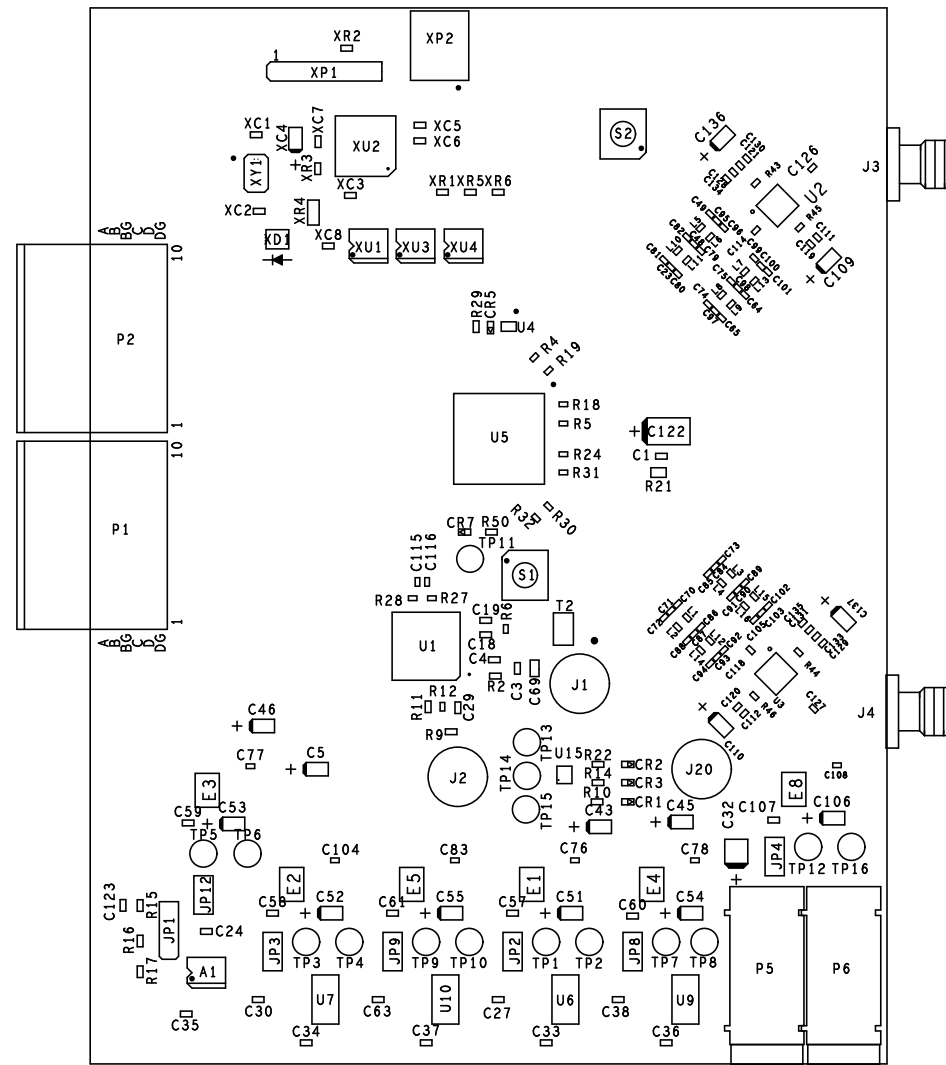



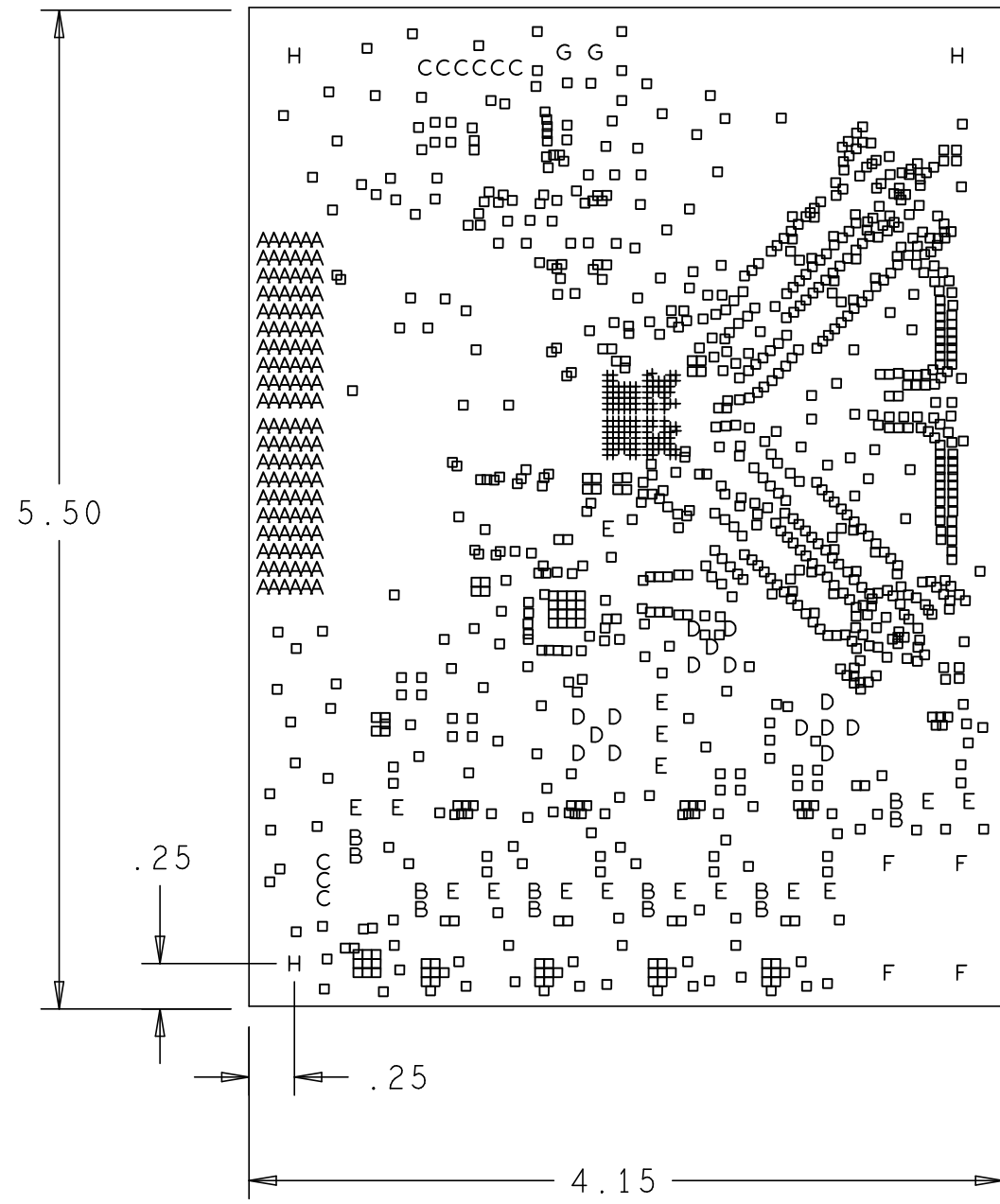
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	17NOV09	G. C.
B	ENGINEERING CHANGES	11MAY10	K. J.



PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES .XX ±.010 ±.1/32 ±.2 .XXX ±.005	APPROVAL	DATE	 HSC DIVISION 804 WOBURN STREET WILMINGTON, MA 01887			
	DRAWN BY P M A	11MAY10				TITLE
	MATERIAL	DESIGNED	CHECKED	SIZE	FSCM NO	DRAWING NUMBER
FINISH	APPROVED	MFG ENGINEER	C		HSC 09022	
DO NOT SCALE DWG			SCALE	1/1	1	SHEET OF

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	17NOV09	G.C.
B	ENGINEERING CHANGES	11MAY10	K.J.



