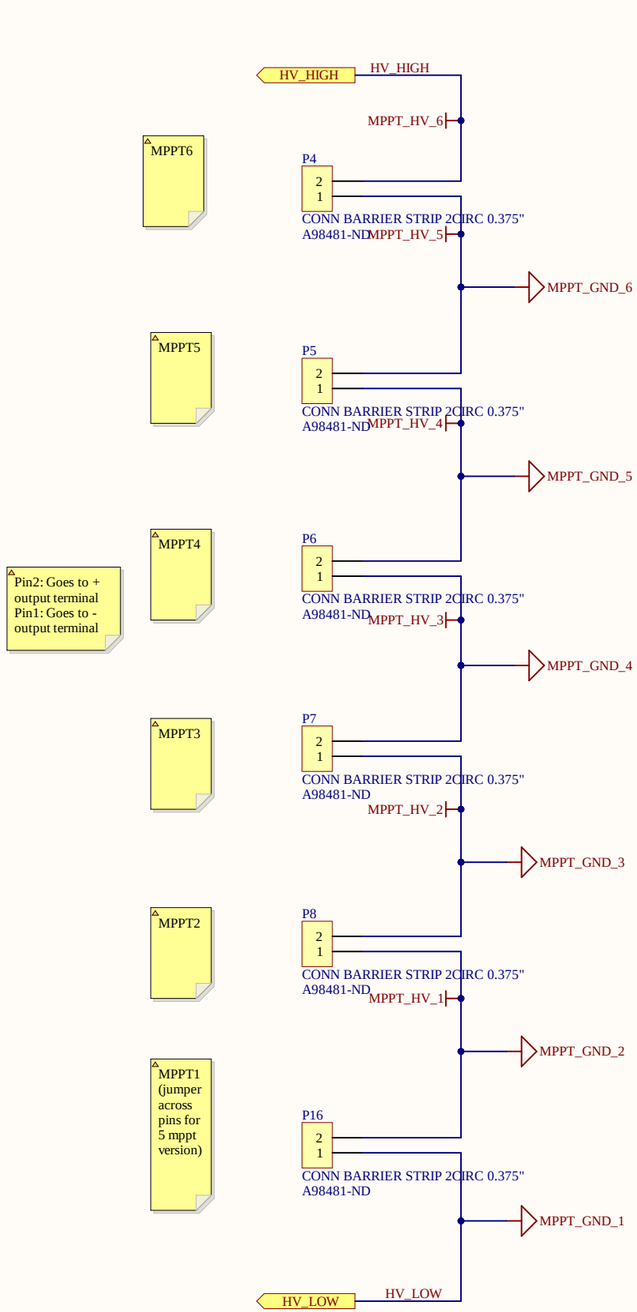
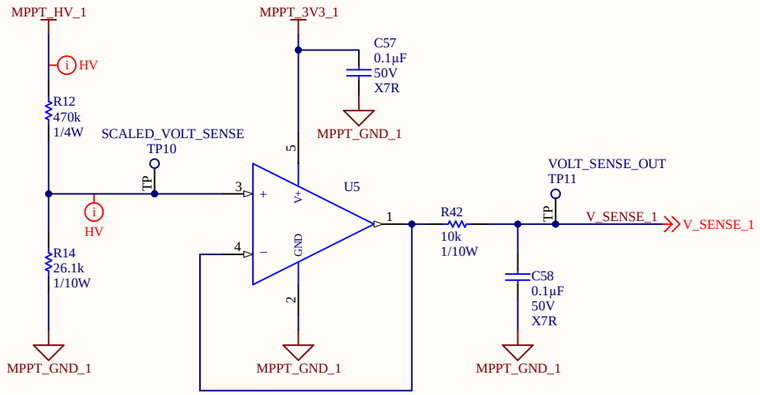
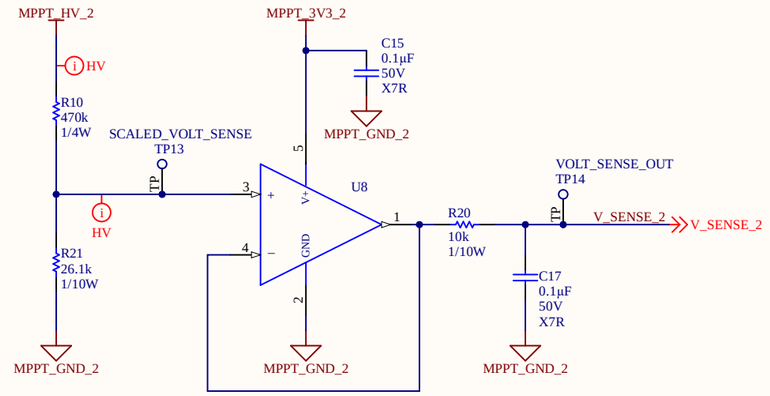
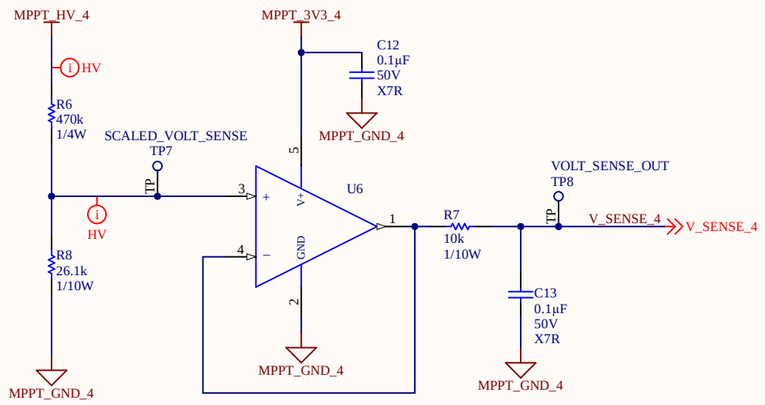
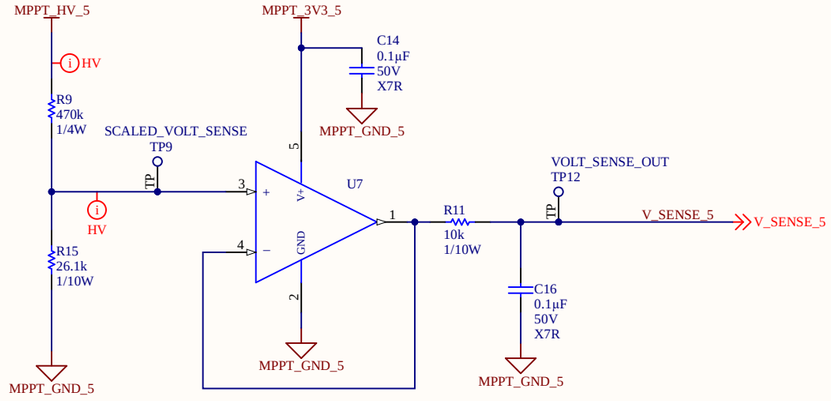
Voltage Sense

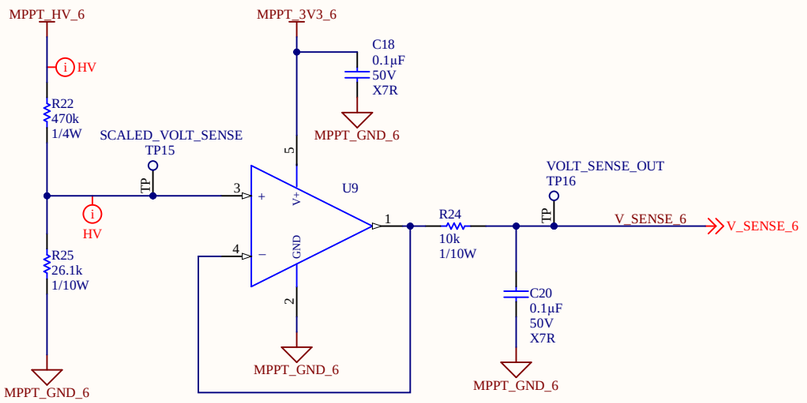




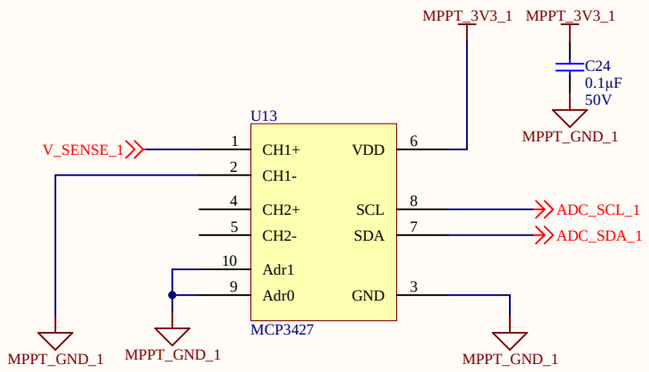


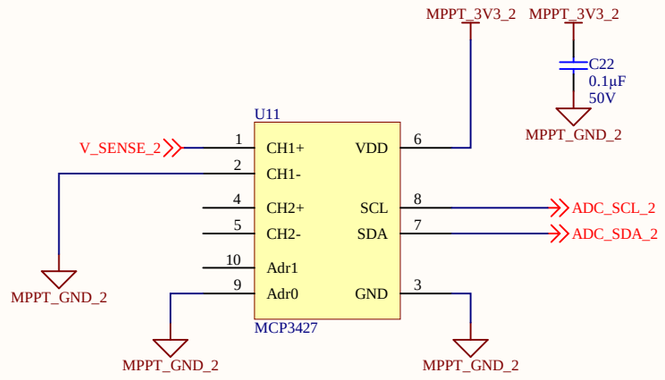


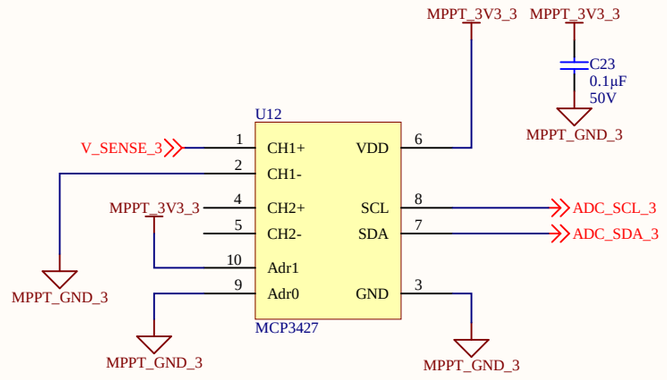




Project: ***MSXIV_SolarSense.PrjPcb***		MIDNIGHT SUN
Title: **Solar Sense Slave**		University of Waterloo 200 University Ave W Waterloo, ON, Canada N2L 3E9
Project Lead: *		
Size: Letter	Revision: *	
Date: 2020-02-23	Sheet 3 of 4	Website: www.uwmidsun.com

