

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	25APR24	J. PATTERSON
B	CHANGES AS PER ECR-122187	11SEP24	J. PATTERSON

SPECIFICATIONS:

MATERIALS; HOMOGEOUS MATERIALS IN THIS BOARD SHALL BE COMPLIANT
THE EU RoHS DIRECTIVE 2002/95/EC
ALL LAMINATES AND BONDING MATERIALS SHOULD BE SELECTED FROM
IPC-4101 OR IPC-4103, MINIMUM Tg>130degC, Td>300degC,
U.L. RATING OF 94 V-0

MATERIAL FAMILY: ITEQ IT180A OR EQUIVALENT

CLADDING; EXTERNAL LAYERS .5 OZ. COPPER, OVERPLATE TO 1.5 OZ.
~~INTERNAL SIGNAL LAYERS .5 OZ. COPPER.~~
INTERNAL PLANE LAYERS 1 OZ. COPPER.

NOTE: IF THE LAYER STACKUP CONFLICTS WITH THE ABOVE
CLADDING SPECIFICATIONS THEN THE LAYER STACKUP SHALL
TAKE PRECEDENCE.

SOLDER MASK; SHALL BE LIQUID PHOTOIMAGEABLE (LPI) APPLIED ON BOTH SIDES
OVER BARE COPPER OR GOLD AND SHALL MEET IPC-SM-840
(LATEST REV.) CLASS 3. COLOR GREEN.

SILK SCREEN; SHALL BE PERMANENT NON-CONDUCTIVE EPOXY INK, COLOR: WHITE
SYNTHETIC INKJET PRINTING ALLOWED FOR DENSE BOARDS,
COLOR: WHITE

SURFACE FINISH; ENIG (Electroless Nickel/Immersion Gold)
2.54um (100 MICRO INCHES) NICKEL/
0.0762um - 0.127um (3-5 MICRO INCHES) GO

INTENTIONAL SHORTS; IF SUPPLIED DATA INCLUDES A FILE "READ_ME.2", THEN
INTENTIONAL NET SHORTS EXIST. CUSTOMER REVIEW AND APPROVAL
IS REQUIRED IF SUPPLIED DATA REPORTS ANY CONDITION THAT
DOES NOT MATCH "READ_ME.2" FILE PROVIDED.

TEST REQUIREMENTS: 100% NETLIST ELECTRICAL VERIFICATION USING CUSTOMER SUPPLIED IPC-D-356 NETLIST FOR OPENS AND SHORTS WHEN "GERBER DATA" IS PROVIDED. THIS VERIFICATION ALSO REQUIRED FOR "ODB++" DATA PER EMBEDDED NETLIST.

REQUIREMENTS:

1. REFER TO IPC-6010 SERIES (LATEST REV.), CLASS 2 FOR FABRICATION UNLESS OTHERWISE SPECIFIED.

2. ACCEPTABILITY PER ANALOG DEVICES, INC. SPECIFICATION TST00115,
(LATEST REVISION.)

3. MODIFICATIONS TO THE ARTWORK ARE NOT ALLOWED WITHOUT WRITTEN AUTHORIZATION.

4. HOLE PATTERN TOLERANCES FOR UNDIMENSIONED HOLES SHALL BE A DIAMETER OF 0.127mm (0.005 INCHES) FROM THEIR TRUE POSITION.

5. PLATED HOLE WALL THICKNESS SHALL NOT BE LESS THAN 25um
MINIMUM AVERAGE, WITH NO READING LESS THAN 20um (.0008) BY
CROSS SECTION.

6. HOLE DIAMETERS APPLY AFTER PLATING.

7. FINISHED CONDUCTOR WIDTHS SHALL NOT BE REDUCED FROM THE NOMINAL INDICATED ON THE MASTER PATTERN, BY MORE THAN THE CONDUCTOR THICKNESS.

8. MINIMUM DESIGN LINE WIDTH IS 0.25 MM.

9. MINIMUM DESIGN SPACING IS 0.12 MM.

10. NON-FUNCTIONAL PAD REMOVAL FROM INNER SIGNAL LAYERS MAY BE PERFORMED AFTER CUSTOMER APPROVAL.

11. IF PAD SIZES PROVIDED ARE NOT LARGE ENOUGH TO MAINTAIN ANNULAR RING REQUIREMENT, MFR. MAY REQUEST APPROVAL TO TEAR DROP PADS TO MAINTAIN ANNULAR RING. (AT PAD TO TRACE INTERSECTION ONLY AND ELECTRICAL INTEGRITY MUST BE MAINTAINED.)

12. THIEVING MAY BE ADDED TO COMPENSATE FOR LOW COPPER DENSITY AREAS ON THIS DESIGN ONLY AFTER REVIEW AND APPROVAL FROM THE CUSTOMER:

