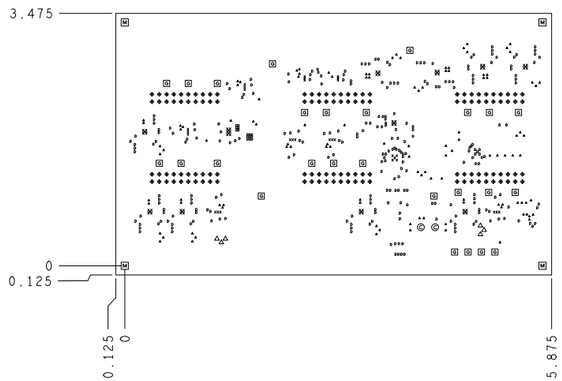
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	20APR17	R.WILSON



SPECIFICATIONS:

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; ISPEED 2116/HR370.

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 VERSION.

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 .010 INCH.
9. MINIMUM DESIGN SPACING IS .007 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, MFGR. 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. 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.
14. REPAIRS PER IPC-7711/21 (LATEST REV.) ARE ALLOWED.
15. THRU VIAS FILLED WITH NON-CONDUCTIVE EPOXY AND PLATED OVER. COPLANAR ON BOTH SIDES WITHIN .001 INCH PRIOR TO FINAL PLATING.

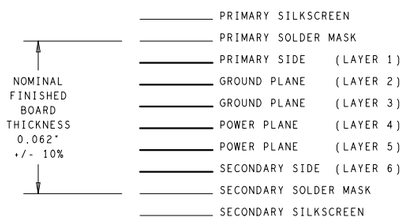
PRIMARY SIDE

HOLE TOLERANCE

UNLESS SPECIFIED
PLATED: +/- .003
NON PLATED: +/- .001

DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
•	10.0	PLATED	274	(MAX DIA THRU)
15 •	10.01	PLATED	87	(MAX DIA THRU)
•	16.0	PLATED	117	(MAX DIA THRU)
△	20.0	PLATED	6	
◆	35.0	PLATED	120	
⊠	63.0	PLATED	26	
©	35.0	NON-PLATED	2	(+0.002-0.000)
⊠	140.0	NON-PLATED	4	(+/-0.003)

6 LAYER STACKUP



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES .XX +-.010 +-1/32 +- 2 .XXX +-.005 .XXXX +-.0050	APPROVAL	DATE
	TEMPLATE ENGINEER R MARION	ddMMMyy
	HARDWARE SERVICES X	ddMMMyy
	HARDWARE SYSTEMS X	ddMMMyy
MATERIAL	TEST ENGINEER X	ddMMMyy
	COMPONENT ENGINEER X	ddMMMyy
	TEST PROCESS X	ddMMMyy
	HARDWARE RELEASE X	ddMMMyy
FINISH	DESIGNER D.ITO	20APR17
	PTD ENGINEER X	ddMMMyy
	CHECKER X	ddMMMyy
DO NOT SCALE DWG		

ANALOG DEVICES
WWM DIVISION
804 WOBURN STREET
WILMINGTON, MA 01887

TITLE
FABRICATION
AD9213 REGULATOR BD.

SIZE	FSCM NO	DRAWING NUMBER	REV
D	24355	09-042587	A

SCALE 1/1 SHEET 1 OF 1