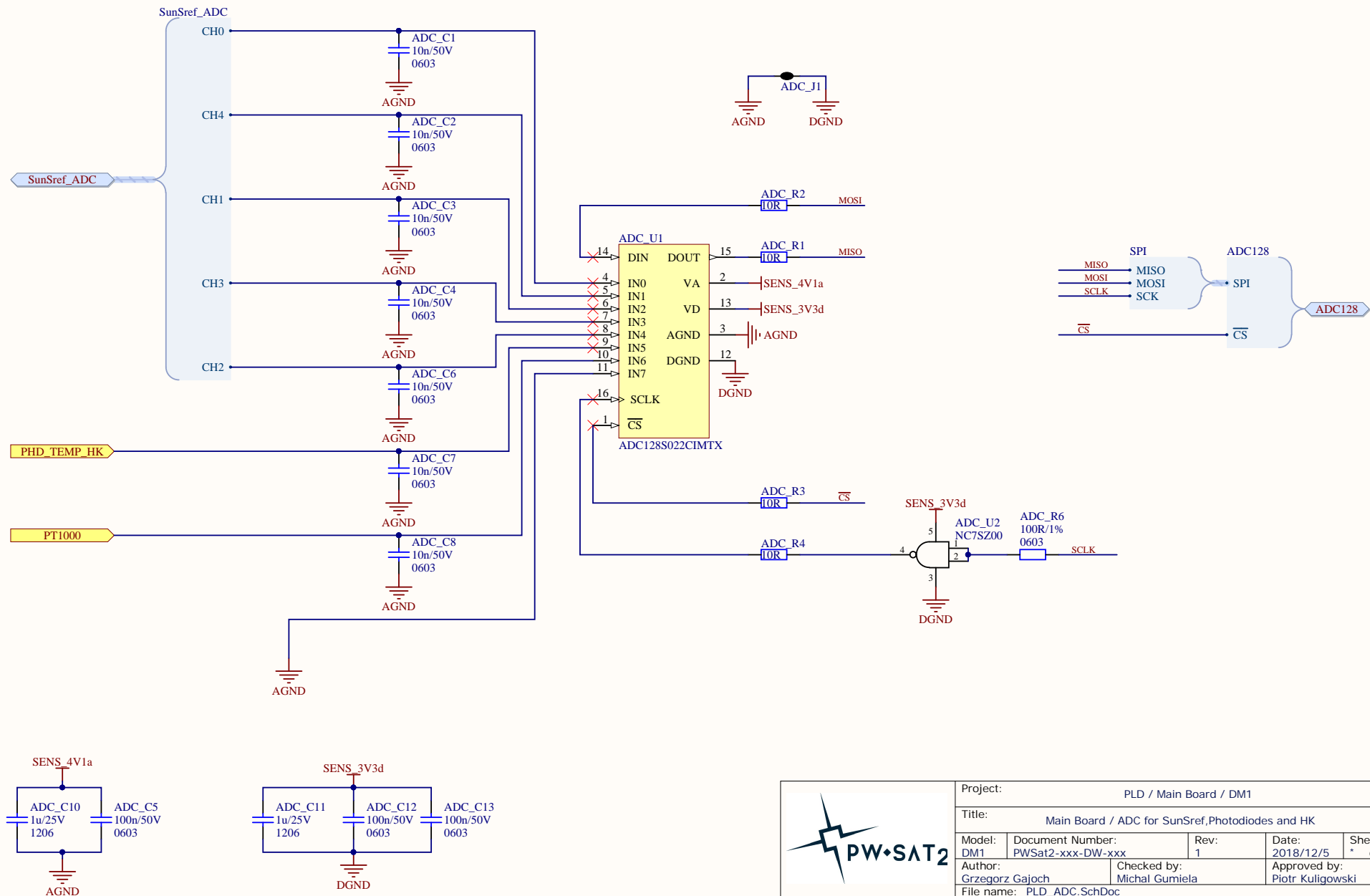

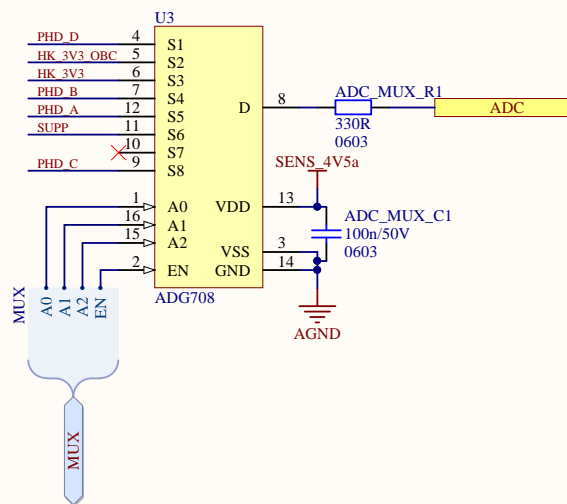
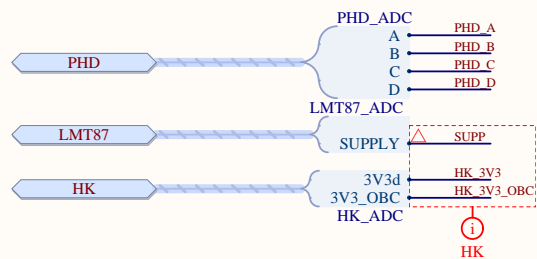
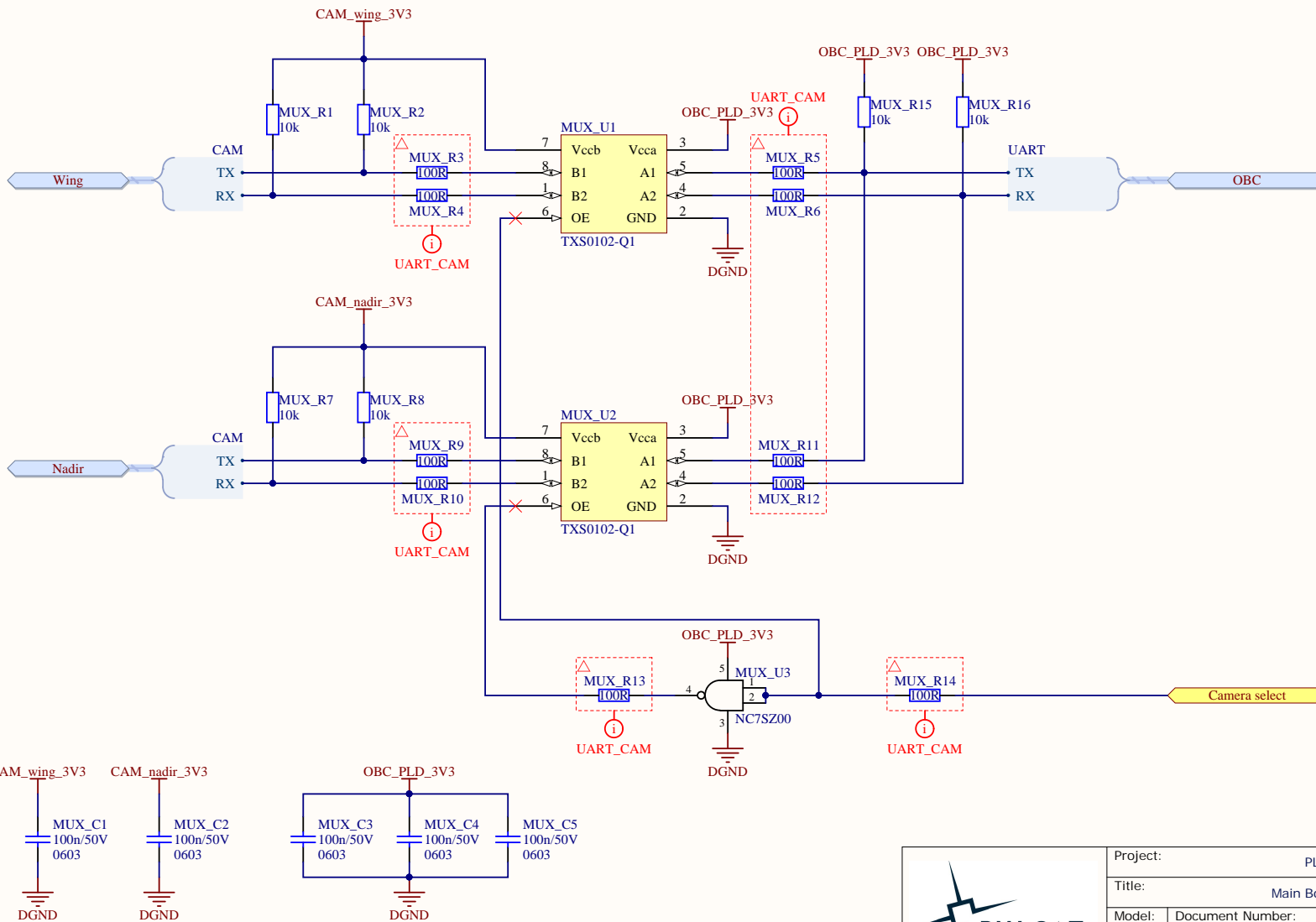
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	Title: Main Board / ADC for SunSref, Photodiodes and HK				
	Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
	Author: Grzegorz Gajoch		Checked by: Michal Gumiel	Approved by: Piotr Kuligowski	
	File name: PLD_AcessPortInterface.SchDoc				



