

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	15APR22	R. WHITNEY
B	CHANGES AS PER ECR-109621	04OCT22	R. WHITNEY
C	CHANGES AS PER ECR-111941	27JAN23	R. WHITNEY
D	CHANGES AS PER ECR-113566	11APR23	R. WHITNEY
E	CHANGES AS PER ECR-115079	08AUG23	R. WHITNEY

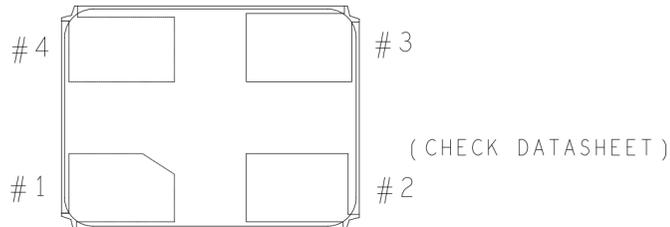
ASSEMBLY NOTES:

- BOARD ACCEPTABILITY PER ANALOG DEVICES, INC. SPECIFICATION TST00119 (LATEST REVISION).
- REPAIRS PER IPC-7711/21(LATEST REVISION) ARE ALLOWED.
- REPAIRS ARE NOT ALLOWED IN SOLDERMASK FREE AREAS ON EITHER SIDE OF THE BOARD.
- SEE DETAIL A FOR Y1 INSTALLATION.
- U9 IS A DEVICE-SOCKET COMBO AND FOLLOWS THIS SOLDERPASTE INSTRUCTION:

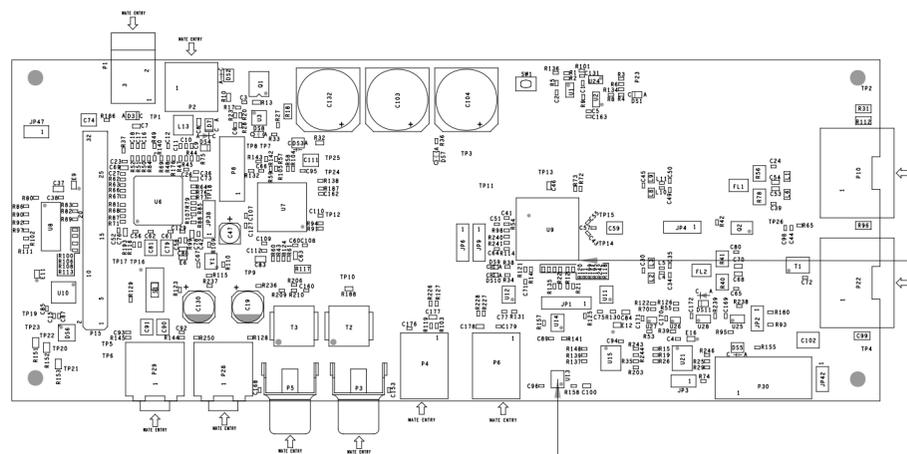
SUPPLIED PART	INSTALLED PART	PASTEMASK
U20(SOCKET)	INSTALLED SOCKET	NO PASTEMASK
U20(DEVICE)	INSTALLED DUT	PASTEMASK

- RoHS COMPLIANCE: ASSEMBLY VENDOR SHOULD ASSURE COMPLIANCE WITH LEAD-FREE AND ROHS PCB ASSEMBLY STANDARDS (EU RoHS DIRECTIVE 2002/95/EC).
- BOARD ASSEMBLY SPECIAL NOTES: (IN ORDER TO MINIMIZE MIC DEVICES (U11-U14) DAMAGE)
  - DO NOT BOARD WASH OR CLEAN AFTER THE REFLOW PROCESS.
  - DO NOT BRUSH BOARD WITH OR WITHOUT SOLVENTS AFTER THE REFLOW PROCESS.
  - DO NOT DIRECTLY EXPOSE TO ULTRASONIC PROCESSING, WELDING, OR CLEANING.
  - DO NOT INSERT ANY OBJECT IN PORT HOLE OF DEVICE AT ANY TIME.
  - DO NOT APPLY OVER 30 PSI OF AIR PRESSURE INTO THE PORT HOLE.
  - DO NOT PULL A VACUUM OVER PORT HOLE OF THE MICROPHONE.
  - DO NOT APPLY A VACUUM WHEN REPACKING INTO SEALED BAGS AT A RATE FASTER THAN 0.5 ATM/SEC.
- BOARDS TO BE SHIPPED SINGULATED AFTER ASSEMBLY PROCESS. SMOOTHEN EDGES AND FREE FROM BURRS AFTER DEPANELIZATION PROCESS.

Note: Actual device pin #1 has a chamfered corner terminal as shown.



DETAIL A FOR COMPONENT Y1

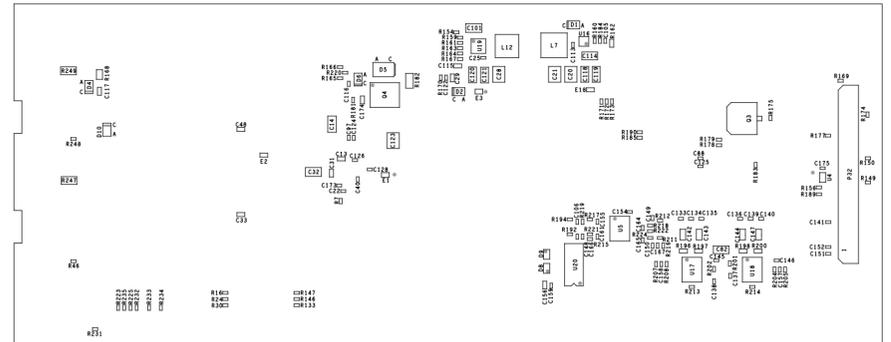
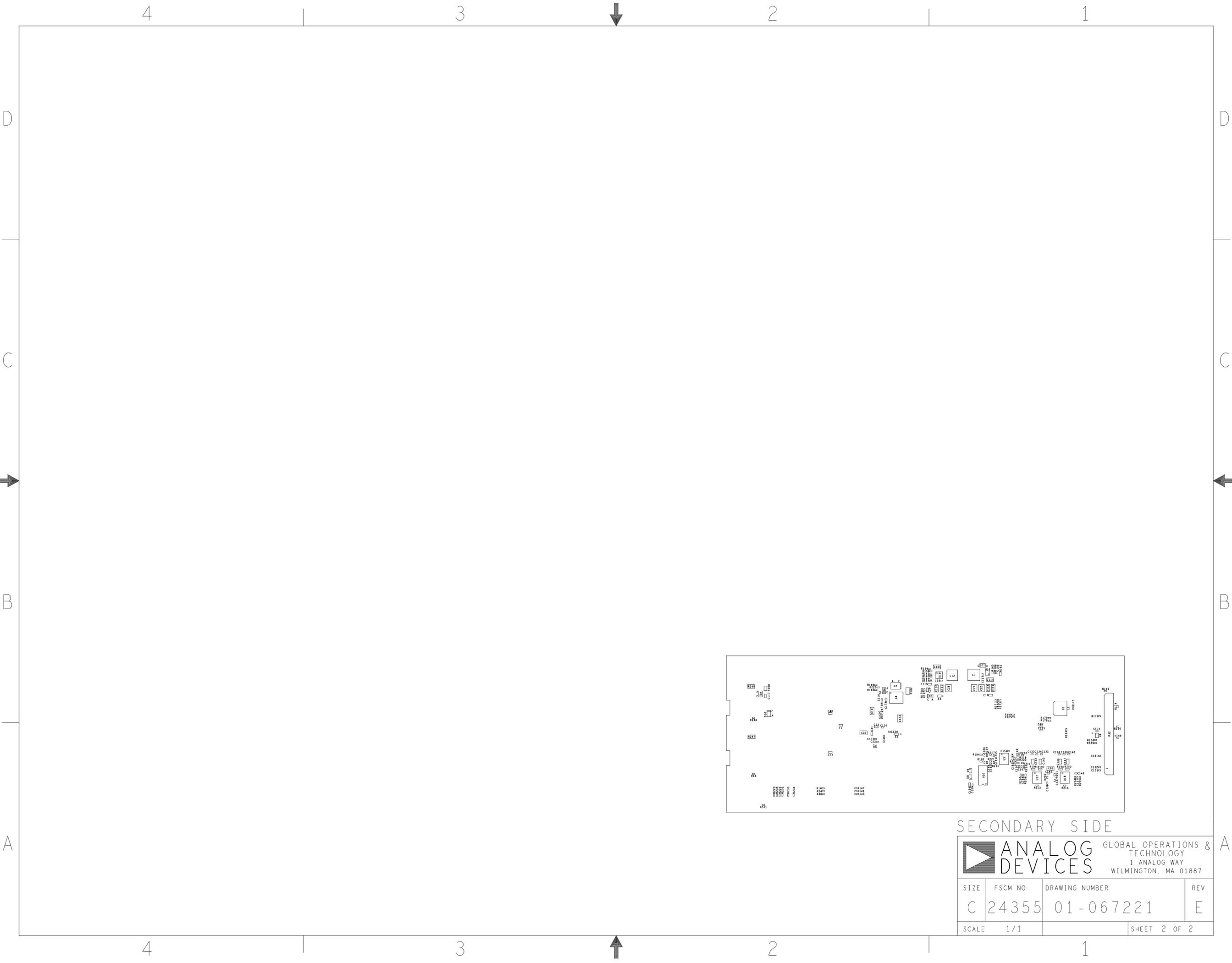


