

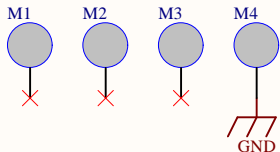
Rev	Description	Date	Author
1.0	Initial release.	26-Fev-2020	Yan C. de Azeredo
1.1	Changes to PCB layout, new sheet hierarchy and added first output, manufacture and BOM files to project.	21-Mar-2020	Yan C. de Azeredo

Revision History

FIDUTIALS

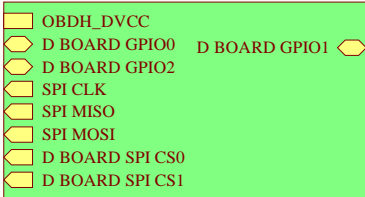


MECHANICAL HOLES



PCB Elements

OBDH 2.0 to DB_Memory interface connector
1_Interface.SchDoc



Interface connector to motherboard (OBDH 2.0)

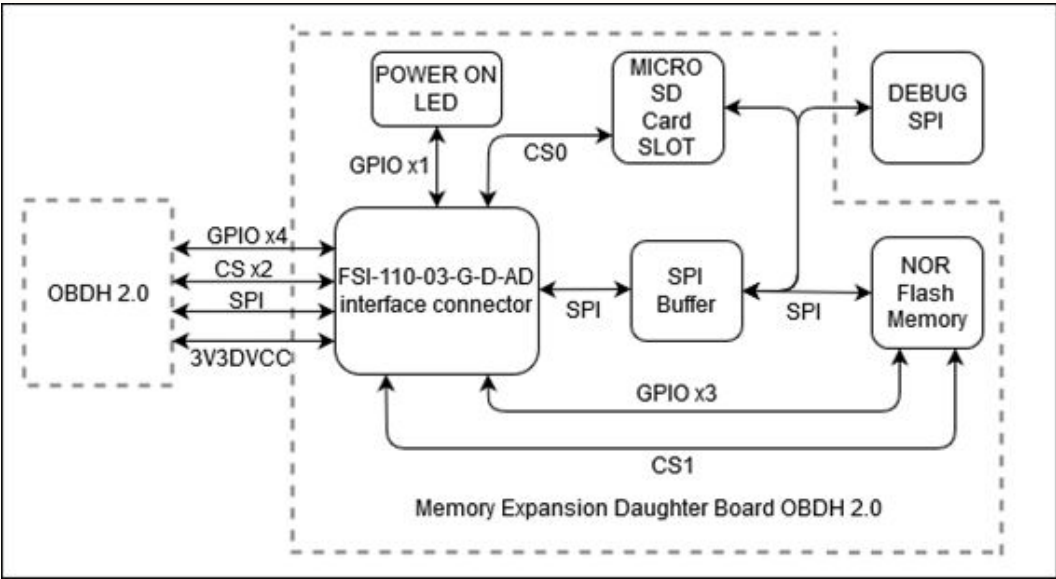
Memory Expansion Daughter Board (DB_Memory) of OBDH 2.0 ALT Hardware

