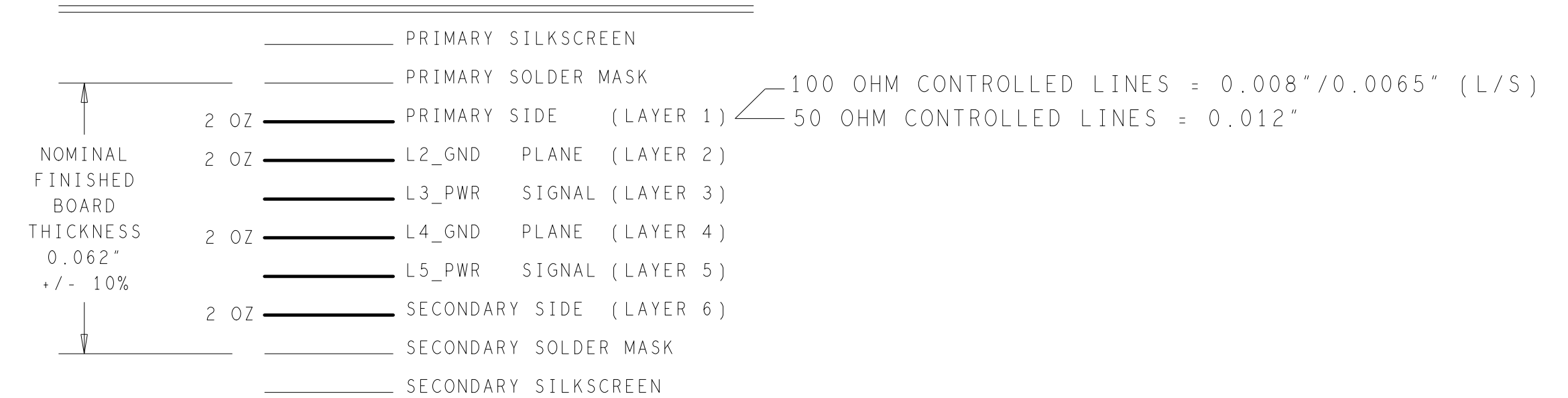
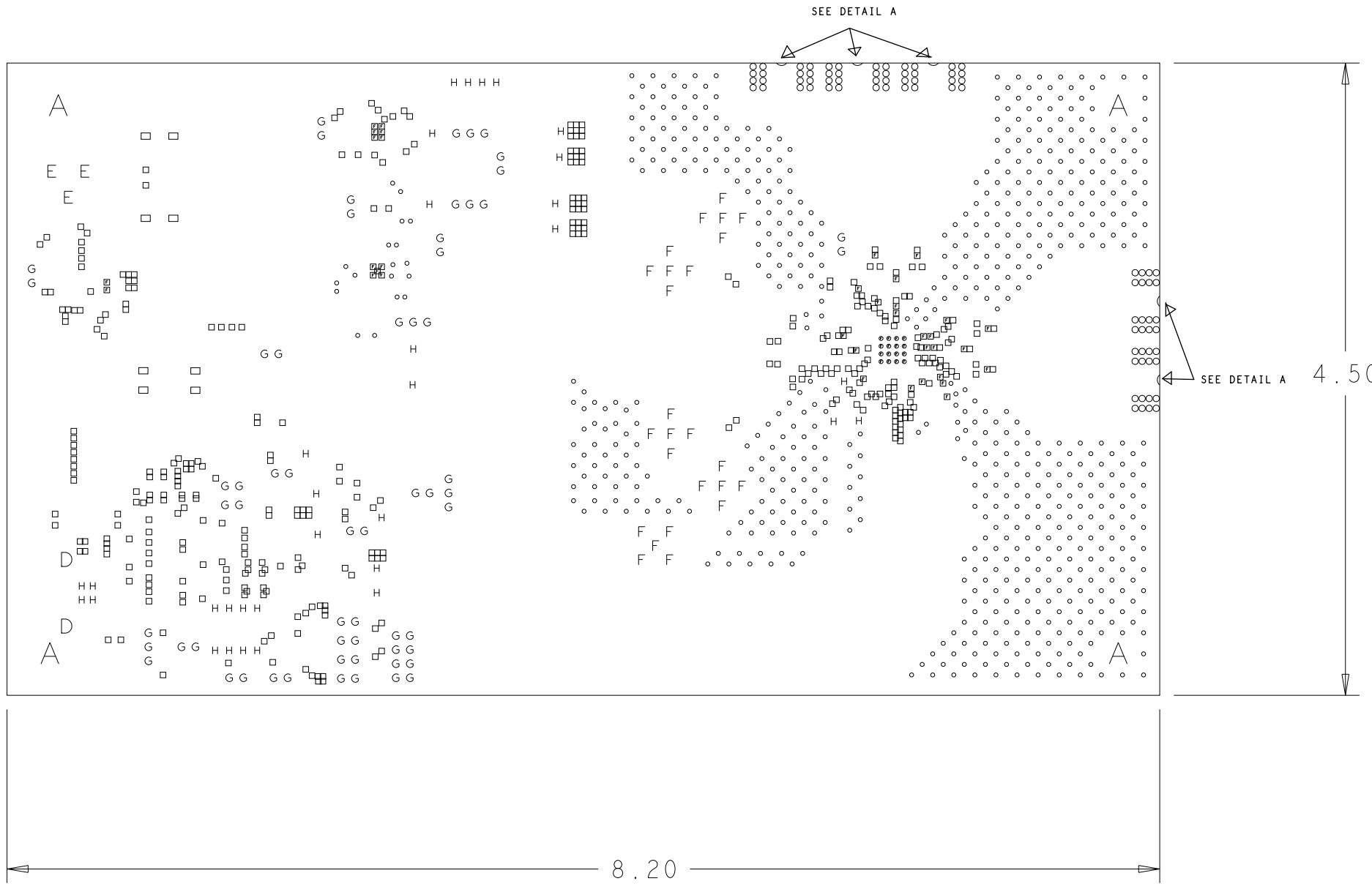
