


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	02JUL23	S. KUMAR
	CHANGES AS PER ECR-121247	24JUL24	S. KUMAR
B	SILK UPDATE	18NOV24	S. KUMAR
C	SILK UPDATE	19NOV24	S. KUMAR

HOLE TOLERANCE
UNLESS SPECIFIED
PLATED: +/- .076 MM
NON PLATED: +/- .051 MM

DRILL CHART: TOP to BOTTOM				
FINISHED HOLES IN MILLIMETERS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
.	0.254	PLATED	1381	DIA MAX
•	0.508	PLATED	1	DIA MAX
◦	0.889	PLATED	16	
◊	1.016	PLATED	16	
▲	1.143	PLATED	119	
◻	1.1684	PLATED	1	
◻	1.27	PLATED	24	
◻	1.7018	PLATED	4	
◻	1.778	PLATED	4	
▲	1.1938	NON-PLATED	2	
B	1.397	NON-PLATED	4	
C	3.175	NON-PLATED	1	
D	3.81	NON-PLATED	2	

PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM			APPROVAL		DATE		<div><div></div><div>ANALOG DEVICES</div></div> <div>WWM DIVISION 804 WOBURN STREET WILMINGTON, MA 01887</div>							
TOLERANCES			TEMPLATE ENGINEER		N/A									
DECIMALS	FRACTIONS	ANGLES	HARDWARE SERVICES		18NOV24									
.XX --.010	--1/32	-- 2	M VAL E											
.XXX --.005			HARDWARE SYSTEMS		N/A		TITLE FABRICATION AD4190 CUSTOMER EVAL BOARD Z							
.XXXX --.0050			N/A											
MATERIAL			TEST ENGINEER SAMRUTH K		N/A									
			COMPONENT ENGINEER ADGT LIBRARY		18NOV24									
			TEST PROCESS N/A		N/A									
			HARDWARE RELEASE EARL CONDA		18NOV24									
			DESIGNER MANIKANDAN S		18NOV24									
FINISH			PTD ENGINEER SAMRUTH K		18NOV24		SIZE		FSCM NO		DRAWING NUMBER		REV	
			CHECKER N/A		N/A		C		24355		09-076332		C	
			DO NOT SCALE DWG					SCALE		1 / 1				SHEET 1 OF 2

NOTES : UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS ARE IN MM (EXCEPT WHERE NOTED).
ALL DOCUMENTS & SPECIFICATIONS REFERRED TO BELOW SHOULD BE THE LATEST REVISIONS.

ROHS COMPLIANCE NOTE:

HOMOGENEOUS MATERIALS IN THIS BOARD SHALL BE COMPLAINT WITH THE EU DIRECTIVE 2002/95/EC

MATERIAL :

2. BOARD MATERIAL:(USE CHECKED ITEMS)
 (X) ISOLA 370HR OR S1000-2 OR IT180 OR EQUIVALENT
 () ISOLA-FR408HR OR EQUIVALENT
 () ISOLA IS410
 () MEGTRON 6
 () NELCO-4000-13
 () ROGERS 4350B
 () ROGERS 3003
 () ARLON 85N
 () EM370D
 () OTHER _____
3. ALL LAMINATES & BONDING MATERIALS SHOULD BE SELECTED FROM IPC-4101 OR IPC-4103.(TG>170 DEGC TD>300 DEGC)
 UL FLAMMABILITY RATING 94V-0. BOARD MATERIAL & CONSTRUCTION SHALL MEET THE REQUIREMENTS OF UL796/UL796F.
4. REFER TO IPC-6010 SERIES, CLASS 2 FOR FABRICATION.WORKMANSHIP SHALL CONFORM TO IPC-A-600, CLASS 2.
5. REFER TO LAMINATION DIAGRAM FOR OVERALL BOARD THICKNESS.TOLERANCE APPLIES AFTER ALL LAMINATION AND PLATING PROCESSES. FINISHED THICKNESS MEASURED FROM TOP COPPER TO BOTTOM COPPER.
6. BOW & TWIST NOT TO EXCEED 0.1905 MM (19.05%) PER LINEAR MM AND SHOULD BE MEASURED PER IPC-TM-650, METHOD 2.4.22.
7. ACCEPTABILITY PER ADI SPECIFICATION TST00115.

