THEVA253-SMA-V1 User's Guide

THCS253A Evaluation kit

THine Electronics, Inc.

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1. Contents of evaluation kit

This kit contains two boards with THCS253A. Use each as primary and secondary.

Product	Article	Quantity
THEVA253-SMA-V1	THEVA253-SMA-V1 Board	2

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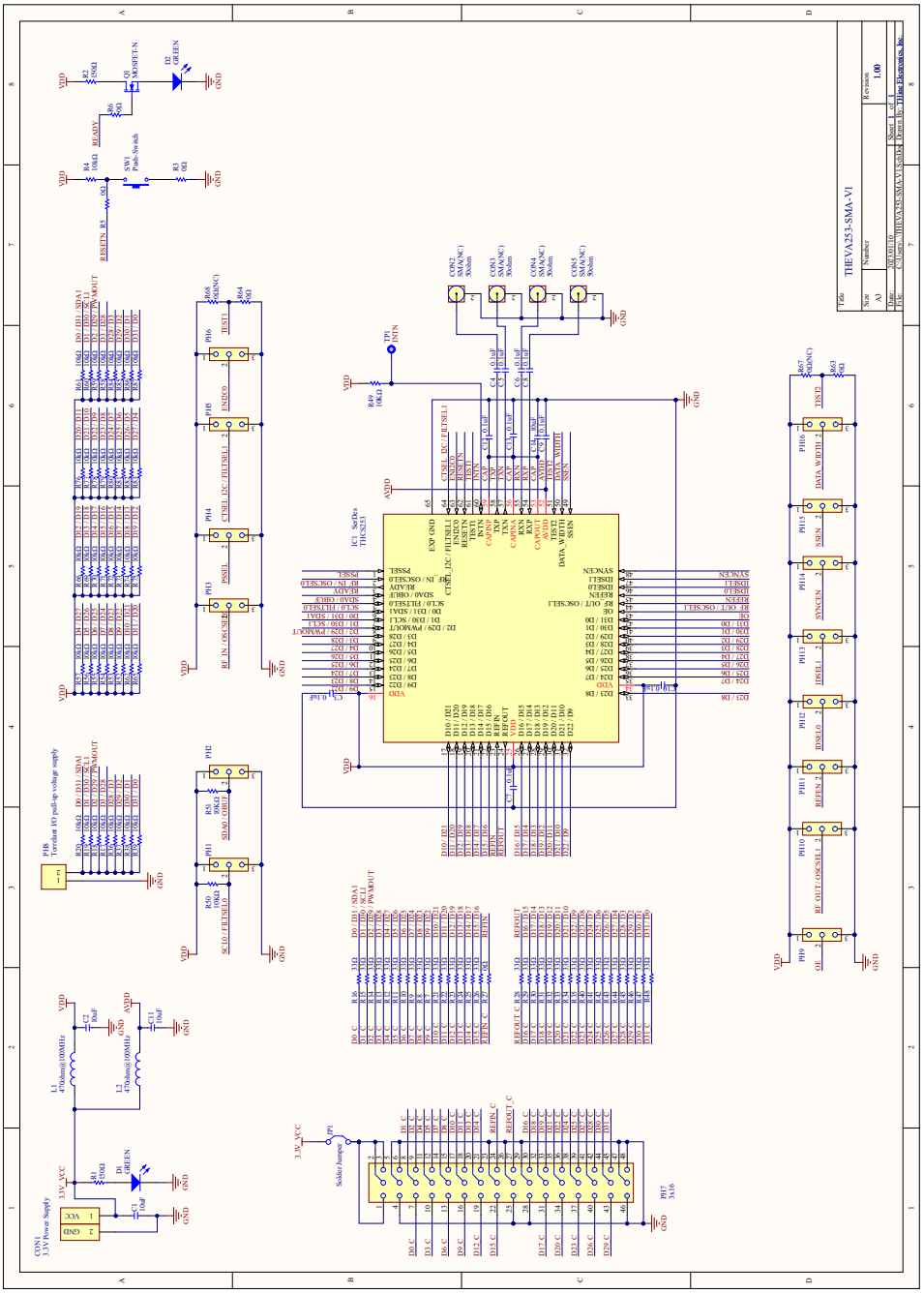
2. Circuit diagram



※CON2, CON3, CON4, CON5 and PH7 are not mounted. Please prepare these by the customer if necessary.

※Power must be supplied to CON1 or PH7-1, 2 or 3-pin in the range 1.7 V to 3.6 V. When power is supplied from PH7-1, 2 or 3-pin, JP1 must be short-circuited. D1 lights up when power is supplied.

※PH1-PH6 and PH9-PH16 are pin headers for setting THCS253. Pin 2 in the center of the pin header can be shorted to VCC by shorting it to the "H" side of the silk notation, and shorted to GND by shorting it to the "L" side of the silk notation. See the THCS253A datasheet for the settings of each pin.

