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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	20JAN15	D.M.L.

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;

HITACHI MCL-HE-6796

CLADDING;

EXTERNAL LAYERS .5 OZ. COPPER, OVERPLATE TO 1.5 OZ.
INTERNAL SIGNAL LAYERS .5 OZ. COPPER.
INTERNAL PLANE LAYERS .5 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.) CLASS3, COLOR:BLUE.

SURFACE FINISH;

SHALL BE PERMANENT NON-CONDUCTIVE EPOXY INK, COLOR: WHITE SYNTHETIC INKJET PRINTING ALLOWED FOR DENSE BOARDS, COLOR: WHITE.

INTENTIONAL SHORTS;

SURFACE TO BE ENIG.

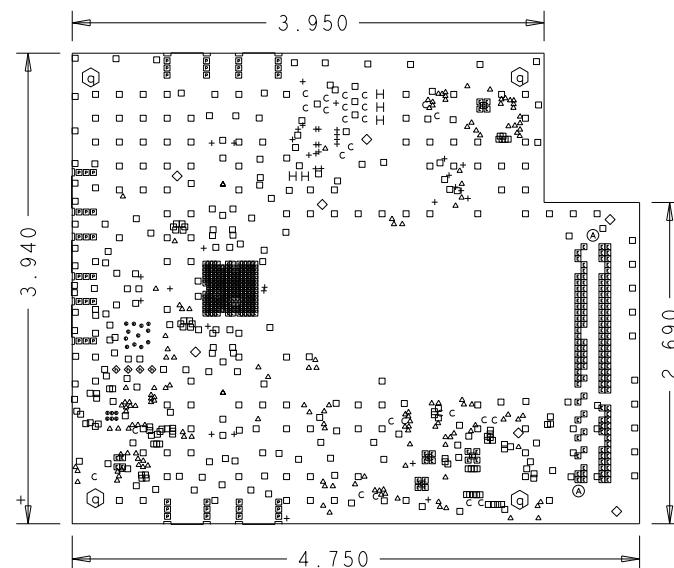
TEST REQUIREMENTS;

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.

100% NETLIST ELECTRICAL VERIFICATION USING CUSTOMER SUPPLIED IPC-D-356 NETLIST FOR OPENS AND SHORTS WHEN "GERBER DATA" IS PROVIDED.

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 .005 INCH.
- MINIMUM DESIGN SPACING IS .005 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:
 - 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.
- MFR. 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. MFR LOGO
 - E. SUCCESSFUL ELECTRICAL TEST.
- REPAIRS PER IPC-7711/21 (LATEST REV.) ARE ALLOWED.
- THRU VIAS FILLED WITH NON-CONDUCTIVE EPOXY AND PLATED OVER COPLANAR ON BOTH SIDES WITHIN .001 INCH PRIOR TO FINAL PLATING.



10 LAYER STACKUP

---	PRIMARY SILKSCREEN
---	PRIMARY SOLDER MASK
---	PRIMARY SIDE (LAYER 1)
---	GROUND PLANE (LAYER 2)
---	POWER PLANE (LAYER 3)
---	GROUND PLANE (LAYER 4)
---	POWER PLANE (LAYER 5)
---	INTERNAL SIGNAL (LAYER 6)
---	GROUND PLANE (LAYER 7)
---	POWER PLANE (LAYER 8)
---	GROUND PLANE (LAYER 9)
---	SECONDARY SIDE (LAYER 10)
---	SECONDARY SOLDER MASK
---	SECONDARY SILKSCREEN

NOMINAL FINISHED BOARD THICKNESS 0.062" +/- .005

CHARACTERISTIC IMPEDANCE = 50 OHMS +/- 10%
ARTWORK LINE WIDTH FOR SINGLE ENDED IMPEDANCE CONTROLLED LINES = 0.012" LAYER1 AND LAYER10

CHARACTERISTIC IMPEDANCE = 100 OHMS +/- 10%
ARTWORK LINE WIDTH FOR DIFFERENTIAL PAIR IMPEDANCE CONTROLLED LINES = 0.010"/0.015" LAYER1 AND LAYER10
IMPEDANCE CONTROLLED LINES = 0.0085"/0.015" LAYER6

FINISHED HOLES IN MILS				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
+	10.0	PLATED	39	
15	10.5	PLATED	330	VIA FILL
15	13.0	PLATED	384	
15	13.01	PLATED	42	VIA FILL
▲	15.0	PLATED	151	
15	16.01	PLATED	18	VIA FILL
◊	40.0	PLATED	26	
◆	45.0	PLATED	4	
H	50.0	PLATED	5	
◇	63.0	PLATED	7	
⊙	50.0	NON-PLATED	2	
⊚	160.0	NON-PLATED	4	

PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES .XX .-.010 --1/32 -- 2 .XXX .-.005 .XXX .-.0050	APPROVAL	DATE	 WWM DIVISION 804 WOBURN STREET WILMINGTON, MA 01887
	TEMPLATE ENGINEER X	ddMMMyy	
	HARDWARE SERVICES X	ddMMMyy	
	HARDWARE SYSTEMS X	ddMMMyy	
MATERIAL	TEST ENGINEER X	ddMMMyy	TITLE FABRICATION AD9684 CUST.EVAL.PCB
COMPONENT ENGINEER X	ddMMMyy		
TEST PROCESS X	ddMMMyy		
HARDWARE RELEASE X	ddMMMyy		
FINISH	DESIGNER D. LETOURNEAU	20JAN15	SIZE C
	PTD ENGINEER I BEAVERS	20JAN15	FSCM NO 24355
	CHECKER X	ddMMMyy	DRAWING NUMBER 09-040108
DO NOT SCALE DWG			REV A
	SCALE 1/1		SHEET 1 OF 1