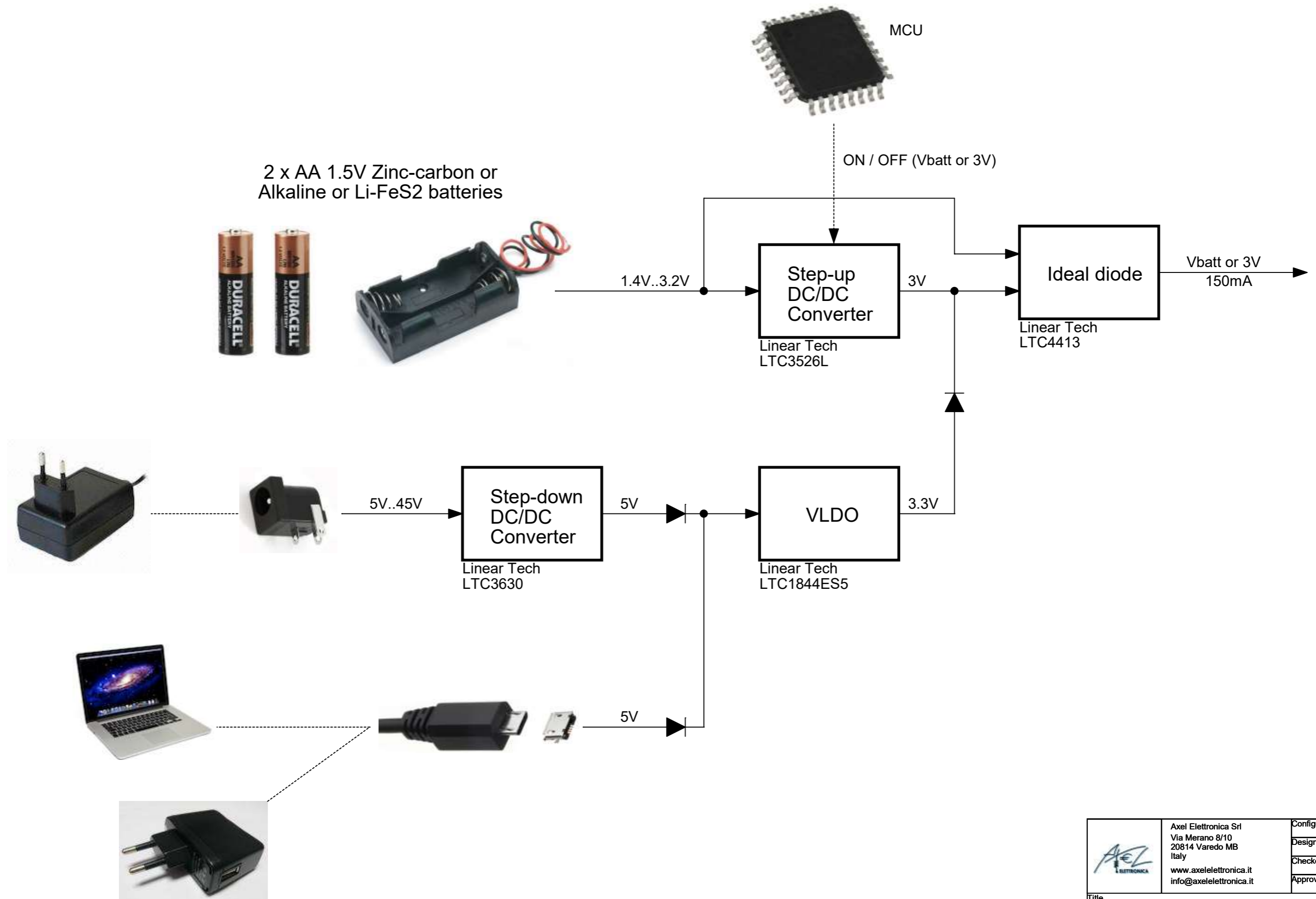
	Axel Elettronica Srl Via Merano 8/10 20814 Varedo MB Italy www.axelelettronica.it info@axelelettronica.it	Configuration Proto 0 Designed by C.Pino Checked by C.Pino Approved by C.Pino	
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# Block Diagram



