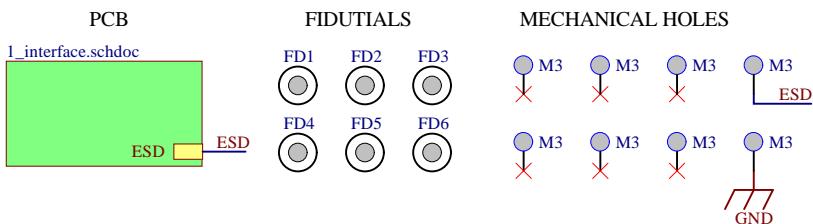


Rev	Description	Date	Author
0.5	- Update templates. - Add missing schematic to layout elements. - Update PC-104 interface. - Review circuits and architecture.	26-Aug-2020	Andre M. P. Mattos

Revision History

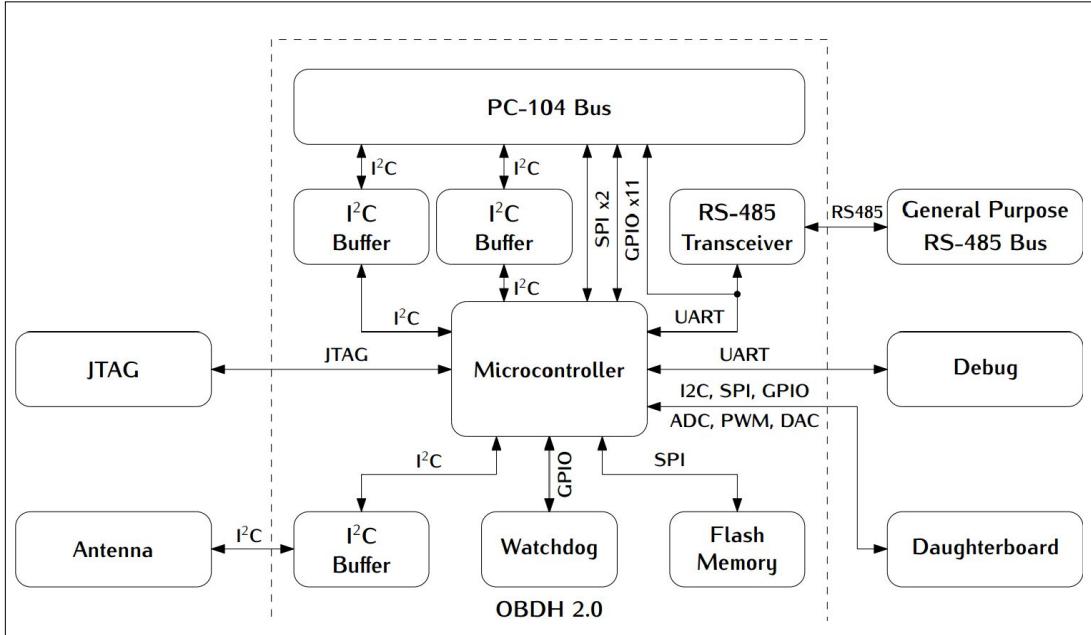


PCB Elements