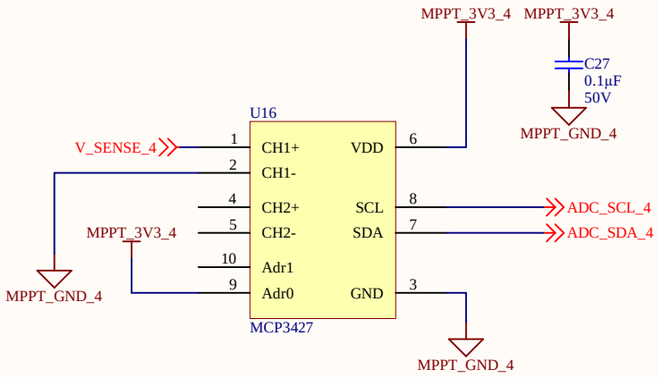


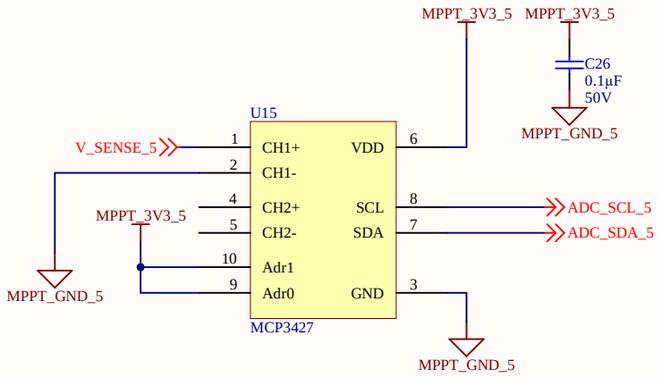


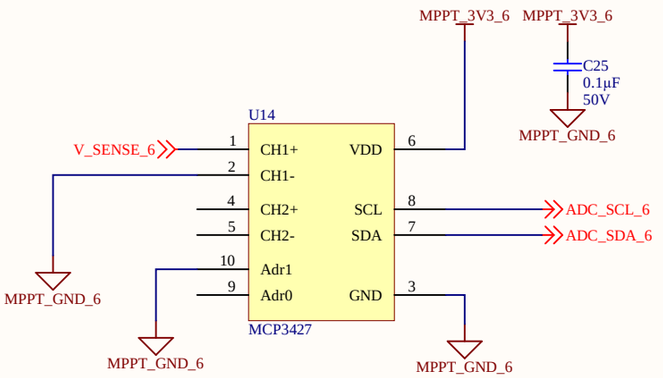


ADCs

I²C Device Address Bits			Logic Status of Address Selection Pins	
A2	A1	A0	Adr0 Pin	Adr1 Pin
0	0	0	0 (Addr_Low)	0 (Addr_Low)
0	0	1	0 (Addr_Low)	Float
0	1	0	0 (Addr_Low)	1 (Addr_High)
1	0	0	1 (Addr_High)	0 (Addr_Low)
1	0	1	1 (Addr_High)	Float
1	1	0	1 (Addr_High)	1 (Addr_High)
0	1	1	Float	0 (Addr_Low)
1	1	1	Float	1 (Addr_High)
0	0	0	Float	Float







Make combination of pulled high, low and floating (for address pins)

PROJECT	MSXIV_SolarSense.PrjPcb
DOCUMENT	*
PART NUMBER	
VARIANT	[No Variations]
DRAWN BY	Aashmika Mali
REVISION	1.0
LAST MODIFIED	2020-02-23
SHEET	* OF *

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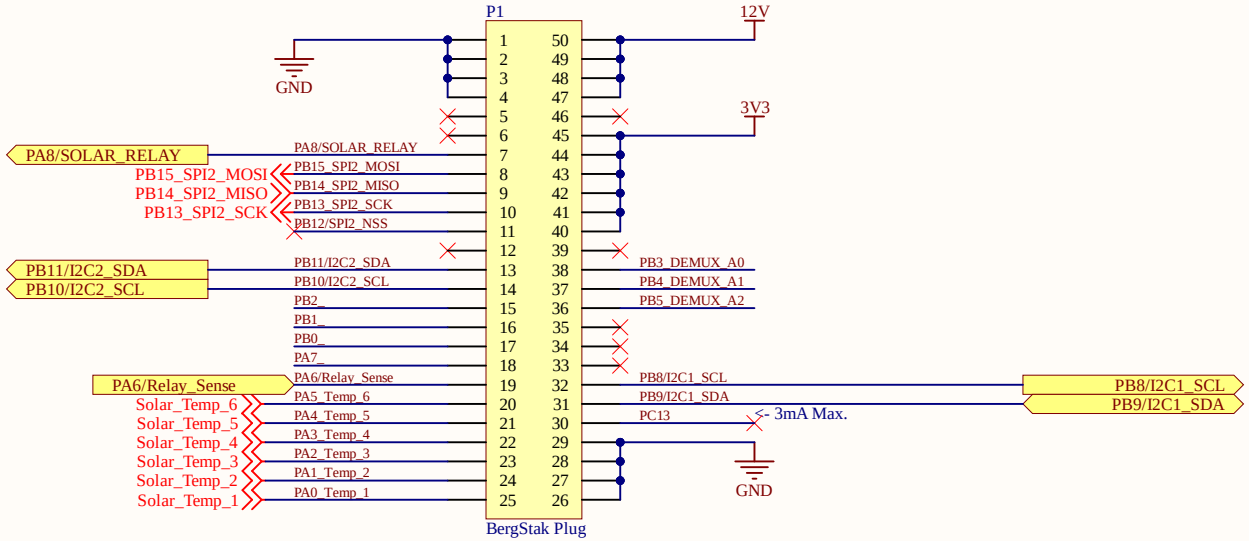
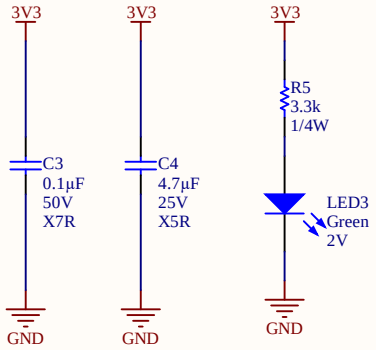
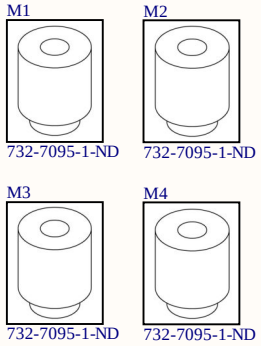
Add 6 gpio pins for slave select on spi, and 6 gpios for temperature sensing

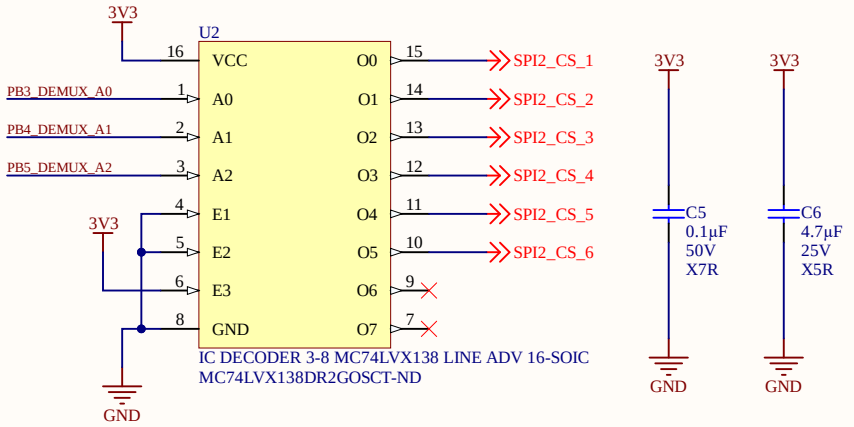




Standoffs

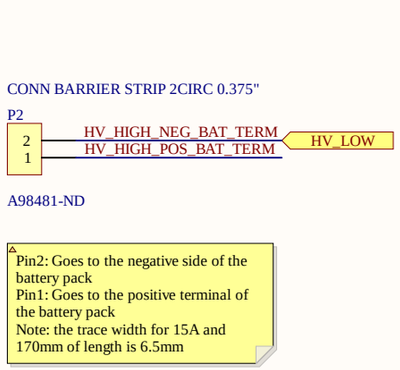


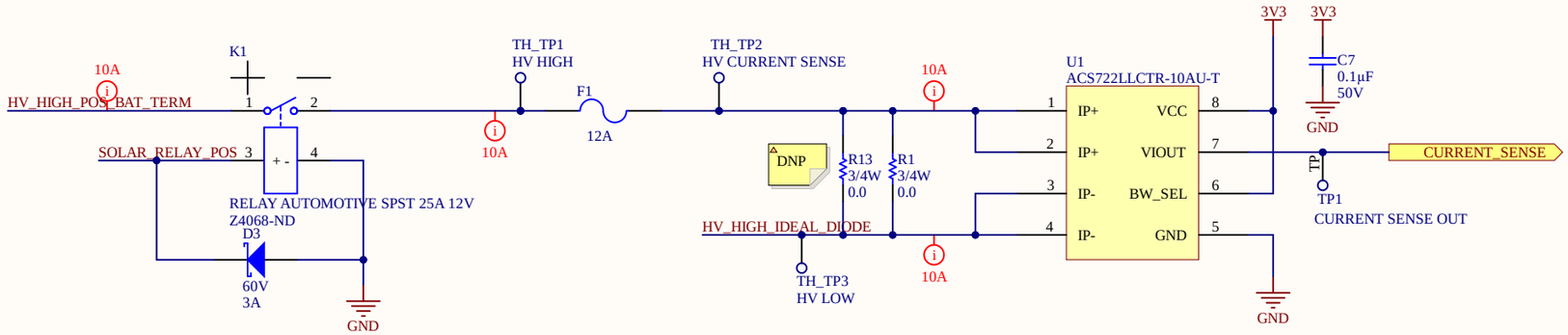
Solar Sense Rev 1.0
MSXIV LOGO
MSXIV_LOGO



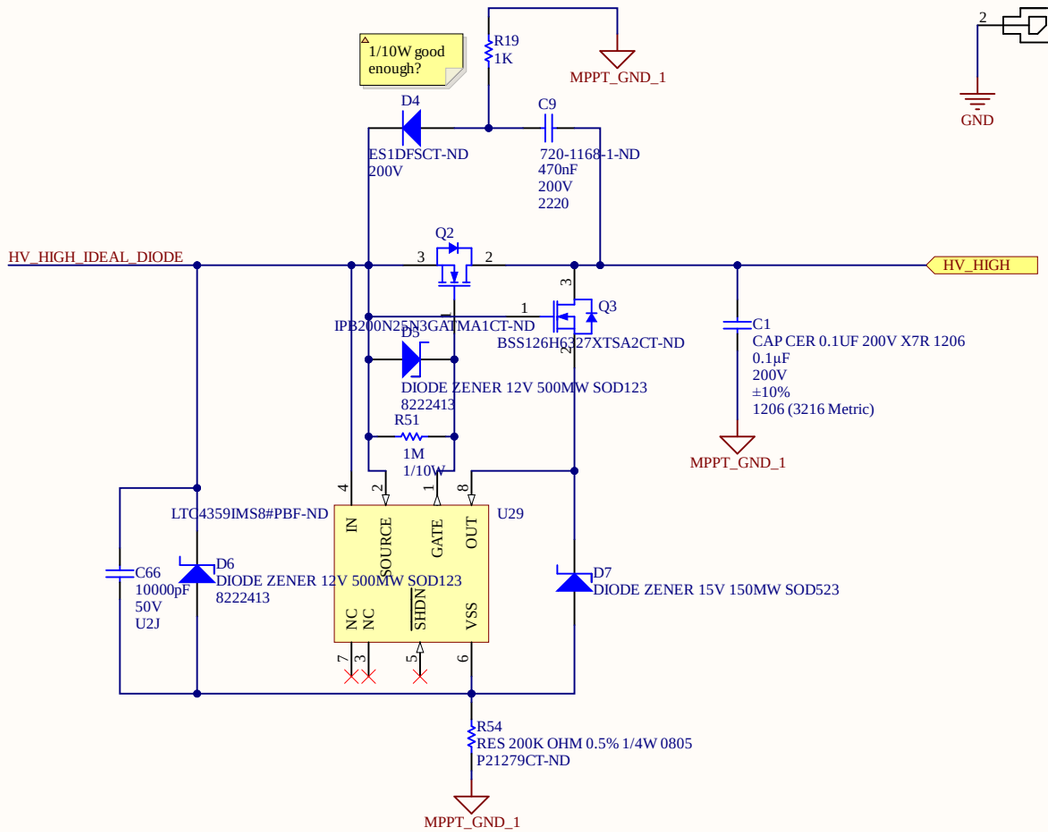
Project: ***MSXIV_SolarSense.PrjPcb***		MIDNIGHT SUN
Title: *		University of Waterloo 200 University Ave W Waterloo, ON, Canada N2L 3E9
Project Author: Aashmika Mali		
Size: Letter	Revision: 1.0	
Date: 2020-02-23	Sheet * of *	Website: www.uwmidsun.com

