# Velouria LED Controller

## TABLE OF CONTENTS



## NOTES

- Net Colours: Orange - USB/BAT Power Voltages, Green - Battery Ground

- Block diagram (3) shows battery/USB power connections. All IO to MCU on MCU sheet (4).

- Checks after Rev A fab (prototype):

  -- DCDC_IN voltages for both charged battery and USB power
  -- Confirm sheild connection okay
  -- Test max. DC/DC current output
  -- Confirm battery protection IC grounding scheme okay

## ADDITIONAL DOCUMENTATION

PCB: 2023002 A Soutra Velouria LED Controller_PCB.PcbDoc

ERC: 2023002 A Soutra Velouria LED Controller_ERC_A_1,2,3,4,5

DRC: Design Rule Check - 2023002 A Soutra Velouria LEC Controller_PCB.drc

BoM: 2023002 A Soutra Velouria LED Controller_BoM.pdf

Draft: 2023002 A Soutra Velouria LED Controller_DRAFT1.PCBDwf
2023002 A Soutra Velouria LED Controller_DRAFT2.PCBDwf
OutJob: 2023002 A Soutra Velouria LED Controller_OJ.OutJob


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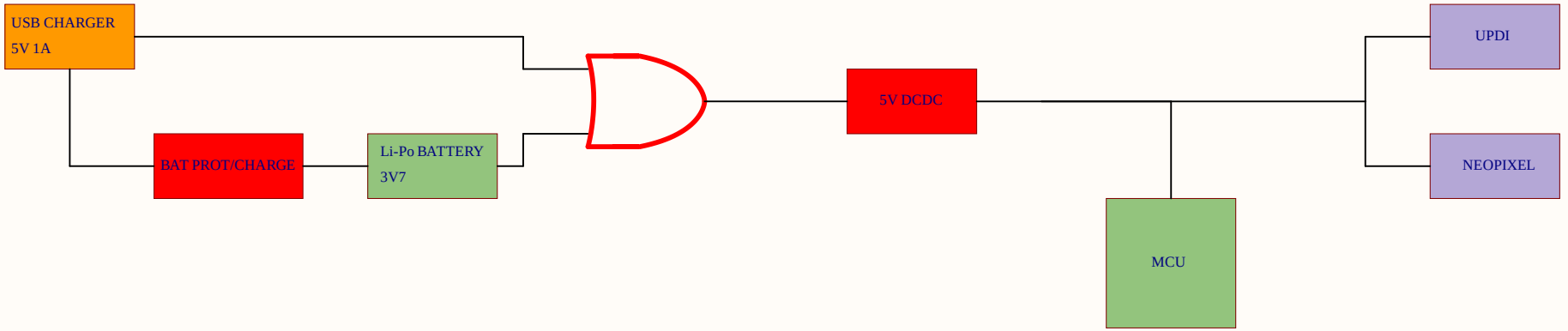
| Title: | Velouria LED Controller | Engineer: | S. Thomas |
| Project: | 2023 A Soutra Velouria LED Controller | Approval: | S.Thomas |
| Sch Rev: | A | Date: | 01/09/2023 |
| File Name: | Title Page.SchDoc | Sheet | 1 of 6 |
| Size: | A4 | Scale: | 1:1 |
| | | Libraries: | ST_Library.DbLib |

# Power Tree




## LEGEND

- Input Connector
- Power Conversion
- Powered Device/Sub-Circuit
- Output Connector