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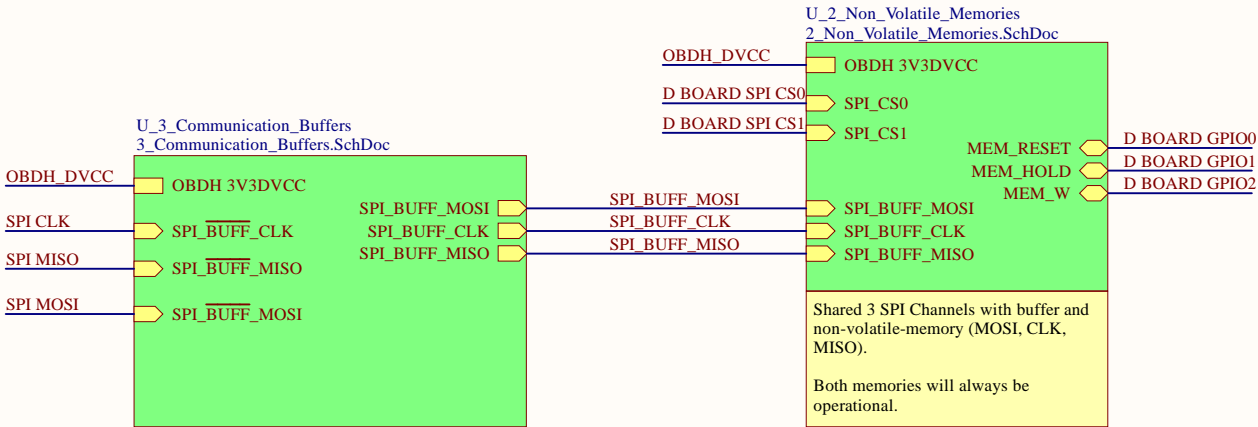
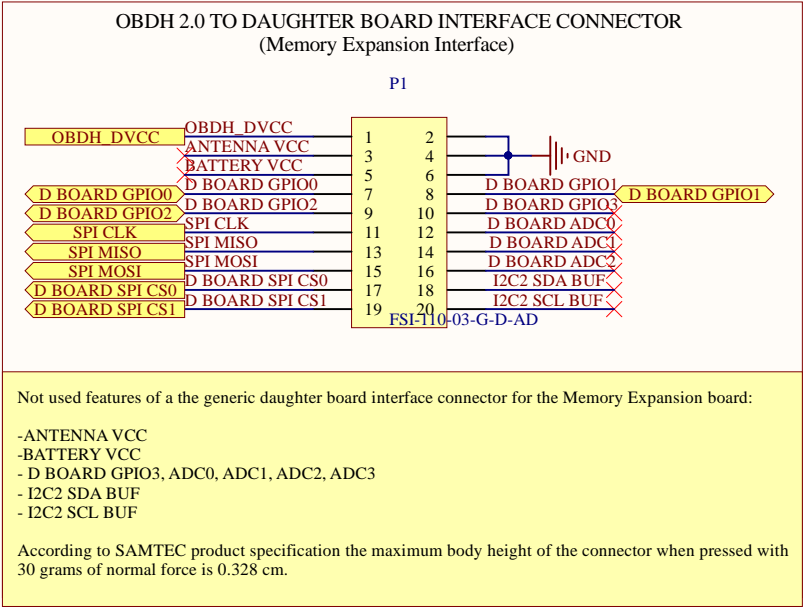
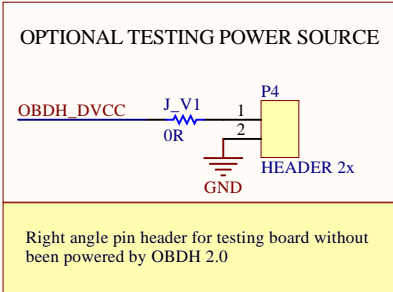
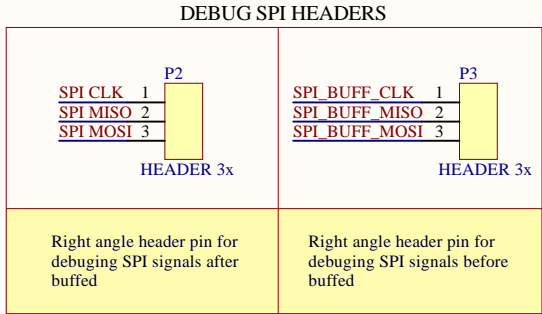
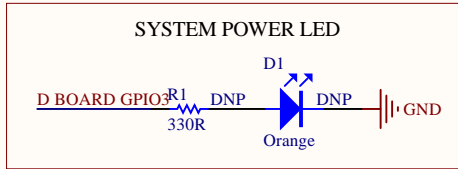
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- Drawn by: Yan Castro de Azeredo.
- Reviewers: André Martins Pio de Mattos and Gabriel Mariano Marcelino.
- Based on OBDH 2.0 designed by: André Martins Pio de Mattos.
- Support: Kleber Reis Gouveia Júnior.

