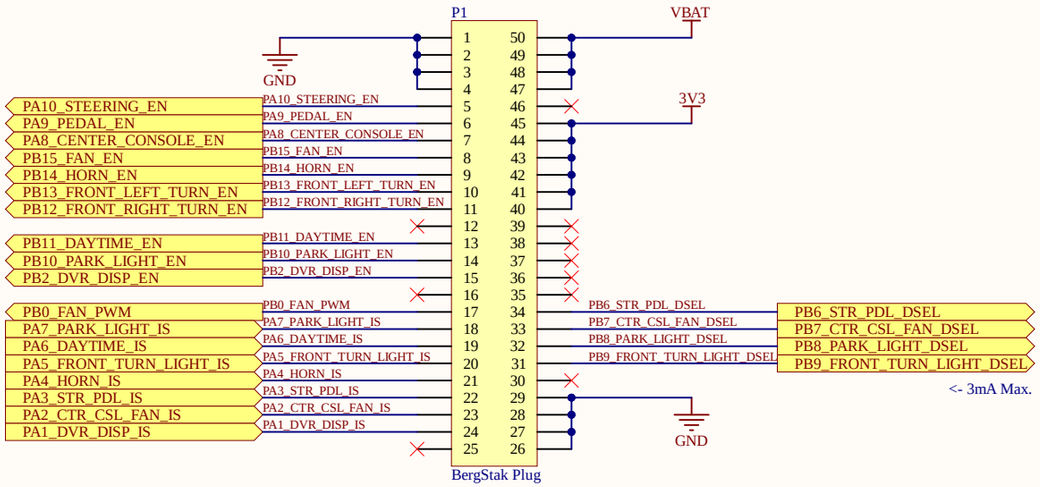
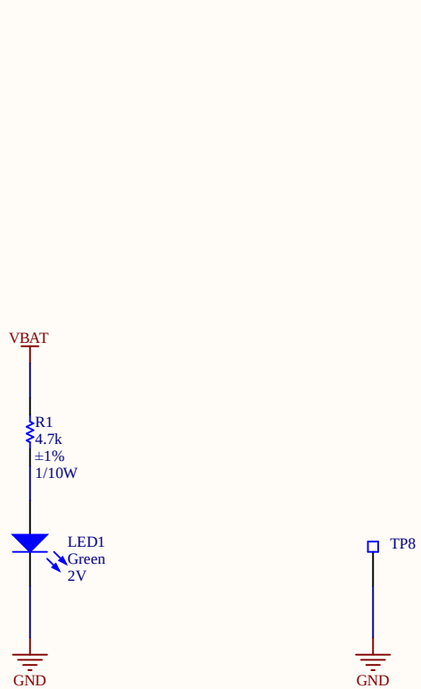
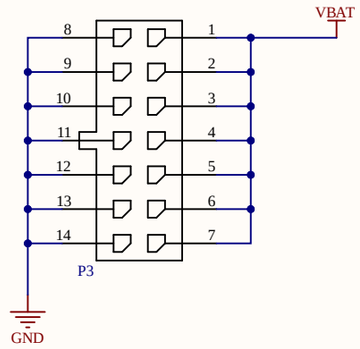
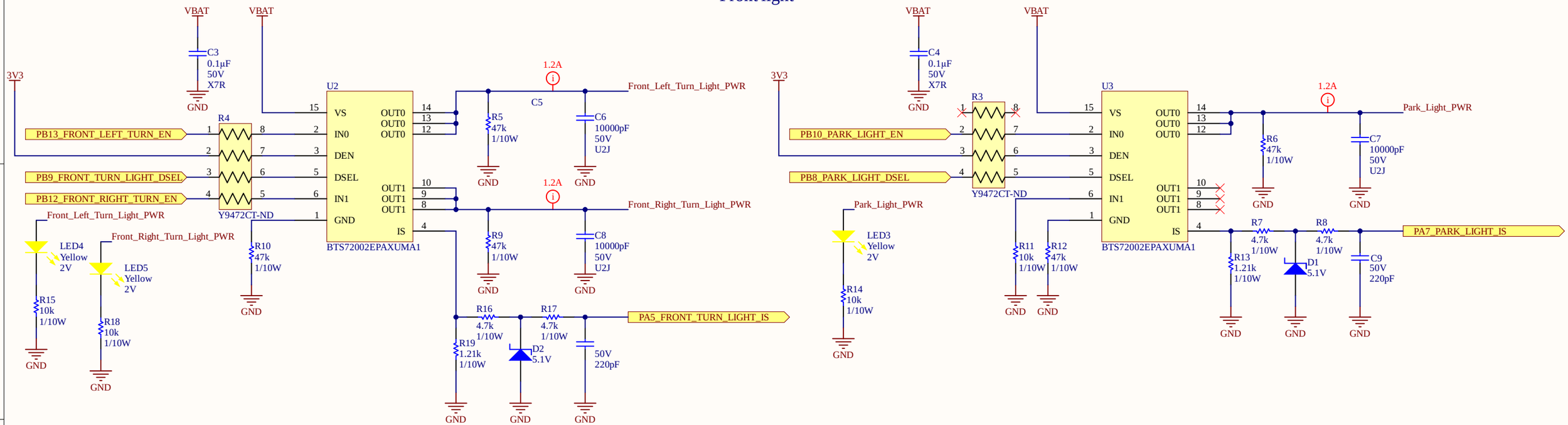


