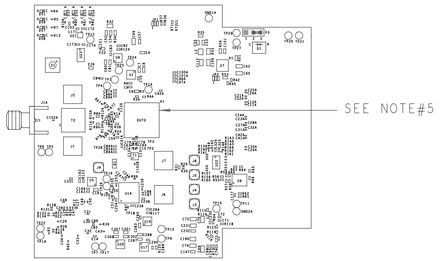
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	08MAY20	P.PASAQUIAN
A1	CHANGES AS PER ECR-100755	29JAN21	P.PASAQUIAN
B	CHANGES AS PER ECR-107917	12MAY22	P.JAYAMOHAN
C	CHANGES AS PER ECR-109208	24JUN22	D.ITO
D	CHANGES AS PER ECR-128114	17OCT25	J. MORENO



ASSEMBLY NOTES:

1. BOARD ACCEPTABILITY PER ANALOG DEVICES, INC. SPECIFICATION TST00119 (LATEST REVISION).
2. REPAIRS PER IPC-7711/21(LATEST REVISION) ARE ALLOWED.
3. REPAIRS ARE NOT ALLOWED IN SOLDERMASK FREE AREAS ON EITHER SIDE OF THE BOARD.
4. RoHS COMPLIANCE: ASSEMBLY VENDOR SHOULD ASSURE COMPLIANCE WITH LEAD-FREE AND RoHS PCB ASSEMBLY STANDARDS (EU RoHS DIRECTIVE 2002/95/EC).
5. HEATSINK (M045833) TO BE INSTALLED ON AD9213BBPZ-10G IC (DUT0).
6. INSTALL JUMPER SHUNT (M017967) ON PIN 2 AND PIN3 OF CONNECTOR P3.
7. SMOOTHEN EDGES AND FREE FROM BURRS AFTER DEPANELIZATION PROCESS. BOARDS TO BE SHIPPED SINGULATED AFTER ASSEMBLY PROCESS.

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES
DECIMALS FRACTIONS ANGLES
.XX +-.010 +-1/32 +- 2
.XXX +-.005
.XXXX +-.0050

MATERIAL

FINISH

DO NOT SCALE DWG

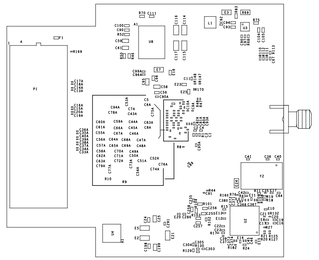
APPROVAL	DATE
TEMPLATE ENGINEER N/A	
HARDWARE SERVICES M.VALE	08MAY20
HARDWARE SYSTEMS N/A	
TEST ENGINEER N/A	
COMPONENT ENGINEER M.YAN	08MAY20
TEST PROCESS N/A	
HARDWARE RELEASE K.JABATAN	08MAY20
DESIGNER J.PACAMARRA	08MAY20
PTD ENGINEER P.PASAQUIAN	08MAY20
CHECKER N/A	

ANALOG DEVICES
HSX DIVISION
804 WOBURN STREET
WILMINGTON, MA 01887

TITLE
ASSEMBLY
AD9213 CUSTOMER EVAL Z

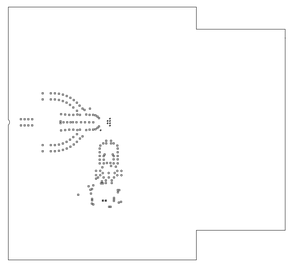
SIZE	FSCM NO	DRAWING NUMBER	REV
D	24355	01-064617	D

SCALE 1/1 SHEET 1 OF 2



SECONDARY SIDE

ANALOG DEVICES	WWM DIVISION 804 WOBURN STREET WILMINGTON, MA 01887		
SIZE	FSCM NO	DRAWING NUMBER	REV
D	24355	01-064617	D
SCALE 1/1		SHEET 2 OF 2	



DRILL CHART: TOP to L5_PWR					
ALL UNITS ARE IN MILS					
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES	
·	8.01	PLATED	7	DIA MAX	SEE NOTE 15
·	10.0	PLATED	163	DIA MAX	
·	10.01	PLATED	2	DIA MAX	SEE NOTE 15
·	12.0	PLATED	11	DIA MAX	

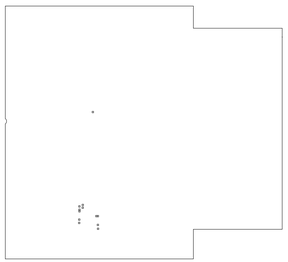
PRIMARY SIDE

ANALOG DEVICES

WWM
DIVISION
804 WOBURN STREET
WILMINGTON, MA 01887

SIZE	FSCM NO	DRAWING NUMBER	REV
D	24355	09-064617	D

SCALE 1/1 SHEET 2 OF 3



DRILL CHART: L6_SIG to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
·	10.0	PLATED	12	DIA MAX