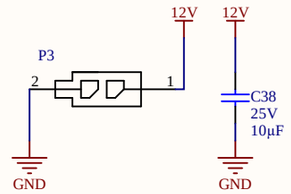
Passthrough - Current Sense, Fuse, and Relay

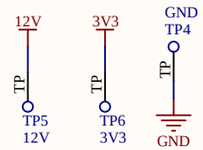




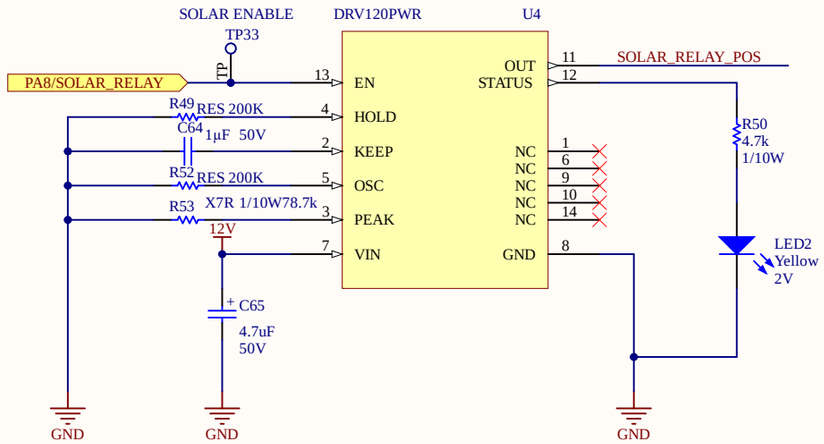
Ideal Diode







Relay coil low current driver



PROJECT	MSXIV_SolarSense.PrjPcb		MIDNIGHT SUN
DOCUMENT	*		
PART NUMBER		VARIANT	[No Variations]
DRAWN BY	Aashmika Mali	REVISION	1.0
LAST MODIFIED	2020-02-23	SHEET * OF *	

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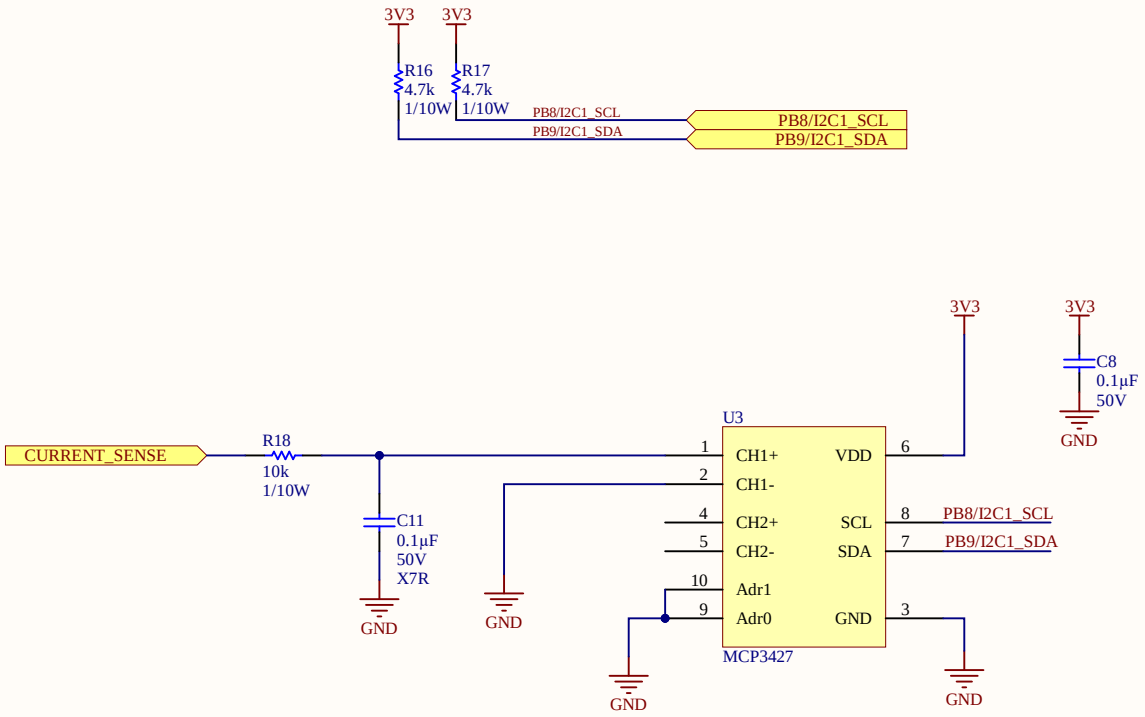
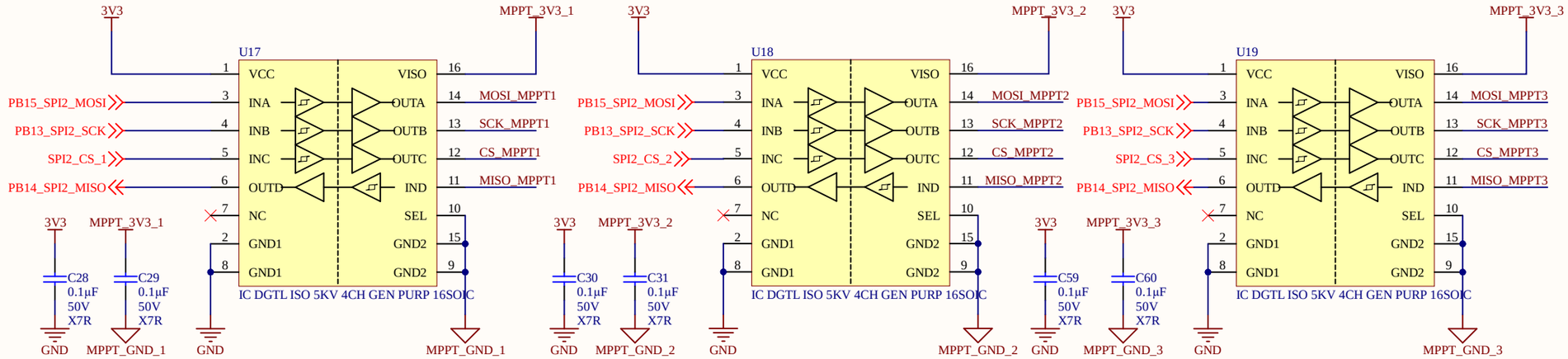
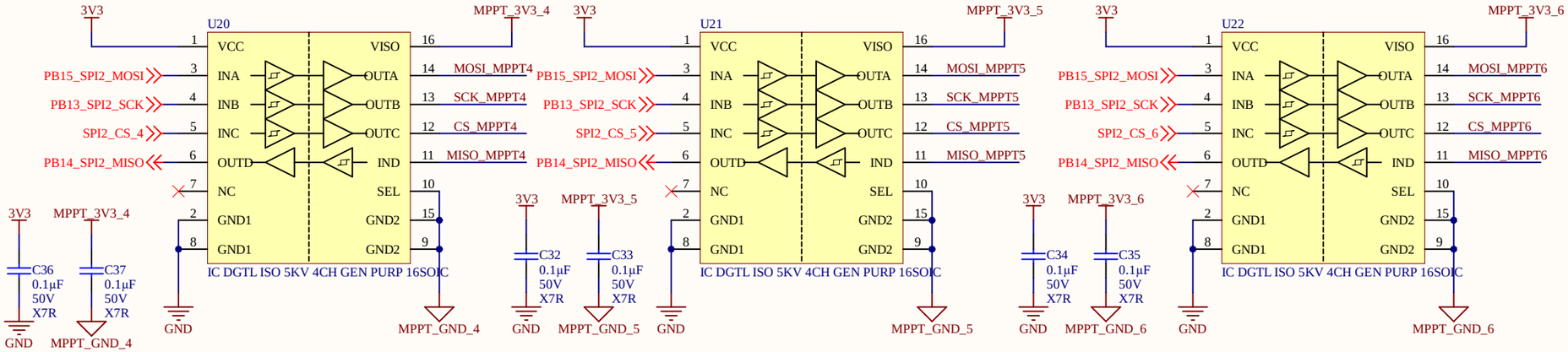
I2C Interface (for Current Sense)

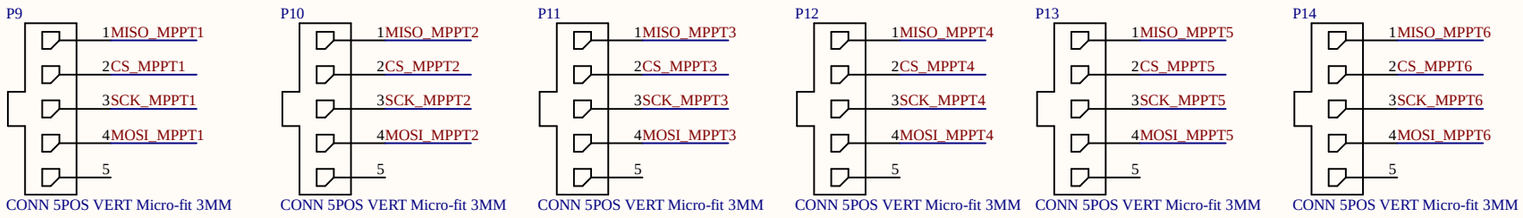


Project: ***MSXIV_SolarSense.PrjPcb***		MIDNIGHT SUN
Title: *		
Project Author: Aashmika Mali		University of Waterloo 200 University Ave W Waterloo, ON, Canada N2L 3E9
Size: Letter	Revision: 1.0	
Date: 2020-02-23	Sheet * of *	Website: www.uwmidsun.com