SEE ASSY NOTE #5

SEE NOTE 7 (4 PLACES)

PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES .XX -.010 --1/32 -- 2 .XXX -.005 .XXXX -.0050	APPROVAL	DATE	 GLOBAL OPERATIONS & TECHNOLOGY 1 ANALOG WAY WILMINGTON, MA 01887			
	TEMPLATE ENGINEER	03NOV21				
MATERIAL	TEST ENGINEER		TITLE ASSEMBLY EVAL-AD2437A1MZ_BRD CUSTOMER EVALUATION Z			
	COMPONENT ENGINEER M. YAN TEST PROCESS	03NOV21				
FINISH	HARDWARE RELEASE K. JABATAN	03NOV21	SIZE	FSCM NO	DRAWING NUMBER	REV
	DESIGNER R. PLANADA PTD ENGINEER R. WHITNEY CHECKER	15APR22	C	24355	01-067221	E
DO NOT SCALE DWG			SCALE	1/1		SHEET 1 OF 2



SECONDARY SIDE

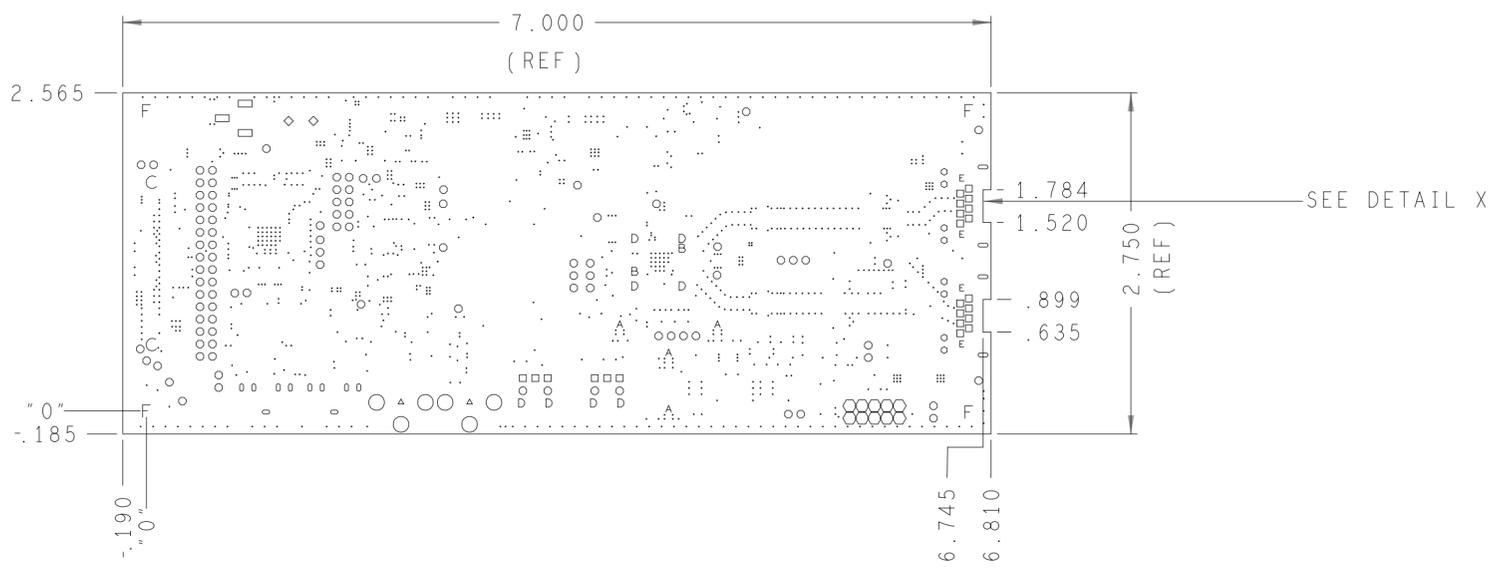
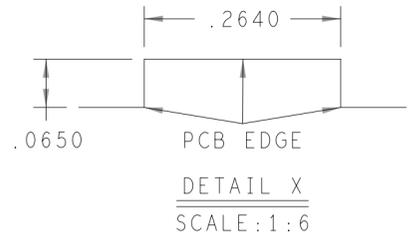
**ANALOG DEVICES** GLOBAL OPERATIONS & TECHNOLOGY  
 1 ANALOG WAY  
 WILMINGTON, MA 01887

SIZE	FSCM NO	DRAWING NUMBER	REV
C	24355	01-067221	E
SCALE	1/1	SHEET 2 OF 2	

REVISIONS			
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HOLE TOLERANCE  
 UNLESS SPECIFIED  
 PLATED: +/-3MILS  
 NON PLATED: +/-2MILS

DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
.	10.0	PLATED	1141	DIA MAX
□	35.0	PLATED	22	
○	40.0	PLATED	10	
◦	43.0	PLATED	8	
◦	45.0	PLATED	97	
◊	55.0	PLATED	2	
△	67.0	PLATED	2	
▢	75.0	PLATED	3	
○	105.0	PLATED	6	
A	20.0	NON-PLATED	4	
B	33.0	NON-PLATED	2	+2/-0
C	35.0	NON-PLATED	2	
D	67.0	NON-PLATED	8	
E	71.0	NON-PLATED	4	
F	125.0	NON-PLATED	4	
◦	59.0x31.0	PLATED	8	
◦	59.0x31.0	PLATED	2	
◦	79.0x31.0	PLATED	4	



PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES DECIMALS .XX -- .010 .XXX -- .005 .XXXX -- .0050 FRACTIONS -- 1/32 ANGLES -- 2	APPROVAL	DATE	 GLOBAL OPERATIONS & TECHNOLOGY 1 ANALOG WAY WILMINGTON, MA 01887			
	TEMPLATE ENGINEER					
MATERIAL	HARDWARE SERVICES M. VALE	03NOV21	TITLE FABRICATION EVAL-AD2437A1MZ_BRD CUSTOMER EVALUATION Z			
	HARDWARE SYSTEMS					
	TEST ENGINEER					
FINISH	COMPONENT ENGINEER M. YAN	03NOV21	SIZE C	FSCM NO 24355	DRAWING NUMBER 09-067221	REV E
	TEST PROCESS					
	HARDWARE RELEASE K. JABATAN	03NOV21	SCALE 1/1	SHEET 1 OF 2		

4

3

2

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SPECIFICATIONS:

ROHS COMPLIANCE NOTE: HOMOGENOUS MATERIALS IN THIS BOARD SHALL BE COMPLIANT THE EU RoHS DIRECTIVE 2002/95/EC

MATERIALS: ALL LAMINATES AND BONDING MATERIALS SHOULD BE SELECTED FROM IPC-4101 OR IPC-4103, MINIMUM Tg>170degC, Td>300degC, U.L. RATING OF 94 V-0

MATERIAL FAMILY: ISOLA 370HR OR S1000-2 OR IT180 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) PER IPC-4552 LATEST REVISION

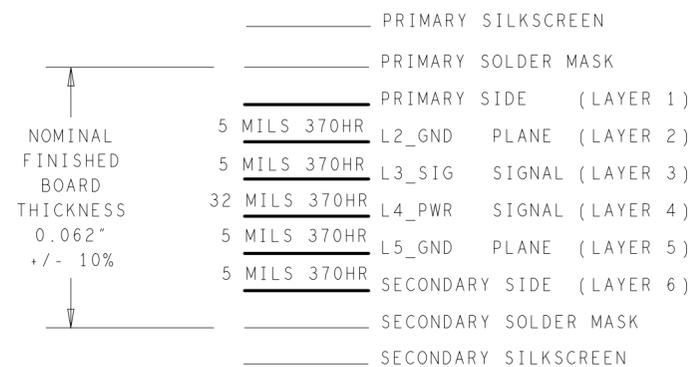
INTENTIONAL SHORTS: IF SUPPLIED DATA INCLUDES A FILE "READ\_ME.2", THEN INTENTIONAL NET SHORTS EXIST. CUSTOMER REVIEW AND APPROVAL IS REQUIRED IF SUPPLIED DATA REPORTS ANY CONDITION THAT DOES NOT MATCH "READ\_ME.2" FILE PROVIDED.

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:

- REFER TO IPC-6010 SERIES (LATEST REV.), CLASS 2 FOR FABRICATION UNLESS OTHERWISE SPECIFIED.
- ACCEPTABILITY PER ANALOG DEVICES, INC. SPECIFICATION TST00115. (LATEST REVISION.)
- MODIFICATIONS TO THE ARTWORK ARE NOT ALLOWED WITHOUT WRITTEN AUTHORIZATION.
- HOLE PATTERN TOLERANCES FOR UNDIMENSIONED HOLES SHALL BE A DIAMETER OF 0.005 INCHES FROM THEIR TRUE POSITION.
- PLATED HOLE WALL THICKNESS SHALL NOT BE LESS THAN 0.001 INCH MINIMUM AVERAGE, WITH NO READING LESS THAN .0008 INCH BY CROSS SECTION.
- HOLE DIAMETERS APPLY AFTER PLATING.
- FINISHED CONDUCTOR WIDTHS SHALL NOT BE REDUCED FROM THE NOMINAL INDICATED ON THE MASTER PATTERN, BY MORE THAN THE CONDUCTOR THICKNESS.
- MINIMUM DESIGN LINE WIDTH IS .007 INCH.
- MINIMUM DESIGN SPACING IS .006 INCH.
- NON-FUNCTIONAL PAD REMOVAL FROM INNER SIGNAL LAYERS MAY BE PERFORMED AFTER CUSTOMER APPROVAL.
- 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.)
- 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 0.200 INCH MINIMUM.
  - B. THERE SHALL BE NO THIEVING IN ANY AREAS FREE OF SOLDER MASK OR INTERNAL COPPER PLANES.
- 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
  - B. DATE CODE (STAMP).
  - C. LOT NUMBER
  - D. MFR LOGO
  - E. SUCCESSFUL ELECTRICAL TEST.
- REPAIRS PER IPC-7711/21 (LATEST REV.) ARE ALLOWED.
- BOARDS TO BE SHIPPED IN ARRAY AND KEEP INTACT. PANEL TO BE SUBJECTED TO CUSTOMER'S APPROVAL. PANELED SOLDER PASTE STENCIL SHOULD BE SENT TO THE ADI.

6 LAYER STACKUP



IMPEDANCE TABLE

NOTE: ALL IMPEDANCE TOLERANCE +/-10%  
SE = SINGLE ENDED  
DP = DIFFERENTIAL PAIR

LAYER	IMPEDANCE	REFERENCE	LINE WIDTH	SPACE
L1	100 OHMS DP	L2	9.5MILS	6.5MILS
L1	50 OHMS SE	L2	7 MILS	N/A
L3	50 OHMS SE	L2	7 MILS	N/A
L6	50 OHMS SE	L5	7 MILS	N/A
L6	100 OHMS DP	L5	9.5MILS	6.5MILS

