

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
B	CHANGE AS PER ECR-094909	03JUN20	D. ACEVAL

BACKDRILL: TOP to L6_GND					
FINISHED HOLES IN MILS					
FIGURE	BD_SIZE	MNC_Layer	MAX_DEPTH	MFG_STUB	QTY
+	22.0	L7_SIG	40.08	6.0	10
▣	24.0	L7_SIG	40.08	6.0	16

NOTES:
- DRILL SIZES LISTED IN LEGEND
ARE CONSIDERED FINISHED.
- VENDOR IS REQUIRED TO SELECT
TOOLING FOR OVERDRILLING.
- LEGEND DOES NOT SPECIFY DEPTH
INTO ADJACENT DIELECTRIC LAYER.

BACKDRILL: TOP to L8_GND					
FINISHED HOLES IN MILS					
FIGURE	BD_SIZE	MNC_Layer	MAX_DEPTH	MFG_STUB	QTY
+	22.0	L9_SIG	52.42	6.0	2

NOTES:
- DRILL SIZES LISTED IN LEGEND
ARE CONSIDERED FINISHED.
- VENDOR IS REQUIRED TO SELECT
TOOLING FOR OVERDRILLING.
- LEGEND DOES NOT SPECIFY DEPTH
INTO ADJACENT DIELECTRIC LAYER.

BACKDRILL: TOP to L9_SIG					
FINISHED HOLES IN MILS					
FIGURE	BD_SIZE	MNC_Layer	MAX_DEPTH	MFG_STUB	QTY
+	22.0	L10_MIX	57.02	6.0	6
▣	24.0	L10_MIX	57.02	6.0	6

NOTES:
- DRILL SIZES LISTED IN LEGEND
ARE CONSIDERED FINISHED.
- VENDOR IS REQUIRED TO SELECT
TOOLING FOR OVERDRILLING.
- LEGEND DOES NOT SPECIFY DEPTH
INTO ADJACENT DIELECTRIC LAYER.

BACKDRILL: BOTTOM to L8_GND					
FINISHED HOLES IN MILS					
FIGURE	BD_SIZE	MNC_Layer	MAX_DEPTH	MFG_STUB	QTY
+	22.0	L7_SIG	31.44	6.0	36

NOTES:
- DRILL SIZES LISTED IN LEGEND
ARE CONSIDERED FINISHED.
- VENDOR IS REQUIRED TO SELECT
TOOLING FOR OVERDRILLING.
- LEGEND DOES NOT SPECIFY DEPTH
INTO ADJACENT DIELECTRIC LAYER.

BACKDRILL: BOTTOM to L10_MIX					
FINISHED HOLES IN MILS					
FIGURE	BD_SIZE	MNC_Layer	MAX_DEPTH	MFG_STUB	QTY
+	22.0	L9_SIG	19.7	6.0	2

NOTES:
- DRILL SIZES LISTED IN LEGEND
ARE CONSIDERED FINISHED.
- VENDOR IS REQUIRED TO SELECT
TOOLING FOR OVERDRILLING.
- LEGEND DOES NOT SPECIFY DEPTH
INTO ADJACENT DIELECTRIC LAYER.

PRIMARY SIDE				UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
TOLERANCES		FRACTIONS		ANGLES		DECIMALS	
XX +/- .010		1/32		°		.XXX	
XXX +/- .005		1/64		°		.XXXX	
XXXX +/- .0050		1/128		°		.XXXXX	
MATERIAL		TEST ENGINEER		TEST PROCESS		HARDWARE RELEASE	
FINISH		DESIGNER		PTD ENGINEER		CHECKER	
DO NOT SCALE DWG		APPROVAL		DATE		TITLE	
		R MARION		ddMMyy		FABRICATION	
		HARDWARE SERVICES		ddMMyy		ADRV9001 CUST EVAL BOARD	
		HARDWARE SYSTEMS		ddMMyy		SIZE	
		TEST ENGINEER		ddMMyy		FSCM NO	
		COMPONENT ENGINEER		ddMMyy		DRAWING NUMBER	
		TEST PROCESS		ddMMyy		REV	
		HARDWARE RELEASE		ddMMyy		D 24355 09-063978	
		DESIGNER		ddMMyy		SCALE 1/1	
		PTD ENGINEER		ddMMyy		SHEET 1 OF 2	
		CHECKER		ddMMyy			