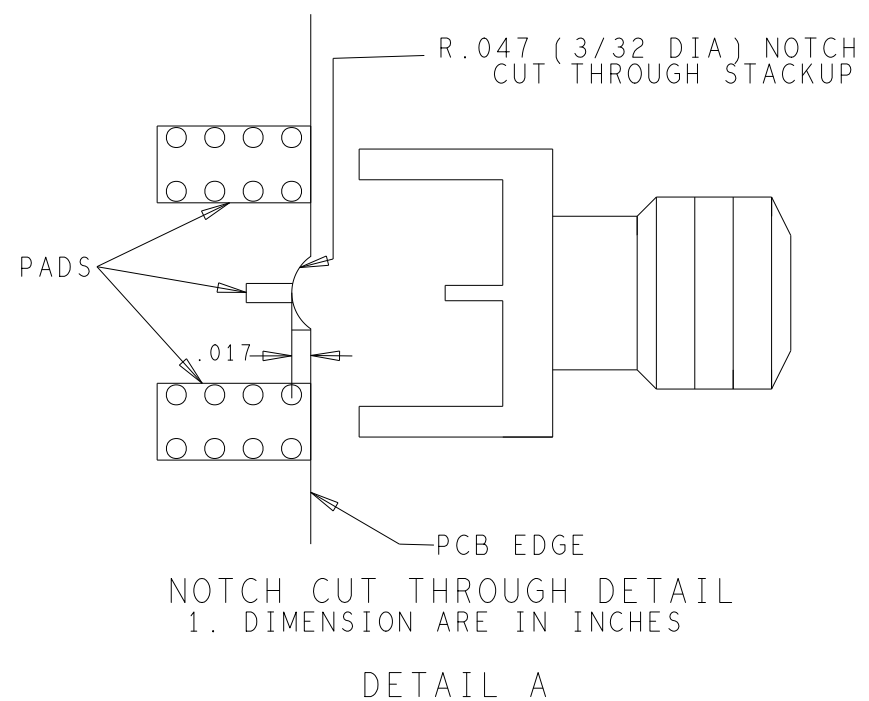