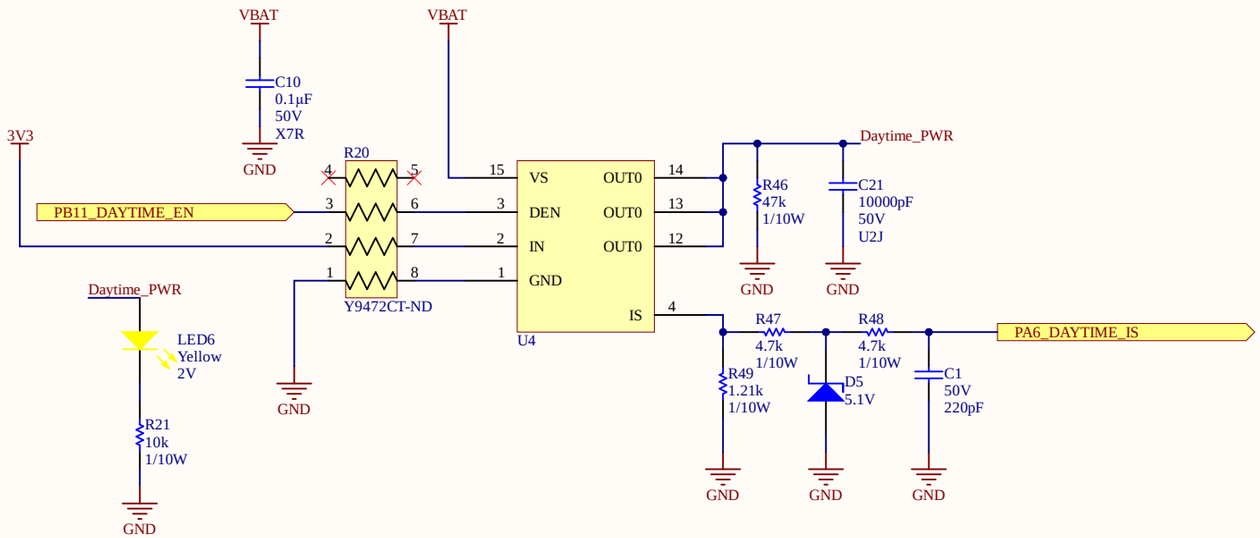




PROJECT	MSXIV_Front_Power_Distribution.PrjPcb	MIDNIGHT SUN	
DOCUMENT	Controller Board Interface		
PART NUMBER		VARIANT [No Variations]	Engineering 5 - 1002 University of Waterloo (519) 888-4567 x32978 hardware@uwmidsun.com
DRAWN BY		REVISION	
LAST MODIFIED	2020-01-20	SHEET * OF *	

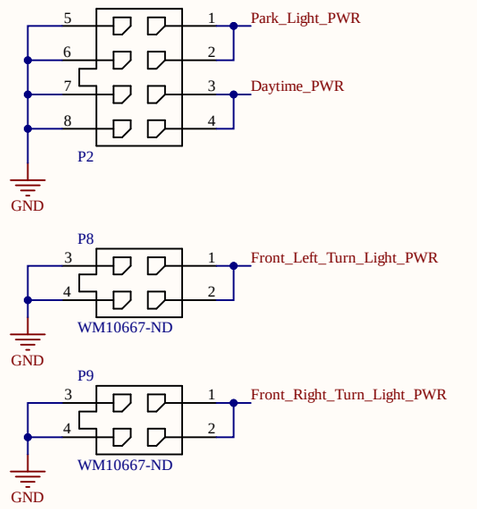
Front light





Light Load
Nominal Current: 1.2 A
Overload Current: 8.7 - 11.5 A
Based on the specs of BTS7200-2EPC

Draws 4mA
when active



PROJECT	MSXIV_Front_Power_Distribution.PrjPcb	MIDNIGHT SUN	
DOCUMENT	Title		
PART NUMBER		VARIANT	[No Variations]
DRAWN BY		REVISION	
LAST MODIFIED	2020-01-20	SHEET * OF *	

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University of Waterloo
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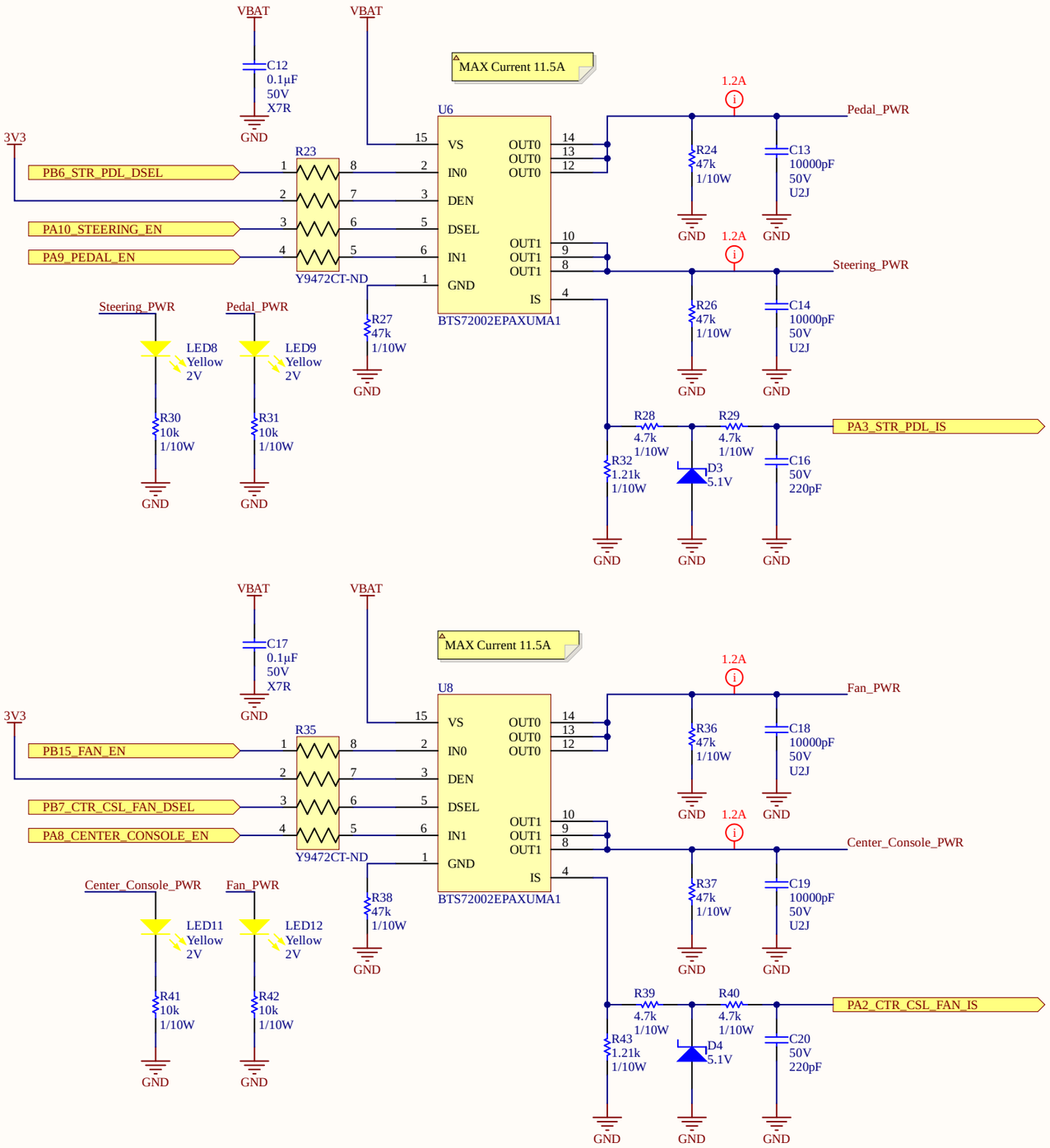
hardware@uwmidsun.com



