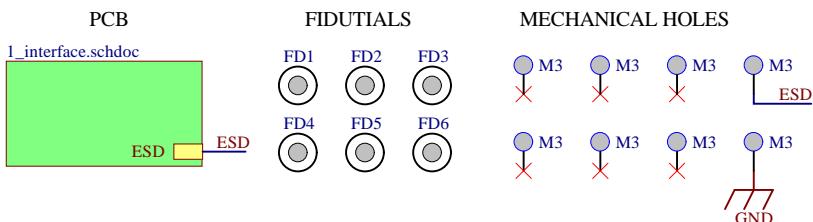


| Rev | Description | Date | Author |
|-----|---|-------------|--------------------|
| 0.5 | - Update templates. - Add missing schematic to layout elements. - Update PC-104 interface. - Review circuits and architecture. | 26-Aug-2020 | Andre M. P. Mattos |
| | | | |
| | | | |
| | | | |

Revision History

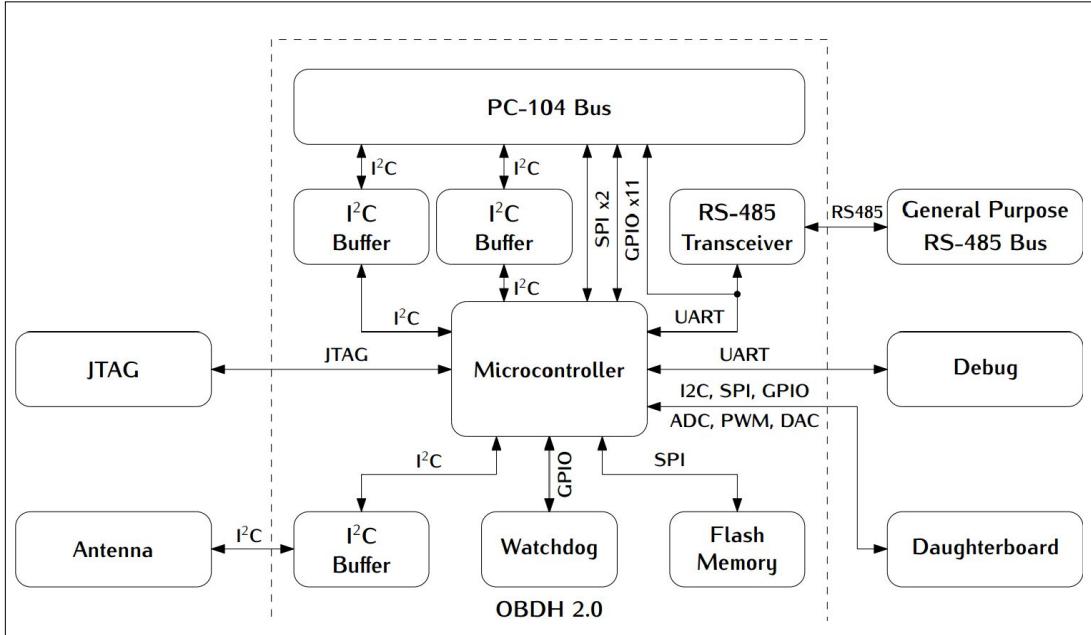


PCB Elements

OBDH2 Hardware:

- Drawn by: André M. P. Mattos
- Reviewers: Cezar A. Rigo, Kleber Gouveia and Yan C. Azeredo
- Based on FloripaSat-I OBDH designed by: Sara V. Martinez
- Support: Gabriel M. Marcelino