Project Information



Block Diagram



A

A

B

B

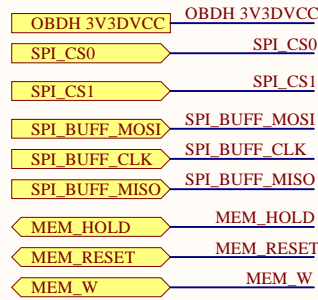
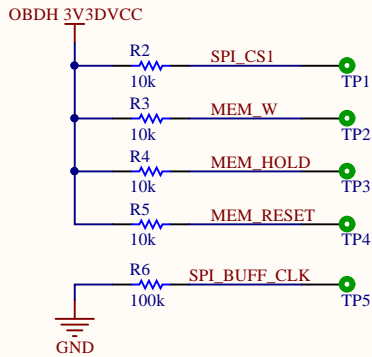
C

C

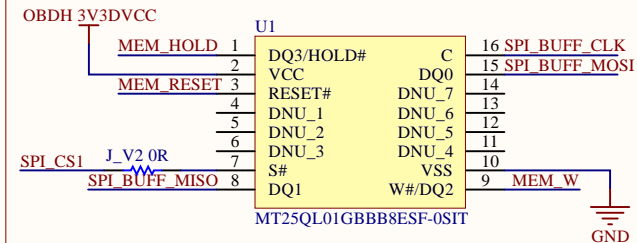
D

D

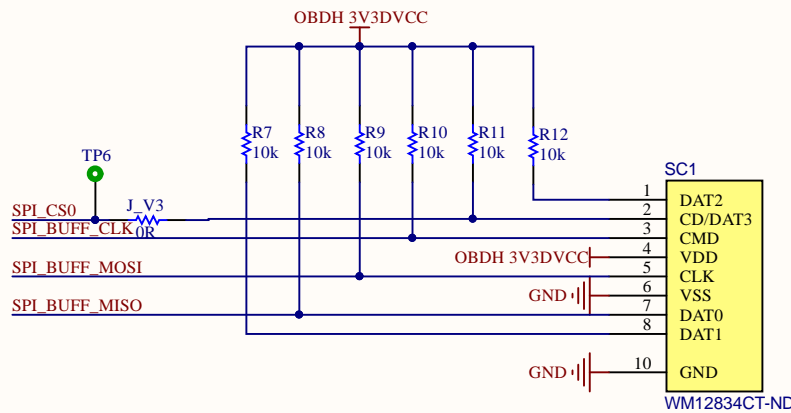
PULL UP AND PULL DOWN RESISTORS



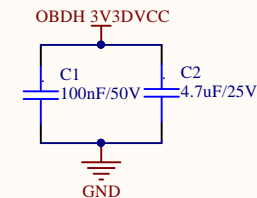
NON-VOLATILE MEMORY

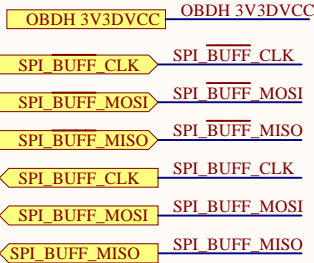


uSDCard

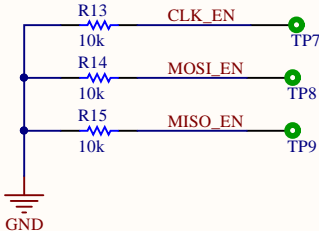


DECOUPLING CAPACITOR



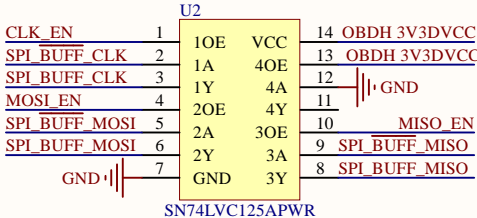


PULL DOWN RESISTORS



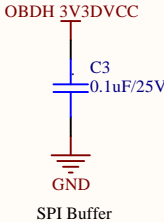
The CLK, MOSI and MISO gates will always be turned on, that means that the pins needs to be set to logical '0' since the enables are inverted on SN74LVC125APWR.