TOOLING:

8. IMPEDANCE REQUIREMENTS: IF NO STACKUP IS DEFINED, THE VENDOR IS ALLOWED TO ADJUST THE DIELECTRIC THICKNESS & TRACE WIDTHS TO MEET THE IMPEDANCE REQUIREMENT. IF SPECIFIED, THE VENDOR MUST MEET THE REQUIREMENTS LISTED IN THE IMPEDANCE TABLE. ANY ADJUSTMENT MADE TO THE DEFINED STACKUP, TRACE WIDTH & SPACING THAT IMPACT THE REQUIREMENTS MUST HAVE WRITTEN APPROVAL FROM ADI.
9. FILLET OPTIONS TO ENHANCE RELIABILITY AT PAD JUNCTIONS WHERE SPACING PERMITS.
() FILLETS ALLOWED
(X) FILLETS NOT ALLOWED
10. THIEVING:
() VENDOR MAY ADD THIEVING TO COMPENSATE FOR LOW COPPER DENSITY AREAS MAINTAINING A MINIMUM 2.54 MM CLEARANCE FROM ALL COPPER FEATURES.
(X) VENDOR MAY NOT ADD THIEVING TO COMPENSATE FOR LOW COPPER DENSITY AREAS.
11. LAYER TO LAYER REGISTRATION SHALL BE WITHIN 0.0762 MM.
- FINISH:
12. DRILL SIZES ARE FINISHED HOLE SIZES. ALL HOLES SHALL BE LOCATED WITHIN 0.127 MM DTP, MINIMUM BARREL PLATING OF 0.0254 MM. PLATED HOLES SHALL NOT BE ROUGH OR IRREGULAR SO AS TO HINDER PROPER SOLDER WICKING. BARREL RELIEF ON SOLDERMASK ALLOWED IN UNFILLED VIA IN PAD HOLES.
13. PLATING SPECIFICATION:
(X) REFER TO LAMINATION DIAGRAM FOR FINISHED COPPER WEIGHT/THICKNESS REQUIREMENTS
THE STARTING COPPER WEIGHT/THICKNESS CAN VARY AS LONG AS THE FINISHED COPPER WEIGHT/THICKNESS IS NOT LESS THAN THE SPECIFIED VALUE.
14. SURFACE FINISH:
(X) IMMERSION GOLD (ENIG) 1.58-3.94 MICRO INCHES OVER 118-236 MICRO INCHES MIN. OF ELECTROLESS NICKEL PER IPC-4552
() OSP (ORGANIC SOLDERABILITY PRESERVATIVE)
() IMMERSION SILVER
() SOFT WIRE BONDABLE GOLD 30-50 MICRO INCHES OF SOFT WIRE
BONDABLE GOLD OVER 100-150 MICRO INCHES OF NICKEL
() EDGE CONNECTOR FINGERS ARE TO BE PLATED WITH 100 MICRO-INCHES(.0001") OF LOW STRESS NICKEL UNDER 30 MICRO-INCHES (.0003') OF GOLD
() OTHER_____
15. SOLDERMASK:
SOLDERMASK OVER BARE COPPER OR BARE GOLD (BOTH SIDES) TO MEET IPC-SM-840.
IF PRESENT, DO NOT MODIFY SOLDERMASK DEFINED PADS (MASK OPENINGS LESS THAN COPPER PAD) WITHOUT APPROVAL.
(X) LPI
() OTHER_____
- COLOR
(X) GREEN
() OTHER_____
16. APPLY SILKSCREEN TO BOTH SIDES USING A NON-CONDUCTIVE, EPOXY BASED INK PER ARTWORK.
(X) WHITE
() OTHER

TESTING:

17. FINAL ELECTRICAL TEST TO BE PERFORMED USING PROVIDED IPC-D-356A NETLIST OR ODB++ FORMAT FILE. THE PCB SHALL HAVE A VERIFICATION STAMP.
18. 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.

MISCELLANEOUS:

19. IF PRESENT, ALL BLIND/BURIED VIAS WITH AN ASPECT RATIO <1:1 TO BE PLATED SHUT WITH COPPER WHEN USED AS VIA-IN-PAD OR AS A STACKED VIA. BLIND/BURIED VIAS WITH AN ASPECT RATIO >1:1 TO BE FILLED WITH NON-CONDUCTIVE EPOXY.
20. FOR VIA FILL INFORMATION REFER TO DRILL CHART:
() NON-CONDUCTIVE EPOXY FILL ALL 0.XXXX MM DRILLED VIAS
() COPPER FILL ALL 0.XXXX MM DRILLED VIAS
21. INTENTIONAL SHORTS:
IF AN INTENTIONAL SHORT REPORT IS SUPPLIED AND DOES NOT MATCH THE FAB DATA THEN ADI APPROVAL IS REQUIRED.
22. PEMNUTS:
() PEMNUTS TO BE INSTALLED BY FABRICATOR
() PEMNUTS NOT TO BE INSTALLED BY FABRICATOR
(X) NOT APPLICABLE
23. MANUFACTURER TO ETCH/STAMP WITH PERMANENT NON-CONDUCTIVE INK ON SECONDARY SIDE UNLESS OTHERWISE SPECIFIED:
A. UL CODE-FLAMMABILITY RATING FOR THOSE APPROVED MATERIALS(IF APPLICABLE)
B. DATE CODE
C. LOT NUMBER
D. MANUFACTURER LOGO