Project Contributions



Block Diagram

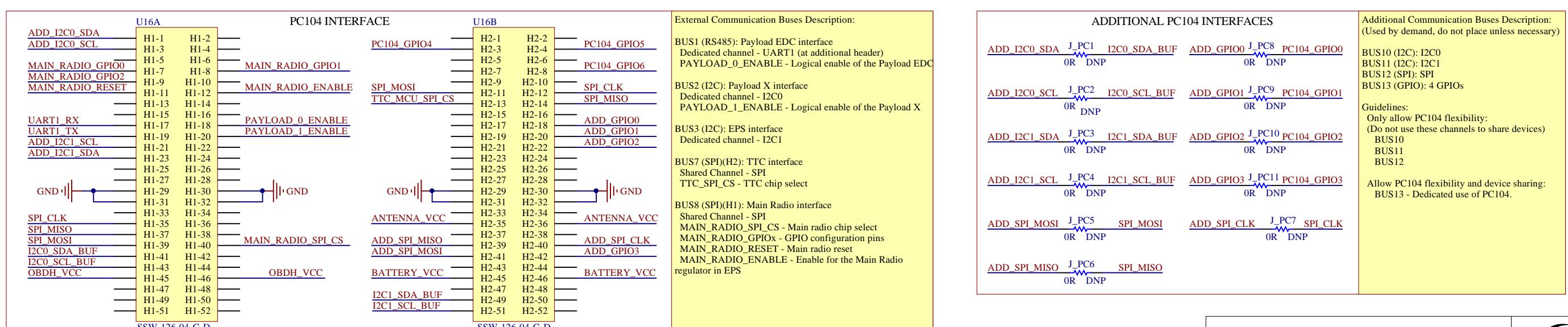
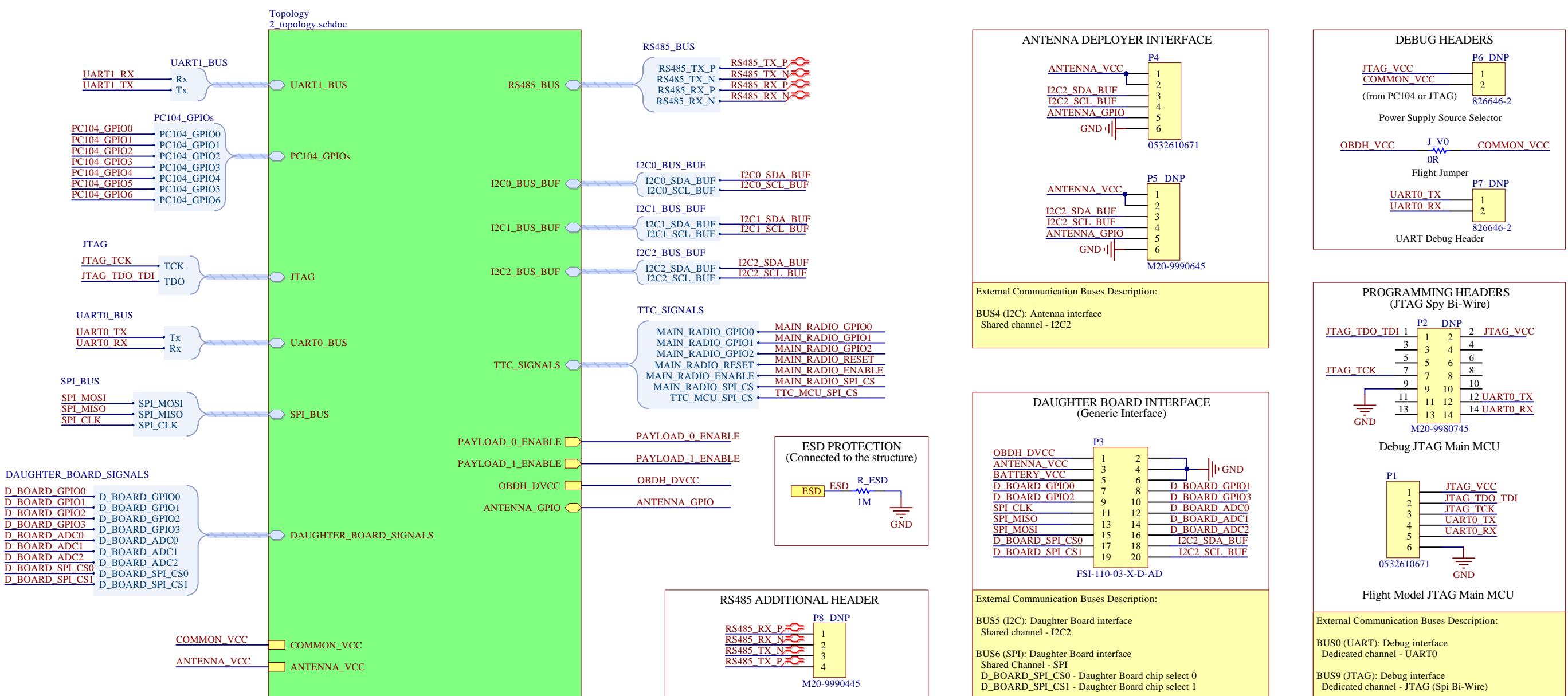
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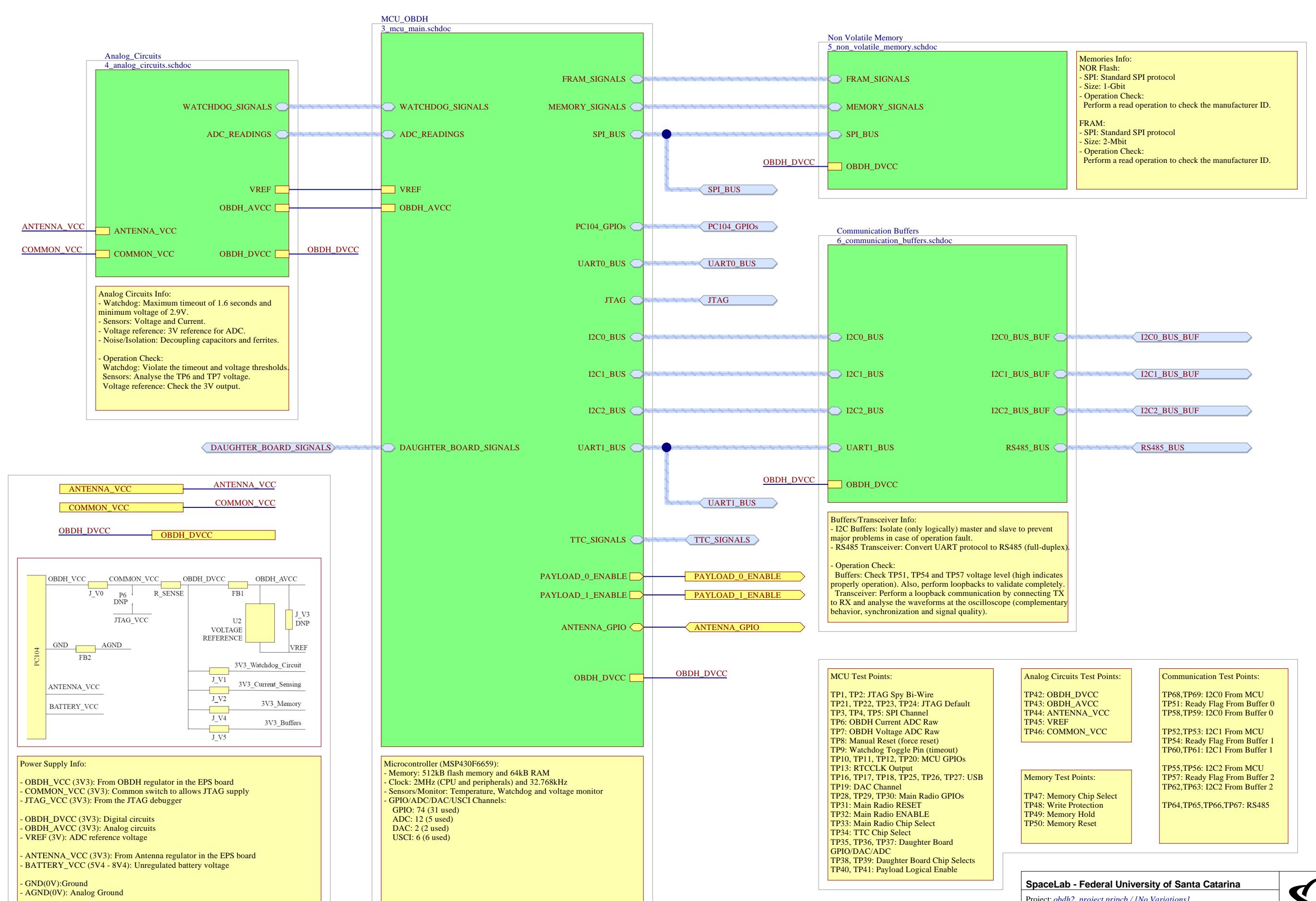
OBDH2 Hardware
Based on the FloripaSat-I OBDH 2.0

