

4 | 3 | 2 | 1

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	23APR18	A.TOLENTINO

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

CLADDING; EXTERNAL LAYERS .5 OZ. COPPER, OVERPLATE TO 1.5 OZ. 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

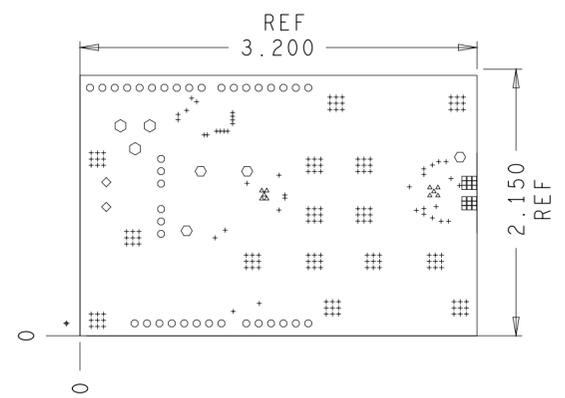
SURFACE FINISH; ENIG (Electroless Nickel/Immersion Gold) PER IPC-4552 LATEST REVISION

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.

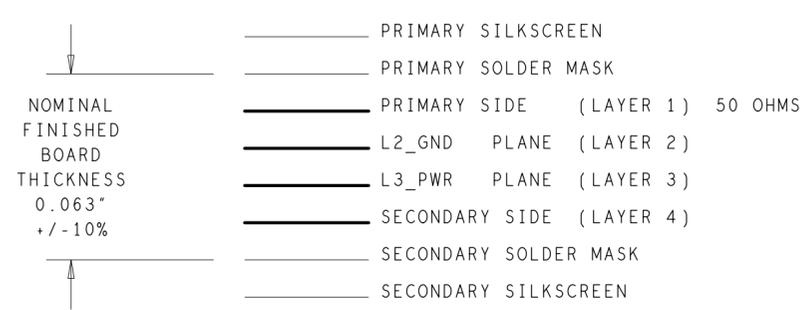
REQUIREMENTS:

- 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 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 .008 INCH.
- MINIMUM DESIGN SPACING IS .00759 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, MFGR. 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.
- MFGR. 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. MFGR LOGO
  - E. SUCCESSFUL ELECTRICAL TEST.
- REPAIRS PER IPC-7711/21 (LATEST REV.) ARE ALLOWED. REPAIRS ARE NOT ALLOWED IN ANY AREA DEFINED ON GOLD\_PRM AND/OR GOLD\_SEC ARTWORK LAYERS WHEN PROVIDED IN GERBER OR ODB+ DATA.
- THRU VIAS FILLED WITH NON-CONDUCTIVE EPOXY AND PLATED OVER. COPLANAR ON PRIMARY SIDE PRIOR TO FINAL PLATING.



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

4 LAYER STACKUP



CHARACTERISTIC IMPEDANCE = 50 OHMS +/- 10%  
ARTWORK LINE WIDTH FOR IMPEDANCE CONTROLLED LINES = 0.020"

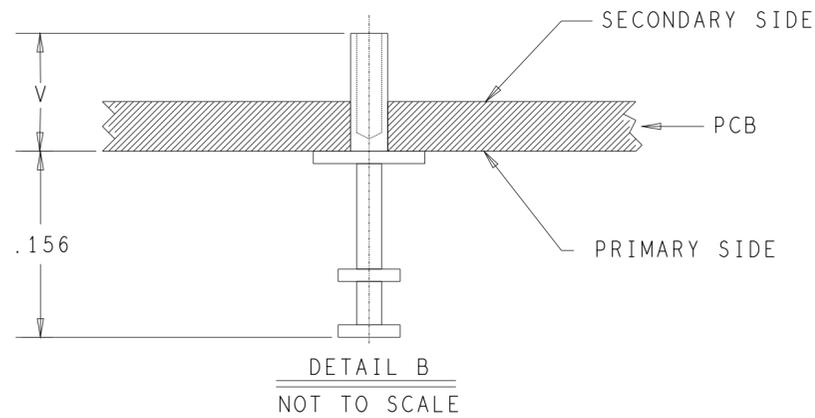
FINISHED HOLES IN MILS				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
+	10.0	PLATED	174	DIA MAX
^	10.01	PLATED	10	SEE FAB NOTE 15
□	14.0	PLATED	18	SEE FAB NOTE 15
○	45.0	PLATED	38	
◇	55.0	PLATED	2	
◊	70.0	PLATED	4	
◌	75.0	PLATED	3	

PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES DECIMALS .XX -.010 .XXX -.005 .XXXX -.0050 FRACTIONS --1/32 ANGLES -- 2	APPROVAL	DATE	<p>WWM DIVISION 804 WOBURN STREET WILMINGTON, MA 01887</p>
	TEMPLATE ENGINEER G.CELEDONIO HARDWARE SERVICES G.MANTALA HARDWARE SYSTEMS N/A	23APR18	
MATERIAL	TEST ENGINEER A.TOLENTINO COMPONENT ENGINEER A.CAUILAN-AGENA TEST PROCESS N/A HARDWARE RELEASE K.JABATAN	23APR18	TITLE <b>FABRICATION ADL5902-SHIELD CUSTOMER EVALUATION</b>
FINISH	DESIGNER R.TRINIDAD PTD ENGINEER A.TOLENTINO CHECKER V.ONDAP	23APR18	SIZE C FSCM NO 24355 DRAWING NUMBER 09-049350 REV A
DO NOT SCALE DWG		SCALE 1/1	SHEET 1 OF 1

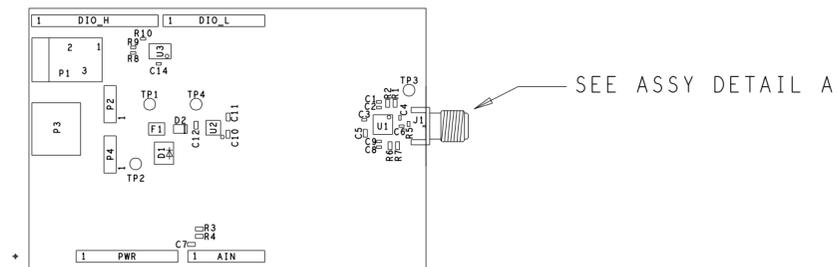
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A	INITIAL RELEASE	23APR18	A.TOLENTINO



ASSEMBLY NOTES:

1. BOARD ACCEPTABILITY PER ANALOG DEVICES, INC. SPECIFICATION TST00119 (LATEST REVISION).
2. REPAIRS PER IPC-7711/21(LATEST REVISION) ARE ALLOWED.
3. INSTALL 0.100" SHUNTS (M025317) ON P2 AND P4
4. RoHS COMPLIANCE: ASSEMBLY VENDOR SHOULD ASSURE COMPLIANCE WITH LEAD-FREE AND RoHS PCB ASSEMBLY STANDARDS (EU RoHS DIRECTIVE 2002/95/EC).
5. CLEANLINESS SHALL BE TESTED IN ACCORDANCE WITH IPC-TM-650.
6. INSTALL TESTPOINTS TP1-TP4 FROM PRIMARY SIDE AS INDICATED IN ASSY DETAIL B.
7. DO NOT TRIM HEADER CONNECTORS PWR, AIN, DIO\_H AND DIO\_L, SOLDER WITH THE TAIL LENGTHS EXTENDED.