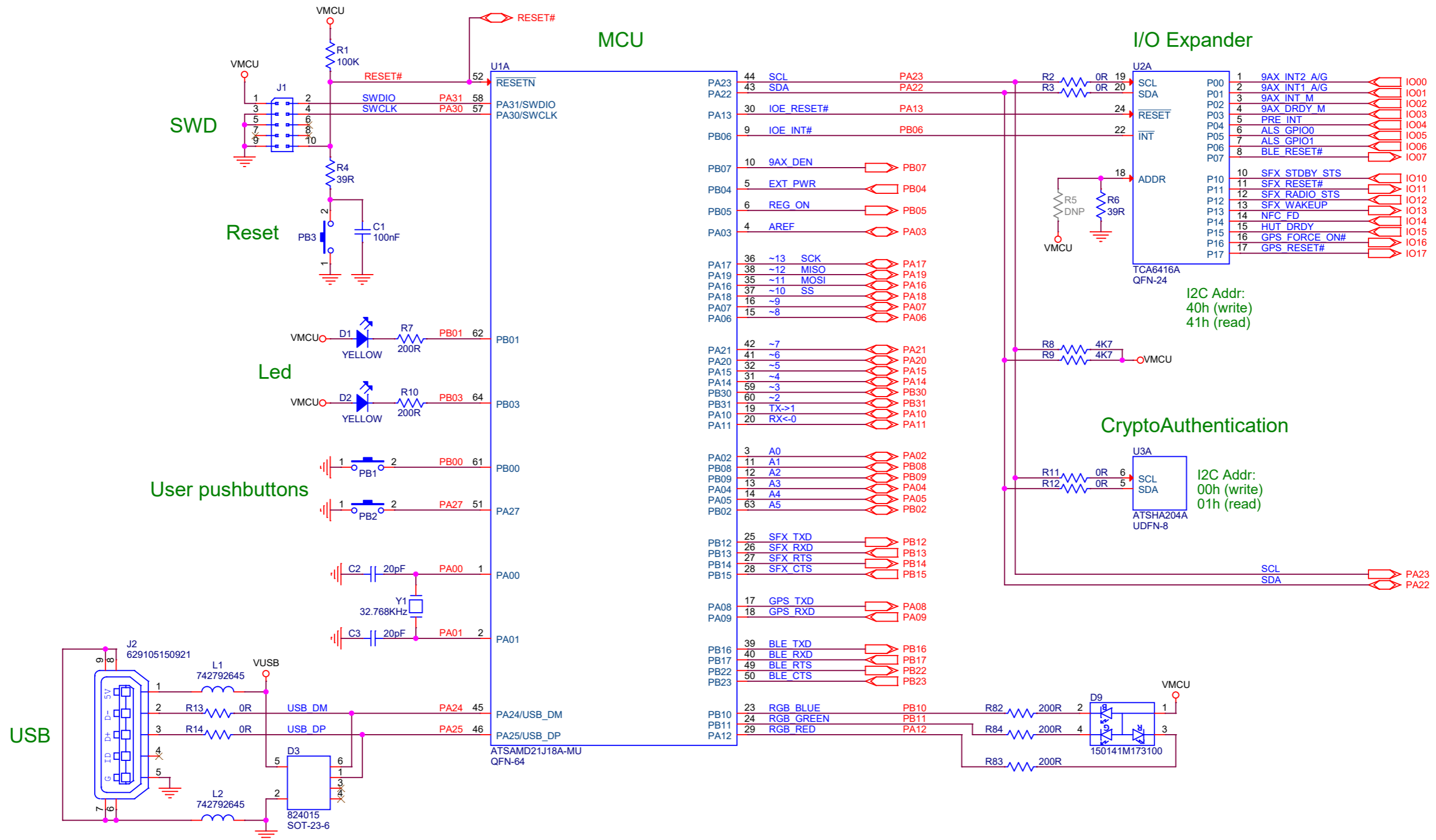
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# Power Block Diagram