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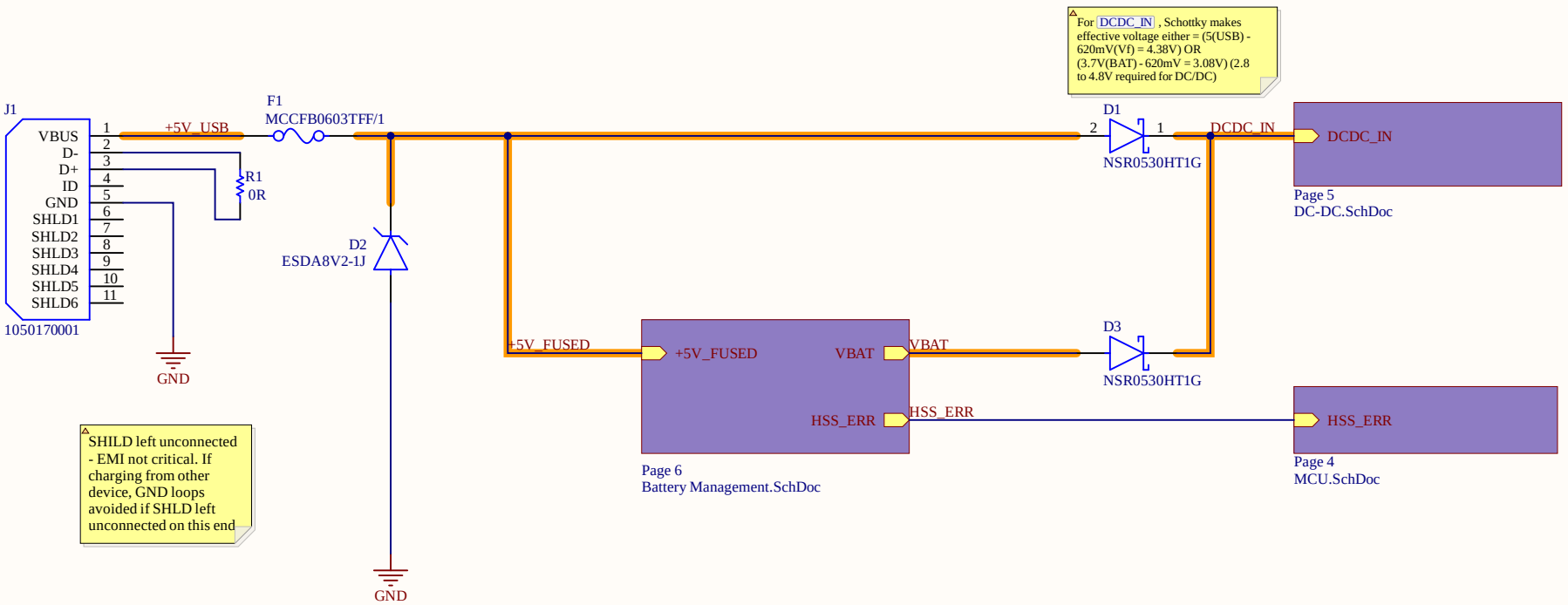
| File Name: | Power Tree.SchDoc | Sheet | 2 of 6 |
| Size: | A4 | Scale: | 1:1 |
| | | Libraries: | ST_Library.DbLib |

# Block Diagram

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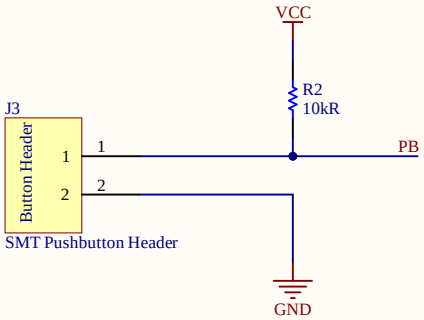
| Sch Rev: A | Date: 01/09/2023 | | Date: 30/11/2023 |
| File Name: | Block Diagram.SchDoc | Sheet 3 of 6 | Libraries: ST_Library.DbLib |
| Size: A4 | Scale: 1:1 | | |