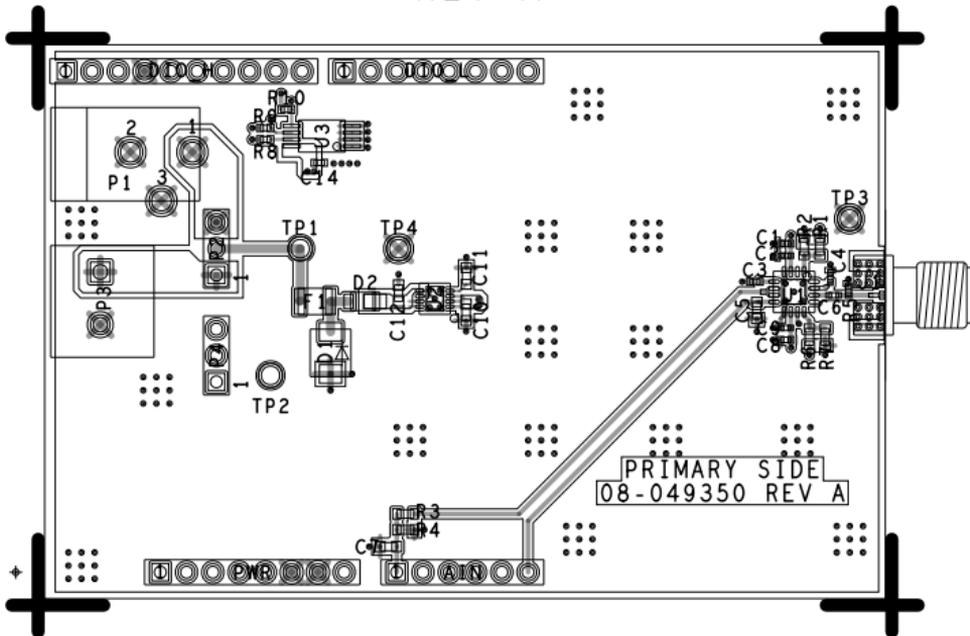
TRIM CENTER CONDUCTOR TO 25 MILS.  
SOLDER FILLET BOARD ETCH TO CONNECTOR TOP AND BOTTOM.

DETAIL A  
NOT TO SCALE

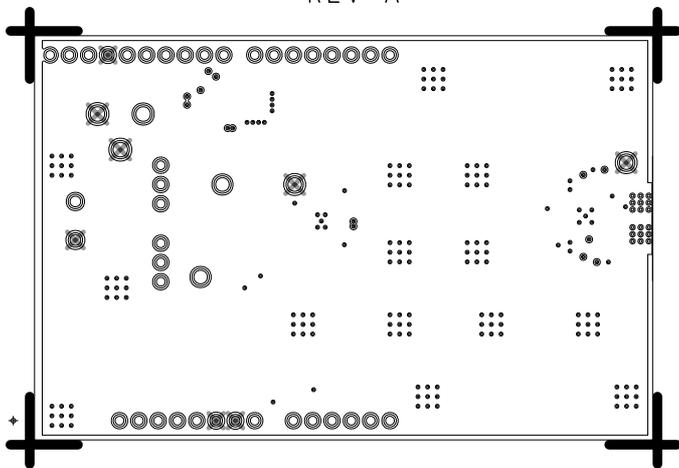
PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES DECIMALS .XX -.010 .XXX -.005 .XXXX -.0050 FRACTIONS --1/32 ANGLES -- 2	APPROVAL TEMPLATE ENGINEER G. CELEDONIO	DATE 23APR18	 WWM DIVISION 804 WOBURN STREET WILMINGTON, MA 01887
	HARDWARE SERVICES G. MANTALA	23APR18	
MATERIAL	HARDWARE SYSTEMS N/A	N/A	TITLE ASSEMBLY ADL5902 - SHIELD CUSTOMER EVALUATION
	TEST ENGINEER A. TOLENTINO	23APR18	
	COMPONENT ENGINEER A. CAUILAN-AGENA	23APR18	
	TEST PROCESS N/A	N/A	
FINISH	HARDWARE RELEASE K. JABATAN	23APR18	SIZE C FSCM NO 24355 DRAWING NUMBER 01-049350 REV A
	DESIGNER R. TRINIDAD	23APR18	
	PTD ENGINEER A. TOLENTINO	23APR18	
DO NOT SCALE DWG	CHECKER V. ONDAP	09MAY18	SHEET 1 OF 1

