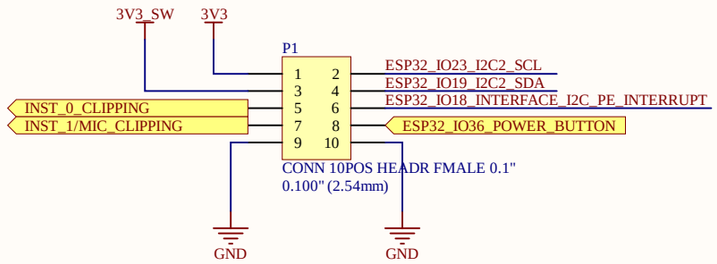
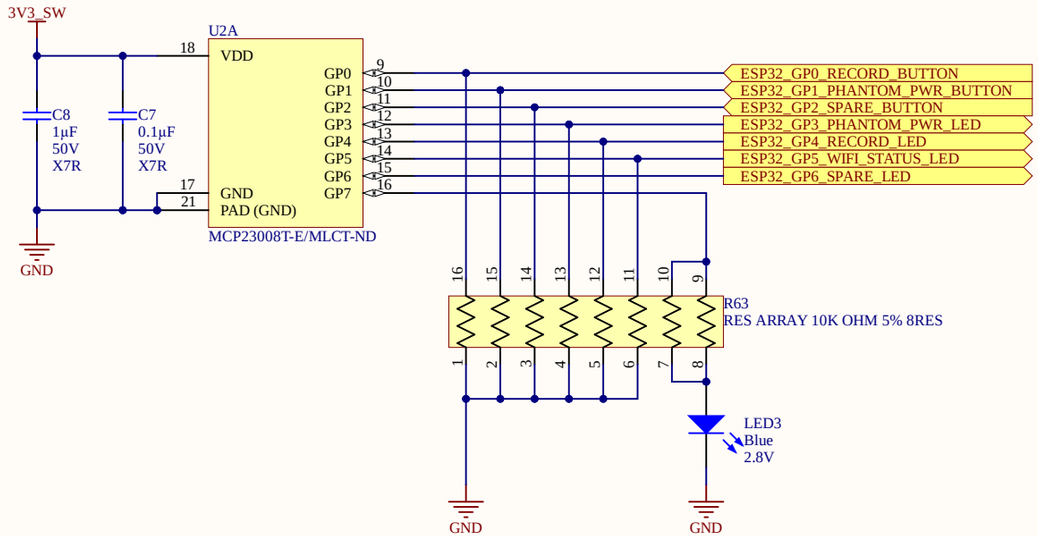
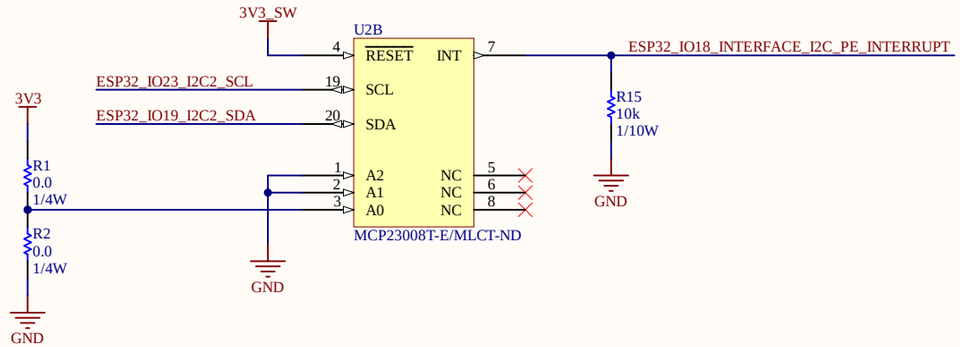
Connector