SPI Isolators







PROJECT	MSXIV_SolarSense.PrjPcb		
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PART NUMBER		VARIANT	[No Variations]
DRAWN BY	Aashmika Mali	REVISION	1.0
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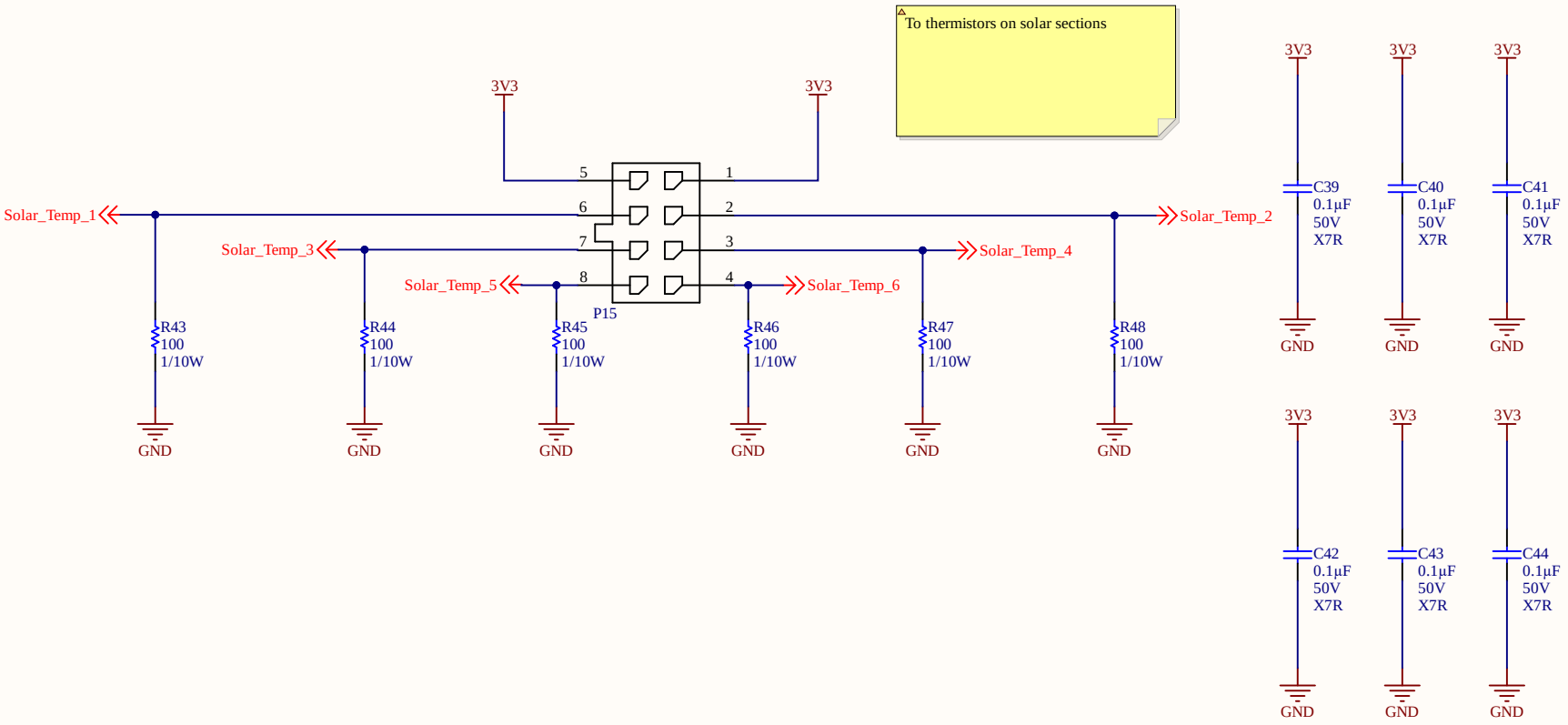
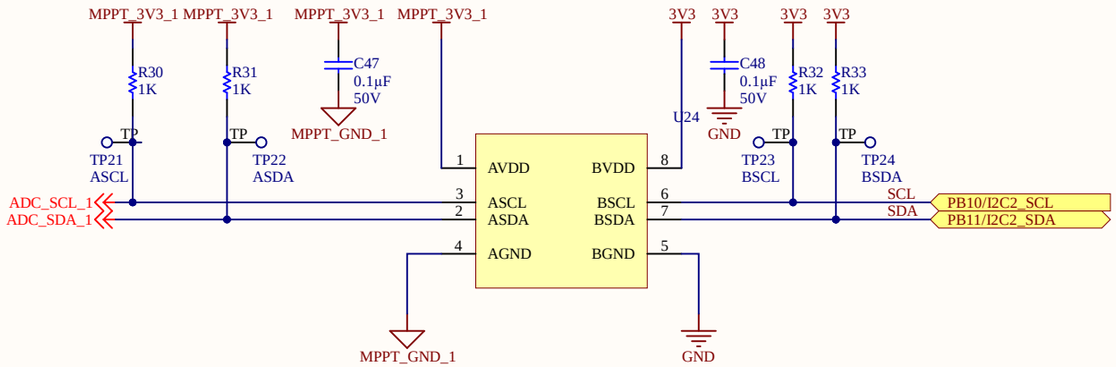
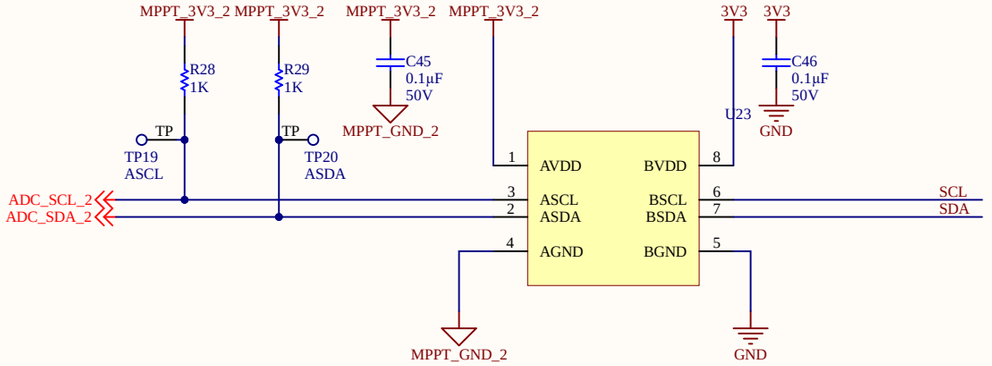
Temperature Sense for Array Sections

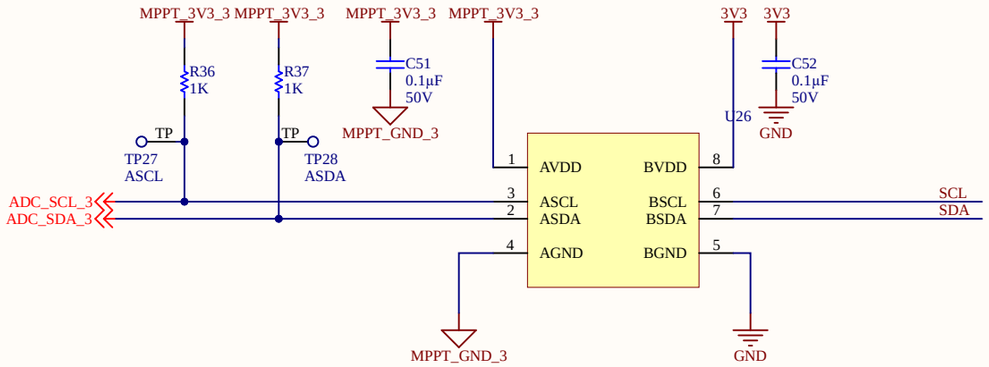


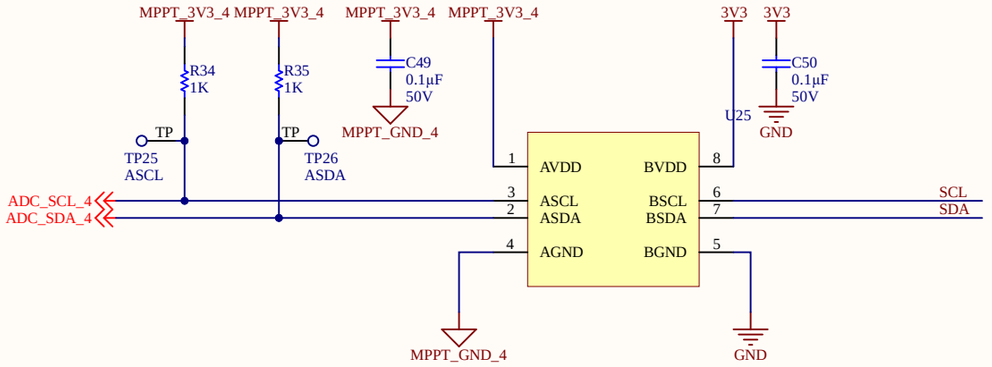
Project: ***MSXIV_SolarSense.PrjPcb***		MIDNIGHT SUN
Title: *		
Project Author: Aashmika Mali		University of Waterloo 200 University Ave W Waterloo, ON, Canada N2L 3E9
Size: Letter	Revision: 1.0	
Date: 2020-02-23	Sheet * of *	Website: www.uwmidsun.com

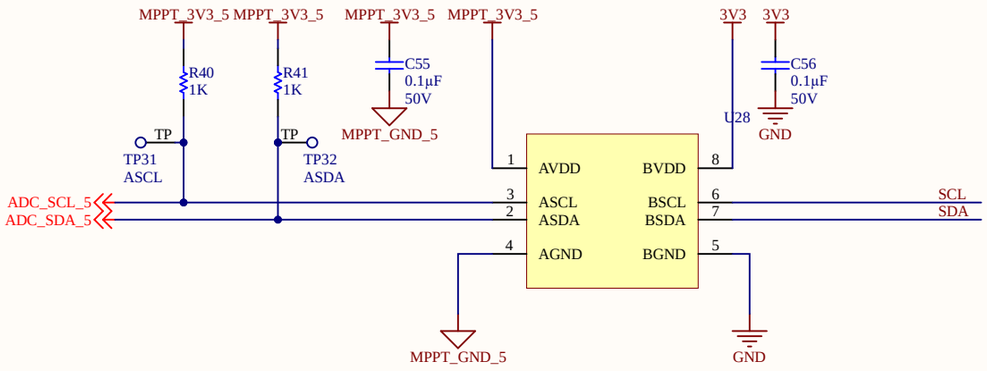
I2C Isolators for V-Sense

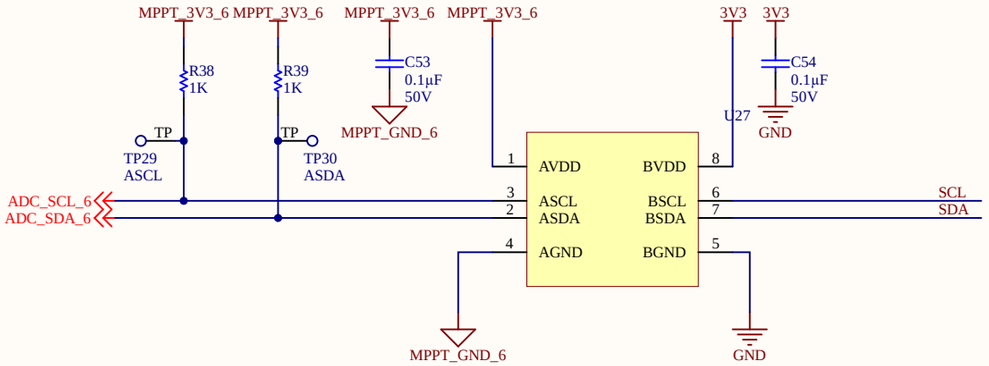












PROJECT	MSXIV_SolarSense.PrjPcb		MIDNIGHT SUN
DOCUMENT	*		
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DRAWN BY	Aashmika Mali	REVISION	1.0
LAST MODIFIED	2020-02-23	SHEET	* OF *