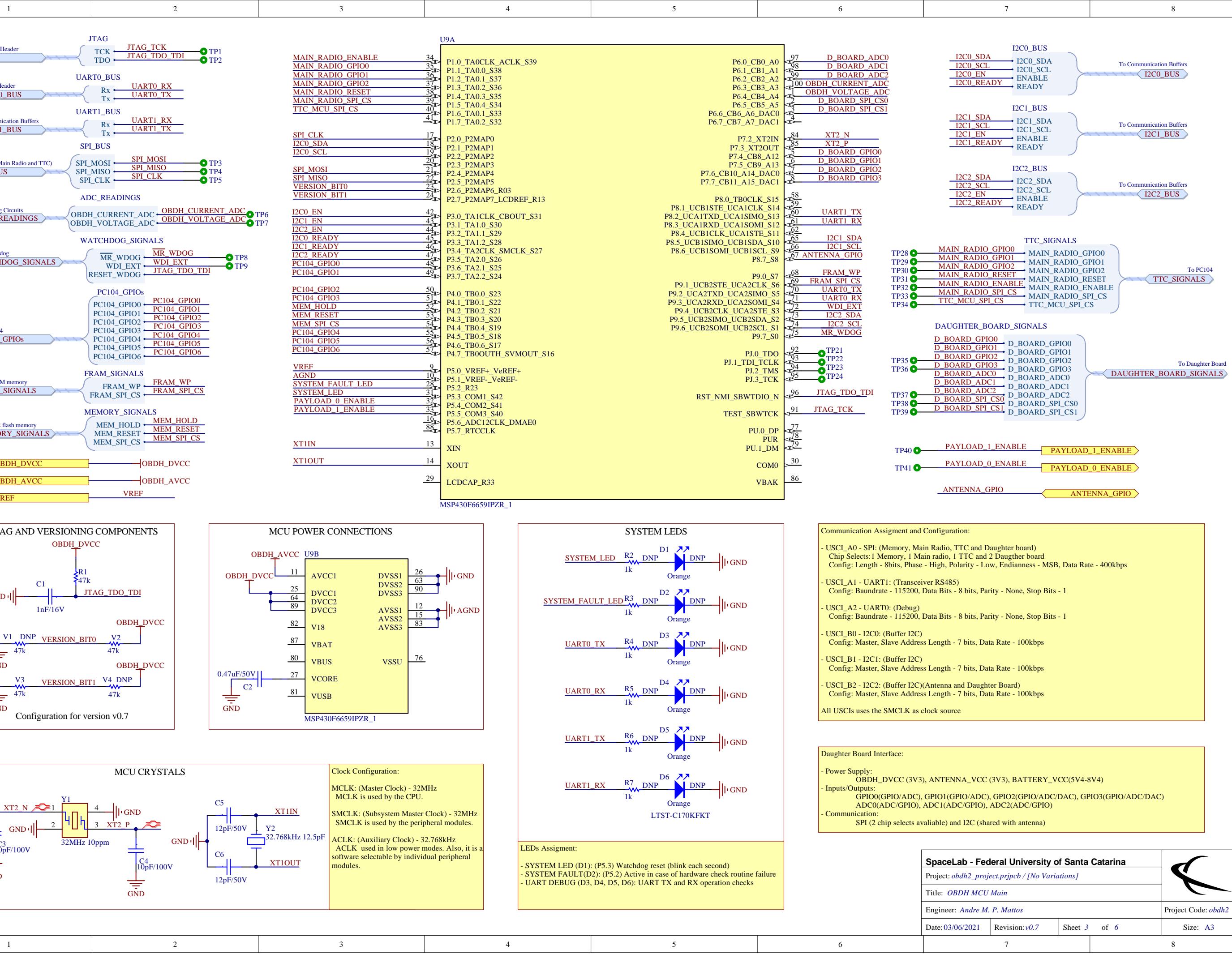
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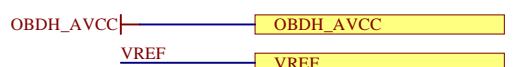
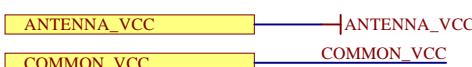
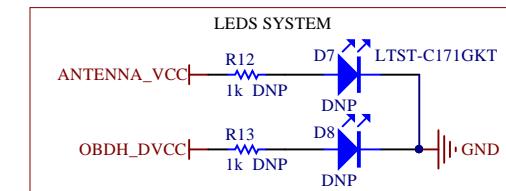
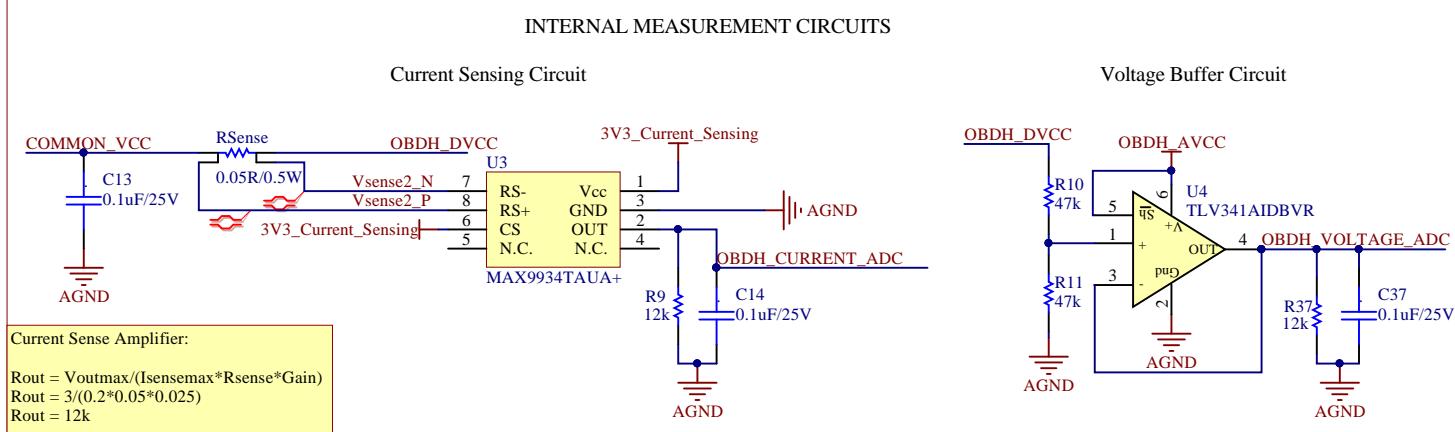
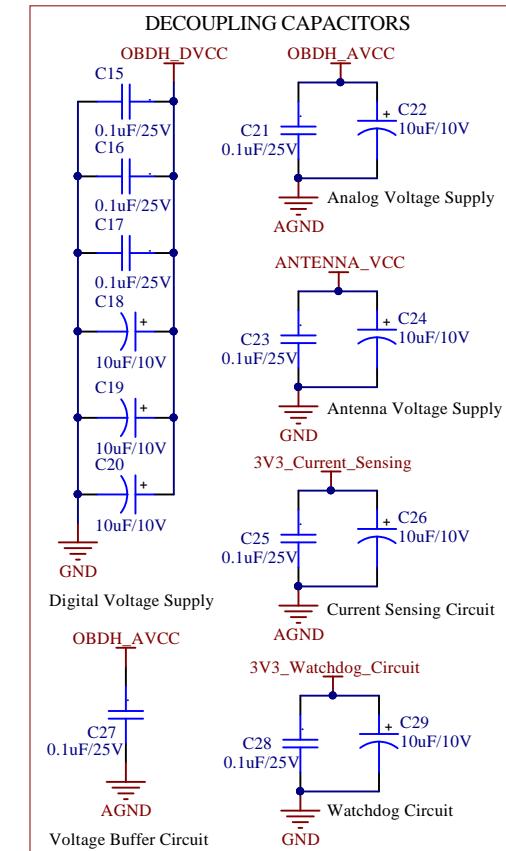
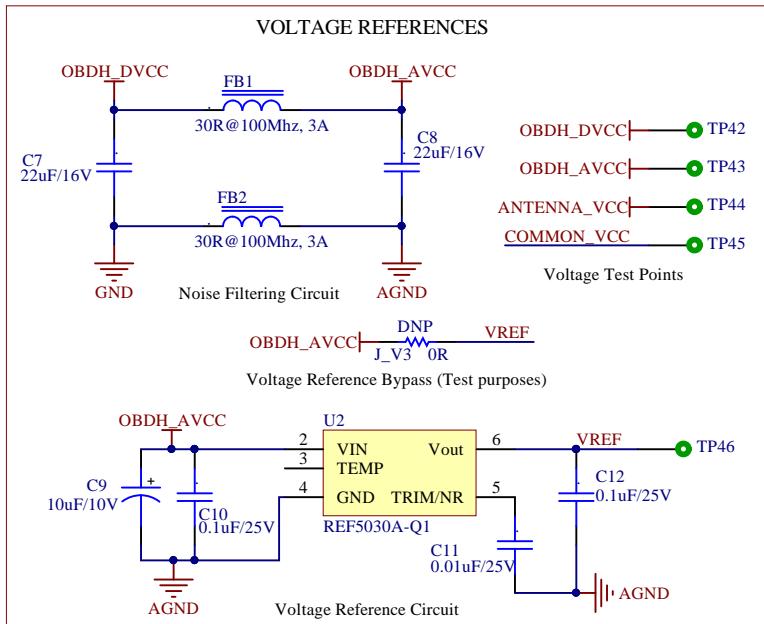
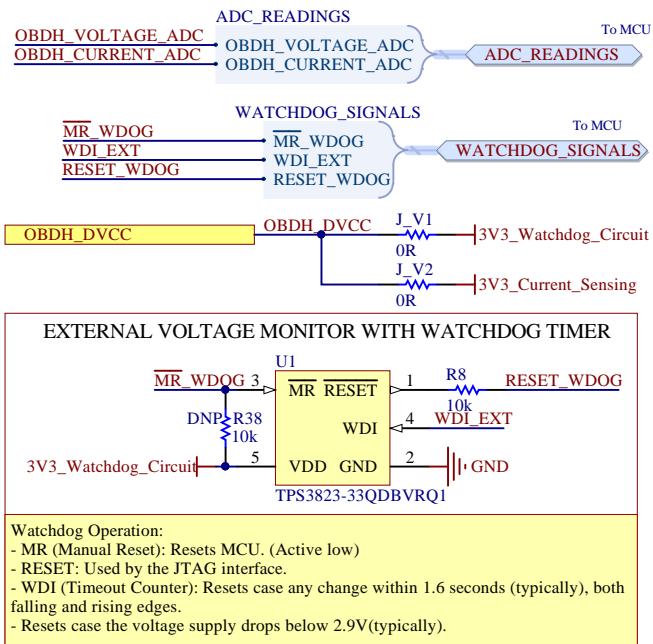
Project Information