PRIMARY SIDE

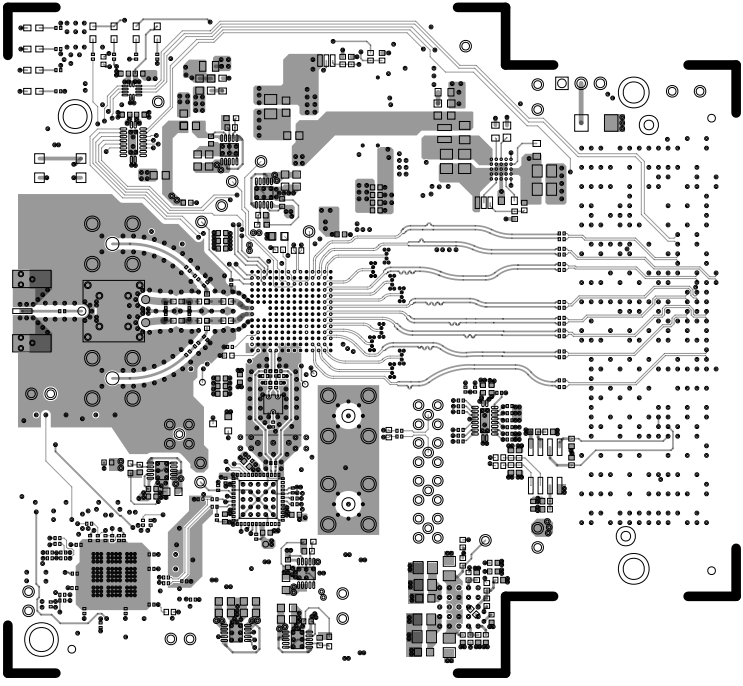
ANALOG DEVICES

WWM
DIVISION
804 WOBURN STREET
WILMINGTON, MA 01887

SIZE	FSCM NO	DRAWING NUMBER	REV
D	24355	09-064617	D

SCALE 1/1		SHEET 3 OF 3

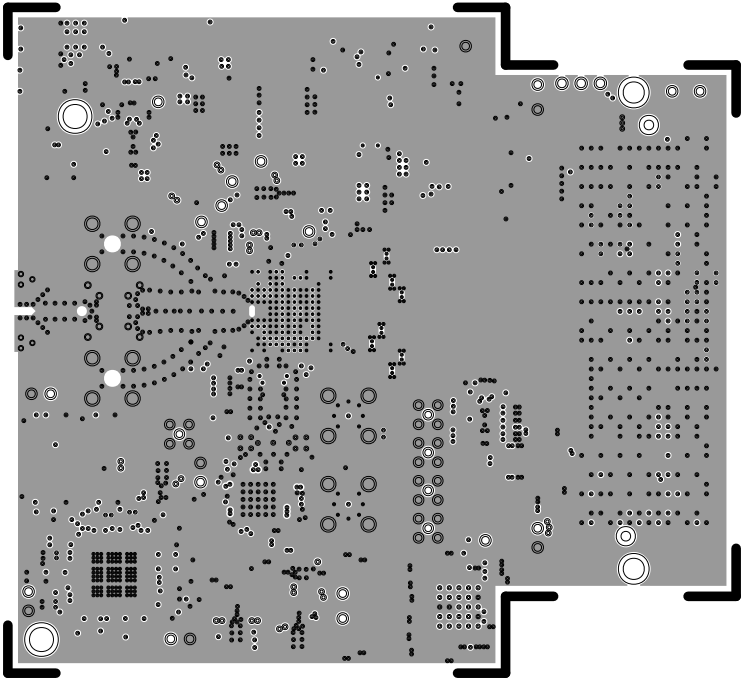
L1 PRIMARY
08-064617-01
REV D



L2 GROUND

08-064617-07

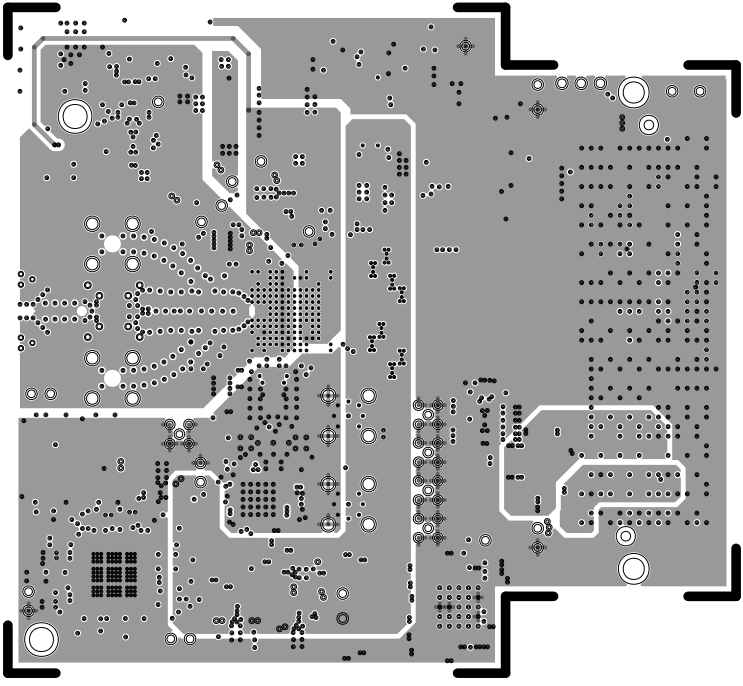
REV D



L3 POWER

08-064617-08

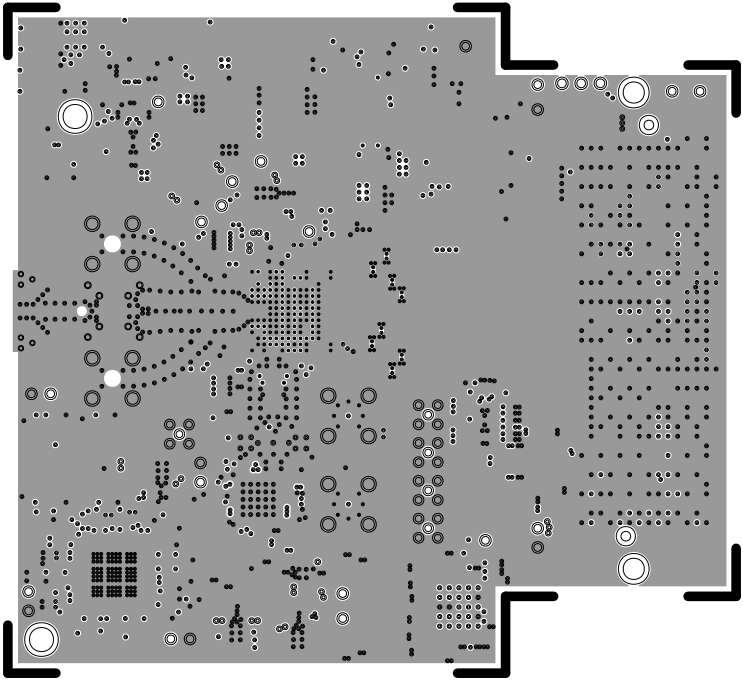
REV D



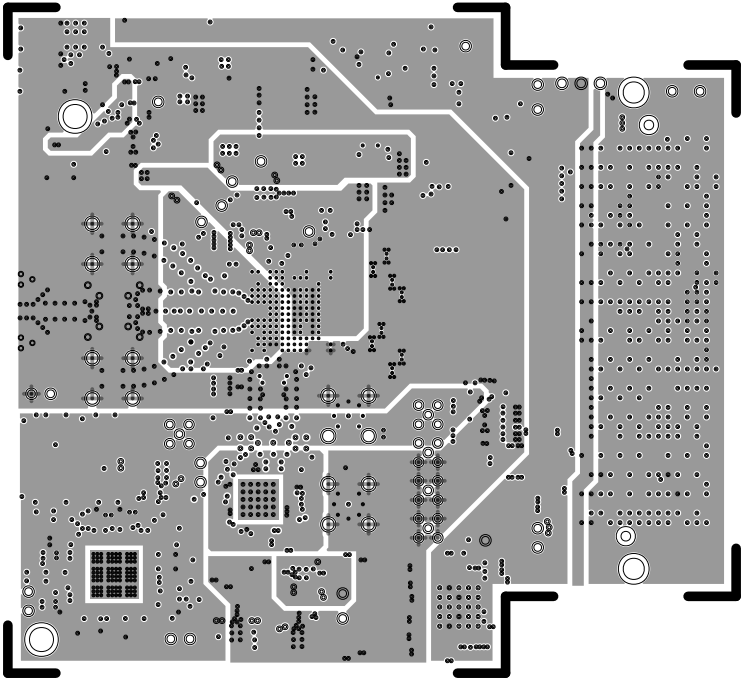
L4 GROUND

08-064617-09

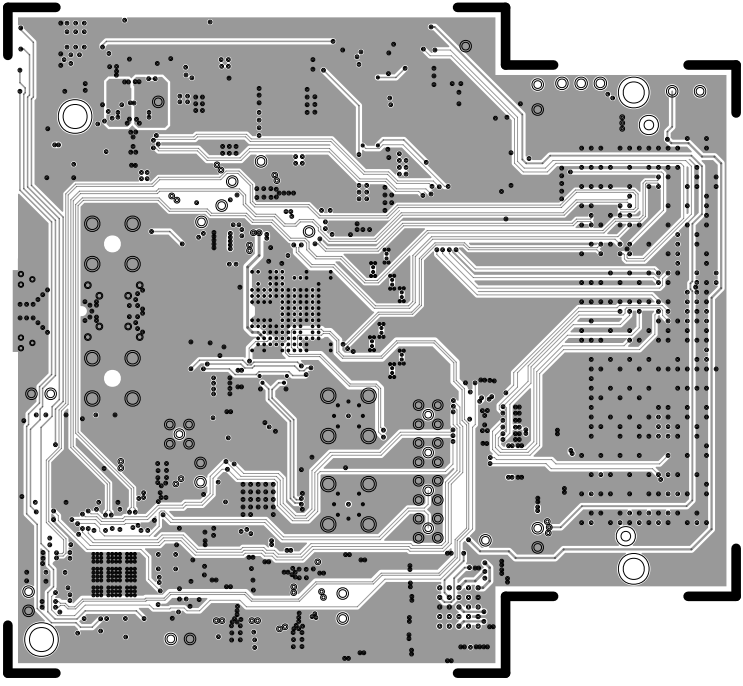
REV D



L5 POWER
08-064617-10
REV D



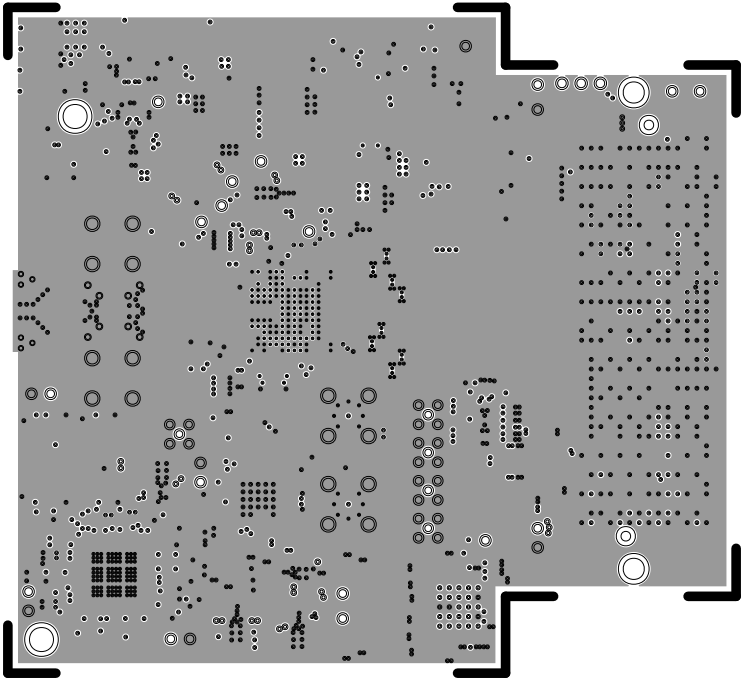