PRIMARY SIDE



SIZE	FSCM NO	DRAWING NUMBER	REV
C	24355	09-067221	E
SCALE	1/1	SHEET 2 OF 2	

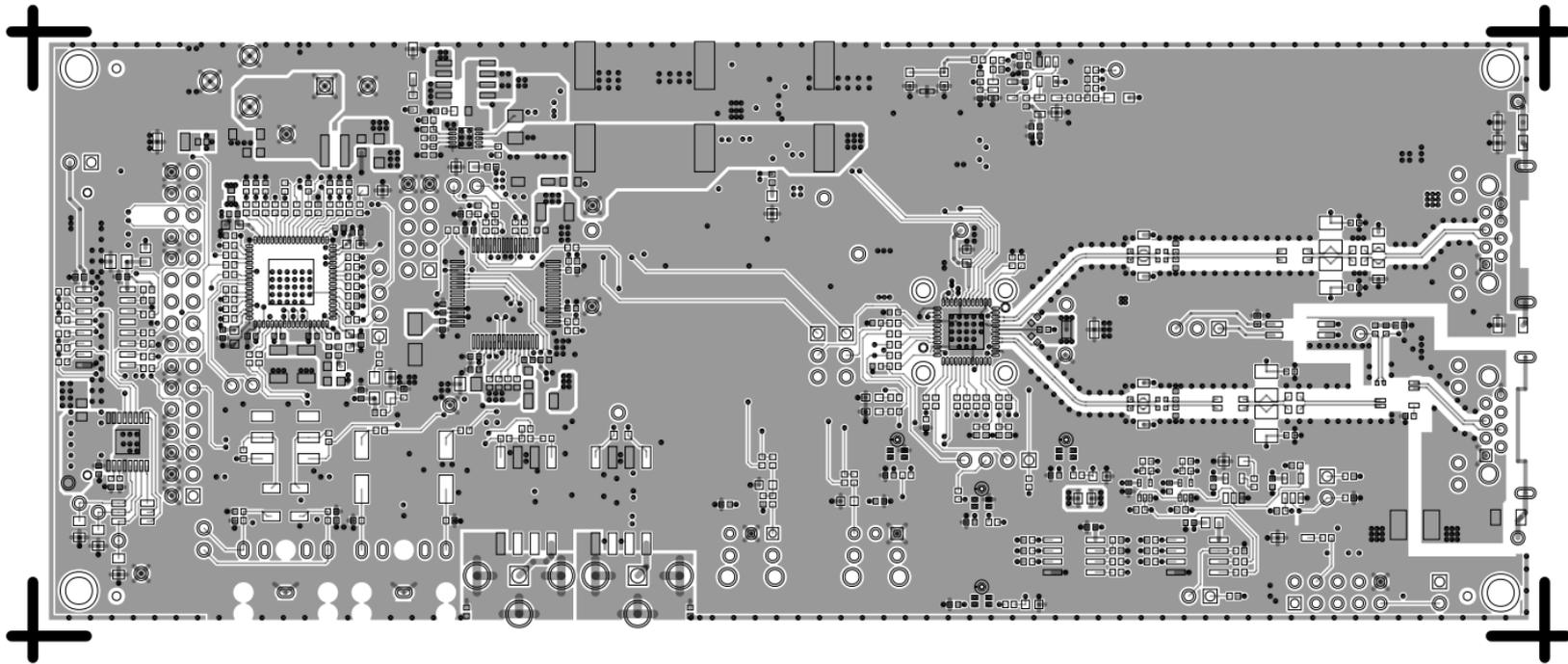
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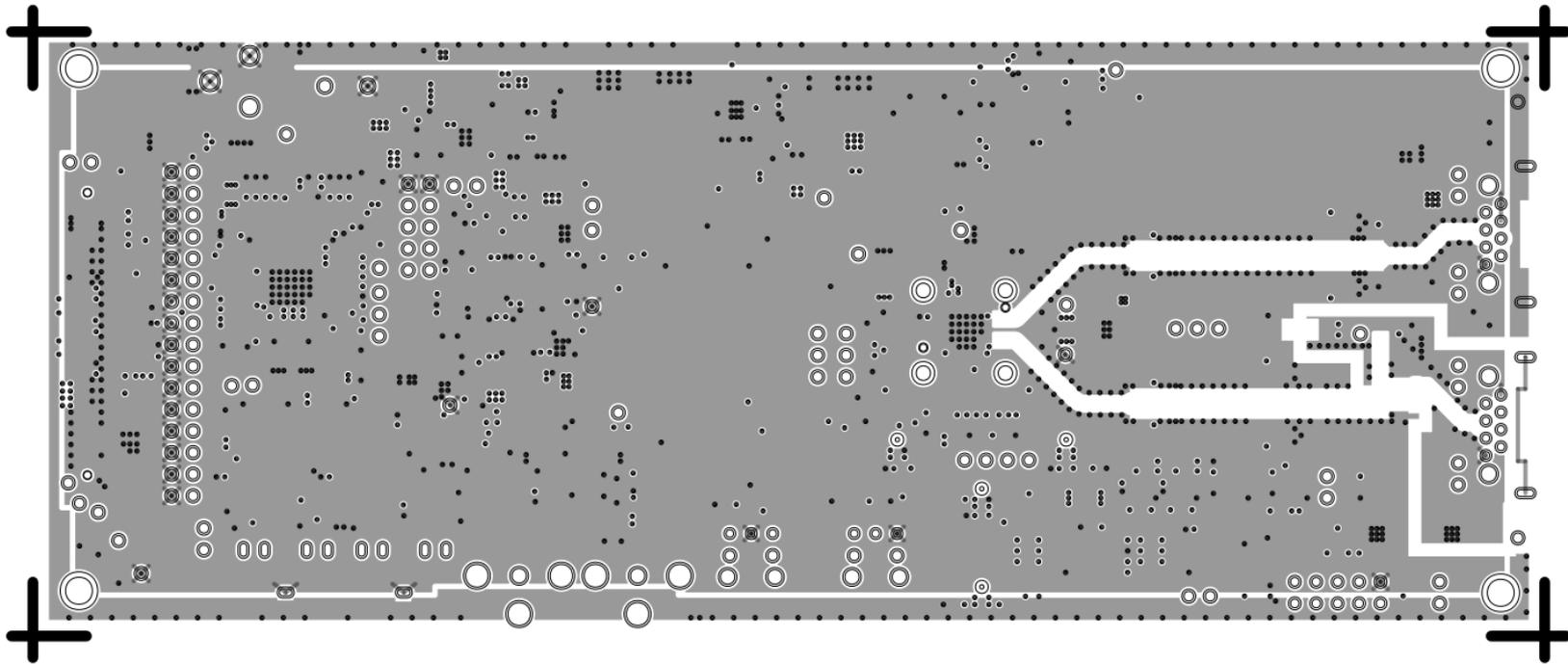
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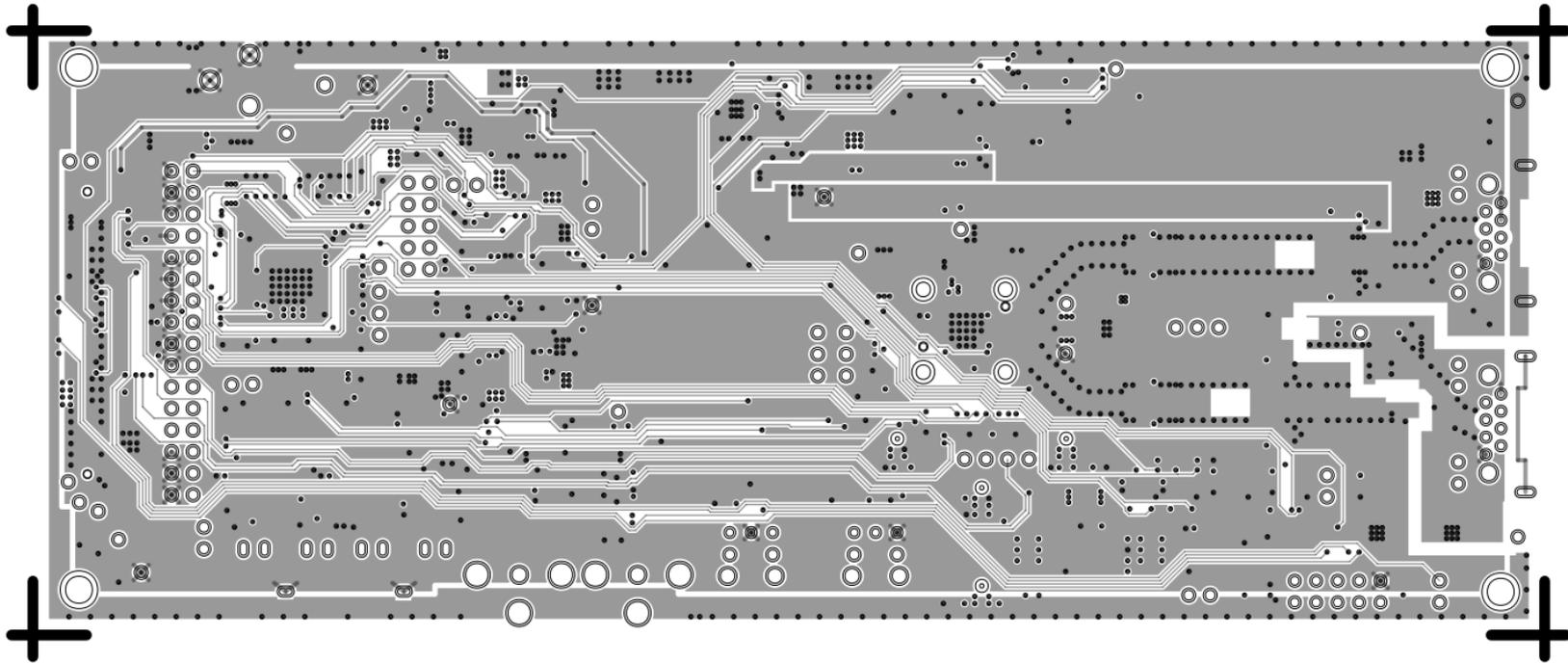
L1 PRIMARY  
08-067221-01  
REV E