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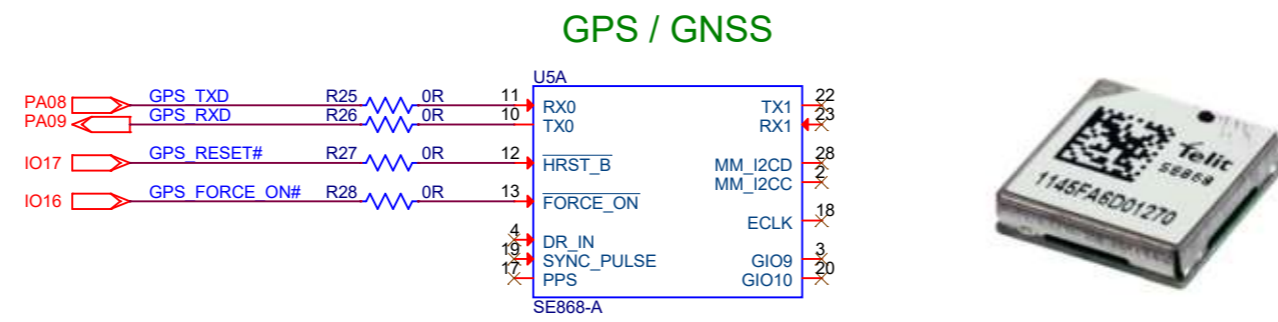
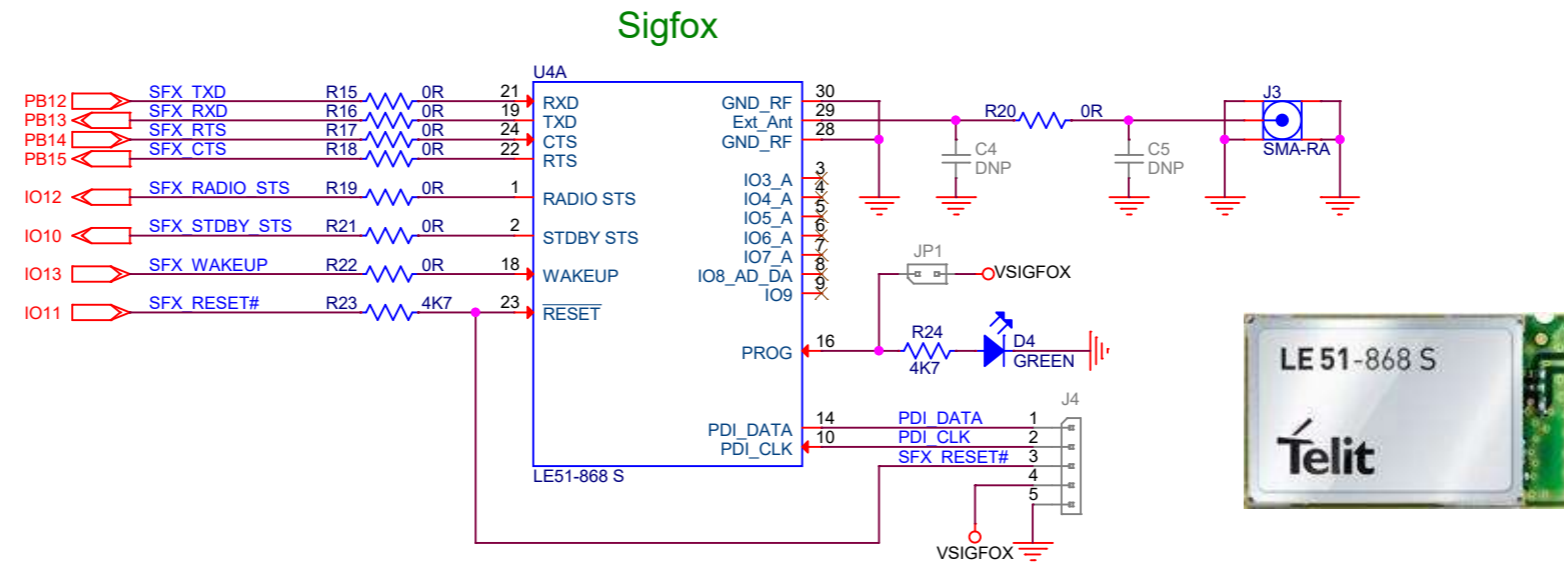
# MCU



- USB signal line trace:
1. Keep traces of USB bus D+ and D- the same length.
  2. Achieve 90 ohm differential characteristic impedance.
  3. Achieve 45 ohm common characteristic impedance.
  4. Maintain parallelism between D+ and D-.
  5. Do not route USB2.0 D+ and D- over the power plane split.
  6. Do not route USB2.0 D+ and D- over the other high frequency signals.
  7. It is preferred to route USB2.0 D+ and D- over ground layer.
  8. It is preferred to route USB2.0 D+ and D- using single layer.