SPI BUFFER

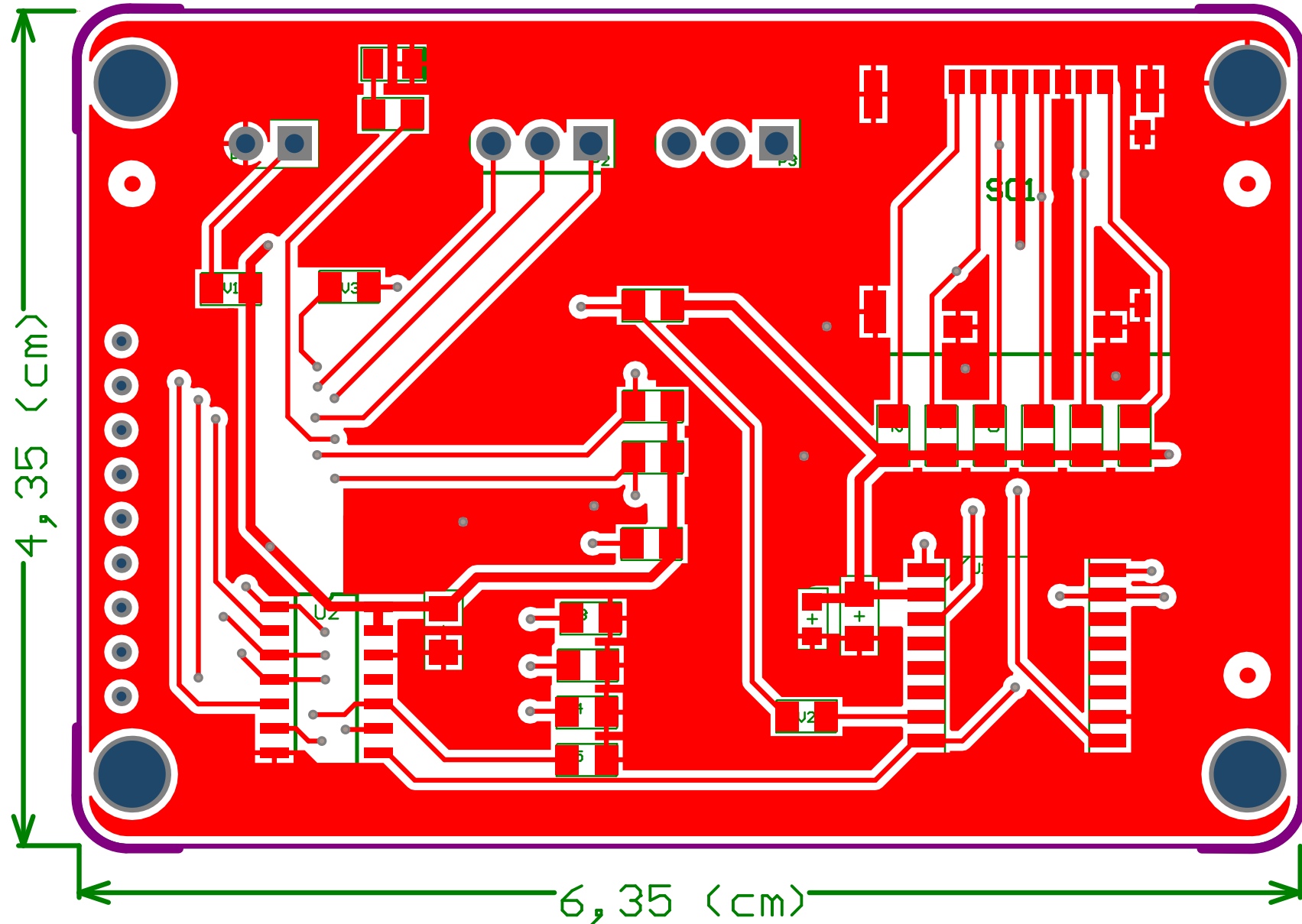


Non used 4th buffer buss: Set 4OE pin to high (3V3) disabling gate and making the entry 4A always in low state.