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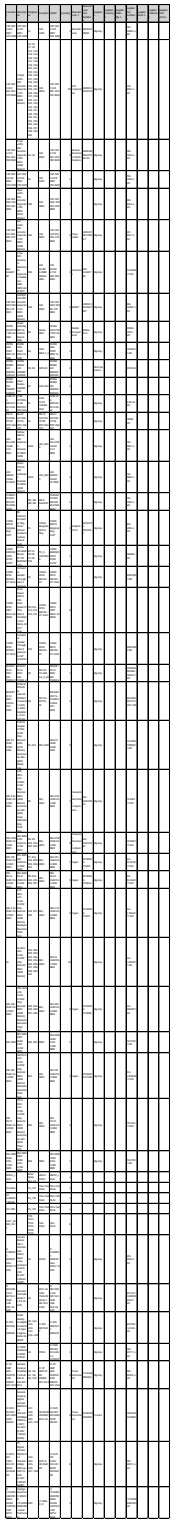
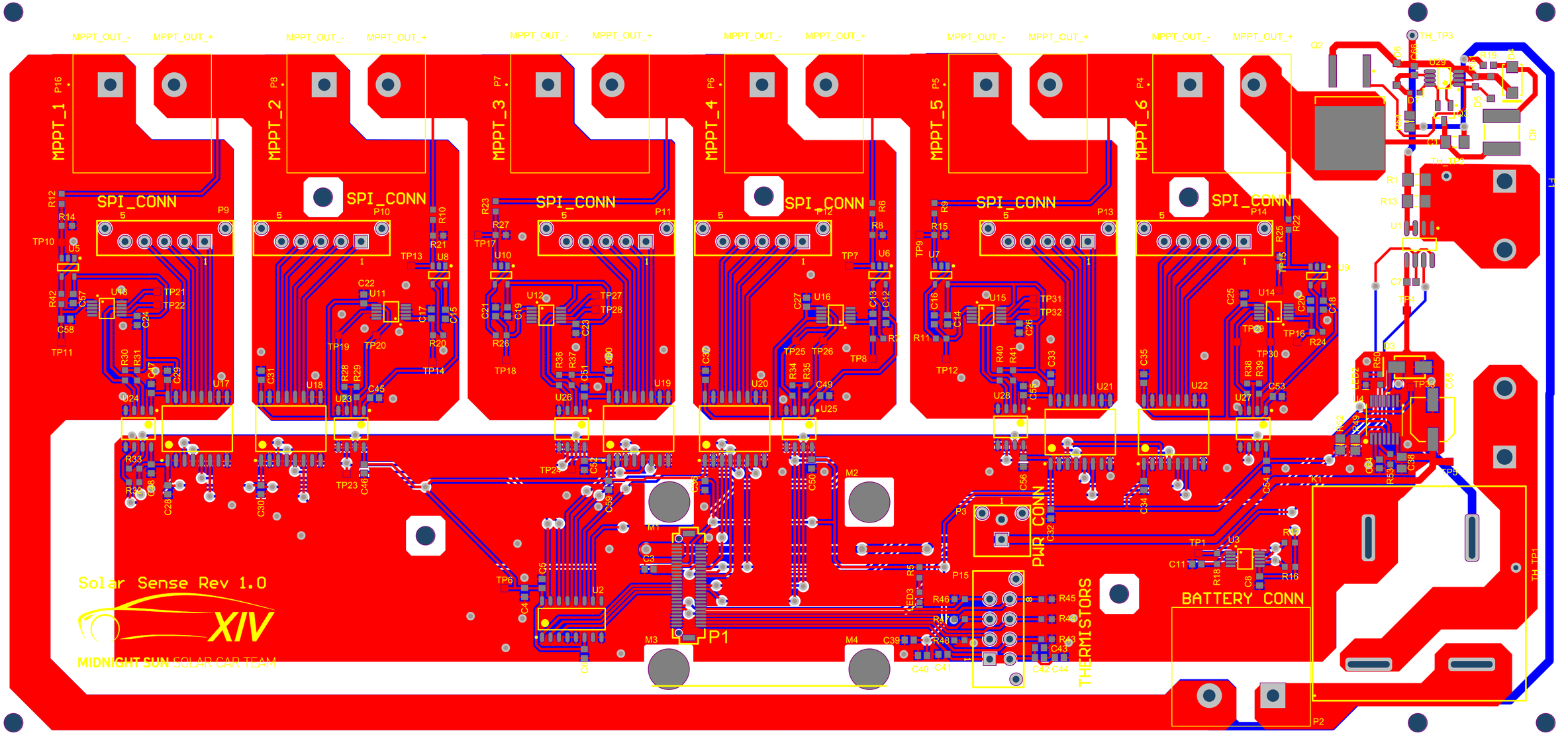
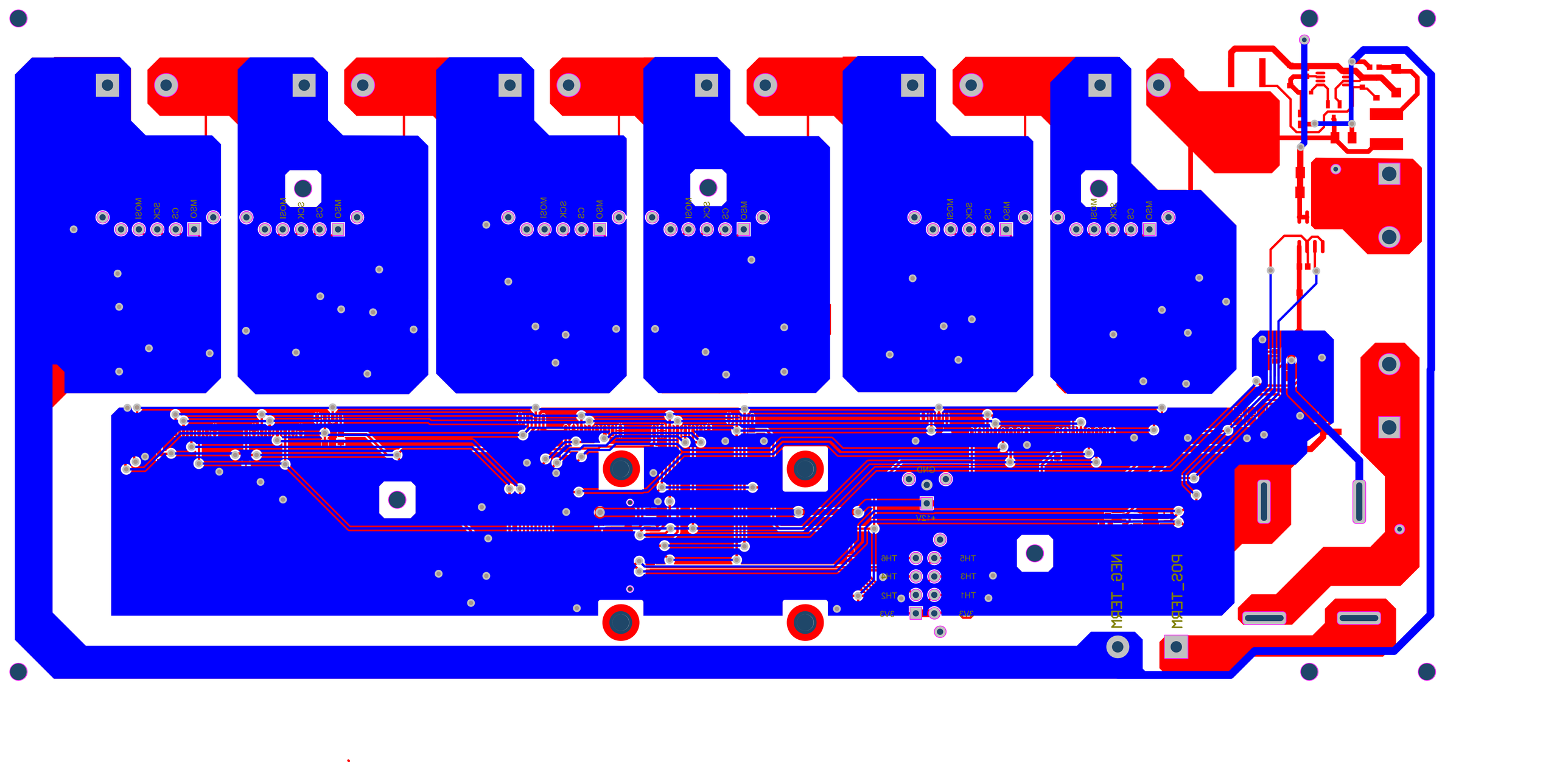



MPPT_1
MPPT_2
MPPT_3
MPPT_4
MPPT_5
MPPT_6
SPI_CONN
PWR_CONN
BATTERY CONN
THERMISTORS
Solar Sense Rev 1.0
XIV
MIDNIGHT SUN SOLAR CAR TEAM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CS
MISO
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SCK
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MAX31865
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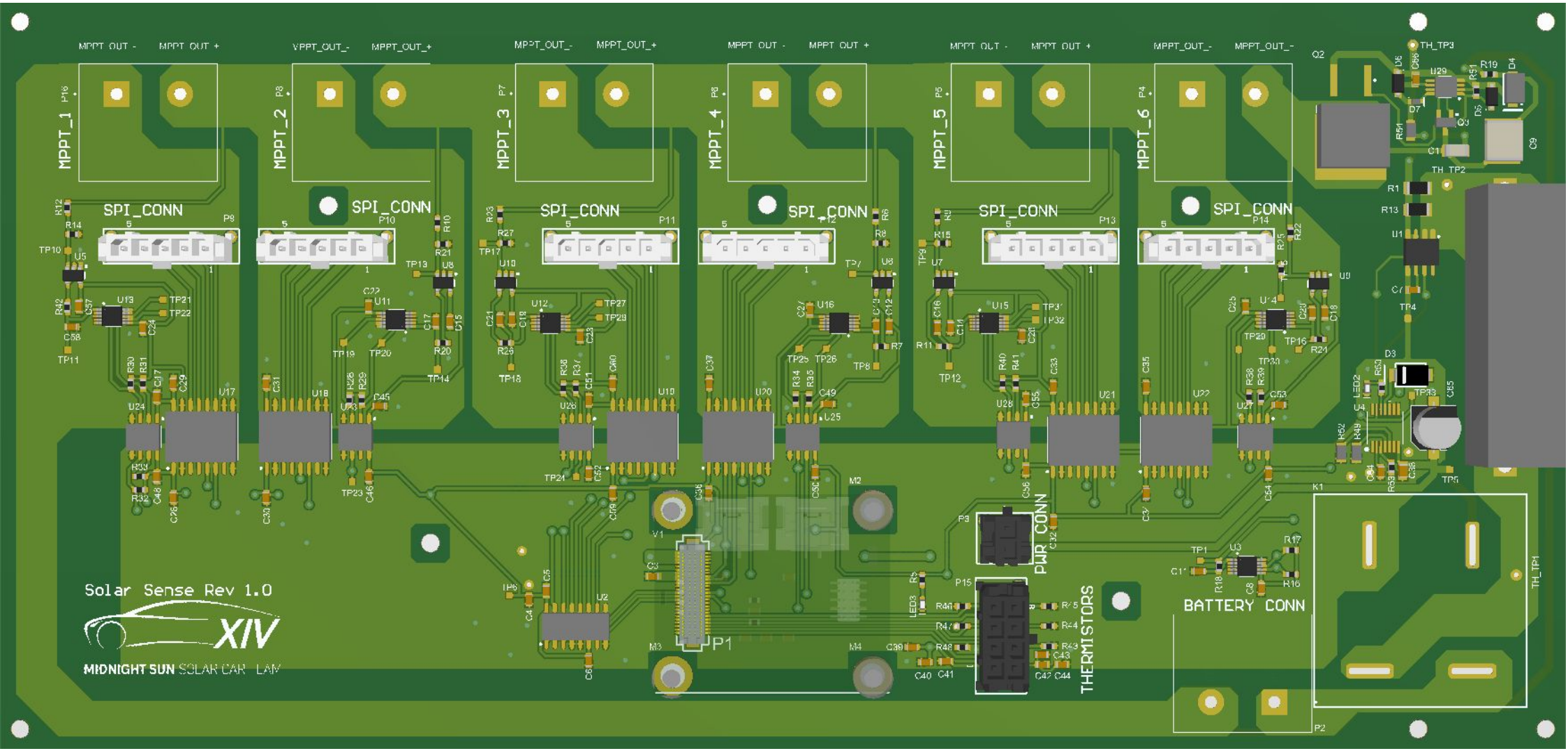
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MPPT_6
SPI_CONN
PWR_CONN
THERMISTORS
BATTERY CONN
Solar Sense Rev 1.0
XIV
MIDNIGHT SUN SOLAR CAR LAM