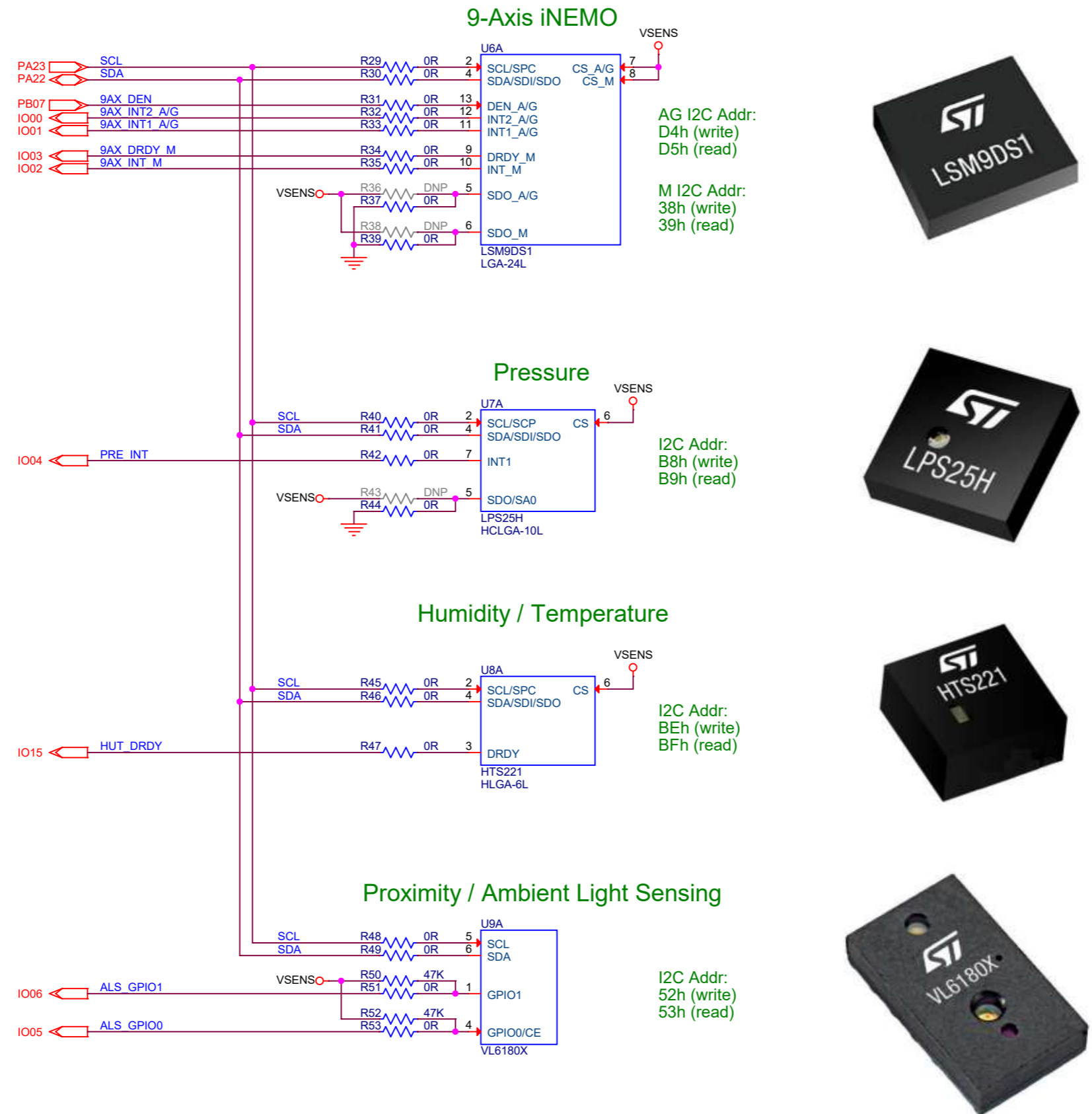
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# Sigfox & GNSS