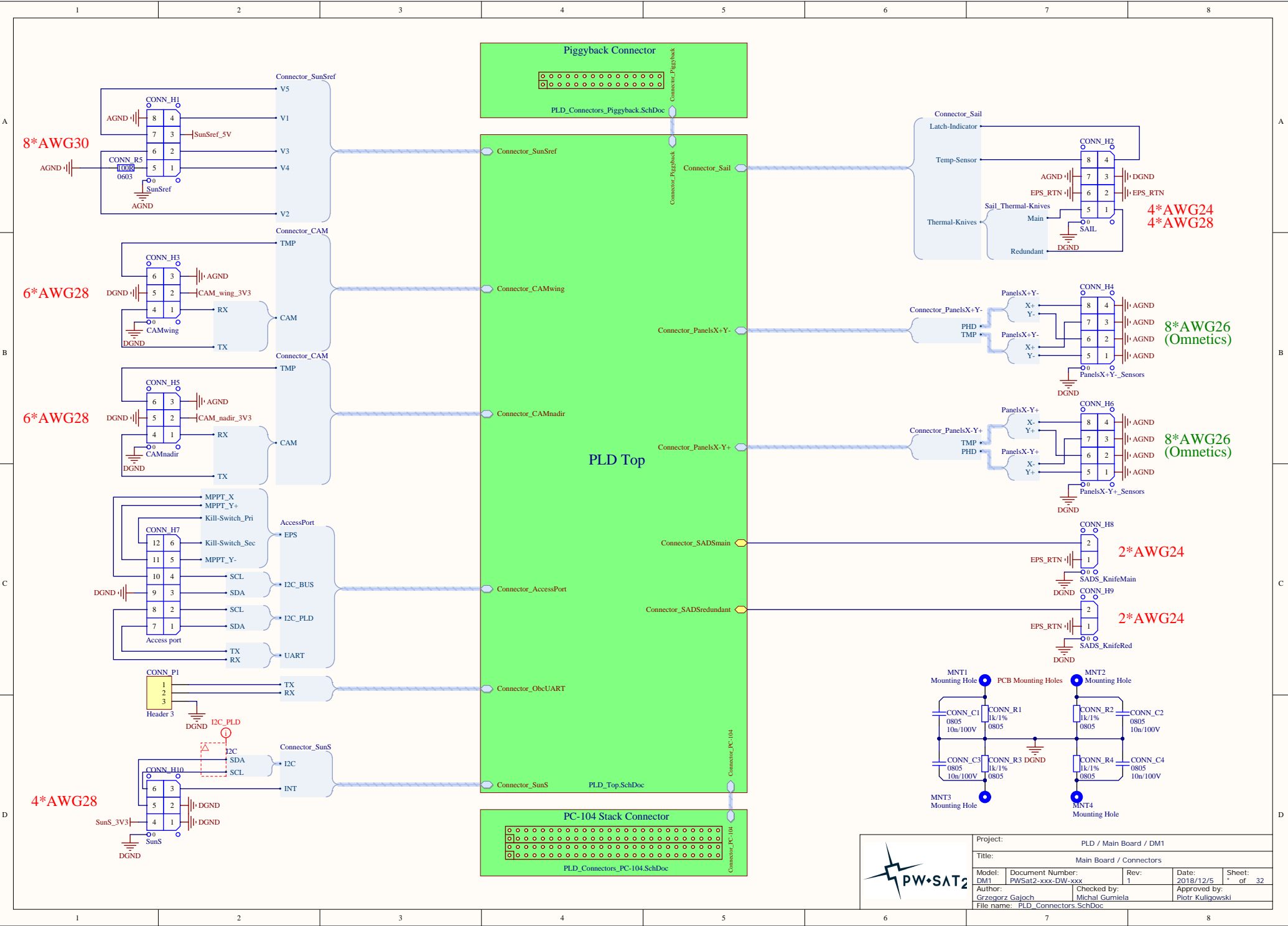
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	Title: Main Board / ADC for SunSref, Photodiodes and HK				
	Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
	Author: Grzegorz Gajoch	Checked by: Michal Gumieła		Approved by: Piotr Kuligowski	
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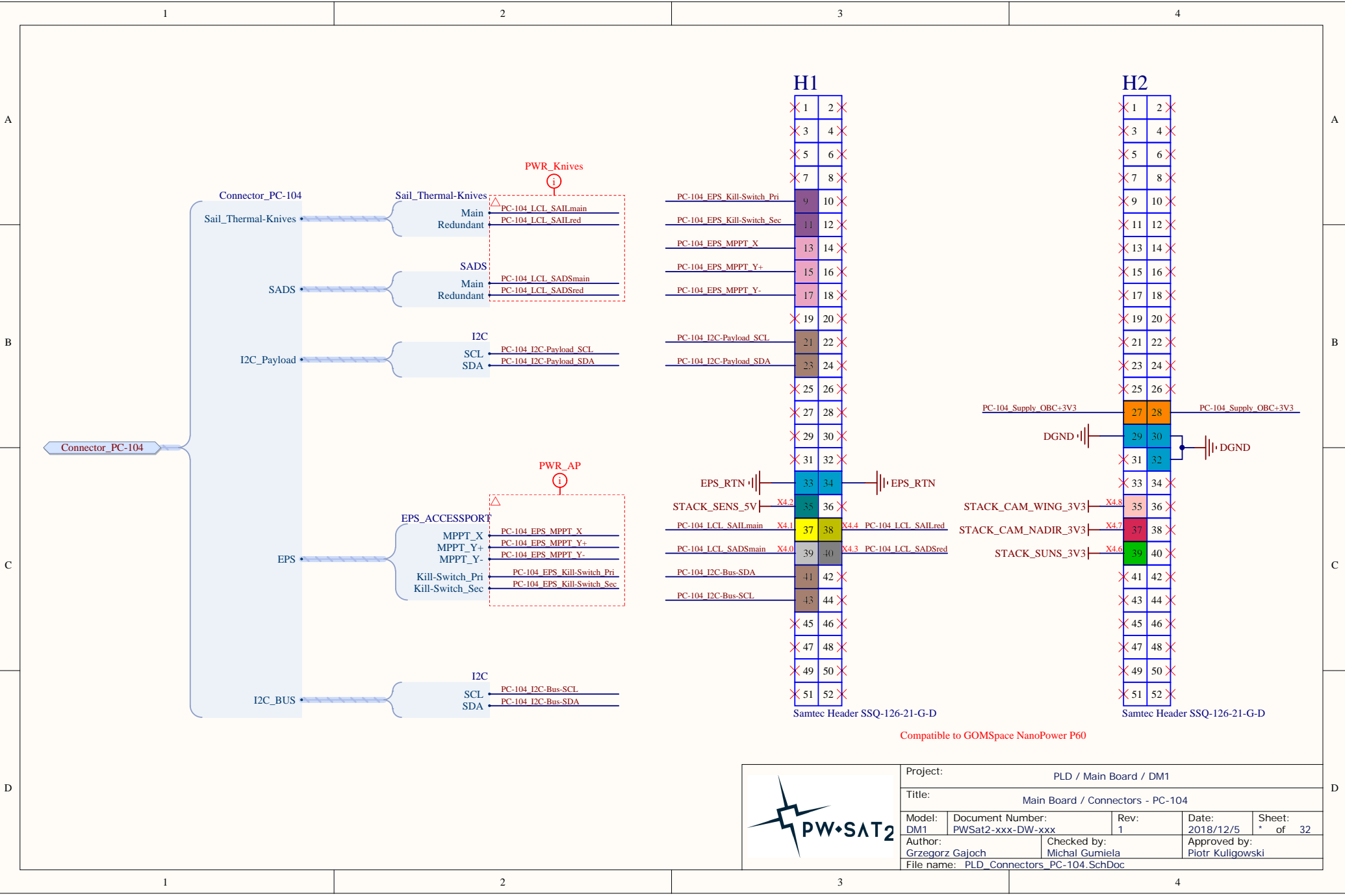


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Title: Main Board / RadFET				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumiela	Approved by: Piotr Kuligowski	
File name: PLD_ADC_MUX.SchDoc				



Project: PLD / Main Board / DM1				
Title: Main Board / CAMs UART-Buffer				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumiela	Approved by: Piotr Kuligowski	
File name: PLD_CAM_MUX.SchDoc				





Project: PLD / Main Board / DM1				
Title: Main Board / Connectors - PC-104				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumieła	Approved by: Piotr Kuligowski	
File name: PLD_Connectors_PC-104.SchDoc				

PG_OBC_3V3

PG_R1
10k

BU_VIN

▲ Pullup for Battery Power Domain
To get rid of brown-out errors.