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

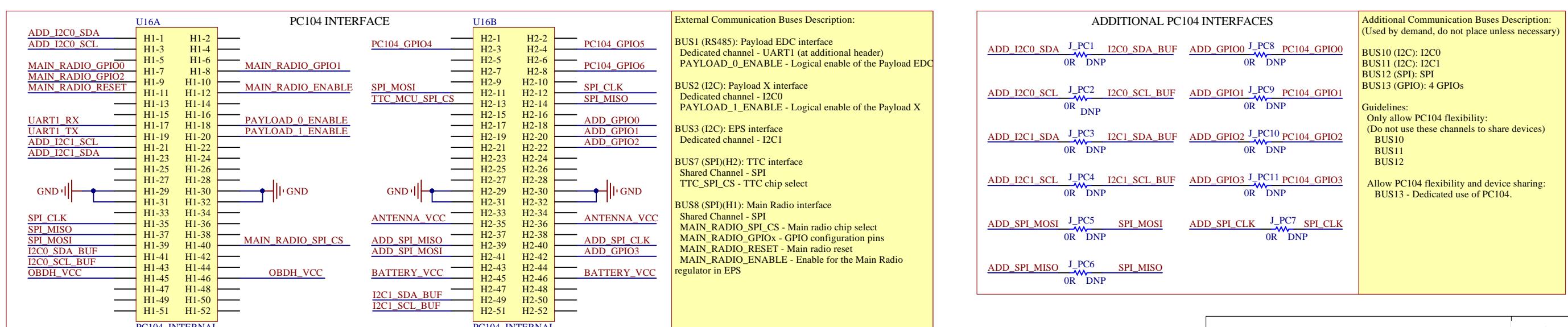
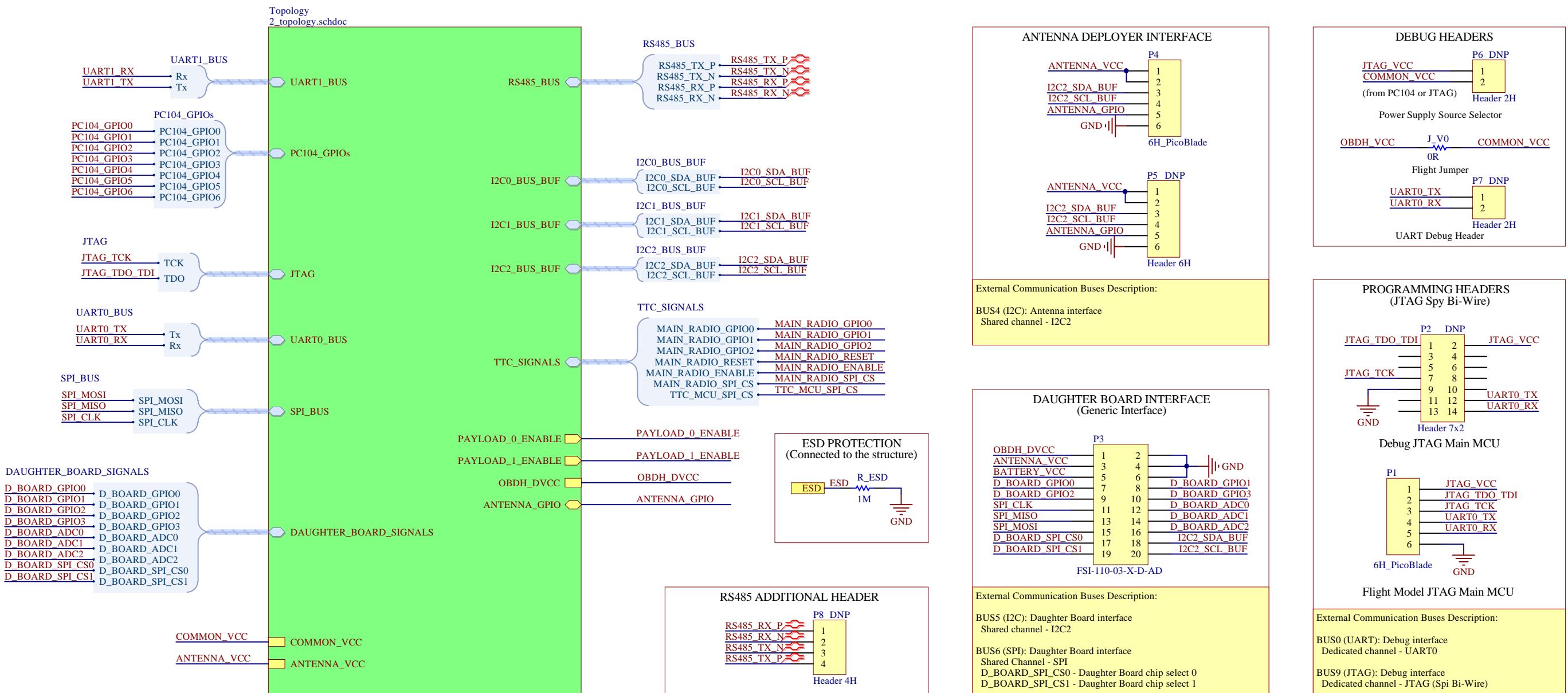
Copyright © 2019
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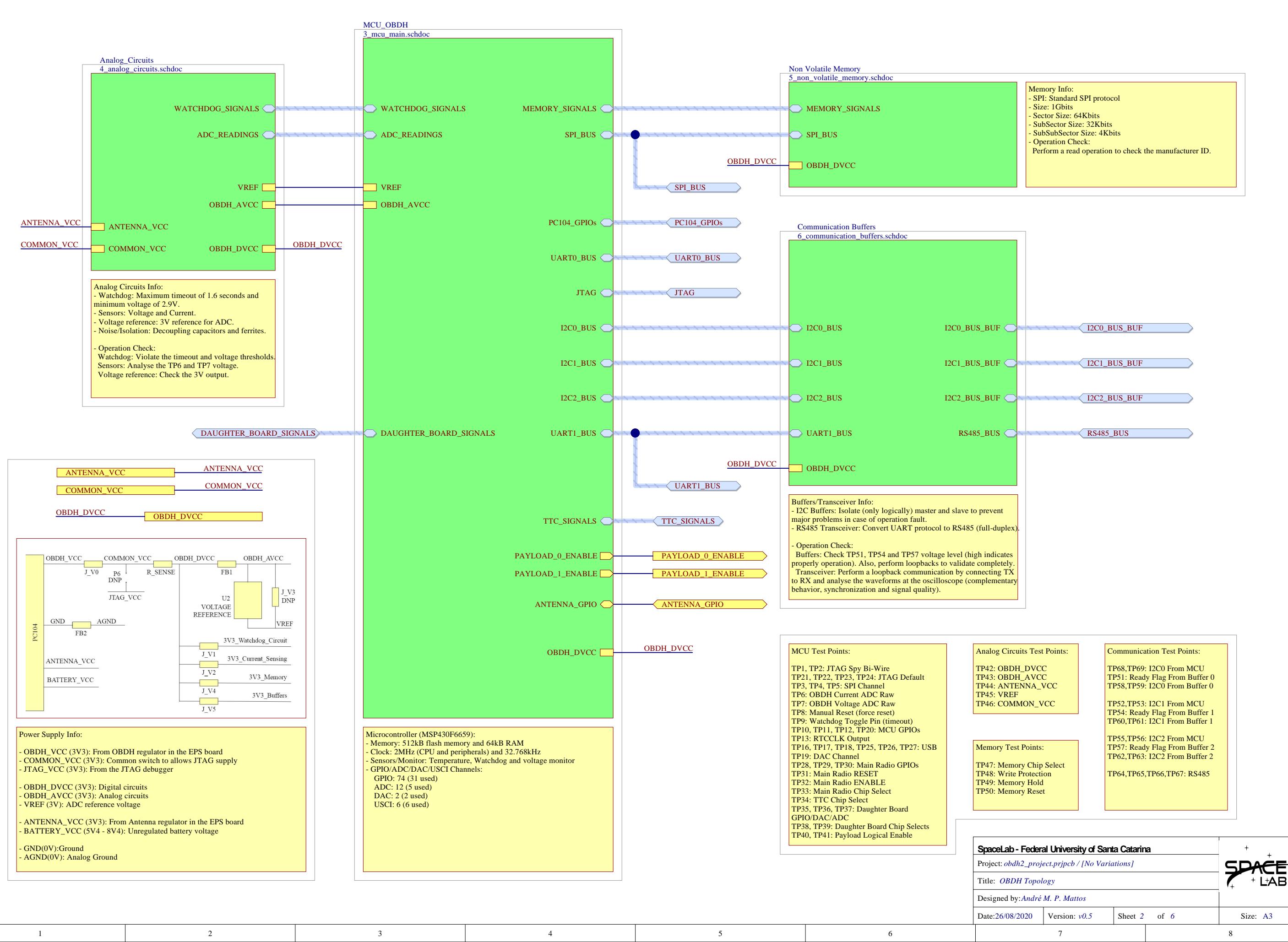
OBDH2 Hardware
Based on the FloripaSat-I OBDH 2.0

