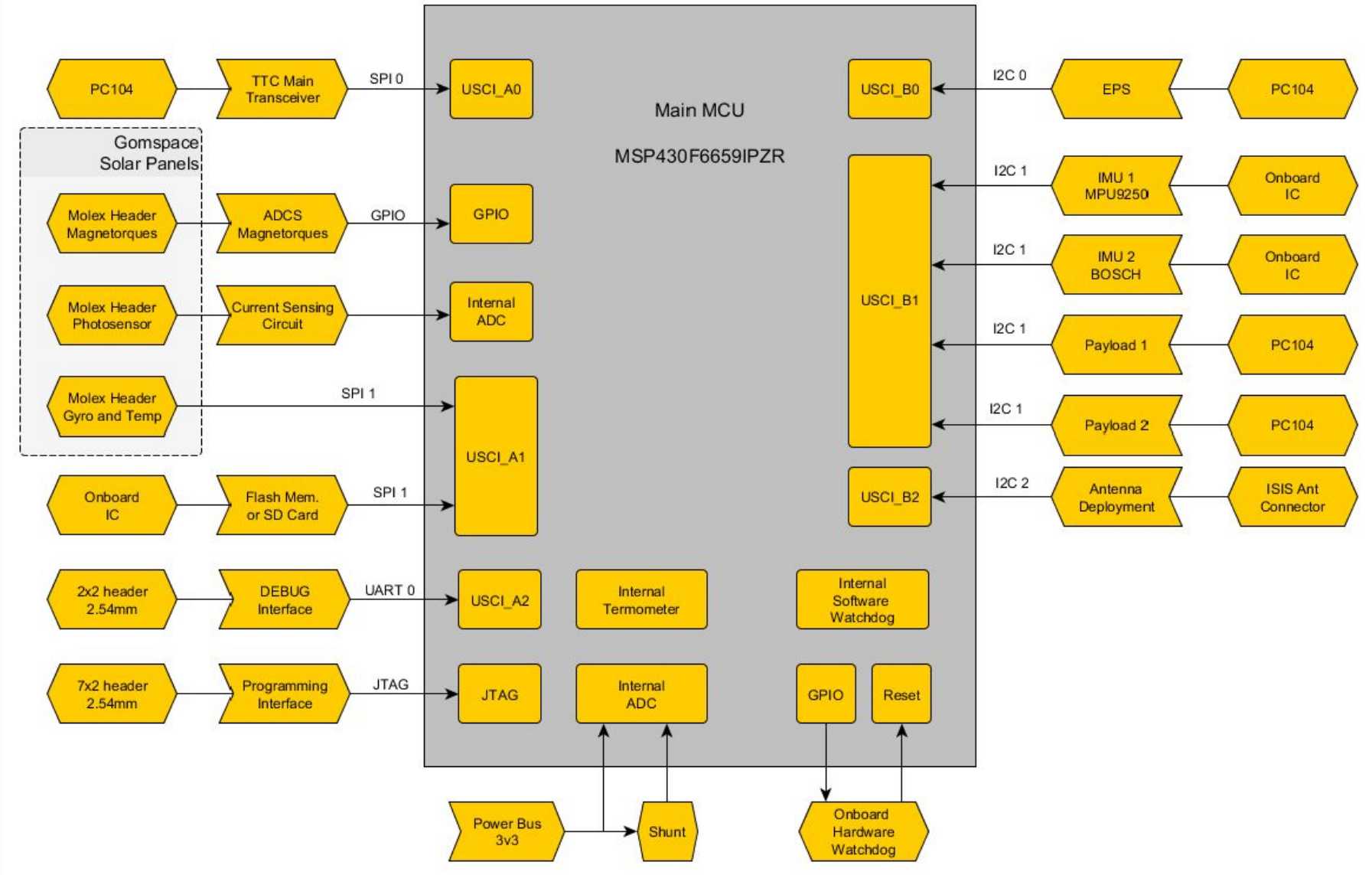


Title: ***OBDH Hardware Archictecture***			*UFSC - SpaceLab* *University Campus - Trindade* *Dep. of Electrical Engineering - CTC* *Florianópolis, Santa Catarina, Brazil* *CEP: 88040-900*
Size: A4	Project: FloripaSat	Revision: V2.1	
Date: 07/02/2017	Time: 11:00:56 Number: *	Sheet 0 of 7	
Drawn by: Sara Vega/Matheus Frata		File: 0_Architecture.SchDoc	

Solar Panels Connectors

+X — Header 12_PicoBlade

1	MAGNETORQUER_X0
2	MAGNETORQUER_X1
3	GND
4	GYRO_X_CSn
5	SPI1_MOSI
6	SUNSEN_X_ANODE
7	SUNSEN_X_CATHODE
8	SPI1_CLK
9	SPI1_MISO
10	VCC_3V3
11	TEMP_X_CSn
12	

+Y — Header 12_PicoBlade

1	MAGNETORQUER_Y0
2	MAGNETORQUER_Y1
3	GND
4	GYRO_Y_CSn
5	SPI1_MOSI
6	SUNSEN_Y_ANODE
7	SUNSEN_Y_CATHODE
8	SPI1_CLK
9	SPI1_MISO
10	VCC_3V3
11	TEMP_Y_CSn
12	

+Z — Header 12_PicoBlade

1	MAGNETORQUER_Z0
2	MAGNETORQUER_Z1
3	GND
4	GYRO_Z_CSn
5	SPI1_MOSI
6	SUNSEN_Z_ANODE
7	SUNSEN_Z_CATHODE
8	SPI1_CLK
9	SPI1_MISO
10	VCC_3V3
11	TEMP_Z_CSn
12	

Programming Headers

JTAG Main MCU

P2 — Header 7X2

JTAG_TDO	1 2	VCC_JTAG
JTAG_TDI	3 4	
JTAG_TMS	5 6	
JTAG_TCK	7 8	JTAG_TEST
GND	9 10	
JTAG_RST	11 12	UART0_TX
	13 14	UART0_RX

DEBUG HEADERS

Main MCU

P3 — Header 4

UART0_TX	1
UART0_RX	2
WDI_EXT	3
GND	4

SPI MEMORY

P4 — Header 3H

SPI1_CLK	1
SPI1_MISO	2
SPI1_MOSI	3

IMUs

P5 — Header 2H

I2C1_SDA	1
I2C1_SCL	2

PC104 INTERFACE

U16A — PC104_INTERNAL

GND	H1-1	H1-2	GND
TTC_CTRL_RF_SWT_RX	H1-3	H1-4	TTC_CTRL_RF_SWT_TX
TTC_GPIO0_MAIN	H1-5	H1-6	TTC_GPIO1_MAIN
TTC_GPIO2_MAIN	H1-7	H1-8	
TTC_RESETn_MAIN	H1-9	H1-10	TTC_3V3_PA_EN
VCC_5V_EN	H1-11	H1-12	
	H1-13	H1-14	
	H1-15	H1-16	PAYLOAD_0_EN
	H1-17	H1-18	PAYLOAD_1_EN
	H1-19	H1-20	
	H1-21	H1-22	
	H1-23	H1-24	
	H1-25	H1-26	
	H1-27	H1-28	
GND	H1-29	H1-30	GND
	H1-31	H1-32	
SPI0_CLK	H1-33	H1-34	
SPI0_MISO	H1-35	H1-36	
SPI0_MOSI	H1-37	H1-38	SPI0_CSn
I2C0_SDA	H1-39	H1-40	
I2C0_SCL	H1-41	H1-42	
VCC_3V3_PC104	H1-43	H1-44	VCC_3V3_PC104
	H1-45	H1-46	
	H1-47	H1-48	
	H1-49	H1-50	
	H1-51	H1-52	

U16B — PC104_EDGE

GND	H2-1	H2-2	GND
	H2-3	H2-4	
	H2-5	H2-6	
	H2-7	H2-8	
uC_BEACON_1	H2-9	H2-10	uC_BEACON_0
uC_BEACON_3	H2-11	H2-12	uC_BEACON_2
	H2-13	H2-14	
	H2-15	H2-16	
	H2-17	H2-18	
	H2-19	H2-20	
	H2-21	H2-22	
	H2-23	H2-24	
	H2-25	H2-26	
	H2-27	H2-28	
GND	H2-29	H2-30	GND
	H2-31	H2-32	
VCC_3V3_Deployment	H2-33	H2-34	VCC_3V3_Deployment
	H2-35	H2-36	
	H2-37	H2-38	
	H2-39	H2-40	
	H2-41	H2-42	
	H2-43	H2-44	
VCC_MAGNETORQUER	H2-45	H2-46	VCC_MAGNETORQUER
	H2-47	H2-48	
	H2-49	H2-50	
	H2-51	H2-52	

Designator
2_Topology.SchDoc

JTAG
JTAG_RST, JTAG_TCK, JTAG_TMS, JTAG_TDI, JTAG_TDO, JTAG_TEST → RST, TCK, TMS, TDI, TDO, TEST → JTAG

UART0_BUS
UART0_TX, UART0_RX → Tx, Rx → UART0_BUS

SPI0_BUS
SPI0_CLK, SPI0_MISO, SPI0_MOSI, SPI0_CSn → SPI0_CLK, SPI0_MISO, SPI0_MOSI, SPI0_CSn → SPI0_BUS

SENSORS_CS
GYRO_X_CSn, TEMP_X_CSn, GYRO_Y_CSn, TEMP_Y_CSn, GYRO_Z_CSn, TEMP_Z_CSn → GYRO_X_CSn, TEMP_X_CSn, GYRO_Y_CSn, TEMP_Y_CSn, GYRO_Z_CSn, TEMP_Z_CSn → SENSORS_CS