Connector_Piggyback

UART

UART

RX

TX

△ Piggyback UART-RX PF7

Piggyback UART-TX PF6

① UART_CAM

Piggyback_GPIO

OBC_STATUS_LED → Piggyback_GPIO PB11

CAM_SELECT → Piggyback_GPIO PB12

SAIL_INDICATOR → Piggyback_ADC PD4

PLD_INT → Piggyback_ADC PD6

SUNS_INT → Piggyback_ADC PD5

MEMORY

SPI

SCK

MOSI

MISO

→ Piggyback_SPI-CLK PE5

→ Piggyback_SPI-MOSI PE7

→ Piggyback_SPI-MISO PE6

FLASH1_CS

FLASH2_CS

FLASH3_CS

→ Piggyback_GPIO PA13

→ Piggyback_GPIO PA11

→ Piggyback_GPIO PA8

FRAM1_CS → Piggyback_GPIO PA12

FRAM2_CS → Piggyback_GPIO PA10

FRAM3_CS → Piggyback_GPIO PA9

Piggyback_H1
Samtec ESQ-115-12-T-D

Vbat

5V

PG_OBC_3V3

Piggyback_UART-RX PF7

Piggyback_UART-TX PF6

Piggyback_SPI-CLK PE5

Piggyback_SPI-CS PE4

Piggyback_SPI-MOSI PE7

Piggyback_SPI-MISO PE6

Piggyback_GPIO PB11

Piggyback_GPIO PA13

BU_VIN

Piggyback_ADC PD7

Piggyback_ADC PD6

DGND

1

3

5

7

9

11

13

15

17

19

21

23

25

27

29

2

4

6

8

10

12

14

16

18

20

22

24

26

28

30

Vbat

5V

PG_OBC_3V3

N/A

N/A

Piggyback_GPIO PA8

Piggyback_GPIO PA9

Piggyback_GPIO PA10

Piggyback_GPIO PA11

Piggyback_GPIO PA12

Piggyback_GPIO PB12

Piggyback_GPIO PE0

Piggyback_ADC PD4

Piggyback_ADC PD5

DGND

2

4

6

8

10

12

14

16

18

20

22

24

26

28

30

UART

SPI

PWM

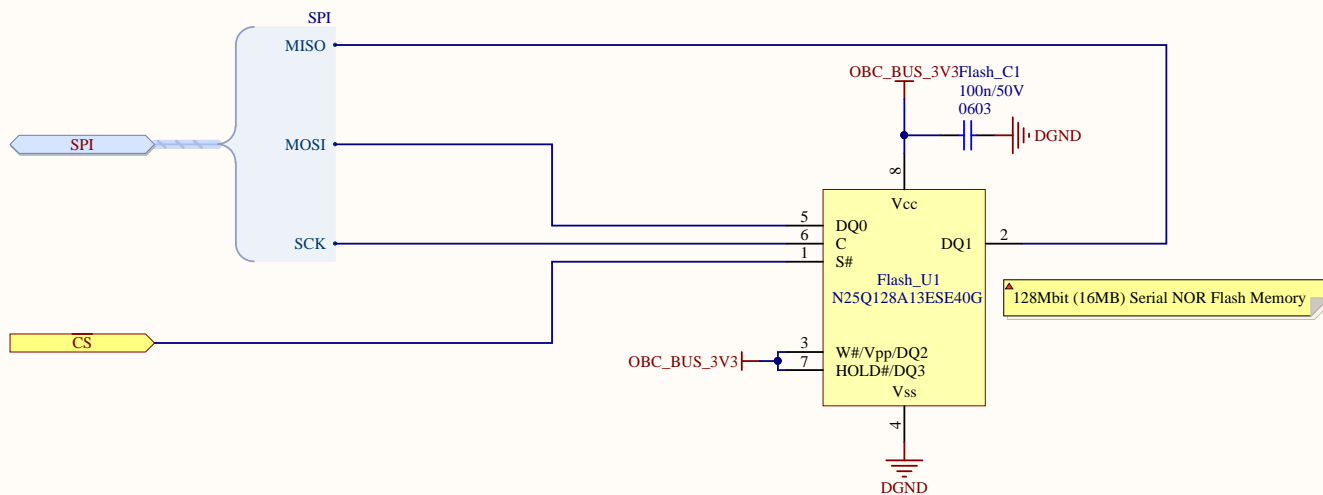
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Analog/Digital Input

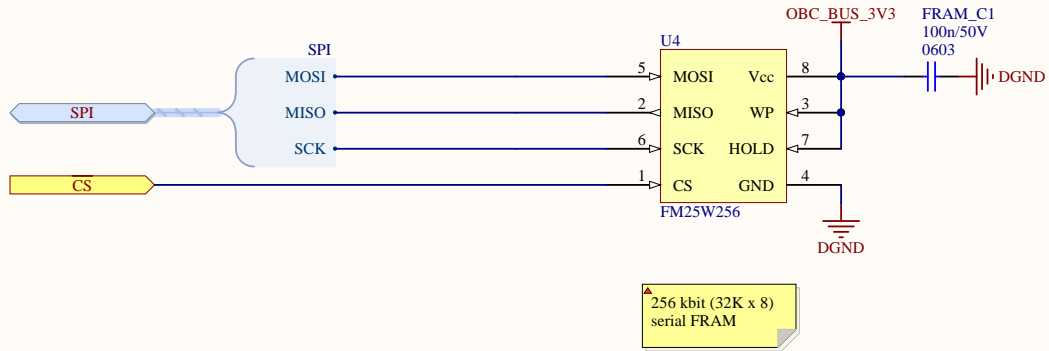
https://github.com/PW-Sat2/Documentation/raw/master/obc/obc_datasheet_esl_cubecomputer.pdf



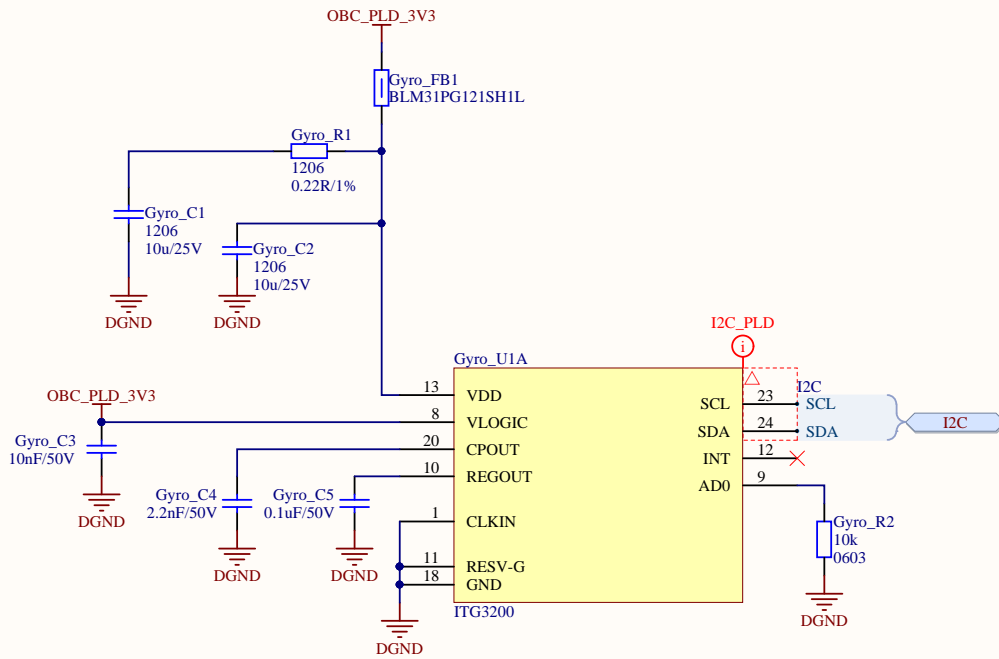
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Title: Main Board / Connectors - Piggyback				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumieł	Approved by: Piotr Kuligowski	
File name: PLD_Connectors_Piggyback_SchDoc				



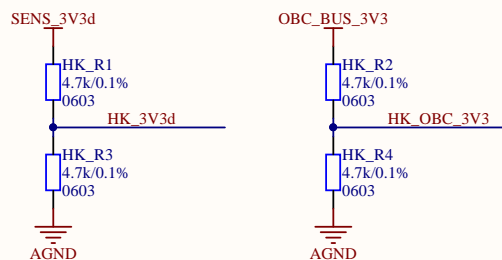
Project: PLD / Main Board / DM1				
Title: Main Board / Flash Memory				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumiela	Approved by: Piotr Kuligowski	
File name: PLD_Flash-Memory.SchDoc				



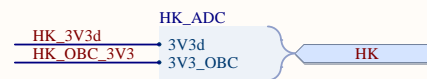
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Title: Main Board / Flash Memory				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumiela	Approved by: Piotr Kuligowski	
File name: PLD_FRAM-Memory.SchDoc				



