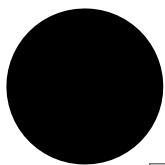


D

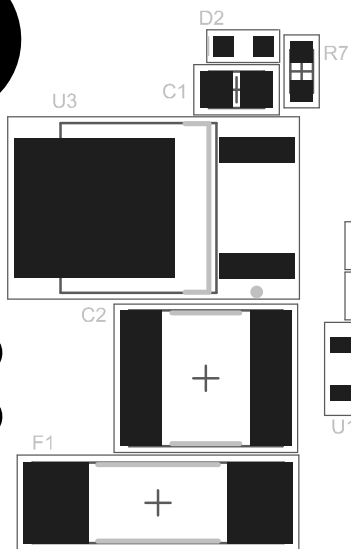
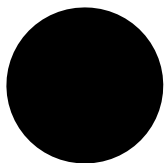
Title TSAL BOARD			
Size A	Number TSAL BOARD REV 2		Revision 2
Date:	10/23/2020	Sheet of	1/1
File:	C:\Users\... \TSAL_REV2_2.SchDoc Drawn By:		



MH1

J2

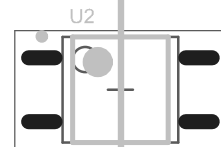
MH2



TEAM PHANTOM

SFU FORMULA SAE ELECTRIC

TSAL REV 2



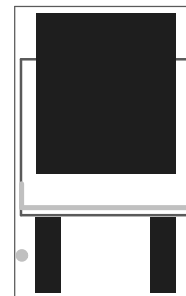
HV LV



J1

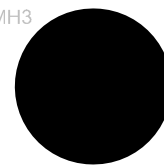


Q1



Q2

MH3



J3



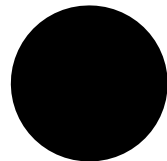
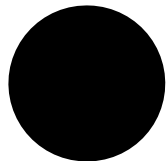
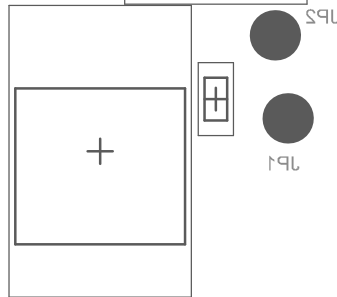
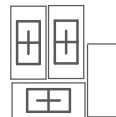
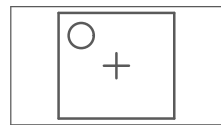
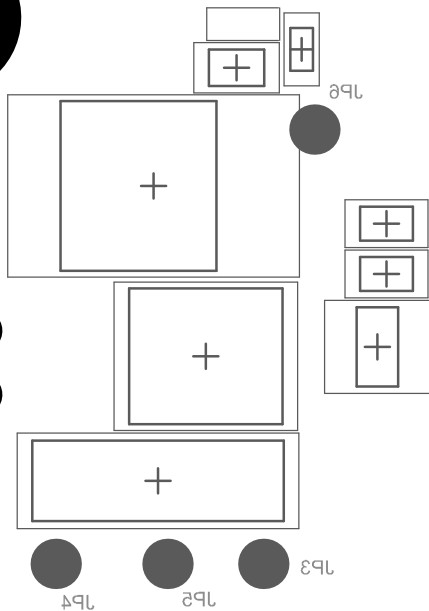
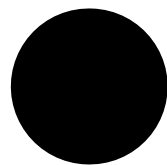
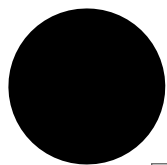
MH4



TEAM PHANTOM
SFU FORMULA SAE ELECTRIC



TSAL REV 2



Design Rules Verification Report

Filename : C:\Users\Gaming\Documents\TeamPhantom\high_voltage\TSAL\TSAL REV2\TSA

Warnings 0
Rule Violations 0

Warnings	
Total	0

Rule Violations	
Clearance Constraint (Gap=5mil) (All),(All)	0
Clearance Constraint (Gap=5mil) (IsStitchingVia and InNet('HV_GND')),((IsVia and (Not IsStitchingVia)) Or IsPad)	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=7.874mil) (Max=1000mil) (Preferred=16mil) (All)	0
Power Plane Connect Rule(Relief Connect)(Expansion=11.811mil) (Conductor Width=10mil) (Air Gap=5mil) (Entries=4)	0
Power Plane Connect Rule(Direct Connect)(Expansion=20mil) (Conductor Width=10mil) (Air Gap=10mil) (Entries=4)	0
Minimum Annular Ring (Minimum=3mil) (All)	0
Hole Size Constraint (Min=11.811mil) (Max=248.031mil) (All)	0
Hole To Hole Clearance (Gap=9.842mil) (All),(All)	0
Minimum Solder Mask Sliver (Gap=0mil) (All),(All)	0
Silk To Solder Mask (Clearance=5mil) (IsPad),(All)	0
Silk to Silk (Clearance=0mil) (All),(All)	0
Net Antennae (Tolerance=0mil) (All)	0
Board Clearance Constraint (Gap=0mil) (All)	0
Height Constraint (Min=0mil) (Max=71497.938mil) (Preferred=500mil) (All)	0
Total	0

No differences were detected.