A. THIEVING TO CARD EDGE, FIDUCIALS, NON-PLATED THROUGH HOLES,
ALL OTHER FEATURES TO BE 5.08MM (0.200 INCH) MINIMUM.

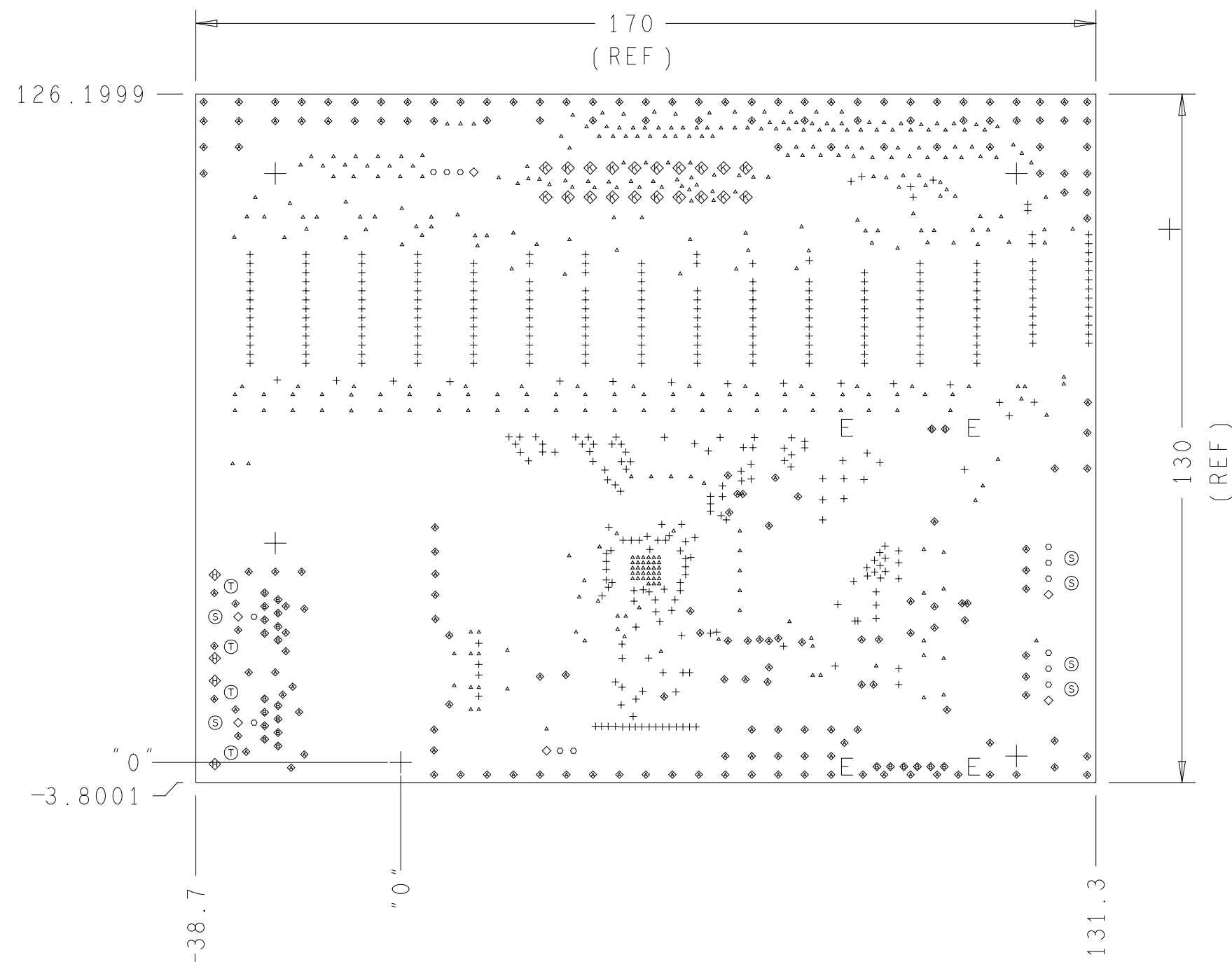
B. THERE SHALL BE NO THIEVING IN ANY AREAS FREE OF SOLDER
MASK OR INTERNAL COPPER PLANES.

13. MFR. TO LEGIBLY ETCH OR STAMP/SCREEN WITH PERMANENT
NON-CONDUCTIVE INK ON SECONDARY SIDE IN A CLEAR AREA
UNLESS OTHERWISE INDICATED;

A. U.L. CODE-FLAMMABILITY RATING D. MFRG LOGO
B. DATE CODE (STAMP). E. SUCCESSFUL ELECTRICAL TEST
C. LOT NUMBER

14. REPAIRS PER IPC-7711/21 (LATEST REV.) ARE ALLOWED.

15. — THRU VIA-IN-PAD TO BE FILLED WITH NON-CONDUCTIVE EPOXY AND PLATED OVER
— COPLANAR ON BOTH SIDES WITHIN 0.025 MM PRIOR TO FINAL PLATING.



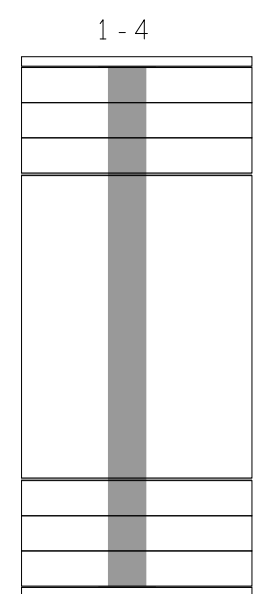
HOLE TOLERANCE

UNLESS SPECIFIED
PLATED: ± 0.0762
NON PLATED: ± 0.05

FINISHED HOLES IN MILS				
ALL UNITS ARE IN MILLIMETERS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
+	0.2499	PLATED	375	
.	0.41	PLATED	376	
*	0.51	PLATED	189	
•	1.0201	PLATED	24	
◊	1.14	PLATED	6	
◊	1.14	PLATED	13	
⊕	1.65	PLATED	4	
⊗	1.8999	PLATED	20	
⊗	3.0	NON-PLATED	6	
⊖	3.1801	NON-PLATED	4	
E	3.1801	NON-PLATED	4	
+	4.0599	NON-PLATED	6	

DESIGN CROSS SECTION CHART

TOTAL THICKNESS 1.6mm + / - 10%



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* SURFACE - AIR 0 MM
* DIELECTRIC - SOLDERMASK 0.025 MM
L1 TOP CONDUCTOR - COPPER 0.018 MM (START)
* DIELECTRIC - FR-4 0.093 MM
* DIELECTRIC - FR-4 0.093 MM
* DIELECTRIC - FR-4 0.093 MM
L2 LAYER2 PLANE - COPPER 0.035 MM

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* CORE - FR-4 0.8 MM

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L3 LAYER3 PLANE - COPPER 0.035 MM
* DIELECTRIC - FR-4 0.093 MM
* DIELECTRIC - FR-4 0.093 MM
* DIELECTRIC - FR-4 0.093 MM
L4 BOTTOM CONDUCTOR - COPPER 0.018 MM (START)
* DIELECTRIC - SOLDERMASK 0.025 MM
* SURFACE - AIR 0 MM