| SpaceLab - Federal University of Santa Catarina | |  |
|---|--|---|
| Project: | obdh2_project.prjpcb [No Variations] | |
| Title: | OBDH Hardware Architecture | |
| Designed by: | Andre M. P. Mattos | |
| Date: | 03/06/2021 | Project Code: obdh2 |
| Revision: | v0.7 | Size: A4 |
| Sheet: | 0 of 6 | |









SpaceLab - Federal University of Santa Catarina

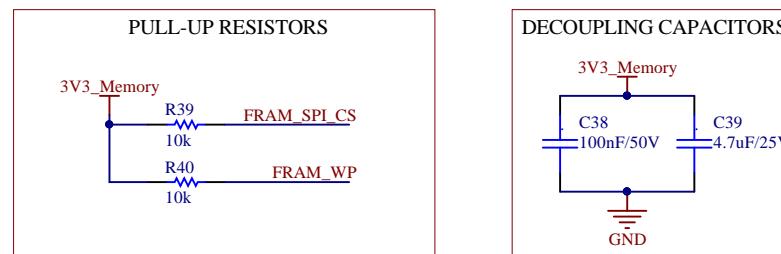
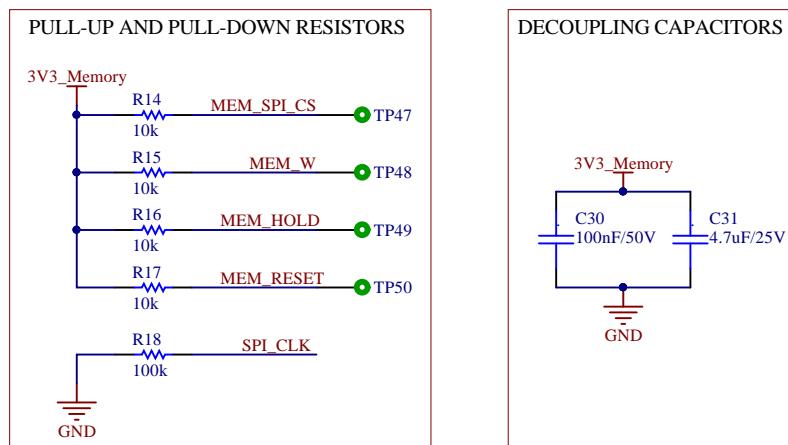
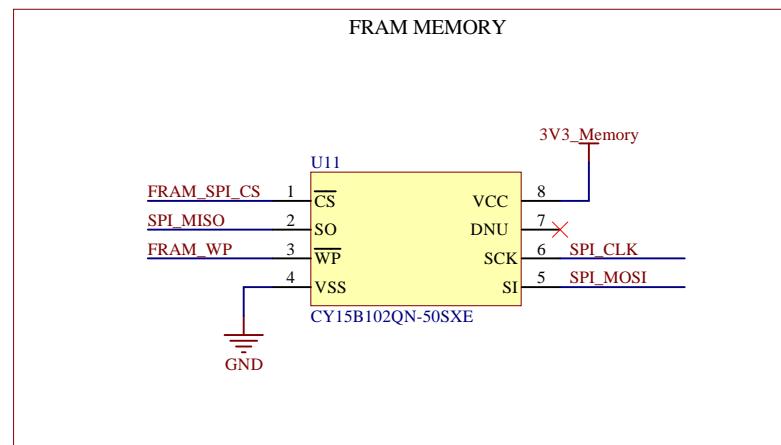
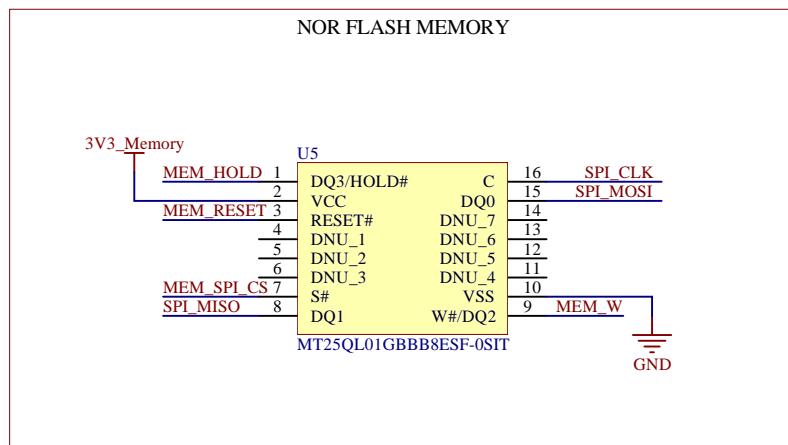
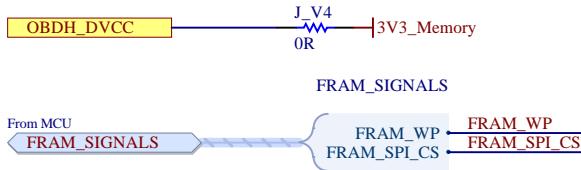
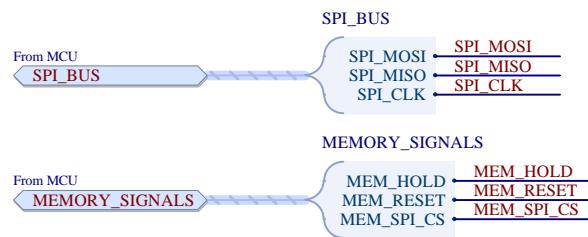
Project: [obdh2_project.prjpcb](#) [No Variations]