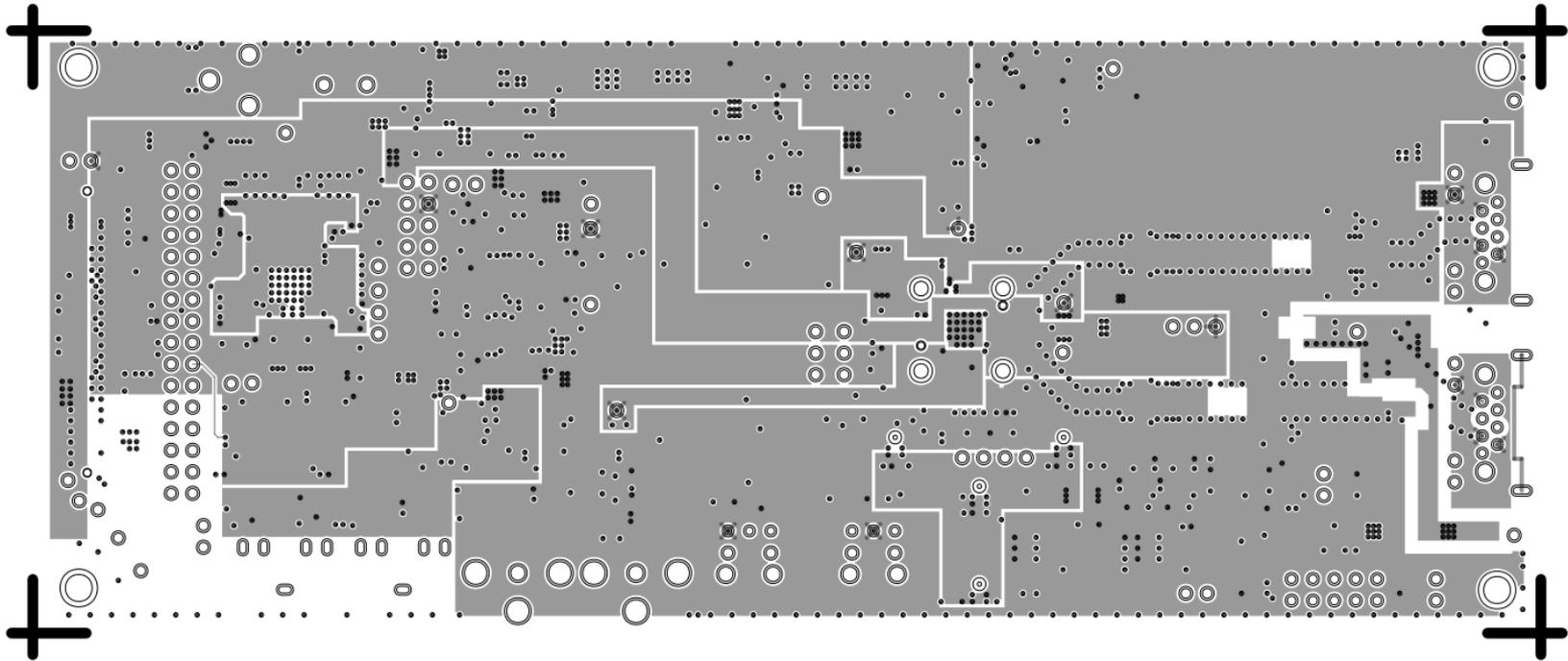
L2 GND  
08-067221-07  
REV E



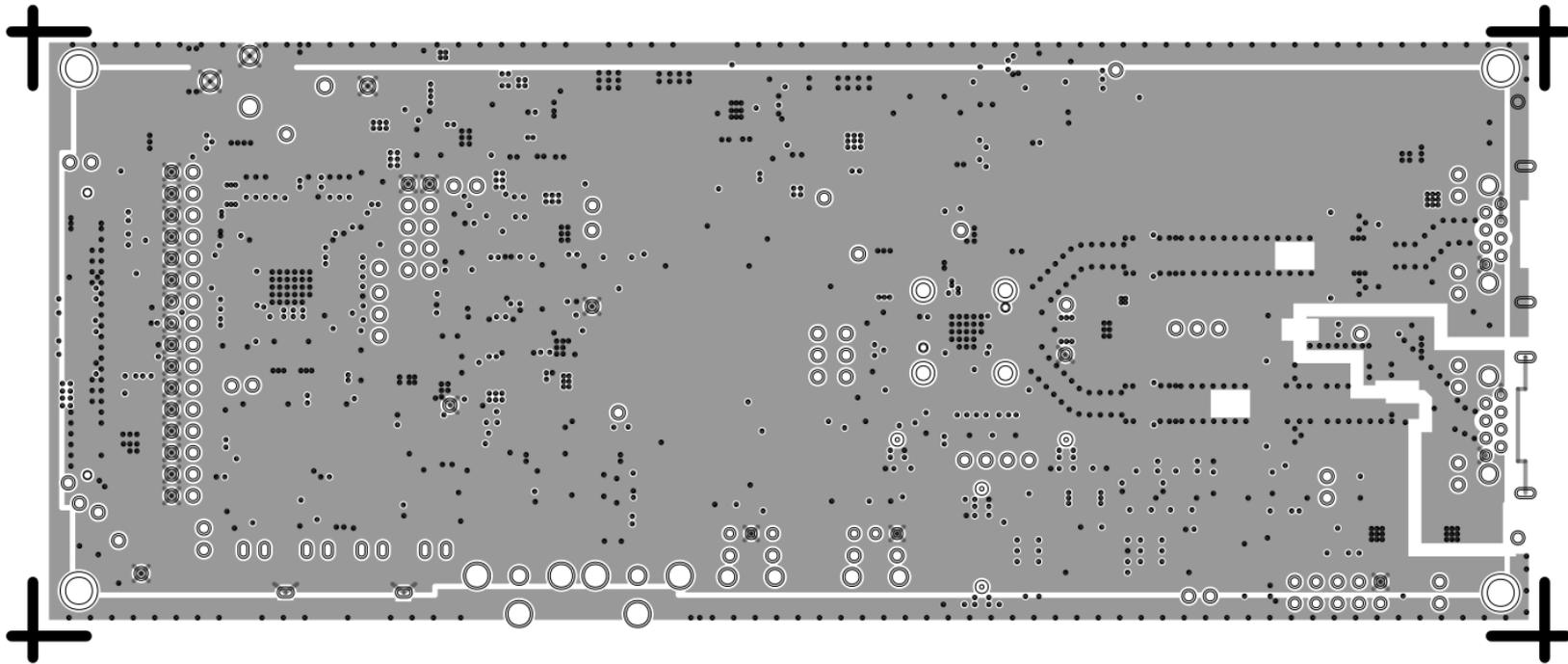
L3 SIG  
08-067221-08  
REV E



L4 PWR  
08-067221-09  
REV E



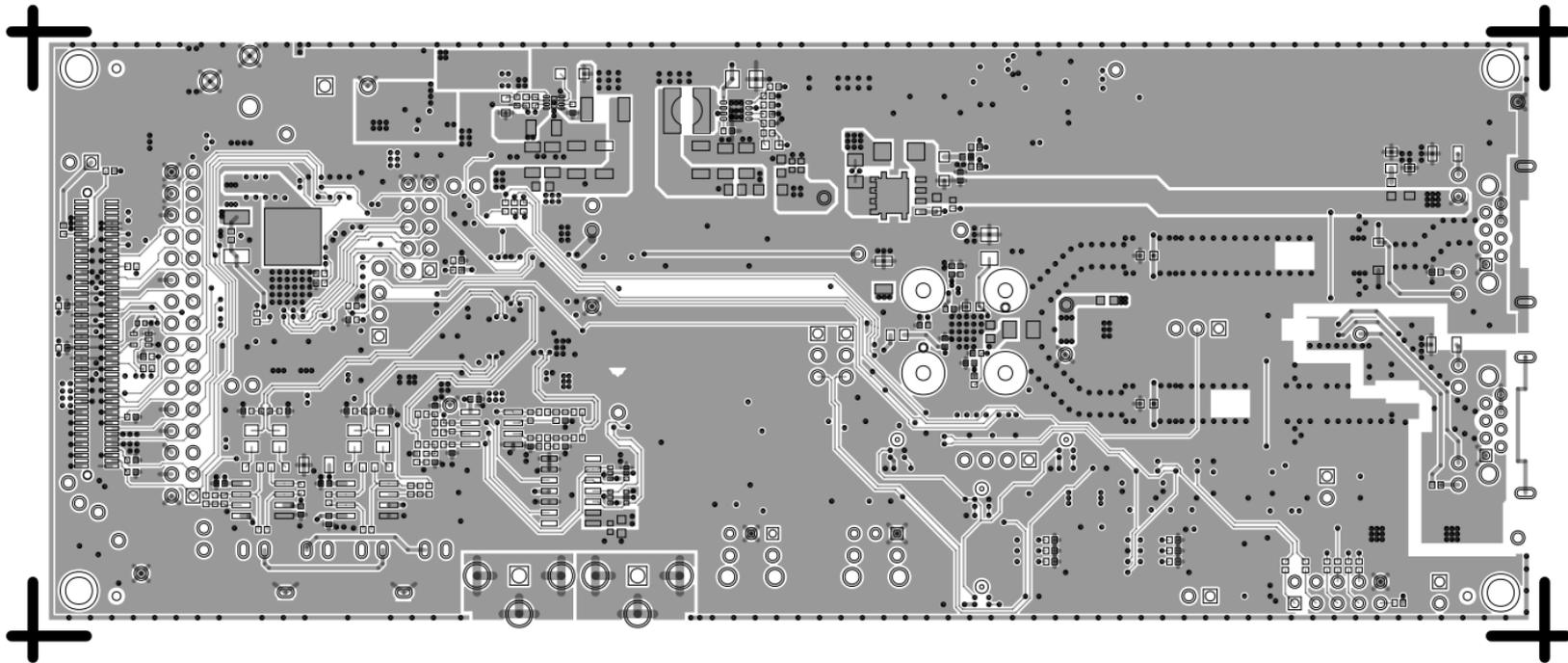
