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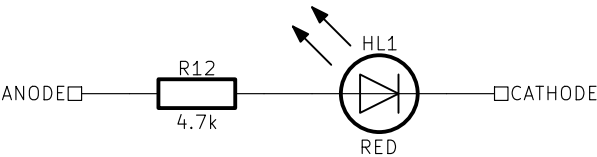
A

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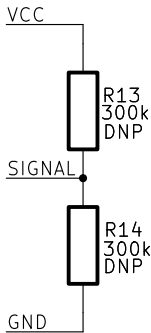
Indicator Diode



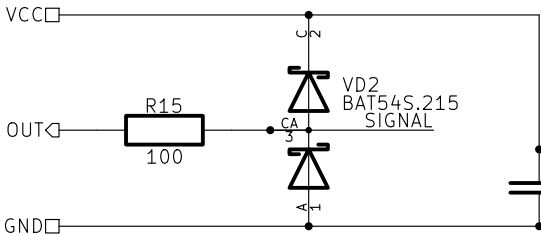
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|-------------------|---------------------|--|-----------------------------------|
| Responsible dept. | Technical reference | Document type Electrical Circuit | Document status |
| | Created by | Title, Supplementary title RadioSens v1 | |
| | Approved by | Rev. | Date of issue Lang. Sheet 3/28 |

Sensor Connector

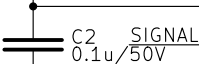
Pull-up/Pull-down



ESD Protection

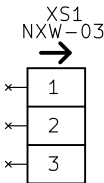


Decoupling capacitor



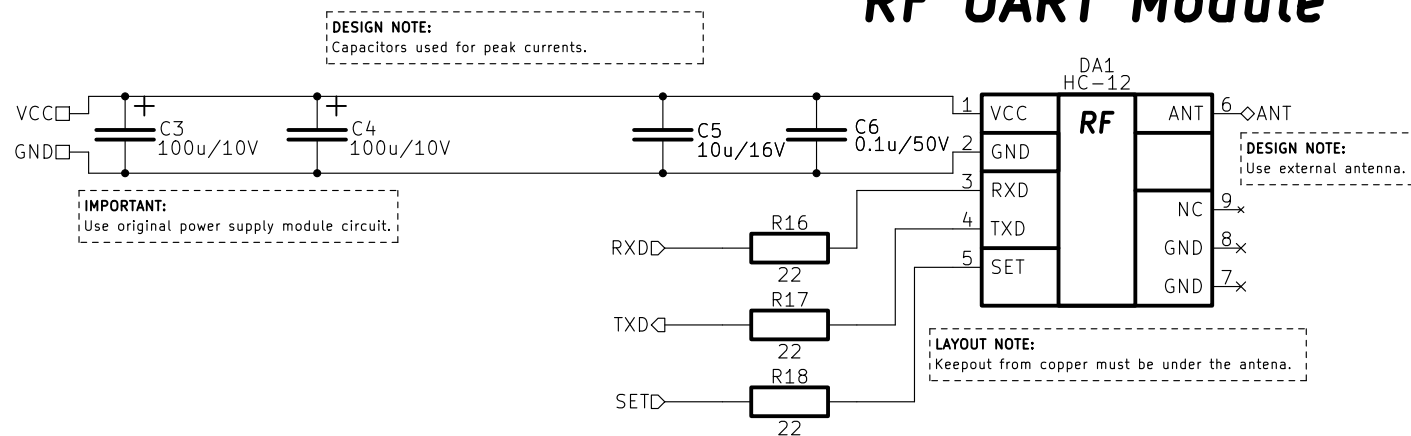
Connector

| XT2 NXW-03 | |
|---------------|---------------|
| 1 | Input Voltage |
| 2 | Signal Output |
| 3 | Ground |



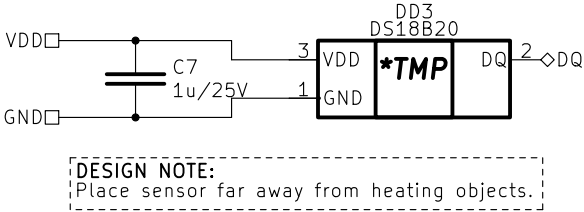
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| Responsible dept. | Technical reference | Document type Electrical Circuit | | Document status | | |
| | Created by | Title, Supplementary title | | | | |
| | Approved by | RadioSens v1 | | Rev. | Date of issue | Lang. Sheet 4/28 |

RF UART Module

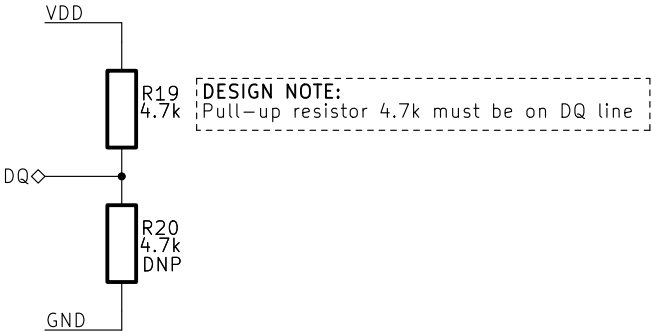


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| Responsible dept. | Technical reference | Document type | Document status |
| | Created by | Title, Supplementary title | |
| | Approved by | RadioSens v1 | Rev. Date of issue Lang. Sheet |
| | | | 4/28 |

Temperature Sensor



Pull-up/Pull-down



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| Responsible dept. | Technical reference | Document type | Document status |
| | Created by | Title, Supplementary title | |
| | Approved by | RadioSens v1 | Rev. Date of issue Lang. Sheet |
| | | | 5/28 |