Title: *Analog Circuits*

Designed by: Andre M. P. Mattos

Date: 03/06/2021 | Revision: v0.7 | Sheet 4 of 6 | Size: A4





SpaceLab - Federal University of Santa Catarina

Project: [obdh2_project.prjpcb](#) [No Variations]

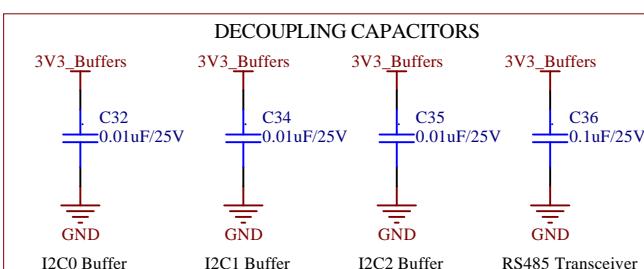
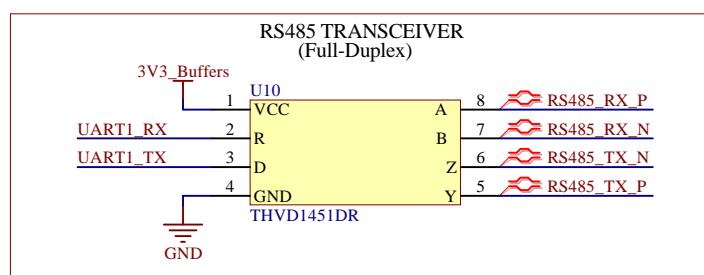
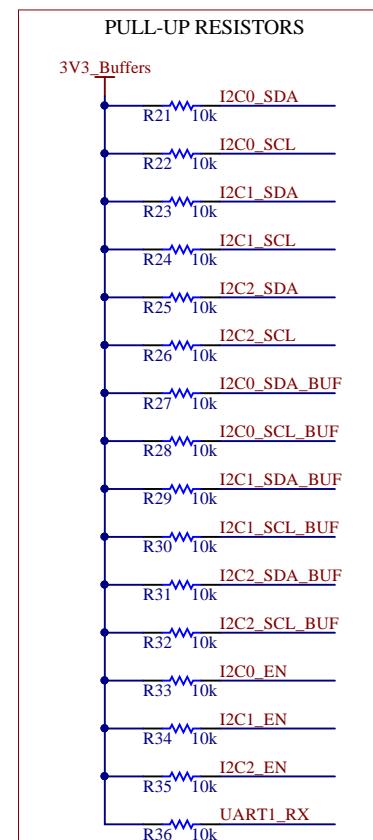
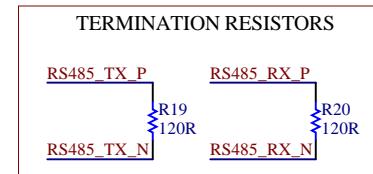
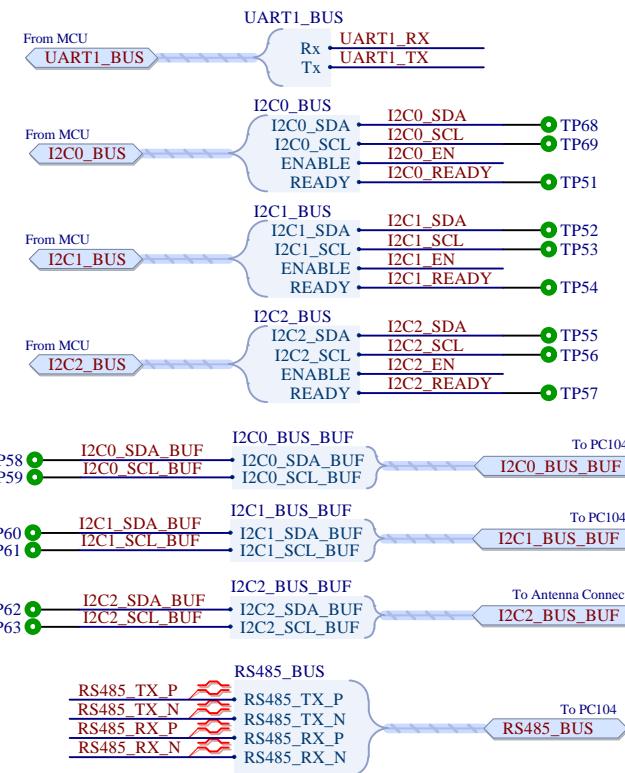
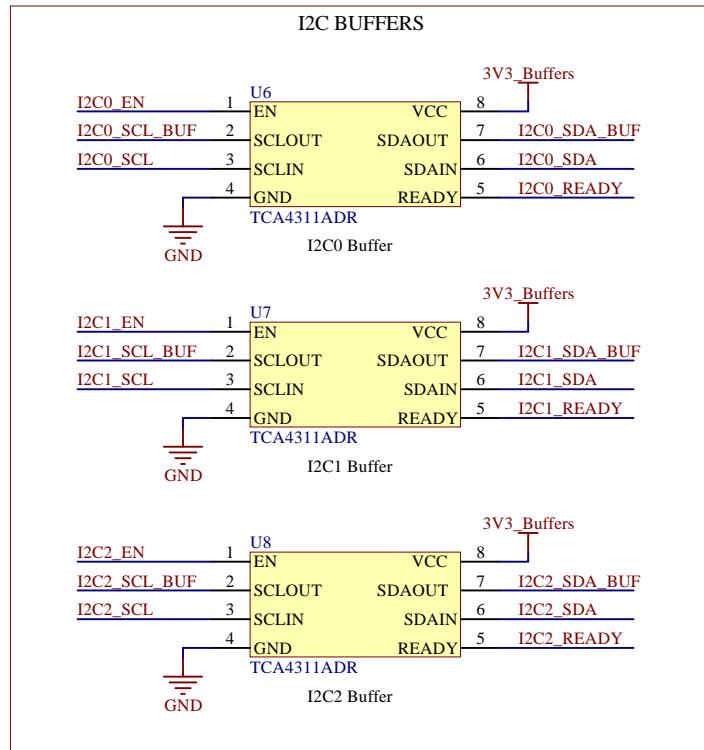
Title: *Non Volatile Memory*