SUNSENSORS
SUNSEN_X_CATHODE, SUNSEN_X_ANODE, SUNSEN_Y_CATHODE, SUNSEN_Y_ANODE, SUNSEN_Z_CATHODE, SUNSEN_Z_ANODE → SUNSEN_X_CATHODE, SUNSEN_X_ANODE, SUNSEN_Y_CATHODE, SUNSEN_Y_ANODE, SUNSEN_Z_CATHODE, SUNSEN_Z_ANODE → SUNSENSORS

VCC_3V3, VCC_MAGNETORQUER, VCC_3V3_SOURCE_SWITCH, VCC_3V3_Deployment → VCC_3V3, VCC_MAGNETORQUER, VCC_3V3_SOURCE_SWITCH, VCC_3V3_Deployment

SPI1_BUS → SPI1_MOSI, SPI1_MISO, SPI1_CLK

I2C0_BUS → I2C0_SDA, I2C0_SCL

I2C1_BUS → I2C1_SDA, I2C1_SCL

I2C2_BUS → I2C2_SDA, I2C2_SCL

TTC_SIGNALS
TTC_RESETn_MAIN, TTC_GPIO2_MAIN, TTC_GPIO1_MAIN, TTC_GPIO0_MAIN, TTC_CTRL_RF_SWT_TX, TTC_CTRL_RF_SWT_RX, uC_BEACON_0, uC_BEACON_1, uC_BEACON_2, uC_BEACON_3

MAGNETORQUES
Magnetorquer_X0, Magnetorquer_X1, Magnetorquer_Y0, Magnetorquer_Y1, Magnetorquer_Z0, Magnetorquer_Z1 → MAGNETORQUER_X0, MAGNETORQUER_X1, MAGNETORQUER_Y0, MAGNETORQUER_Y1, MAGNETORQUER_Z0, MAGNETORQUER_Z1

VCC_5V_EN, TTC_3V3_PA_EN, PAYLOAD_0_EN, PAYLOAD_1_EN, WDI_EXT, ANTENNA_DEBUG

Antenna Deployer I2C Bus

P6 — Header 6H

VCC_3V3_Deployment	1
I2C2_SDA	2
I2C2_SCL	3
ANTENNA_DEBUG	4
GND	5
	6

P8 — Header 6H_PicoBlade

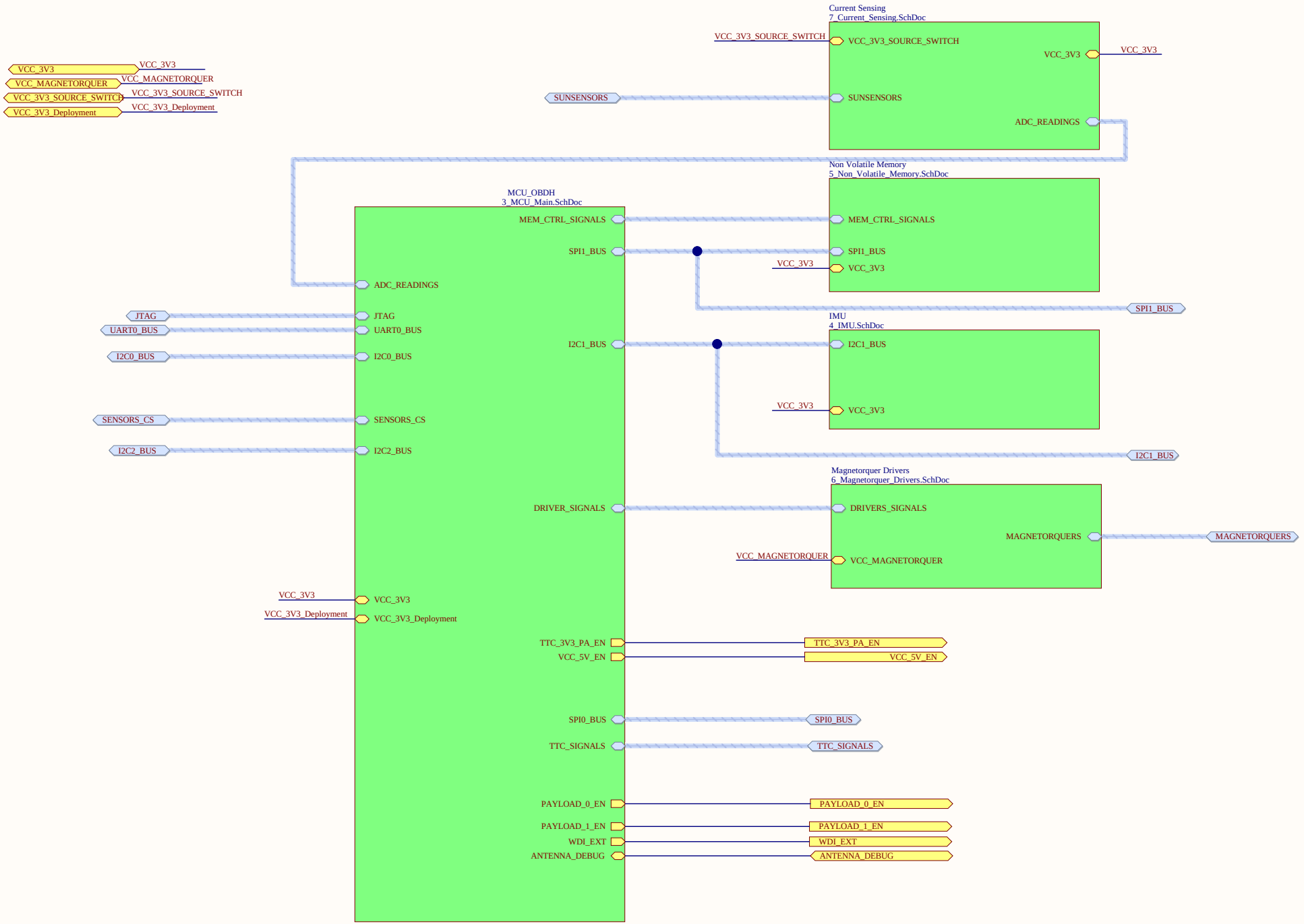
VCC_3V3_Deployment	1
I2C2_SDA	2
I2C2_SCL	3
ANTENNA_DEBUG	4
GND	5
	6

Power supply source selection (from PC104 or JTAG)

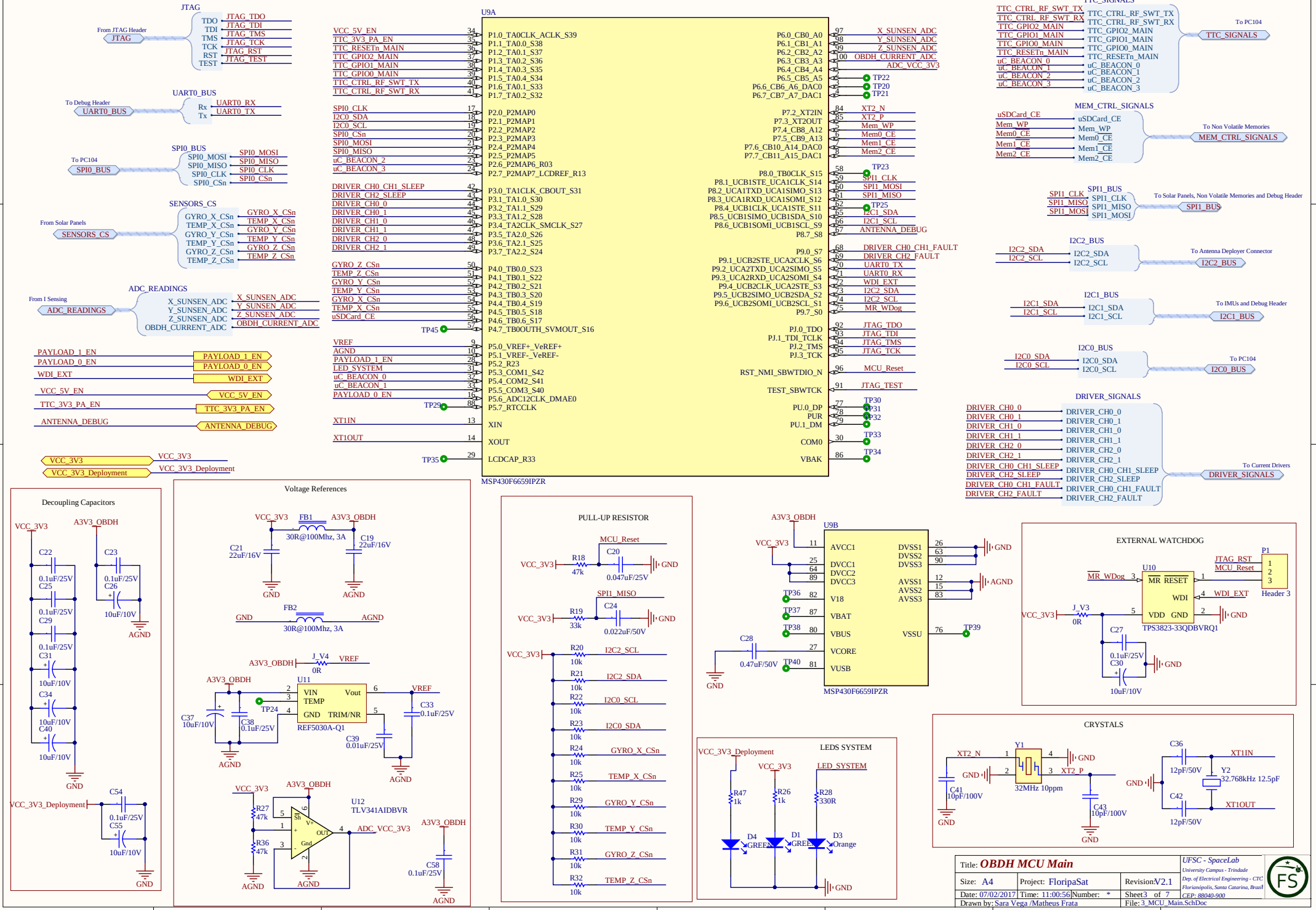
P7 — Header 3

VCC_3V3_PC104	1
VCC_3V3_SOURCE_SWITCH	2
VCC_JTAG	3

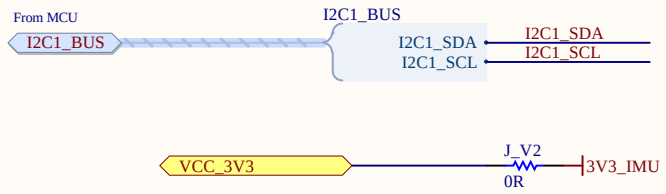
Title: OBDH Interface		UFSC - SpaceLab, University Campus - Trindade, Dep. of Electrical Engineering - CTC, Florianópolis, Santa Catarina, Brazil, CEP: 88040-900
Size: A4	Project: FloripaSat	Revision: V2.1
Date: 07/02/2017	Time: 11:00:56	Number: *
Drawn by: Sara Vega/Matheus Frata		Sheet 1 of 7
		File: 1_Interface.SchDoc