DECOUPLING CAPACITOR

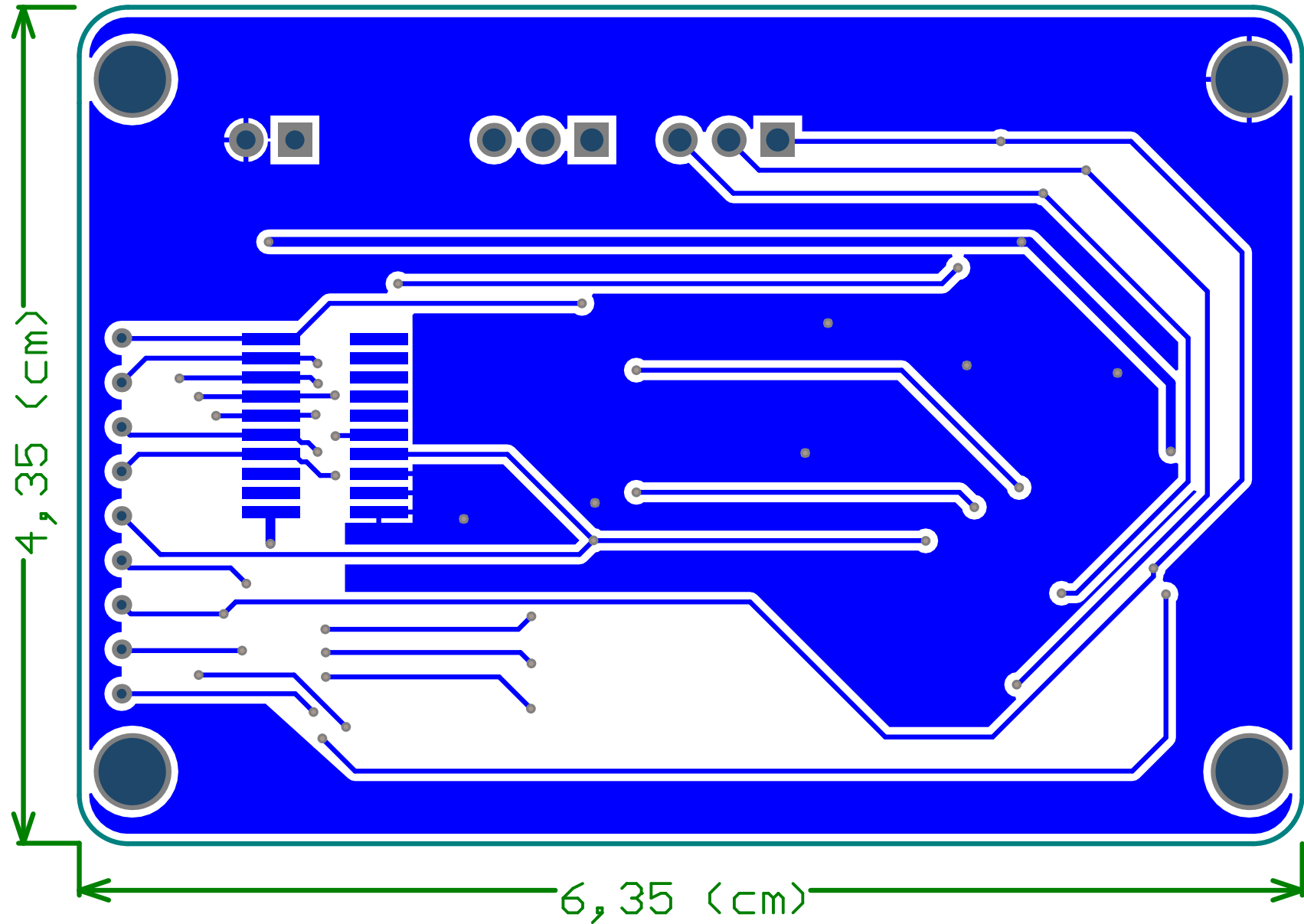


Layer	Name	Material	Thickness	Constant	Board Layer Stack	Board Layer Stack	Board Layer Stack	Board Layer Stack	Board Layer Stack	Board Layer Stack	Board Layer Stack	Board Layer Stack
1	Top Overlay											
2	Top Solder	Solder Resist	0,010mm	3,5								
3	Top Layer	Copper	0,036mm									
4	Dielectric 1	FR-4	1,600mm	4,8								
5	Bottom Layer	Copper	0,036mm									
6	Bottom Solder	Solder Resist	0,010mm	3,5								
7	Bottom Overlay											