Electrical Rules Check Report

Class	Document	Message
Warning	TSAL_REV2_2.SchDoc	Nets Wire D+LV has multiple names (Net Label D+LV, Net Label SAFE_LED+_GREEN, Net Label SAFE_LED+_GREEN, Power Object D+LV, Power Object D+LV, Power Object D+LV)
Warning	TSAL_REV2_2.SchDoc	Nets Wire EXCEED_GATE has multiple names (Net Label EXCEED_GATE, Net Label EXCEED_GATE, Net Label OPTO_OUT, Net Label SAFE_GATE)
Warning	TSAL_REV2_2.SchDoc	Nets Wire EXCEED_LED-_RED has multiple names (Net Label EXCEED_LED-_RED, Net Label EXCEED_LED-_RED, Net Label LV_GND, Net Label LV_GND, Power Object LV_GND, Power Object LV_GND, Power Object LV_GND, Power Object LV_GND, Power Object LV_GND, Power Object LV_GND)
Warning	TSAL_REV2_2.SchDoc	Off grid C1 at 3100mil,2006.299mil
Warning	TSAL_REV2_2.SchDoc	Off grid D2 at 2206.299mil,800mil
Warning	TSAL_REV2_2.SchDoc	Off grid F1 at 709.449mil,4800mil
Warning	TSAL_REV2_2.SchDoc	Off grid J1 at 5307.874mil,5601.575mil
Warning	TSAL_REV2_2.SchDoc	Off grid J2 at 4007.874mil,4904.724mil
Warning	TSAL_REV2_2.SchDoc	Off grid J3 at 5307.874mil,4904.724mil
Warning	TSAL_REV2_2.SchDoc	Off grid Net Label COMP_OUT at 3800mil,4198.425mil
Warning	TSAL_REV2_2.SchDoc	Off grid Net Label D+5V_TS at 2000mil,4296.85mil
Warning	TSAL_REV2_2.SchDoc	Off grid Net Label D+5V_TS at 2988.976mil,4900mil
Warning	TSAL_REV2_2.SchDoc	Off grid Net Label EXCEED_GATE_LED at 8297.84mil,2500mil
Warning	TSAL_REV2_2.SchDoc	Off grid Net Label EXCEED_LED-_RED at 5900mil,6290.551mil
Warning	TSAL_REV2_2.SchDoc	Off grid Net Label LV_GND at 5900mil,6487.402mil
Warning	TSAL_REV2_2.SchDoc	Off grid Net Label OPTO_OUT at 6000mil,4198.425mil
Warning	TSAL_REV2_2.SchDoc	Off grid Net Label SAFE_GATE at 7300mil,5796.85mil
Warning	TSAL_REV2_2.SchDoc	Off grid Net Label SAFE_LED+_GREEN at 5900mil,6093.701mil
Warning	TSAL_REV2_2.SchDoc	Off grid Net Label SAFE_LED-_GREEN at 5900mil,6684.252mil
Warning	TSAL_REV2_2.SchDoc	Off grid Net Label VCU_AC TIVE at 5900mil,5896.85mil
Warning	TSAL_REV2_2.SchDoc	Off grid NetParameter at 1506.299mil,4800mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin C1-1 at 3100mil,2006.299mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin C2-2 at 800mil,1906.299mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin D1-2 at 8900mil,2106.299mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin D2-1 at 2206.299mil,800mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin F1-1 at 709.449mil,4800mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin J1-2 at 5800mil,5896.85mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin J1-3 at 5800mil,6093.701mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin J1-4 at 5800mil,6290.551mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin J1-5 at 5800mil,6487.402mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin J1-6 at 5800mil,6684.252mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin J2-1 at 4500mil,5003.15mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin J3-1 at 5800mil,5003.15mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin Q1-1 at 7904.724mil,5796.85mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin Q1-2 at 8200mil,6092.126mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin Q2-2 at 8195.276mil,4495.276mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin Q2-3 at 8195.276mil,4003.15mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin R1-2 at 7793.701mil,4800mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin R2-2 at 1500mil,4593.701mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin R3-1 at 1500mil,3606.299mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin R4-1 at 7000mil,3606.299mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin R5-2 at 7000mil,3393.701mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin R6-2 at 8293.701mil,2500mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin R7-1 at 1106.299mil,800mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin U1-1 at 3677.953mil,4198.425mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin U1-2 at 2988.976mil,3706.299mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin U1-4 at 2300mil,4296.85mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin U1-5 at 2988.976mil,4690.551mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin U2-1 at 4500mil,4198.425mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin U2-2 at 4500mil,4001.575mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin U2-3 at 5779.528mil,4001.575mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin U2-4 at 5779.528mil,4198.425mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin U3-2 at 1688.976mil,2007.874mil
Warning	TSAL_REV2_2.SchDoc	Off grid Pin U3-3 at 2377.953mil,2500mil
Warning	TSAL_REV2_2.SchDoc	Off grid Power Object HV_GND at 2988.976mil,3500mil
Warning	TSAL_REV2_2.SchDoc	Off grid Q1 at 7904.724mil,5796.85mil

Class	Document	Message
Warning	TSAL_REV2_2.SchDoc	Off grid R3 at 1500mil,3606.299mil
Warning	TSAL_REV2_2.SchDoc	Off grid R4 at 7000mil,3606.299mil
Warning	TSAL_REV2_2.SchDoc	Off grid R7 at 1106.299mil,800mil
Warning	TSAL_REV2_2.SchDoc	Off grid U1 at 2496.85mil,3903.15mil
Warning	TSAL_REV2_2.SchDoc	Off grid U2 at 4696.85mil,3903.15mil
Warning	TSAL_REV2_2.SchDoc	Off grid U3 at 1196.85mil,2204.724mil