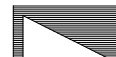
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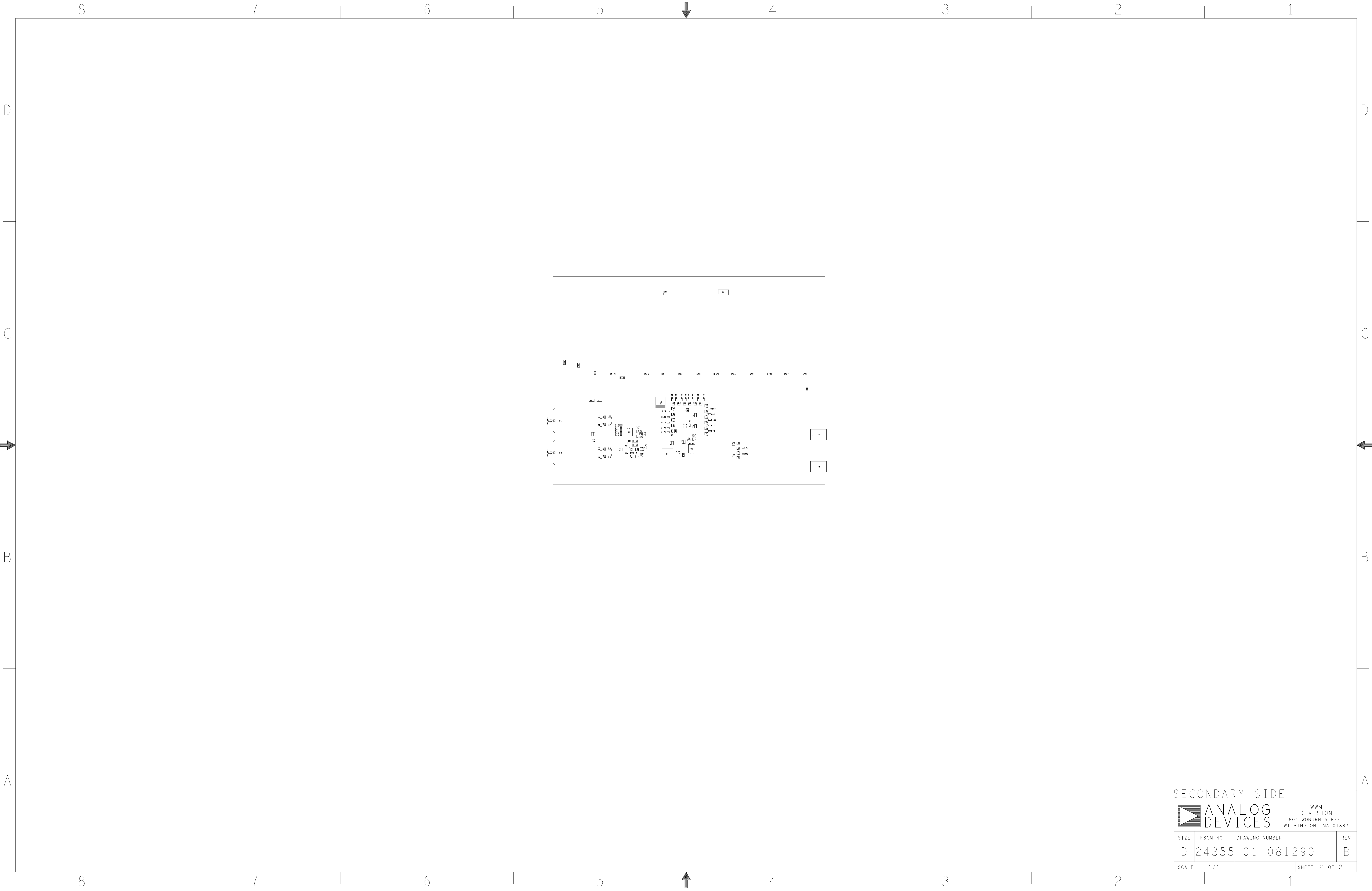
IMPEDANCE REQUIREMENTS

50 OHM IMPEDANCE IS REQUIRED ON ALL 0.5MM WIDTH TRACES
ON EXTERNAL LAYERS, LAYER 1 AND LAYER 4.

A TIME DOMAIN REFLECTOMETER REPORT (TDR) FOR EACH IMPEDANCE CONTROLLED LAYER & A CERTIFICATE OF COMPLIANCE SHALL BE PROVIDED BY VENDOR AT TIME OF SHIPMENT. INSTANCES WHERE TDR TESTING CAN'T BE PERFORMED BECAUSE THE TRACE LENGTH IS TOO SHORT ON THE OUTER LAYERS AT THE PIN ESCAPES IS ACCEPTABLE. ALL OTHER INSTANCES MUST BE REPORTED.

PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			APPROVAL		DATE		 ANALOG DEVICES		WWW DIVISION	
TOLERANCES			TEMPERATURE ENGINEER N/A		N/A				804 WOBBURN STREET WILMINGTON, MA 01887	
DECIMALS	FRACTIONS	ANGLES	HARDWARE SERVICES N/A		N/A		TITLE FABRICATION EV-ADES1830CCS2 CUSTOMER EVALUATION			
XX . . .010		.1/32	HARDWARE SYSTEMS N/A		N/A					
XXX . . .005			N/A		N/A					
XXXX . . .0050			N/A		N/A					
MATERIAL			TEST ENGINEER N/A		N/A					
			COMPONENT ENGINEER N/A		N/A					
			TEST PROCESS N/A		N/A					
			HARDWARE RELEASE N/A		N/A					
FINISH		DESIGNER E. ESCALANTE		25APR24		SIZE	FSCM NO	DRAWING NUMBER		REV
		PTD ENGINEER J. PATTERSON		25APR24		D	24355	09-081290		B
		CHECKER N/A		N/A						
DO NOT SCALE DWG				SCALE		1/1		SHEET 1 of 1		