Electrical Rules Check Report

Class	Document	Message
Error	Voltage_Sense.SchDoc	HV_LOW contains Power Pin and Output Port objects (Pin U5-2, Port HV_LOW).
Error	Controller_Board_Interface.SchDoc	Net PA6/Relay_Sense has only one pin (Pin P1-19)
Error	Controller_Board_Interface.SchDoc	Net PA7_ has only one pin (Pin P1-18)
Error	Controller_Board_Interface.SchDoc	Net PB0_ has only one pin (Pin P1-17)
Error	Controller_Board_Interface.SchDoc	Net PB1_ has only one pin (Pin P1-16)
Error	Controller_Board_Interface.SchDoc	Net PB2_ has only one pin (Pin P1-15)
Warning	Voltage_Sense.SchDoc	Global Power-Object MPPT_GND_1 at 3650mil,1830mil has been reduced to local level by presence of port at 2000mil,1300mil
Warning	Voltage_Sense.SchDoc	Global Power-Object MPPT_HV_6 at 3350mil,9100mil has been reduced to local level by presence of port at 2000mil,9400mil
Warning	Controller_Board_Interface.SchDoc	Net 12V has no driving source (Pin C38-1, Pin C65-1, Pin P1-47, Pin P1-48, Pin P1-49, Pin P1-50, Pin P3-1, Pin TP5-TP, Pin U4-7)
Warning	Current_and_Relay_Sense.SchDoc	Net NetC64_2 has no driving source (Pin C64-2, Pin U4-2)
Warning	Current_and_Relay_Sense.SchDoc	Net NetD7_2 has no driving source (Pin D7-2, Pin Q3-2, Pin U29-8)
Warning	Voltage_Sense.SchDoc	Net NetR6_2 has no driving source (Pin R6-2, Pin R8-1, Pin TP7-TP, Pin U6-3)
Warning	Voltage_Sense.SchDoc	Net NetR9_2 has no driving source (Pin R9-2, Pin R15-1, Pin TP9-TP, Pin U7-3)
Warning	Voltage_Sense.SchDoc	Net NetR10_2 has no driving source (Pin R10-2, Pin R21-1, Pin TP13-TP, Pin U8-3)
Warning	Voltage_Sense.SchDoc	Net NetR12_2 has no driving source (Pin R12-2, Pin R14-1, Pin TP10-TP, Pin U5-3)
Warning	Voltage_Sense.SchDoc	Net NetR22_2 has no driving source (Pin R22-2, Pin R25-1, Pin TP15-TP, Pin U9-3)
Warning	Voltage_Sense.SchDoc	Net NetR23_2 has no driving source (Pin R23-2, Pin R27-1, Pin TP17-TP, Pin U10-3)
Warning	Current_and_Relay_Sense.SchDoc	Net NetR49_2 has no driving source (Pin R49-2, Pin U4-4)
Warning	Current_and_Relay_Sense.SchDoc	Net NetR52_2 has no driving source (Pin R52-2, Pin U4-5)
Warning	Current_and_Relay_Sense.SchDoc	Net NetR53_2 has no driving source (Pin R53-2, Pin U4-3)
Warning	Controller_Board_Interface.SchDoc	Net PB3_DEMUX_A0 has no driving source (Pin P1-38, Pin U2-1)
Warning	Controller_Board_Interface.SchDoc	Net PB4_DEMUX_A1 has no driving source (Pin P1-37, Pin U2-2)
Warning	Controller_Board_Interface.SchDoc	Net PB5_DEMUX_A2 has no driving source (Pin P1-36, Pin U2-3)
Warning	Current_and_Relay_Sense.SchDoc	Nets Wire HV_HIGH has multiple names (Net Label HV_HIGH, Power Object MPPT_HV_6, Power Object MPPT_HV_6)
Warning	ADCs.SchDoc	Nets Wire HV_HIGH_NEG_BAT_TERM has multiple names (Net Label HV_HIGH_NEG_BAT_TERM, Net Label HV_LOW, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1, Power Object MPPT_GND_1)
Warning	ADCs.SchDoc	Nets Wire MPPT_GND_2 has multiple names (Power Object MPPT_GND_2, Power Object MPPT_GND_2, Power Object MPPT_GND_2, Power Object MPPT_GND_2, Power Object MPPT_GND_2, Power Object MPPT_GND_2, Power Object MPPT_GND_2, Power Object MPPT_GND_2, Power Object MPPT_GND_2, Power Object MPPT_GND_2, Power Object MPPT_GND_2, Power Object MPPT_GND_2, Power Object MPPT_GND_2, Power Object MPPT_GND_2, Power Object MPPT_HV_1, Power Object MPPT_HV_1)
Warning	ADCs.SchDoc	Nets Wire MPPT_GND_3 has multiple names (Power Object MPPT_GND_3, Power Object MPPT_GND_3, Power Object MPPT_GND_3, Power Object MPPT_GND_3, Power Object MPPT_GND_3, Power Object MPPT_GND_3, Power Object MPPT_GND_3, Power Object MPPT_GND_3, Power Object MPPT_GND_3, Power Object MPPT_GND_3, Power Object MPPT_GND_3, Power Object MPPT_GND_3, Power Object MPPT_GND_3, Power Object MPPT_GND_3, Power Object MPPT_HV_2, Power Object MPPT_HV_2)
Warning	ADCs.SchDoc	Nets Wire MPPT_GND_4 has multiple names (Power Object MPPT_GND_4, Power Object MPPT_GND_4, Power Object MPPT_GND_4, Power Object MPPT_GND_4, Power Object MPPT_GND_4, Power Object MPPT_GND_4, Power Object MPPT_GND_4, Power Object MPPT_GND_4, Power Object MPPT_GND_4, Power Object MPPT_GND_4, Power Object MPPT_GND_4, Power Object MPPT_GND_4, Power Object MPPT_HV_3, Power Object MPPT_HV_3)
Warning	ADCs.SchDoc	Nets Wire MPPT_GND_5 has multiple names (Power Object MPPT_GND_5, Power Object MPPT_GND_5, Power Object MPPT_GND_5, Power Object MPPT_GND_5, Power Object MPPT_GND_5, Power Object MPPT_GND_5, Power Object MPPT_GND_5, Power Object MPPT_GND_5, Power Object MPPT_GND_5, Power Object MPPT_GND_5, Power Object MPPT_GND_5, Power Object MPPT_GND_5, Power Object MPPT_HV_4, Power Object MPPT_HV_4)
Warning	ADCs.SchDoc	Nets Wire MPPT_GND_6 has multiple names (Power Object MPPT_GND_6, Power Object MPPT_GND_6, Power Object MPPT_GND_6, Power Object MPPT_GND_6, Power Object

Class	Document	Message
		MPPT_GND_6, Power Object MPPT_GND_6, Power Object MPPT_GND_6, Power Object MPPT_GND_6, Power Object MPPT_GND_6, Power Object MPPT_GND_6, Power Object MPPT_GND_6, Power Object MPPT_GND_6, Power Object MPPT_HV_5, Power Object MPPT_HV_5)
Warning	Controller_Board_Interface.SchDoc	Nets Wire PA0_Temp_1 has multiple names (Cross-Sheet Connector Solar_Temp_1, Cross-Sheet Connector Solar_Temp_1, Net Label PA0_Temp_1)
Warning	Controller_Board_Interface.SchDoc	Nets Wire PA1_Temp_2 has multiple names (Cross-Sheet Connector Solar_Temp_2, Cross-Sheet Connector Solar_Temp_2, Net Label PA1_Temp_2)
Warning	Controller_Board_Interface.SchDoc	Nets Wire PA2_Temp_3 has multiple names (Cross-Sheet Connector Solar_Temp_3, Cross-Sheet Connector Solar_Temp_3, Net Label PA2_Temp_3)
Warning	Controller_Board_Interface.SchDoc	Nets Wire PA3_Temp_4 has multiple names (Cross-Sheet Connector Solar_Temp_4, Cross-Sheet Connector Solar_Temp_4, Net Label PA3_Temp_4)
Warning	Controller_Board_Interface.SchDoc	Nets Wire PA4_Temp_5 has multiple names (Cross-Sheet Connector Solar_Temp_5, Cross-Sheet Connector Solar_Temp_5, Net Label PA4_Temp_5)
Warning	Controller_Board_Interface.SchDoc	Nets Wire PA5_Temp_6 has multiple names (Cross-Sheet Connector Solar_Temp_6, Cross-Sheet Connector Solar_Temp_6, Net Label PA5_Temp_6)
Warning	Controller_Board_Interface.SchDoc	Nets Wire PB10/I2C2_SCL has multiple names (Net Label PB10/I2C2_SCL, Net Label SCL, Net Label SCL, Net Label SCL, Net Label SCL, Net Label SCL, Net Label SCL)
Warning	Controller_Board_Interface.SchDoc	Nets Wire PB11/I2C2_SDA has multiple names (Net Label PB11/I2C2_SDA, Net Label SDA, Net Label SDA, Net Label SDA, Net Label SDA, Net Label SDA, Net Label SDA)
Warning	ADCs.SchDoc	Off grid C24 at 3818.11mil,8674.41mil
Warning	ADCs.SchDoc	Off grid Cross-Sheet Connector ADC_SCL_1 at 3600mil,7694.41mil
Warning	ADCs.SchDoc	Off grid Cross-Sheet Connector ADC_SDA_1 at 3600mil,7544.41mil
Warning	SPI_Interface.SchDoc	Off grid Cross-Sheet Connector PB13_SPI2_SCK at 6574.41mil,6651.811mil
Warning	SPI_Interface.SchDoc	Off grid Cross-Sheet Connector PB14_SPI2_MISO at 6574.41mil,6251.811mil
Warning	SPI_Interface.SchDoc	Off grid Cross-Sheet Connector PB15_SPI2_MOSI at 6574.41mil,6851.811mil
Warning	TemperatureSense.SchDoc	Off grid Cross-Sheet Connector Solar_Temp_2 at 7837.008mil,4796.063mil
Warning	TemperatureSense.SchDoc	Off grid Cross-Sheet Connector Solar_Temp_4 at 6687.008mil,4596.063mil
Warning	Controller_Board_Interface.SchDoc	Off grid Cross-Sheet Connector Solar_Temp_6 at 2247.008mil,4300mil
Warning	TemperatureSense.SchDoc	Off grid Cross-Sheet Connector Solar_Temp_6 at 5700mil,4396.063mil
Warning	ADCs.SchDoc	Off grid Cross-Sheet Connector V_SENSE_1 at 1350mil,8044.41mil
Warning	ADCs.SchDoc	Off grid Cross-Sheet Connector V_SENSE_2 at 6281.89mil,8100mil
Warning	ADCs.SchDoc	Off grid Cross-Sheet Connector V_SENSE_3 at 11381.89mil,8100mil
Warning	ADCs.SchDoc	Off grid Cross-Sheet Connector V_SENSE_4 at 1631.89mil,3500mil
Warning	ADCs.SchDoc	Off grid Cross-Sheet Connector V_SENSE_5 at 6531.89mil,3500mil
Warning	ADCs.SchDoc	Off grid Cross-Sheet Connector V_SENSE_6 at 11231.89mil,3400mil
Warning	Controller_Board_Interface.SchDoc	Off grid M1 at 1693.983mil,2899.713mil
Warning	Controller_Board_Interface.SchDoc	Off grid M2 at 2406.601mil,2898.306mil
Warning	Controller_Board_Interface.SchDoc	Off grid M3 at 1693.983mil,1949.714mil
Warning	Controller_Board_Interface.SchDoc	Off grid M4 at 2406.601mil,1948.306mil
Warning	SPI_Interface.SchDoc	Off grid Net Label CS_MPPT2 at 8674.41mil,6451.811mil
Warning	Current_and_Relay_Sense.SchDoc	Off grid Net Label HV_HIGH_NEG_BAT_TERM at 998.148mil,7600mil
Warning	SPI_Interface.SchDoc	Off grid Net Label MISO_MPPT2 at 8624.41mil,6251.811mil
Warning	SPI_Interface.SchDoc	Off grid Net Label MISO_MPPT3 at 12055.512mil,6250mil
Warning	SPI_Interface.SchDoc	Off grid Net Label MOSI_MPPT2 at 8674.41mil,6851.811mil
Warning	SPI_Interface.SchDoc	Off grid Net Label MOSI_MPPT3 at 12055.512mil,6850mil
Warning	SPI_Interface.SchDoc	Off grid Net Label SCK_MPPT2 at 8674.41mil,6651.811mil
Warning	Current_and_Relay_Sense.SchDoc	Off grid Net Label SOLAR_RELAY_POS at 11601.896mil,3900mil
Warning	Current_and_Relay_Sense.SchDoc	Off grid NetParameter at 6245.503mil,7750mil
Warning	SPI_Interface.SchDoc	Off grid No ERC at 6774.41mil,6051.811mil
Warning	TemperatureSense.SchDoc	Off grid P15 at 4521.654mil,5096.063mil
Warning	ADCs.SchDoc	Off grid Pin C24-1 at 3818.11mil,8674.41mil
Warning	ADCs.SchDoc	Off grid Pin C24-2 at 3818.11mil,8374.41mil
Warning	TemperatureSense.SchDoc	Off grid Pin P15-1 at 5421.654mil,4996.063mil
Warning	TemperatureSense.SchDoc	Off grid Pin P15-2 at 5421.654mil,4796.063mil
Warning	TemperatureSense.SchDoc	Off grid Pin P15-3 at 5421.654mil,4596.063mil
Warning	TemperatureSense.SchDoc	Off grid Pin P15-4 at 5421.654mil,4396.063mil
Warning	TemperatureSense.SchDoc	Off grid Pin P15-5 at 4521.654mil,4996.063mil
Warning	TemperatureSense.SchDoc	Off grid Pin P15-6 at 4521.654mil,4796.063mil
Warning	TemperatureSense.SchDoc	Off grid Pin P15-7 at 4521.654mil,4596.063mil
Warning	TemperatureSense.SchDoc	Off grid Pin P15-8 at 4521.654mil,4396.063mil
Warning	ADCs.SchDoc	Off grid Pin U13-1 at 1658.11mil,8044.41mil
Warning	ADCs.SchDoc	Off grid Pin U13-2 at 1658.11mil,7894.41mil