PRIMARY SIDE

NOTES:

- MATERIALS; FR-4, IN ACCORDANCE WITH IPC-L-130 (LATEST REV.). GLASS FABRIC BASE, EPOXY RESIN, FIRE RESISTANT.
- BONDING AGENT; PREIMPREGNATED B STAGE EPOXY GLASS CLOTH IN ACCORDANCE WITH IPC-L-109 (LATEST REV.).
- CLADDING; EXTERNAL LAYERS 1/2 OZ. COPPER, OVERPLATE TO 1 1/2 OZ. INTERNAL SIGNAL LAYERS 1 OZ. COPPER. INTERNAL PLANE LAYERS 1 OZ. COPPER.
- SOLDER MASK; SHALL BE BLUE LIQUID PHOTOIMAGABLE (LPI) APPLIED ON BOTH SIDES OVER BARE COPPER AND SHALL MEET IPC-SM-840 (LATEST REV.) CLASS 3.
- SILK SCREEN; SHALL BE PERMANENT NON-CONDUCTIVE EPOXY INK, COLOR WHITE.
- U.L. RATING; 94VO MINIMUM.

FABRICATION:

- REFER TO IPC-6010 SERIES (LATEST REV.), CLASS 2 FOR FABRICATION UNLESS OTHERWISE SPECIFIED.
- UNDIMENSIONED HOLES TO BE LOCATED WITHIN +/- .005 OF THEIR TRUE POSITION WITH RESPECT TO ARTWORK.
- PLATED HOLE WALL THICKNESS SHALL NOT BE LESS THAN .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 .008 INCH.
- MINIMUM DESIGN SPACING IS .008 INCH.
- BOARD/PANEL MUST MEET IPC-A-600 (LATEST REV.) CLASS 2 FOR FLATNESS.
- 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
 - B. DATE CODE (STAMP)
 - C. FLAMMABILITY RATING
 - D. MFGR. LOGO
 - E. SUCCESSFUL ELECTRICAL BOARD TEST.
- NON-FUNCTIONAL PADS MAY BE REMOVED FROM INNER SIGNAL LAYERS AT MFGR. DISCRETION.
- IF PAD SIZES PROVIDED ARE NOT LARGE ENOUGH TO MAINTAIN ANNULAR RING REQUIREMENT, MFGR. MAY TEAR DROP PADS TO MAINTAIN ANNULAR RING AT PAD TO CIRCUIT INTERFACE ONLY AND MUST INSURE ELECTRICAL INTEGRITY. REPAIRS PER IPC-R-700 ARE ALLOWED.
- MODIFICATIONS TO THE ARTWORK, OTHER THAN THOSE DESCRIBED ON THE FABRICATION DRAWING, ARE NOT ALLOWED WITHOUT WRITTEN AUTHORIZATION.
- FINISH: SURFACES SHALL HAVE ENIG FINISH PLATED WITH 2-6 MICROINCHES OF IMMERSION GOLD OVER 100-200 MICROINCHES OF ELECTROLESS NICKEL.

8 LAYER STACKUP

HOLE TOLERANCE

UNLESS SPECIFIED
 PLATED: +/- .003
 NON PLATED: +/- .001

	PRIMARY SILKSCREEN	
	PRIMARY SOLDER MASK	
	PRIMARY SIDE (LAYER 1)	0.0045"
	GROUND PLANE (LAYER 2)	0.010"
	POWER PLANE (LAYER 3)	0.016"
	GROUND PLANE (LAYER 4)	0.008"
	INTERNAL SIGNAL (LAYER 5)	0.016"
	POWER PLANE (LAYER 6)	0.010"
	GROUND PLANE (LAYER 7)	0.0045"
	SECONDARY SIDE (LAYER 8)	
	SECONDARY SOLDER MASK	
	SECONDARY SILKSCREEN	

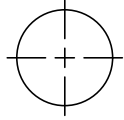
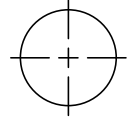
NOMINAL FINISHED BOARD THICKNESS 0.063" +/- .007

FINISHED HOLES IN MILS				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
+	6.0	PLATED	135	
□	12.0	PLATED	918	
A	25.0	PLATED	120	
B	40.0	PLATED	12	
C	45.0	PLATED	9	
D	60.0	PLATED	15	
E	63.0	PLATED	16	
F	75.0	PLATED	4	
G	40.0	NON-PLATED	2	
H	155.0	NON-PLATED	3	