L6 SIGNAL
08-064617-11
REV D



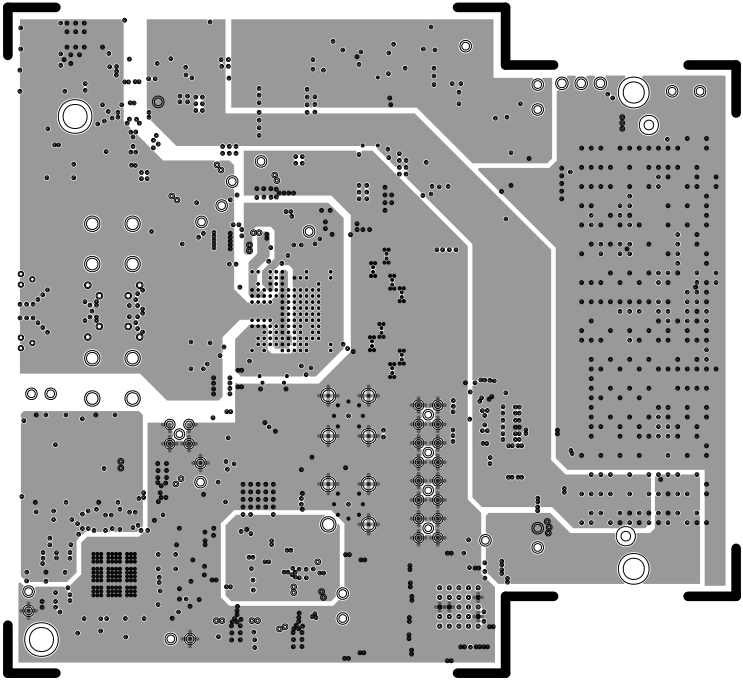
L7 GROUND

08-064617-12

REV D



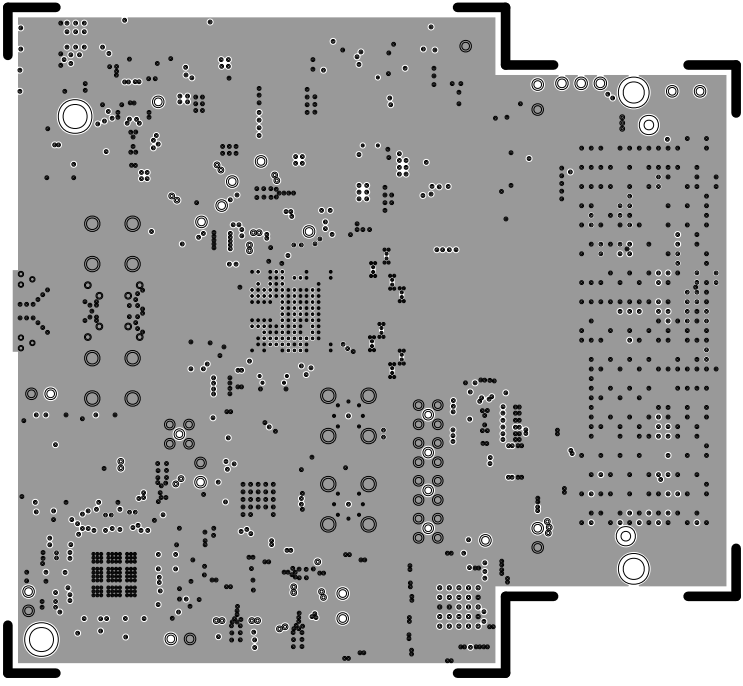
L8 POWER
08-064617-13
REV D



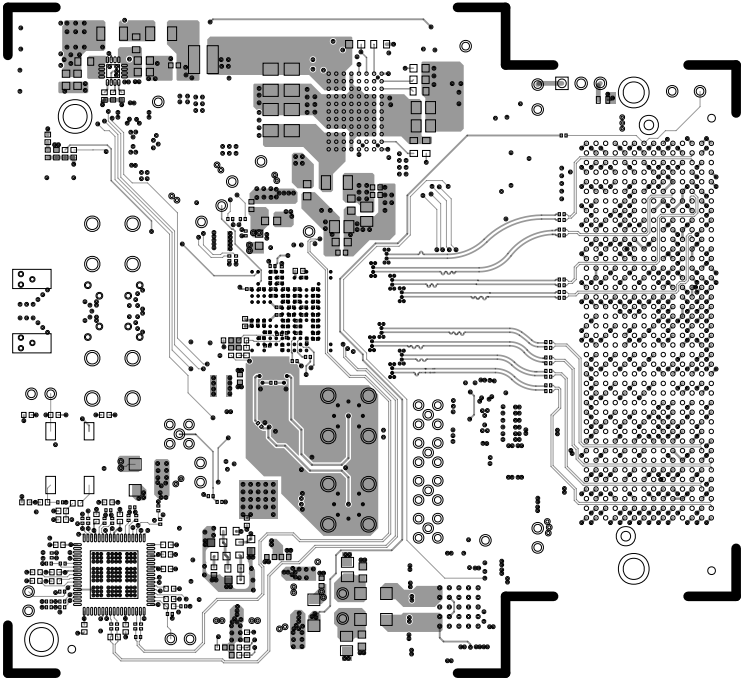
L9 GROUND

08-064617-14

REV D



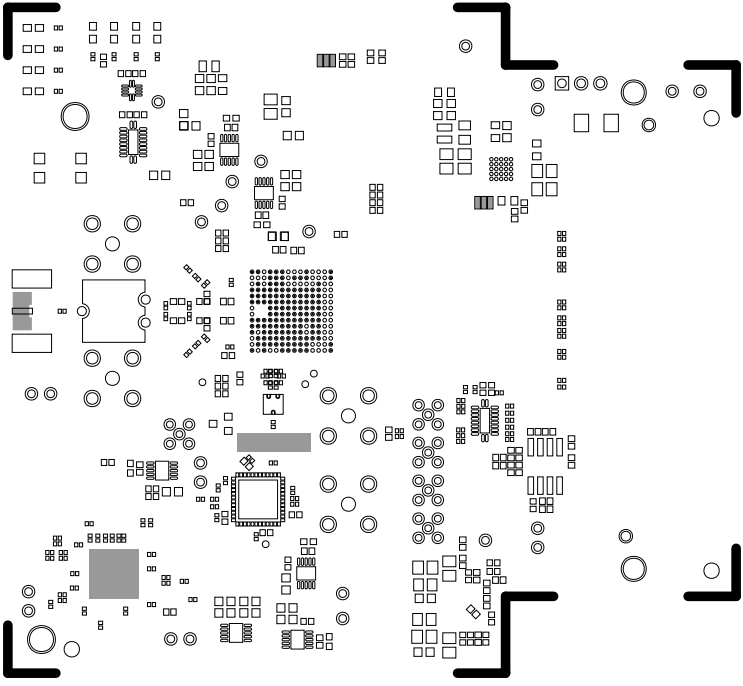
L10 SECONDARY
08-064617-02
REV D



SOLDERMASK PRIMARY

08-064617-04

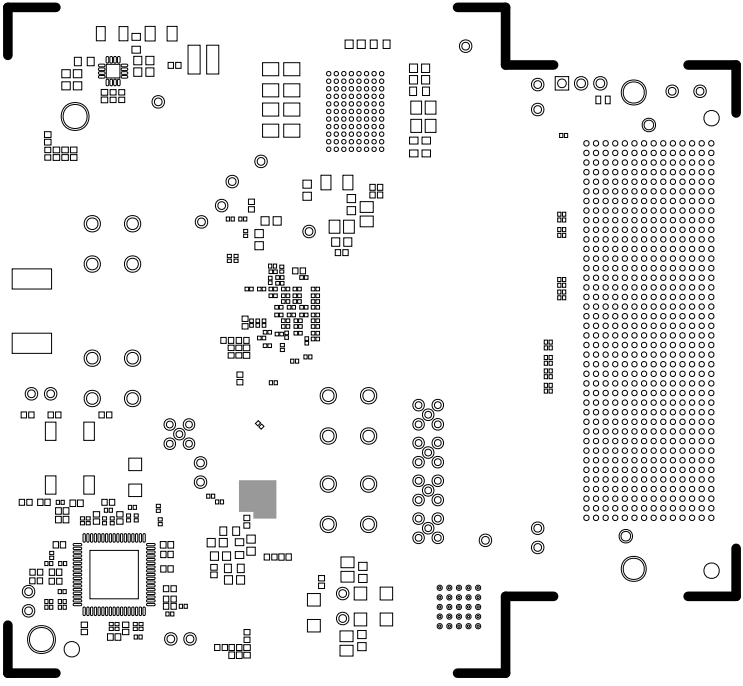
REV D



SOLDERMASK SECONDARY

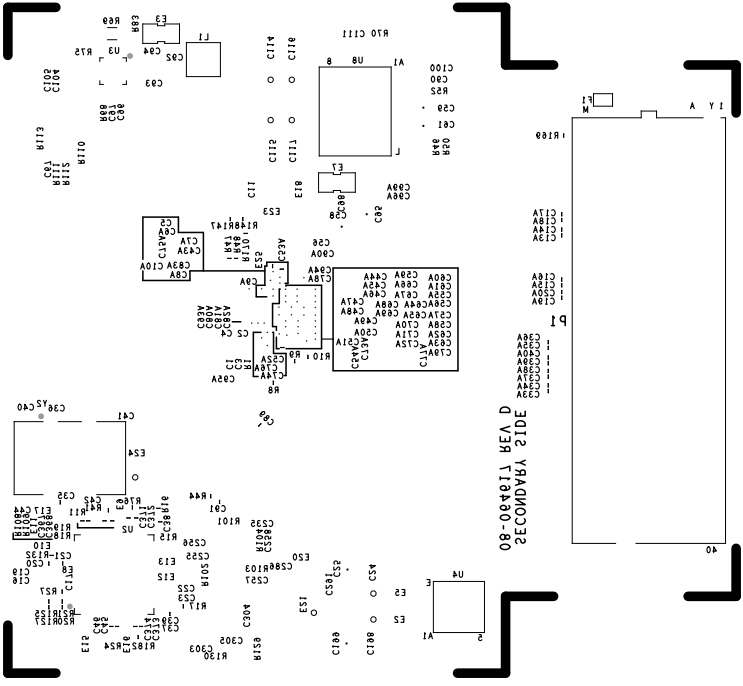
08-064617-06

REV D



SILKSCREEN PRIMARY
08-064617-03
REV D

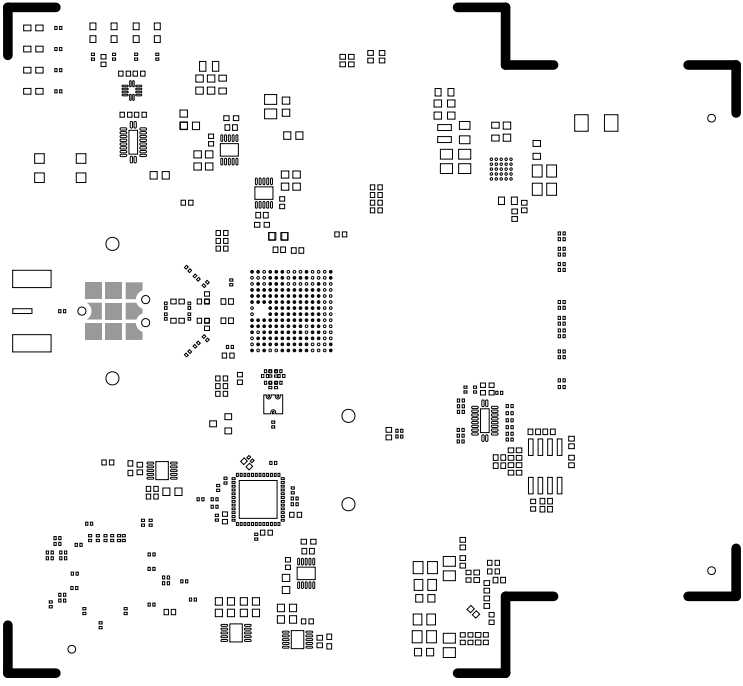
SILKSCREEN SECONDARY
08-064617-05