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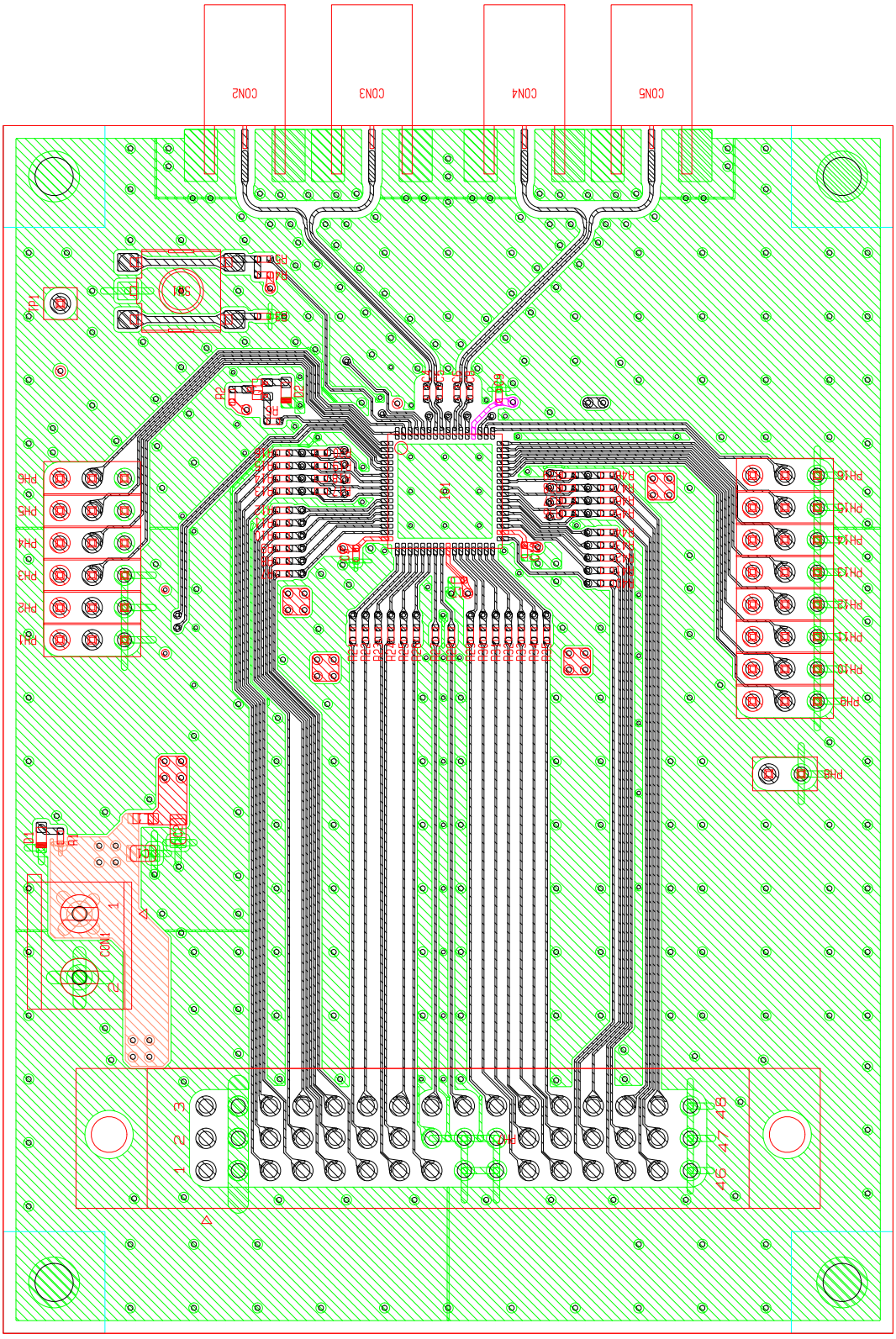
3. PCB layout

3.1 L1(TOP) layer



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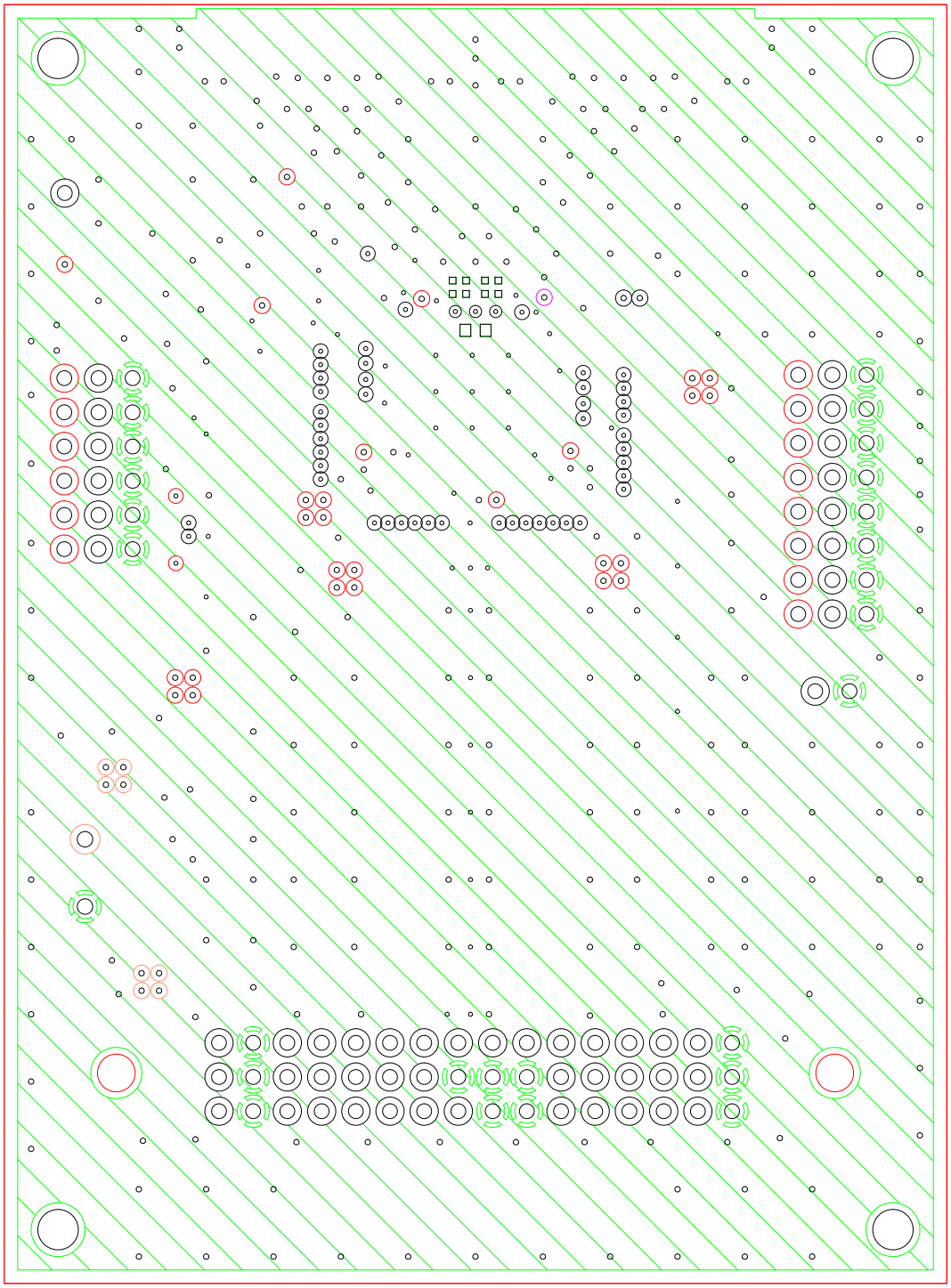
3.2 L2 layer