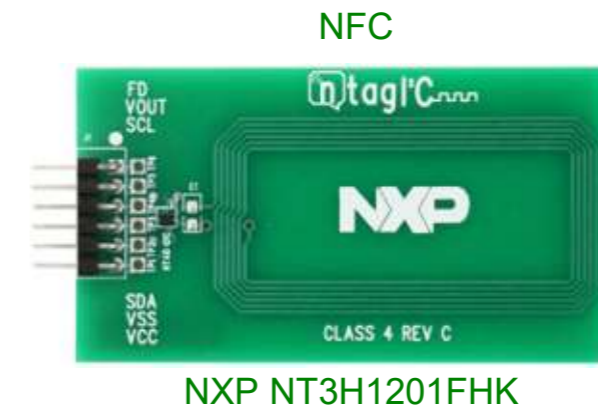
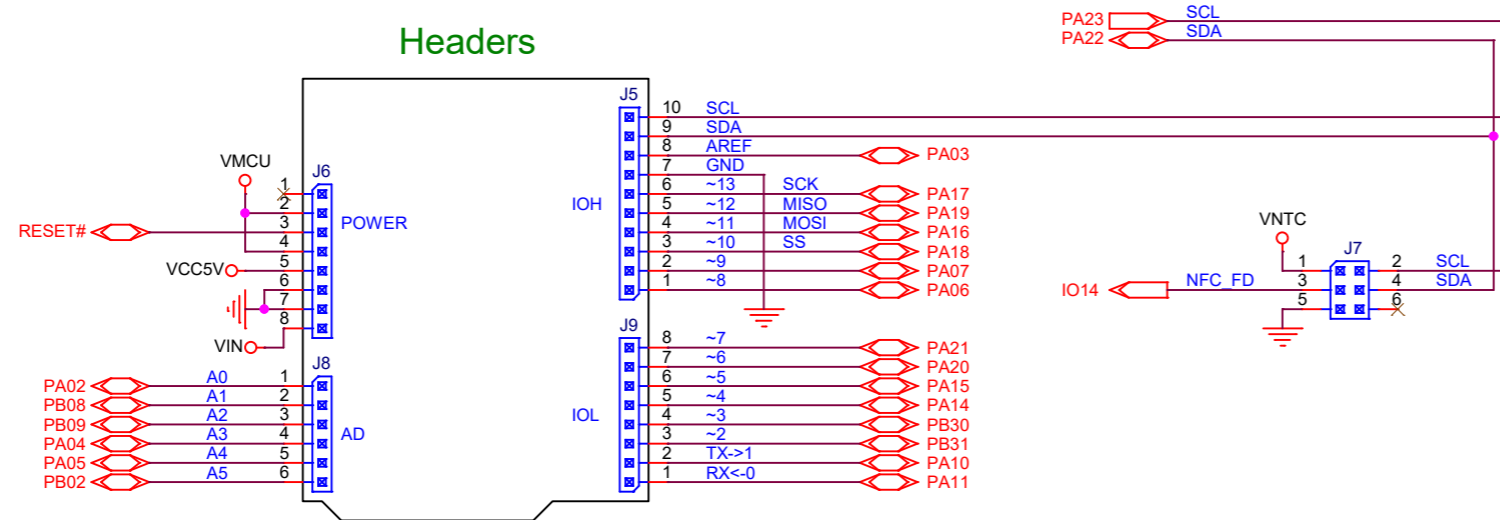
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# Sensors

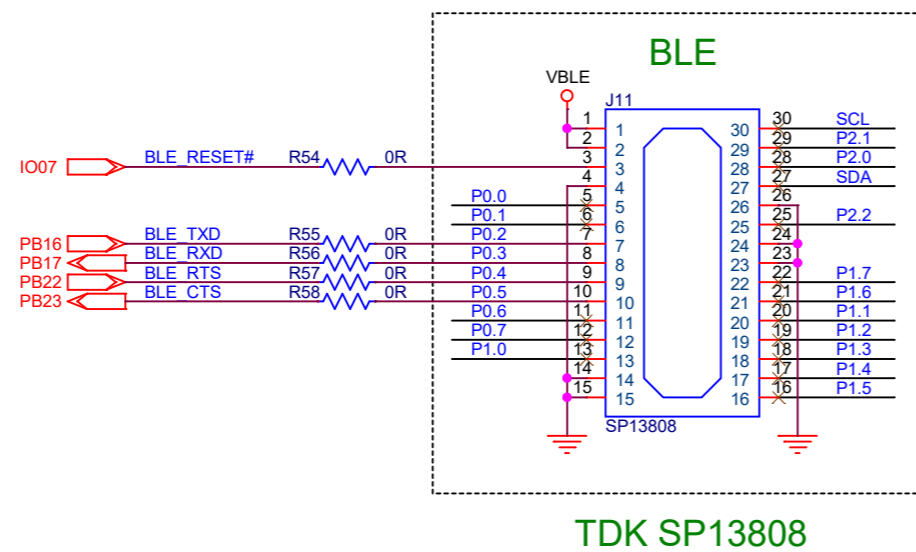


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# Headers, NFC & BLE



I2C Addr:  
AAh (write)  
ABh (read)

