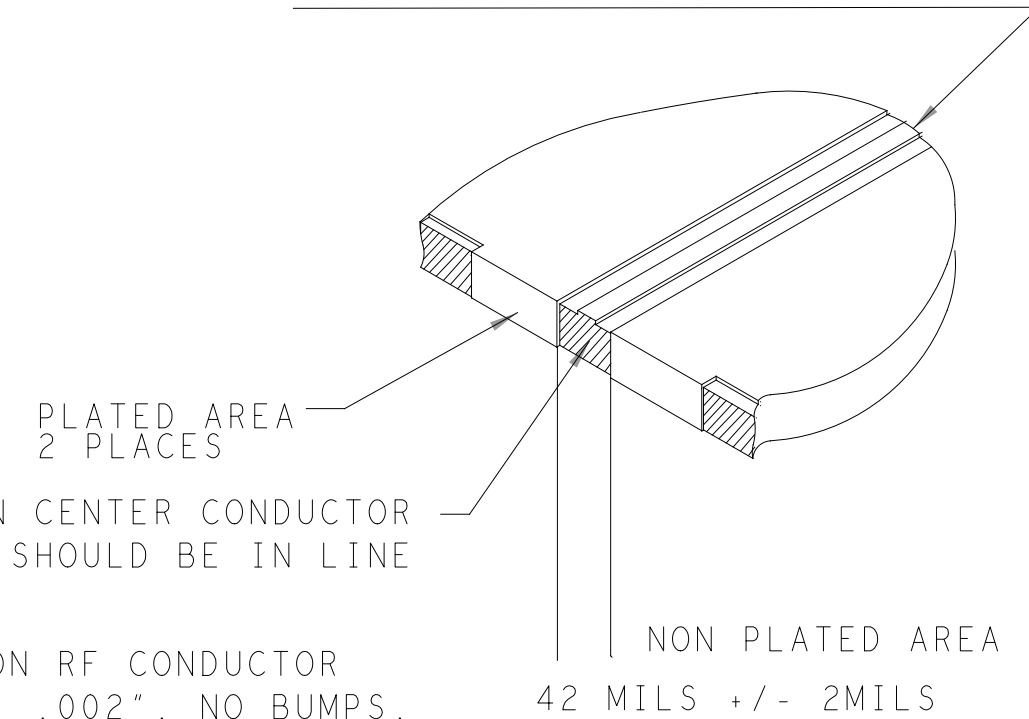


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	16 JAN24	H. NGUYEN

SEE NOTE # 29 FOR CPWG SPEC.



EDGE PLATING NOT ALLOWED IN CENTER CONDUCTOR AND GAP AREA. EDGE PLATING SHOULD BE IN LINE WITH TOP ETCH.
EDGE PLATING AND PCB ETCH ON RF CONDUCTOR TRACE SHOULD BE FLUSHED +/- .002". NO BUMPS.

DETAIL A

HOLE TOLERANCE

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

FINISHED HOLES IN MILS				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
•	8.0	PLATED	473	DIA MAX / SEE NOTE 23
•	14.0	PLATED	48	DIA MAX / SEE NOTE 23
⊕	80.0	NON-PLATED	2	

PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		APPROVAL	DATE	<div><div></div><div>ANALOG DEVICES</div></div> <div>WWM DIVISION 804 WOBURN STREET WILMINGTON, MA 01887</div>			
TOLERANCES		TEMPLATE ENGINEER N/A	N/A				
DECIMALS	FRACTIONS	ANGLES	HARDWARE SERVICES E. ESCALANTE	16 JAN24	TITLE FABRICATION ADL8143-EVALZ CHARACTERISATION		
.XX --.010	--1/32	-- 2	HARDWARE SYSTEMS N/A	N/A			
.XXX --.005			TEST ENGINEER N/A	N/A			
.XXXX --.0050			COMPONENT ENGINEER N/A	N/A			
MATERIAL		TEST PROCESS N/A	N/A	N/A	SIZE C 24355 09-081657		
FINISH		HARDWARE RELEASE K. JABATAN	16 JAN24				
		DESIGNER H. NGUYEN	16 JAN24				
		PTD ENGINEER H. NGUYEN	16 JAN24				
		CHECKER N/A	N/A		DRAWING NUMBER 09-081657		
DO NOT SCALE DWG					SCALE 1/1		
					SHEET 1 OF 1		

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	16 JAN24	H. NGUYEN

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS ARE IN INCHES (EXCEPT WHERE NOTED).
ALL DOCUMENTS & SPECIFICATIONS REFERRED TO BELOW SHOULD BE THE LATEST REVISIONS.