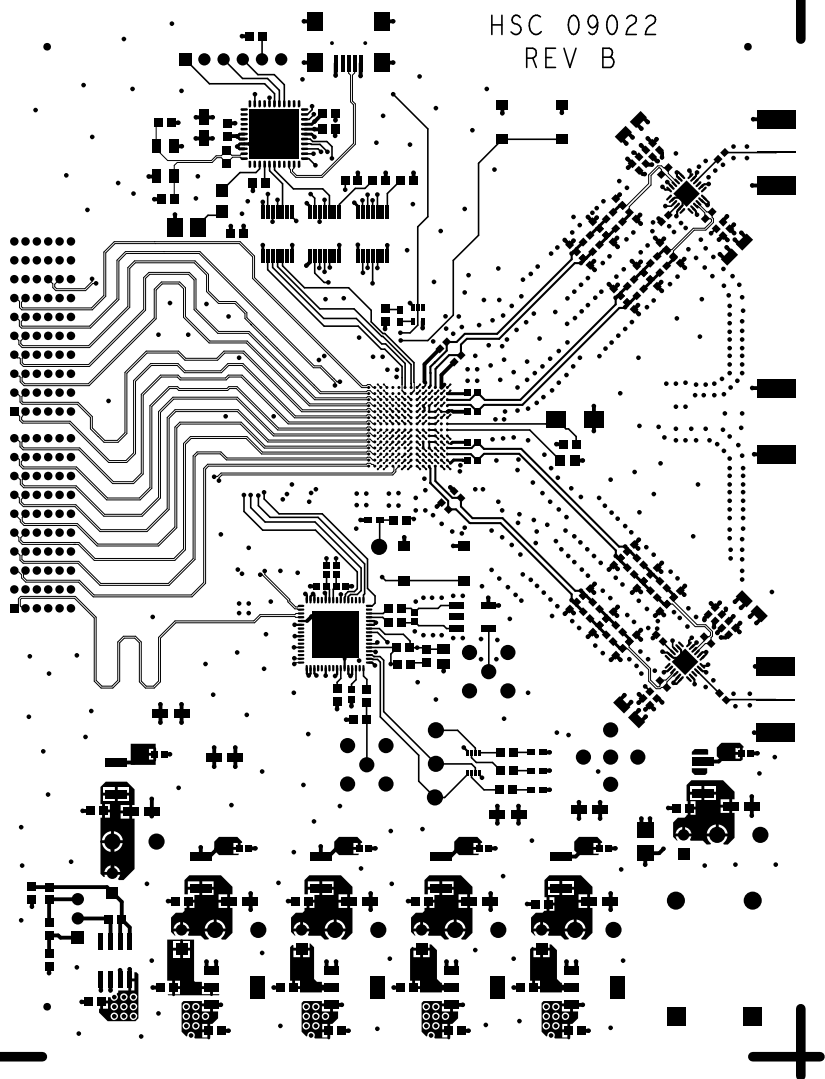
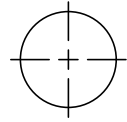
CHARACTERISTIC IMPEDANCE = 50 OHMS +/- 10%
 ARTWORK LINE WIDTH FOR IMPEDANCE CONTROLLED LINES = 0.008"
 DIFFERENTIAL IMPEDANCE = 100 OHMS +/- 10%
 ARTWORK LINE WIDTH FOR IMPEDANCE CONTROLLED LINES = 0.005"

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES .XX +/- .010 +/- 1/32 +/- .2 .XXX +/- .005	NCDRILL		 HSC DIVISION 804 WOBURN STREET WILMINGTON, MA 01887
	APPROVAL	DATE	
MATERIAL	DRAWN BY P M A	11MAY10	TITLE AD9148 M5375_EBZ BOARD
FINISH	DESIGNED		SIZE FSCM NO DRAWING NUMBER REV C HSC 09022 B
	CHECKED		
	APPROVED		SCALE 1/1 SHEET 1 OF 1
	MFG ENGINEER		