GPIO Expander

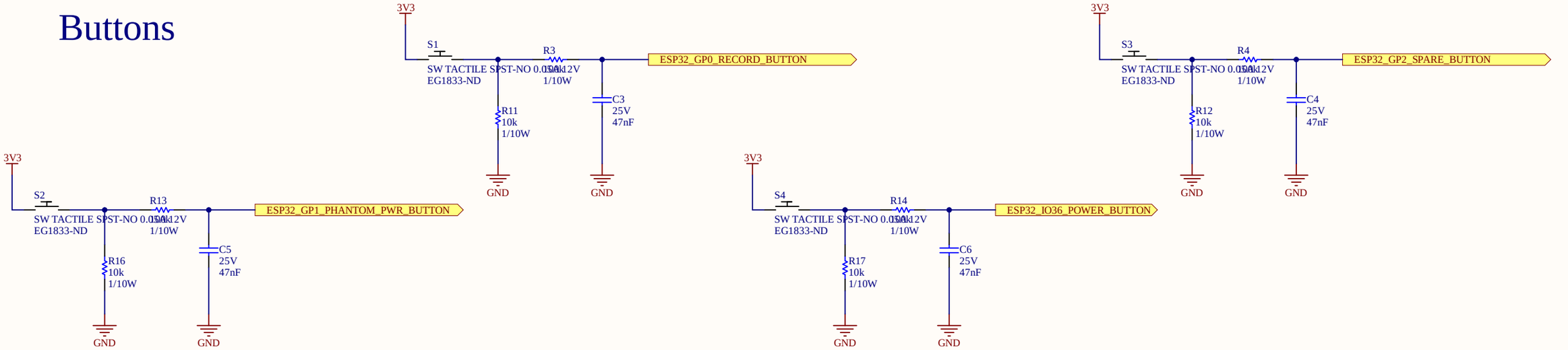




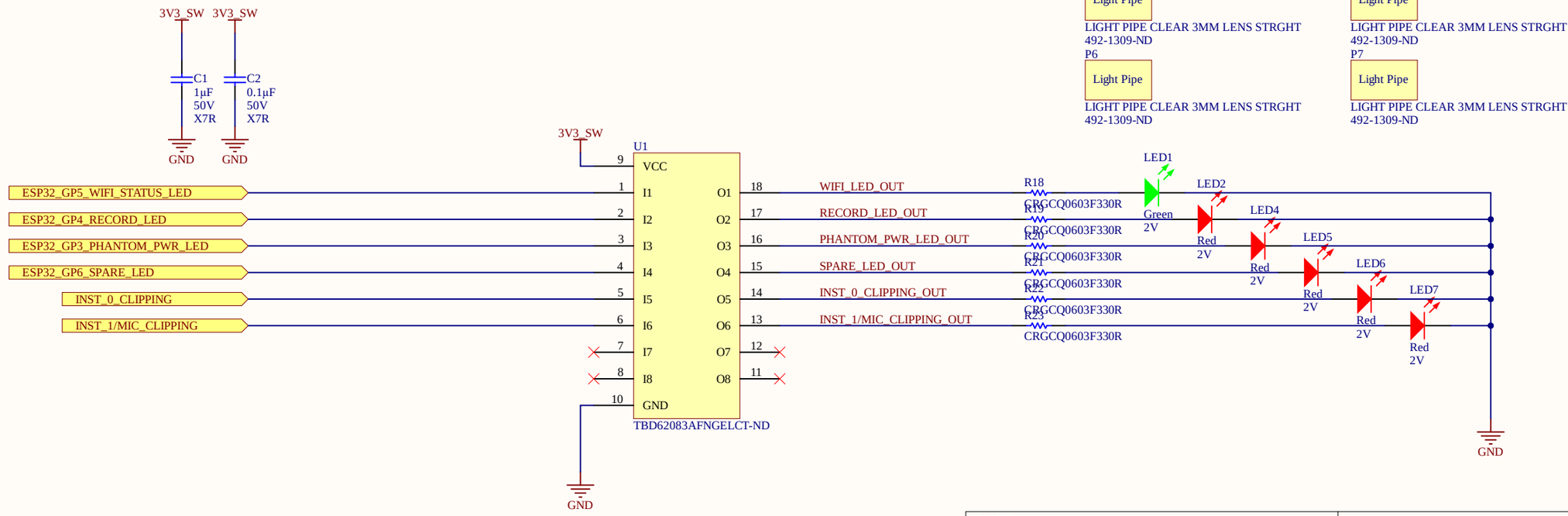
PROJECT	MIXR User Interface.PrjPcb		
DOCUMENT	Title		
PART NUMBER		VARIANT	[No Variations]
DRAWN BY	Taiping Li	REVISION	1.0
LAST MODIFIED	2020-02-08	SHEET	14 OF 14