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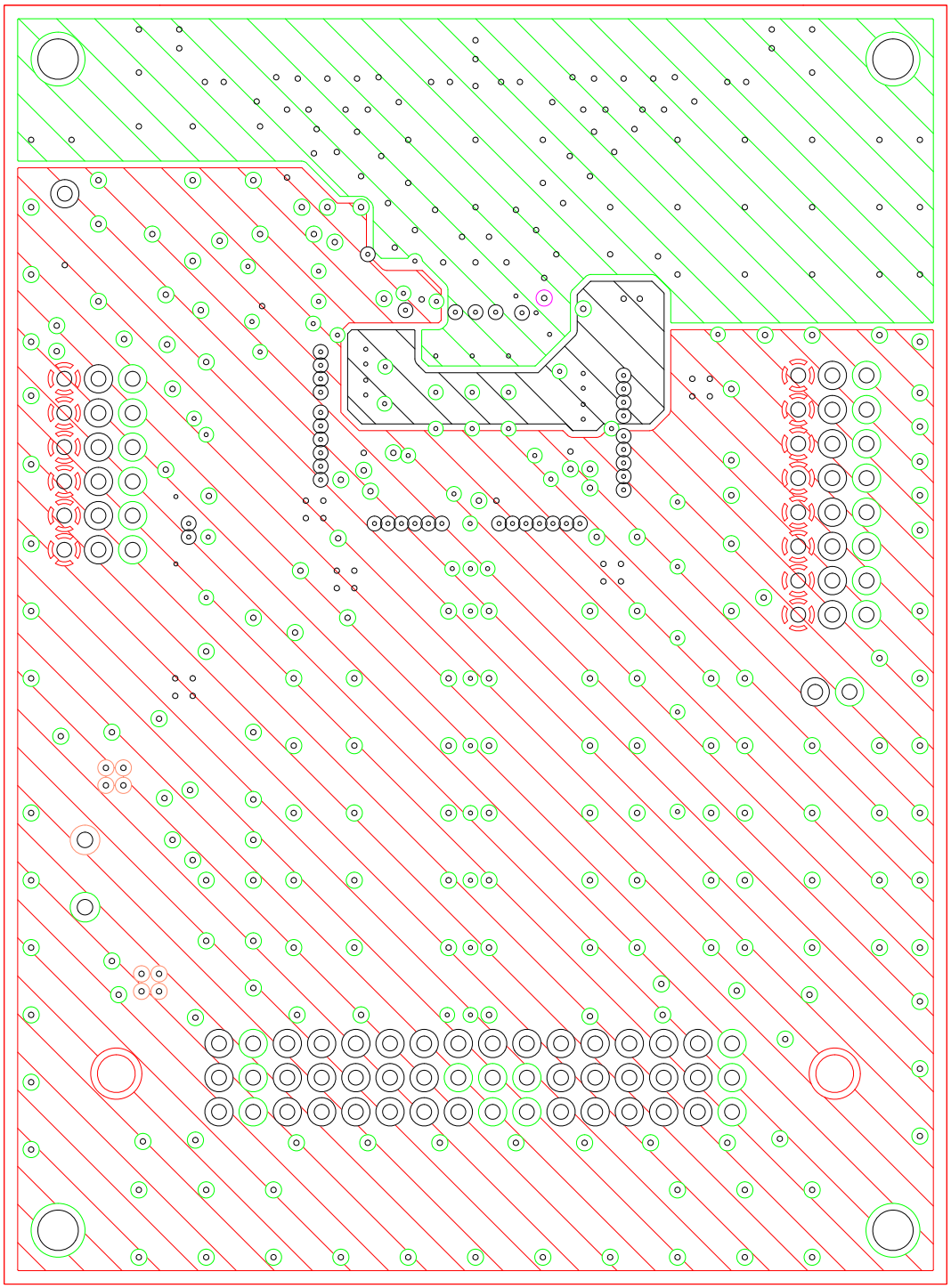
3.3 L3 layer