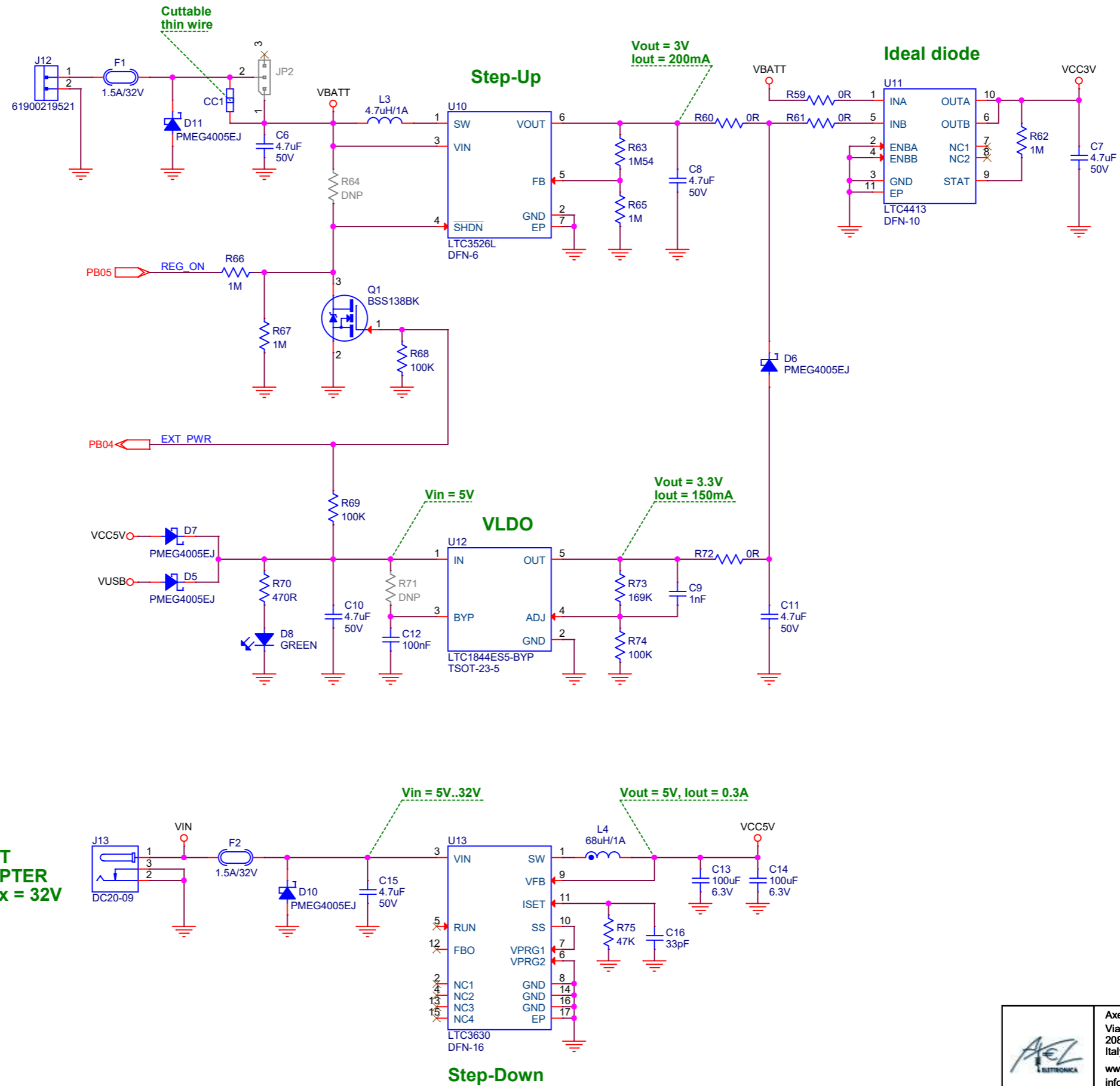


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# Power Supply

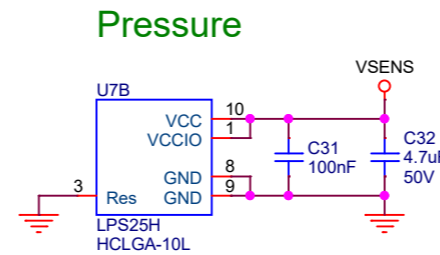
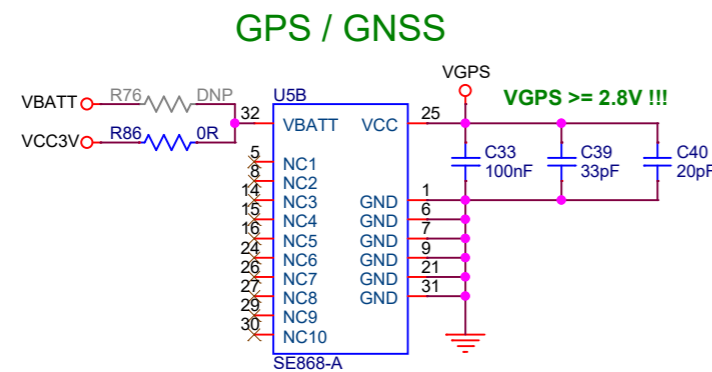
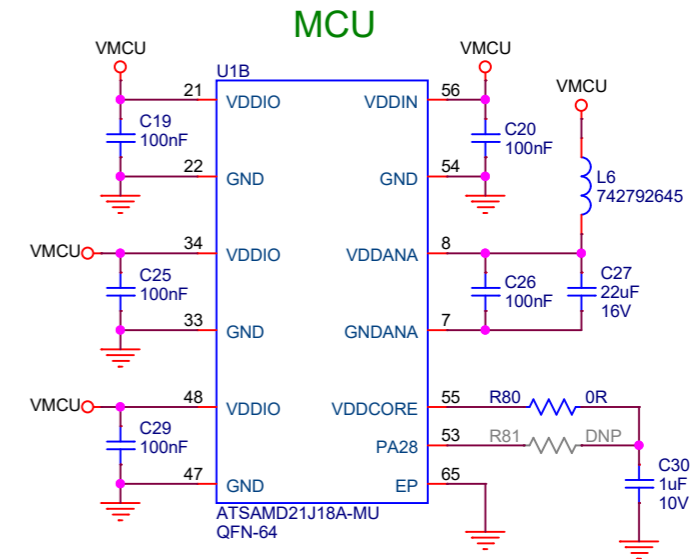
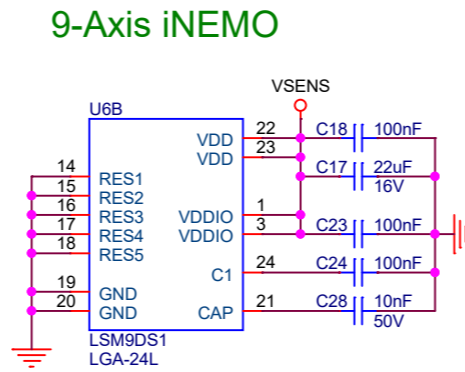
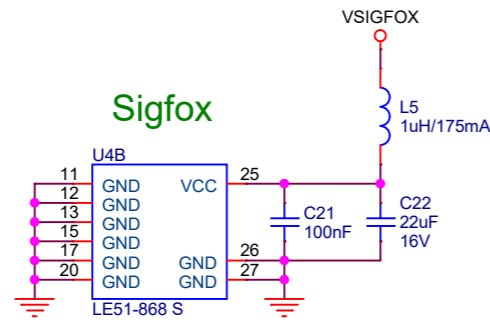
2 x AA 1.5V Zinc-carbon or Alkaline or Li-FeS2 batteries