MIXR

Buttons



LED Driver



P2 Light Pipe
LIGHT PIPE CLEAR 3MM LENS STRGHT
492-1309-ND

P3 Light Pipe
LIGHT PIPE CLEAR 3MM LENS STRGHT
492-1309-ND

P4 Light Pipe
LIGHT PIPE CLEAR 3MM LENS STRGHT
492-1309-ND

P5 Light Pipe
LIGHT PIPE CLEAR 3MM LENS STRGHT
492-1309-ND

P6 Light Pipe
LIGHT PIPE CLEAR 3MM LENS STRGHT
492-1309-ND

P7 Light Pipe
LIGHT PIPE CLEAR 3MM LENS STRGHT
492-1309-ND

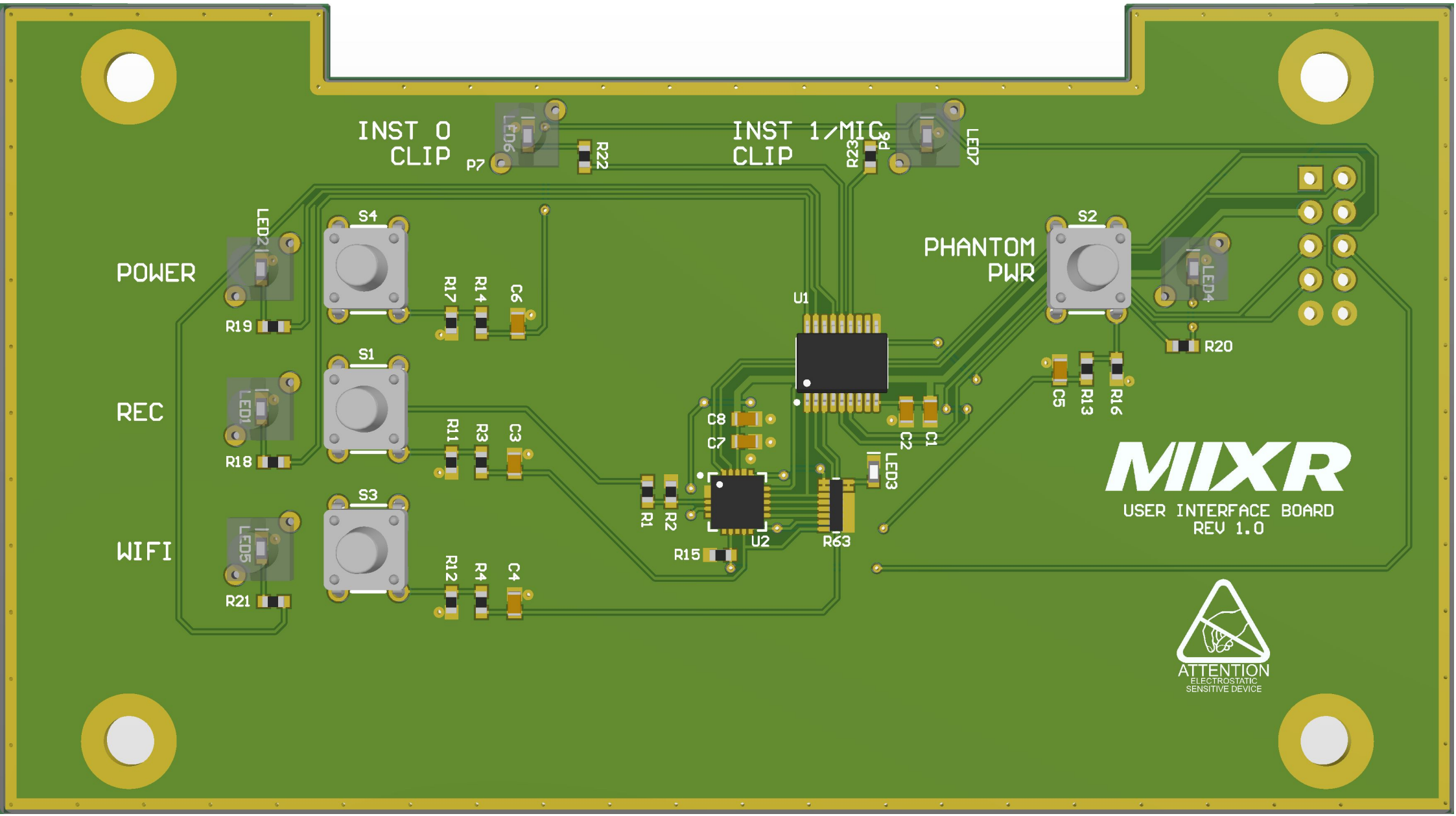
PROJECT	MIXR User Interface.PrjPcb		
DOCUMENT	*		
PART NUMBER		VARIANT	[No Variations]
DRAWN BY	Taiping Li	REVISION	1.0
LAST MODIFIED	2020-02-08	SHEET * OF *	