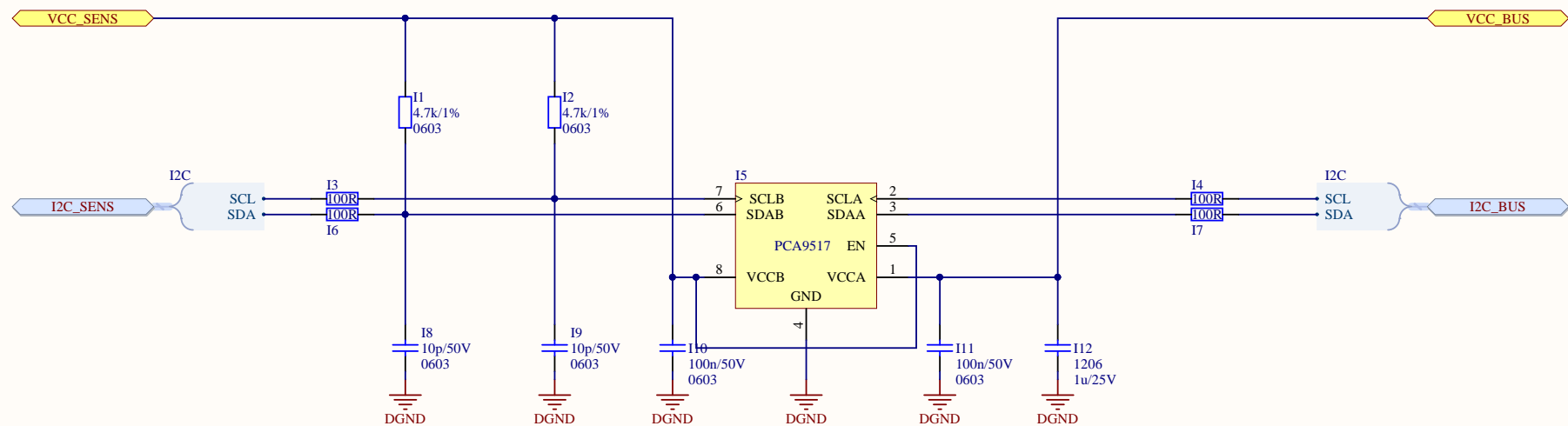
Project: PLD / Main Board / DM1				
Title: Main Board / Gyroscopes				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumieła		Approved by: Piotr Kuligowski
File name: PLD_Gyroscopes.SchDoc				




▲ HK measurements:
- 3V3d for sensors
- 3V3 from OBC for SPI buffers
- 3V3 for RTC

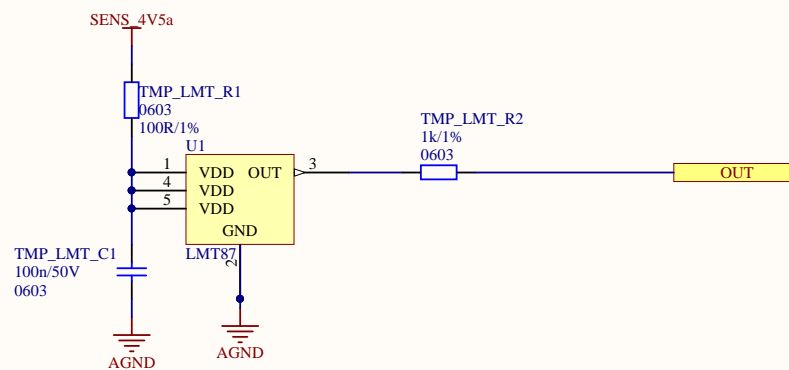


Project: PLD / Main Board / DM1				
Title: Main Board / RadFET				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michal Gumieła	Approved by: Piotr Kuligowski	
File name: PLD_HK.SchDoc				

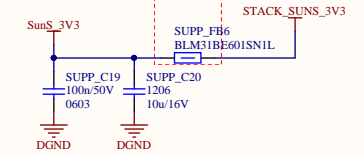
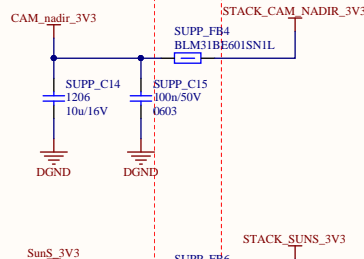
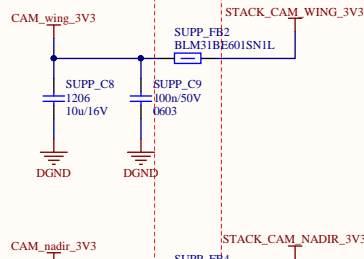
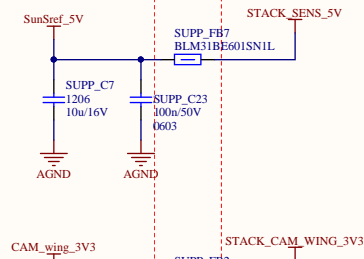
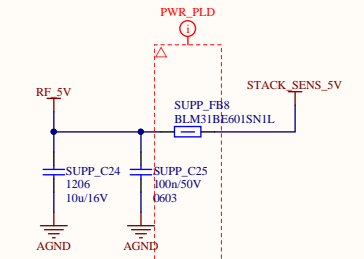
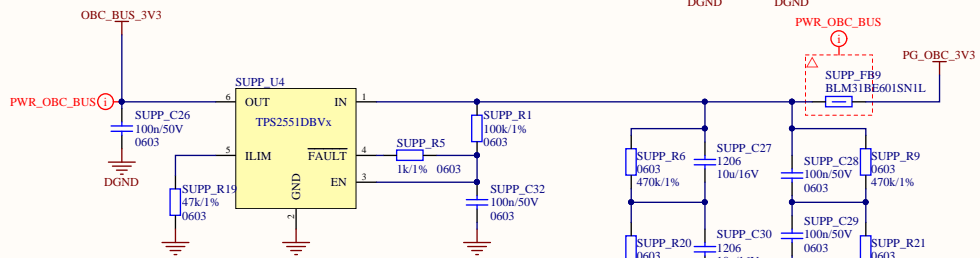
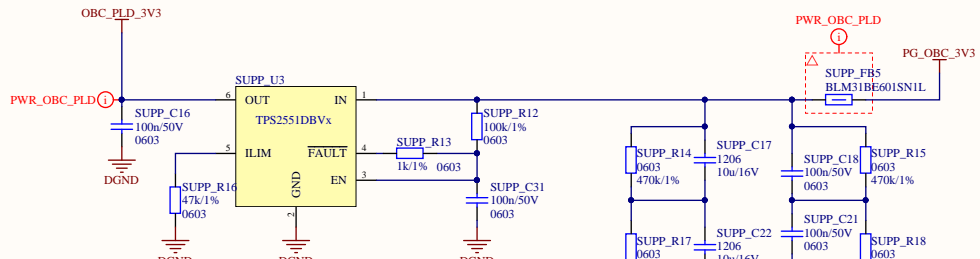
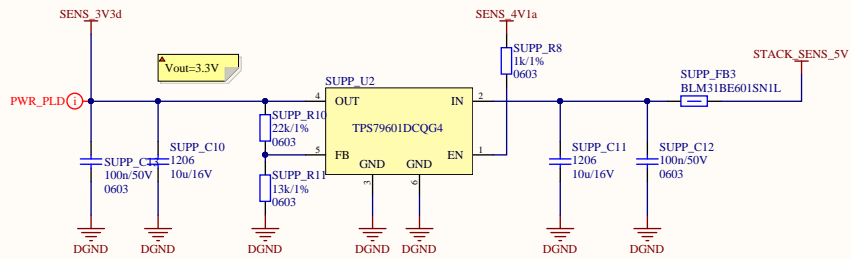
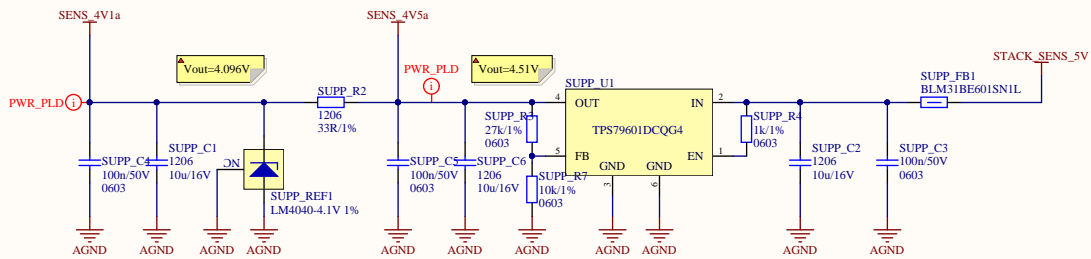


<http://www.ti.com/lit/ds/symlink/pca9517.pdf>

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	Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
	Author: Grzegorz Gajoch	Checked by: Michał Gumiela		Approved by: Piotr Kuligowski	
	File name: PLD_I2C-Repeater.SchDoc				



Project: PLD / Main Board / DM1				
Title: Main Board / LM60				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumiela	Approved by: Piotr Kuligowski	
File name: PLD_LMT87.SchDoc				