PROJECT	MSXIV_Front_Power_Distribution.PrjPcb
DOCUMENT	Title
PART NUMBER	
VARIANT	[No Variations]
DRAWN BY	
REVISION	
LAST MODIFIED	2020-01-20
SHEET	* OF *

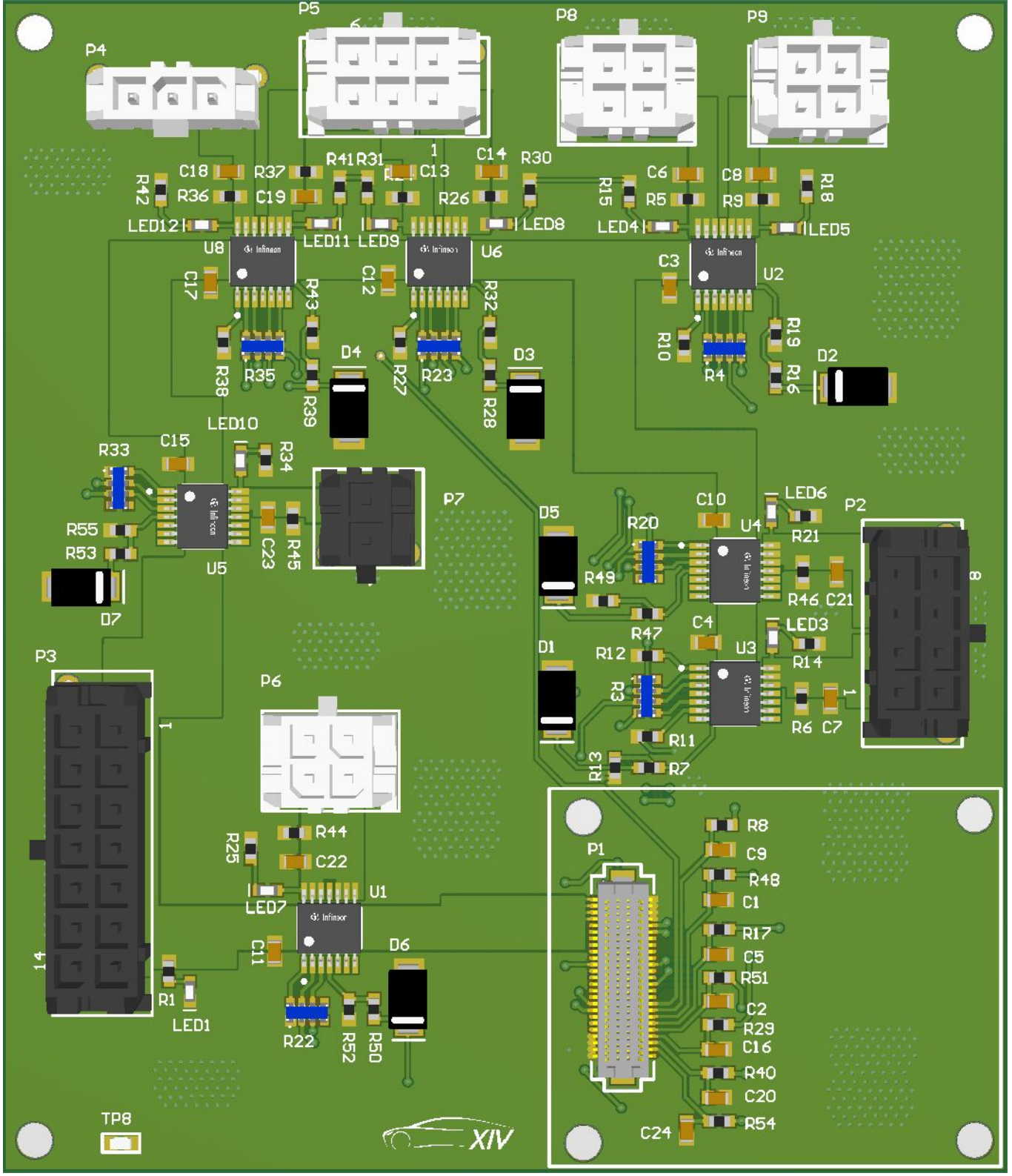
MIDNIGHT SUN

Engineering 5 - 1002
University of Waterloo
(519) 888-4567 x32978
hardware@uwmidsun.com

Bill of Materials

Project:	MSXIV_Front_Power_Distribution.PrjPcb
Revision:	<Parameter ProjectRevision not found>
Project Lead:	<Parameter ProjectAuthor not found>
Generated On:	2020-01-20 8:25 PM
Production Quantity:	1
Currency	CAD
Total Parts Count:	113