TITLE: OBDH 2.0 DAUGHTERBOARD		VARIANT: DB_Memory	
MATERIAL: FR4	Silkscreen color: yellow	REV. 1.1	DATE: 21/03/2020
Board Thickness: 1.69mm	Layers: 02	Project: FloripaSat-2	
PCB Surface: ENIG	Drawing: Yan C. de Azeredo	Space Technology Research Laboratory Federal University of Santa Catarina SpaceLab UFSC	

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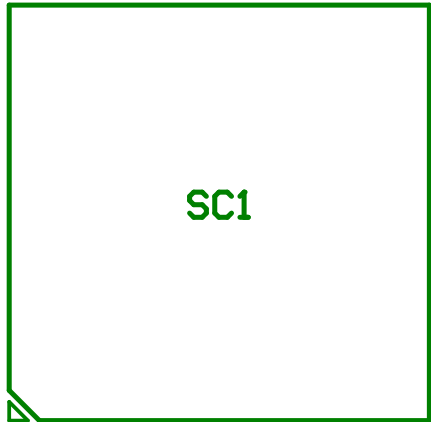
P4

D1

R1

P2

P3



J_V1

J_V3

R2

R3

R5

R4

R12

R11

R10

R9

R8

R7

U2

C3
+

R13

R6

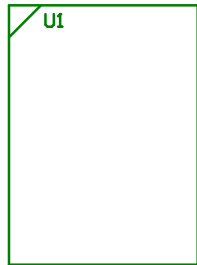
R14

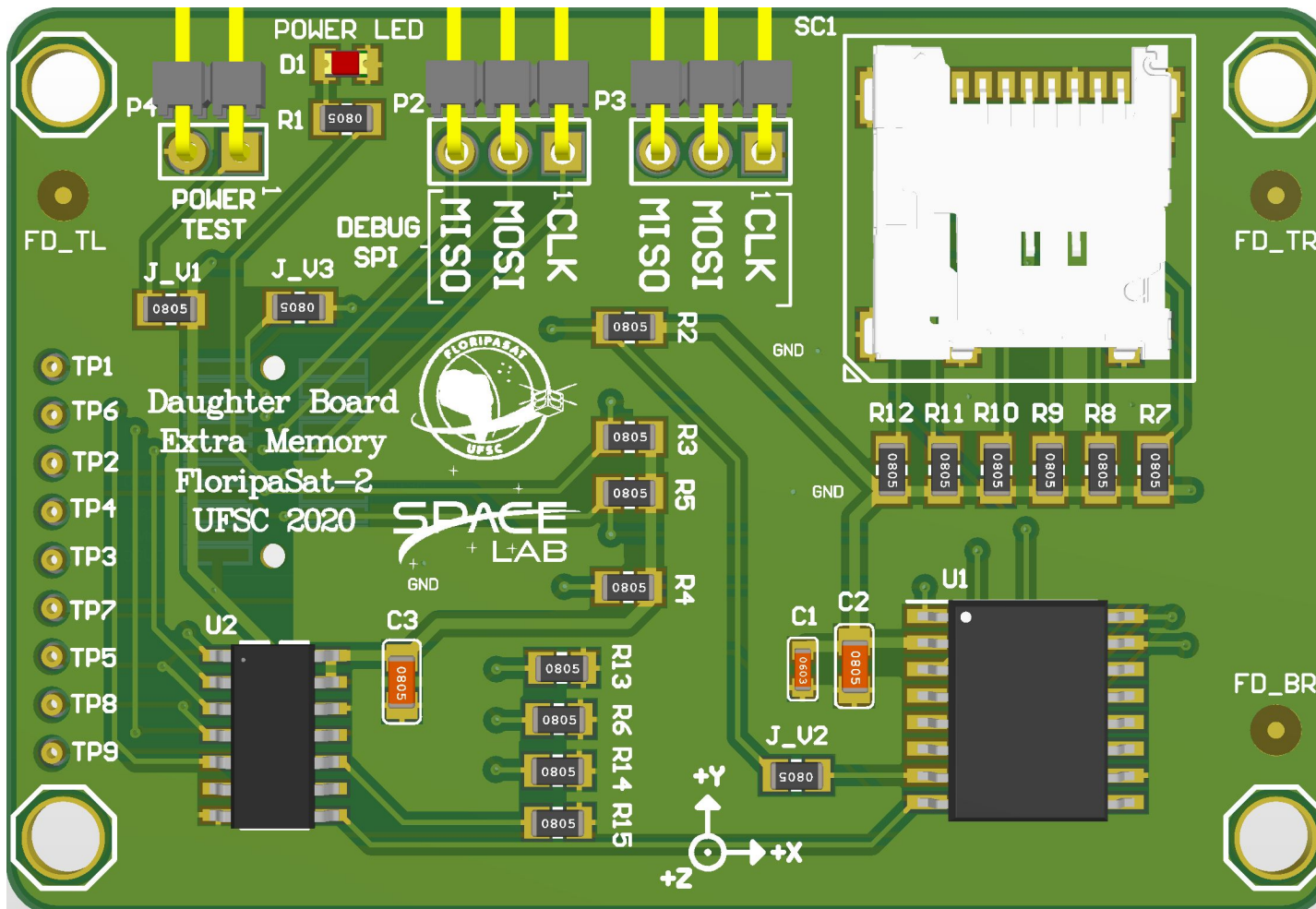
R15

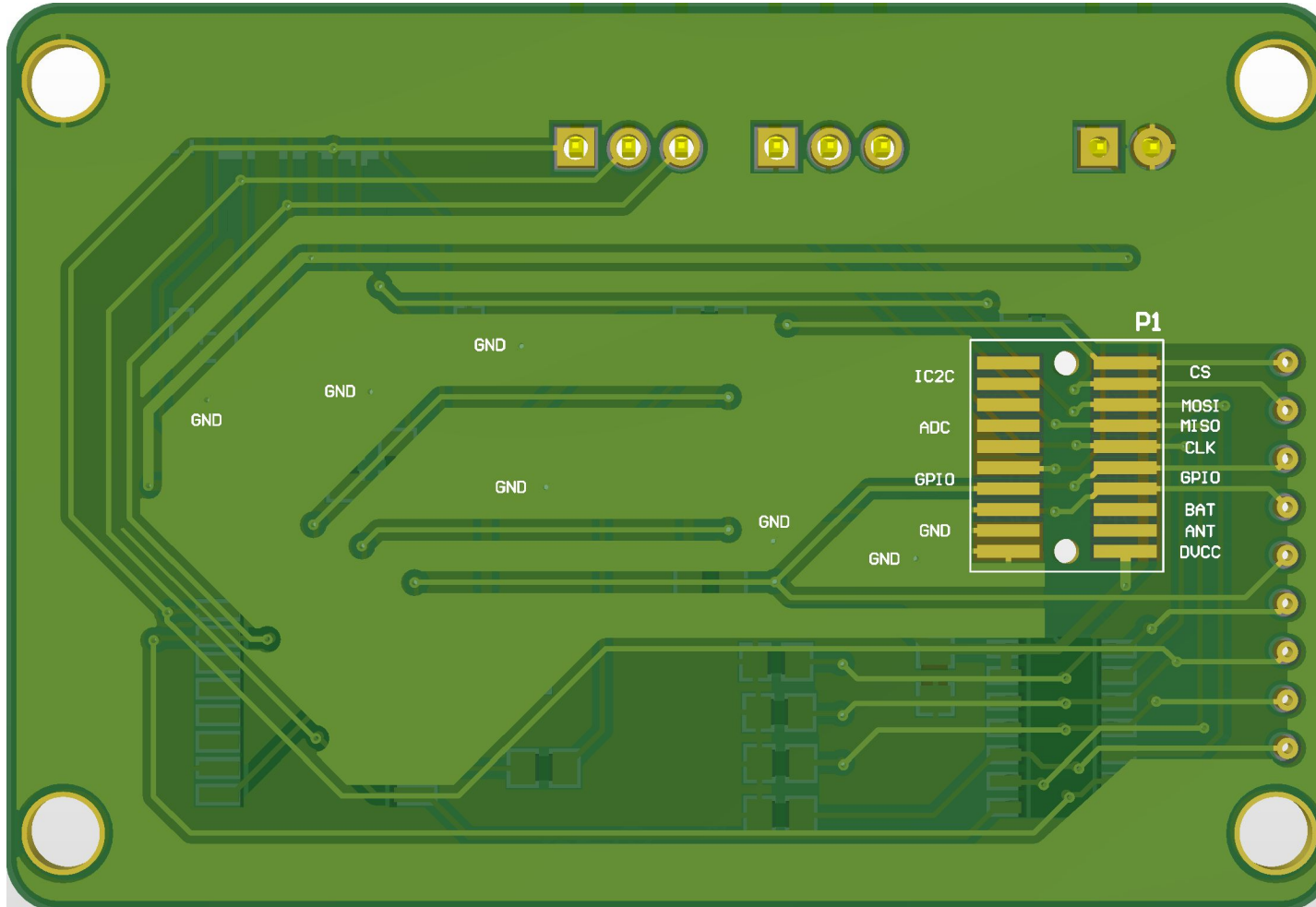
C1
+

C2
+

J_V2









Bill of Materials

Source Data From: DB_Memory.PrjPCB

Project: DB_Memory.PrjPCB

Variant: None

Project Code: <Parameter ProductCode not found>

Report Date: 21/03/2020

15:45:57