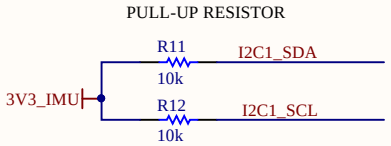

Current Sensing
7_Current_Sensing.SchDoc
VCC_3V3_SOURCE_SWITCH
VCC_3V3_SOURCE_SWITCH
VCC_3V3
VCC_3V3
SUNSENSORS
SUNSENSORS
ADC_READINGS
Non Volatile Memory
5_Non_Volatile_Memory.SchDoc
MCU_OBDH
3_MCU_Main.SchDoc
MEM_CTRL_SIGNALS
MEM_CTRL_SIGNALS
SPI1_BUS
SPI1_BUS
VCC_3V3
VCC_3V3
ADC_READINGS
SPI1_BUS
JTAG
JTAG
UART0_BUS
UART0_BUS
IMU
4_IMU.SchDoc
I2C1_BUS
I2C1_BUS
I2C0_BUS
I2C0_BUS
VCC_3V3
VCC_3V3
SENSORS_CS
SENSORS_CS
I2C2_BUS
I2C2_BUS
I2C1_BUS
Magnetorquer Drivers
6_Magnetorquer_Drivers.SchDoc
DRIVER_SIGNALS
DRIVERS_SIGNALS
MAGNETORQUERS
MAGNETORQUERS
VCC_MAGNETORQUER
VCC_MAGNETORQUER
VCC_3V3
VCC_3V3
VCC_3V3_Deployment
VCC_3V3_Deployment
TTC_3V3_PA_EN
TTC_3V3_PA_EN
VCC_5V_EN
VCC_5V_EN
SPI0_BUS
SPI0_BUS
TTC_SIGNALS
TTC_SIGNALS
PAYLOAD_0_EN
PAYLOAD_0_EN
PAYLOAD_1_EN
PAYLOAD_1_EN
WDI_EXT
WDI_EXT
ANTENNA_DEBUG
ANTENNA_DEBUG
VCC_3V3
VCC_3V3_Deployment
VCC_MAGNETORQUER
VCC_3V3_SOURCE_SWITCH
VCC_3V3_Deployment
VCC_3V3
VCC_MAGNETORQUER
VCC_3V3_SOURCE_SWITCH
VCC_3V3_Deployment
Title: OBDH Topology
Size: A4
Project: FloripaSat
Revision: V2.1
Date: 07/02/2017
Time: 11:00:56
Number: *
Sheet 2 of 7
Drawn by: Sara Vega/ Matheus Frata
File: 2_Topology.SchDoc
UFSC - SpaceLab
University Campus - Trindade
Dep. of Electrical Engineering - CTC
Florianópolis, Santa Catarina, Brazil
CEP: 88040-900

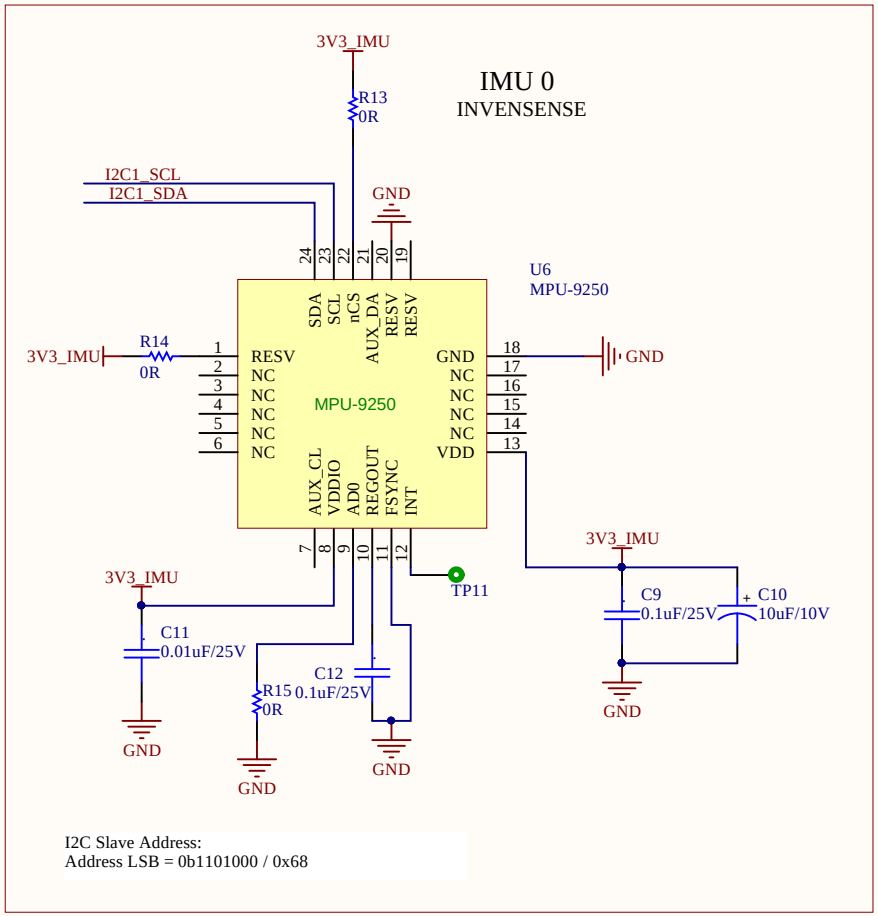
OBDH

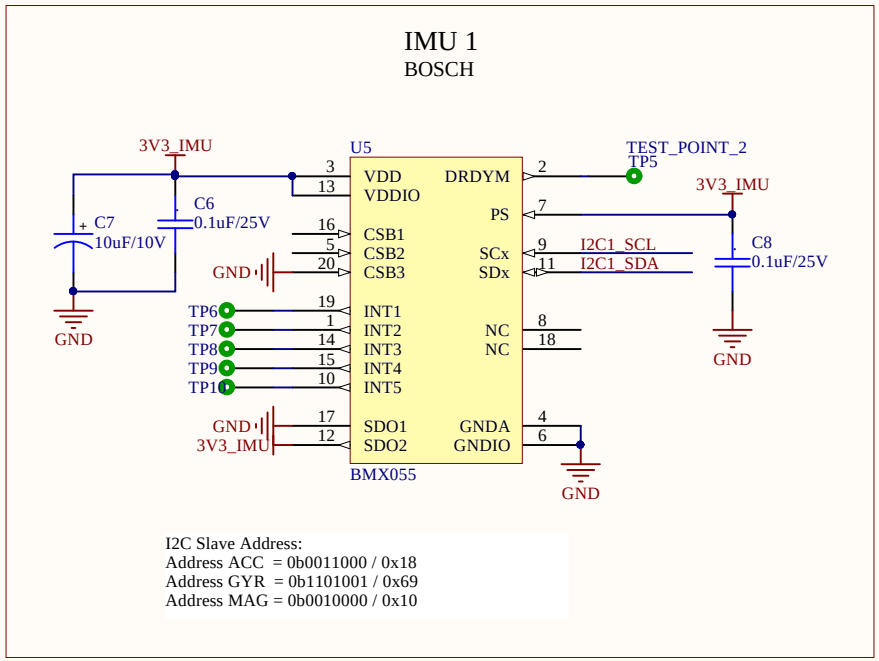


Title: **OBDH MCU Main**	UFSC - SpaceLab, University Campus - Trindade, Dep. of Electrical Engineering - CTC, Florianópolis, Santa Catarina, Brazil, CEP: 88040-900
Size: A4	Project: FloripaSat
Revision: V2.1	
Date: 07/02/2017	Time: 11:00:56
Number: *	Sheet 3 of 7
Drawn by: Sara Vega /Matheus Frata	File: 3_MCU_Main.SchDoc