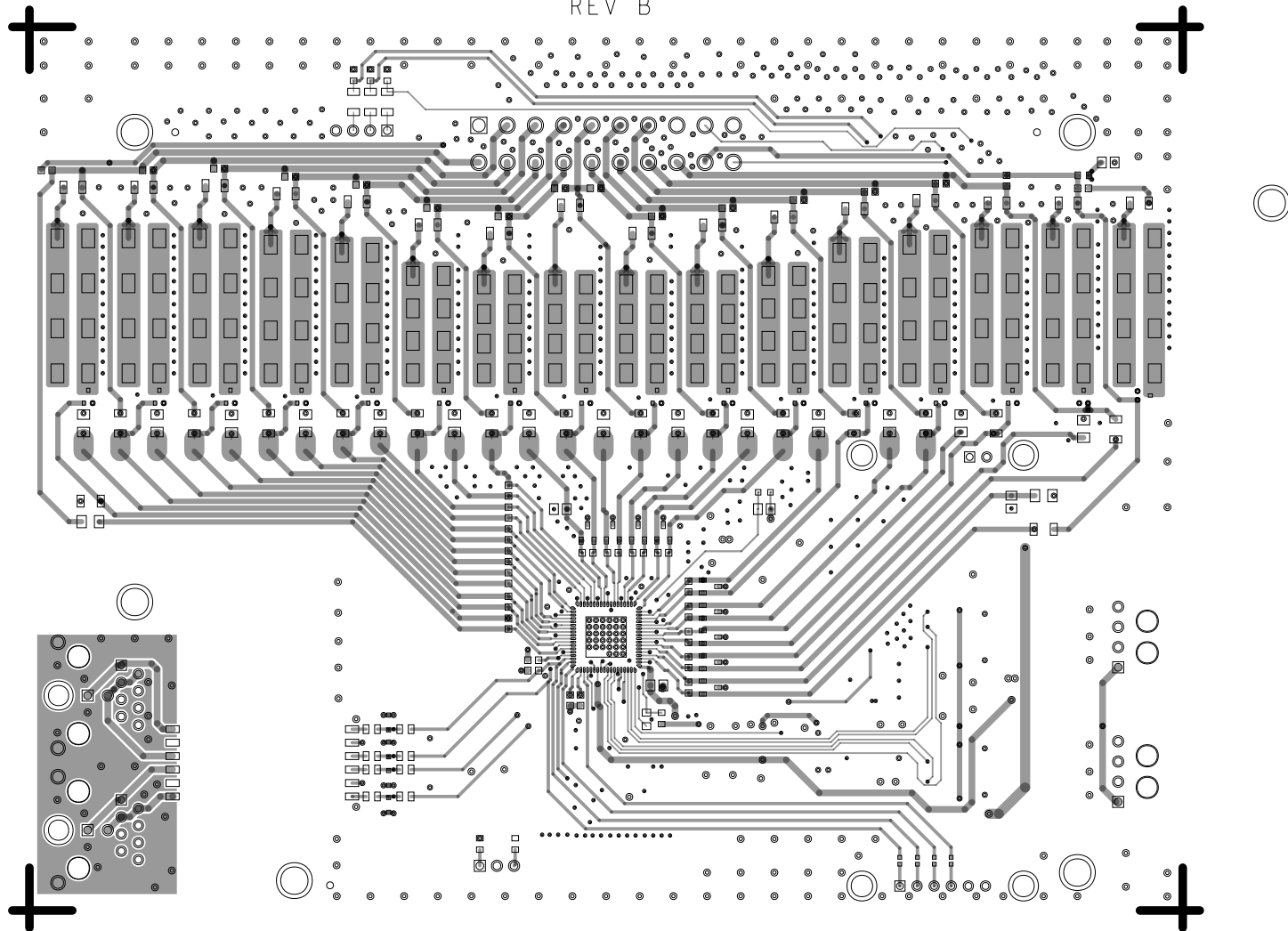


SECONDARY SIDE



SIZE	FSCM NO	DRAWING NUMBER	REV
D	24355	01-081290	B
SCALE	1/1	SHEET 2 OF 2	

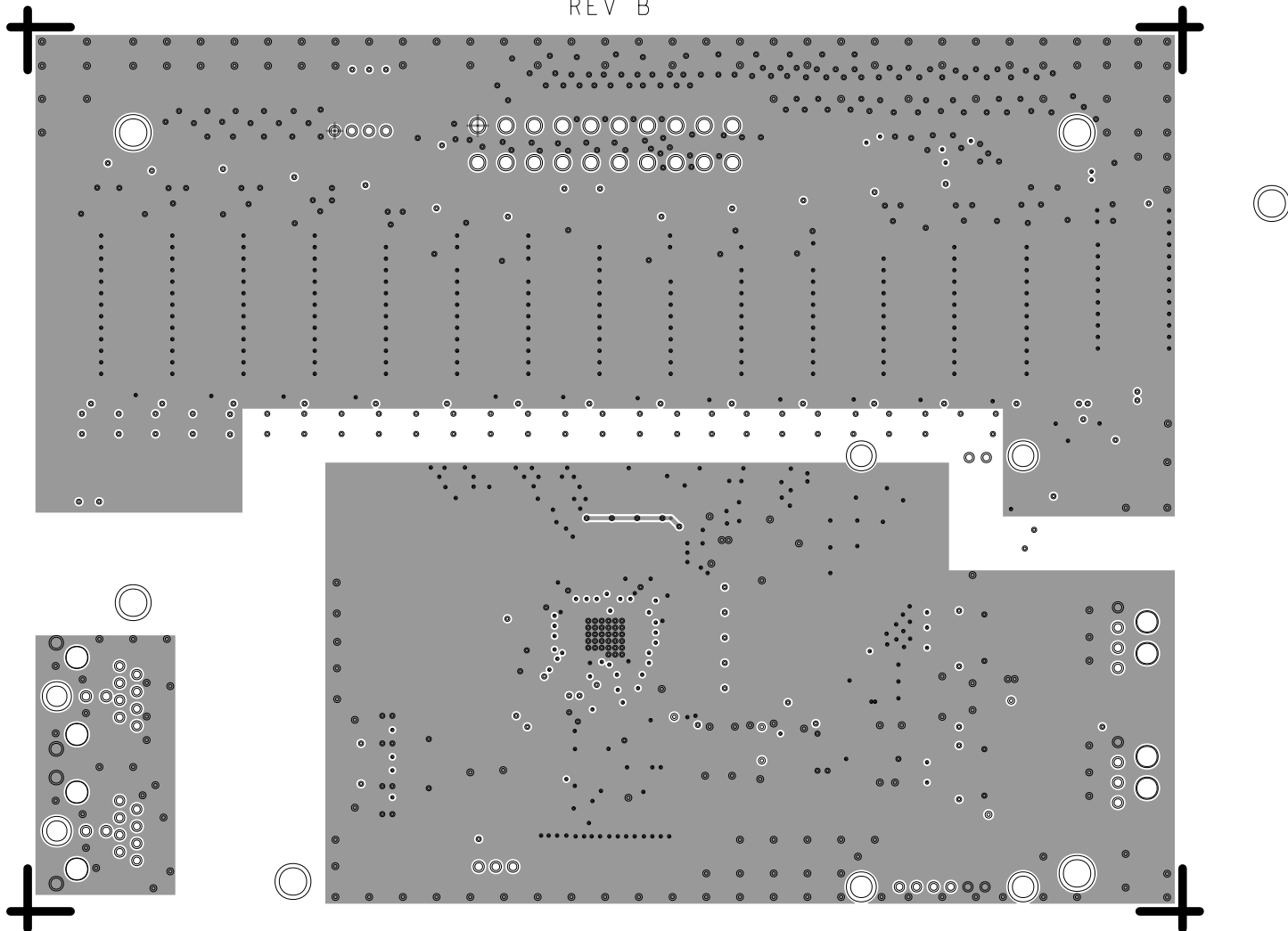
L1 PRIMARY
