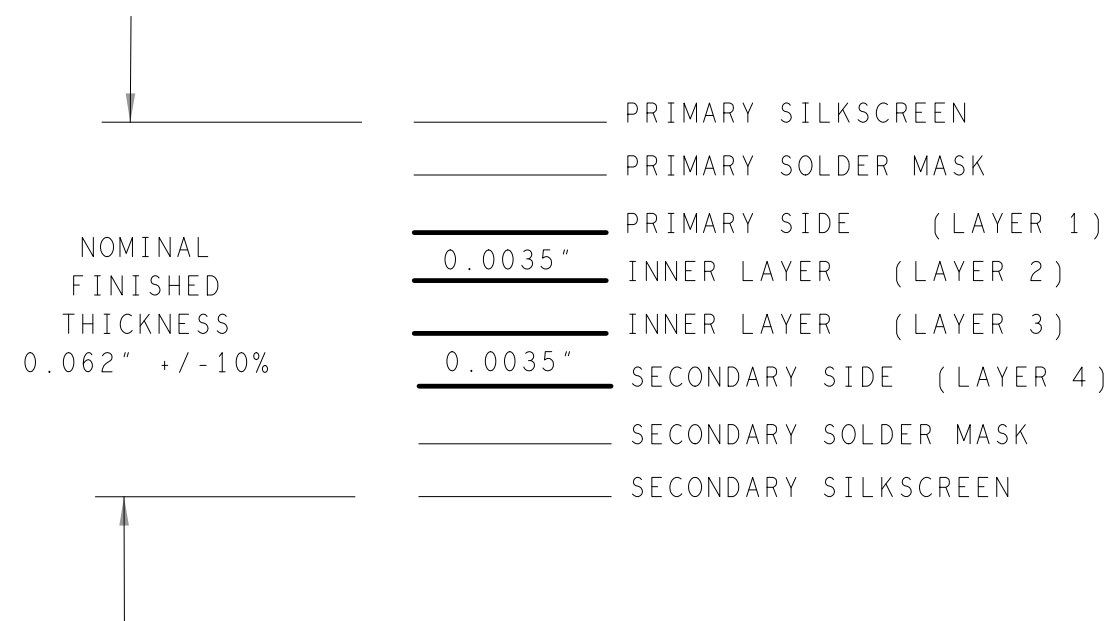


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	10-03-2022	X
B	ECR-112470	1-17-2023	X

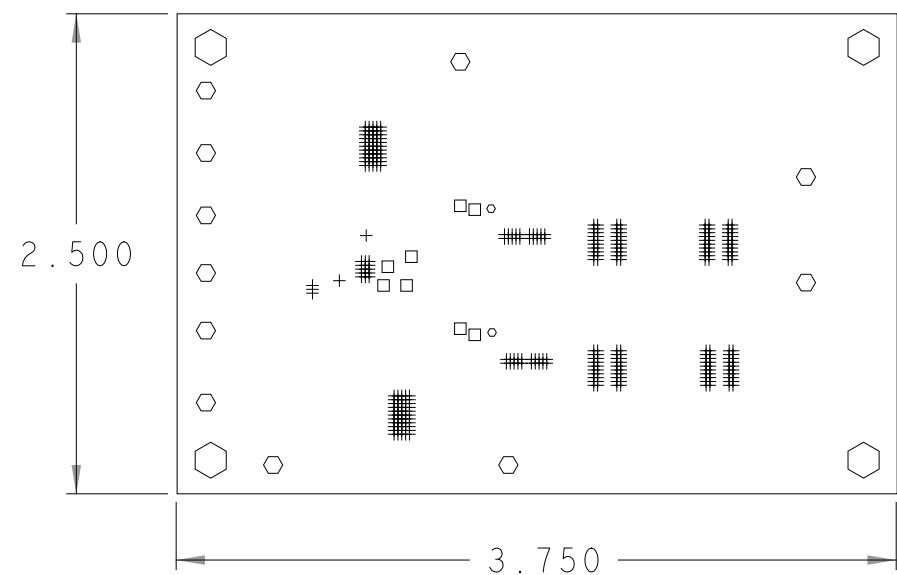
## 4 LAYER STACKUP



## HOLE TOLERANCE

UNLESS SPECIFIED  
PLATED:  $\pm .003$   
NON PLATED:  $+.002 / -.001$

FINISHED HOLES IN MILS				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
+	10.0	PLATED	1469	
□	12.0	PLATED	8	
◦	45.0	PLATED	2	
○	100.0	PLATED	11	
◯	187.0	NON-PLATED	4	



SPECIFICATIONS:

MATERIALS:

ALL LAMINATES AND BONDING MATERIALS SHOULD BE SELECTED FROM  
IPC-4101 OR IPC-4103, MINIMUM T<sub>g</sub>>170degC, T<sub>d</sub>>300degC,  
U.L. RATING OF 94 V-0

MATERIAL FAMILY;

FR4

CLADDING;

EXTERNAL LAYERS 2 OZ. COPPER.  
INTERNAL LAYERS 1 OZ. COPPER.

SOLDER MASK ;

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

SILK SCREEN;

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 BLUE.

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:

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 0.005 INCHES FROM THEIR TRUE POSITION.
5. PLATED HOLE WALL THICKNESS SHALL NOT BE LESS THAN 0.001 INCH MINIMUM AVERAGE, WITH NO READING LESS THAN .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 .XXX INCH.
9. MINIMUM DESIGN SPACING IS .XXX INCH.
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, MFRG. 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 0.200 INCH MINIMUM.
  - B. THERE SHALL BE NO THIEVING IN ANY AREAS FREE OF SOLDER MASK OR INTERNAL COPPER PLANES.
13. MFRG. 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. MFRG LOGO
  - E. SUCCESSFUL ELECTRICAL TEST
14. 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.

## PRIMARY SIDE

[illegible][illegible]