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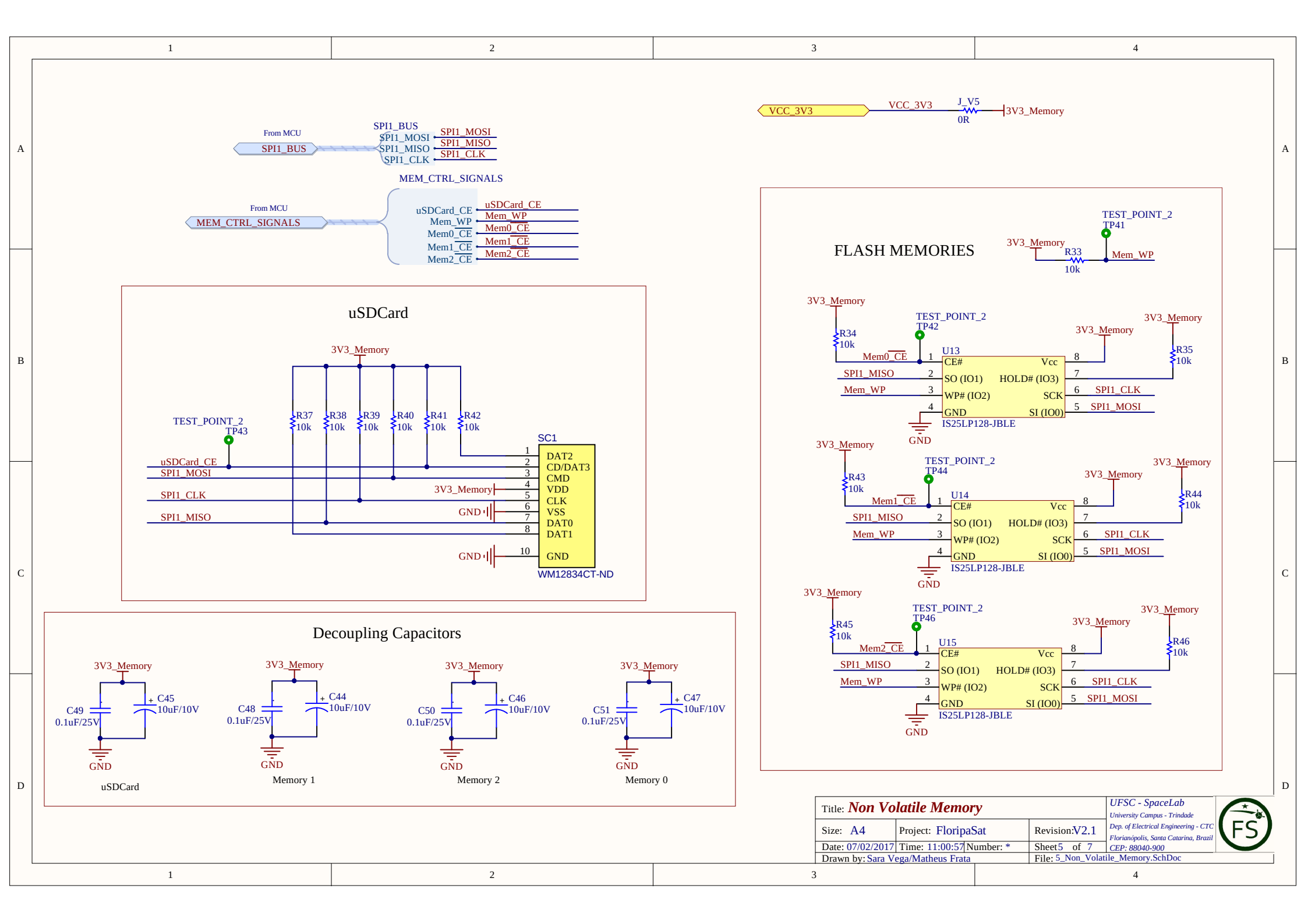
Size: A4	Project: FloripaSat	Revision: V2.1	*University Campus - Trindade*
Date: 07/02/2017	Time: 11:00:57	Number: *	Sheet 4 of 7	*Dep. of Electrical Engineering - CTC*
Drawn by: Sara Vega/ Matheus Frata			File: 4_IMU.SchDoc	*Florianópolis, Santa Catarina, Brazil*
				CEP: 88040-900


From MCU
SPI1_BUS
SPI1_BUS
SPI1_MOSI
SPI1_MISO
SPI1_CLK
SPI1_MOSI
SPI1_MISO
SPI1_CLK
MEM_CTRL_SIGNALS
From MCU
MEM_CTRL_SIGNALS
uSDCard_CE
Mem_WP
Mem0_CE
Mem1_CE
Mem2_CE
uSDCard_CE
Mem_WP
Mem0_CE
Mem1_CE
Mem2_CE
VCC_3V3
VCC_3V3
J_V5
0R
3V3_Memory
FLASH MEMORIES
TEST_POINT_2
TP41
3V3_Memory
R33
10k
Mem_WP
uSDCard
3V3_Memory
TEST_POINT_2
TP43
R37 10k
R38 10k
R39 10k
R40 10k
R41 10k
R42 10k
SC1
uSDCard_CE
SPI1_MOSI
SPI1_CLK
SPI1_MISO
3V3_Memory
GND
GND
DAT2
CD/DAT3
CMD
VDD
CLK
VSS
DAT0
DAT1
GND
WM12834CT-ND
3V3_Memory
R34
10k
TEST_POINT_2
TP42
Mem0_CE
U13
CE#
SO (IO1)
WP# (IO2)
GND
Vcc
HOLD# (IO3)
SCK
SI (IO0)
SPI1_MISO
Mem_WP
SPI1_CLK
SPI1_MOSI
IS25LP128-JBLE
GND
3V3_Memory
R35
10k
3V3_Memory
R43
10k
TEST_POINT_2
TP44
Mem1_CE
U14
IS25LP128-JBLE
GND
3V3_Memory
R44
10k
3V3_Memory
R45
10k
TEST_POINT_2
TP46
Mem2_CE
U15
IS25LP128-JBLE
GND
3V3_Memory
R46
10k
Decoupling Capacitors
3V3_Memory
C49
0.1uF/25V
C45
10uF/10V
GND
uSDCard
3V3_Memory
C48
0.1uF/25V
C44
10uF/10V
GND
Memory 1
3V3_Memory
C50
0.1uF/25V
C46
10uF/10V
GND
Memory 2
3V3_Memory
C51
0.1uF/25V
C47
10uF/10V
GND
Memory 0
Title: Non Volatile Memory
Size: A4
Project: FloripaSat
Revision: V2.1
Date: 07/02/2017
Time: 11:00:57
Number: *
Sheet 5 of 7
Drawn by: Sara Vega/Matheus Frata
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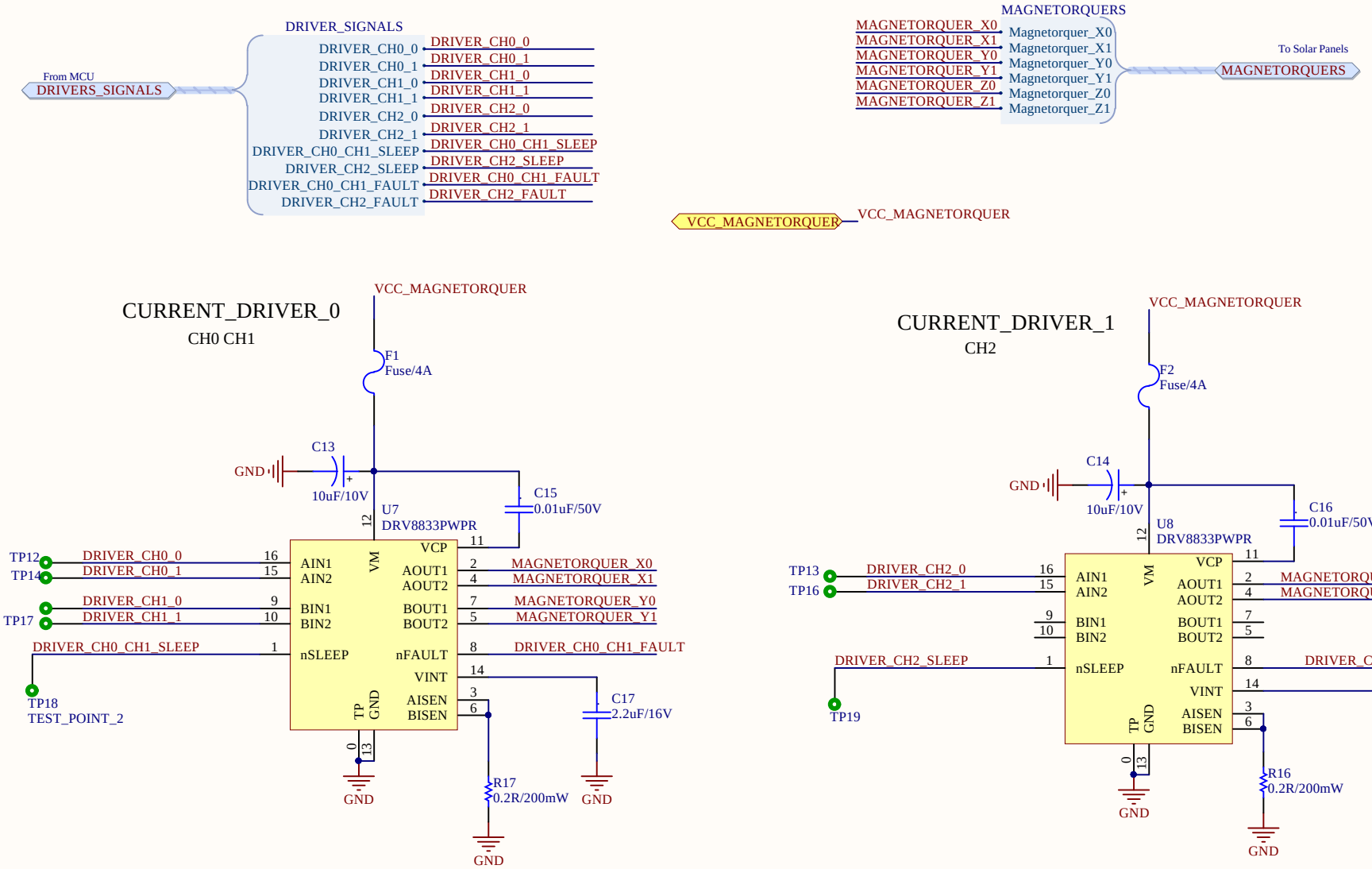
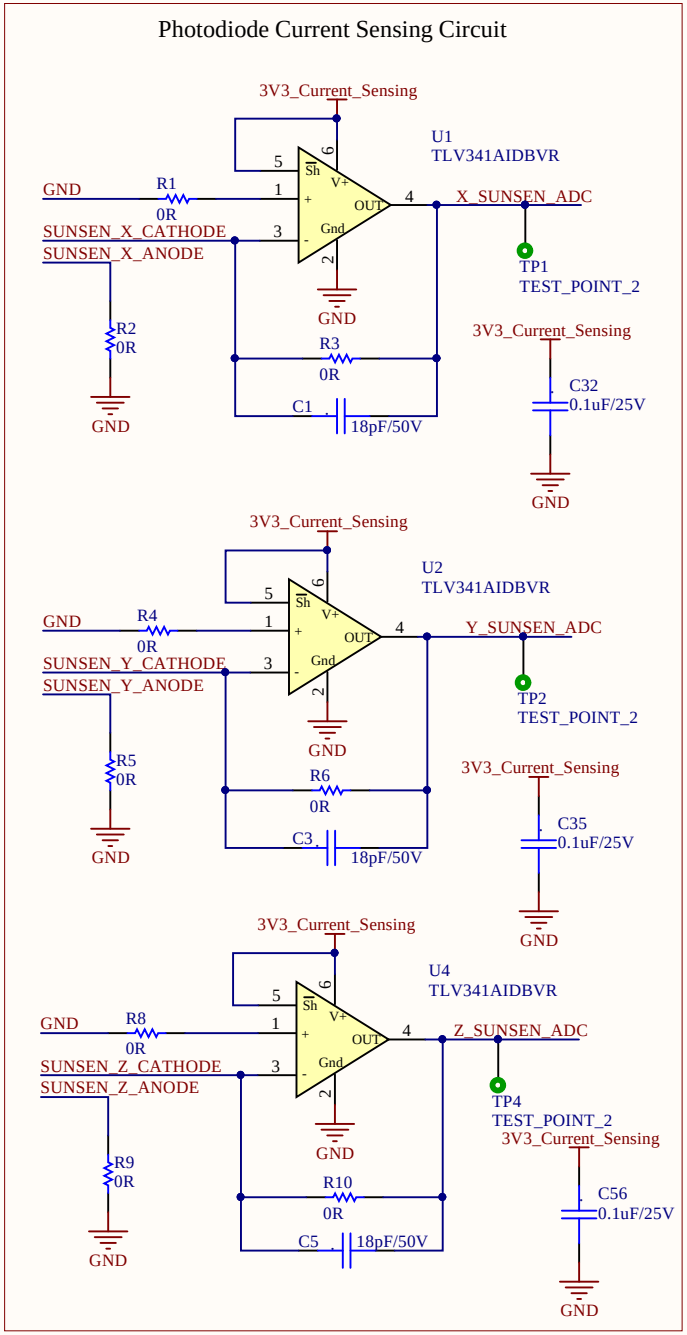
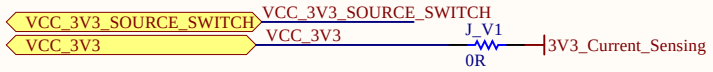
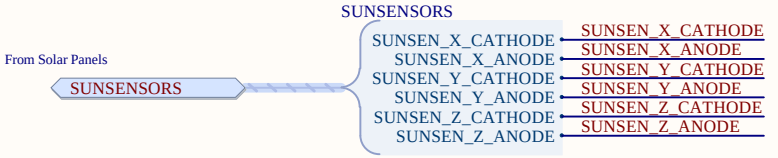
UFSC - SpaceLab
University Campus - Trindade
Dep. of Electrical Engineering - CTC
Florianópolis, Santa Catarina, Brazil
CEP: 88040-900