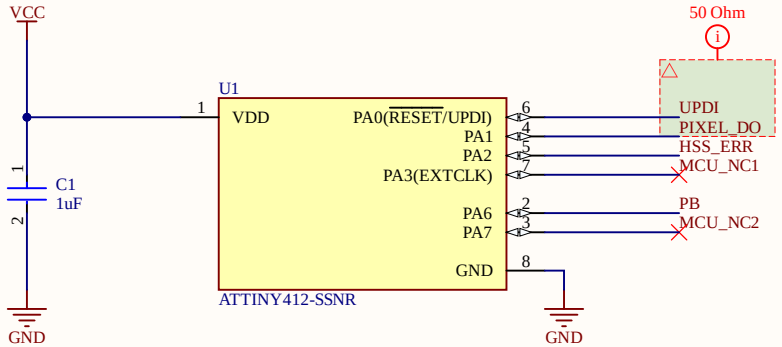
## INPUTS



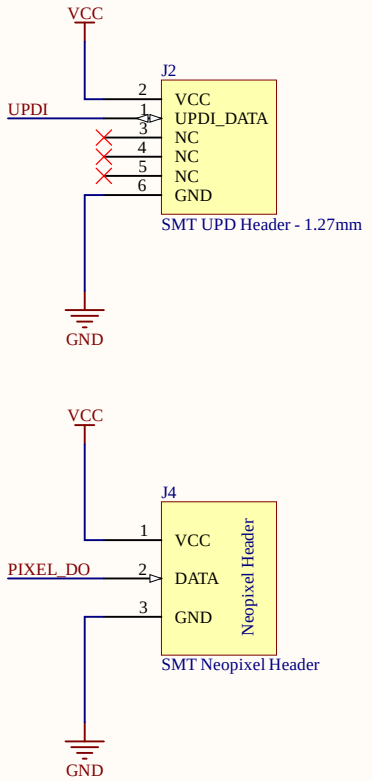

HSS_ERR — HSS_ERR

Block Diagram[4C], Battery Management[4C]

## ATTINY412 MCU (SOIC8)




## OUTPUTS

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| Sch Rev: A | Date: 01/09/2023 | | Date: 30/11/2023 |
| File Name: MCU.SchDoc | | Sheet 4 of 6 | Libraries: ST_Library.DbLib |
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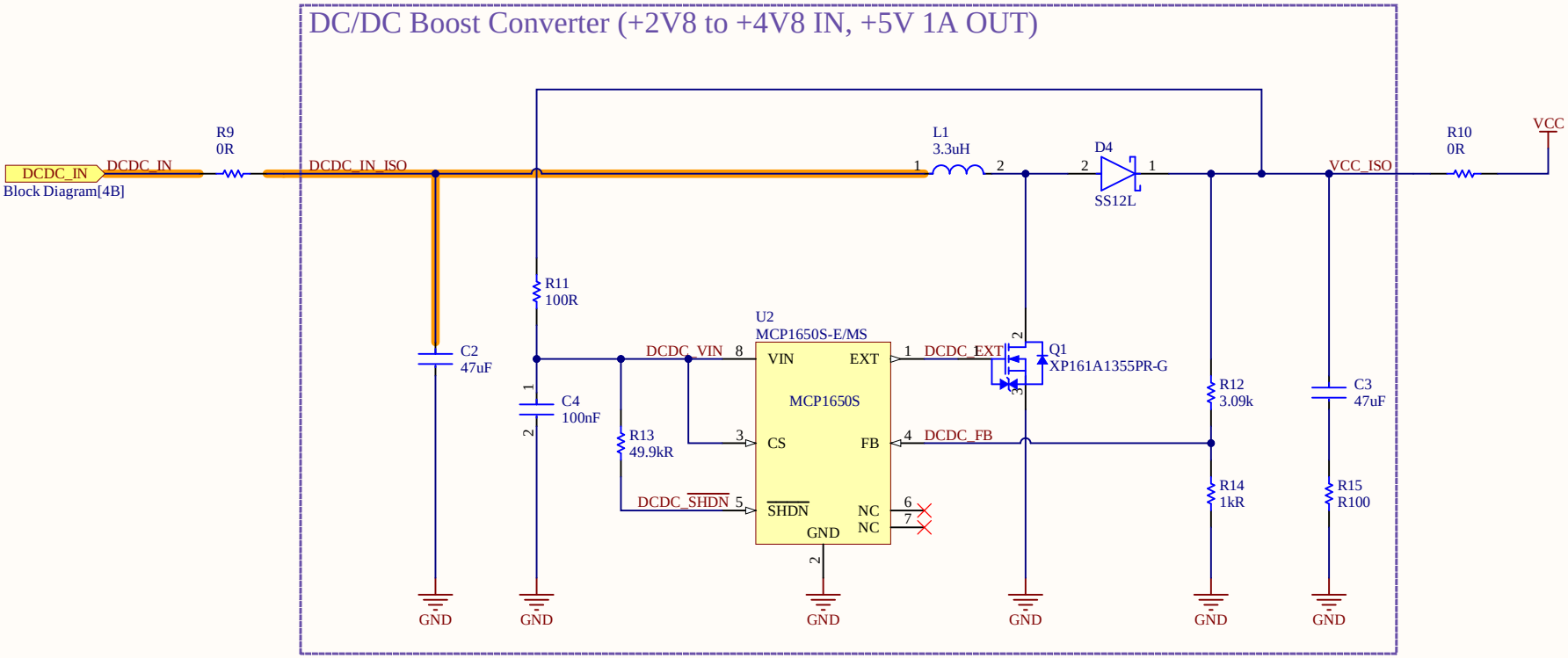