08-081290-01
REV B



L2 Internal GND

08-081290-07

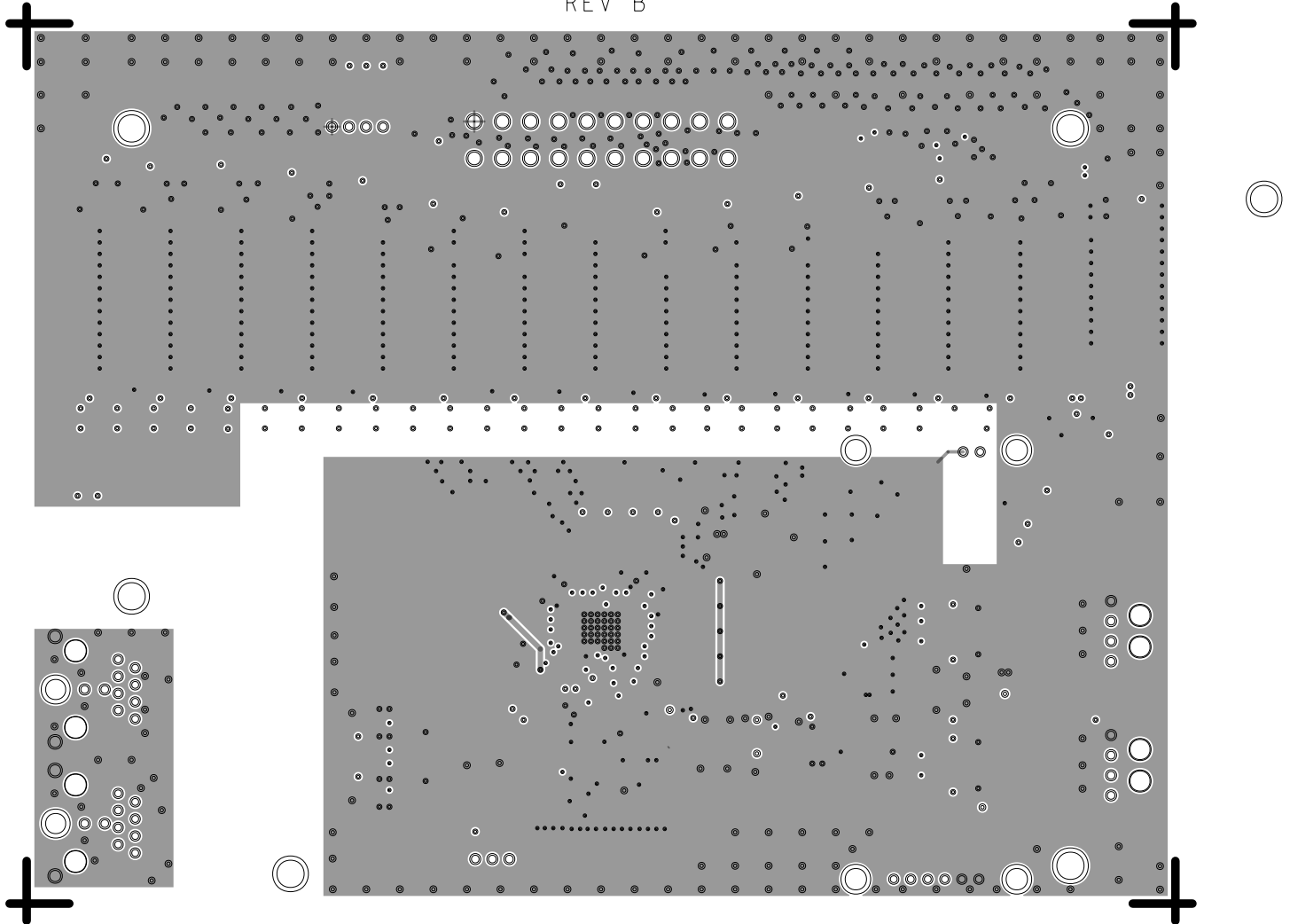
REV B



L3 Internal SIG/GND

08-081290-08

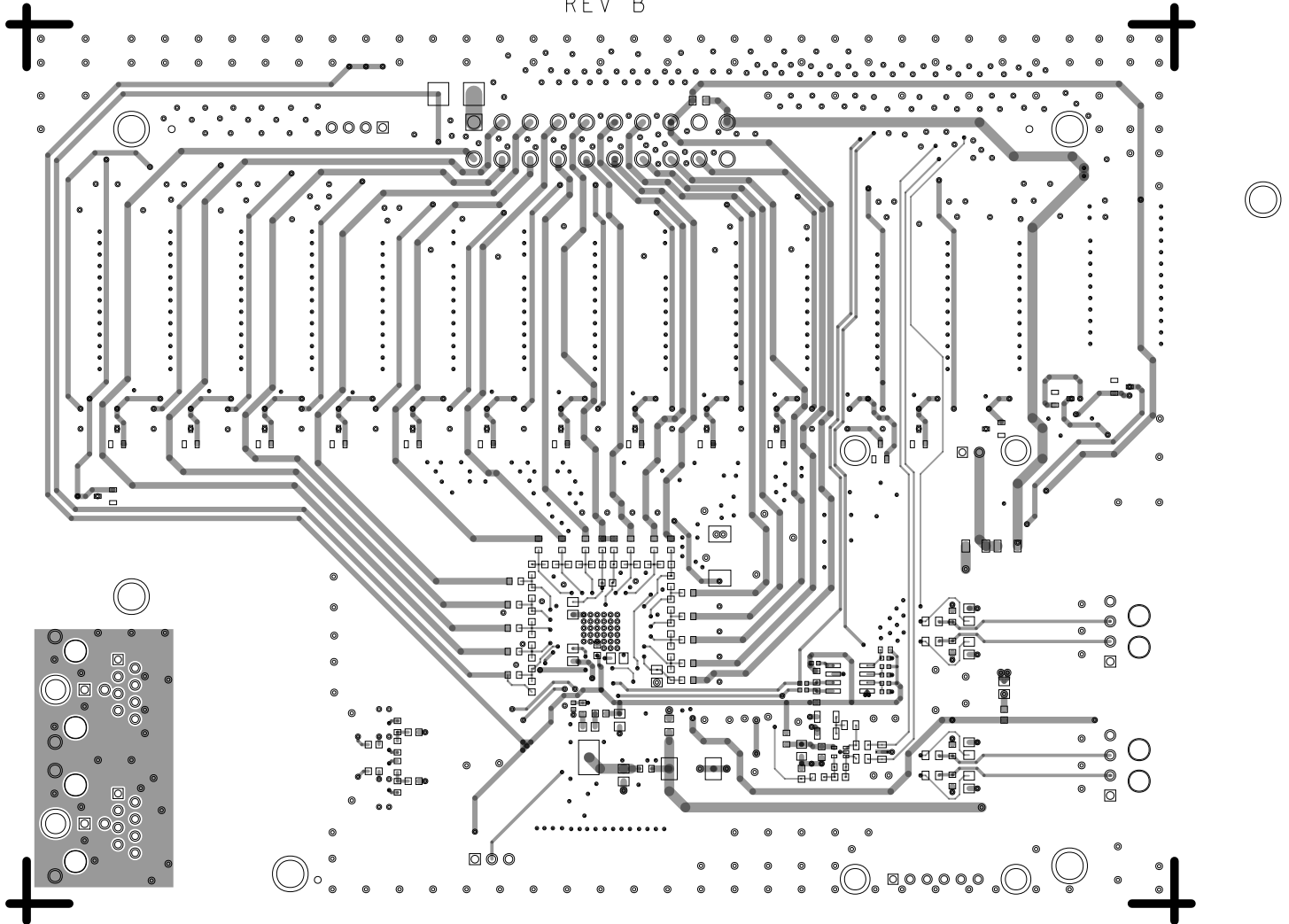
REV B