LibRef	Designator	Manufacturer 1	Manufacturer Part Number 1	Supplier 1	Supplier Part Number 1	Supplier Unit Price 1	Quantity	Supplier Subtotal 1
CAP CER 220PF 50V C0G/NP0 0603	C1, C2, C5, C9, C16, C20, C24	KEMET	C0603C221J5GACAUTO	Digi-Key	399-6868-1-ND	0.1568	7	$ 1.10
CAP CER 0.1UF 50V 10% X7R 0603	C3, C4, C10, C11, C12, C15, C17	Kyocera AVX	06035C104KAT2A	Digi-Key	478-5052-1-ND	0.196	7	$ 1.37
CAP CER 10nF 50V 5% X7R 0603	6, C7, C8, C13, C14, C18, C19, C21, C22, C2	KEMET	C0603C103J5JACTU	Digi-Key	399-13384-1-ND	0.2927	10	$ 2.93
DIODE ZENER 5.1V 500MW SOD123	D1, D2, D3, D4, D5, D6, D7	ON Semiconductor	MMSZ5231BT1G	Digi-Key	MMSZ5231BT1GOSCT-ND	0.26134	7	$ 1.83
LED GREEN CLEAR 2V 0603	LED1	Wurth Electronics	150060VS75000	Digi-Key	732-4980-1-ND	0.18294	1	$ 0.18
LED YELLOW CLEAR 2.1V 0603	, LED5, LED6, LED7, LED8, LED9, LED10, LE	Wurth Electronics	150060YS75000	Digi-Key	732-4981-1-ND	0.18294	10	$ 1.83
CONN 50POS Bergstak Plug 0.02"	P1	Amphenol FCI	10132797-055100LF	Digi-Key	609-5226-1-ND	1.88	1	$ 1.88
CONN 8POS MICRO-FIT 3mm	P2	Molex	43045-0827	Digi-Key	WM10684-ND	2.18	1	$ 2.18
CONN 14POS MICRO-FIT 3mm	P3	Molex	430451427	Digi-Key	WM10707-ND	4.26	1	$ 4.26
CONN 3POS MICROFIT	P4	Molex	436500315	Digi-Key	WM1918-ND	1.35	1	$ 1.35
CONN 6POS MICRO-FIT 3mm	P5	Molex	43045-0627	Digi-Key	WM10673-ND	2.06	1	$ 2.06
CONN 4POS MICRO-FIT 3mm	P6, P8, P9	Molex	430450427	Digi-Key	WM10667-ND	1.75	3	$ 5.25
CONN 2POS MICRO-FIT 3mm	P7	Molex	430450227	Digi-Key	WM10657-ND	1.1	1	$ 1.10
RES 4.7K OHM 1% 1/10W 0603	16, R17, R28, R29, R39, R40, R47, R48, R50,	Yageo Phycomp	RC0603FR-074K7L	Digi-Key	311-4.70KHRCT-ND	0.03005	15	$ 0.45
RES ARRAY 4 RES 4.7K OHM 1206	R3, R4, R20, R22, R23, R33, R35	Panasonic	EXB-38V472JV	Digi-Key	Y9472CT-ND	0.13067	7	$ 0.91
RES 47K OHM 1% 1/10W 0603	, R10, R12, R24, R26, R27, R36, R37, R38, R4	Panasonic	ERJ3EKF4702V	Digi-Key	P47.0KHCT-ND	0.07448	14	$ 1.04
RES 10K OHM 1% 1/10W 0603	R14, R15, R18, R21, R25, R30, R31, R34, R41	Yageo Phycomp	RC0603FR-0710KL	Digi-Key	311-10.0KHRCT-ND	0.03005	11	$ 0.33
RES 1.21K OHM 1% 1/10W 0603	R13, R19, R32, R43, R49, R52, R55	Yageo	RC0603FR-071K21L	Digi-Key	311-1.21KHRCT-ND	0.13067	7	$ 0.91
Test Point 0603 SMD	TP8	CGS - TE CONNECTIVITY	RCU-0C	Digi-Key	A106145CT-ND	0.31361	1	$ 0.31
IC LOAD SWITCH BTS70081EPPXUMA1	U1	Infineon	BTS70081EPPXUMA1	Digi-Key	TS70081EPPXUMA1CT-N	2.73	1	$ 2.73
C LOAD SWITCH BTS7200-2EPA PG-TSDSO-14	U2, U3, U6, U8	Infineon	BTS72002EPAXUMA1	Digi-Key	TS72002EPAXUMA1CT-N	1.7	4	$ 6.79
C LOAD SWITCH BTS70401EPA PG-TSDSO-14-2	U4, U5	Infineon	BTS70401EPAXUMA1	Digi-Key	TS70401EPAXUMA1CT-N	1.74	2	$ 3.48
							Total:	$ 44.29