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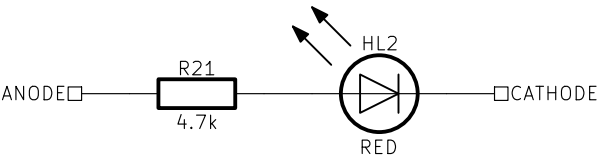
A

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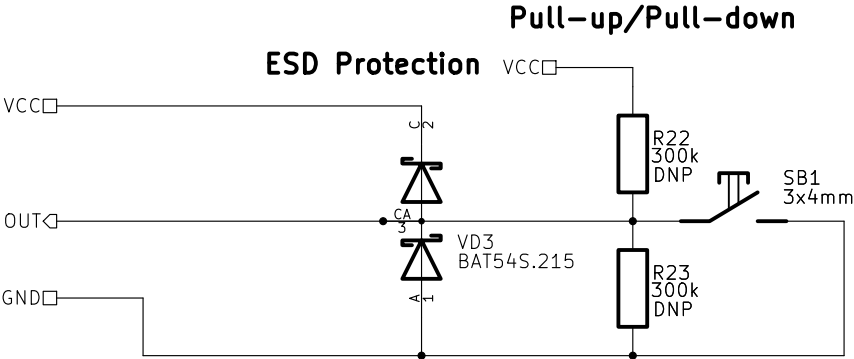
D

Indicator Diode



| | | | |
|-------------------|---------------------|--|-----------------------------------|
| Responsible dept. | Technical reference | Document type Electrical Circuit | Document status |
| | Created by | Title, Supplementary title RadioSens v1 | |
| | Approved by | Rev. | Date of issue Lang. Sheet 6/28 |

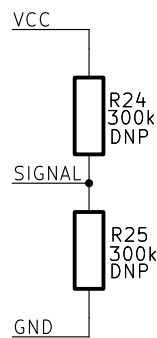
Button



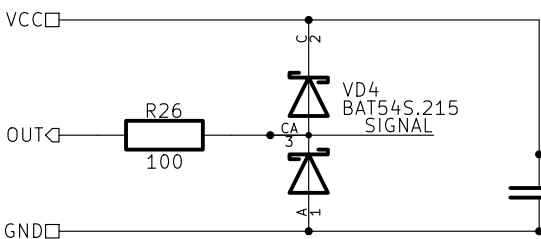
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| Responsible dept. | Technical reference | Document type | Document status |
| | Created by | Title, Supplementary title | |
| | Approved by | RadioSens v1 | Rev. Date of issue Lang. Sheet |
| | | | 7/28 |

Sensor Connector

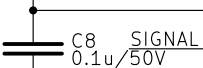
Pull-up/Pull-down



ESD Protection

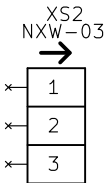


Decoupling capacitor



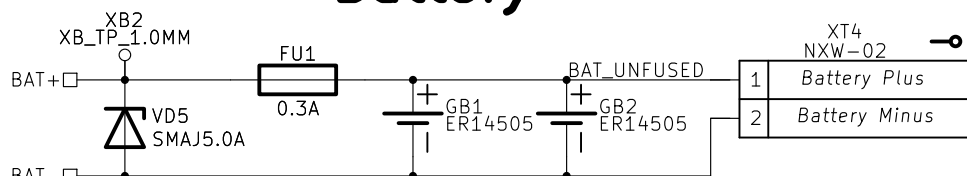
Connector

| XT3 NXW-03 | |
|---------------|---------------|
| 1 | Input Voltage |
| 2 | Signal Output |
| 3 | Ground |



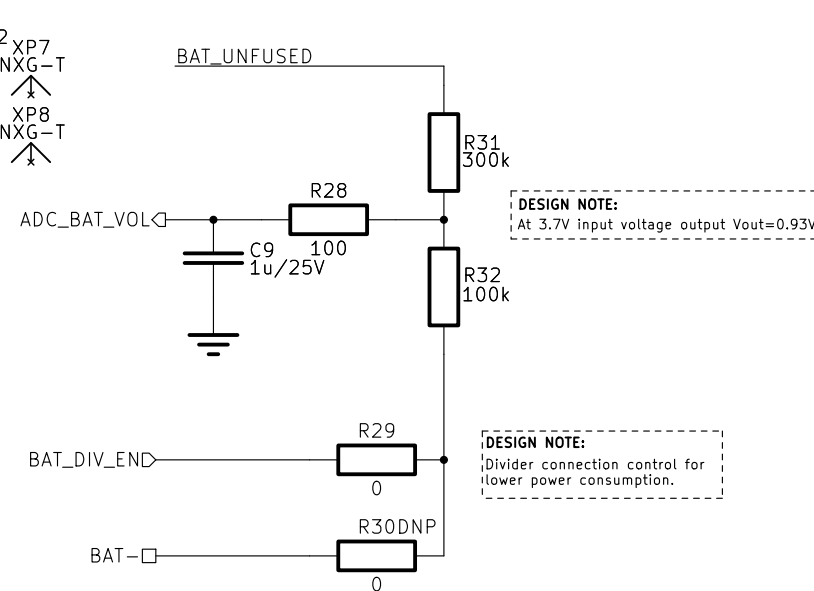
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| Responsible dept. | Technical reference | Document type Electrical Circuit | | Document status | | | |
| | Created by | Title, Supplementary title RadioSens v1 | | | | | |
| | Approved by | | | Rev. | Date of issue | Lang. | Sheet 8/28 |

Battery



DESIGN NOTE:
Consider to use TVS diode
with working peak reverse voltage
3.8–4.2V

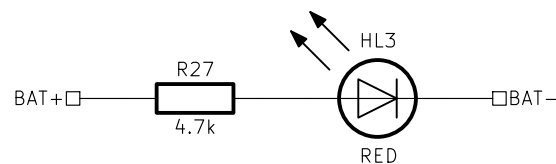
Battery Voltage Divider



DESIGN NOTE:
At 3.7V input voltage output Vout=0.93V

DESIGN NOTE:
Divider connection control for
lower power consumption.