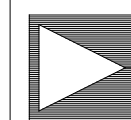
25. PANELIZATION:
BOARDS TO BE SHIPPED IN ARRAY AND KEPT INTACT
PANEL TO BE SUBJECTED TO CUSTOMERS APPROVAL
PANEL SOLDER PASTE STENCIL GERBER TO BE PROVIDED TO ANALOG
27. MINIMUM DESIGN LINE WIDTH IS .200 MM.
28. MINIMUM DESIGN LINE SPACING IS .120 MM.
- FAB NOTES REVISION: 2ND NOVEMBER 2022

4 LAYER STACKUP

LAMINATION DIAGRAM				
LAYER NUMBER	LAYER NAME	COPPER THICKNESS (OZ,MM)	DIELECTRIC THICKNESS (MM)	MATERIALS
1	TOP	1.5 OZ, 0.05334		FINAL CU (THICKNESS AFTER PLATING)
			0.2032	ISOLA 370HR/EQUIVALENT
2	L2_GND	1 OZ, 0.03556		CU CLAD
			1.0158	ISOLA 370HR/EQUIVALENT
3	L3_VCC	1 OZ, 0.03556		CU CLAD
			0.2032	ISOLA 370HR/EQUIVALENT
4	BOTTOM	1.5 OZ, 0.05334		FINAL CU (THICKNESS AFTER PLATING)