MATERIAL: (USE CHECKED ITEMS)

2. BOARD MATERIAL:
- (X) ISOLA 370HR OR S1000-2 OR IT180 OR EQUIVALENT
 - () ISOLA-FR408HR OR EQUIVALENT
 - () ISOLA IS410
 - () MEGTRON 6
 - () NELCO-4000-13
 - () ROGERS 4350B
 - () ROGERS 3003
 - (X) OTHER ROGERS 4003C
3. ALL LAMINATES & BONDING MATERIALS SHOULD BE SELECTED FROM IPC-4101 OR IPC-4103, (TG>170 DEG TC>300 DEG C)
UL FLAMMABILITY RATING 94V-0. BOARD MATERIAL & CONSTRUCTION SHALL MEET THE REQUIREMENTS OF UL796/UL796F.
4. REFER TO IPC-6010 SERIES, CLASS 2 FOR FABRICATION. WORKMANSHIP SHALL CONFORM TO IPC-A-600, CLASS 2.
5. REFER TO LAMINATION DIAGRAM FOR OVERALL BOARD THICKNESS, TOLERANCE APPLIES AFTER ALL LAMINATION AND PLATING PROCESSES, FINISHED THICKNESS MEASURED FROM TOP COPPER TO BOTTOM COPPER.
6. BOW & TWIST NOT TO EXCEED 0.005 INCHES (0.5%) PER LINEAR INCH AND SHOULD BE MEASURED PER IPC-TM-650, METHOD 2.4.22.
7. PLANARITY IN THE DUT AREA CONTACT PADS TO BE +/- 0.001 INCHES.
CO-PLANARITY WITHIN THE DUT MOUNTING AREA TO BE 0.001 INCH PER LINEAR INCH.
FINISHED SURFACE CONTACTS, VIA-IN-PAD & FILLED VIAS TO BE FREE OF ANY PITS, SCRATCHES, PROBE MARKS OR OTHER DEFORMITIES THAT COULD AFFECT THE APPEARANCE & PERFORMANCE OF THE CONTACT SURFACE.
8. ACCEPTANCE PER AD1 SPECIFICATION TST00115.

TOOLING:

10. IMPEDANCE REQUIREMENTS: IF NO STACKUP IS DEFINED, THE VENDOR IS ALLOWED TO ADJUST THE DIELECTRIC THICKNESS & TRACE WIDTHS TO MEET THE IMPEDANCE REQUIREMENT. IF SPECIFIED, THE VENDOR MUST MEET THE REQUIREMENTS LISTED IN THE IMPEDANCE TABLE. ANY ADJUSTMENT MADE TO THE DEFINED STACKUP, TRACE WIDTH & SPACING THAT IMPACT THE REQUIREMENTS MUST HAVE WRITTEN APPROVAL FROM ADI.
10. FILLET OPTIONS TO ENHANCE RELIABILITY AT PAD JUNCTIONS WHERE SPACING PERMITS.
() FILLETS ALLOWED
(X) FILLETS NOT ALLOWED
11. THIEVING:
() VENDOR MAY ADD THIEVING TO COMPENSATE FOR LOW COPPER DENSITY AREAS MAINTAINING A MINIMUM 0.100 INCH CLEARANCE FROM ALL COPPER FEATURES.
(X) VENDOR MAY NOT ADD THIEVING TO COMPENSATE FOR LOW COPPER DENSITY AREAS.
12. LAYER TO LAYER REGISTRATION SHALL BE WITHIN 0.003 INCHES.
13. DOWEL PIN HOLES TO BE OPTICALLY DRILLED FROM SOCKET SIDE OF BOARD WITH A FINISHED TOLERANCE RANGE OF 0.002 INCHES. DOWEL SLOT TOLERANCE TO BE +/- 0.002 INCHES.
DRILL-TRUE-POSITION (DTP) OF 0.003 INCHES MUST BE MAINTAINED FROM DOWEL PIN TO DUT PAD & BETWEEN ALL SITES.