Power Indicator



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|-------------------|---------------------|--|--------------------------------|
| Responsible dept. | Technical reference | Document type Electrical Circuit | Document status |
| | Created by | Title, Supplementary title | |
| | Approved by | RadioSens v1 | Rev. Date of issue Lang. Sheet |
| | | | 9/28 |

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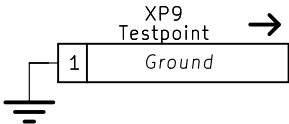
A

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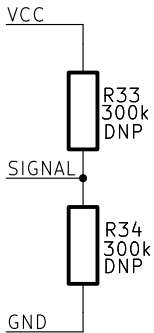
Testpoints



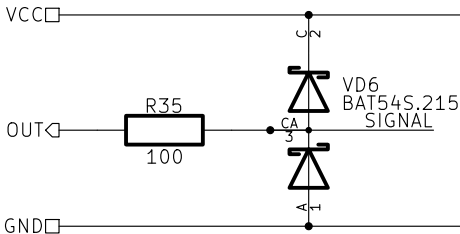
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| Responsible dept. | Technical reference | Document type Electrical Circuit | Document status |
| | Created by | Title, Supplementary title RadioSens v1 | |
| | Approved by | Rev. | Date of issue Lang. Sheet 10/28 |

Sensor Connector

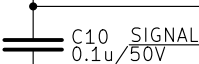
Pull-up/Pull-down



ESD Protection

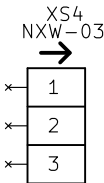


Decoupling capacitor



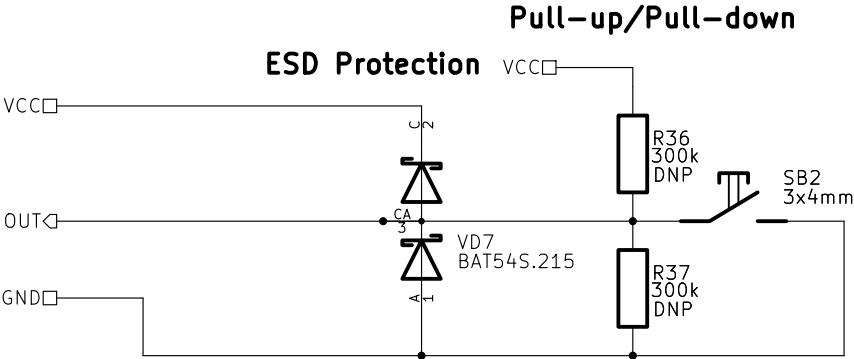
Connector

| XT5 NXW-03 | |
|---------------|---------------|
| 1 | Input Voltage |
| 2 | Signal Output |
| 3 | Ground |



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|-------------------|---------------------|--|--|-----------------|---------------|-------|----------------|
| Responsible dept. | Technical reference | Document type Electrical Circuit | | Document status | | | |
| | Created by | Title, Supplementary title RadioSens v1 | | | | | |
| | Approved by | | | Rev. | Date of issue | Lang. | Sheet 11/28 |

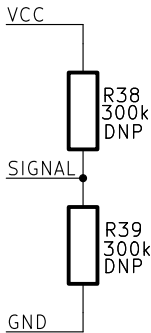
Button



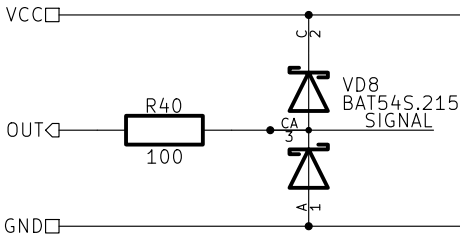
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| | Created by | Title, Supplementary title | |
| | Approved by | RadioSens v1 | Rev. Date of issue Lang. Sheet |
| | | | 12/28 |

Sensor Connector

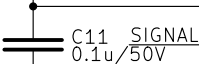
Pull-up/Pull-down



ESD Protection

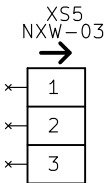


Decoupling capacitor



Connector

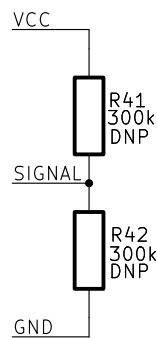
| XT6 NXW-03 | |
|---------------|---------------|
| 1 | Input Voltage |
| 2 | Signal Output |
| 3 | Ground |



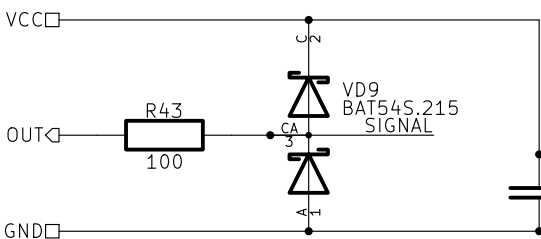
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| Responsible dept. | Technical reference | Document type | Document status |
| | Created by | Title, Supplementary title | |
| | Approved by | RadioSens v1 | Rev. Date of issue Lang. Sheet |
| | | | 14/28 |