Class	Document	Message
Warning	ADCs.SchDoc	Off grid Pin U13-3 at 3108.11mil,7194.41mil
Warning	ADCs.SchDoc	Off grid Pin U13-4 at 1658.11mil,7694.41mil
Warning	ADCs.SchDoc	Off grid Pin U13-5 at 1658.11mil,7544.41mil
Warning	ADCs.SchDoc	Off grid Pin U13-6 at 3108.11mil,8044.41mil
Warning	ADCs.SchDoc	Off grid Pin U13-7 at 3108.11mil,7544.41mil
Warning	ADCs.SchDoc	Off grid Pin U13-8 at 3108.11mil,7694.41mil
Warning	ADCs.SchDoc	Off grid Pin U13-9 at 1658.11mil,7194.41mil
Warning	ADCs.SchDoc	Off grid Pin U13-10 at 1658.11mil,7344.41mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-1 at 6774.41mil,7051.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-2 at 6774.41mil,5851.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-3 at 6774.41mil,6851.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-4 at 6774.41mil,6651.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-5 at 6774.41mil,6451.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-6 at 6774.41mil,6251.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-7 at 6774.41mil,6051.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-8 at 6774.41mil,5651.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-9 at 8574.41mil,5651.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-10 at 8574.41mil,6051.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-11 at 8574.41mil,6251.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-12 at 8574.41mil,6451.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-13 at 8574.41mil,6651.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-14 at 8574.41mil,6851.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-15 at 8574.41mil,5851.811mil
Warning	SPI_Interface.SchDoc	Off grid Pin U18-16 at 8574.41mil,7051.811mil
Warning	TemperatureSense.SchDoc	Off grid Power Object 3V3 at 4099.606mil,5389.764mil
Warning	TemperatureSense.SchDoc	Off grid Power Object 3V3 at 5899.606mil,5389.764mil
Warning	SPI_Interface.SchDoc	Off grid Power Object 3V3 at 6174.41mil,7351.811mil
Warning	SPI_Interface.SchDoc	Off grid Power Object GND at 6774.41mil,5351.811mil
Warning	ADCs.SchDoc	Off grid Power Object MPPT_3V3_1 at 3218.11mil,8674.41mil
Warning	ADCs.SchDoc	Off grid Power Object MPPT_3V3_1 at 3818.11mil,8674.41mil
Warning	SPI_Interface.SchDoc	Off grid Power Object MPPT_3V3_2 at 9074.41mil,7351.811mil
Warning	ADCs.SchDoc	Off grid Power Object MPPT_GND_1 at 818.11mil,7074.41mil
Warning	ADCs.SchDoc	Off grid Power Object MPPT_GND_1 at 3468.11mil,7074.41mil
Warning	ADCs.SchDoc	Off grid Power Object MPPT_GND_1 at 3818.11mil,8374.41mil
Warning	SPI_Interface.SchDoc	Off grid Power Object MPPT_GND_2 at 8574.41mil,5351.811mil
Warning	Controller_Board_Interface.SchDoc	Off grid Solar Sense Rev 1.0 at 4505.679mil,2561.84mil
Warning	ADCs.SchDoc	Off grid U13 at 1958.11mil,8194.41mil
Warning	SPI_Interface.SchDoc	Off grid U18 at 7474.41mil,6651.811mil

Design Rules Verification Report

Filename : C:\Users\Aashmika Mali\Documents\First Year\Midnight Sun\hardware\MSXIV_

Warnings 0
Rule Violations 146

Warnings	
Total	0

Rule Violations	
Clearance Constraint (Gap=10mil) (All),(All)	0
Short-Circuit Constraint (Allowed=No) (All),(All)	0
Un-Routed Net Constraint ((All))	0
Modified Polygon (Allow modified: No), (Allow shelved: No)	0
Width Constraint (Min=10mil) (Max=70mil) (Preferred=15mil) (All)	0
Power Plane Connect Rule(Direct Connect)(Expansion=20mil) (Conductor Width=10mil) (Air Gap=10mil) (Entries=4)	0
Hole Size Constraint (Min=1mil) (Max=100mil) (All)	23
Hole To Hole Clearance (Gap=10mil) (All),(All)	4
Minimum Solder Mask Sliver (Gap=10mil) (All),(All)	30
Silk To Solder Mask (Clearance=10mil) (IsPad),(All)	75
Silk to Silk (Clearance=10mil) (All),(All)	14
Net Antennae (Tolerance=0mil) (All)	0
Height Constraint (Min=0mil) (Max=1000mil) (Prefered=500mil) (All)	0
Total	146

Hole Size Constraint (Min=1mil) (Max=100mil) (All)
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-118.111mil,118.11mil) on Multi-Layer Actual Hole Size = 106.299mi
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-118.111mil,4306.39mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-2218.858mil,3215.5mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-2629.063mil,877.5mil) on Multi-Layer Actual Hole Size = 106.299mi
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-4099.52mil,1418.004mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-4099.52mil,433.752mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-4720.984mil,3221.5mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-5280.622mil,1418.004mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-5280.622mil,433.752mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-6713.063mil,1220.5mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-7316.102mil,3215.5mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-871.173mil,118.11mil) on Multi-Layer Actual Hole Size = 106.299mi
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-871.173mil,4306.39mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-9138.89mil,118.11mil) on Multi-Layer Actual Hole Size = 106.299mi
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(-9138.89mil,4306.39mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (248.031mil > 100mil) Pad K1-1(-552.85mil,462.583mil) on Multi-Layer Actual Slot Hole Height = 248.031mi
Hole Size Constraint: (248.031mil > 100mil) Pad K1-2(-1159.15mil,462.583mil) on Multi-Layer Actual Slot Hole Height = 248.031mi
Hole Size Constraint: (248.031mil > 100mil) Pad K1-3(-550.882mil,1208.646mil) on Multi-Layer Actual Slot Hole Height = 248.031mi
Hole Size Constraint: (248.031mil > 100mil) Pad K1-4(-1161.118mil,1208.646mil) on Multi-Layer Actual Slot Hole Height = 248.031mil
Hole Size Constraint: (145.669mil > 100mil) Pad M1-(-5277.468mil,1419.409mil) on Multi-Layer Actual Hole Size = 145.669mi
Hole Size Constraint: (145.669mil > 100mil) Pad M2-(-4099.52mil,1418.004mil) on Multi-Layer Actual Hole Size = 145.669mil
Hole Size Constraint: (145.669mil > 100mil) Pad M3-(-5280.622mil,433.752mil) on Multi-Layer Actual Hole Size = 145.669mil
Hole Size Constraint: (145.669mil > 100mil) Pad M4-(-4099.52mil,433.752mil) on Multi-Layer Actual Hole Size = 145.669mil

Hole To Hole Clearance (Gap=10mil) (All),(All)
Hole To Hole Clearance Constraint: (Collision < 10mil) Between Pad Free-(-4099.52mil,1418.004mil) on Multi-Layer And Pad M2-(-4099.52mil,1418.004mil)
Hole To Hole Clearance Constraint: (Collision < 10mil) Between Pad Free-(-4099.52mil,433.752mil) on Multi-Layer And Pad M4-(-4099.52mil,433.752mil)
Hole To Hole Clearance Constraint: (Collision < 10mil) Between Pad Free-(-5280.622mil,1418.004mil) on Multi-Layer And Pad
Hole To Hole Clearance Constraint: (Collision < 10mil) Between Pad Free-(-5280.622mil,433.752mil) on Multi-Layer And Pad M3-(-5280.622mil,433.752mil)