THE FINISHED PCB THICKNESS TO BE: 1.6MM +/-10%

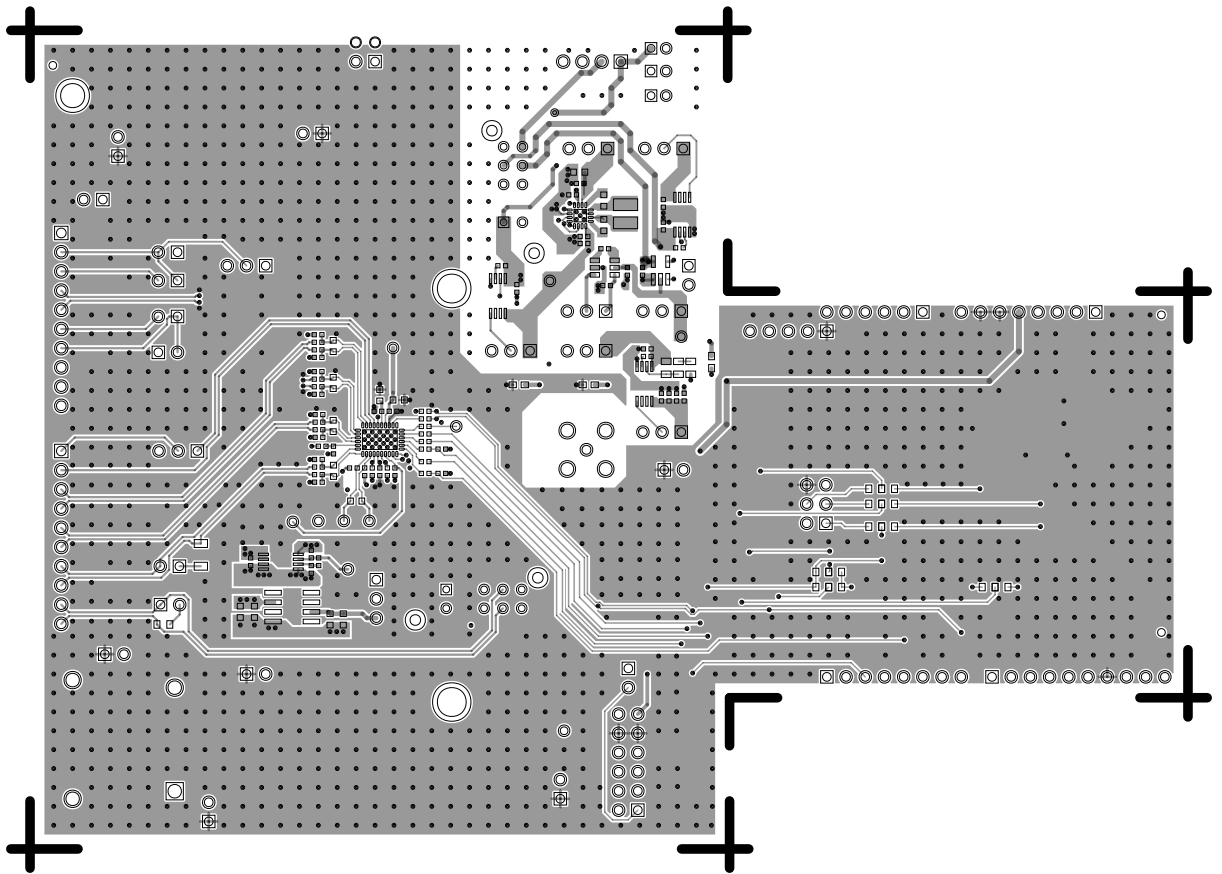
PRIMARY SIDE

ANALOG
DEVICES

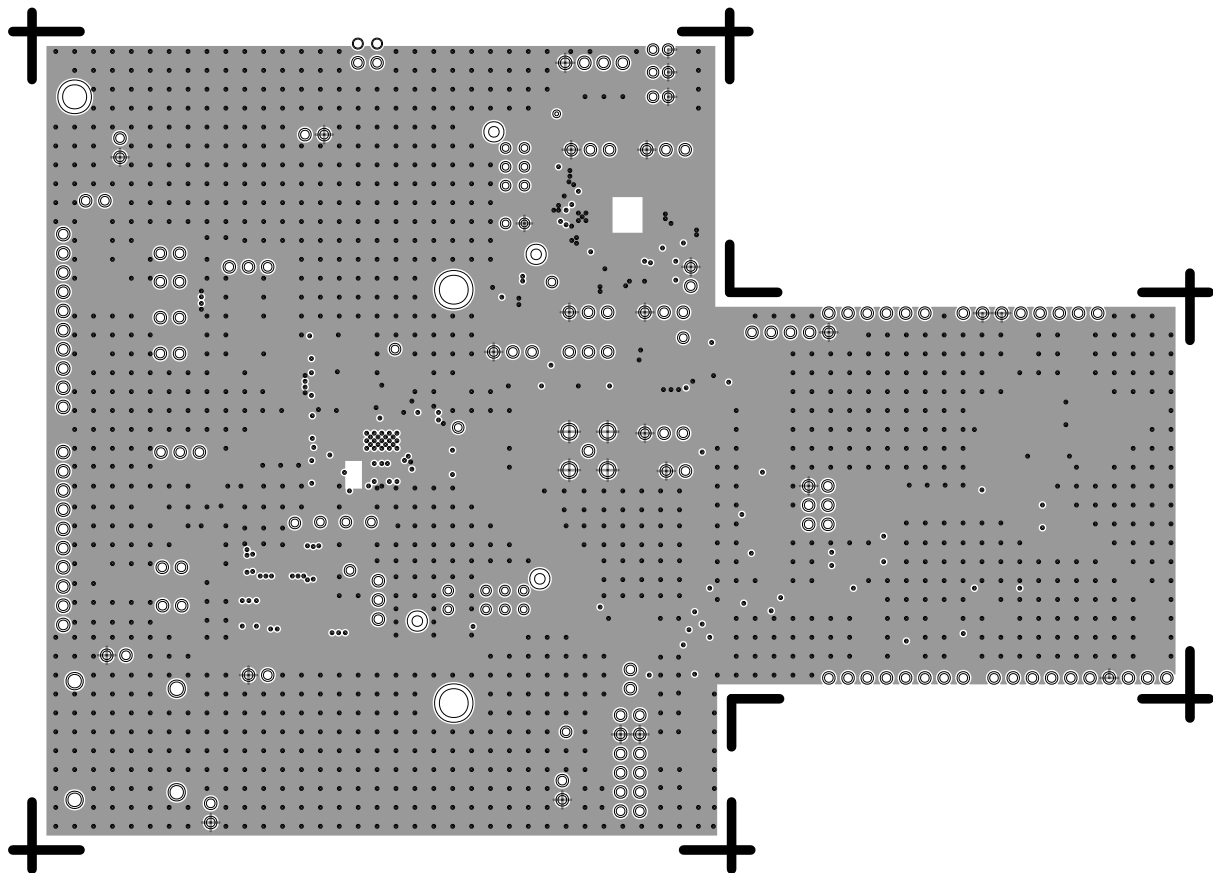
WWM
DIVISION
804 WOBURN STREET
WILMINGTON, MA 01887