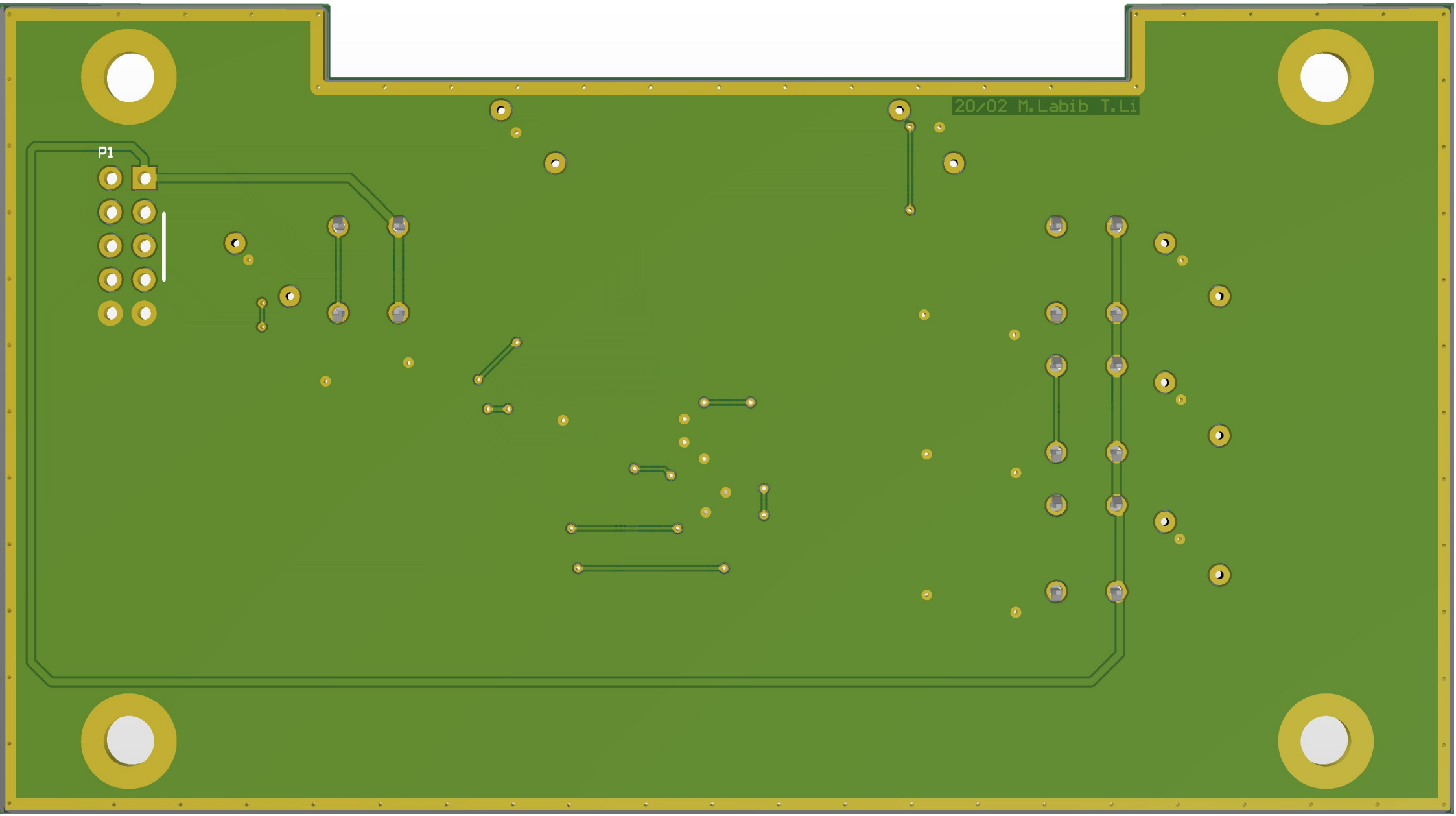
MIXR

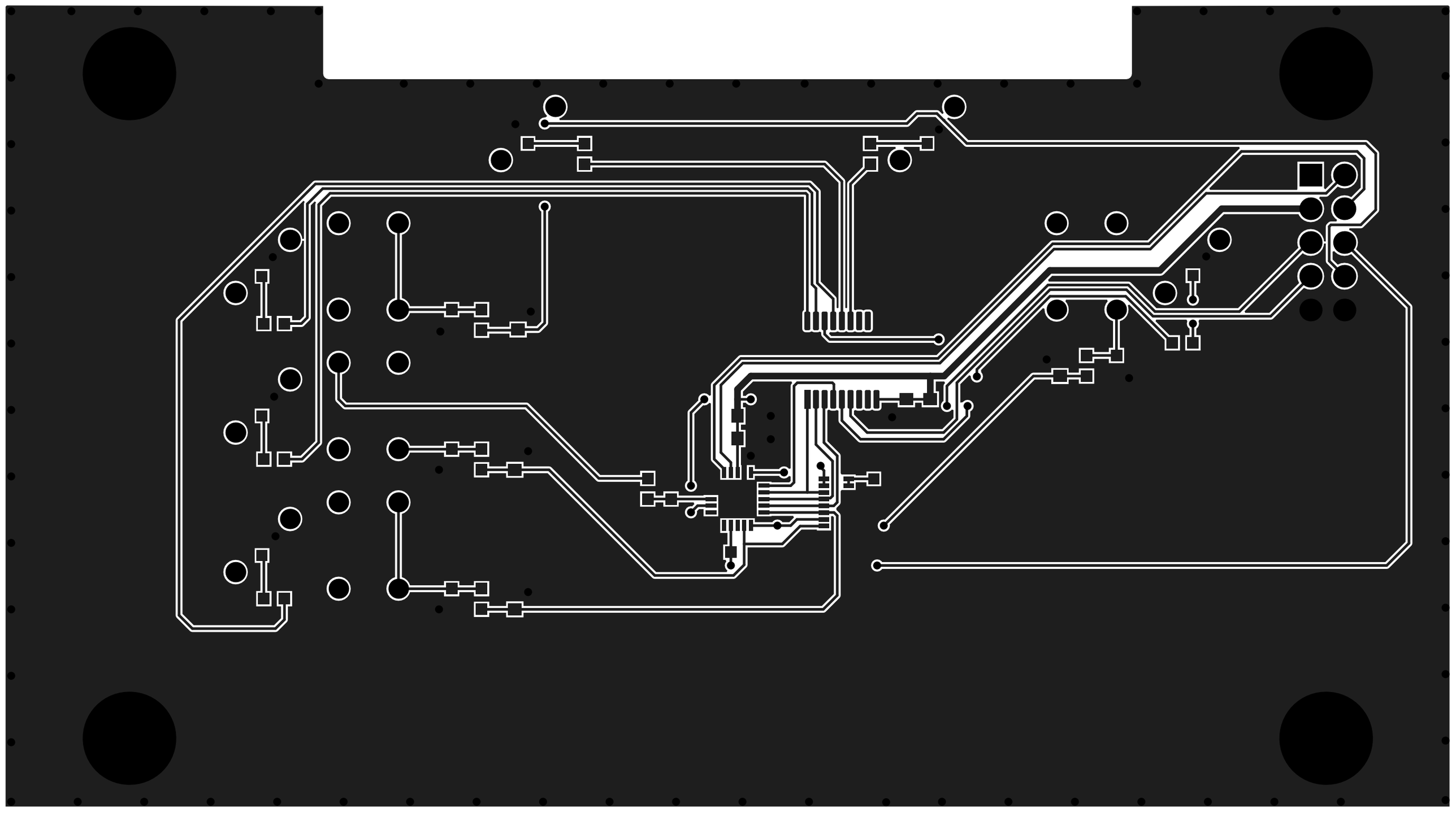
Bill of Materials