Minimum Solder Mask Sliver (Gap=10mil) (All),(All)
Minimum Solder Mask Sliver Constraint: (9.709mil < 10mil) Between Pad C4-1(-6129mil,913.575mil) on Top Layer And Via (-6130mil,973mil) from Top
Minimum Solder Mask Sliver Constraint: (6.727mil < 10mil) Between Pad C43-1(-3124.984mil,560.773mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (6.727mil < 10mil) Between Pad C43-2(-3071.834mil,560.773mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (8.198mil < 10mil) Between Pad C43-2(-3071.834mil,560.773mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (4.145mil < 10mil) Between Pad P1-(-5162.512mil,1232.964mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (4.145mil < 10mil) Between Pad P1-(-5162.512mil,618.791mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (5.78mil < 10mil) Between Pad U10-1(-6229.441mil,2810.72mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (5.779mil < 10mil) Between Pad U10-2(-6266.842mil,2810.72mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (3.591mil < 10mil) Between Pad U4-1(-1144.272mil,1791.937mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (3.591mil < 10mil) Between Pad U4-10(-1041.909mil,2013.937mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (3.59mil < 10mil) Between Pad U4-10(-1041.909mil,2013.937mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (3.59mil < 10mil) Between Pad U4-11(-1067.5mil,2013.937mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (3.591mil < 10mil) Between Pad U4-12(-1093.091mil,2013.937mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (3.59mil < 10mil) Between Pad U4-13(-1118.681mil,2013.937mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (3.591mil < 10mil) Between Pad U4-2(-1118.681mil,1791.937mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (3.59mil < 10mil) Between Pad U4-3(-1093.091mil,1791.937mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (3.59mil < 10mil) Between Pad U4-4(-1067.5mil,1791.937mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (3.591mil < 10mil) Between Pad U4-5(-1041.909mil,1791.937mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (3.59mil < 10mil) Between Pad U4-6(-1016.319mil,1791.937mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (3.591mil < 10mil) Between Pad U4-8(-990.728mil,2013.937mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (5.78mil < 10mil) Between Pad U5-1(-8780.031mil,2856.232mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (5.779mil < 10mil) Between Pad U5-2(-8817.433mil,2856.232mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (5.78mil < 10mil) Between Pad U6-1(-4003.063mil,2810.72mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (5.779mil < 10mil) Between Pad U6-2(-4040.464mil,2810.72mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (5.78mil < 10mil) Between Pad U7-1(-3637.905mil,2810.72mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (5.779mil < 10mil) Between Pad U7-2(-3675.307mil,2810.72mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (5.78mil < 10mil) Between Pad U8-1(-6595.386mil,2810.72mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (5.779mil < 10mil) Between Pad U8-2(-6632.787mil,2810.72mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (5.78mil < 10mil) Between Pad U9-1(-1426.291mil,2805.799mil) on Top Layer And Pac
Minimum Solder Mask Sliver Constraint: (5.779mil < 10mil) Between Pad U9-2(-1463.693mil,2805.799mil) on Top Layer And Pac

Silk To Solder Mask (Clearance=10mil) (IsPad),(All)
Silk To Solder Mask Clearance Constraint: (7.874mil < 10mil) Between Arc (-471.89mil,3784.744mil) on Top Overlay And Pad D5-1(-440mil,3798.13mil)
Silk To Solder Mask Clearance Constraint: (7.874mil < 10mil) Between Arc (-928.37mil,3855.343mil) on Top Overlay And Pad
Silk To Solder Mask Clearance Constraint: (7.874mil < 10mil) Between Arc (-961.11mil,4018.256mil) on Top Overlay And Pad D6-1(-993mil,4004.87mil)
Silk To Solder Mask Clearance Constraint: (8.995mil < 10mil) Between Pad C15-1(-6595.386mil,2553.24mil) on Top Layer And Text "C15"
Silk To Solder Mask Clearance Constraint: (7.941mil < 10mil) Between Pad C15-2(-6595.386mil,2500.09mil) on Top Layer And Text "C15"
Silk To Solder Mask Clearance Constraint: (8.548mil < 10mil) Between Pad C38-1(-965.421mil,1685.346mil) on Top Layer And Text "C38"
Silk To Solder Mask Clearance Constraint: (8.104mil < 10mil) Between Pad C38-2(-965.421mil,1616.449mil) on Top Layer And Text "C38"
Silk To Solder Mask Clearance Constraint: (9.475mil < 10mil) Between Pad C6-2(-5776.488mil,498.713mil) on Top Layer And Text "C6"
Silk To Solder Mask Clearance Constraint: (7.874mil < 10mil) Between Pad C65-1(-782.5mil,1788.858mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (7.874mil < 10mil) Between Pad C65-1(-782.5mil,1788.858mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (7.237mil < 10mil) Between Pad C65-2(-782.5mil,2021.142mil) on Top Layer And Text "TP33"
Silk To Solder Mask Clearance Constraint: (7.874mil < 10mil) Between Pad C65-2(-782.5mil,2021.142mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (7.874mil < 10mil) Between Pad C65-2(-782.5mil,2021.142mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (6.535mil < 10mil) Between Pad D3-1(-837.5mil,2214mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (6.535mil < 10mil) Between Pad D3-1(-837.5mil,2214mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (6.535mil < 10mil) Between Pad D3-2(-994.98mil,2214mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (6.535mil < 10mil) Between Pad D3-2(-994.98mil,2214mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (2.839mil < 10mil) Between Pad D7-2(-859.472mil,3831.721mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.213mil < 10mil) Between Pad LED2-2(-1176.106mil,2108.913mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.213mil < 10mil) Between Pad LED3-2(-3804.244mil,827.453mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (0.408mil < 10mil) Between Pad M3-(-5280.622mil,433.752mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (0.408mil < 10mil) Between Pad M4-(-4099.52mil,433.752mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.4mil < 10mil) Between Pad P10-0(-6969.598mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P10-0(-6969.598mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (7.053mil < 10mil) Between Pad P10-0(-7678.26mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P10-0(-7678.26mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (8.78mil < 10mil) Between Pad P1-1(-5091.646mil,1162.097mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.4mil < 10mil) Between Pad P11-0(-5292.433mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P11-0(-5292.433mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (7.053mil < 10mil) Between Pad P11-0(-6001.094mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P11-0(-6001.094mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (8.4mil < 10mil) Between Pad P12-0(-4371.173mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P12-0(-4371.173mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (7.053mil < 10mil) Between Pad P12-0(-5079.834mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P12-0(-5079.834mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (8.767mil < 10mil) Between Pad P1-25(-5091.646mil,689.657mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (9.4mil < 10mil) Between Pad P1-26(-5233.378mil,689.657mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.4mil < 10mil) Between Pad P13-0(-2691.055mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P13-0(-2691.055mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (7.053mil < 10mil) Between Pad P13-0(-3399.716mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P13-0(-3399.716mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (8.4mil < 10mil) Between Pad P14-0(-1772.748mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P14-0(-1772.748mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (7.053mil < 10mil) Between Pad P14-0(-2481.409mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P14-0(-2481.409mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P15-0(-3235.74mil,374.697mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (7.376mil < 10mil) Between Pad P15-0(-3235.74mil,374.697mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P15-0(-3235.74mil,965.248mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.918mil < 10mil) Between Pad P15-0(-3235.74mil,965.248mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.401mil < 10mil) Between Pad P1-50(-5233.378mil,1162.097mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.4mil < 10mil) Between Pad P3-0(-3198.89mil,1353.118mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P3-0(-3198.89mil,1353.118mil) on Multi-Layer And Track

Silk To Solder Mask (Clearance=10mil) (IsPad),(All)
Silk To Solder Mask Clearance Constraint: (7.053mil < 10mil) Between Pad P3-0(-3435.11mil,1353.118mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P3-0(-3435.11mil,1353.118mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (8.4mil < 10mil) Between Pad P9-0(-7890.858mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P9-0(-7890.858mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (7.053mil < 10mil) Between Pad P9-0(-8599.519mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P9-0(-8599.519mil,3031.39mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (Collision < 10mil) Between Pad R25-1(-1684.549mil,2803.988mil) on Top Layer And Text "TP15'
Silk To Solder Mask Clearance Constraint: (Collision < 10mil) Between Pad R25-2(-1684.549mil,2865.012mil) on Top Layer And Text "TP15'
Silk To Solder Mask Clearance Constraint: (2.51mil < 10mil) Between Pad R28-2(-7190.071mil,2037.098mil) on Top Layer And Text "U23'
Silk To Solder Mask Clearance Constraint: (9.584mil < 10mil) Between Pad R38-2(-1875.11mil,2056.783mil) on Top Layer And Text "U27'
Silk To Solder Mask Clearance Constraint: (7.874mil < 10mil) Between Pad R49-1(-1238.073mil,1720.915mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.513mil < 10mil) Between Pad R49-2(-1238.073mil,1791.781mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (Collision < 10mil) Between Pad R50-2(-1091.5mil,2171.943mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (7.874mil < 10mil) Between Pad R52-1(-1328.461mil,1722.113mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.513mil < 10mil) Between Pad R52-2(-1328.461mil,1792.979mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (9.653mil < 10mil) Between Pad R53-1(-1032.5mil,1639.937mil) on Top Layer And Text "R53'
Silk To Solder Mask Clearance Constraint: (8.513mil < 10mil) Between Pad R54-1(-917mil,3696.866mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (7.874mil < 10mil) Between Pad R54-2(-917mil,3626mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (6.54mil < 10mil) Between Pad TP15-TP(-1687.063mil,2667.961mil) on Top Layer And Text "U14'
Silk To Solder Mask Clearance Constraint: (8.169mil < 10mil) Between Pad TP33-TP(-910mil,2095mil) on Top Layer And Text "TP33'
Silk To Solder Mask Clearance Constraint: (9.791mil < 10mil) Between Pad U13-1(-8675.173mil,2599.106mil) on Top Layer And Text "C57'
Silk To Solder Mask Clearance Constraint: (9.797mil < 10mil) Between Pad U13-2(-8675.173mil,2579.421mil) on Top Layer And Text "C57'
Silk To Solder Mask Clearance Constraint: (8.009mil < 10mil) Between Pad U4-(-1178mil,1776.687mil) on Top Overlay And Polygon Region (83 hole(s)

Silk to Silk (Clearance=10mil) (All),(All)
Silk To Silk Clearance Constraint: (3.858mil < 10mil) Between Text "1" (-3324.874mil,1410.598mil) on Top Overlay And Track
Silk To Silk Clearance Constraint: (7.806mil < 10mil) Between Text "1" (-3536.527mil,496.744mil) on Top Overlay And Track
Silk To Silk Clearance Constraint: (7.795mil < 10mil) Between Text "5" (-2386.921mil,3092.807mil) on Top Overlay And Track
Silk To Silk Clearance Constraint: (7.795mil < 10mil) Between Text "5" (-3305.228mil,3092.807mil) on Top Overlay And Track
Silk To Silk Clearance Constraint: (7.795mil < 10mil) Between Text "5" (-4985.346mil,3092.807mil) on Top Overlay And Track
Silk To Silk Clearance Constraint: (7.795mil < 10mil) Between Text "5" (-5906.606mil,3092.807mil) on Top Overlay And Track
Silk To Silk Clearance Constraint: (7.795mil < 10mil) Between Text "5" (-7583.771mil,3092.807mil) on Top Overlay And Track
Silk To Silk Clearance Constraint: (7.795mil < 10mil) Between Text "5" (-8505.031mil,3092.807mil) on Top Overlay And Track
Silk To Silk Clearance Constraint: (7.795mil < 10mil) Between Text "8" (-3174.323mil,855.012mil) on Top Overlay And Track
Silk To Silk Clearance Constraint: (2.64mil < 10mil) Between Text "P12" (-4406.324mil,3113.214mil) on Top Overlay And Text "SPI_CONN'
Silk To Silk Clearance Constraint: (7.775mil < 10mil) Between Text "PWR CONN" (-3073.89mil,1045.52mil) on Top Overlay And Track
Silk To Silk Clearance Constraint: (8.737mil < 10mil) Between Text "PWR CONN" (-3073.89mil,1045.52mil) on Top Overlay And Track
Silk To Silk Clearance Constraint: (8.966mil < 10mil) Between Text "PWR CONN" (-3073.89mil,1045.52mil) on Top Overlay And Track
Silk To Silk Clearance Constraint: (9.511mil < 10mil) Between Text "R53" (-1013.547mil,1526.306mil) on Top Overlay And Track