SIZE	FSCM NO	DRAWING NUMBER	REV
C	24355	09-076332	C
SCALE	1/1		SHEET 2 OF 2

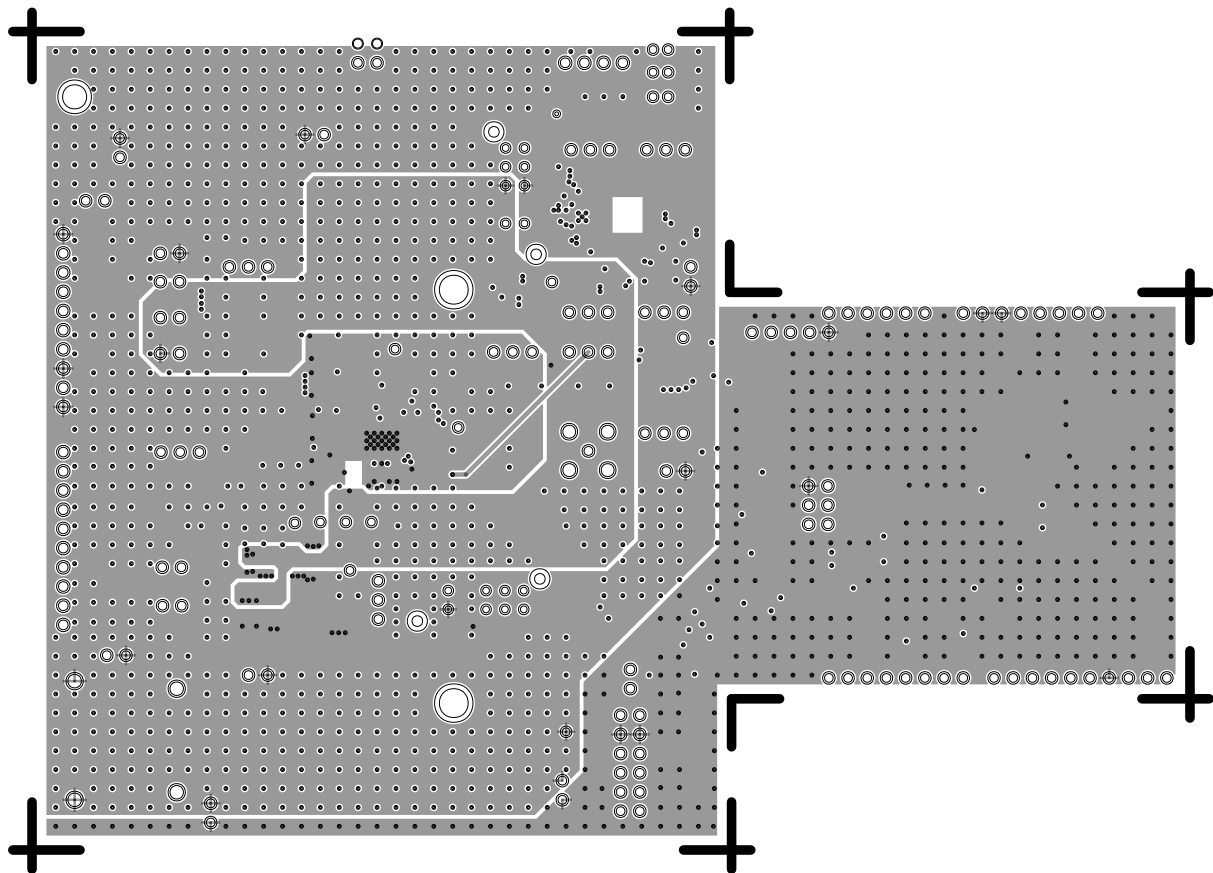
L1 PRIMARY
08-076332-01
REV C



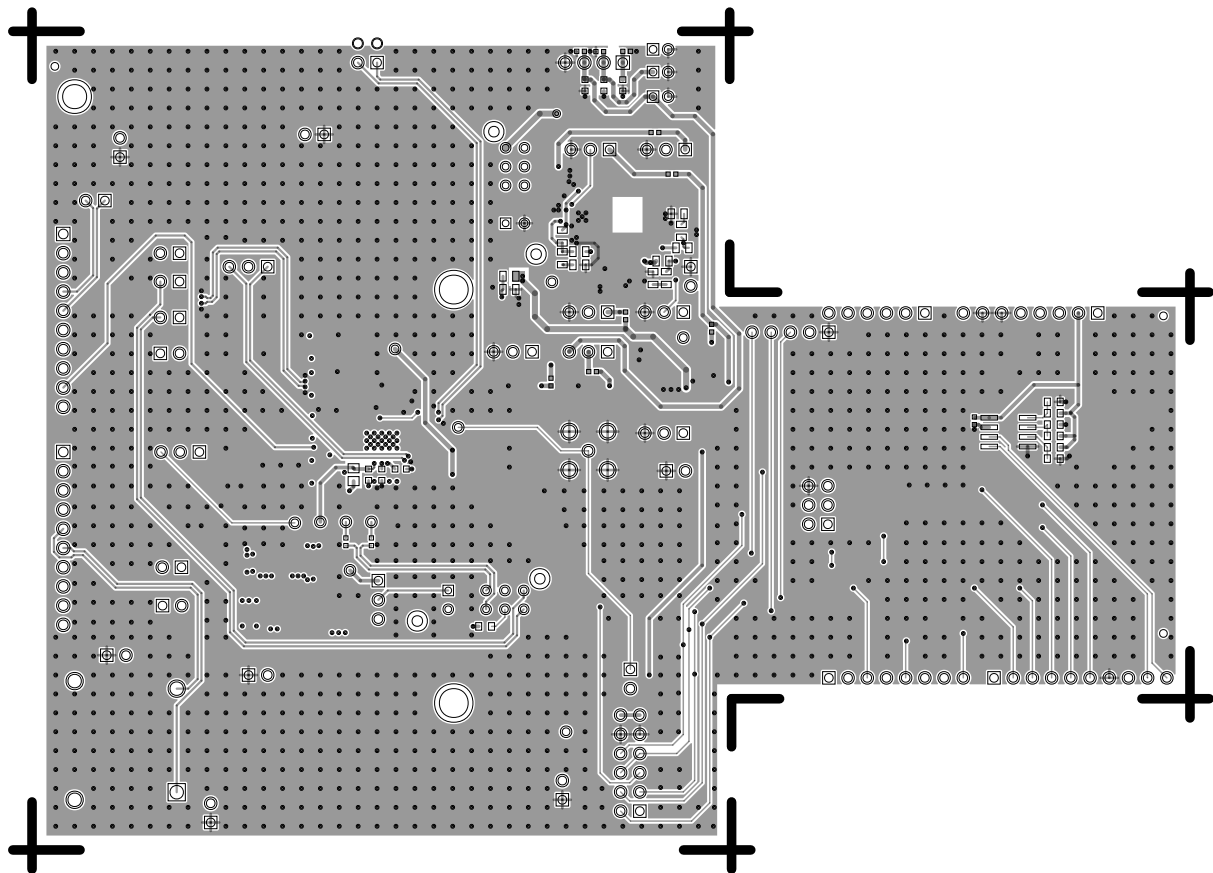
L2 GND