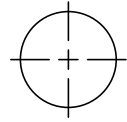
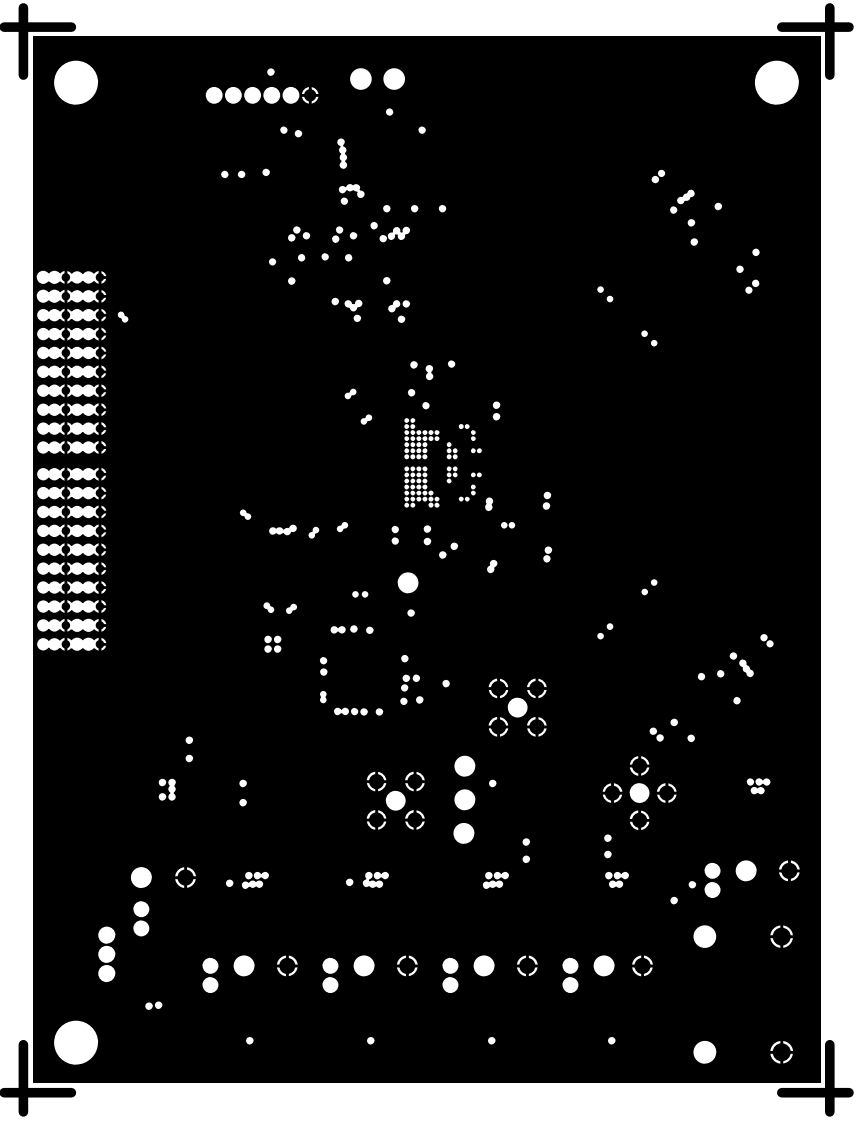
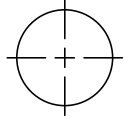
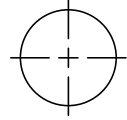
L1 PRIMARY
HSC 09022
REV B