Sensor Connector

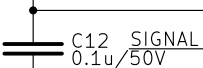
Pull-up/Pull-down



ESD Protection

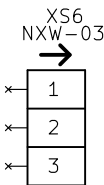


Decoupling capacitor



Connector

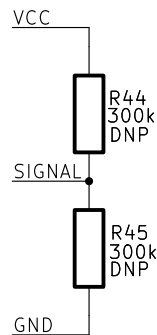
| | |
|---------------|---------------|
| XT7 NXW-03 | |
| 1 | Input Voltage |
| 2 | Signal Output |
| 3 | Ground |



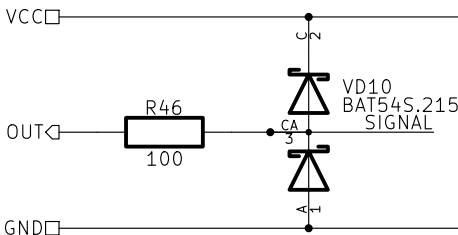
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| | Created by | Title, Supplementary title | |
| | Approved by | RadioSens v1 | Rev. Date of issue Lang. Sheet |
| | | | 16/28 |

Sensor Connector

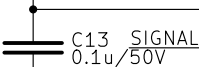
Pull-up/Pull-down



ESD Protection

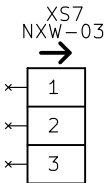


Decoupling capacitor



Connector

| | |
|---------------|---------------|
| XT8 NXW-03 | |
| 1 | Input Voltage |
| 2 | Signal Output |
| 3 | Ground |



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|-------------------|--|---------------------|--|----------------------------|--|-----------------|---------------|
| Responsible dept. | | Technical reference | | Document type | | Document status | |
| | | | | Electrical Circuit | | | |
| | | Created by | | Title, Supplementary title | | | |
| | | Approved by | | RadioSens v1 | | Rev. | Date of issue |
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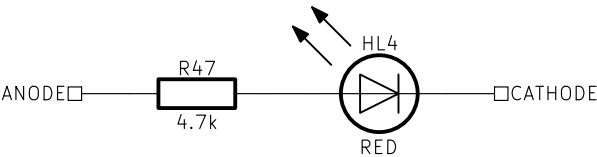
A

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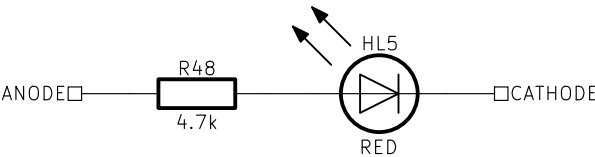
D

Indicator Diode

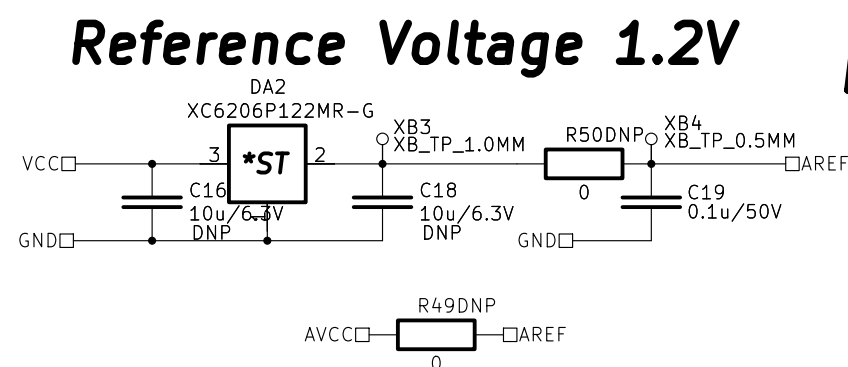
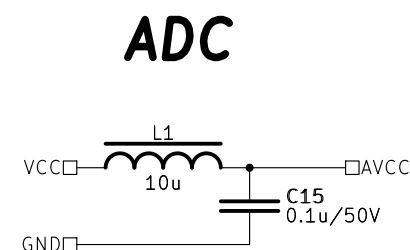


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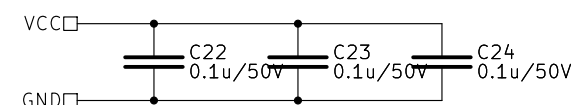
Indicator Diode



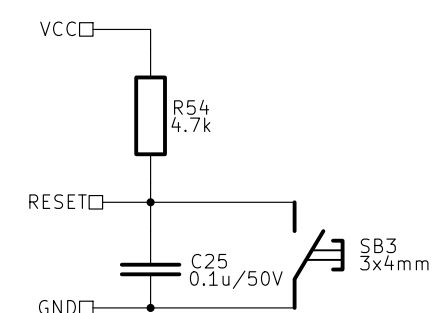
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| | Created by | Title, Supplementary title | | | | |
| | Approved by | RadioSens v1 | Rev. | Date of issue | Lang. | Sheet 19/28 |