FINISH:

14. DRILL SIZES ARE FINISHED HOLE SIZES. ALL HOLES SHALL BE LOCATED WITHIN 0.005 INCHES DTP.
MINIMUM BARREL PLATING OF 0.001 INCHES. PLATED HOLES SHALL NOT BE ROUGH OR IRREGULAR SO AS TO
HINDER PROPER SOLDER WICKING. BARREL RELIEF ON SOLDERMASK ALLOWED IN UNFILLED VIA IN PAD HOLES.
15. PLATING SPECIFICATION:
- () STARTING COPPER WEIGHT FOR OUTER LAYERS CAN BE 0.5 OZ, THE FINISH COPPER WEIGHT IS 1 OZ.
STARTING & FINISHING COPPER WEIGHT FOR INTERNAL LAYERS TO BE 0.5 OZ.
0.25 OZ. MAY BE USED FOR THE STARTING COPPER WEIGHT IF THE PLATING LAYER HAS 0.004 INCHES SPACING OR LESS.
 - () STARTING COPPER WEIGHT FOR OUTER LAYERS CAN BE 1 OZ, THE FINISH COPPER WEIGHT IS 2 OZ.
FOR OUTER LAYERS WHERE SPACING PREVENTS THE USE OF 1 OZ AS A STARTING COPPER WEIGHT, THEN
THE STARTING COPPER WEIGHT CAN BE 0.5 OZ AS LONG AS THE FINISH COPPER WEIGHT IS 2 OZ.
STARTING AND FINISH COPPER WEIGHT FOR INNER LAYERS TO BE 0.5OZ
 - (X) REFER TO LAMINATION DIAGRAM FOR FINISHED COPPER WEIGHT/THICKNESS REQUIREMENTS
16. SURFACE FINISH:
- () BOARD TO BE HARD GOLD PLATED PER MIL-G-45204, CLASS1, GRADE C TYPE 1.
GOLD TO BE 5-15 MICRO INCHES MAX OVER LOW-STRESS NICKEL PLATING 20 MICRO INCHES MIN PER QQ-N-290, CLASS 1.
REPLATE SECONDARY PROCESS WITH 50 MICRO INCHES MIN OF GOLD USING EITHER GOLD_PRM/SEC. ARTWORK OR IF NOT SUPPLIED
CAN BE IDENTIFIED BY SUPERIMPOSING SOLDER MASK WITH THE PASTEMASK (PAD PADS & SOURCES).
 - (X) IMMERSION GOLD (ENTG) 1.58-3.94 MICRO INCHES OVER 118-236 MICRO INCHES MIN. OF ELECTROLESS NICKEL PER IPC-4552
 - () OTHER _____
17. BLUE SOLDERMASK OVER BARE COPPER/BARE GOLD (BOTH SIDES) WITH LIQUID PHOTO IMAGEABLE INK (LPI)
PER ARTWORK & SHALL MEET IPC-SM-840, SOLDERMASK CAN BE ADJUSTED PER VENDOR REQUIREMENTS FOR SMT PINS
& THRU HOLE PINS. GANG VOID SOLDERMASK IS ALLOWED WHEN PAD TO PAD SPACING IS LESS THAN 0.007 INCH.
18. APPLY SILKSCREEN TO BOTH SIDES USING A NON-CONDUCTIVE, WHITE EPOXY BASED INK PER ARTWORK.

TESTING:

19. FINAL ELECTRICAL TESTS TO BE PERFORMED USING PROVIDED IPC-D-356A NETLIST OR ODB++ FORMAT FILE.
THE PCB SHALL HAVE A VERIFICATION STAMP.
20. A TIME DOMAIN REFLECTOMETER REPORT (TDR) FOR EACH IMPEDANCE CONTROLLED LAYER & A CERTIFICATE OF COMPLIANCE SHALL BE PROVIDED BY VENDOR AT TIME OF SHIPMENT. INSTANCES WHERE TDR TESTING CAN'T BE PERFORMED BECAUSE THE TRACE LENGTH IS TOO SHORT ON THE OUTER LAYERS AT THE PIN ESCAPES IS ACCEPTABLE, ALL OTHER INSTANCES MUST BE REPORTED.
21. IF INCLUDED IN DESIGN, ADI COUPONS MUST BE SHIPPED WITH THE ORDER AS PART OF DELIVERABLES.