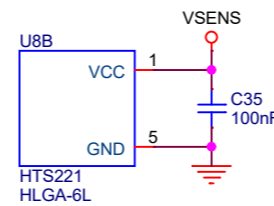
WALL MOUNT  
 POWER ADAPTER  
 min = 5V, max = 32V

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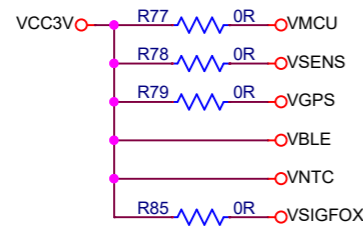
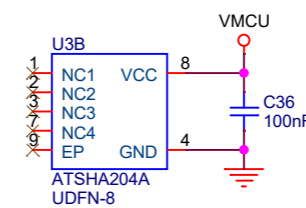
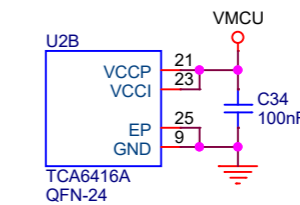
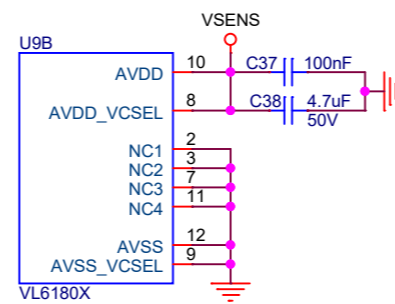
# MCU