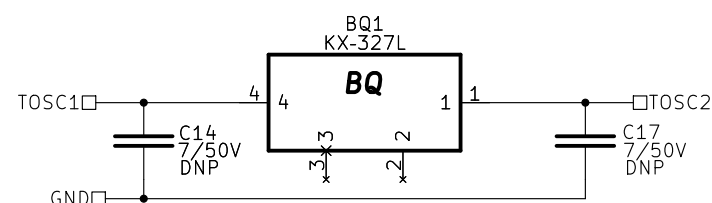
Decoupling Capacitors



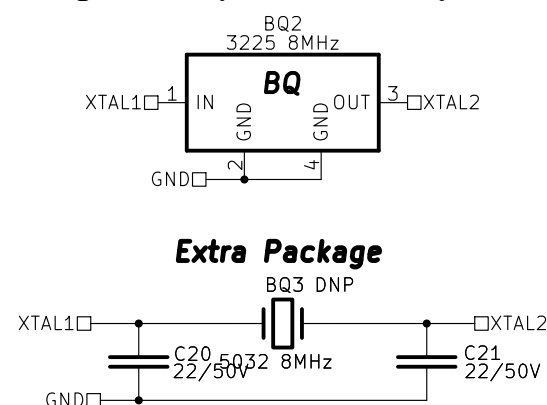
Reset



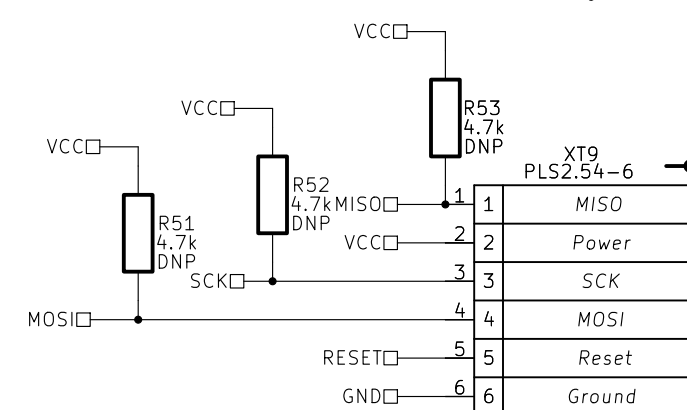
Low-speed Crystal



High-speed Crystal

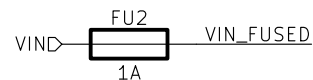


Flashing (ICSP)



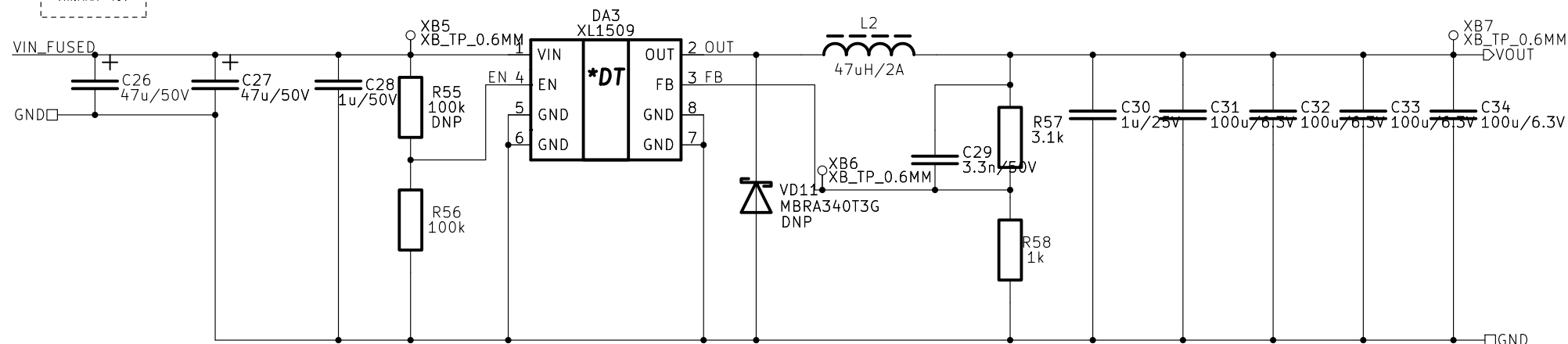
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| | Created by | Title, Supplementary title | | | | |
| | Approved by | RadioSens v1 | Rev. | Date of issue | Lang. | Sheet |
| | | | | | | 20/28 |

DESIGN NOTE:
Protection fuse



DESIGN NOTE:
Vin.MIN=5.5V
Vin.MAX=40V

DC-DC Buck Converter



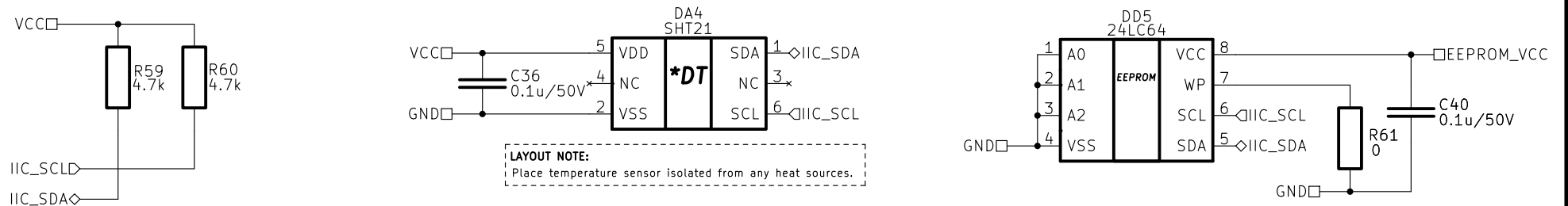
DESIGN NOTE:
 $D = (V_{out}/V_{in}) * 100\% = (5V/12V) * 100\% = 41.67\%$
 $R1 = 3.1k$
 $R2 = 1k$
 $V_{ref} = 1.23V$
 $V_{out} = V_{ref} * ((R1 + R2)/R2) = 5.043V$