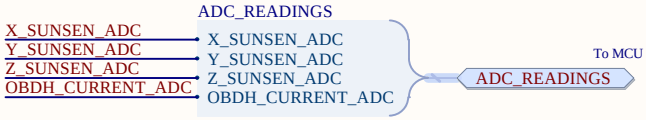

DRIVER_SIGNALS
From MCU
DRIVERS_SIGNALS
DRIVER_CH0_0
DRIVER_CH0_1
DRIVER_CH1_0
DRIVER_CH1_1
DRIVER_CH2_0
DRIVER_CH2_1
DRIVER_CH0_CH1_SLEEP
DRIVER_CH2_SLEEP
DRIVER_CH0_CH1_FAULT
DRIVER_CH2_FAULT
MAGNETORQUERS
MAGNETORQUER_X0
MAGNETORQUER_X1
MAGNETORQUER_Y0
MAGNETORQUER_Y1
MAGNETORQUER_Z0
MAGNETORQUER_Z1
Magnetorquer_X0
Magnetorquer_X1
Magnetorquer_Y0
Magnetorquer_Y1
Magnetorquer_Z0
Magnetorquer_Z1
To Solar Panels
MAGNETORQUERS
VCC_MAGNETORQUER
VCC_MAGNETORQUER
CURRENT_DRIVER_0
CH0 CH1
VCC_MAGNETORQUER
F1
Fuse/4A
C13
GND
10uF/10V
C15
0.01uF/50V
U7
DRV8833PWPR
TP12
TP14
TP17
TP18
TEST_POINT_2
DRIVER_CH0_0
DRIVER_CH0_1
DRIVER_CH1_0
DRIVER_CH1_1
DRIVER_CH0_CH1_SLEEP
AIN1
AIN2
BIN1
BIN2
nSLEEP
VM
VCP
AOUT1
AOUT2
BOUT1
BOUT2
nFAULT
VINT
AISEN
BISEN
TP
GND
MAGNETORQUER_X0
MAGNETORQUER_X1
MAGNETORQUER_Y0
MAGNETORQUER_Y1
DRIVER_CH0_CH1_FAULT
C17
2.2uF/16V
R17
0.2R/200mW
GND
CURRENT_DRIVER_1
CH2
VCC_MAGNETORQUER
F2
Fuse/4A
C14
GND
10uF/10V
C16
0.01uF/50V
U8
DRV8833PWPR
TP13
TP16
TP19
DRIVER_CH2_0
DRIVER_CH2_1
DRIVER_CH2_SLEEP
MAGNETORQUER_Z0
MAGNETORQUER_Z1
DRIVER_CH2_FAULT
C18
2.2uF/16V
R16
0.2R/200mW
GND
Title: Magnetorquer Drivers
Size: A4
Project: FloripaSat
Revision: V2.1
Date: 07/02/2017
Time: 11:00:57
Number: *
Sheet 6 of 7
Drawn by: Sara Vega/Matheus Frata
File: 6_Magnetorquer_Drivers.SchDoc
UFSC - SpaceLab
University Campus - Trindade
Dep. of Electrical Engineering - CTC
Florianópolis, Santa Catarina, Brazil
CEP: 88040-900

Photodiode Current Sensing Circuit

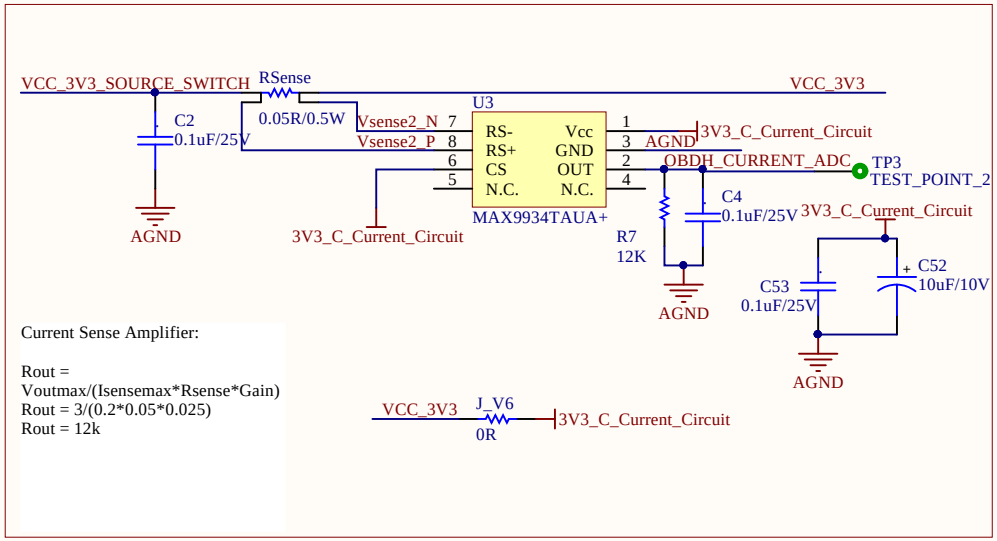








OBDH Consumption Current Circuit



Title: ***Current Sensing***			UFSC - SpaceLab University Campus - Trindade Dep. of Electrical Engineering - CTC Florianópolis, Santa Catarina, Brazil CEP: 88040-900
Size: A4	Project: FloripaSat	Revision: V2.1	
Date: 07/02/2017	Time: 11:00:57 Number: *	Sheet 7 of 7	
Drawn by: Sara Vega/ Matheus Frata		File: 7_Current_Sensing.SchDoc	