Designed by: Andre M. P. Mattos

Date: 03/06/2021 Revision: v0.7 Sheet 5 of 6

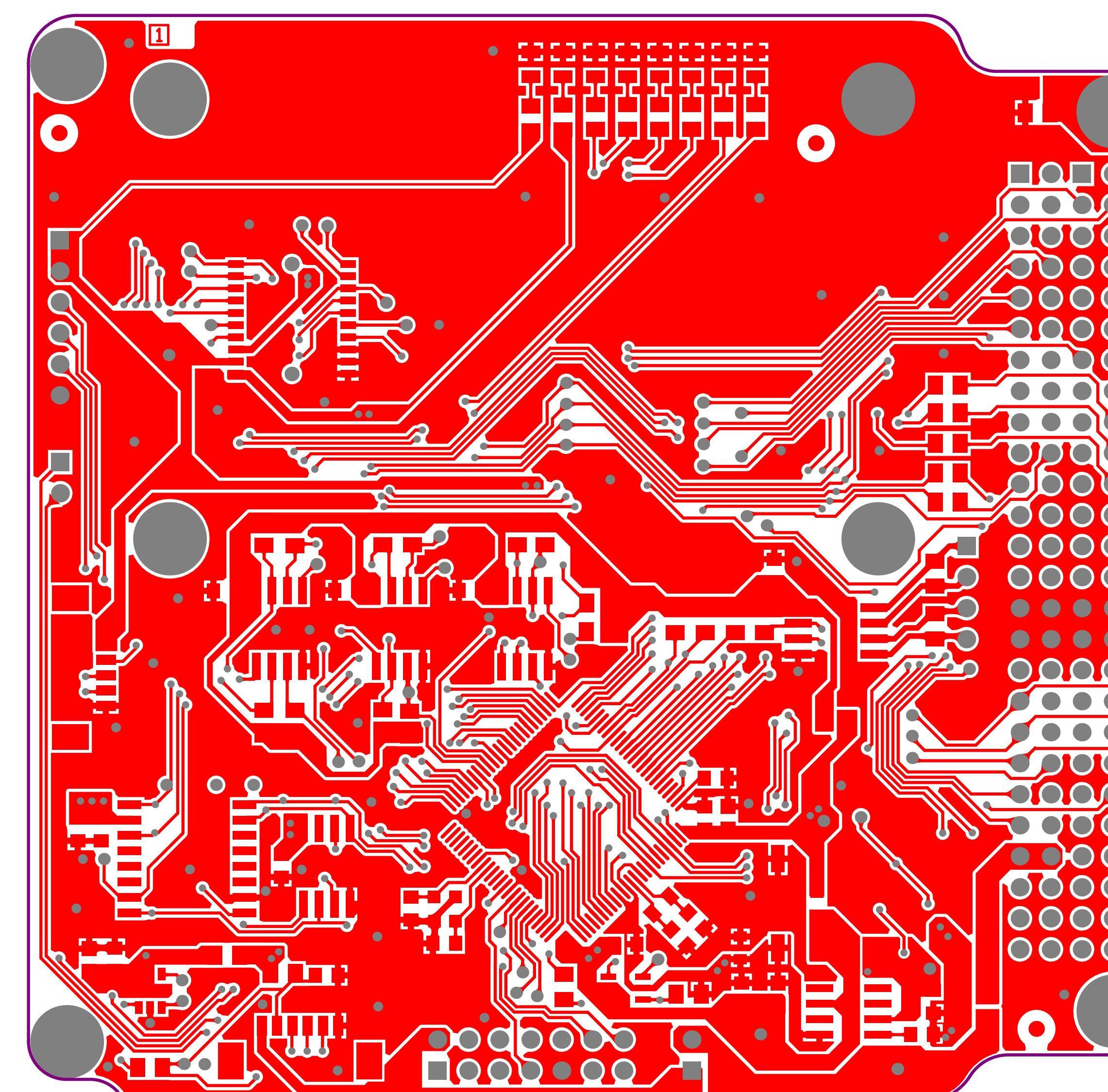


Project Code: obdh2



A

A



B

B

| Layer | Name | Material | Thickness | Constant | Board Layer Stack |
|-------|-----------------|---------------|-----------|----------|-------------------|
| 1 | Top Overlay | | | | |
| 2 | Top Solder | Solder Resist | 0,39mil | 3,5 | |
| 3 | Top Layer | Copper | 1,38mil | | |
| 4 | Dielectric Core | FR-4 | 59,06mil | 4,8 | |
| 5 | Bottom Layer | Copper | 1,38mil | | |
| 6 | Bottom Solder | Solder Resist | 0,39mil | 3,5 | |
| 7 | Bottom Overlay | | | | |

C

C

Fabrication specifications:

- Copper base 10Z:
- PCB Material: Prepeg FR4—Standard
- PCB Thickness: 1.6mm
- PCB Surface: HASL (with lead)
- Silkscreen Color: White (top and bottom)
- Soldermask Color: Blue
- Vias: Force Complete Tenting
- Special: Stack-up (herein included)

D

D

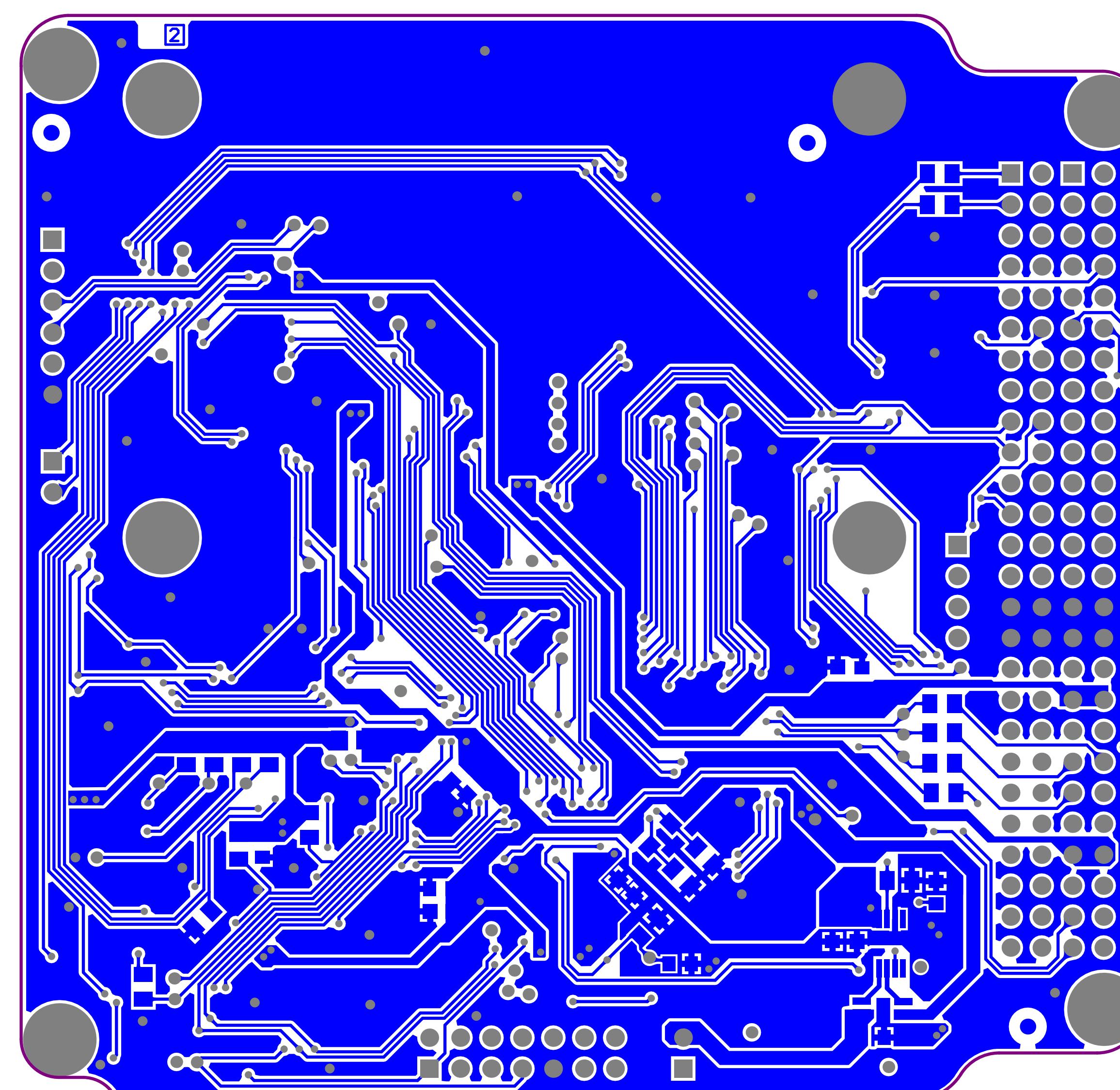
Assembly specifications:

- Solder composition: Include lead
- Fiducials: 3 top and 3 bottom available
- Check BOM for not placed components

| | |
|---|---|
| SpaceLab - Federal University of Santa Catarina |  |
| Project: OBDH2 | |
| Layer: Top Layer | |
| Designed by: Andre M. P. Mattos | Project Code: OBDH2 |
| Date: 03/06/2021 | Version: v0.7 |
| | Size: A4 |

A

A



B

B

| Layer | Name | Material | Thickness | Constant | Board Layer Stack |
|-------|-----------------|---------------|-----------|----------|-------------------|
| 1 | Top Overlay | | | | |
| 2 | Top Solder | Solder Resist | 0,39mil | 3,5 | |
| 3 | Top Layer | Copper | 1,38mil | | |
| 4 | Dielectric Core | FR-4 | 59,06mil | 4,8 | |
| 5 | Bottom Layer | Copper | 1,38mil | | |
| 6 | Bottom Solder | Solder Resist | 0,39mil | 3,5 | |
| 7 | Bottom Overlay | | | | |

C

C

Fabrication specifications:

- Copper base 10Z:
- PCB Material: Prepeg FR4—Standard
- PCB Thickness: 1.6mm
- PCB Surface: HASL (with lead)
- Silkscreen Color: White (top and bottom)
- Soldermask Color: Blue
- Vias: Force Complete Tenting
- Special: Stack-up (herein included)

D

D

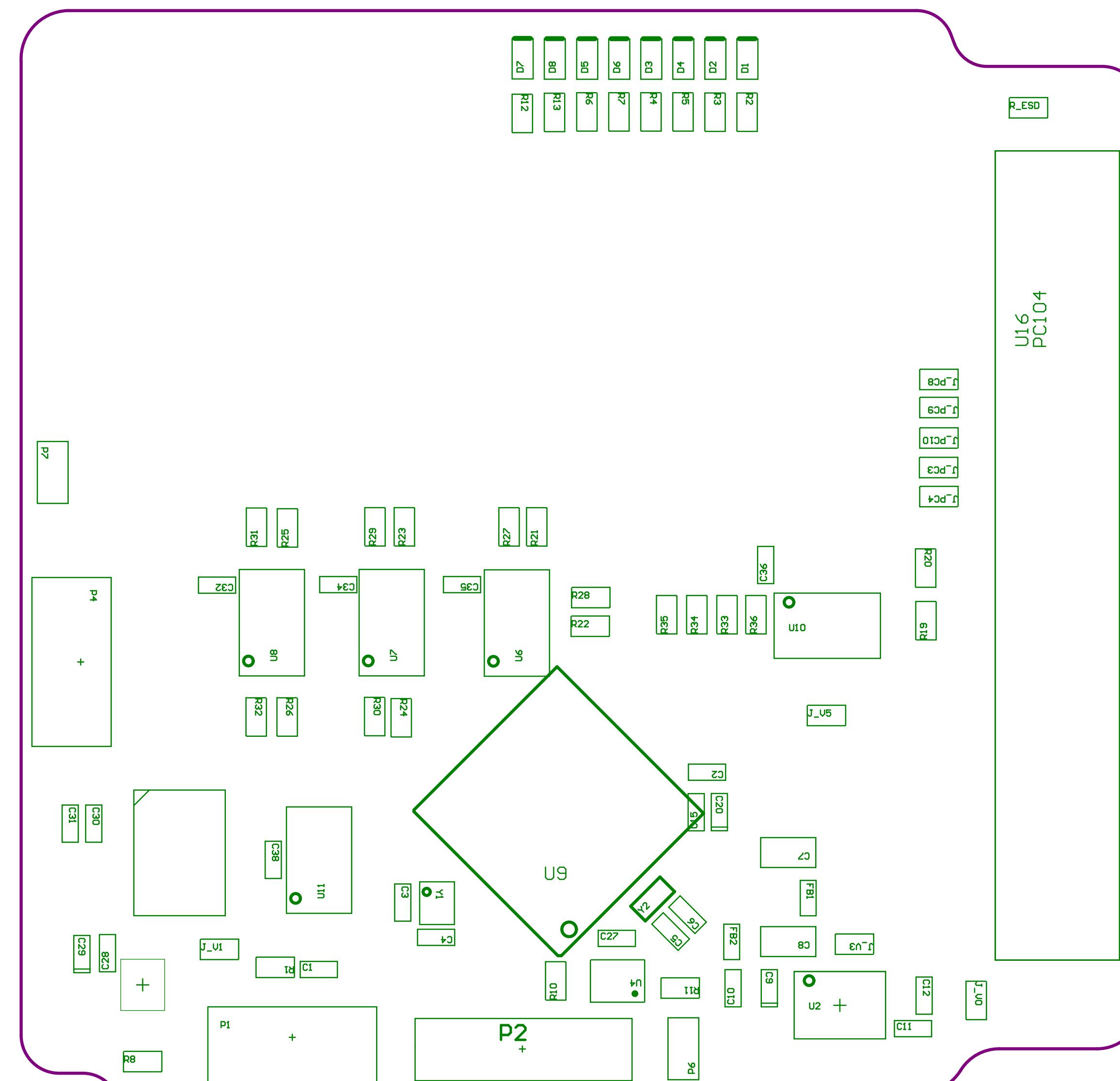
Assembly specifications:

- Solder composition: Include lead
- Fiducials: 3 top and 3 bottom available
- Check BOM for not placed components

| | |
|---|---|
| SpaceLab - Federal University of Santa Catarina |  |
| Project: OBDH2 | |
| Layer: Bottom Layer | |
| Designed by: Andre M. P. Mattos | Project Code: OBDH2 |
| Date: 03/06/2021 | Version: v0.7 |
| | Size: A4 |

A

A



| Layer | Name | Material | Thickness | Constant | Board Layer Stack |
|-------|-----------------|---------------|-----------|----------|-------------------|
| 1 | Top Overlay | | | | |
| 2 | Top Solder | Solder Resist | 0,39mil | 3,5 | |
| 3 | Top Layer | Copper | 1,38mil | | |
| 4 | Dielectric Core | FR-4 | 59,06mil | 4,8 | |
| 5 | Bottom Layer | Copper | 1,38mil | | |
| 6 | Bottom Solder | Solder Resist | 0,39mil | 3,5 | |
| 7 | Bottom Overlay | | | | |

B

B

Fabrication specifications:

- Copper base 10Z:
- PCB Material: Prepeg FR4—Standard
- PCB Thickness: 1.6mm
- PCB Surface: HASL (with lead)
- Silkscreen Color: White (top and bottom)
- Soldermask Color: Blue
- Vias: Force Complete Tenting
- Special: Stack-up (herein included)

C

C

Assembly specifications:

- Solder composition: Include lead
- Fiducials: 3 top and 3 bottom available
- Check BOM for not placed components

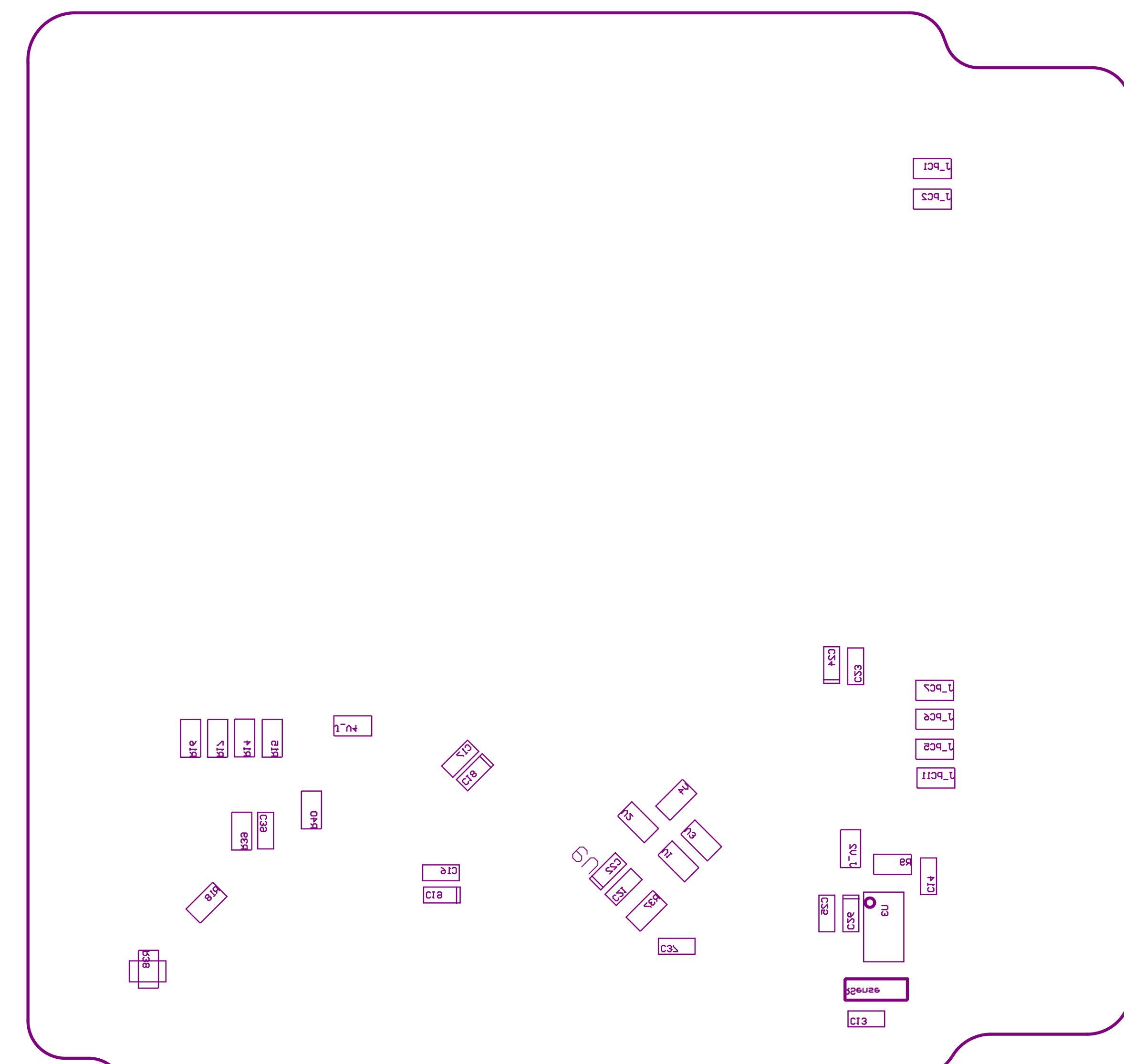
D

D

| | |
|---|---------------------|
| SpaceLab - Federal University of Santa Catarina | |
| Project: OBDH2 | |
| Layer: ASM Top | |
| Designed by: Andre M. P. Mattos | Project Code: OBDH2 |
| Date: 03/06/2021 | Version: v0.7 |
| | Size: A4 |

A

A



B

B

| Layer | Name | Material | Thickness | Constant | Board Layer Stack |
|-------|-----------------|---------------|-----------|----------|-------------------|
| 1 | Top Overlay | | | | |
| 2 | Top Solder | Solder Resist | 0,39mil | 3,5 | |
| 3 | Top Layer | Copper | 1,38mil | | |
| 4 | Dielectric Core | FR-4 | 59,06mil | 4,8 | |
| 5 | Bottom Layer | Copper | 1,38mil | | |
| 6 | Bottom Solder | Solder Resist | 0,39mil | 3,5 | |
| 7 | Bottom Overlay | | | | |

C

C

Fabrication specifications:

- Copper base 10Z:
- PCB Material: Prepeg FR4—Standard
- PCB Thickness: 1.6mm
- PCB Surface: HASL (with lead)
- Silkscreen Color: White (top and bottom)
- Soldermask Color: Blue
- Vias: Force Complete Tenting
- Special: Stack-up (herein included)

D

D

Assembly specifications:

- Solder composition: Include lead
- Fiducials: 3 top and 3 bottom available
- Check BOM for not placed components

| | |
|---|---------------------|
| SpaceLab - Federal University of Santa Catarina | |
| Project: OBDH2 | |
| Layer: ASM Bottom | |
| Designed by: Andre M. P. Mattos | Project Code: OBDH2 |
| Date: 03/06/2021 | Version: v0.7 |
| | Size: A4 |