08-076332-07
REV C



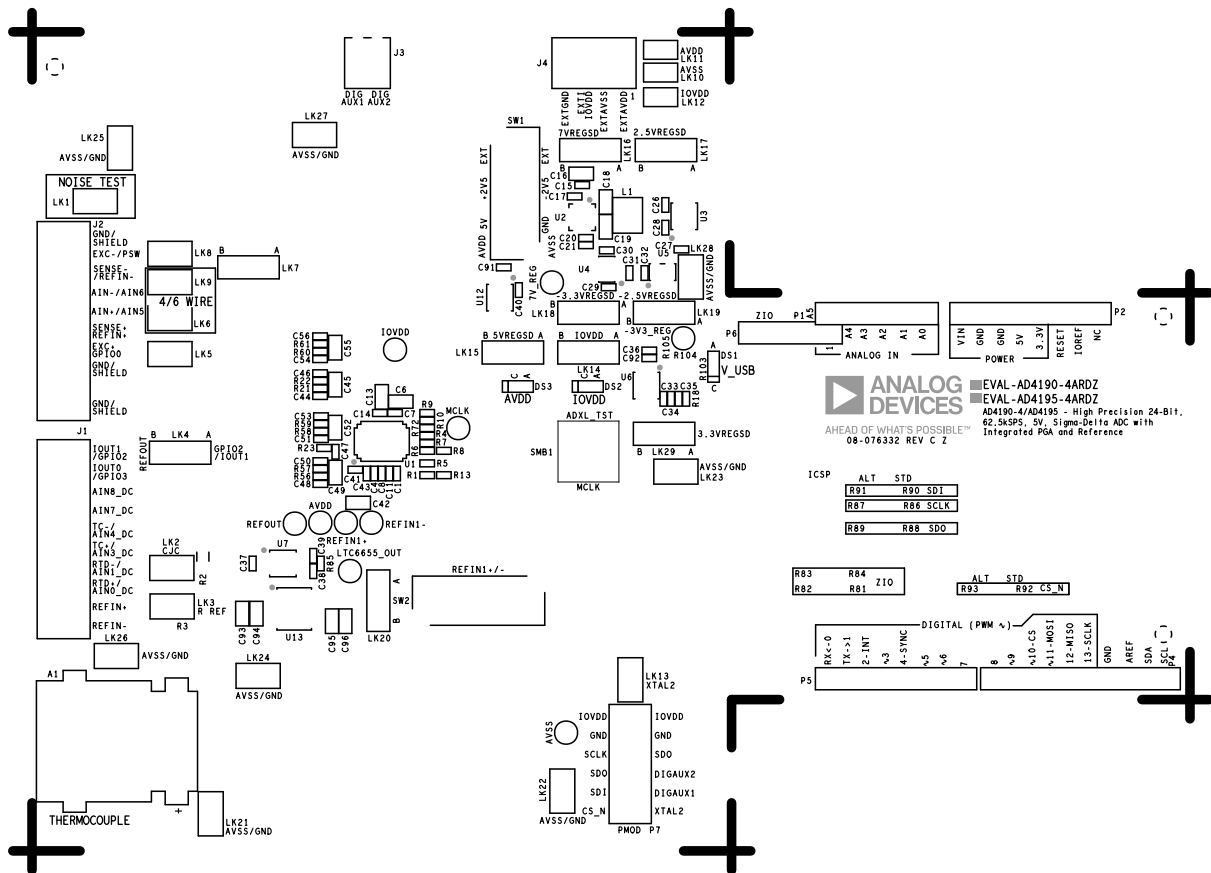
L3 PWR
08-076332-08
REV C



L4 SECONDARY
08-076332-02
REV C



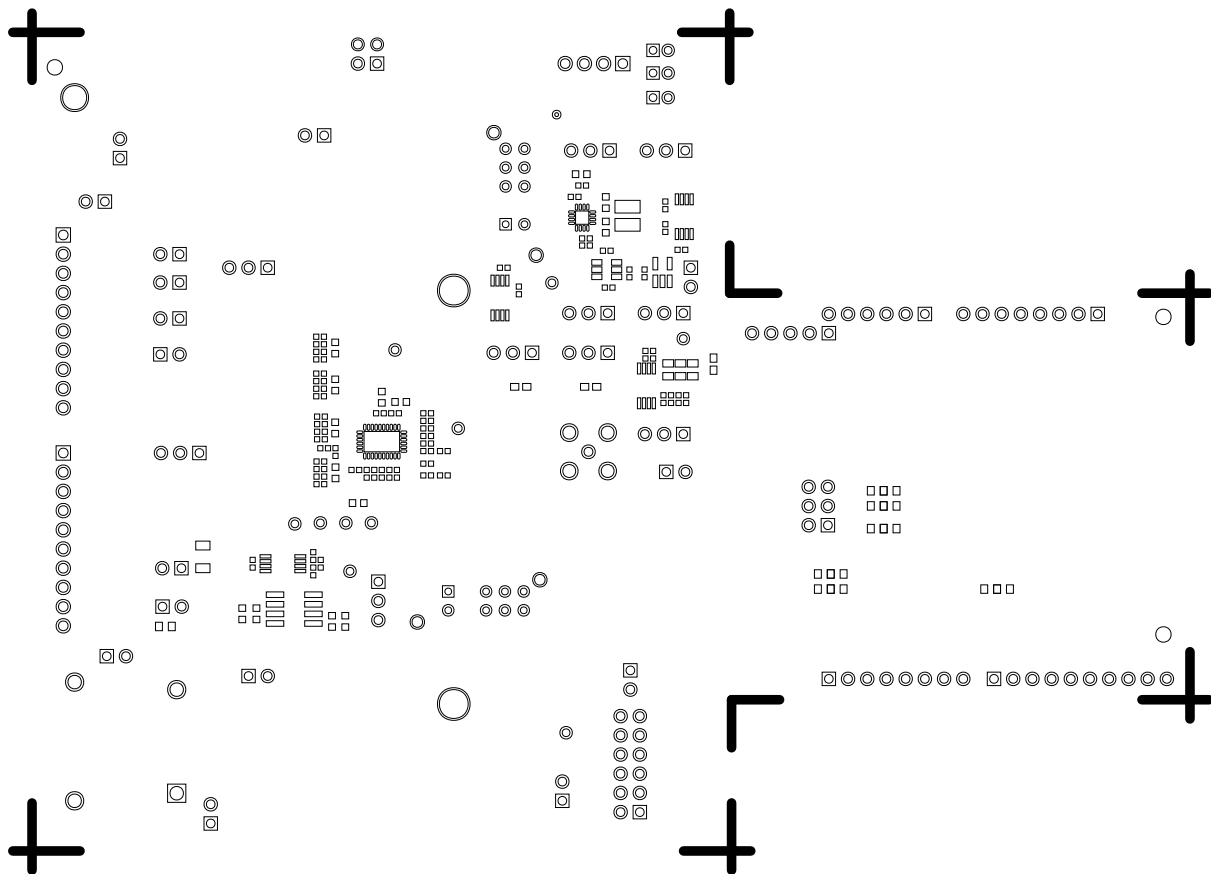
REV C



SOLDERMASK PRIMARY

08-076332-04