D

C

B

A

D

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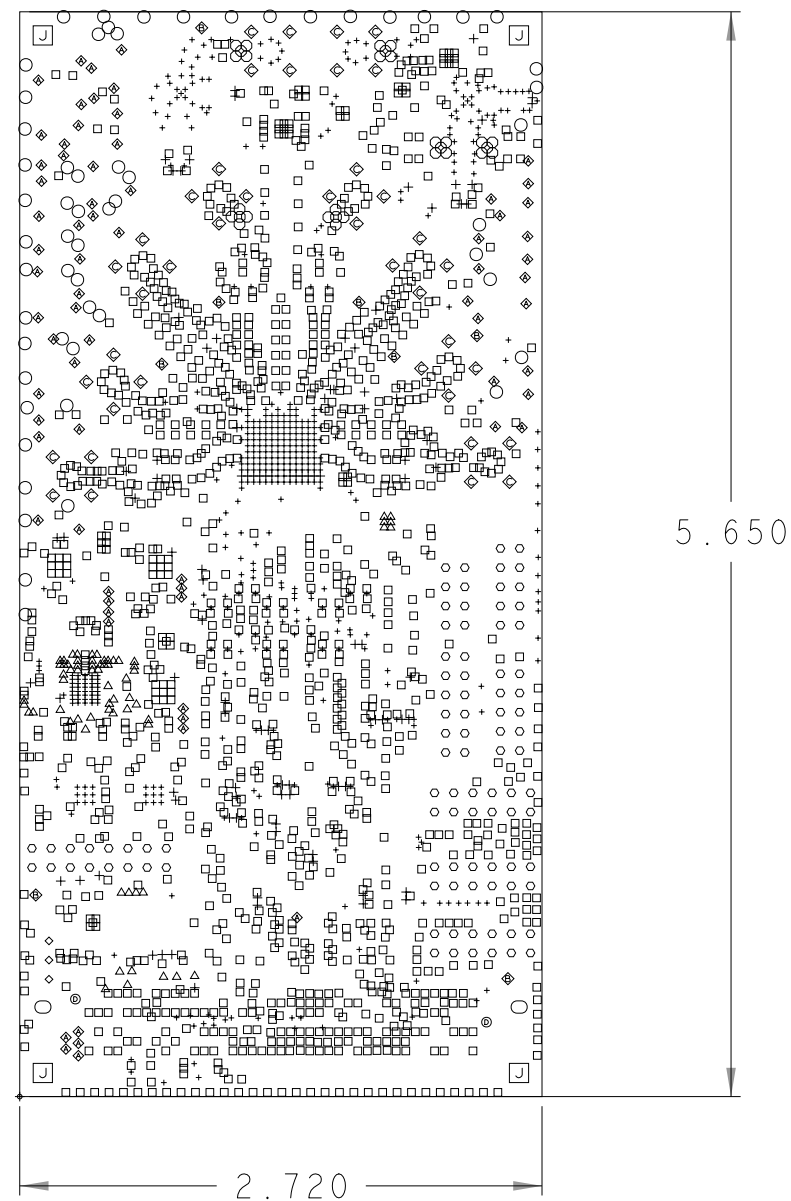
B

A

12 LAYER STACKUP

	PRIMARY SILKSCREEN
	PRIMARY SOLDER MASK
	1/2OZ PRI SIDE (LAYER 1) 50 OHM SINGLE, 50 OHM DIFF, 100 OHM DIFF, COPLANAR
7.00MIL I-SPEED CORE	1/2OZ RETURN (LAYER 2)
4.90MIL I-SPEED	1OZ MIX LAYER (LAYER 3)
4.00MIL I-SPEED CORE	1/2OZ RETURN (LAYER 4)
4.90MIL I-SPEED	1OZ MIX LAYER (LAYER 5)
5.00MIL I-SPEED CORE	1/2OZ RETURN (LAYER 6)
8.0 MIL I-SPEED	1OZ MIX LAYER (LAYER 7) 100 OHM DIFF.
5.00MIL I-SPEED CORE	1OZ RETURN (LAYER 8)
4.90MIL I-SPEED	1/2 OZ PWR PLANE(LAYER 9) 100 OHM DIFF.
4.00MIL I-SPEED CORE	1OZ MIX LAYER (LAYER 10) 100OHM DIFF
4.90MIL I-SPEED	1/2OZ RETURN (LAYER 11)
7.00MIL I-SPEED CORE	1/2OZ MIX LAYER (LAYER 12) 50OHM SINGLE, 100OHM DIFF
	SECONDARY SOLDER MASK
	SECONDARY SILKSCREEN

NOMINAL
FINISHED
BOARD
THICKNESS
0.072"
+/- .007



HOLE TOLERANCE
UNLESS SPECIFIED
PLATED: +/- .003
NON PLATED: +/- .002

DRILL CHART: TOP to BOTTOM FINISHED HOLES IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
*	8.0	PLATED	488	SEE NOTE 15
+	8.0	PLATED	98	SEE NOTE 15
+	10.0	PLATED	2	SEE NOTE 15
▣	10.0	PLATED	1412	SEE NOTE 15
△	12.0	PLATED	66	SEE NOTE 15
○	14.0	PLATED	30	SEE NOTE 15
○	16.0	PLATED	57	SEE NOTE 15
◆	20.0	PLATED	71	SEE NOTE 15
◊	40.0	PLATED	3	
◊	45.0	PLATED	92	
◆	63.0	PLATED	8	
◊	70.0	PLATED	40	
◆	50.0	NON-PLATED	2	
▣	160.0	NON-PLATED	4	
○	84.0x64.0	NON-PLATED	2	

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 .003 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, MFG. 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.
- MFG. 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
 - MFG. LOGO
 - SUCCESSFUL ELECTRICAL TEST.
- REPAIRS PER IPC-7711/21 (LATEST REV.) ARE ALLOWED.
- VIAS .008"-.020" ARE TO BE FILLED WITH NON-CONDUCTIVE EPOXY AND COPLANAR ON BOTH SIDES WITHIN .001 INCH PRIOR TO FINAL PLATING.

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;	I-SPEED
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;	SURFACE TO BE ENIG
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.

FABRICATION: DUE TO COMPONENTS CLOSE TO EDGE OF PCB PANELIZATION MIGHT BE REQUIRED. CONTACT ASSEMBLY HOUSE FOR REQUIREMENTS

PRIMARY SIDE



WWM
DIVISION
804 WOBURN STREET
WILMINGTON, MA 01887

SIZE	FSCM NO	DRAWING NUMBER	REV
D	24355	09-063978	B
SCALE	1/1		SHEET 2 OF 2