P4
P5
P8
P9
C18
R37
R41
R31
C13
C14
R30
R42
R36
C19
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R15
C6
C8
R18
R5
R9
LED12
LED11
LED9
LED8
LED4
LED5
U8
U6
U2
C17
C12
C3
R43
R32
R19
R10
R4
R16
R38
R35
R27
R23
R28
D4
D3
D2
R39
LED10
R33
C15
R34
P7
D5
C10
LED6
P2
R20
U4
R55
R53
C23
R45
R49
R21
R46
C21
U5
D7
R47
C4
LED3
P3
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R12
U3
R14
R3
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R11
R6
C7
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R51
C11
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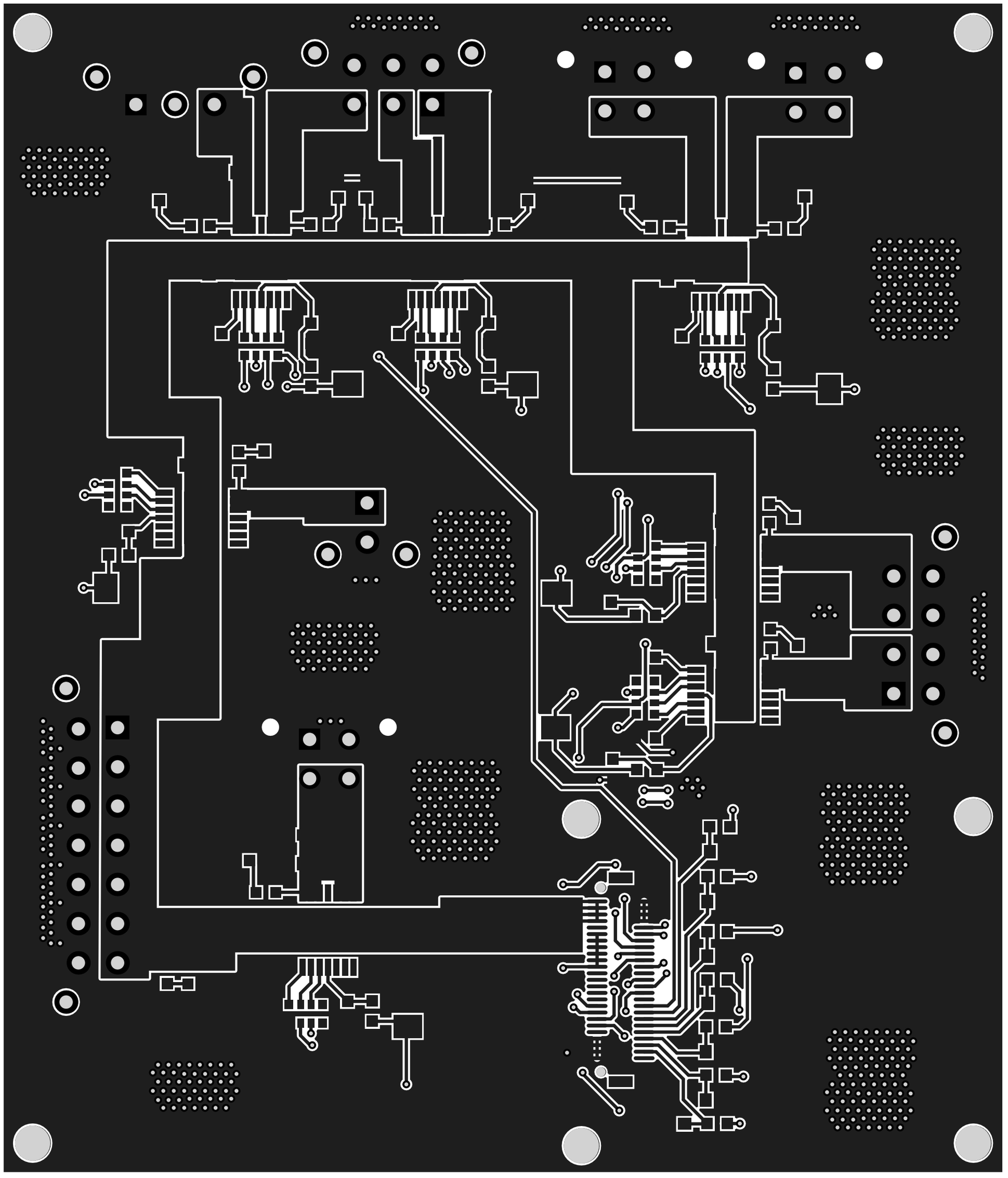
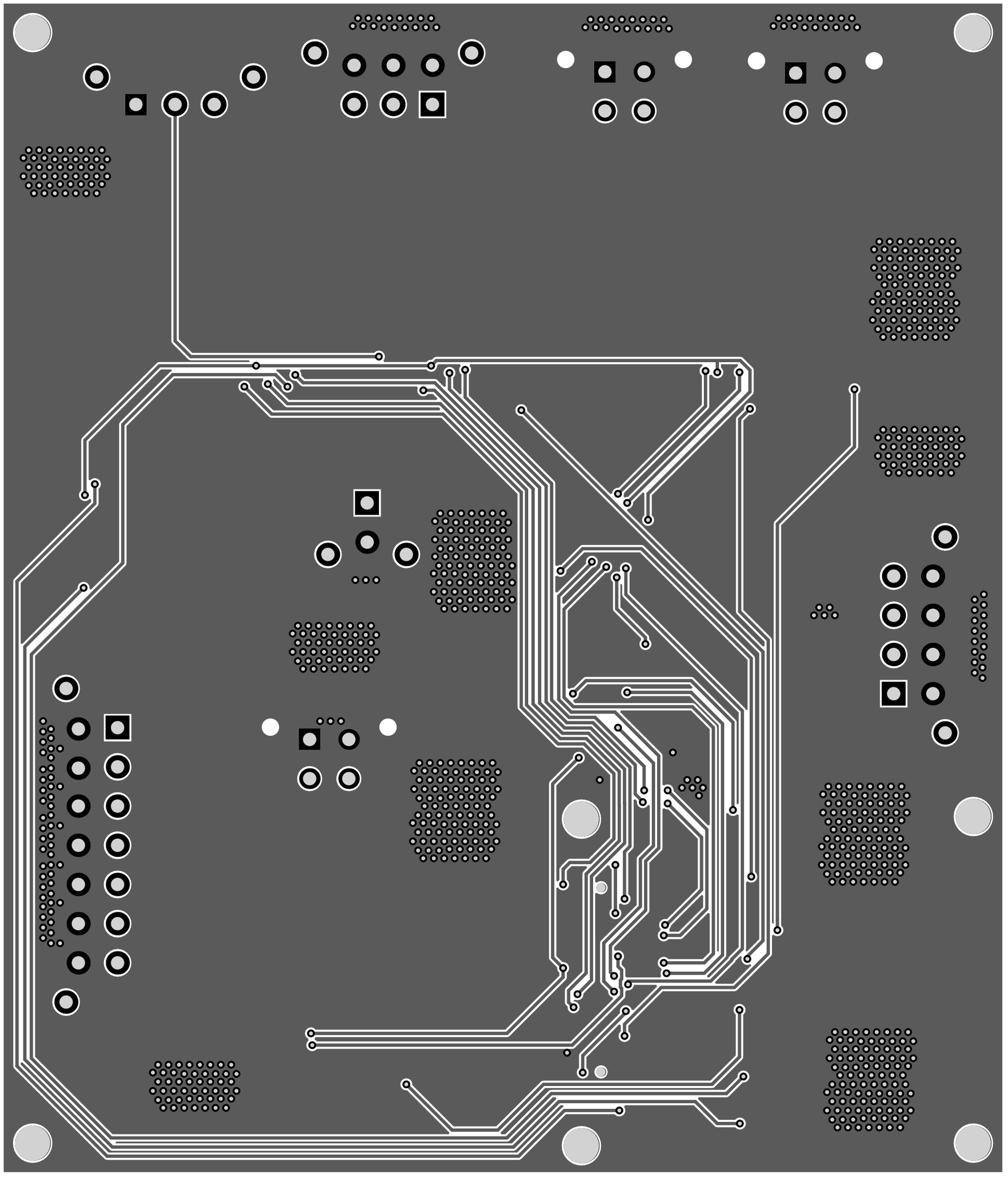
C24
R54
XIV





Design Rules Verification Report

Filename : C:\Users\Aashmika Mali\Documents\First Year\Midnight Sun\hardware\MSXIV_FrontPowerDistribution\Front Power Distribution.PcbDoc