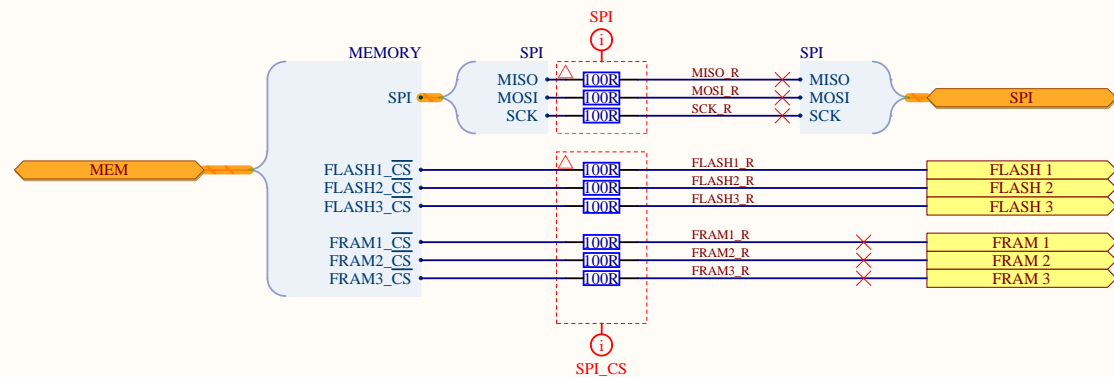
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Title: Main Board / Local Supply			
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5
Author: Grzegorz Gajoch	Checked by: Michał Gumiela	Sheet: 1 of 32	
File name: PLD_Local-Supply_SchDoc			
Approved by: Piotr Kuligowski			

A

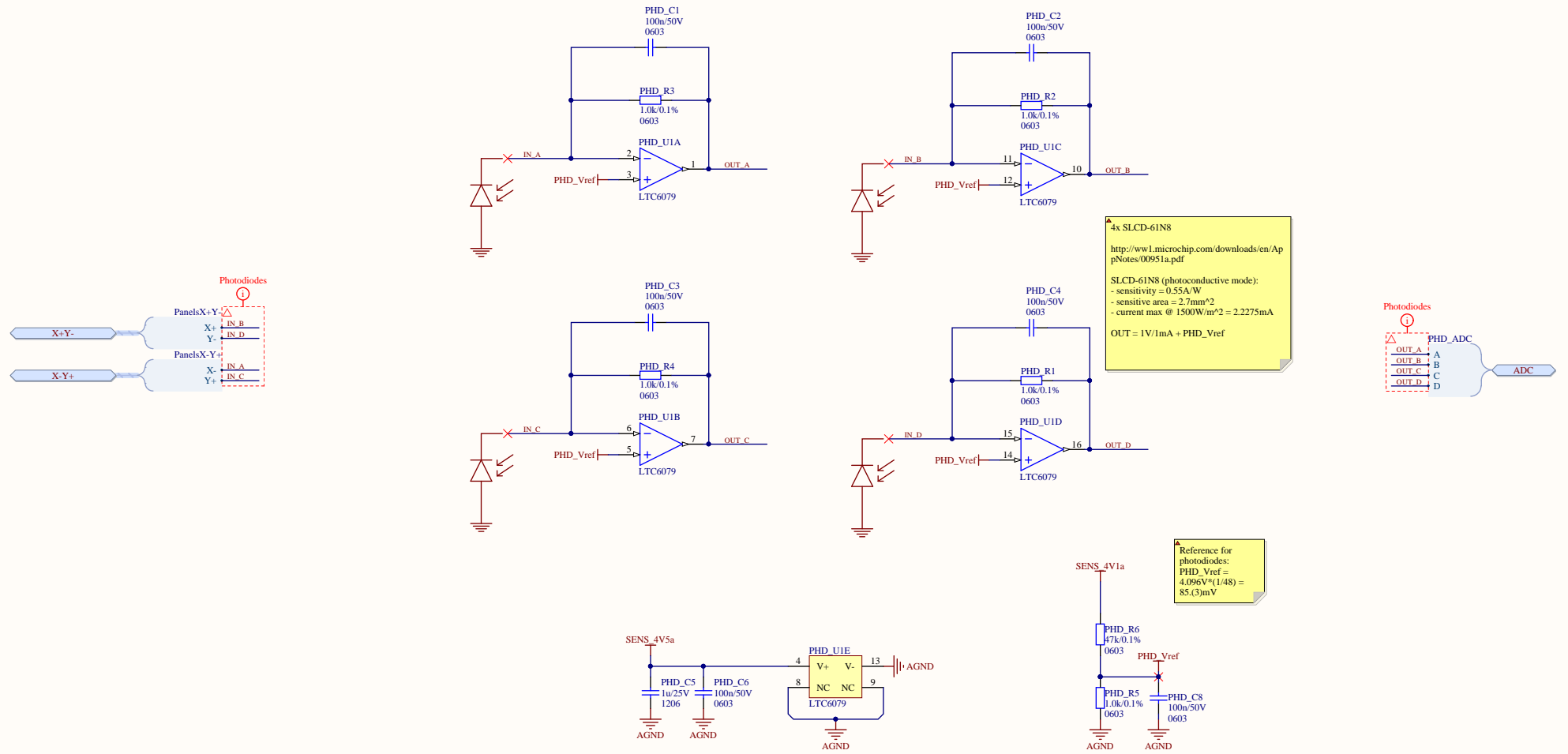
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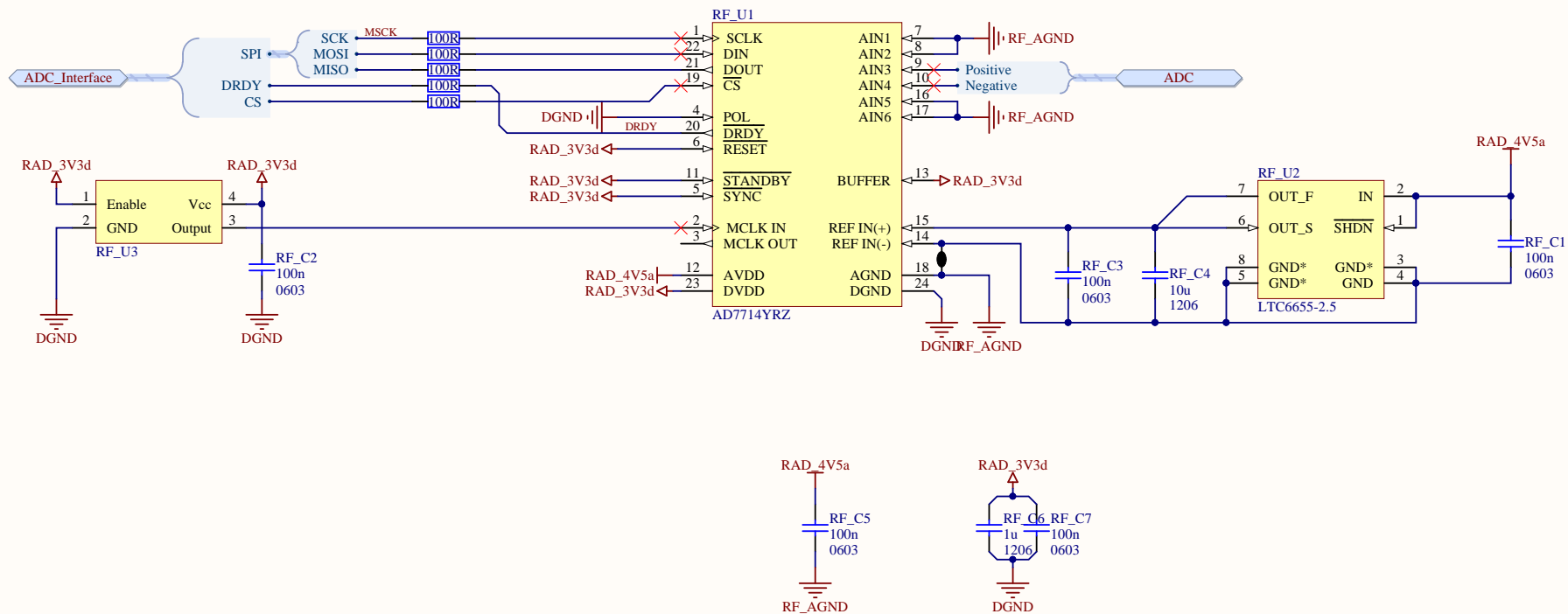
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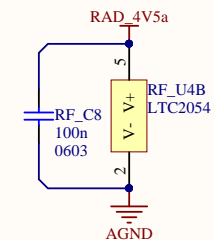
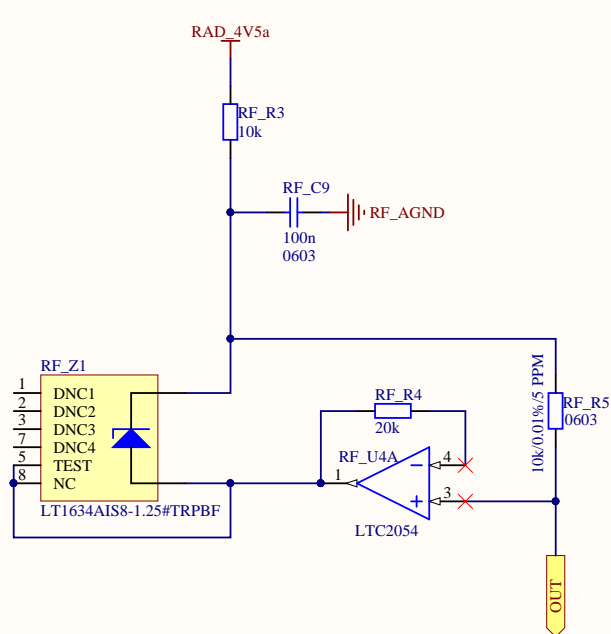
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Title:										Main Board / ADC for SunSref,Photodiodes and HK				
Model:		Document Number:				Rev:		Date:		Sheet:				
DM1		PWSat2-xxx-DW-xxx				1		2018/12/5		* of 32				
Author:				Checked by:				Approved by:						
Grzegorz Gajoch				Michal Gumieła				Piotr Kuligowski						
File name:										PLD_MemoryInterface.SchDoc				