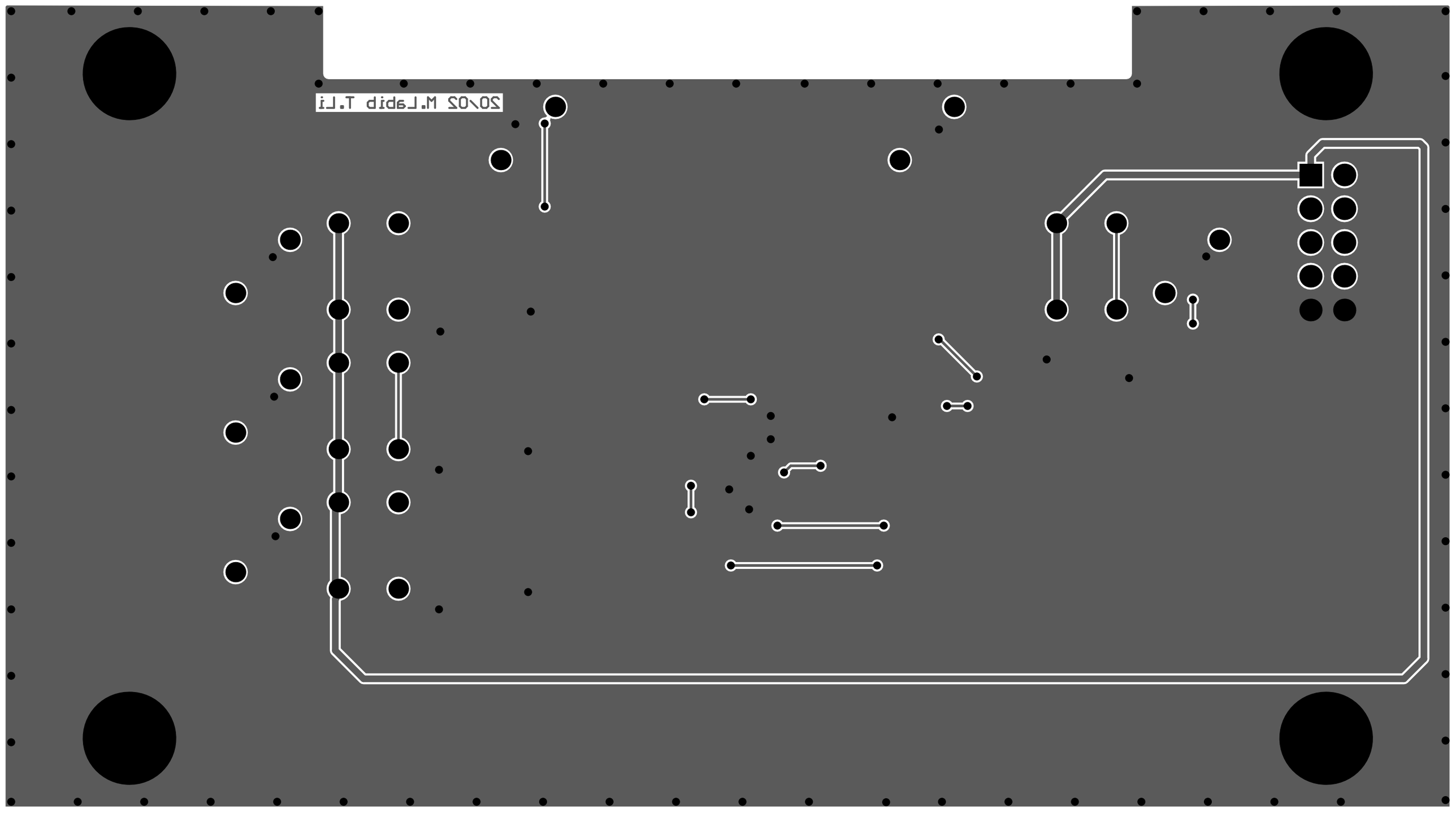
Project:	MIXR User Interface.PrjPcb
Revision:	1.0
Project Lead:	Taiping Li
Generated On:	2020-02-08 10:11 PM
Production Quantity:	1
Currency	CAD
Total Parts Count:	46