DESIGN NOTE:
For 5V IC version mount jumper
to connect FB and OUT

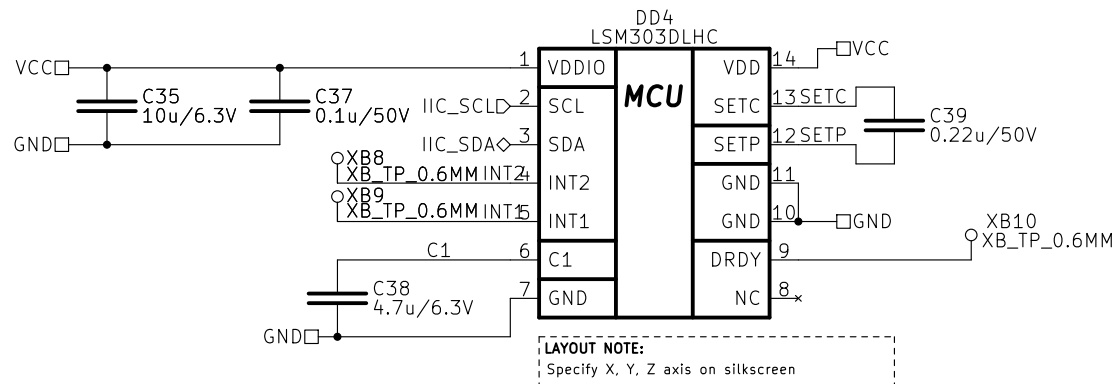
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| Responsible dept. | Technical reference | Document type Electrical Circuit | Document status | | | |
| | Created by | Title, Supplementary title RadioSens v1 | | | | |
| | Approved by | | Rev. | Date of issue | Lang. | Sheet 21/28 |

IIC Sensors

Pull-up Temperature and Humidity Sensor IIC EEPROM

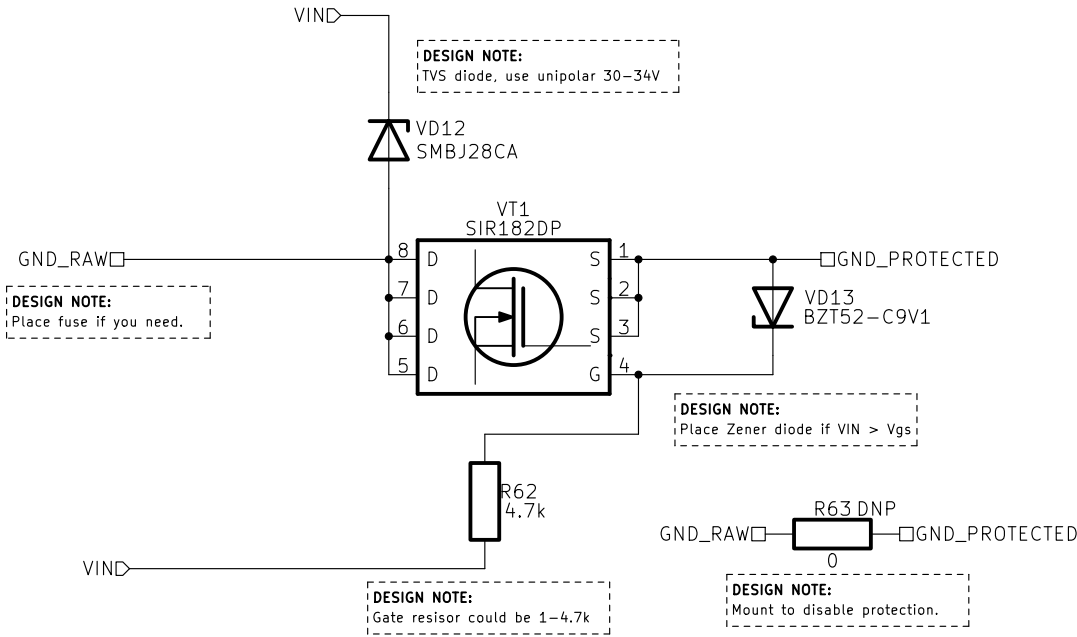


3D accelerometer and 3D magnetometer



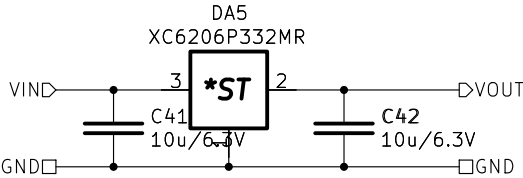
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| | Created by | Title, Supplementary title RadioSens v1 | | | | | |
| | Approved by | | | Rev. | Date of issue | Lang. | Sheet 21/28 |

Reverse Polarity Protection



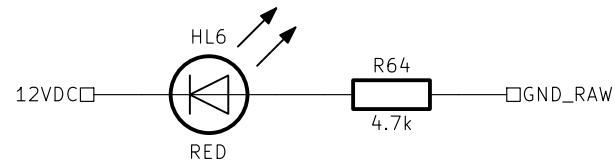
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| | Created by | Title, Supplementary title | |
| | Approved by | RadioSens v1 | Rev. Date of issue Lang. Sheet |
| | | | 22/28 |