REV D



PASTEMASK PRIMARY

08-064617-15

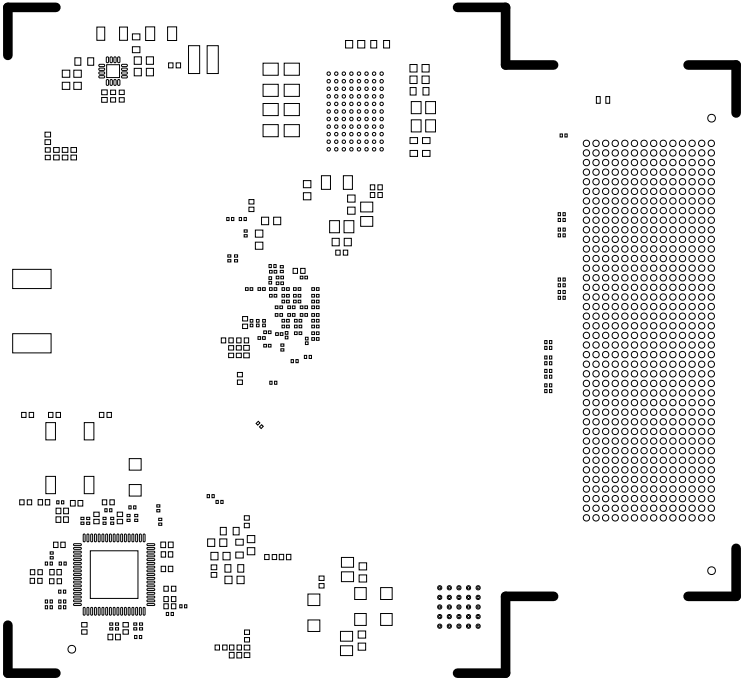
REV D



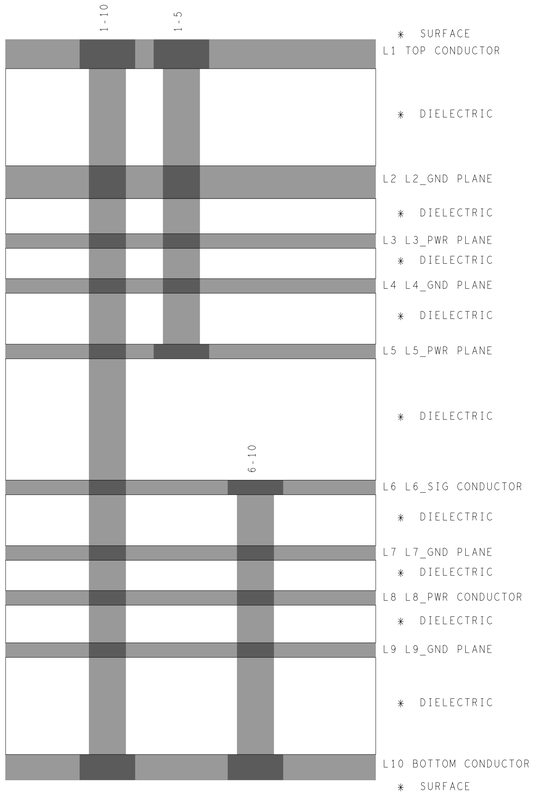
PASTEMASK SECONDARY

08-064617-16

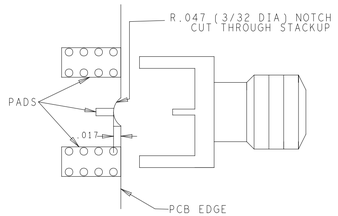
REV D



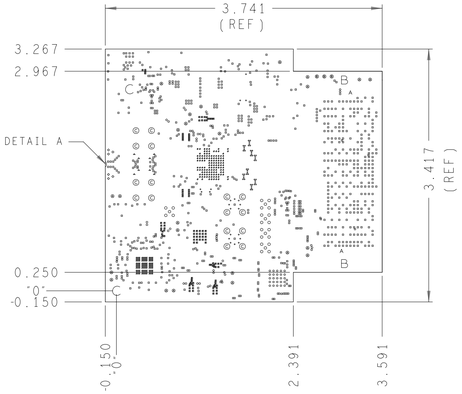
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	08MAY20	P.PASAQUIAN
A1	CHANGES AS PER ECR-100755	29JAN21	P.PASAQUIAN
B	CHANGES AS PER ECR-107917	12MAY22	P.JAYAMOHAN
C	CHANGES AS PER ECR-109208	24JUN22	D.ITO
D	CHANGES AS PER ECR-128114	17OCT25	J. MORENO



DESIGN CROSS SECTION CHART
TOTAL THICKNESS 61 MIL



NOTCH CUT THROUGH DETAIL
1. DIMENSION ARE IN INCHES