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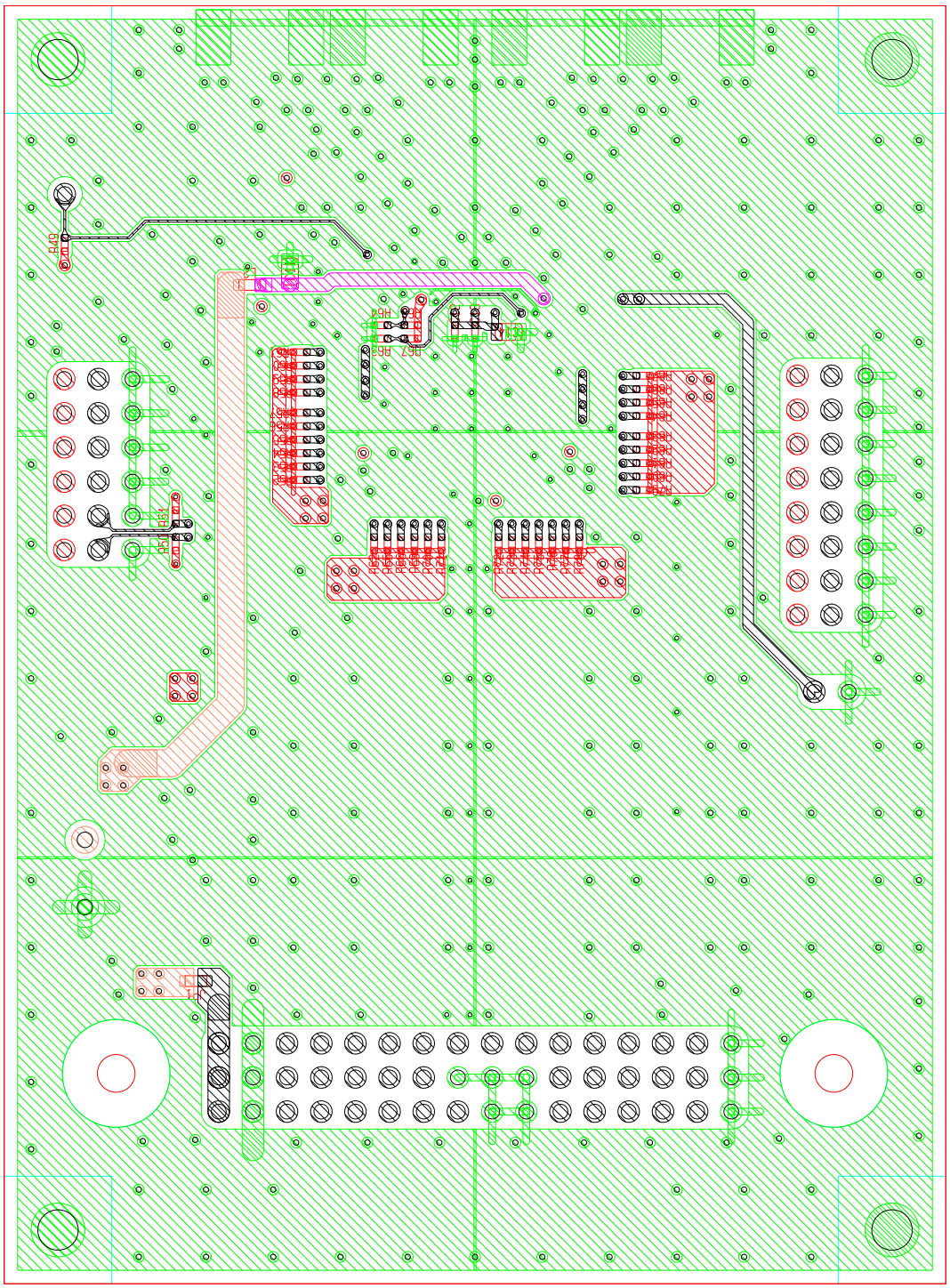
3.4 L4 layer