Voltage Regulator 3.3V 0.2A

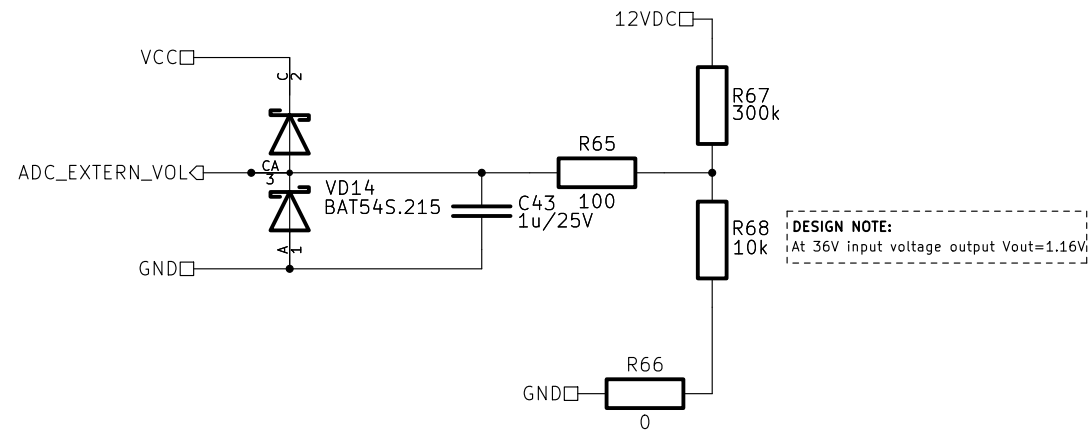


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| Responsible dept. | Technical reference | Document type | Document status |
| | Created by | Title, Supplementary title | |
| | Approved by | RadioSens v1 | Rev. Date of issue Lang. Sheet |
| | | | 22/28 |

Power Indicator

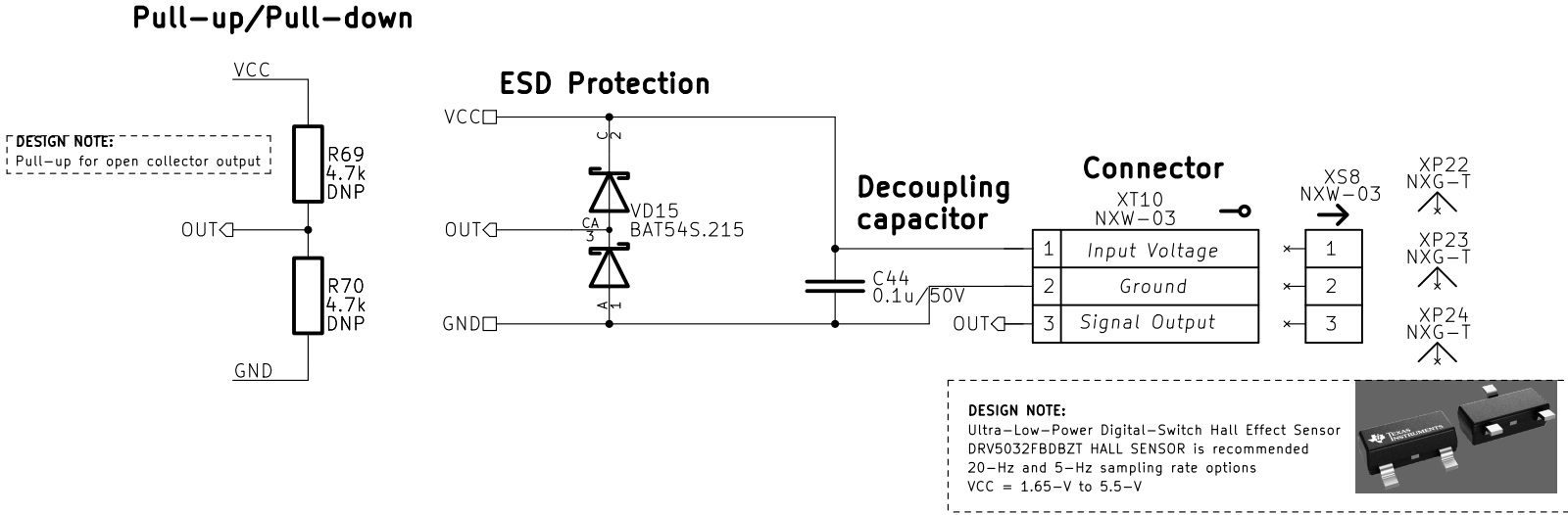


External Supply Voltage Divider



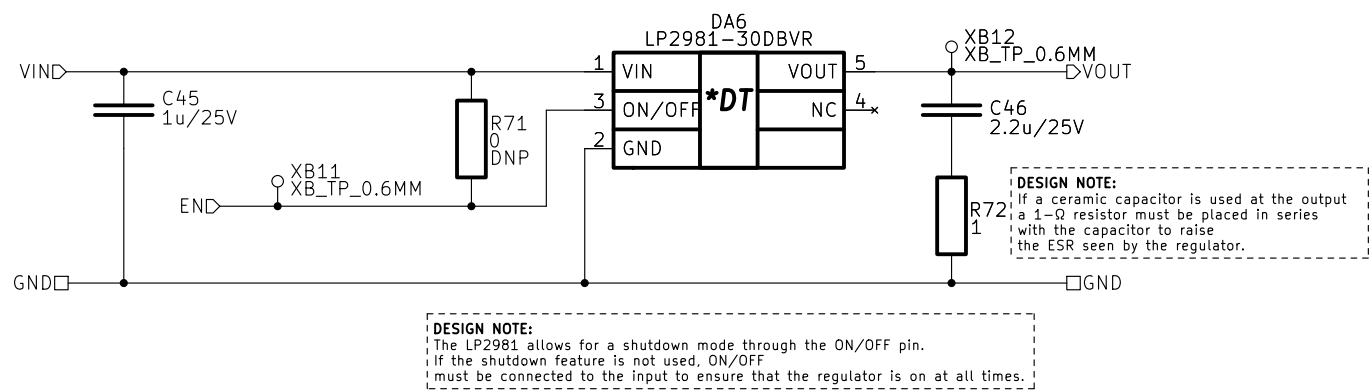
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| Responsible dept. | Technical reference | Document type Electrical Circuit | Document status | | | |
| | Created by | Title, Supplementary title RadioSens v1 | | | | |
| | Approved by | | Rev. | Date of issue | Lang. | Sheet 25/28 |