Bill of Materials

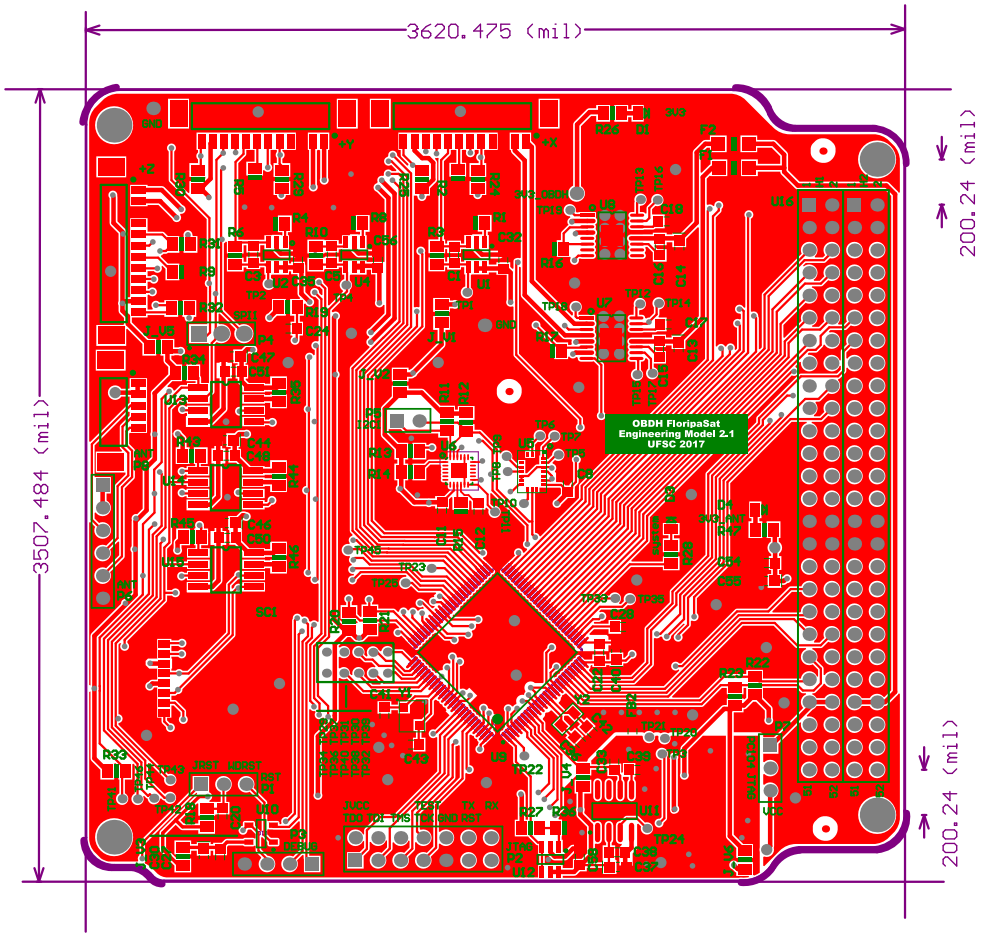
Bill of Materials For Project [PCB_Eng_Model_OBDH_2.PrjPcb] (No PCB Document Selected)

Source Data From: PCB_Eng_Model_OBDH_2.PrjPcb
Project: PCB_Eng_Model_OBDH_2.PrjPcb
Variant: None

Creation Date: 07/02/2017 11:01:11
Print Date: 07-Feb-17 11:01:17 AM

#Column Nam	Footprint	Comment	PartNumber	Designator	Description	Quantity
	HDR12 PicoBlade - duplicate	Header 12_PicoBlade	53398-1271, 53398-1271, 533981271	+X, +Y, +Z	Header, 12-Pin	3
	CC0805	18pF/50V	CC0805JRNPO9BN180	C1, C3, C5	CAP CER 18pF 50V 5% X7R 0805	3
	CC0805	0.1uF/25V	CC0805KRX7R8BB104	C2, C4, C6, C8, C9, C12, C22, C23, C25, C27, C29, C32, C33, C35, C38, C48, C49, C50, C51, C53, C54, C56, C58	CAP CER 0.1UF 25V 10% X7R 0805	23
	CC0805_Tantalum	10uF/10V	TPSP106M010R2000, TPSP106M010R2000, TPSP106M010R2000, TPSP106M010R2000, TPSR106K006R1000, TPSR106K006R1000, TPSR106K006R1000, TPSR106K006R1000, TPSR106K006R1000, TPSR106K006R1000, TPSP106M010R2000, TPSP106M010R2000, TPSP106M010R2000, TPSP106M010R2000, TPSP106M010R2000, TPSR106K006R1000	C7, C10, C13, C14, C26, C30, C31, C34, C37, C40, C44, C45, C46, C47, C52, C55	CAP Tantalum 10uF 10V 20% 0805, CAP Tantalum 10uF 10V 20% 0805, CAP Tantalum 10uF 10V 20% 0805, CAP Tantalum 10uF 10V 20% 0805, CAP Tantalum 10uF 6.3V 10% 0805, CAP Tantalum 10uF 6.3V 10% 0805, CAP Tantalum 10uF 6.3V 10% 0805, CAP Tantalum 10uF 6.3V 10% 0805, CAP Tantalum 10uF 6.3V 10% 0805, CAP Tantalum 10uF 6.3V 10% 0805, CAP Tantalum 10uF 6.3V 10% 0805, CAP Tantalum 10uF 10V 20% 0805, CAP Tantalum 10uF 10V 20% 0805, CAP Tantalum 10uF 10V 20% 0805, CAP Tantalum 10uF 10V 20% 0805, CAP Tantalum 10uF 10V 20% 0805, CAP Tantalum 10uF 6.3V 10% 0805	16
	CC0805	0.01uF/25V	CL21B103KAANNNC	C11, C39	CAP CER 0.01uF 25V 10% X7R 0805	2
	CC0805	0.01uF/50V	CL21B103KAANNNC	C15, C16	CAP CER 0.01uF 50V 10% X7R 0805	2
	CC0805	2.2uF/16V	C2012X7R1C225K125AB	C17, C18	CAP CER 2.2uF 16V 0805	2
	CC1210	22uF/16V	C3225X7R1C226K250AC	C19, C21	CAP CER 22uF 16V 10% X7R 1210	2
	CC0805	0.047uF/25V	C0805C473J3GACTU	C20	CAP CER 0.047UF 25V 5% X7R 0805	1
	CC0805	0.022uF/50V	CGA4J2C0G1H223J125AA	C24	CAP CER 0.022UF 50V 5% X7R 0805	1
	CC0805	0.47uF/50V	C0805C474K5RACTU	C28	CAP CER 0.47UF 50V 10% X7R 0805	1
	CC0805	12pF/50V	CL21C120FBANNNC	C36, C42	CAP CER 12pF 50V 0805	2
	CC0805	10pF/100V	08051A100FAT2A	C41, C43	CAP CER 10pF 100V 0805	2
	0805-LED	GREEN	LTST-C171GKT	D1, D4	SMD Green LED	2
	0805-LED	Orange	LTST-C170KFKT	D3	SMD Orange LED	1
	1206	Fuse/4A	0437.375WR	F1, F2	Surface Mount Fuses SMD FA 4A	2
	IND0805	30R@100Mhz, 3A	BLM21PG300SN1D	FB1, FB2	Ferrite Bead 30 OHM 3A 100MHz	2
	0805	0R	CRCW08050000Z0EA	J_V1, J_V2, J_V3, J_V4, J_V5, J_V6, R1, R2, R3, R4, R5, R6, R8, R9, R10, R13, R14, R15	RES 0R OHM 1/16W JUMPER 0805	18
	HDR1X3	Header 3		P1, P7	Header, 3-Pin	2
	HDR2X7	Header 7X2		P2	Header, 7-Pin, Dual row	1
	HDR1X4	Header 4		P3	Header, 4-Pin	1
	HDR 1X3	Header 3H	4-103327-5	P4	Header, 3-Pin, Right Angle	1
	HDR1X2H	Header 2H		P5	Header, 2-Pin, Right Angle	1
	HDR1X6H	Header 6H		P6	Header, 6-Pin, Right Angle	1
	HDR6 PicoBlade	Header 6H_PicoBlade	53398-0671	P8	Header, 6-Pin, Right Angle	1
	0805	12K	PCF0805R-1K65BT1	R7	RES 1.65K OHM 1/10W 0.1% 0805	1
	0805	10k	CRCW080510K0FKEA	R11, R12, R20, R21, R22, R23, R24, R25, R29, R30, R31, R32, R33, R34, R35, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46	RES 10K OHM 1/8W 1% 0805	25
	0805	0.2R/200mW	RL1220S-R20-F	R16, R17	RES 0.2 OHM -0.2W 1% 0805, RES 0.2 OHM - 0.2W 1% 0805	2
	0805	47k	RC0805FR-0747KL	R18, R27, R36	RES 47k OHM 1/10W 1% 0805	3
	0805	33k	RC0805FR-0733KL	R19	RES 33K OHM 1/10W 1% 0805	1
	0805	1k	RC0805FR-071KL	R26, R47	RES 1.0K OHM 1/8W 1% 0805	2
	0805	330R	RC0805FR-07330RL	R28	RES 330R OHM 1/4W 1% 0805	1
	1206 - ohmite	0.05R/0.5W	LVK12R050DER	RSense	Current Sense Resistors - SMD 0.05ohm .5% 4 Terminal	1
	uSD_Card	WM12834CT-ND	WM12834CT-ND	SC1	MicroSD CARD Connector	1
	SOT-23 6L	TLV341AIDBVR	TLV341AIDBVR	U1, U2, U4, U12	TLV341AIDBVR	4
	MSOP-8	MAX9934TAUA+	MAX9934TAUA+	U3	MAX9934TAUA+	1
	LGA20	BMX055		U5		1
	QFN24P300X300X105-25N	MPU-9250	MPU-9250	U6	SMD Gyroscope/Accelerometer/Magnetometer Sensor; 9-AXIS	1
	16TTSSOP	DRV8833PWPR	DRV8833PWPR	U7, U8	DRV8833PWPR	2
	PZ0100A_N	MSP430F6659IPZR	MSP430F6659IPZR	U9	Imported	1
	DBV0005A_N	TPS3823-33QDBVRQ1	TPS3823-33QDBVRQ1	U10	Processor Supervisory Circuit, 1 Supply Monitored, -40 to 85 degC, 5-Pin SOT-23 (DBV), Green (RoHS & no Sb/Br)	1
	SOIC-8	REF5030A-Q1	REF5030A-Q1	U11	REF5030A-Q1	1
	SOIC8	IS25LP128-JBLE	IS25LP128-JBLE	U13, U14, U15	IC FLASH 128MBIT 133MHZ 8SOIC	3
	PC104	PC104_INTERNAL	ESQ-126-39-G-D	U16	PC104	1
	XTAL_ABM8X	32MHz 10ppm	ABM8X-102-32.000MHZ-T	Y1	32MHz ±10ppm Crystal 10pF 60 Ohm -40°C ~ 125°C	1
	ABS06 0805	32.768kHz 12.5pF	ECS-.327-12.5-34S-TR	Y2	32.768kHz ±20ppm Crystal 12.5pF 70 kOhm -40°C ~ 125°C	1
						148