REV C



SILKSCREEN SECONDARY
08-076332-05
REV C



A53
553
813
553
R14

R12

R101
R101R
R105
T01R
R108
R101R
R01
R02
R08
R08
R08
R10
T18
T18

C15
C2
C3
C3
C15

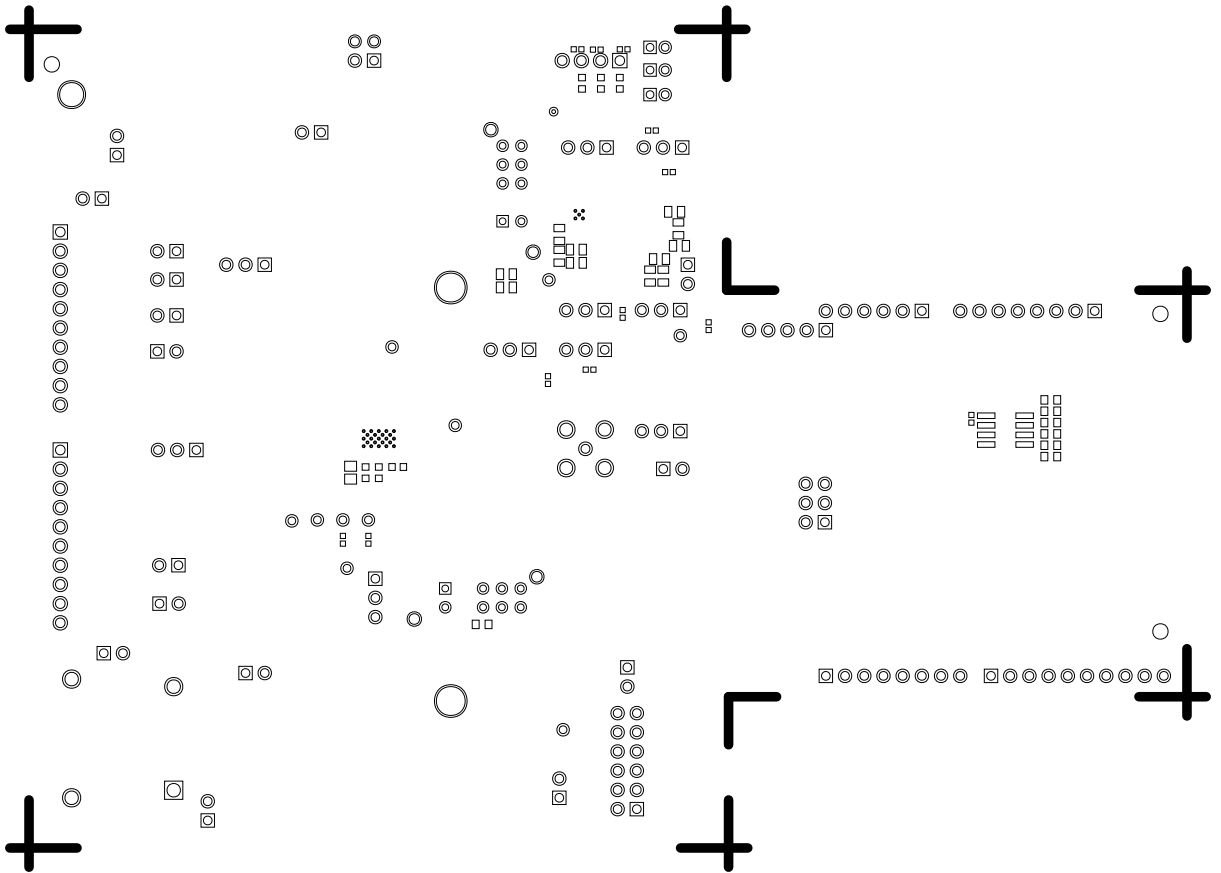
R104