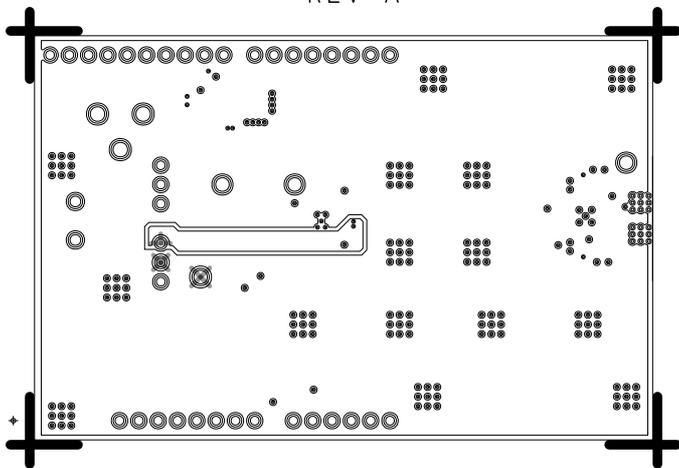
L1 PRIMARY  
08-049350-01  
REV A



L2 GND  
08-049350-07  
REV A



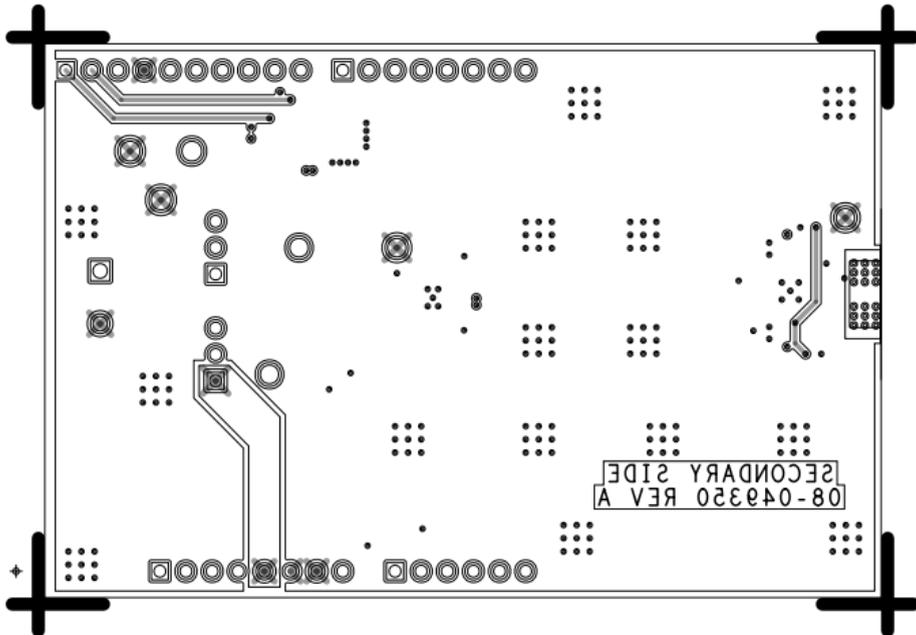
L3 PWR  
08-049350-08  
REV A



L2 SECONDARY

08-049350-02

REV A

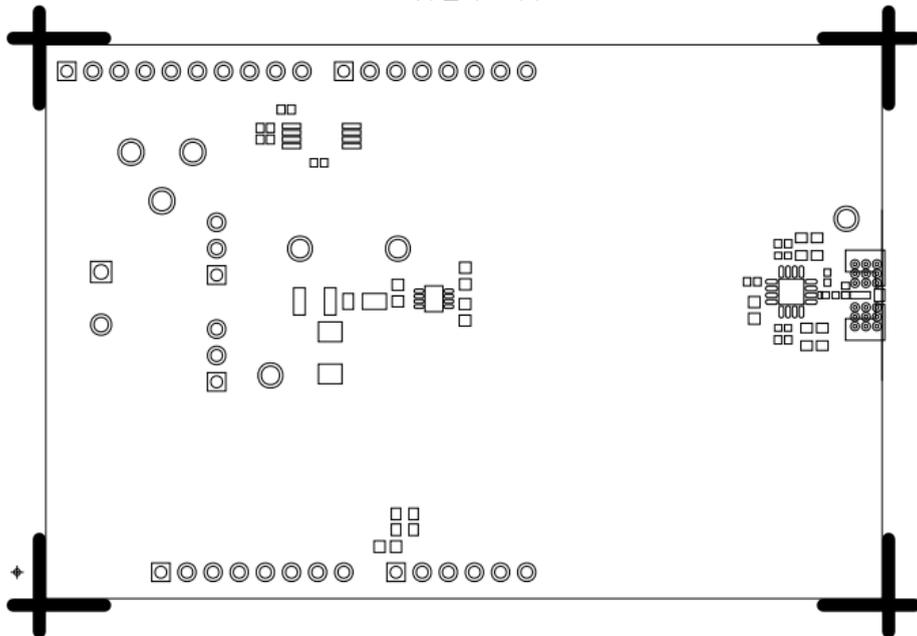




# SOLDERMASK PRIMARY

08-049350-04

REV A



# SILKSCREEN SECONDARY

## 08-049350-05

### REV A



2CT 1  
 2DV  
 LABEL  
 VEND  
 CTX  