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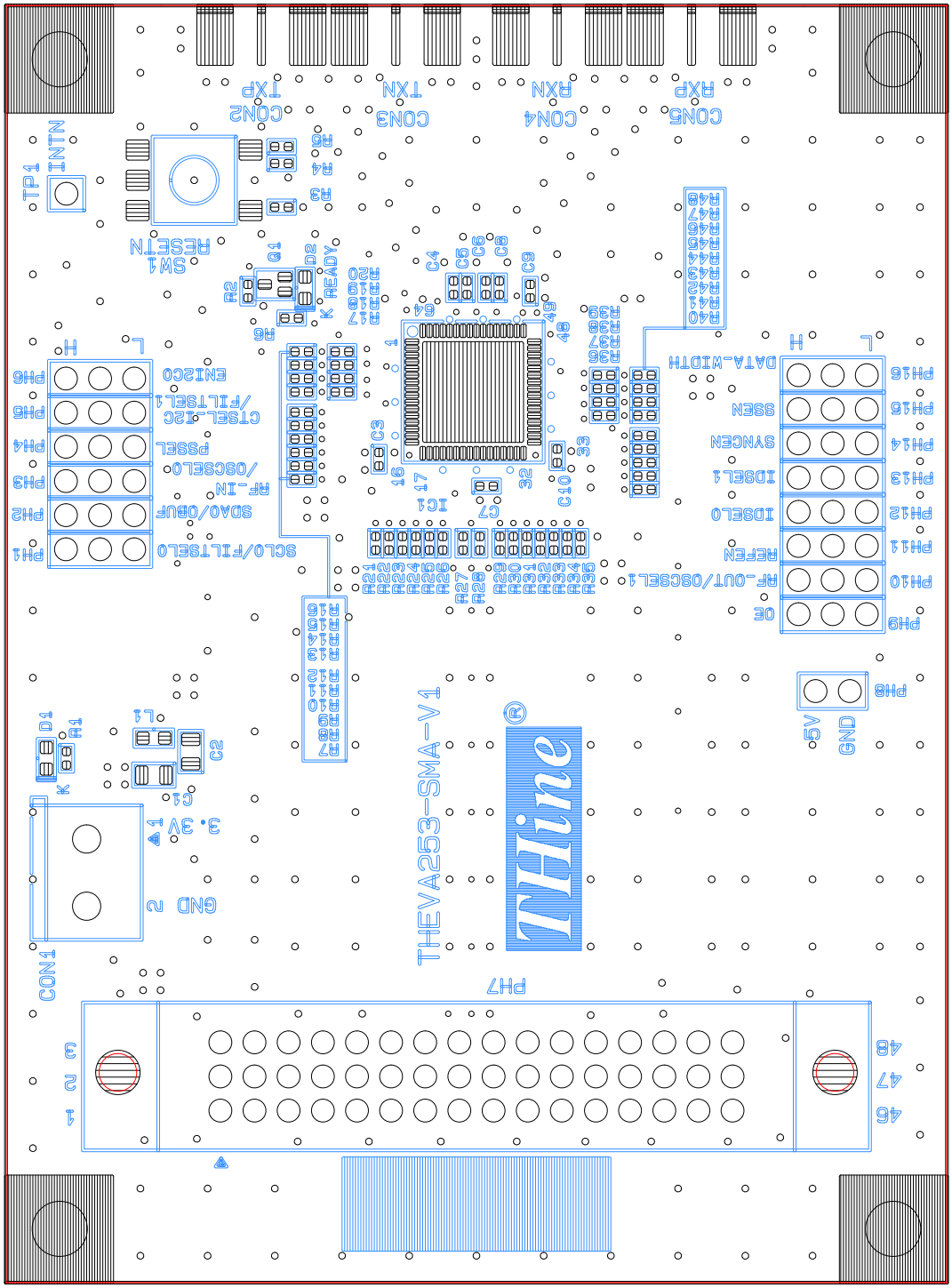
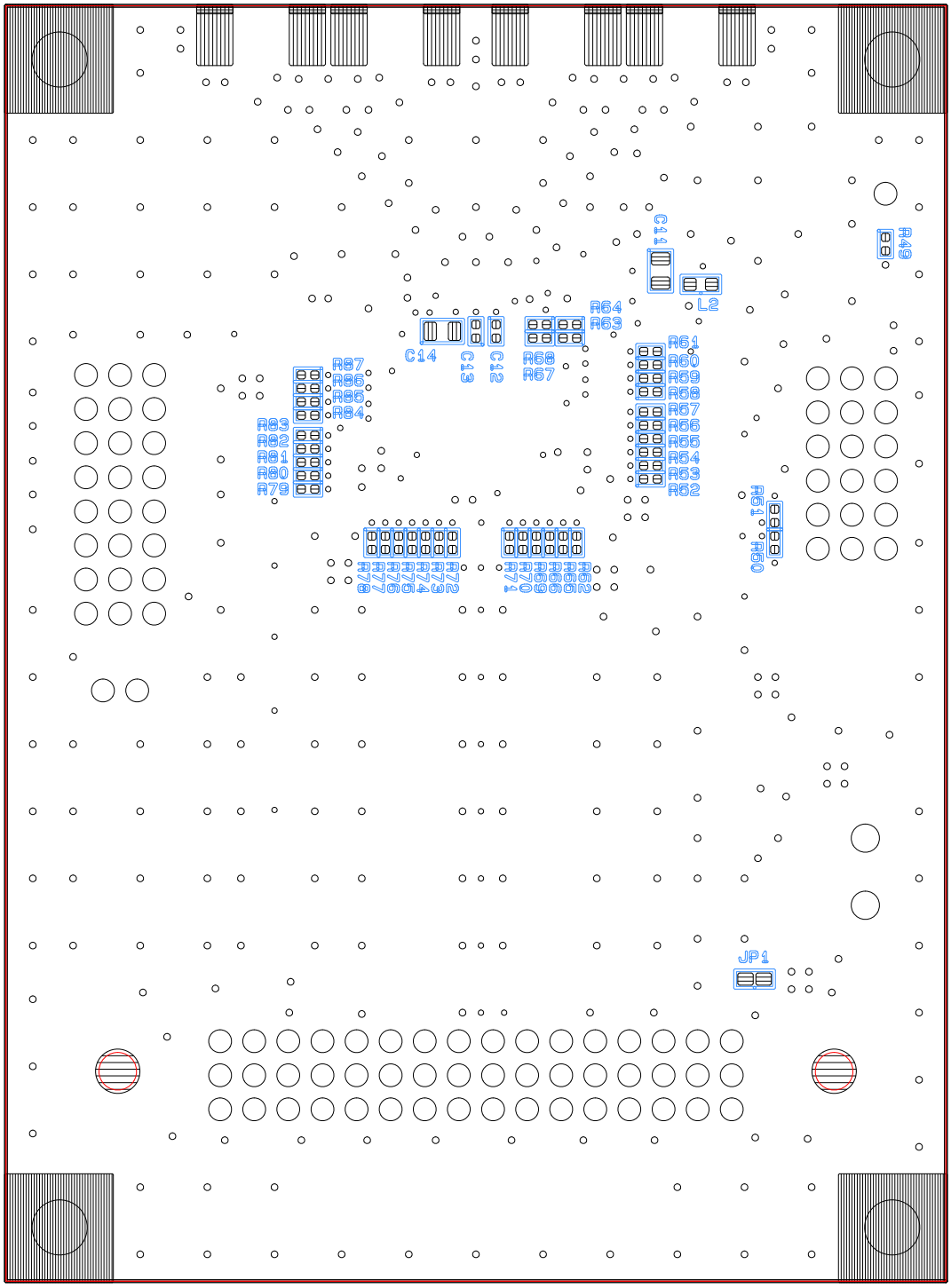
3.5 Top side silk