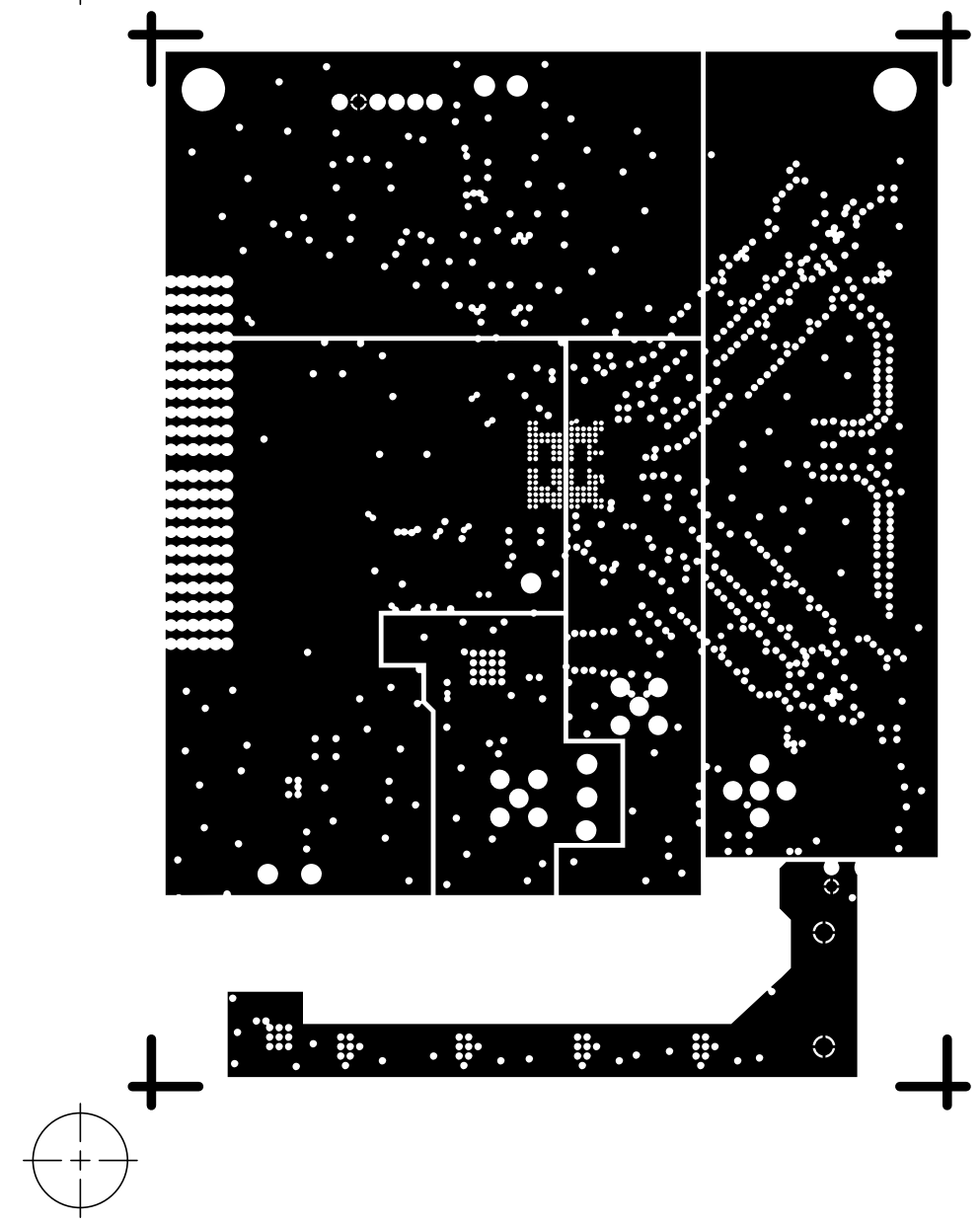
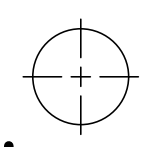
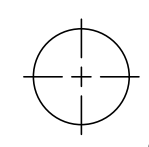
HSC 09022
REV B