Warnings 0
Rule Violations 189

Warnings	
Total	0

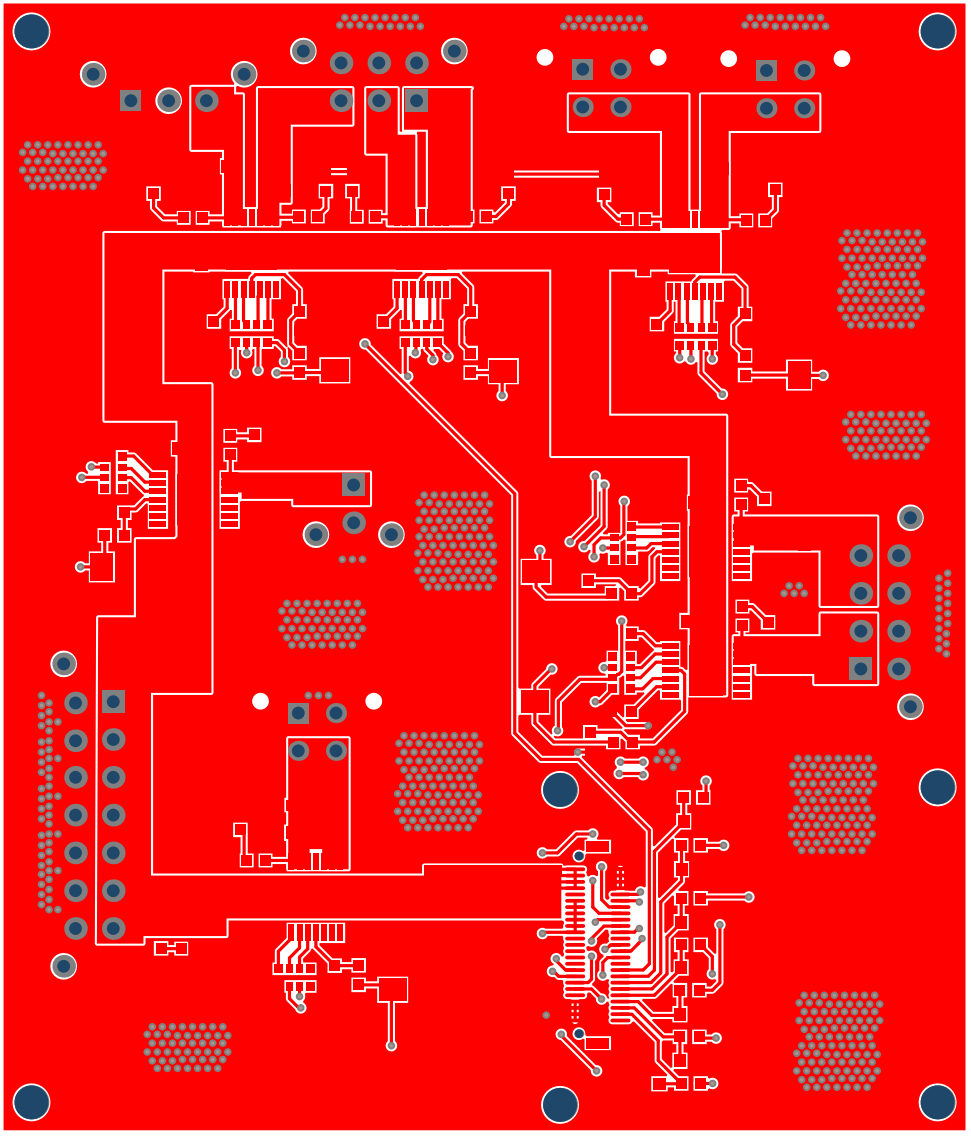
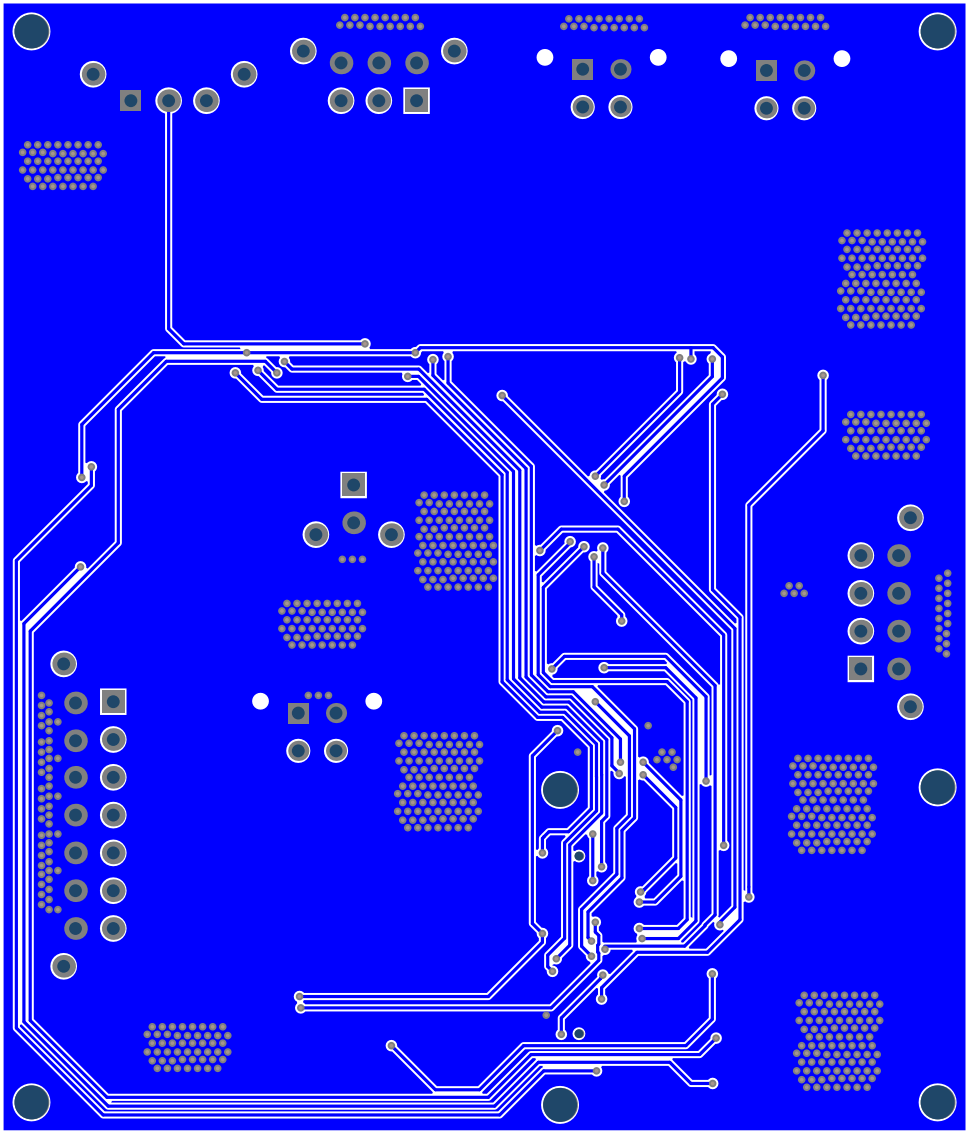
Rule Violations	
Clearance Constraint (Gap=5.984mil) (All),(All)	0
Short-Circuit Constraint (Allowed=No) (All),(All)	0
Un-Routed Net Constraint ((All))	0
Modified Polygon (Allow modified: No), (Allow shelved: No)	0
Width Constraint (Min=10mil) (Max=20mil) (Preferred=10mil) (All)	0
Power Plane Connect Rule(Relief Connect)(Expansion=20mil) (Conductor Width=10mil) (Air Gap=10mil) (Entries=4)	0
Hole Size Constraint (Min=1mil) (Max=100mil) (All)	7
Hole To Hole Clearance (Gap=10mil) (All),(All)	0
Minimum Solder Mask Sliver (Gap=10mil) (All),(All)	128
Silk To Solder Mask (Clearance=10mil) (IsPad),(All)	54
Silk to Silk (Clearance=10mil) (All),(All)	0
Net Antennae (Tolerance=0mil) (All)	0
Height Constraint (Min=0mil) (Max=1000mil) (Prefered=500mil) (All)	0
Total	189