3.6 Bottom side silk



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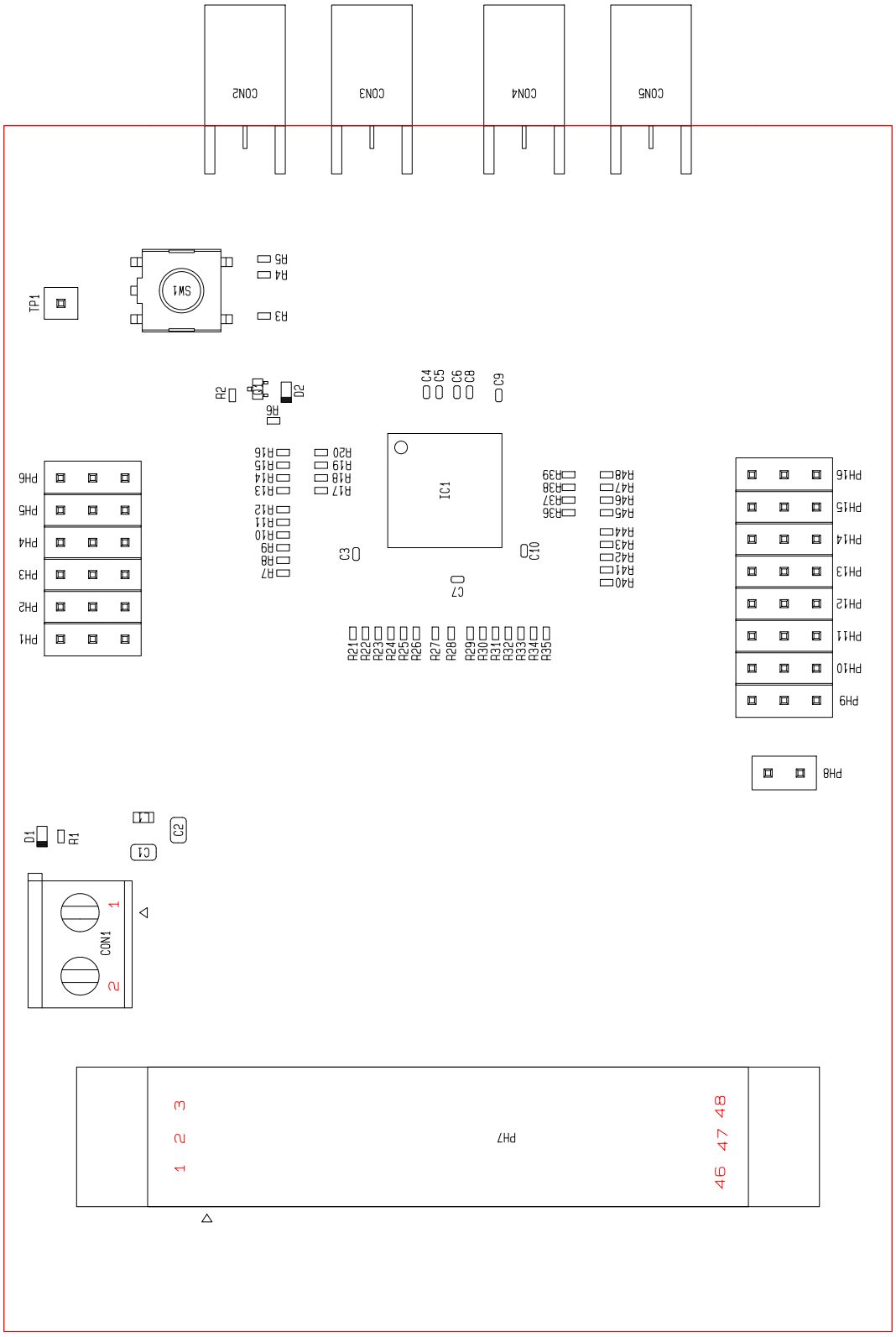