L5 GND  
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REV E



L6 SECONDARY

08-067221-02

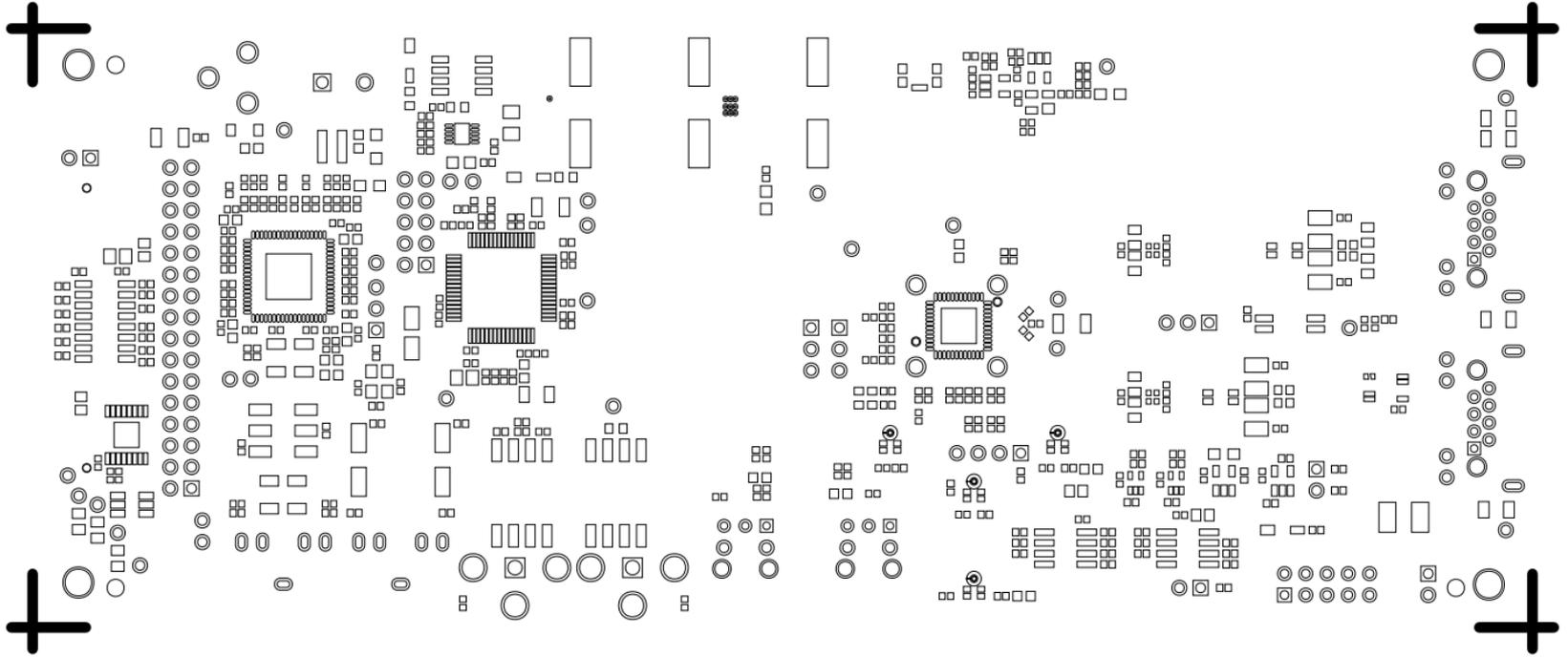
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SOLDERMASK PRIMARY