Sensor Connector



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|-------------------|---------------------|----------------------------|--------------------------------|
| Responsible dept. | Technical reference | Document type | Document status |
| | Created by | Title, Supplementary title | |
| | Approved by | RadioSens v1 | Rev. Date of issue Lang. Sheet |
| | | | 25/28 |

Voltage Regulator 3.0V 0.2A



| | | | |
|-------------------|---------------------|----------------------------|--------------------------------|
| Responsible dept. | Technical reference | Document type | Document status |
| | Created by | Title, Supplementary title | |
| | Approved by | RadioSens v1 | Rev. Date of issue Lang. Sheet |
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Mounting Holes

×1  J1
Spacer M2

×1  J2
Spacer M2

×1  J3
Spacer M2

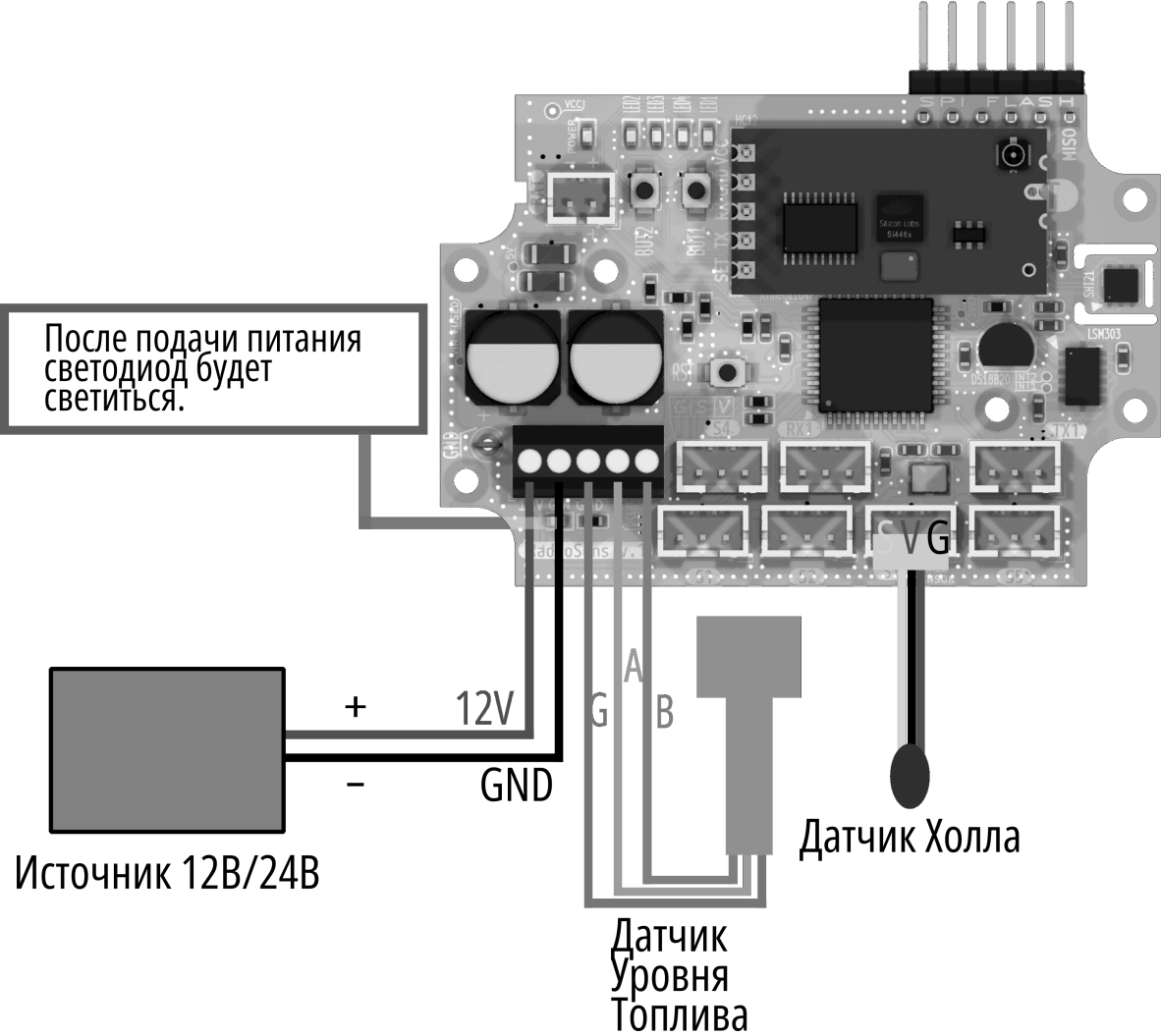
×1  J4
Spacer M2

×1  J5
Spacer M2

×1  J6
Spacer M2

| | | | | | | |
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| Responsible dept. | Technical reference | Document type Electrical Circuit | | Document status | | |
| | Created by | Title, Supplementary title RadioSens v1 | | | | |
| | Approved by | | | Rev. | Date of issue | Lang. Sheet 27/28 |

Схема подключения для датчика RadioSens v1



- 1. При закрытии корпуса антенна должна быть защищена изоляционной трубкой.
- 2. Используйте плоскую отвертку для вращения винтов клеммника.
- 3. Используйте гибкие провода 22AWG (D=0.78 мм, S = 0.48 мм²) в силиконовой изоляции.

| | | | | | | |
|-------------------|---------------------|------------------------------|-----------------|------|---------------|-------------|
| Responsible dept. | Technical reference | Document type | Document status | | | |
| | Created by | Wiring Diagram 12/24V Supply | | | | |
| | Approved by | RadioSens v1 | | Rev. | Date of issue | Lang. Sheet |
| | | | | | 2022-11-27 | 28/28 |