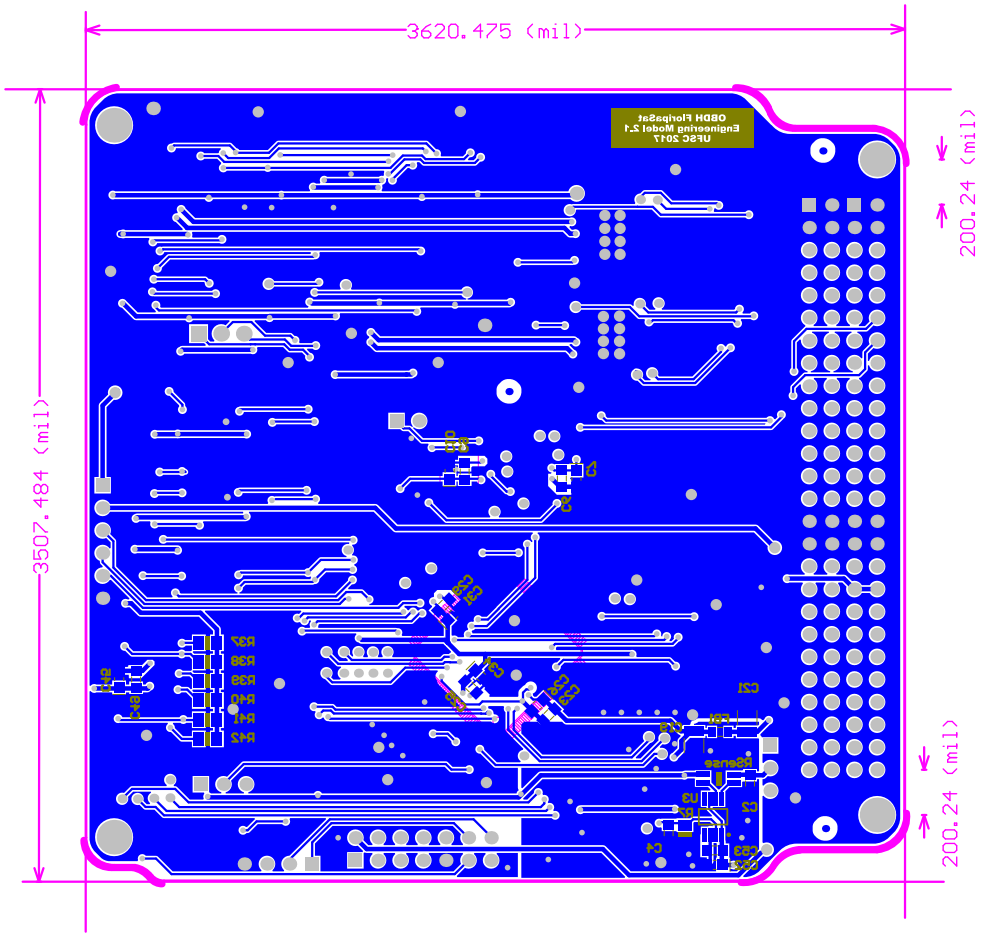
Approved	Notes	



General SPEC:

Cupper base 1OZ:
PCB Material: FR4
PCB Tickness: 1.6mm
PCB Surface: HAL

TITULO: OBDH 2017 Engineering Model 2 UFSC		**REV.** 01	**VER.** V2.1
MATERIAL: FR4	**Silkscreen color: white**		
Board Tickness: 1.6mm	**Layers: 02**	**Drawing**	**DATE**
PCB Surface: HAL		Sara Vega	07/02/2017