Hole Size Constraint (Min=1mil) (Max=100mil) (All)
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(1751.969mil,1074.803mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(1751.969mil,90.551mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(2933.071mil,1082.677mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(2933.071mil,3444.882mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(2933.071mil,98.425mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(98.425mil,3444.882mil) on Multi-Layer Actual Hole Size = 106.299mil
Hole Size Constraint: (106.299mil > 100mil) Pad Free-(98.425mil,98.425mil) on Multi-Layer Actual Hole Size = 106.299mil

Minimum Solder Mask Sliver (Gap=10mil) (All),(All)
Minimum Solder Mask Sliver Constraint: (4.145mil < 10mil) Between Pad P1-(1811.024mil,312.992mil) on Multi-Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.145mil < 10mil) Between Pad P1-(1811.024mil,868.11mil) on Multi-Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R20-1(1921.26mil,1896.85mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R20-2(1921.26mil,1862.205mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R20-3(1921.26mil,1830.709mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R20-5(1976.378mil,1796.063mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R20-6(1976.378mil,1830.709mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R20-7(1976.378mil,1862.205mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R22-1(870.866mil,460.63mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R22-2(905.512mil,460.63mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R22-3(937.008mil,460.63mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R22-5(971.654mil,515.748mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R22-6(937.008mil,515.748mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R22-7(905.512mil,515.748mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R23-1(1268.504mil,2472.441mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R23-2(1303.15mil,2472.441mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R23-3(1334.646mil,2472.441mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R23-5(1369.291mil,2527.559mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R23-6(1334.646mil,2527.559mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R23-7(1303.15mil,2527.559mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R3-1(1917.323mil,1491.339mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R3-2(1917.323mil,1456.693mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R3-3(1917.323mil,1425.197mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R33-1(326.772mil,2118.11mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R33-2(326.772mil,2083.465mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R33-3(326.772mil,2051.968mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R33-5(381.89mil,2017.323mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R33-6(381.89mil,2051.968mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R33-7(381.89mil,2083.465mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R3-5(1972.441mil,1390.551mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R35-1(737.008mil,2472.441mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R35-2(771.654mil,2472.441mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R35-3(803.15mil,2472.441mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R35-5(837.795mil,2527.559mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R35-6(803.15mil,2527.559mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R35-7(771.654mil,2527.559mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R3-6(1972.441mil,1425.197mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R3-7(1972.441mil,1456.693mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R4-1(2126.772mil,2464.567mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R4-2(2161.418mil,2464.567mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R4-3(2192.914mil,2464.567mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R4-5(2227.559mil,2519.685mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (3.811mil < 10mil) Between Pad R4-6(2192.914mil,2519.685mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (4.205mil < 10mil) Between Pad R4-7(2161.418mil,2519.685mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U1-1(911.417mil,627.953mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U1-10(1013.779mil,852.362mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U1-10(1013.779mil,852.362mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U1-11(988.189mil,852.362mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U1-12(962.598mil,852.362mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U1-13(937.008mil,852.362mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U1-2(937.008mil,627.953mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U1-3(962.598mil,627.953mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U1-4(988.189mil,627.953mil)

Minimum Solder Mask Sliver (Gap=10mil) (All),(All)
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U1-4(988.189mil,627.953mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U1-5(1013.779mil,627.953mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U1-6(1039.37mil,627.953mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U1-8(1064.961mil,852.362mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U2-1(2096.457mil,2631.89mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U2-10(2198.819mil,2856.299mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U2-10(2198.819mil,2856.299mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U2-11(2173.229mil,2856.299mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U2-12(2147.638mil,2856.299mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U2-13(2122.047mil,2856.299mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U2-2(2122.047mil,2631.89mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U2-3(2147.638mil,2631.89mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U2-4(2173.229mil,2631.89mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U2-5(2198.819mil,2631.89mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U2-6(2224.41mil,2631.89mil) on Top Layer And Pad U2-7(2250mil,2631.89mil)
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U2-8(2250mil,2856.299mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U2-9(2224.41mil,2856.299mil)
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U3-1(2096.457mil,1525.085mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U3-10(2320.866mil,1422.722mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U3-10(2320.866mil,1422.722mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U3-11(2320.866mil,1448.313mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U3-12(2320.866mil,1473.903mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U3-13(2320.866mil,1499.494mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U3-2(2096.457mil,1499.494mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U3-3(2096.457mil,1473.903mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U3-4(2096.457mil,1448.313mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U3-5(2096.457mil,1422.722mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U3-6(2096.457mil,1397.132mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U3-8(2320.866mil,1371.541mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U4-1(2096.457mil,1895.669mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U4-10(2320.866mil,1793.307mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U4-10(2320.866mil,1793.307mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U4-11(2320.866mil,1818.898mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U4-12(2320.866mil,1844.488mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U4-13(2320.866mil,1870.079mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U4-2(2096.457mil,1870.079mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U4-3(2096.457mil,1844.488mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U4-4(2096.457mil,1818.898mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U4-5(2096.457mil,1793.307mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U4-6(2096.457mil,1767.717mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U4-8(2320.866mil,1742.126mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U5-1(494.094mil,2058.825mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U5-10(718.504mil,1956.463mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U5-10(718.504mil,1956.463mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U5-11(718.504mil,1982.053mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U5-12(718.504mil,2007.644mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U5-13(718.504mil,2033.234mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U5-2(494.094mil,2033.234mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U5-3(494.094mil,2007.644mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U5-4(494.094mil,1982.053mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U5-5(494.094mil,1956.463mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U5-6(494.094mil,1930.872mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U5-8(718.504mil,1905.281mil) on Top Layer And Pad