 M120  
 M021  
 C2  
 BDA  
 1058  
 1008  
 1051  
 1033  
 1008  
 1013  
 1012  
 LX  
 BX  
 H\_D10  
 10  
 1  
 D10\_1  
 8

b3  
b4

b5  
 1  
 1b1  
 1b4  
 1b5  
 1



1b3  
 11



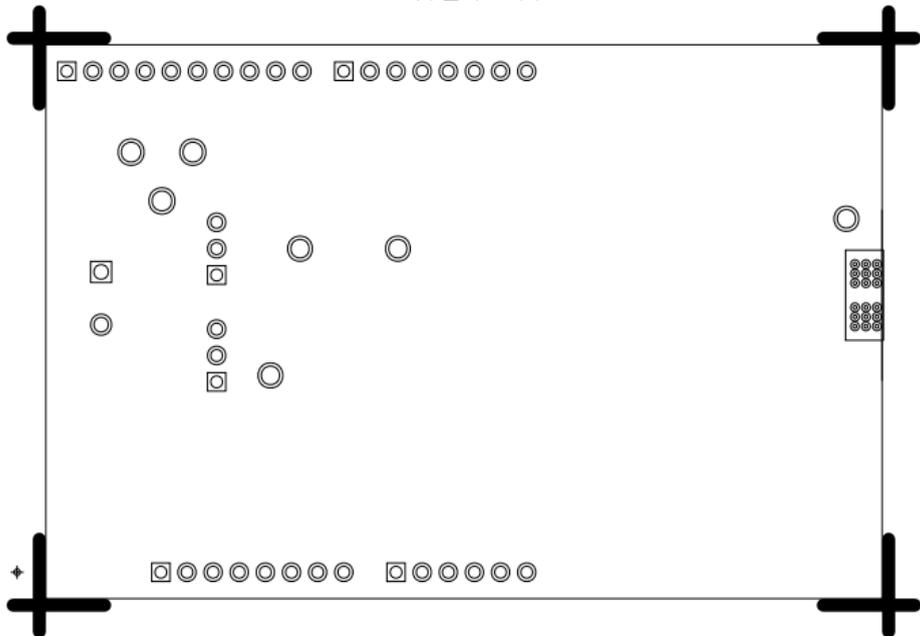
10BEL  
 BEBEL  
 3.7A  
 2A  
 PWR  
 1  
 10BEL  
 BEBEL  
 3.7A  
 2A  
 PWR  
 1



## SOLDERMASK SECONDARY

08-049350-06

REV A



PASTEMASK PRIMARY

08-049350-09

REV A