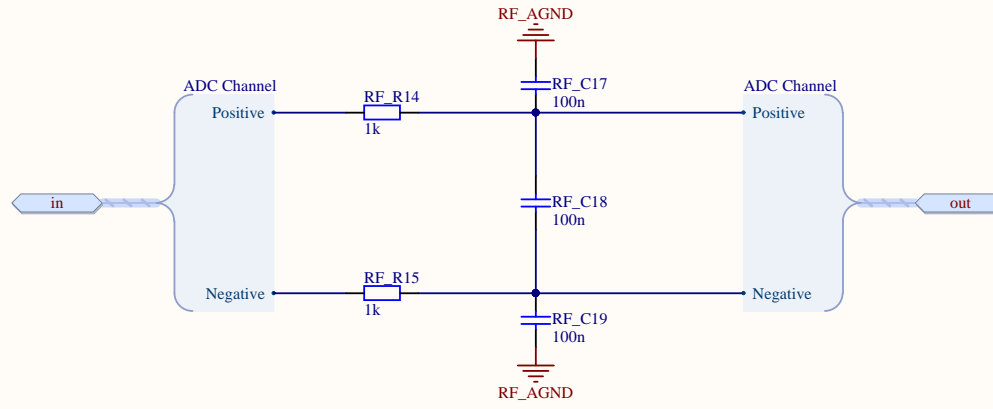
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Title: Main Board / Photodiodes				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch	Checked by: Michał Gumiela	Approved by: Piotr Kuligowski		
File name: PLD_Photodiodes.SchDoc				



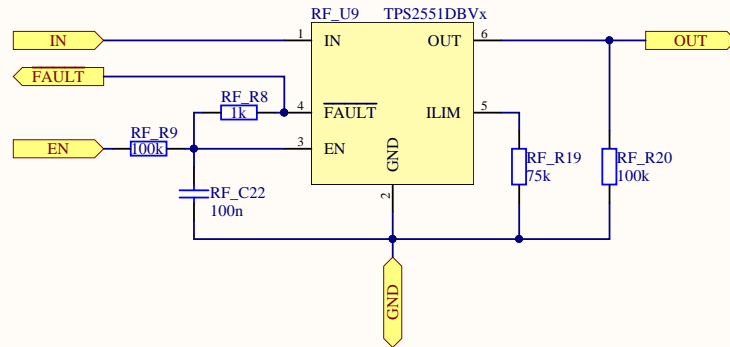
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Title: Main Board / A 24-bit AD7714YRZ Analog-to-Digital Converter				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumiela	Approved by: Piotr Kuligowski	
File name: PLD RadFET ADC.SchDoc				



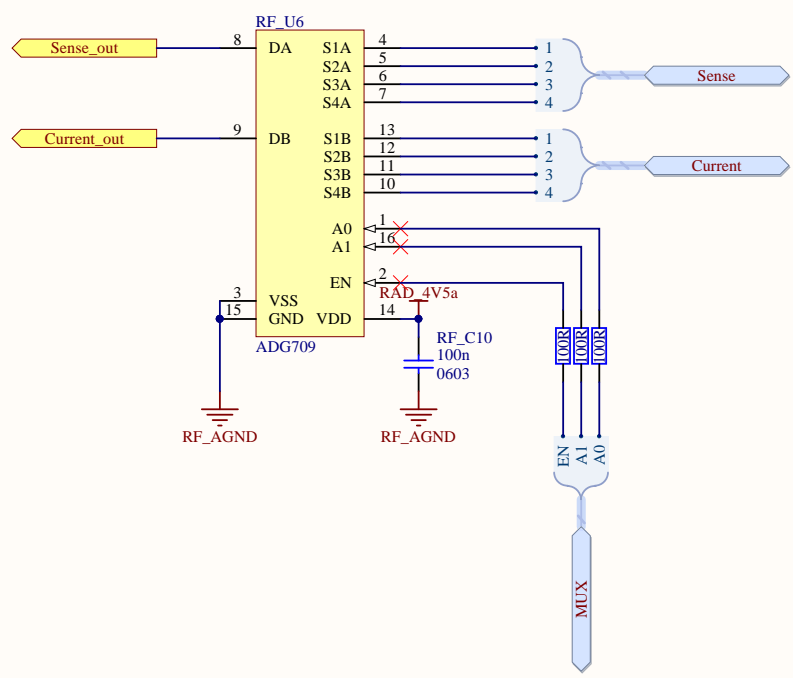
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	Title: Main Board / Voltage adjustable current source				
	Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
	Author: Grzegorz Gajoch		Checked by: Michał Gumieła		Approved by: Piotr Kuligowski
	File name: PLD_RadFET_Current_Source.SchDoc				



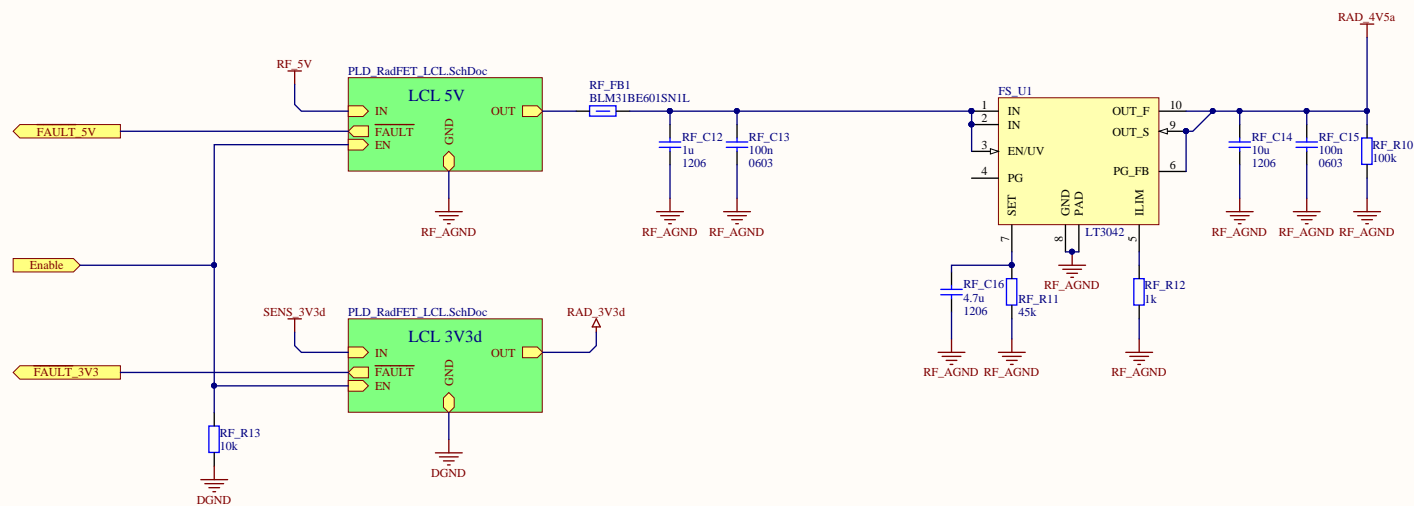
Project: PLD / Main Board / DM1				
Title: Main Board / Differential low-pass filter				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumieła	Approved by: Piotr Kuligowski	
File name: PLD_RadFET_Differential_Lowpass.SchDoc				



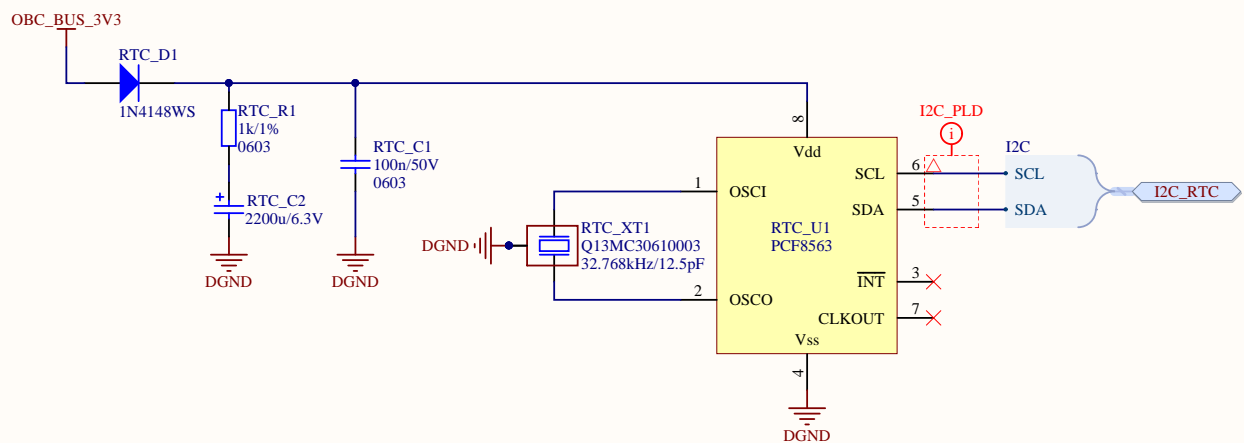
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Title: Main Board / Local Supply				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumieła	Approved by: Piotr Kuligowski	
File name: PLD_RadFET_LCL.SchDoc				