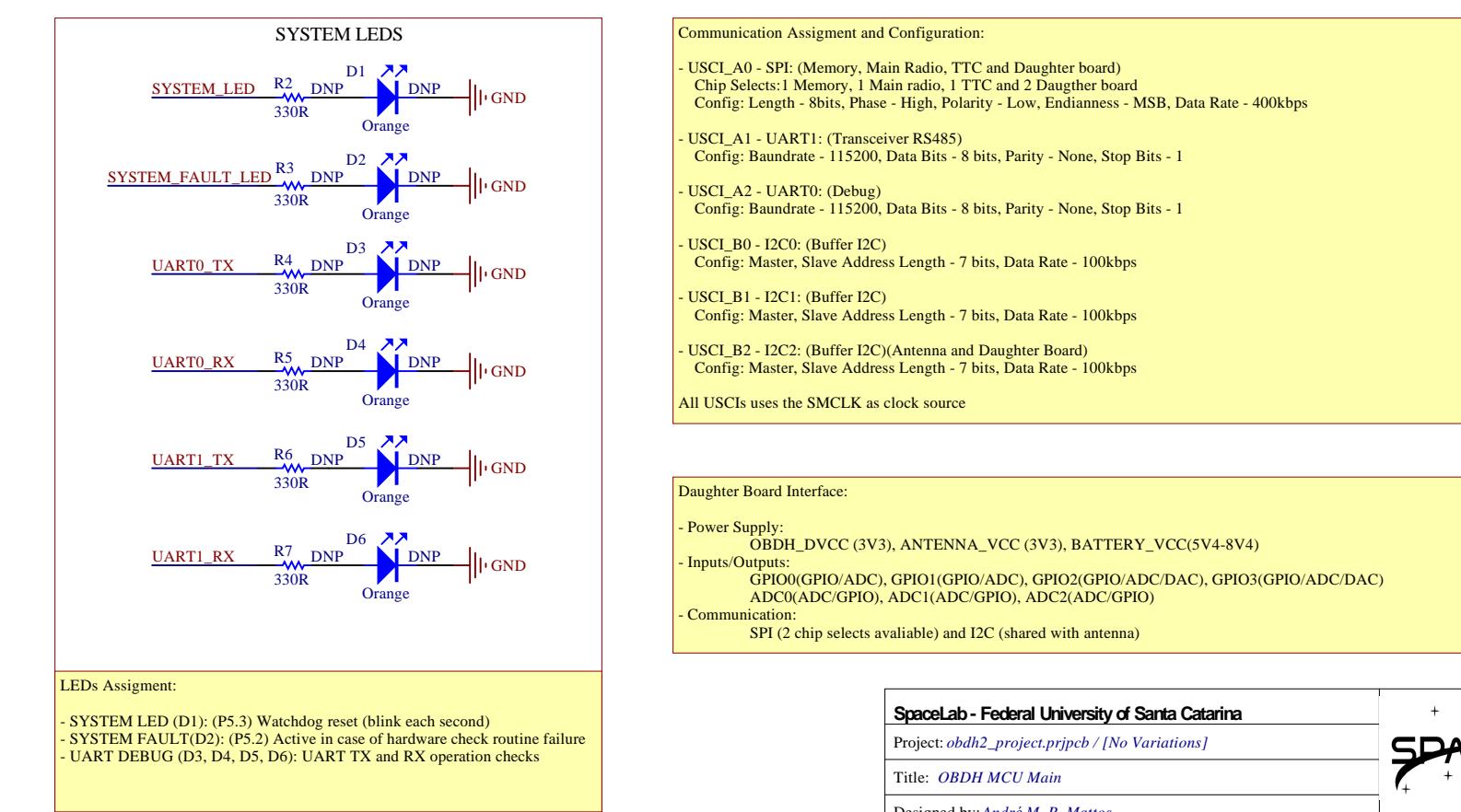
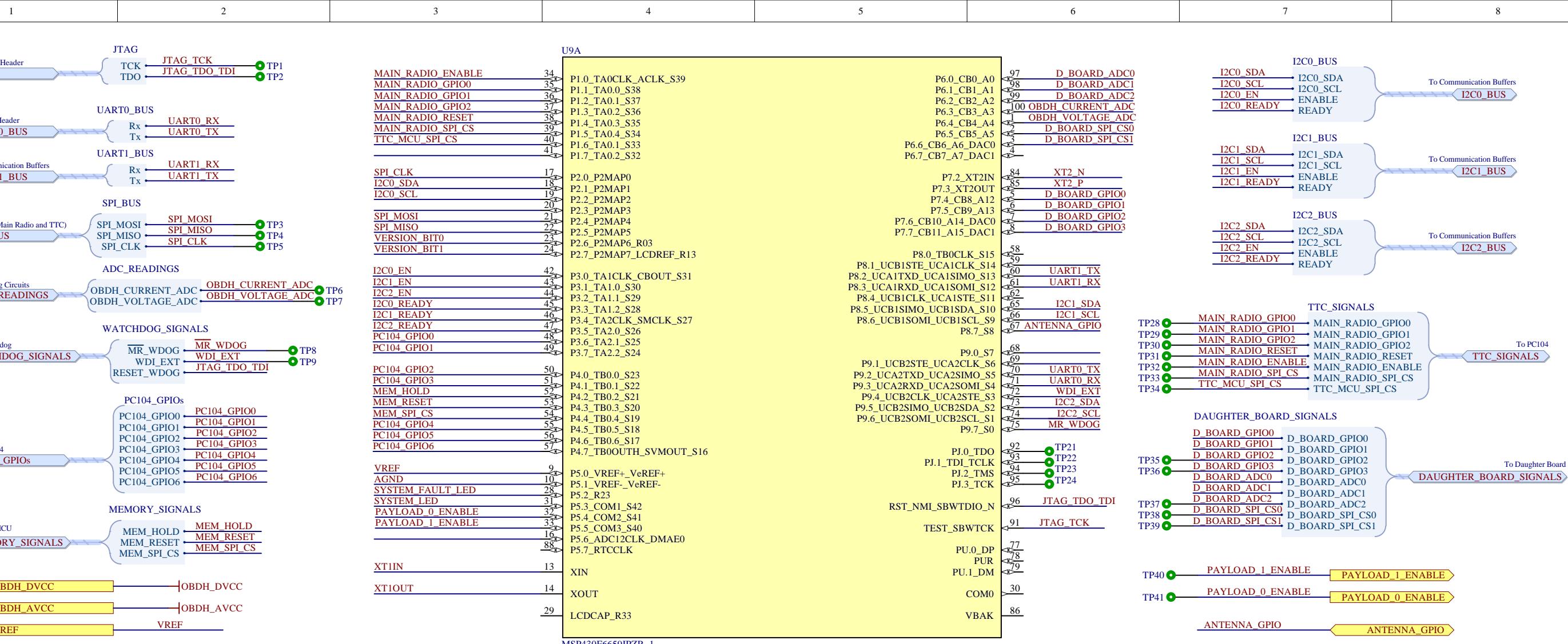
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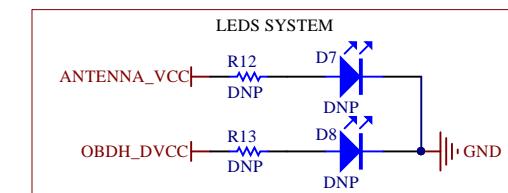