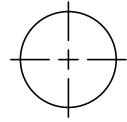
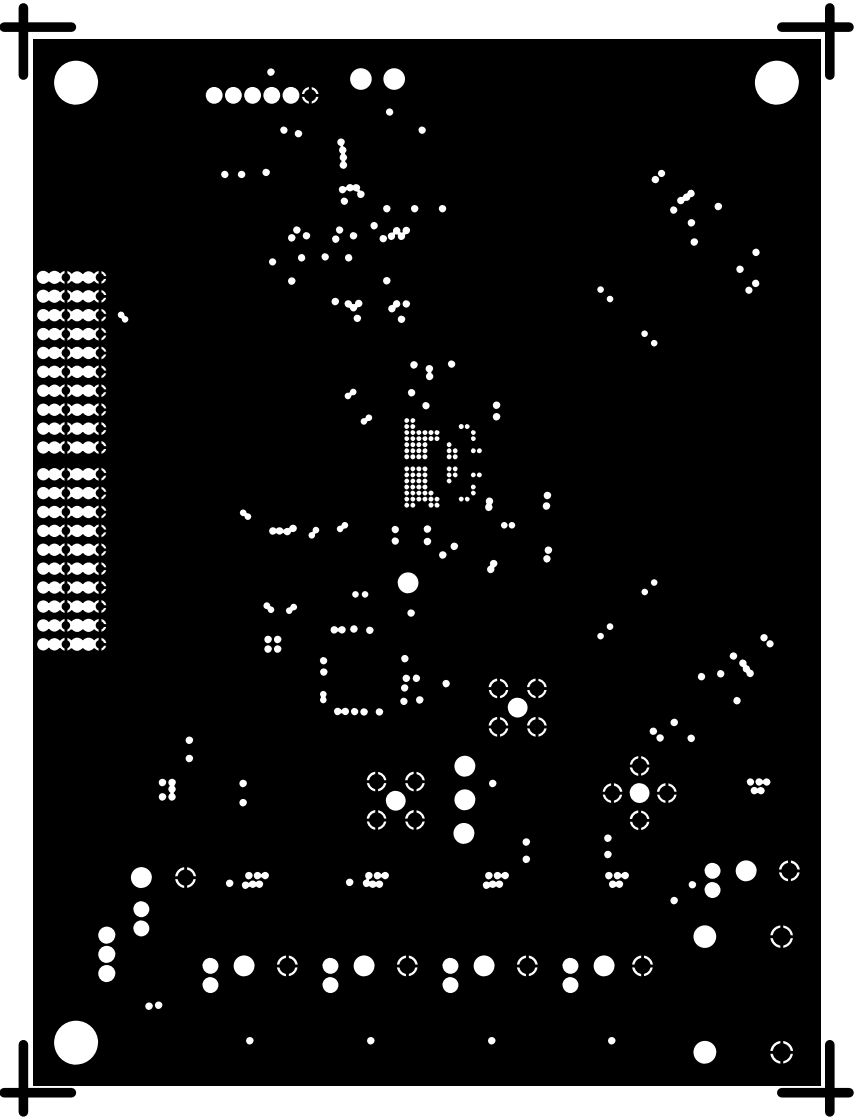
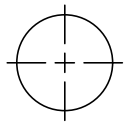
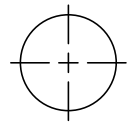
L2 GROUND
HSC 09022
REV B



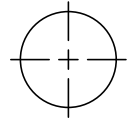
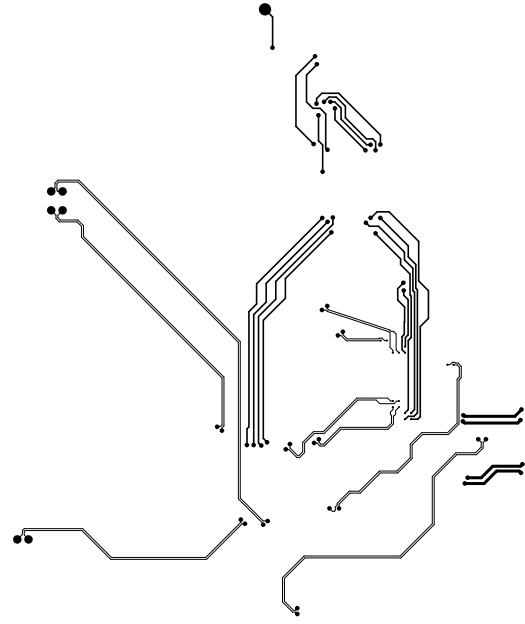
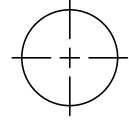
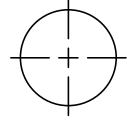
L3 POWER
HSC 09022
REV B