Print Date: 21/03/2020

15:46:11

#	Supplier 1	Supplier Part Number 1	Supplier 2	Supplier Part Number 2	Manufacturer	Comment	Description	Quantity	Designator	Column Name Error	Noted
1	Digi-Key	541-10.0KCCT-ND	Mouser	71-CRCW0805-10K-E3	Vishay	10k	RES 10K OHM 1/8W 1% 0805	13	R2, R3, R4, R5, R7, R8, R9, R10, R11, R12, R13, R14, R15		
2						DB Mechanical Hole		4	M1, M2, M3, M4		
3						OR	RES OR OHM 1/16W JUMPER 0805	3	J_V1, J_V2, J_V3		
4						Fiducial		3	FD1, FD2, FD3		
5	Digi-Key	SAM1039-03-ND			Samtec	HEADER 3x	Conn Unshrouded Header HDR 3 POS 2.54mm Solder RA Thru-Hole Automotive Bulk	2	P2, P3		
6						MT25QL01GBBB8ESF-OSIT	IC FLASH 1GBIT 108MHZ 16SOIC	1	U1		
7						WM12834CT-ND	MicroSD CARD Connector	1	SC1		
8	Digi-Key	160-1413-1-ND	Mouser	859-LTST-C170KFKT	Vishay Lite-On	Orange	SMD Orange LED	1	D1		