L4 SECONDARY

08-081290-02

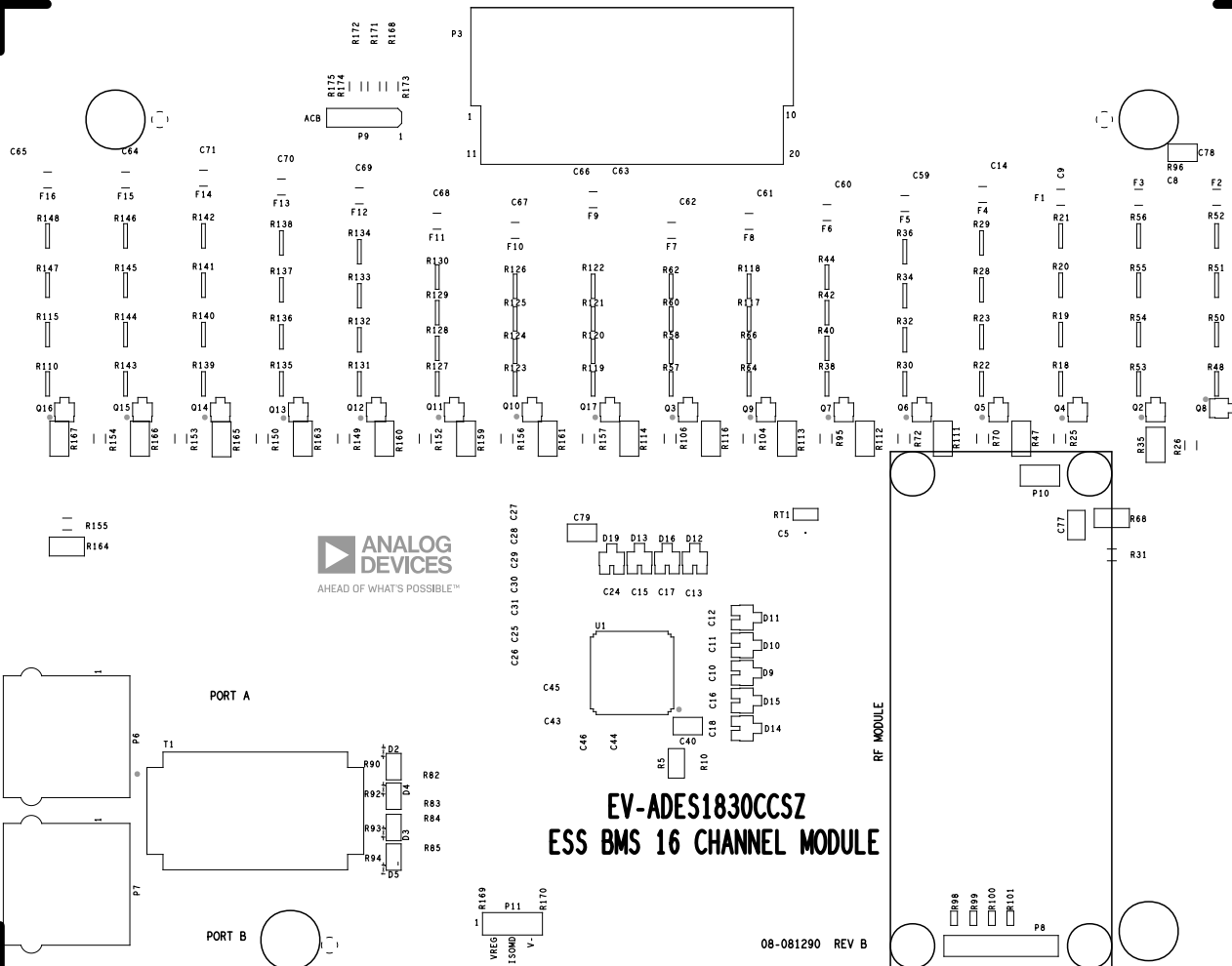
REV B



SILKSCREEN PRIMARY

08-081290-03

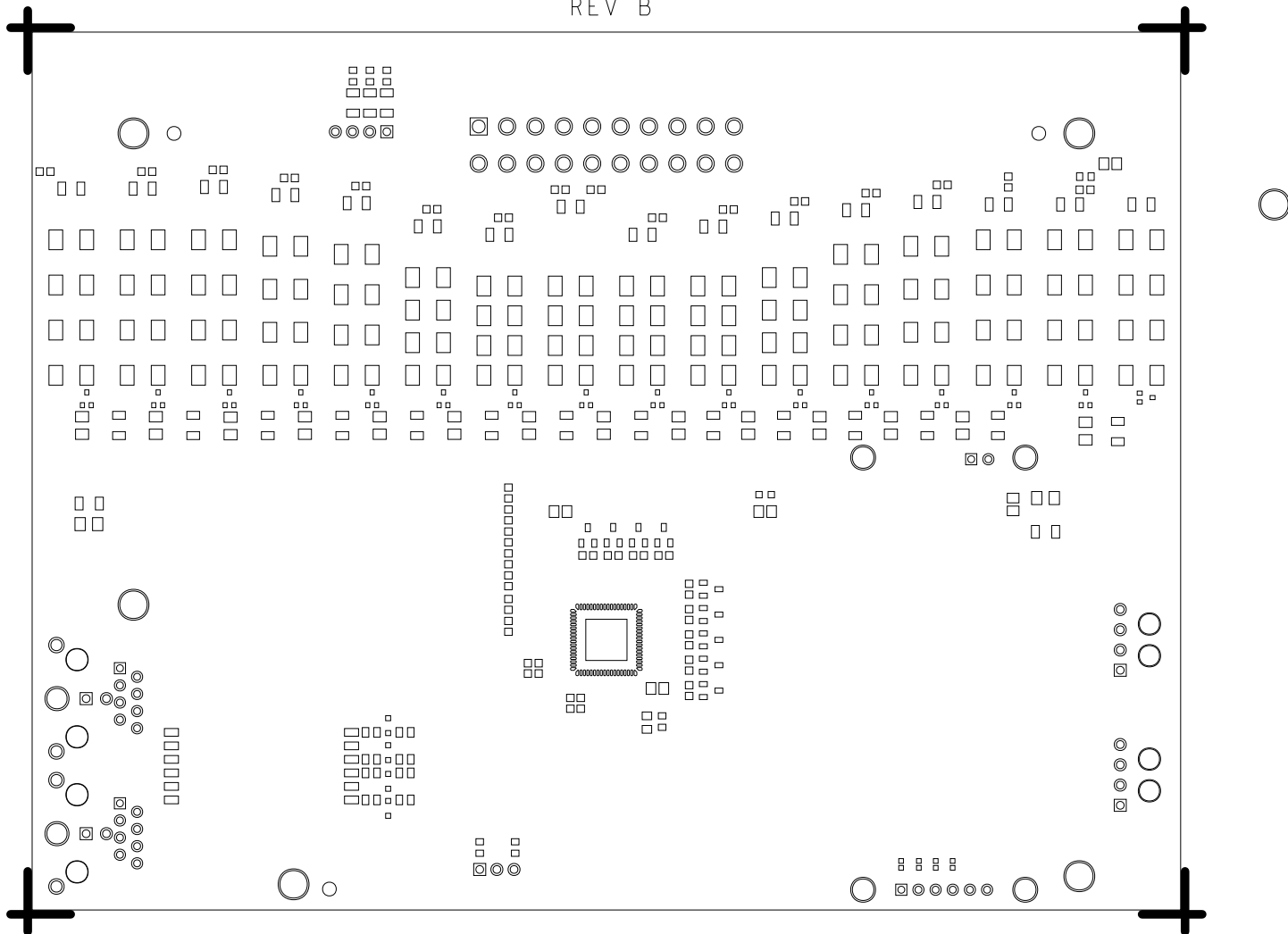
REV B



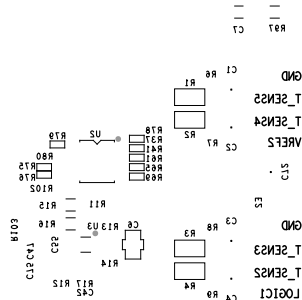
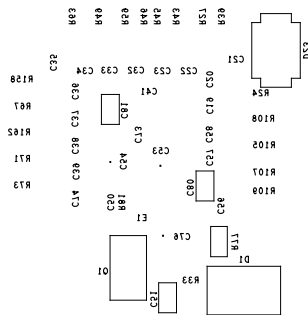
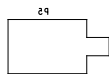
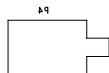
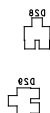
SOLDERMASK PRIMARY