MISCELLANEOUS :

23. IF PRESENT, ALL BLIND/BURIED VIAS WITH AN ASPECT RATIO <1:1 TO BE PLATED SHUT WITH COPPER WHEN USED AS VIA-IN-PAD OR AS A STACKED VIA. BLIND/BURIED VIAS WITH AN ASPECT RATIO >1:1 TO BE FILLED WITH NON-CONDUCTIVE EPOXY.
23. FOR VIA FILL INFORMATION REFER TO DRILL CHART:
(X) NON-CONDUCTIVE EPOXY FILL ALL 0.008 AND 0.014 INCHES DRILLED VIAS
() COPPER FILL ALL 0.XXXX INCHES DRILLED VIAS
24. INTENTIONAL SHORTS:
IF AN INTENTIONAL SHORT REPORT IS SUPPLIED AND DOES NOT MATCH THE FAB DATA THEN
ADI APPROVAL IS REQUIRED.
25. PEMNUTS:
() PEMNUTS TO BE INSTALLED BY FABRICATOR
() PEMNUTS NOT TO BE INSTALLED BY FABRICATOR
(X) NOT APPLICABLE
26. MANUFACTURER TO ETCH/STAMP WITH PERMANENT NON-CONDUCTIVE INK
ON SECONDARY SIDE UNLESS OTHERWISE SPECIFIED:
A. UL CODE-FLAMMABILITY RATING FOR THOSE APPROVED MATERIALS(IF APPLICABLE)
B. DATE CODE
C. LOT NUMBER
D. MANUFACTURER LOGO
27. MINIMUM DESIGN LINE WIDTH IS 0.008 INCH.
28. MINIMUM DESIGN LINE SPACING IS 0.007 INCH.
29. CPWG TRACE WIDTH 0.016" +/- 0.001" , GAPS 0.013" +/- 0.001".
ADJUST PROCESS TO ACHIEVE WIDTH AND GAPS SPEC.
30. EDGE PLATING TO CONNECT OUTER AND INTERNAL GROUND LAYERS FOR THE
WIDTH OF THE CONNECTORS.

FAB NOTES REVISION: 2ND NOVEMBER 2022

LAMINATION DIAGRAM				
LAYER NUMBER	LAYER NAME	FINISHED CU WEIGHT (OZ)	DIELECTRIC THICKNESS (INCH)	MATERIALS

1	TOP	1		FINAL CU(THICKNESS AFTER PLATING)
			8 MILS	ROGERS 4003C
2	L2_GND	0.5		CU CLAD
			TBD	ISOLA 370HR/EQUIVALENT
3	L3_GND	0.5		CU CLAD
			TBD	ISOLA 370HR/EQUIVALENT
4	BOTTOM	1		FINAL CU(THICKNESS AFTER PLATING)

THE FINISHED PCB THICKNESS TO BE: 0.064" +/- 10%

PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			APPROVAL		DATE		<div><div></div><div>ANALOG DEVICES</div></div> <div>WWM DIVISION 804 WOBURN STREET WILMINGTON, MA 01887</div>											
			TEMPLATE ENGINEER N/A		N/A													
TOLERANCES			HARDWARE SERVICES E. ESCALANTE		16JAN24		TITLE FABRICATION ADL8143-EVALZ CHARACTERISATION											
DECIMALS FRACTIONS ANGLES .XX -.010 --1/32 -- 2 .XXX -.005 .XXXX -.0050			HARDWARE SYSTEMS N/A		N/A													
MATERIAL			TEST ENGINEER N/A		N/A													
			COMPONENT ENGINEER N/A		N/A													
			TEST PROCESS N/A		N/A													
			HARDWARE RELEASE K. JABATAN		16JAN24													
FINISH			DESIGNER H. NGUYEN		16JAN24		SIZE C			FSCM NO 24355			DRAWING NUMBER 09-081657			REV A		
			PTD ENGINEER H. NGUYEN		16JAN24													
			CHECKER N/A		N/A													
DO NOT SCALE DWG							SCALE 1/1						SHEET 1 OF 1					