LibRef	Designator	Manufacturer 1	Manufacturer Part Number 1	Supplier 1	Supplier Part Number 1	Supplier Unit Price 1	Quantity	Supplier Subtotal 1
CAP CER 1UF 50V 10% X7R 0603	C1, C8	Taiyo Yuden	UMK107AB7105KA-T	Digi-Key	587-3247-1-ND	0.32617	2	$ 0.65
CAP CER 0.1UF 50V 10% X7R 0603	C2, C7	Kyocera AVX	06035C104KAT2A	Digi-Key	478-5052-1-ND	0.13047	2	$ 0.26
CAP CER 0.047UF 10% 25V X7R 0603	C3, C4, C5, C6	KEMET	C0603C473K3RACTU	Digi-Key	399-7931-1-ND		4	
LED GREEN CLEAR 2V 0603	LED1	Wurth Electronics	150060VS75000	Digi-Key	732-4980-1-ND	0.18266	1	$ 0.18
LED RED CLEAR 2V 0603	LED2, LED4, LED5, LED6, LED7	Wurth Electronics	150060RS75000	Digi-Key	732-4978-1-ND	0.18266	5	$ 0.91
LED BLUE CLEAR 2.8V 0603	LED3	Vishay Lite-On	LTST-C193TBKT-5A	Digi-Key	160-1827-1-ND	0.58711	1	$ 0.59
CONN 10POS HEADR FMALE 0.1"	P1	Sullins	SFH11-PBPC-D05-RA-BK	Digi-Key	S9202-ND	1.04	1	$ 1.04
LIGHT PIPE CLEAR 3MM LENS STRGHT	P2, P3, P4, P5, P6, P7	Bivar	VLP-350-F	Digi-Key	492-1309-ND	0.67844	6	$ 4.07
RES 0.0 OHM 1/4W 0603	R1, R2	Vishay Dale	CRCW06030000Z0EAHP	Digi-Key	541-0.0SBCT-ND	0.1957	2	$ 0.39
RES 100K OHM 5% 1/8W 0603	R3, R4, R13, R14	Yageo	RC0603JR-07100KL	Digi-Key	311-100KGRCT-ND	0.13047	4	$ 0.52
RES 10K OHM 1% 1/10W 0603	R11, R12, R15, R16, R17	Yageo Phycomp	RC0603FR-0710KL	Digi-Key	311-10.0KHRCT-ND	0.13047	5	$ 0.65
RES 330 OHM 1% 1/10W 0603	R18, R19, R20, R21, R22, R23	TE Connectivity	CRGCQ0603F330R	Digi-Key	A129682CT-ND	0.13047	6	$ 0.78
RES ARRAY 10K OHM 5% 8RES EXB-2HV103JV	R63	Panasonic	EXB-2HV103JV	Digi-Key	Y1103CT-ND	0.37836	1	$ 0.38
SW TACTILE SPST-NO 0.05A 12V	S1, S2, S3, S4	E-Switch	TL1105BF160Q	Digi-Key	EG1833-ND		4	
IC LOAD SWITCH 8CH 0.5A 18SSOP	U1	Toshiba	TBD62083AFNG,EL	Digi-Key	TBD62083AFNGELCT-ND		1	
IC I/O EXPANDER I2C 8CH 20 QFN	U2	Microchip	MCP23008T-E/ML	Digi-Key	MCP23008T-E/MLCT-ND	1.44	1	$ 1.44
							Total:	$ 11.87


INST 0
CLIP
P7
LED6
R22
INST 1/MIC
CLIP
R23
LED7
POWER
LED2
S4
R19
R17
R14
C6
PHANTOM
PWR
S2
LED4
R20
C5
R13
R16
U1
REC
LED1
S1
R18
R11
R3
C3
C8
C7
C2
C1
LED3
R1
R2
U2
R63
R15
WIFI
LED5
S3
R21
R12
R4
C4
MIXR
USER INTERFACE BOARD
REV 1.0
ATTENTION
ELECTROSTATIC
SENSITIVE DEVICE


P1
20/02 M.Labib T.Li




20\02 M.Labib T.Li

Design Rules Verification Report

Filename : C:\Users\Taiping\Documents\FYDP\mixr-hardware\MIXR User Interface\MIXR Us

Warnings 0
Rule Violations 40

Warnings	
Total	0

Rule Violations	
Clearance Constraint (Gap=0.152mm) (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=0.154mm) (Max=2.54mm) (Preferred=0.2mm) (All)	0
Power Plane Connect Rule(Relief Connect)(Expansion=0.5mm) (Conductor Width=0.2mm) (Air Gap=0.2mm)	0
Power Plane Connect Rule(Relief Connect)(Expansion=0.508mm) (Conductor Width=0.254mm) (Air Gap=0.254mm)	0
Minimum Annular Ring (Minimum=0.12mm) (All)	0
Hole Size Constraint (Min=0.3mm) (Max=6.3mm) (All)	0
Hole To Hole Clearance (Gap=0.254mm) (All),(All)	0
Minimum Solder Mask Sliver (Gap=0.1mm) (Disabled)(All),(All)	0
Silk To Solder Mask (Clearance=0.178mm) (IsPad),(All)	34
Silk to Silk (Clearance=0.254mm) (All),(All)	6
Net Antennae (Tolerance=0mm) (All)	0
Board Clearance Constraint (Gap=0mm) (All)	0
Height Constraint (Min=0mm) (Max=30mm) (Prefered=12.7mm) (All)	0
Total	40

Silk To Solder Mask (Clearance=0.178mm) (IsPad),(All)
Silk To Solder Mask Clearance Constraint: (0.093mm < 0.178mm) Between Pad R23-2(64.625mm,49.527mm) on Top Layer And Text "INST 1/MIC