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	07APR14	ZHANGUO XI
B	AS PER ECR-064908	30JAN17	A.DAWE

6 LAYER STACKUP



CHARACTERISTIC IMPEDANCE = $50\text{ OHMS} \pm 10\%$
 ARTWORK LINE WIDTH FOR IMPEDANCE CONTROLLED LINES = $0.012"$
 CHARACTERISTIC IMPEDANCE = $90\text{ OHMS} \pm 10\%$
 ARTWORK LINE WIDTH FOR IMPEDANCE CONTROLLED LINES = $0.010"/0.006" (L/S)$
 CHARACTERISTIC IMPEDANCE = $100\text{ OHMS} \pm 10\%$
 ARTWORK LINE WIDTH FOR IMPEDANCE CONTROLLED LINES = $0.008"/0.0065" (L/S)$



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: FR408HR
CLADDING: EXTERNAL LAYERS .5 OZ. COPPER, OVERPLATE TO 1.5 OZ. INTERNAL SIGNAL LAYERS 1 OZ. COPPER. INTERNAL PLANE LAYERS 2 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 BLUE.
SILK SCREEN: SHALL BE PERMANENT NON-CONDUCTIVE EPOXY INK, COLOR: WHITE SYNTHETIC INKJET PRINTING ALLOWED FOR DENSE BOARDS, COLOR: WHITE
SURFACE FINISH: SURFACE TO BE 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.
ROHS COMPLIANCE NOTE: (Required for Customer Boards) Add to top of MATERIALS HOMOGENOUS MATERIALS IN THIS BOARD SHALL BE COMPLIANT THE EU ROHS DIRECTIVE 2002/95/EC

- 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 .006 INCH.
 - MINIMUM DESIGN SPACING IS .004 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:
 - THIEVING TO CARD EDGE, FIDUCIALS, NON-PLATED THROUGH HOLES. ALL OTHER FEATURES TO BE 0.200 INCH MINIMUM.
 - 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:
 - U.L. CODE-FLAMMABILITY RATING
 - DATE CODE (STAMP)
 - LOT NUMBER
 - MFR LOGO
 - 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 THE TOP SIDE PRIOR TO FINAL PLATING.
 - ALL GND LAYERS (L2 AND L4), BOTTOM, AND THE TOP LAYER WILL NEED TO HAVE TWO (2) OZ COPPER THICKNESS AS A REQUIREMENT FOR HEAT DISSIPATION. ANY RECOMMENDATIONS/SUGGESTIONS WILL NEED CUSTOMER APPROVAL.

HOLE TOLERANCE

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

FINISHED HOLES IN MILS				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
□	12.0	PLATED	365	MAX DIA
■	12.01	PLATED	36	MAX DIA / FILL
○	16.0	PLATED	80	MAX DIA
•	20.0	PLATED	627	MAX DIA
*	20.01	PLATED	16	MAX DIA / FILL
□	35.0	PLATED	8	
H	40.0	PLATED	33	
○	45.0	PLATED	61	
F	60.0	PLATED	25	
E	75.0	PLATED	3	
D	90.0	PLATED	2	
A	140.0	NON-PLATED	4	

see note 15 for VIA fill instruction
 see note 15 for VIA fill instruction

PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVAL	DATE	WWM DIVISION 804 WOBURN STREET WILMINGTON, MA 01887			
TOLERANCES	TEMPLATE ENGINEER	-	TITLE FABRICATION AD9530 CUSTOMER EVALUATION BOARD			
DECIMALS FRACTIONS ANGLES	HARDWARE SERVICES	-				
.XX -.010 .-1/32 -- 2	HARDWARE SYSTEMS	-				
.XXX -.005	TEST ENGINEER	-				
.XXXX -.0050	COMPONENT ENGINEER	-				
MATERIAL	TEST PROCESS	-	FINISH DESIGNER V. JAYME 11 03APR14 PCB ENGINEER ZHANGUO XI 07APR14 CHECKER -			
	HARDWARE RELEASE	-				
DO NOT SCALE DWG	SCALE	1/1	SIZE	FSCM NO	DRAWING NUMBER	REV
			D	24355	09-039970-01	B
			SHEET		1 OF 1	