08-067221-04

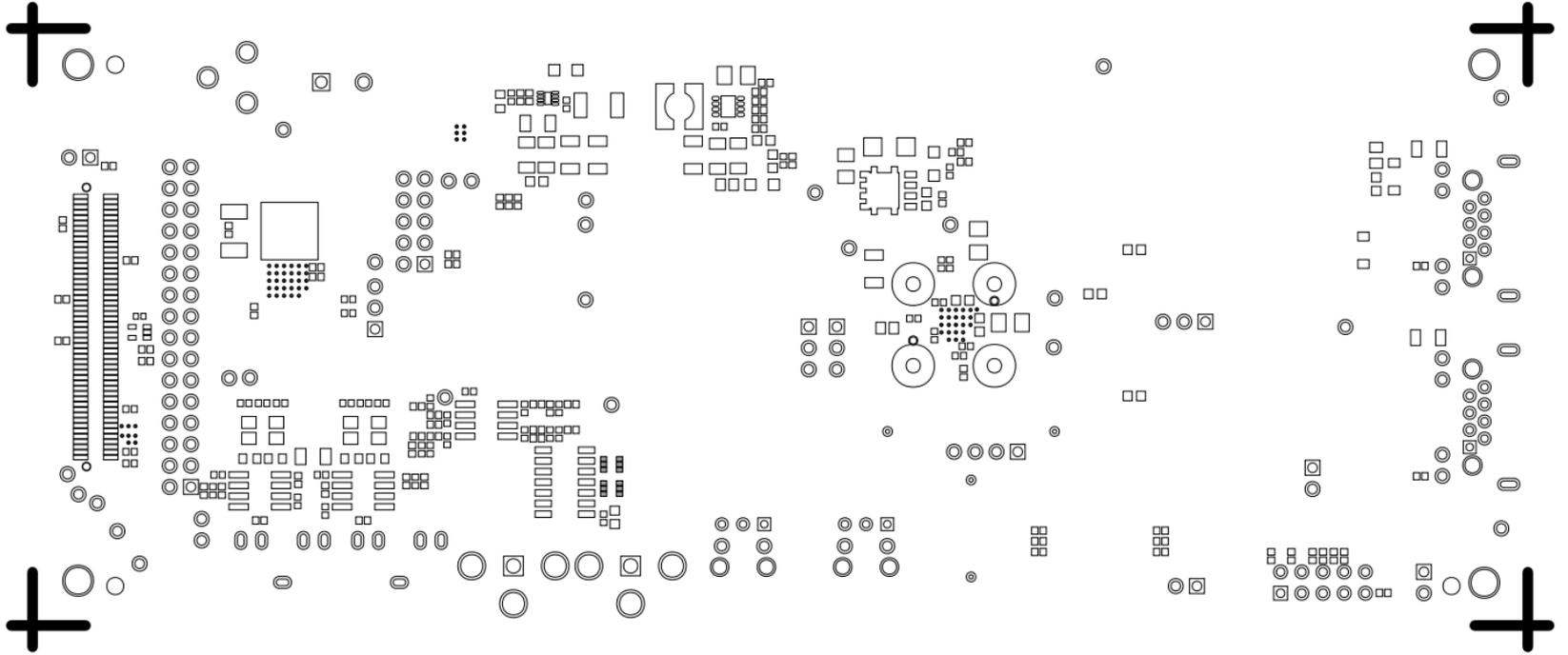
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SOLDERMASK SECONDARY

08-067221-06

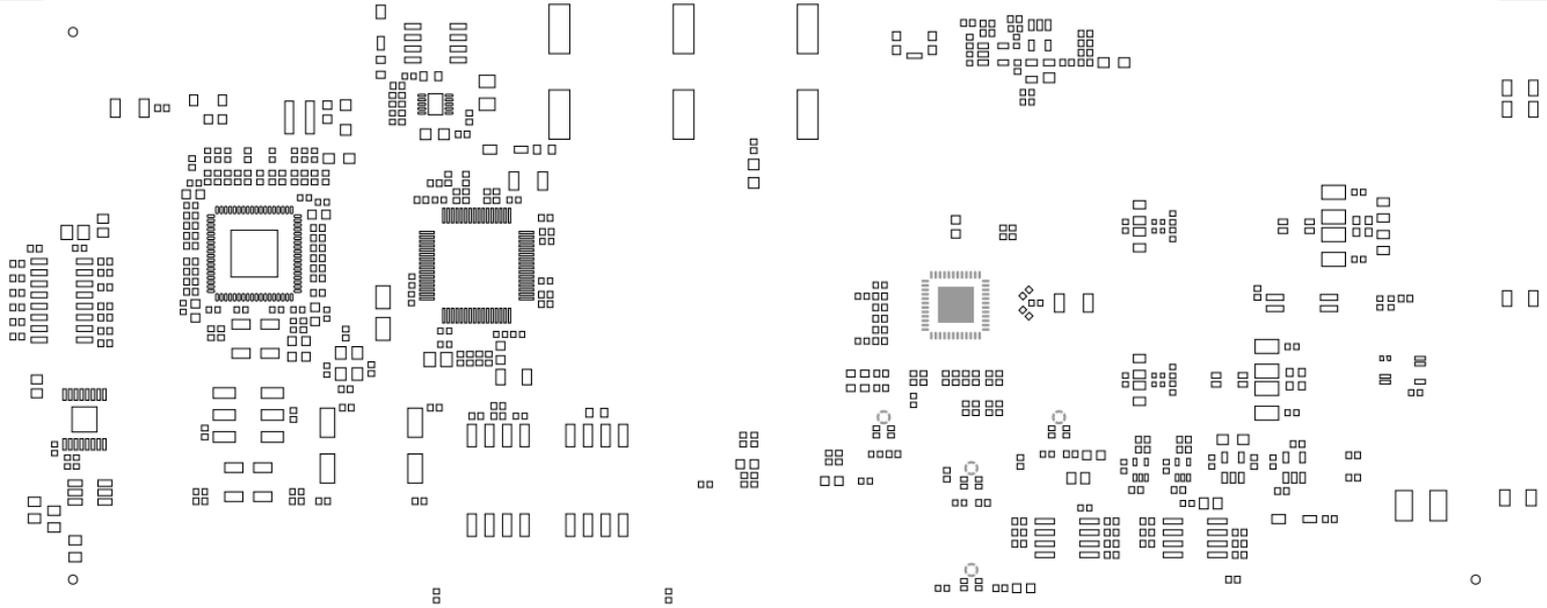
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PASTEMASK PRIMARY