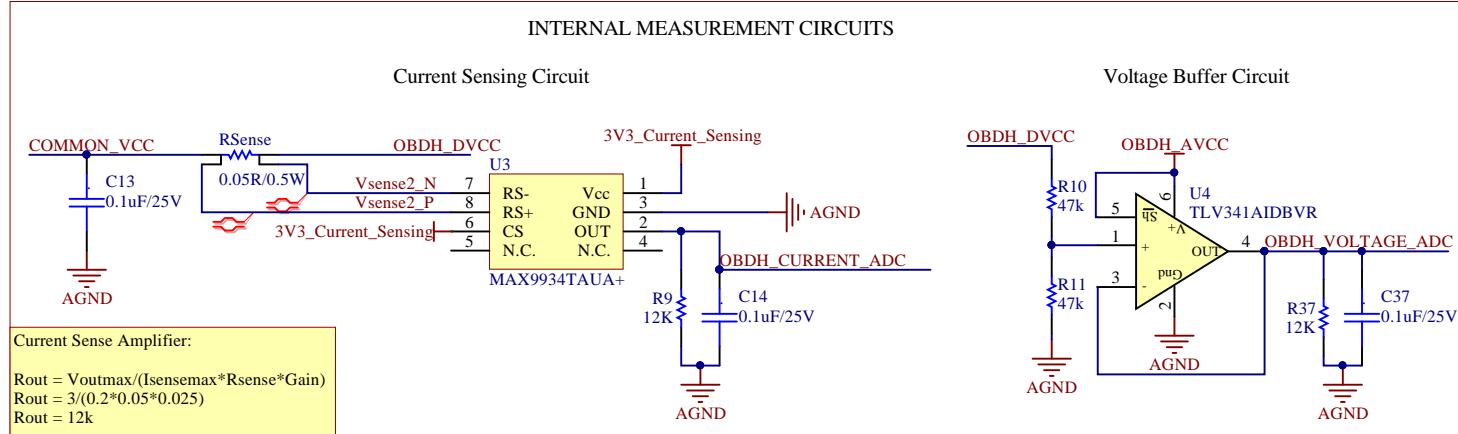
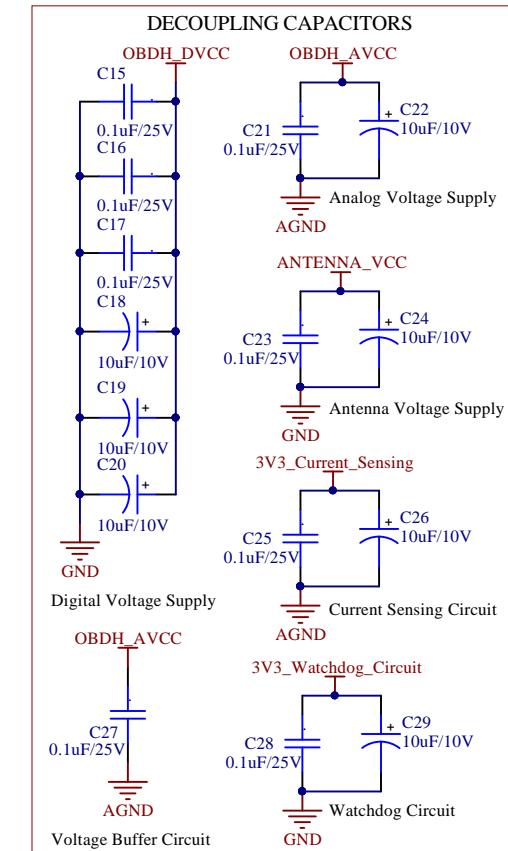
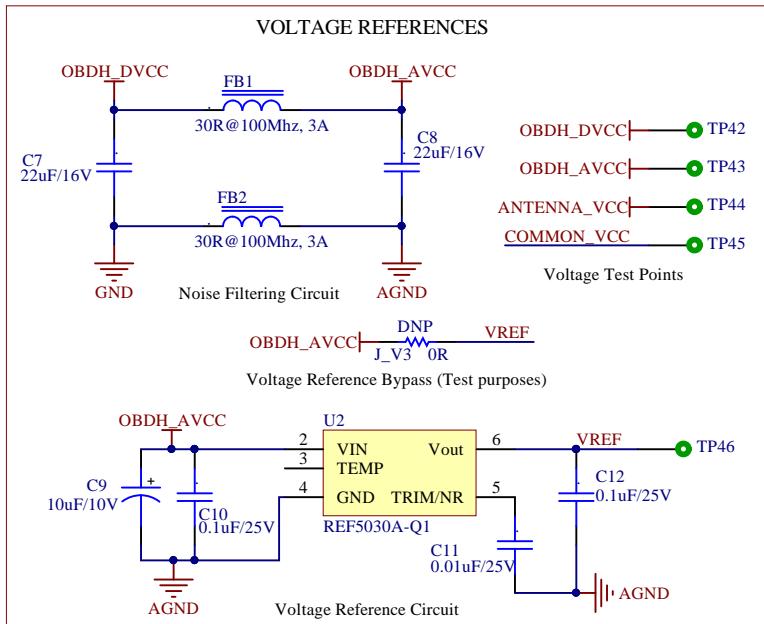
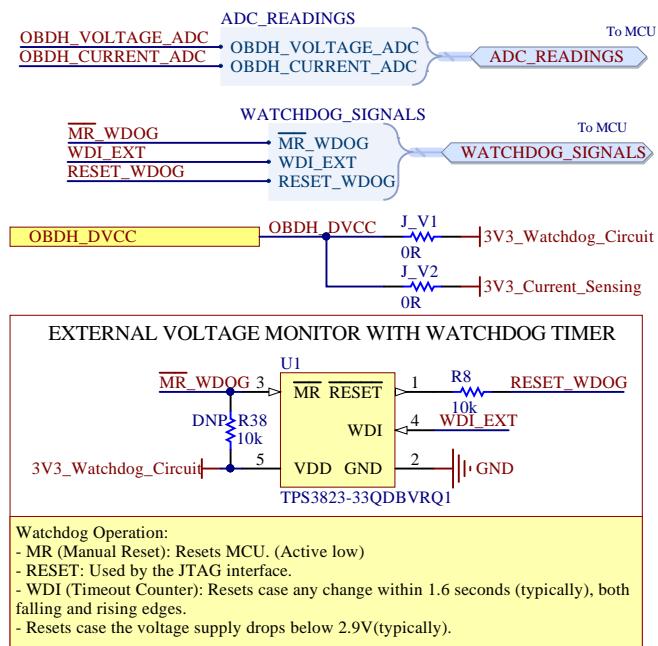
Project Information