HOLE TOLERANCE

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

DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
·	8.0	PLATED	69	DIA MAX
·	8.01	PLATED	228	DIA MAX; SEE NOTE 15
·	10.0	PLATED	797	DIA MAX
·	10.01	PLATED	106	DIA MAX; SEE NOTE 15
·	12.0	PLATED	28	DIA MAX; SEE NOTE 15
·	16.0	PLATED	28	DIA MAX
·	20.0	PLATED	6	
·	25.0	PLATED	8	
○	35.0	PLATED	25	
✱	40.0	PLATED	24	
✱	45.0	PLATED	3	
◎	60.0	PLATED	16	
^	50.0	NON-PLATED	2	
B	110.0	NON-PLATED	2	
C	125.0	NON-PLATED	2	

IMPEDANCE TABLE

NOTE: ALL IMPEDANCE TOLERANCE +/-10%
SE = SINGLE ENDED, DP = DIFFERENTIAL PAIR

LAYER	IMPEDANCE	REFERENCE	LINE WIDTH	SPACE
L1	50 OHMS SE	L2	14.5 MILS	N/A
L1	100 OHMS DP	L2	5 MILS	6 MILS
L1	100 OHMS DP	L2	5.6 MILS	5.4 MILS
L1	100 OHMS DP	L2	9 MILS	11 MILS
L1	50 OHMS DP	L2	38 MILS	62 MILS
L1	25 OHMS SE	L2	38 MILS	N/A
L6	100 OHMS DP	L7	5.6 MILS	5.4 MILS
L10	100 OHMS DP	L9	5.6 MILS	5.4 MILS
L10	100 OHMS DP	L9	9 MILS	11 MILS

SPECIFICATIONS:

ROHS COMPLIANCE NOTE; HOMOGENOUS MATERIALS IN THIS BOARD SHALL BE COMPLIANT THE EU RoHS DIRECTIVE 2002/95/EC

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; EPOXY/GLASS, Tg=180C, Td=370C CTE/Z=220, Df=.012

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 BLUE.