U11
C18

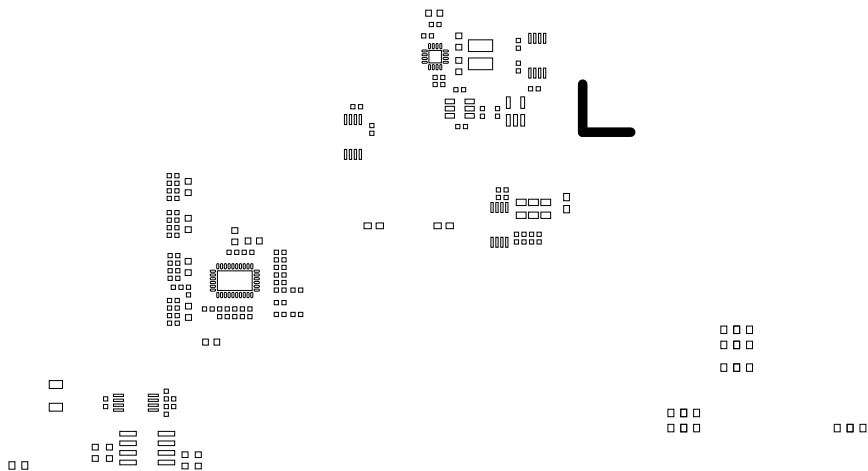
4231
5
63

R08
R08
R08
R08
R08
R08

SOLDERMASK SECONDARY
08-076332-06
REV C



PASTEMASK PRIMARY
08-076332-09
REV C



PASTEMASK SECONDARY
08-076332-10
REV C