08-067221-11

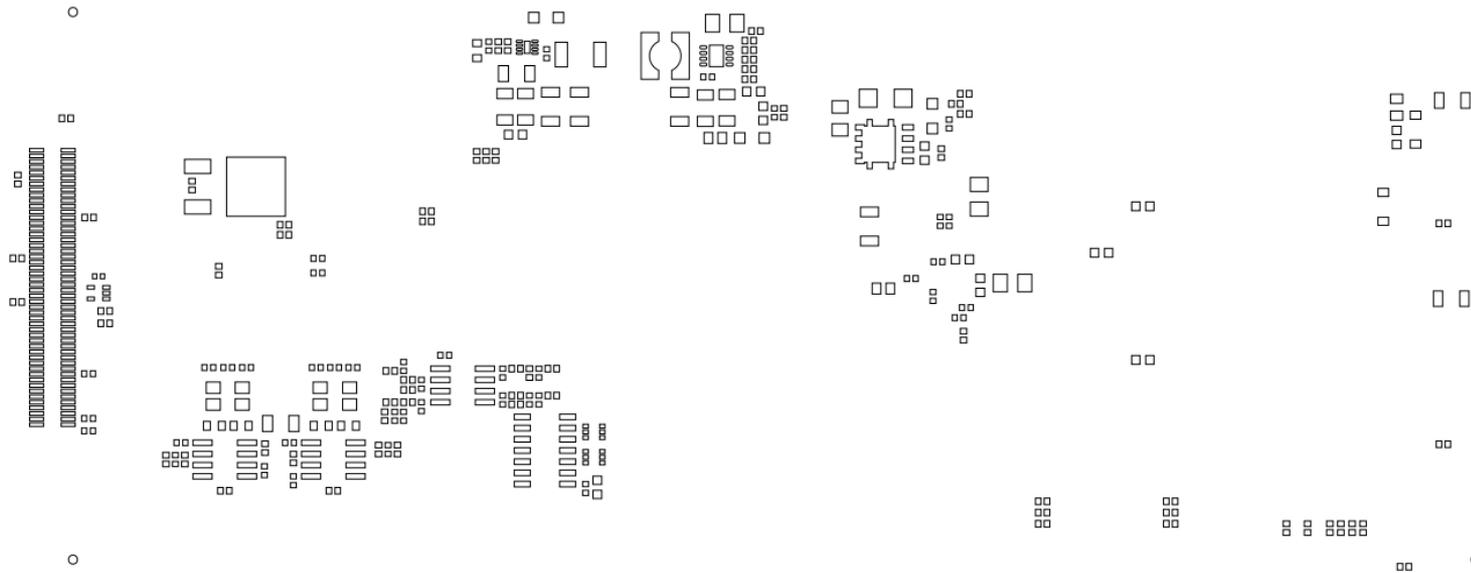
REV E



PASTEMASK SECONDARY

08-067221-12

REV E

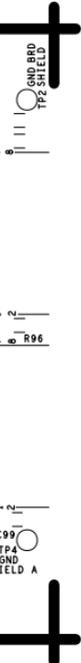
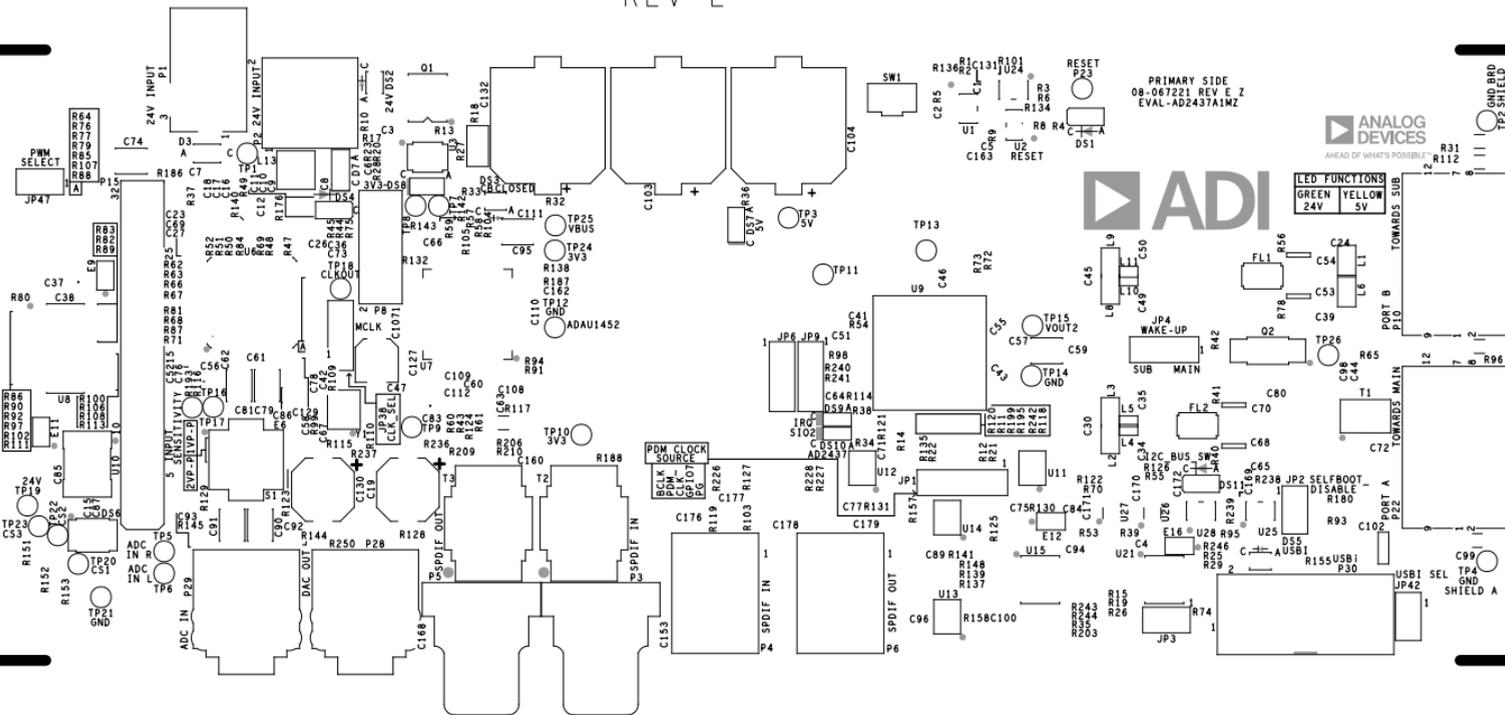


SILKSCREEN PRIMARY  
08-067221-03  
REV E

PRIMARY SIDE  
08-067221 REV E Z  
EVAL-AD2437A1MZ

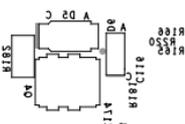
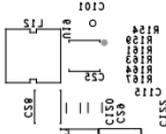
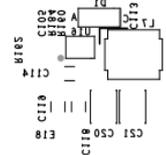
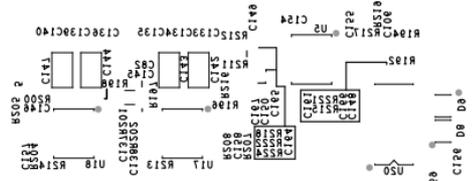
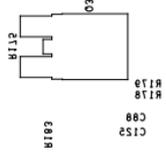
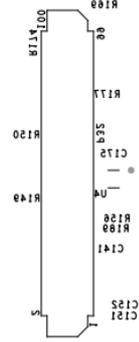


LED FUNCTIONS	
GREEN	YELLOW
24V	5V



SILKSCREEN SECONDARY  
 08-067221-05  
 REV E

08-067221 REV E 1  
 SECONDARY SIDE



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