08-081290-04

REV B



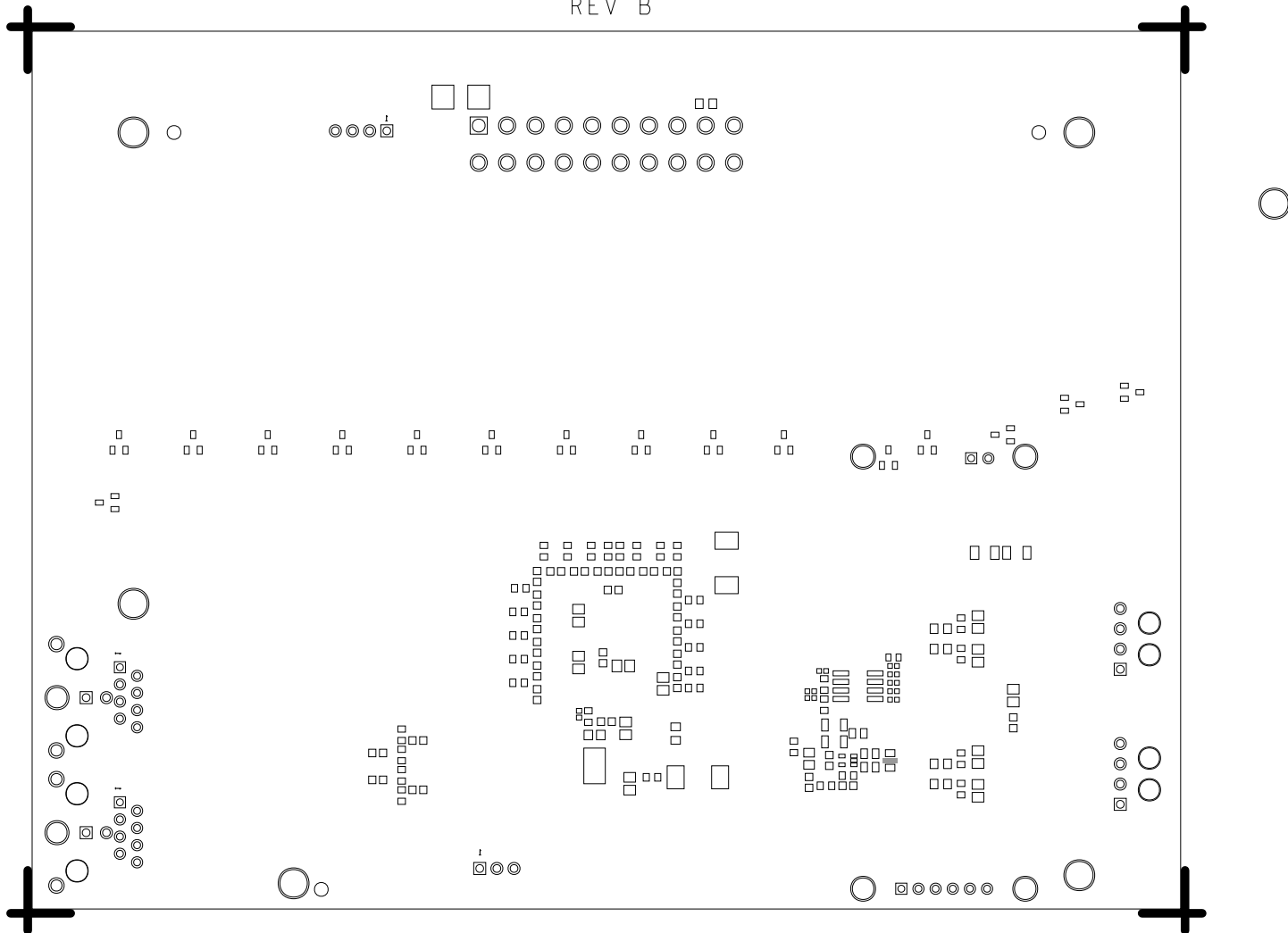
SILKSCREEN SECONDARY
08-081290-05
REV B



SOLDERMASK SECONDARY

08-081290-06

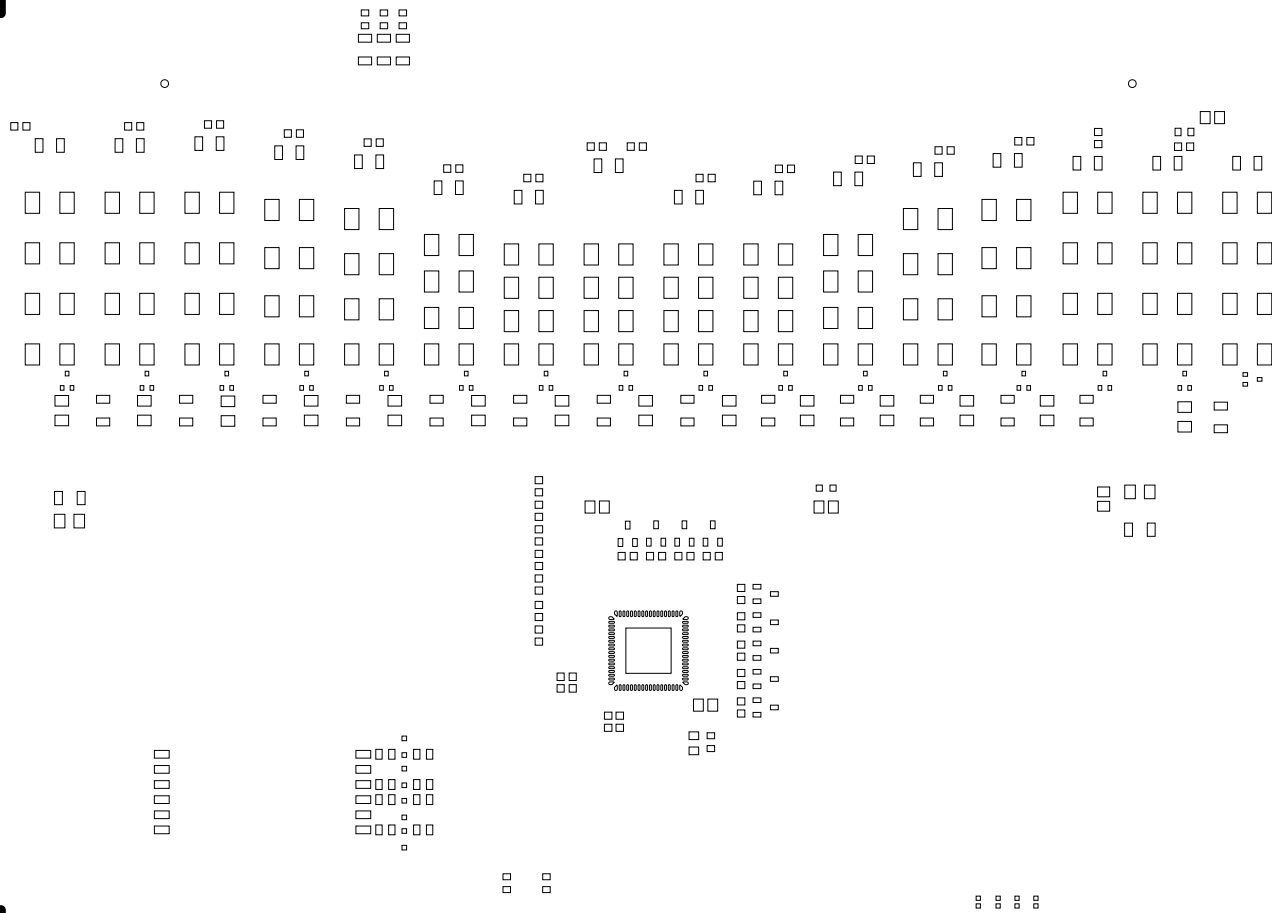
REV B



PASTEMASK PRIMARY

08-081290-09

REV B



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