Minimum Solder Mask Sliver (Gap=10mil) (All),(All)
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U6-1(1242.126mil,2639.764mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U6-10(1344.488mil,2864.173mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U6-10(1344.488mil,2864.173mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U6-11(1318.898mil,2864.173mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U6-12(1293.307mil,2864.173mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U6-13(1267.717mil,2864.173mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U6-2(1267.717mil,2639.764mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U6-3(1293.307mil,2639.764mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U6-4(1318.898mil,2639.764mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U6-5(1344.488mil,2639.764mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U6-6(1370.079mil,2639.764mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U6-8(1395.669mil,2864.173mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U8-1(710.63mil,2639.764mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U8-10(812.992mil,2864.173mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U8-10(812.992mil,2864.173mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U8-11(787.402mil,2864.173mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U8-12(761.811mil,2864.173mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U8-13(736.22mil,2864.173mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U8-2(736.22mil,2639.764mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U8-3(761.811mil,2639.764mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U8-4(787.402mil,2639.764mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U8-5(812.992mil,2639.764mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U8-6(838.583mil,2639.764mil) on Top Layer And Pad
Minimum Solder Mask Sliver Constraint: (7.874mil < 10mil) Between Pad U8-8(864.173mil,2864.173mil) on Top Layer And Pad

Silk To Solder Mask (Clearance=10mil) (IsPad),(All)
Silk To Solder Mask Clearance Constraint: (0.478mil < 10mil) Between Arc (1266.226mil,2454.247mil) on Top Overlay And Pad
Silk To Solder Mask Clearance Constraint: (6.658mil < 10mil) Between Arc (1899.129mil,1493.617mil) on Top Overlay And Pad
Silk To Solder Mask Clearance Constraint: (6.658mil < 10mil) Between Arc (1903.066mil,1899.129mil) on Top Overlay And Pad
Silk To Solder Mask Clearance Constraint: (0.478mil < 10mil) Between Arc (2124.494mil,2446.373mil) on Top Overlay And Pad
Silk To Solder Mask Clearance Constraint: (6.658mil < 10mil) Between Arc (308.577mil,2120.389mil) on Top Overlay And Pad
Silk To Solder Mask Clearance Constraint: (0.478mil < 10mil) Between Arc (734.73mil,2454.247mil) on Top Overlay And Pad
Silk To Solder Mask Clearance Constraint: (0.478mil < 10mil) Between Arc (868.588mil,442.436mil) on Top Overlay And Pad
Silk To Solder Mask Clearance Constraint: (Collision < 10mil) Between Pad C13-1(1231.299mil,3023.622mil) on Top Layer And Text "R24"
Silk To Solder Mask Clearance Constraint: (Collision < 10mil) Between Pad C13-2(1178.15mil,3023.622mil) on Top Layer And Text "R24"
Silk To Solder Mask Clearance Constraint: (9.832mil < 10mil) Between Pad C13-2(1178.15mil,3023.622mil) on Top Layer And Text "R31"
Silk To Solder Mask Clearance Constraint: (9.724mil < 10mil) Between Pad D1-2(1673.228mil,1350.394mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (9.724mil < 10mil) Between Pad D2-2(2499.567mil,2371.063mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (9.724mil < 10mil) Between Pad D3-2(1574.803mil,2383.307mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (9.724mil < 10mil) Between Pad D4-2(1047.244mil,2385.827mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (9.724mil < 10mil) Between Pad D5-2(1677.165mil,1755.906mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (9.724mil < 10mil) Between Pad D6-2(1228.347mil,450.236mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (9.724mil < 10mil) Between Pad D7-2(318.898mil,1771.653mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.213mil < 10mil) Between Pad LED10-2(720.472mil,2181.102mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.213mil < 10mil) Between Pad LED11-2(994.095mil,2866.535mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.213mil < 10mil) Between Pad LED1-2(566.929mil,519.685mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.213mil < 10mil) Between Pad LED12-2(574.803mil,2862.205mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.213mil < 10mil) Between Pad LED3-2(2322.441mil,1647.638mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.213mil < 10mil) Between Pad LED4-2(1960.63mil,2858.268mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.213mil < 10mil) Between Pad LED5-2(2393.701mil,2854.331mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.213mil < 10mil) Between Pad LED6-2(2318.504mil,2025.591mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.213mil < 10mil) Between Pad LED7-2(771.654mil,854.331mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.213mil < 10mil) Between Pad LED8-2(1521.654mil,2866.535mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.213mil < 10mil) Between Pad LED9-2(1116.142mil,2865.748mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.78mil < 10mil) Between Pad P1-1(1940.945mil,826.771mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (8.767mil < 10mil) Between Pad P1-25(1940.945mil,354.331mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (9.4mil < 10mil) Between Pad P1-26(1799.213mil,354.331mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (9.401mil < 10mil) Between Pad P1-50(1799.213mil,826.771mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (7.376mil < 10mil) Between Pad P2-0(2848.032mil,1334.646mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P2-0(2848.032mil,1334.646mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.918mil < 10mil) Between Pad P2-0(2848.032mil,1925.197mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P2-0(2848.032mil,1925.197mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.918mil < 10mil) Between Pad P3-0(199.213mil,1468.504mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P3-0(199.213mil,1468.504mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P3-0(199.213mil,523.622mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (7.375mil < 10mil) Between Pad P3-0(199.213mil,523.622mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (8.4mil < 10mil) Between Pad P5-0(1421.26mil,3383.465mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P5-0(1421.26mil,3383.465mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.022mil < 10mil) Between Pad P5-0(948.819mil,3383.465mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (9.281mil < 10mil) Between Pad P5-0(948.819mil,3383.465mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (8.4mil < 10mil) Between Pad P7-0(1224.409mil,1872.441mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (5.801mil < 10mil) Between Pad P7-0(1224.409mil,1872.441mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (5.801mil < 10mil) Between Pad P7-0(988.189mil,1872.441mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (7.053mil < 10mil) Between Pad P7-0(988.189mil,1872.441mil) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (5.827mil < 10mil) Between Pad TP8-1(328.74mil,90.551mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (4.843mil < 10mil) Between Pad TP8-1(328.74mil,90.551mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (5.827mil < 10mil) Between Pad TP8-1(328.74mil,90.551mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (5.827mil < 10mil) Between Pad TP8-1(389.764mil,90.551mil) on Top Layer And Track

Silk To Solder Mask (Clearance=10mil) (IsPad),(All)
Silk To Solder Mask Clearance Constraint: (5.827mil < 10mil) Between Pad TP8-1(389.764mil,90.551mil) on Top Layer And Track
Silk To Solder Mask Clearance Constraint: (4.843mil < 10mil) Between Pad TP8-1(389.764mil,90.551mil) on Top Layer And Track