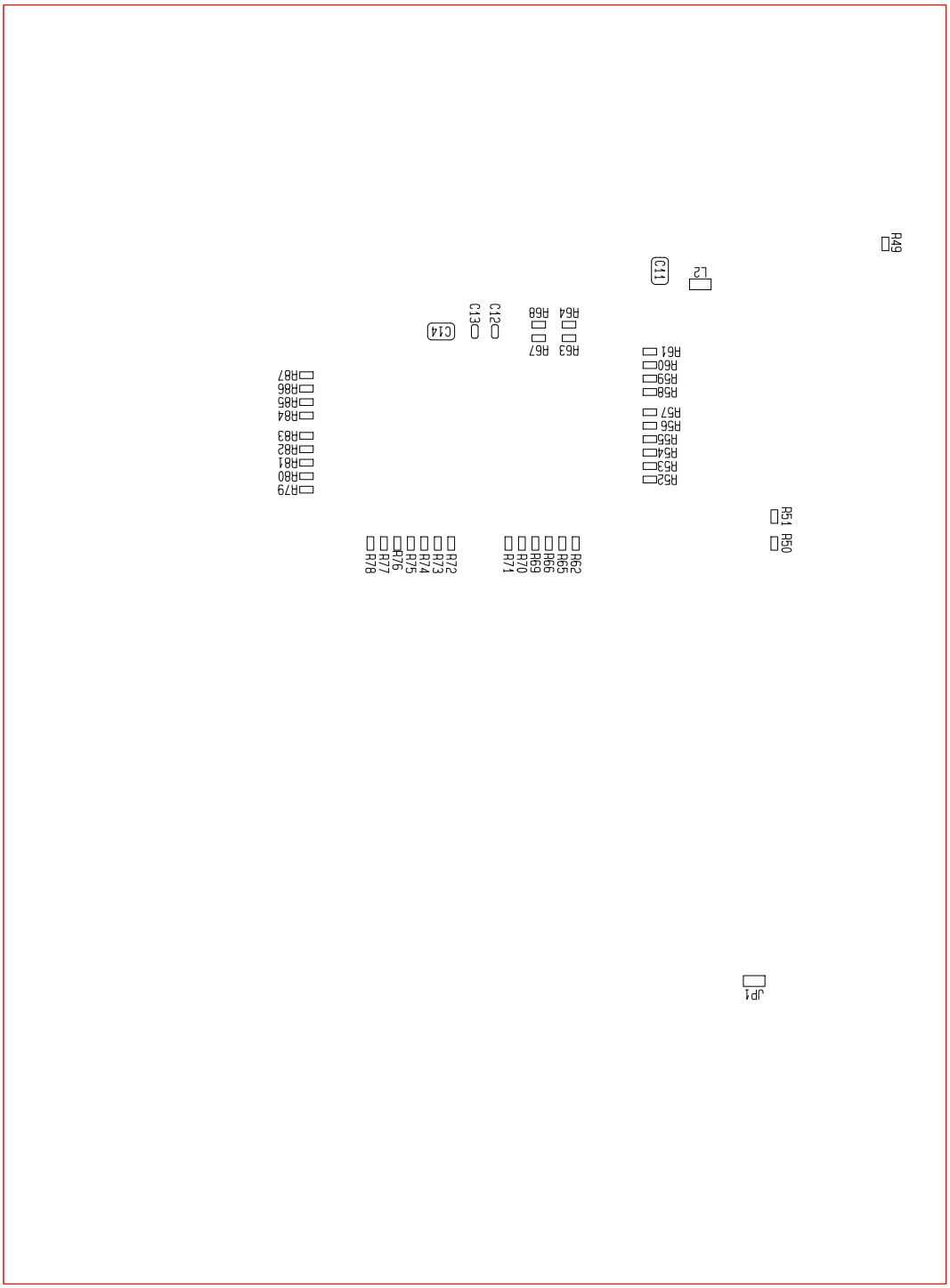
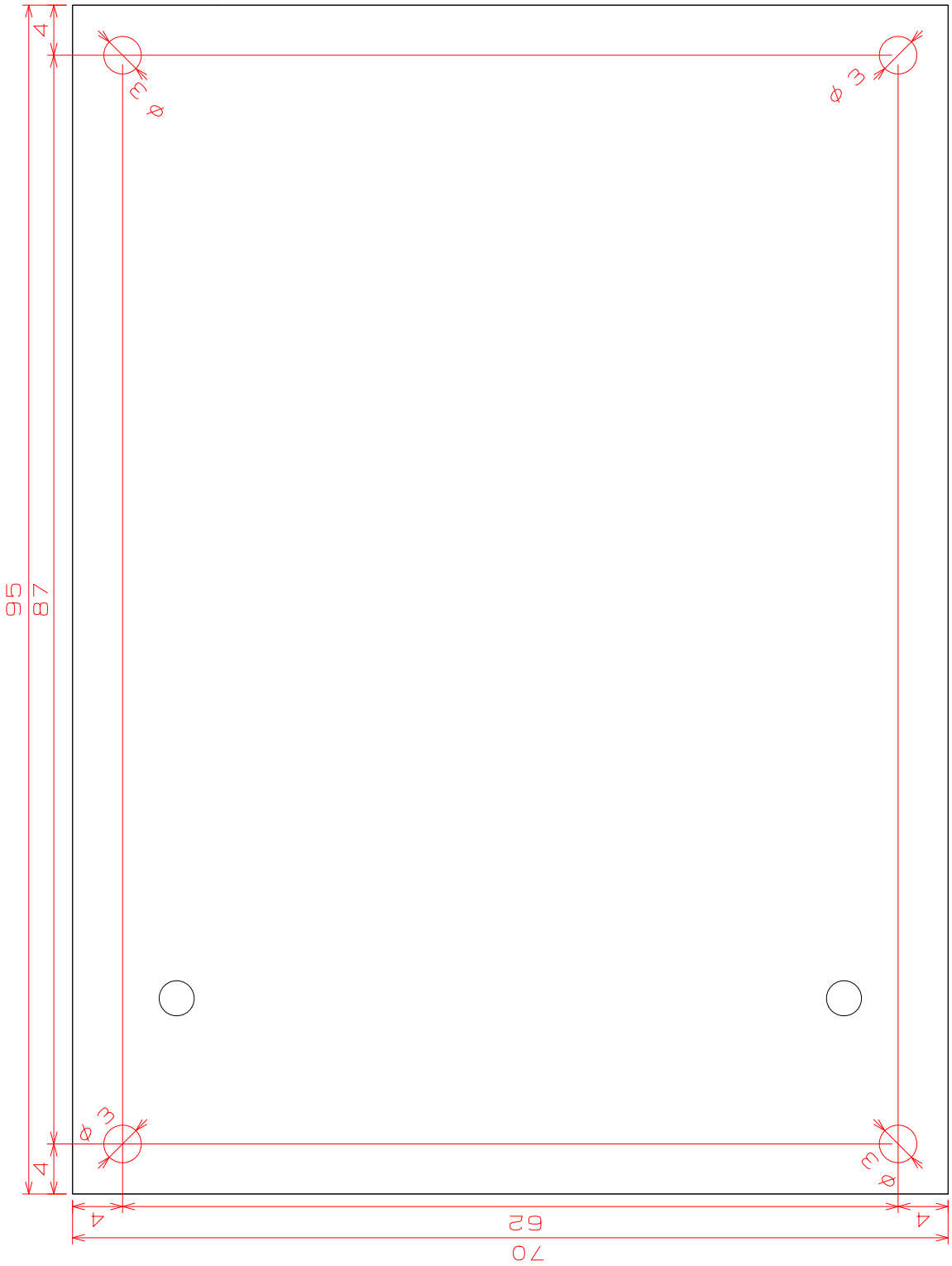
3.7 TOP side implementation