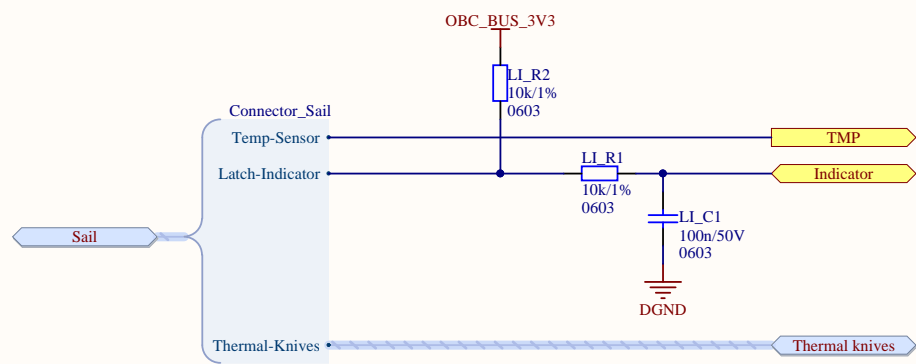
Project: PLD / Main Board / DM1				
Title: Main Board / A 24-bit AD7714YRZ Analog-to-Digital Converter				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michal Gumiel	Approved by: Piotr Kuligowski	
File name: PLD_RadFET_Mux.SchDoc				