## Humidity / Temperature

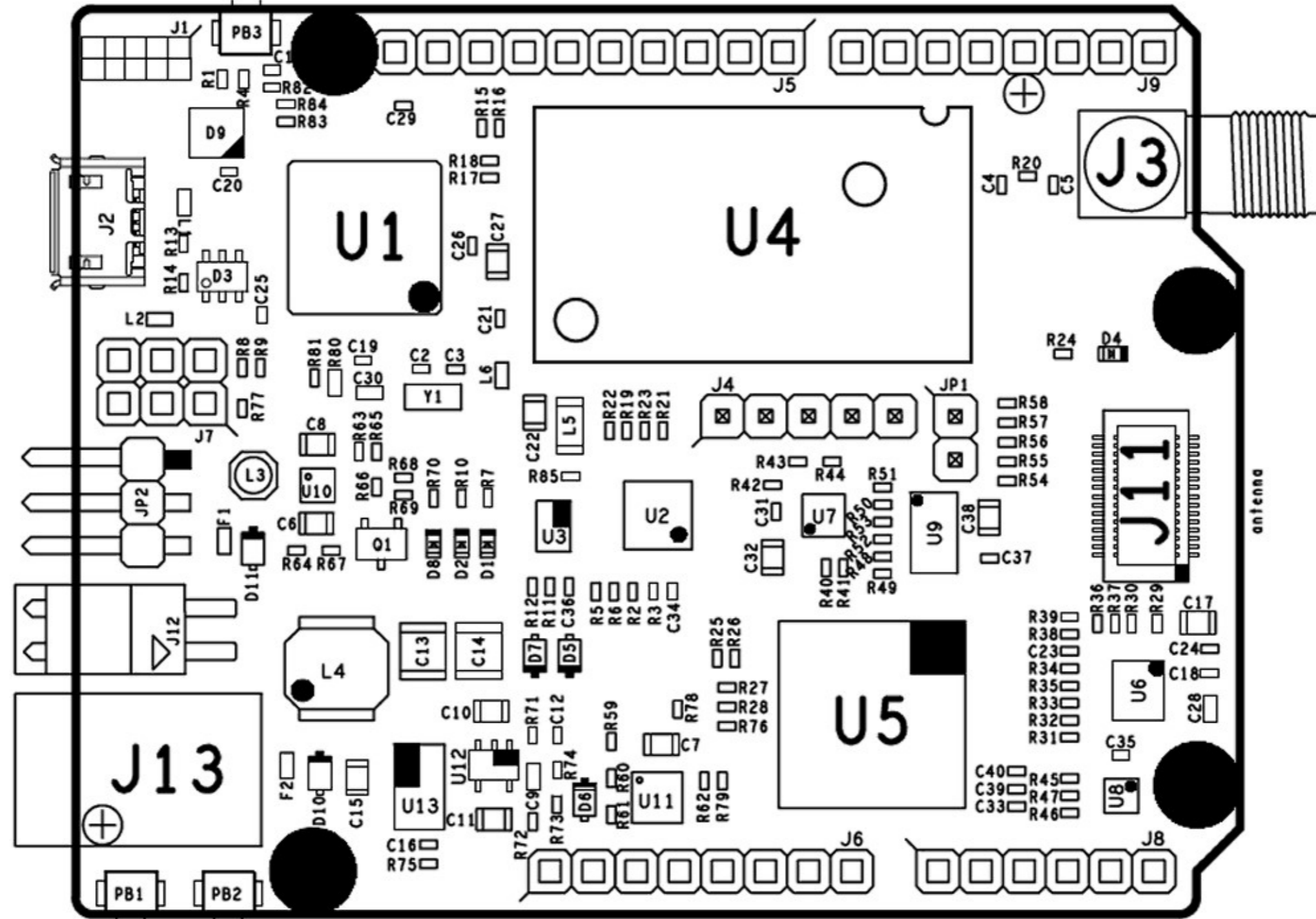



## Proximity / Ambient Light Sensing



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# LAYOUT



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