CLIP" (54.25mm,48.025mm) on Top Overlay [Top Overlay] to [Top Solder] clearance [0.093mm]

Silk To Solder Mask (Clearance=0.178mm) (IsPad),(All)
Silk To Solder Mask Clearance Constraint: (0.177mm < 0.178mm) Between Pad S1-1(24.625mm,26.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.157mm < 0.178mm) Between Pad S1-1(24.625mm,26.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.168mm < 0.178mm) Between Pad S1-1(24.625mm,33.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.157mm < 0.178mm) Between Pad S1-1(24.625mm,33.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.131mm < 0.178mm) Between Pad S1-2(29.125mm,26.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.168mm < 0.178mm) Between Pad S1-2(29.125mm,26.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.139mm < 0.178mm) Between Pad S1-2(29.125mm,33.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.168mm < 0.178mm) Between Pad S1-2(29.125mm,33.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.177mm < 0.178mm) Between Pad S2-1(78.625mm,37.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.157mm < 0.178mm) Between Pad S2-1(78.625mm,37.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.168mm < 0.178mm) Between Pad S2-1(78.625mm,43.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.157mm < 0.178mm) Between Pad S2-1(78.625mm,43.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.131mm < 0.178mm) Between Pad S2-2(83.125mm,37.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.168mm < 0.178mm) Between Pad S2-2(83.125mm,37.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.139mm < 0.178mm) Between Pad S2-2(83.125mm,43.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.168mm < 0.178mm) Between Pad S2-2(83.125mm,43.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.177mm < 0.178mm) Between Pad S3-1(24.625mm,16.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.157mm < 0.178mm) Between Pad S3-1(24.625mm,16.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.168mm < 0.178mm) Between Pad S3-1(24.625mm,22.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.157mm < 0.178mm) Between Pad S3-1(24.625mm,22.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.131mm < 0.178mm) Between Pad S3-2(29.125mm,16.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.168mm < 0.178mm) Between Pad S3-2(29.125mm,16.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.139mm < 0.178mm) Between Pad S3-2(29.125mm,22.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.168mm < 0.178mm) Between Pad S3-2(29.125mm,22.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.177mm < 0.178mm) Between Pad S4-1(24.625mm,37.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.157mm < 0.178mm) Between Pad S4-1(24.625mm,37.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.168mm < 0.178mm) Between Pad S4-1(24.625mm,43.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.157mm < 0.178mm) Between Pad S4-1(24.625mm,43.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.131mm < 0.178mm) Between Pad S4-2(29.125mm,37.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.168mm < 0.178mm) Between Pad S4-2(29.125mm,37.027mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.139mm < 0.178mm) Between Pad S4-2(29.125mm,43.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.168mm < 0.178mm) Between Pad S4-2(29.125mm,43.527mm) on Multi-Layer And Track
Silk To Solder Mask Clearance Constraint: (0.125mm < 0.178mm) Between Pad U2-10(55.625mm,20.777mm) on Top Layer And Text "U2"

Silk to Silk (Clearance=0.254mm) (All),(All)
Silk To Silk Clearance Constraint: (Collision < 0.254mm) Between Text "INST 1/MIC

CLIP" (54.25mm,48.025mm) on Top Overlay And Text "P6" (66.025mm,49.377mm) on Top Overlay Silk Text to Silk Clearan

Silk to Silk (Clearance=0.254mm) (All),(All)
Silk To Silk Clearance Constraint: (0.068mm < 0.254mm) Between Text "INST 1/MIC

CLIP" (54.25mm,48.025mm) on Top Overlay And Text "R23" (63.625mm,48.052mm) on Top Overlay Silk Text to Silk Clearа

Silk to Silk (Clearance=0.254mm) (All),(All)
Silk To Silk Clearance Constraint: (0.162mm < 0.254mm) Between Text "R63" (61.175mm,19.477mm) on Top Overlay And Track
Silk To Silk Clearance Constraint: (0.248mm < 0.254mm) Between Text "S2" (80.375mm,43.977mm) on Top Overlay And Track
Silk To Silk Clearance Constraint: (0.248mm < 0.254mm) Between Text "S3" (26.275mm,22.977mm) on Top Overlay And Track
Silk To Silk Clearance Constraint: (0.248mm < 0.254mm) Between Text "S4" (26.275mm,43.977mm) on Top Overlay And Track