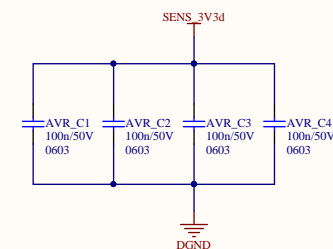
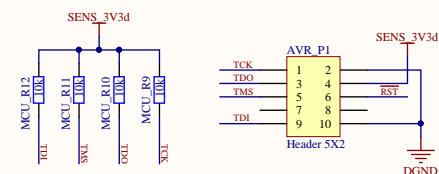
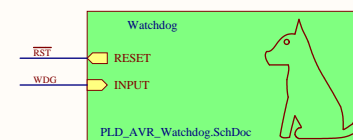
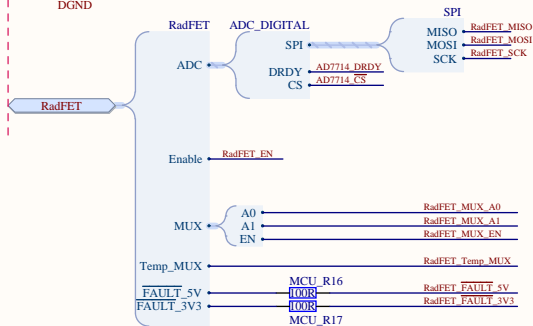
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Title:		Main Board / Local Supply			
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DM1	PWSat2-xxx-DW-xxx	1	2018/12/5	1 of 32	
Author:	Checked by:		Approved by:		
Grzegorz Gajoch	Michał Gumieła		Piotr Kuligowski		
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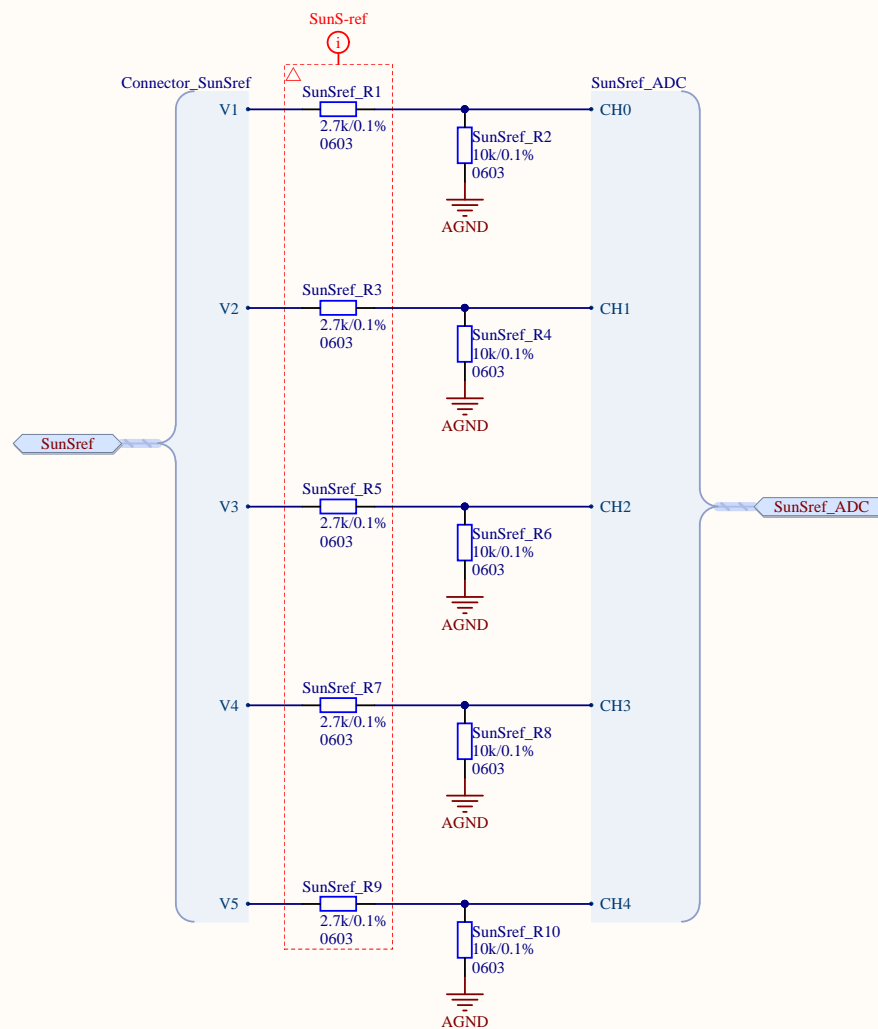
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Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumieła	Approved by: Piotr Kuligowski	
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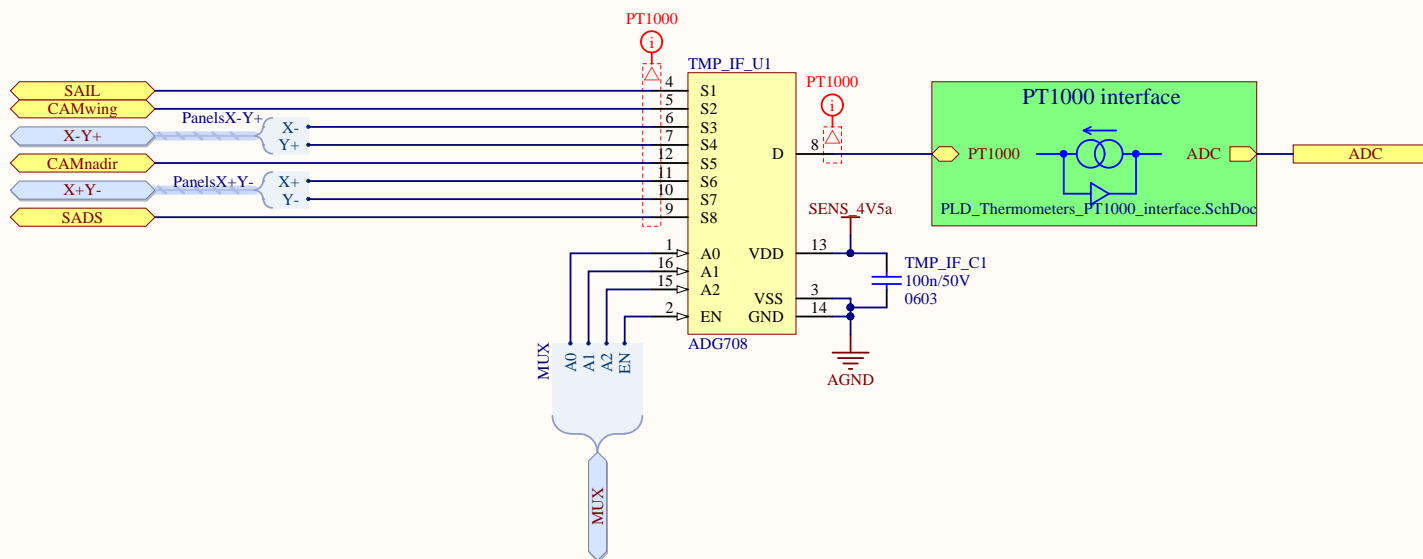
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Title: Main Board / Latch Indicator Interface for Sail				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumiela	Approved by: Piotr Kuligowski	
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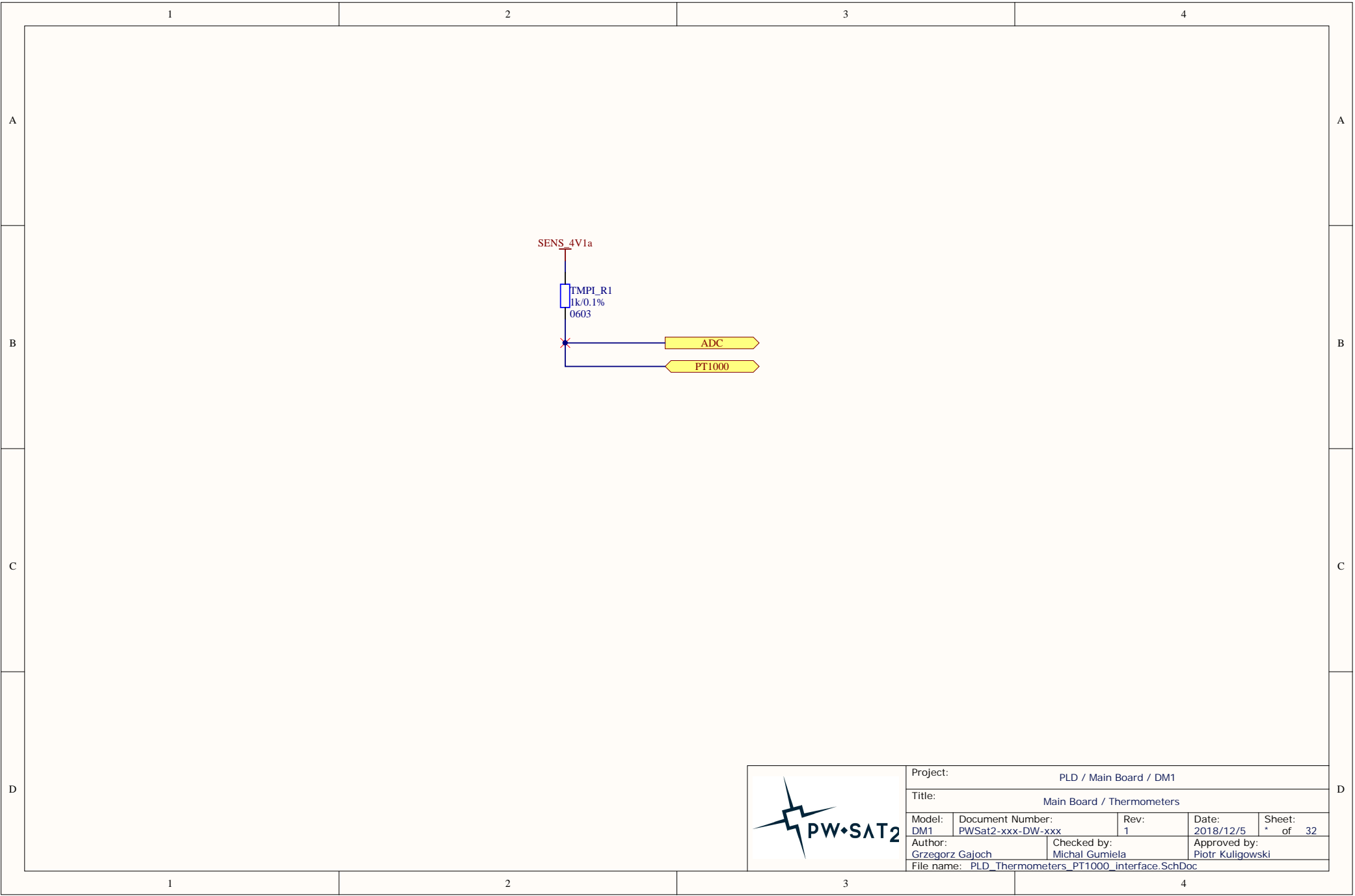
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Title: Main Board / Gyroscopes Buffer				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch	Checked by: Michal Gurniela	Approved by: Piotr Kuligowski		
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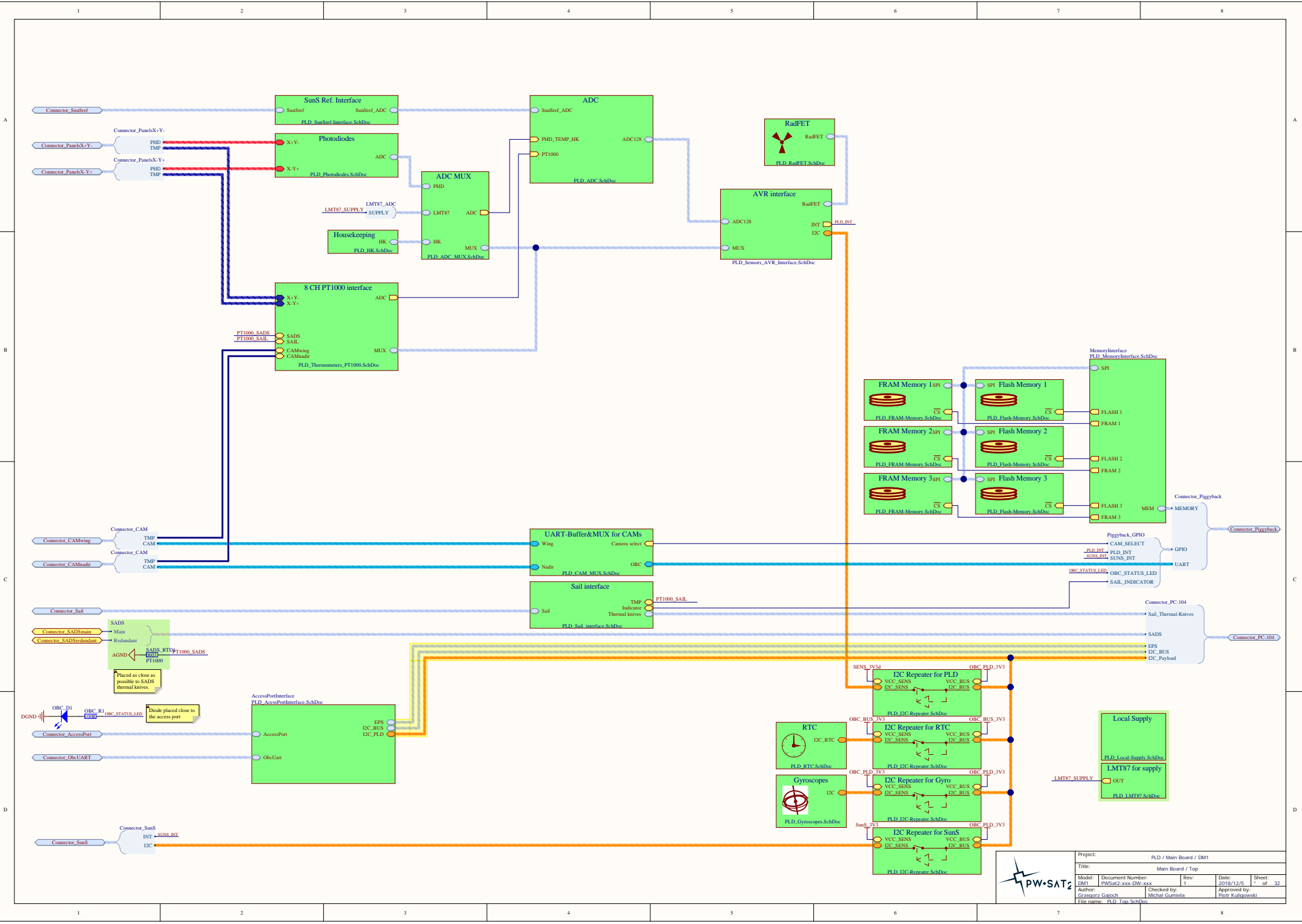


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Title: Main Board / SunS Ref. Interface				
Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
Author: Grzegorz Gajoch		Checked by: Michał Gumieła	Approved by: Piotr Kuligowski	
File name: PLD_SunSref-Interface.SchDoc				



	Project: PLD / Main Board / DM1				
	Title: Main Board / Thermometers				
	Model: DM1	Document Number: PWSat2-xxx-DW-xxx	Rev: 1	Date: 2018/12/5	Sheet: * of 32
	Author: Grzegorz Gajoch	Checked by: Michał Gumieła		Approved by: Piotr Kuligowski	
	File name: PLD_Thermometers_PT1000.SchDoc				





Project:		PLD / Main Board / DM1	
Title:		Main Board / Top	
Model:	Document Number:	Rev:	Date:
DM1	PWSAT2-v00-000-v00	1	2018/12/5
Author:	Checked by:	Approved by:	
Grzegorz Gajda	Michał Gumiński	Paweł Kufajewski	
File name:		PLD_Top_SchDoc	