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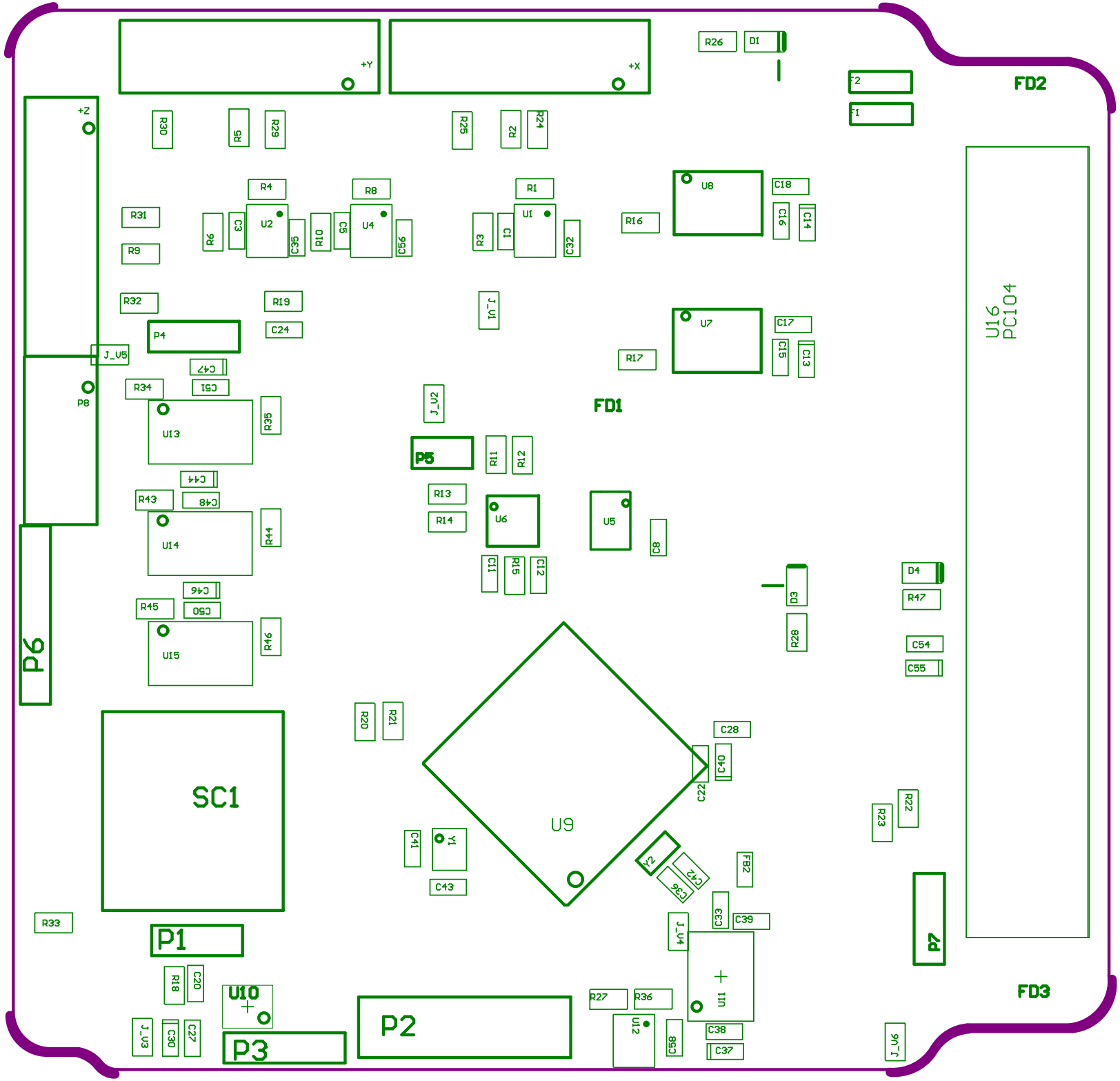
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R26
D1
F2
F1
FD2
R30
R5
R32
R25
R2
R24
R4
R8
R1
U8
C18
R31
R6
C3
U2
C36
R10
C5
U4
C56
R3
C1
U1
C32
R16
C16
C14
R9
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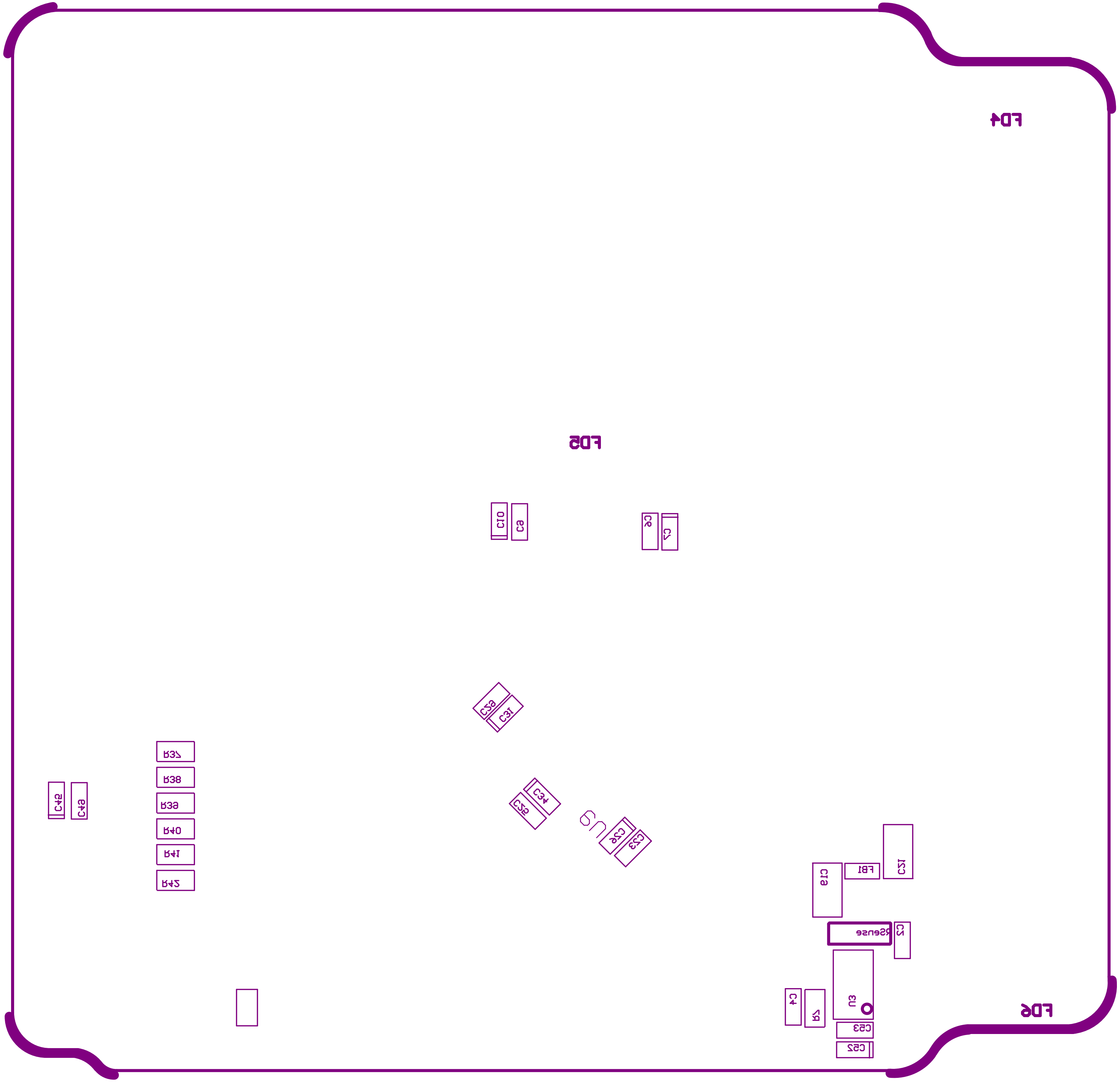
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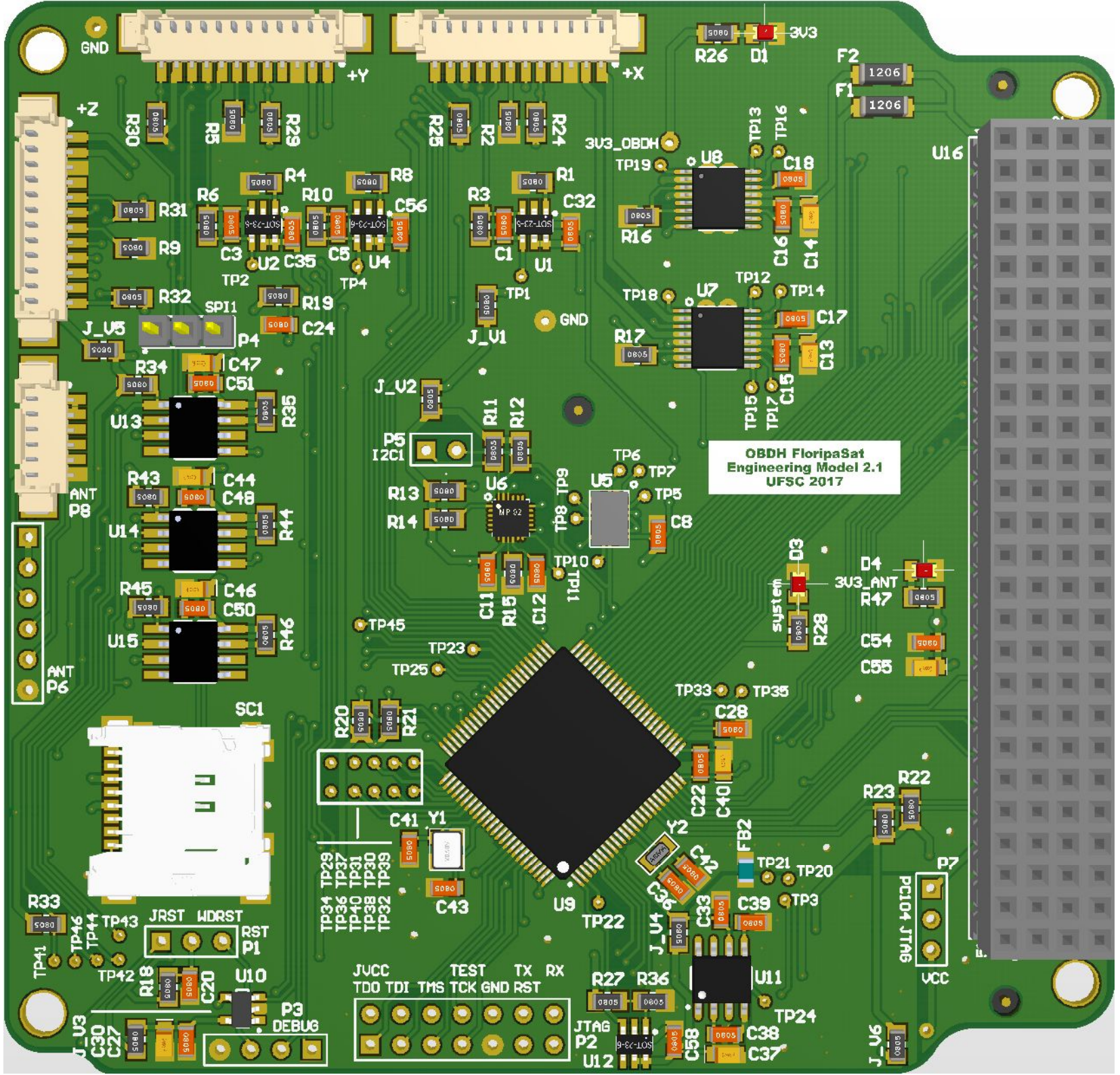
OBDH FloripaSat
Engineering Model 2.1
UFSC 2017
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3V3_ANT
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I2C1
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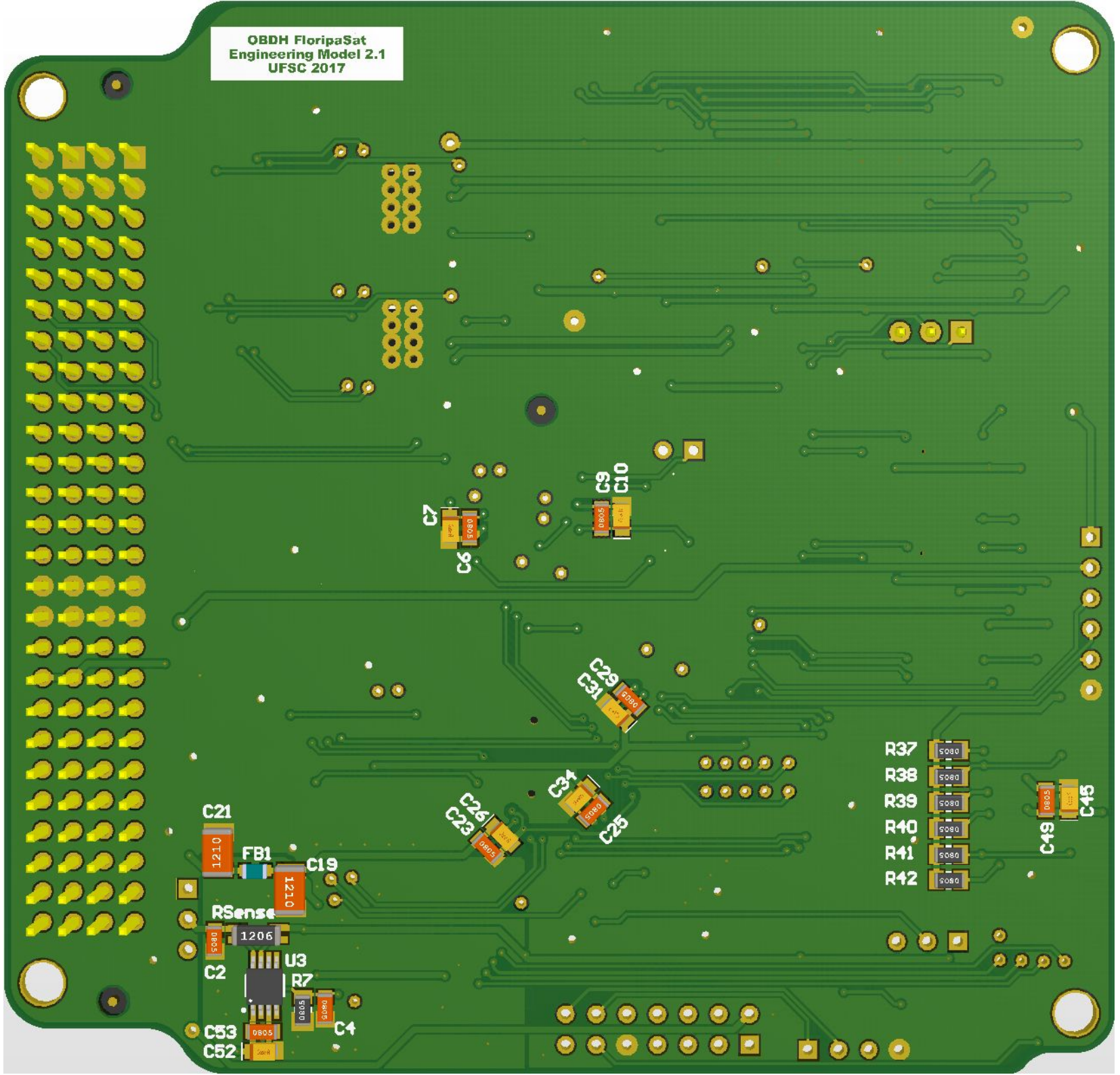
OBDH FloripaSat
Engineering Model 2.1
UFSC 2017
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