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 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.

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 INCH 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 .005 INCH.
9. MINIMUM DESIGN SPACING IS .006 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. VIAS FILLED WITH NON-CONDUCTIVE EPOXY AND PLATED OVER, COPLANAR ON BOTH SIDES WITHIN .001 INCH PRIOR TO FINAL PLATING.
16. BOARDS TO BE SHIPPED IN ARRAY AND KEEP INTACT
    PANEL TO BE SUBJECTED TO CUSTOMER'S APPROVAL.
    PANELED SOLDER PASTE STENCIL SHOULD BE SENT TO THE CUSTOMER.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES
DECIMALS FRACTIONS ANGLES
.XX +-.010 +-1/32 +- 2
.XXX +-.005
.XXXX +-.0050

MATERIAL

FINISH

DO NOT SCALE DWG

APPROVAL	DATE
TEMPLATE ENGINEER N/A	
HARDWARE SERVICES M.VALE	08MAY20
HARDWARE SYSTEMS N/A	
TEST ENGINEER N/A	
COMPONENT ENGINEER M.YAN	08MAY20
TEST PROCESS N/A	
HARDWARE RELEASE K.JABATAN	08MAY20
DESIGNER J.PACAMARRA	08MAY20
PTD ENGINEER P.PASAQUIAN	08MAY20
CHECKER N/A	

ANALOG DEVICES
HSX DIVISION
804 WOBURN STREET
WILMINGTON, MA 01887

TITLE
FABRICATION
AD9213 CUSTOMER EVAL Z

SIZE	FSCM NO	DRAWING NUMBER	REV
D	24355	09-064617	D

SCALE 1/1 SHEET 1 OF 3