3.8 Bottom side implementation



4. Dimensions



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5. Bill of material

Designator	Description	Value	Quantity	P/N
C1, C2, C11, C14	Cap. 2012	10uF	4	GRM21BB31C106KE15L
C3, C4, C5, C6, C7, C8, C9, C10, C12, C13	Cap. 1005	0.1uF	10	GRM155B31E104KA87D
CON1	Terminal_Block	2pin	1	282836-2
CON2, CON3, CON4, CON5	SMA(NC)	50ohm	4	SMA103-T16
D1, D2	LED	GREEN	2	SML-D12P8WT86
IC1	SerDes	Max. 4Gbps	1	THCS253A
JP1	Jumper(NC)	Solder Jumper	1	
L1, L2	Coil. 1608	470ohm@100MHz	2	MPZ1608B471ATA00
PH1, PH2, PH3, PH4, PH5, PH6, PH9, PH10, PH11, PH12, PH13, PH14, PH15, PH16	Header 3	1x3	14	TCHM13-70-003S-803R
PH7	Header 48(NC)	3x16	1	PCN10-48P-2.54DSA(72)
PH8	Header 2	1x2	1	TCHM13-70-002S-803R
Q1	MOSFET	N-ch	1	SSM3K16FS
R1, R2	Res. 1005	150Ω	2	RK73H1ETTP1500F
R3, R5, R6, R27, R63, R64	Res. 1005	0Ω	6	RK73Z1ETTP0
R4, R17, R18, R19, R20, R36, R37, R38, R39, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R65, R66, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87	Res. 1005	10kΩ	44	RK73H1ETTP1002F
R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R21, R22, R23, R24, R25, R26, R28, R29, R30, R31, R32, R33, R34, R35, R40, R41, R42, R43	Res. 1005	33Ω	33	RK73H1ETTP33R0F
R67, R68	Res. 1005(NC)	0Ω(NC)	2	RK73Z1ETTP0
SW1	SW	Top Push	1	SKHMQKE010
TP1	Test Point(NC)	Through hole	1	

※Parts marked "(NC)" in the Description are not mounted and not included in this evaluation kit.

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6. Notices and requests

Please kindly read, understand and accept this "Notices and Requests" before using this product.

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1. The product specifications described in this material are subject to change without prior notice.

2. The circuit diagrams described in this material are examples of the application which may not always apply to design of respective customers. THine Electronics, Inc. ("THine") is not responsible for possible errors and omissions in this material. Please note even if the errors or omissions should be found in this material, THine may not be able to correct them immediately.

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For the Product:

1. This product is solely designed for evaluation purpose, and other purposes including mass production and distribution are not intended.

2. This product has been solely manufactured for electric design engineers but not for end-users.

3. This product is not radiation-tolerant product.

4. This product is presumed to be used for general electric device, not for applications which require extremely high-reliability/safety (including medical device concerned with critical care, aerospace device, or nuclear power control device). Also, when using this product for any device concerned with control and/or safety of transportation means, traffic signal device, or other various types of safety device, such use must be after applying appropriate measures to the product.

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