NOTE: Reference circuit from MCP1650S DS

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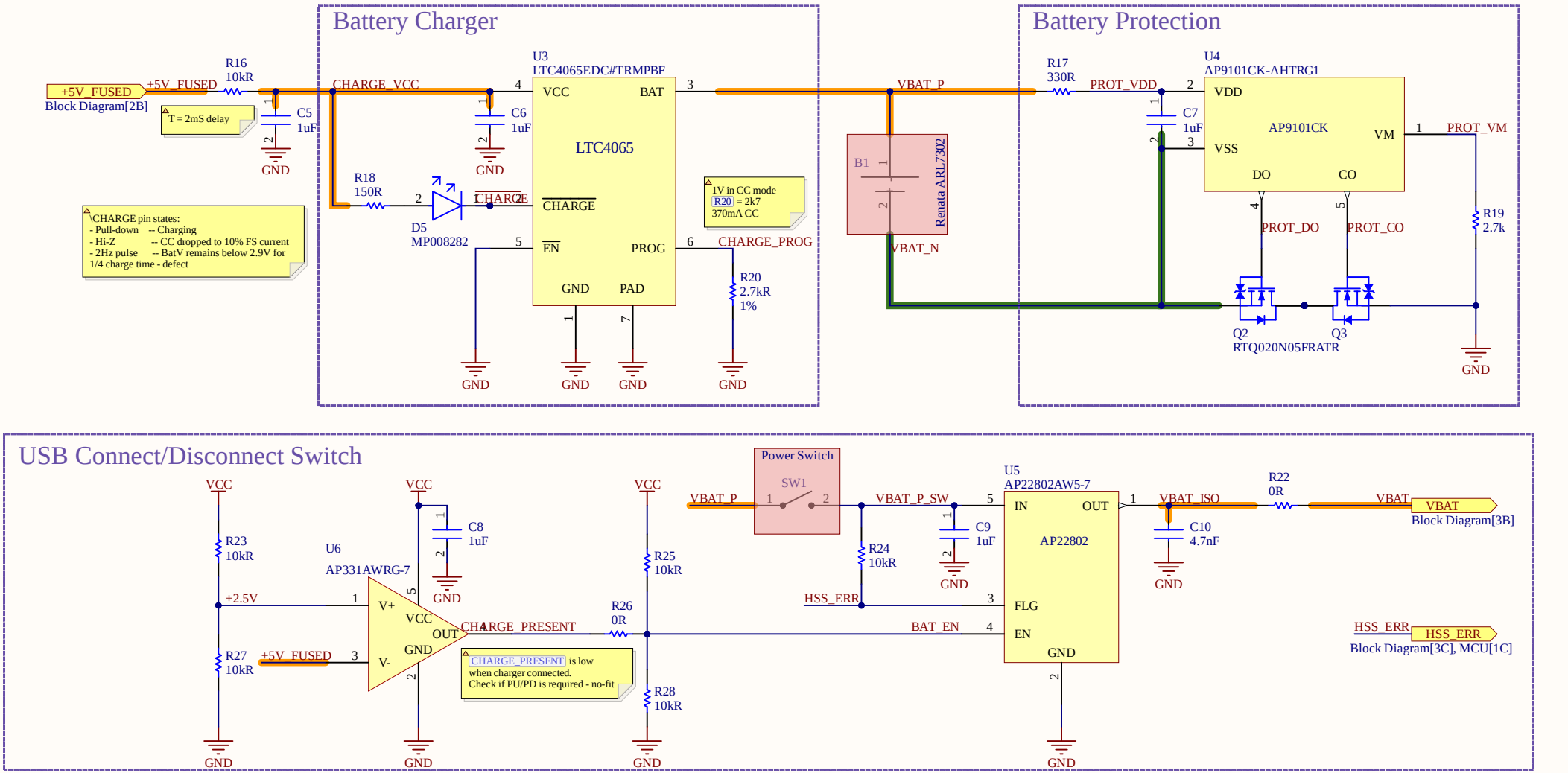
| Sch Rev: A | Date: 01/09/2023 | | Date: 30/11/2023 |
| File Name: DC-DC.SchDoc | | Sheet 5 of 6 | Libraries: ST_Library.DbLib |
| Size: A4 | Scale: 1:1 | | |





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| File Name: | Battery Management.SchDoc | Sheet | 6 of 6 |
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| | | Libraries: | ST_Library.DbLib |