SpaceLab - Federal University of Santa Catarina		
Project: obdh2_project.prjpcb [No Variations]		
Title: OBDH Hardware Architecture		
Designed by: André M. P. Mattos		
Date: 26/08/2020	Version: v0.5	Sheet 0 of 6
Size: A4		





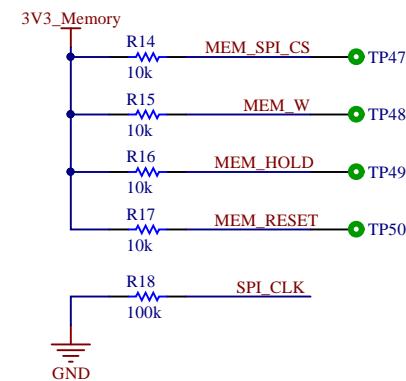




A

1

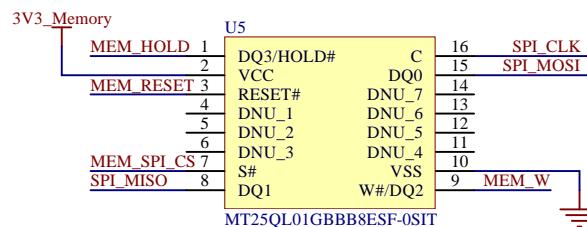
PULL-UP AND PULL-DOWN RESISTORS



B

10

NON-VOLATILE MEMORY



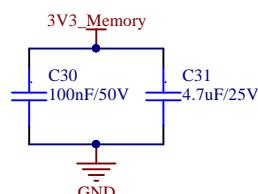
Memory Operation:

To be defined

6

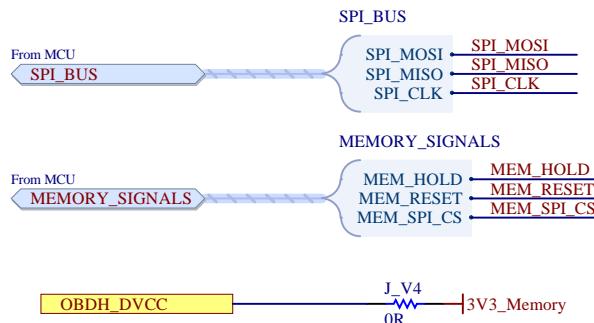
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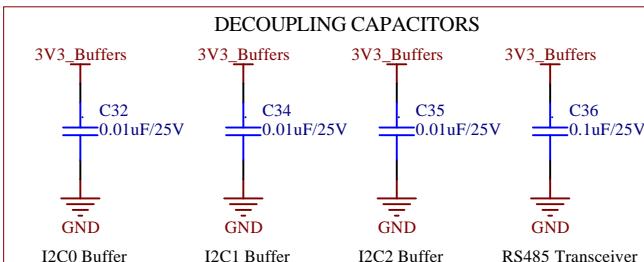
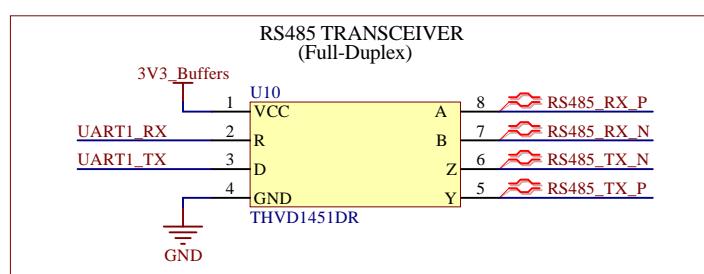
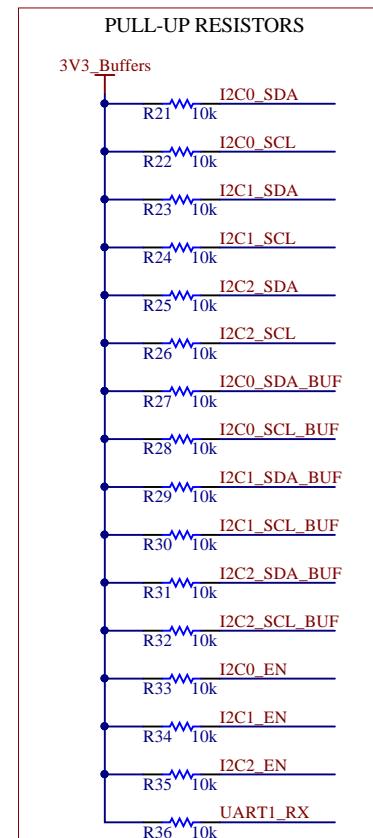
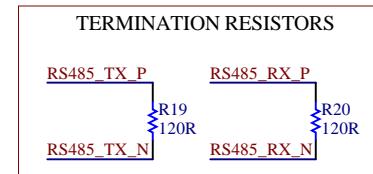
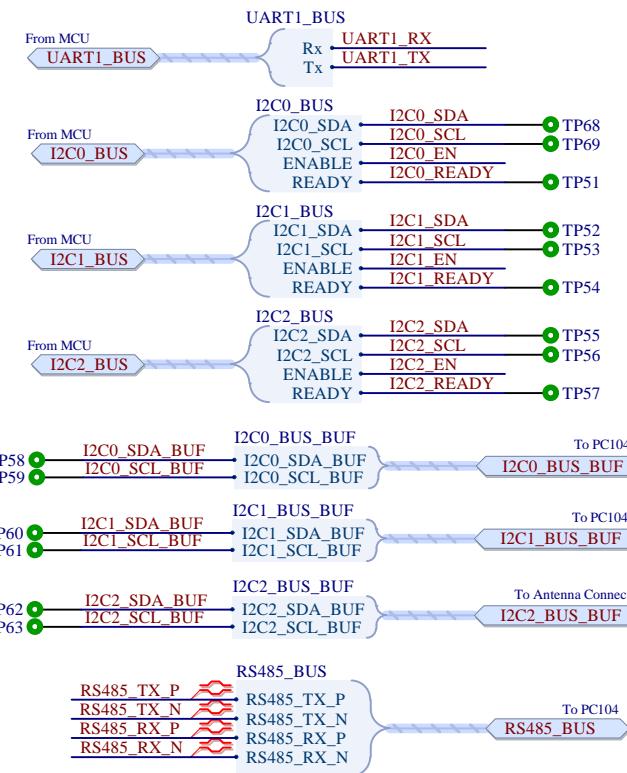
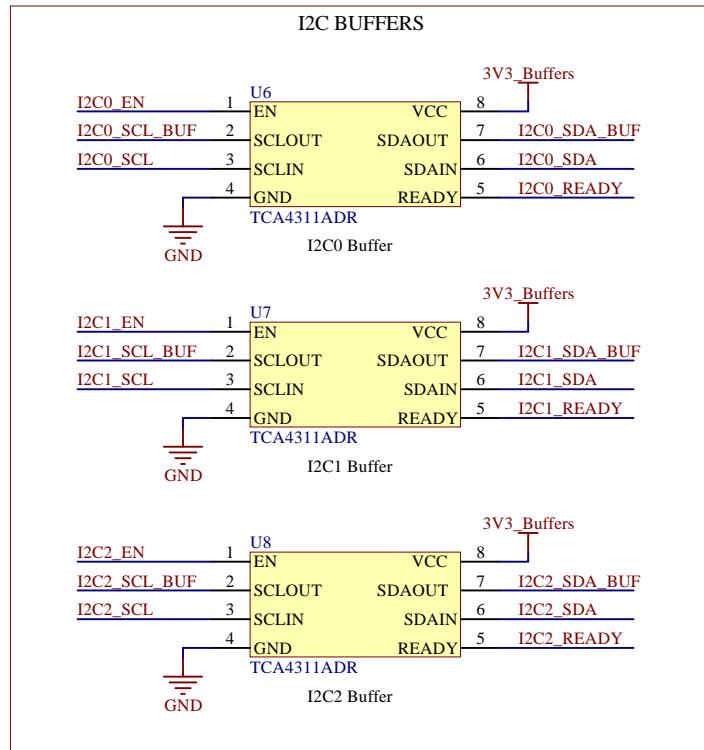
DECOUPLING CAPACITORS