9	Digi-Key	296-1222-1-ND	Mouser	595-SN74LVC125APWR	Texas Instruments	SN74LVC125APWR	IC BUF NON-INVERT 3.6V 14TSSOP	1	U2		
10	Digi-Key	311-100KCRCT-ND	Mouser	603-RC0805FR-07100KL	Yageo	100k	RES 100K OHM 1/8W 1% 0805	1	R6		
11	Digi-Key	311-1141-1-ND	Mouser	603-CC805KRX7R8BB104	Yageo	0.1uF/25V	CAP CER 0.1UF 25V 10% X7R 0805	1	C3		
12	Digi-Key	311-1401-1-ND	Mouser	603-CC201KRX7R9BB101	Yageo	100nF/50V	CAP CER 100nF 50V 0603 10%	1	C1		
13	Digi-Key	587-2990-6-ND	Mouser	963-TMK212AB7475KG-T	Taiyo Yuden	4.7uF/25V	CAP CER 4.7UF 25V 10% X7R 0805	1	C2		
14	Digi-Key	2019-RK73H2ATTD3300FCT-ND	Mouser	660-RK73H2ATTD3300F	KOA Speer	330R	RES 330R OHM 1/4W 1% 0805	1	R1		
15	Mouser	200-FSI11003GDAD	Digi-Key	SAM9412-ND	Samtec	FSI-110-03-G-D-AD		1	P1		
16	Mouser	200-TSW10208GSRA	Digi-Key	SAM1039-02-ND	Samtec	HEADER 2x	Conn Unshrouded Header HDR 2 POS 2.54mm Solder RA Thru-Hole Automotive Bulk	1	P4		