E

10





SpaceLab - Federal University of Santa Catarina

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

Title: [Communication Buffers](#)

Designed by: André M. P. Mattos

Date: 26/08/2020

Version: v0.5

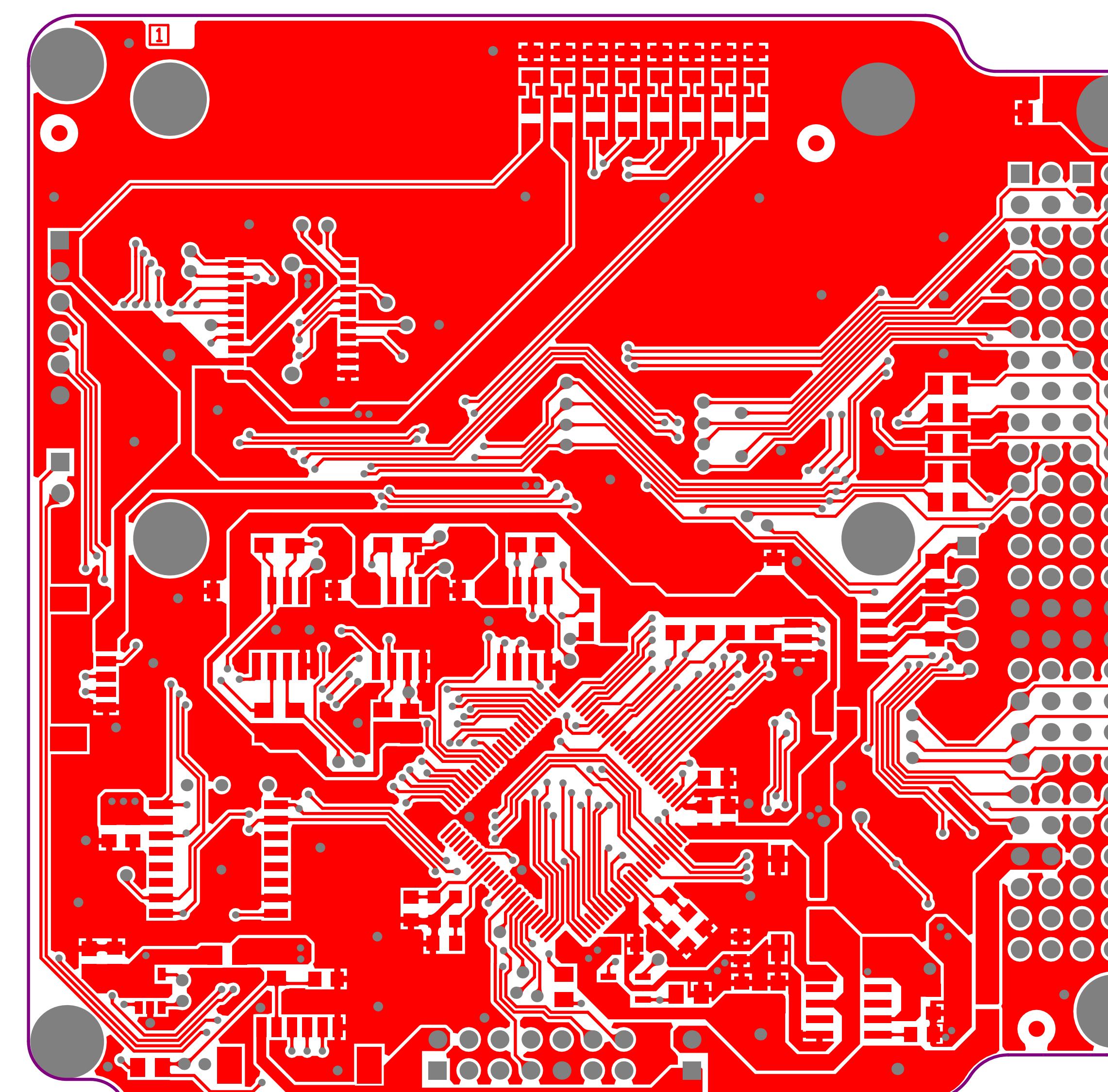
Sheet 6 of 6



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

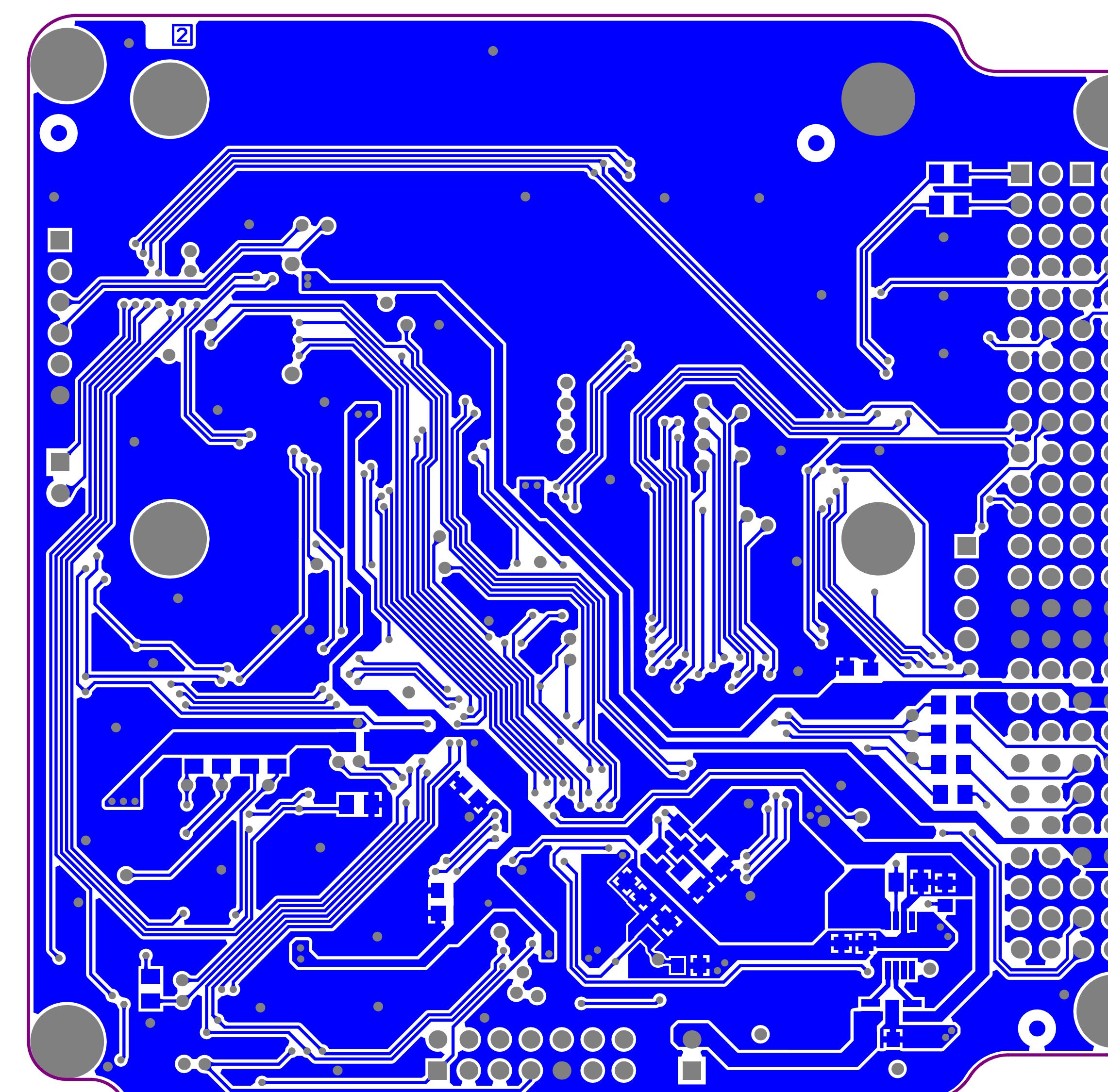
D

D

SpaceLab - Federal University of Santa Catarina	
Project: OBDH2	
Layer: Top Layer	
Designed by: Andre M. P. Mattos	Project Code: OBDH2
Date: 26/08/2020	Version: v0.5
	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: 26/08/2020	Version: v0.5
	Size: A4

A

A

B

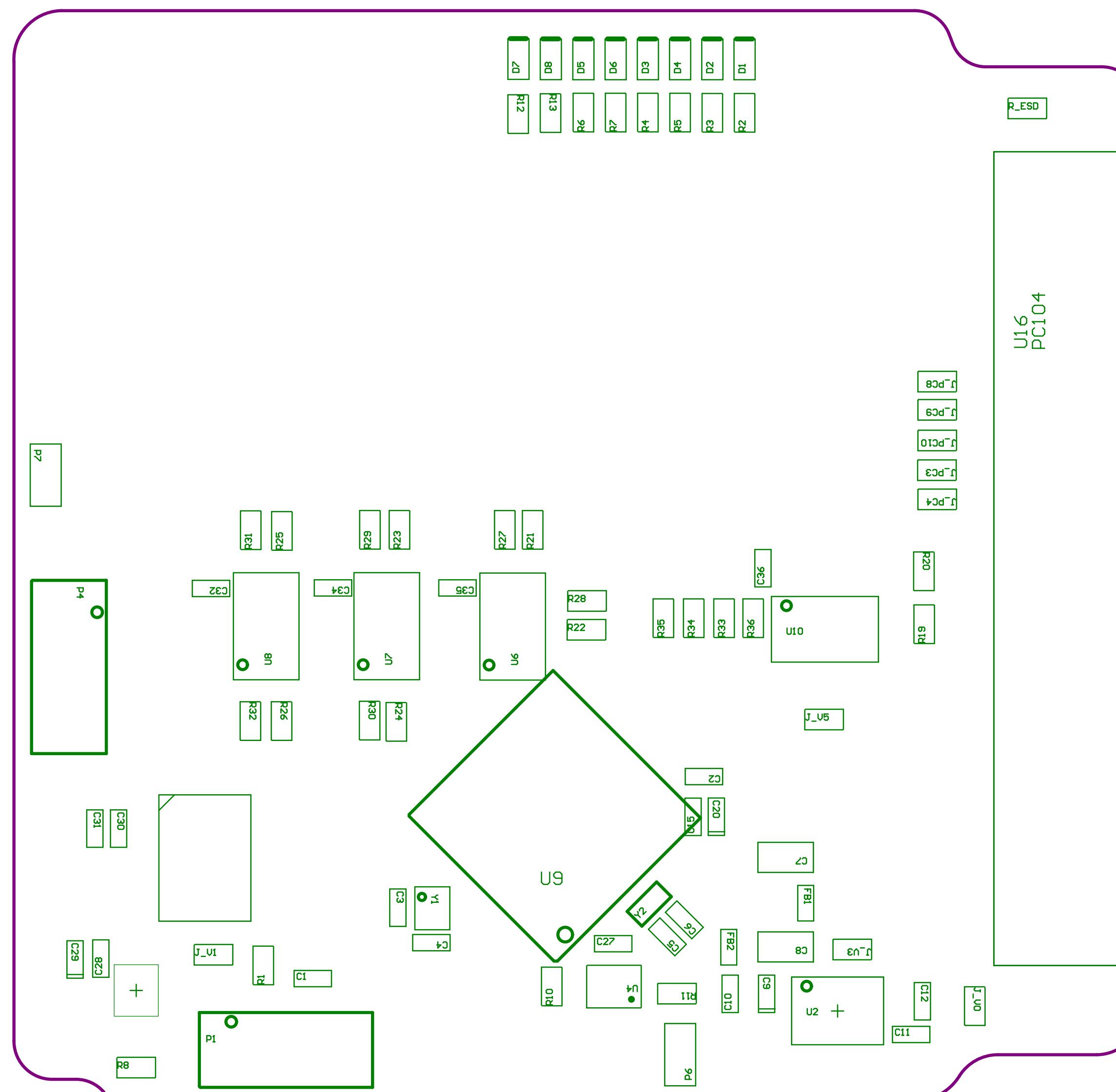
B

C

C

D

D



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				

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)

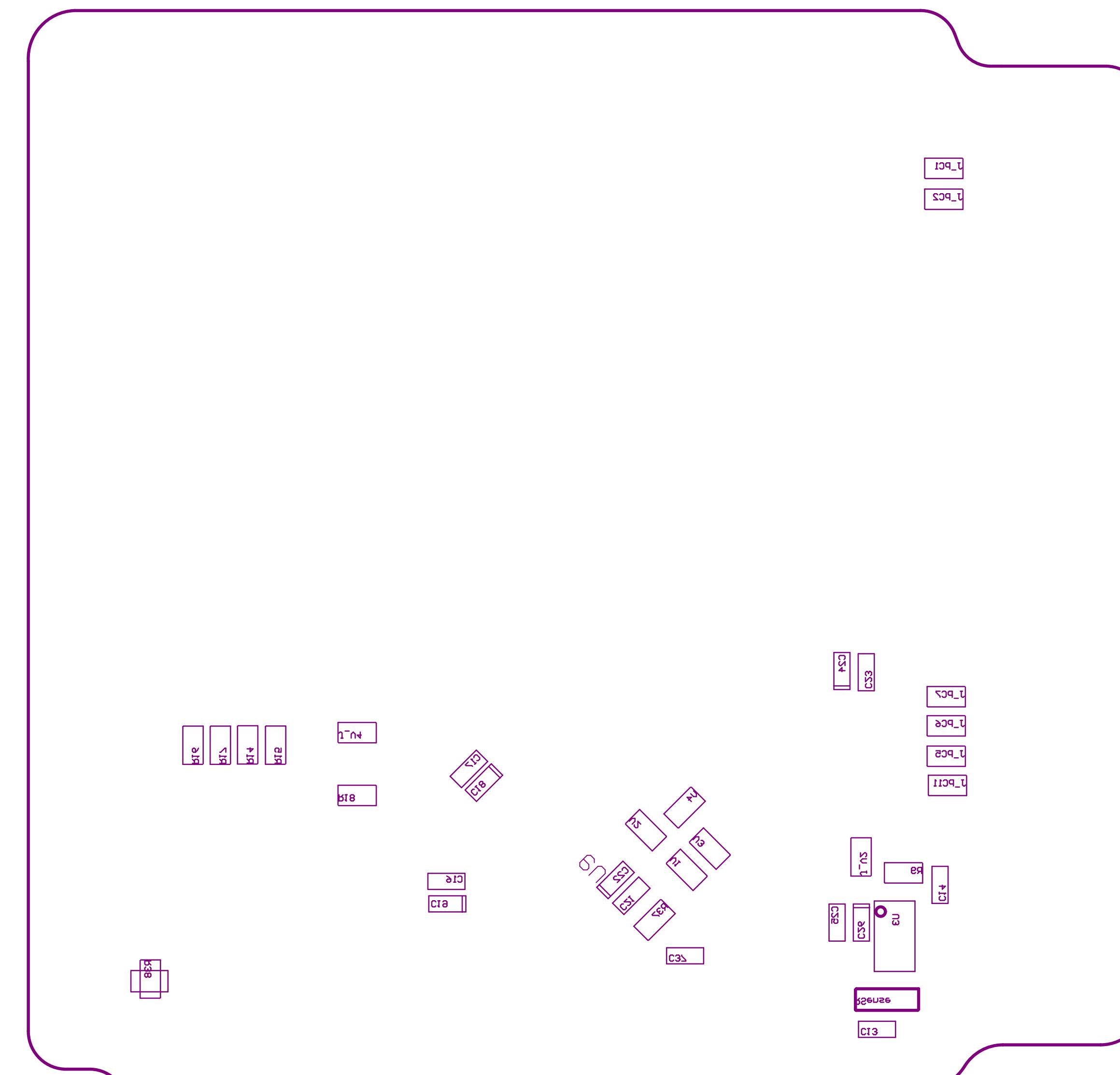
Assembly specifications:

- 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 Top	
Designed by: Andre M. P. Mattos	Project Code: OBDH2
Date: 26/08/2020	Version: v0.5
	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: 26/08/2020	Version: v0.5
	Size: A4