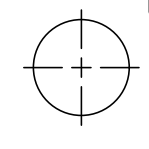
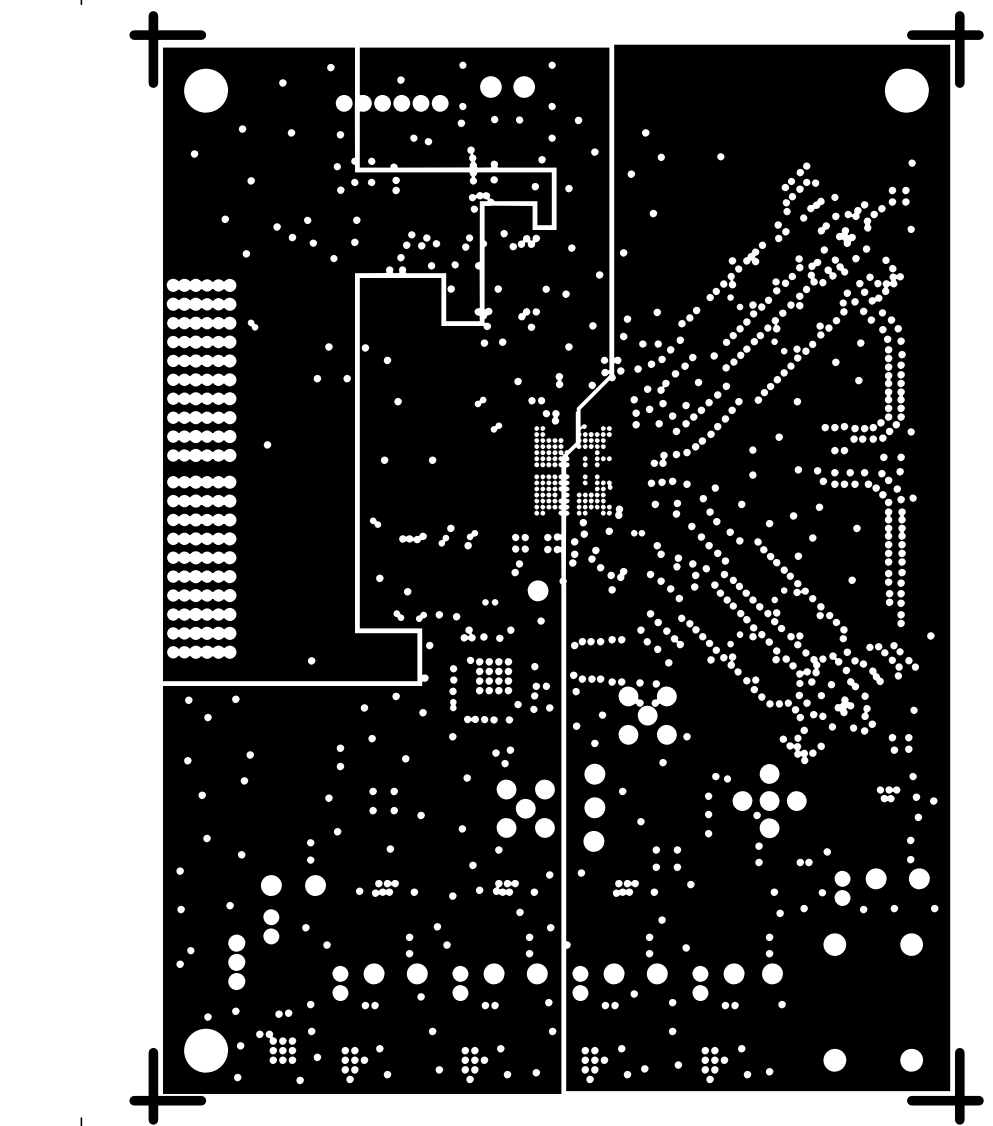
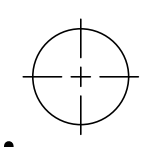
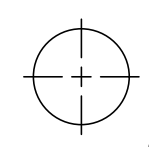
L4 GROUND
HSC 09022
REV B



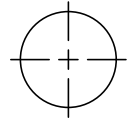
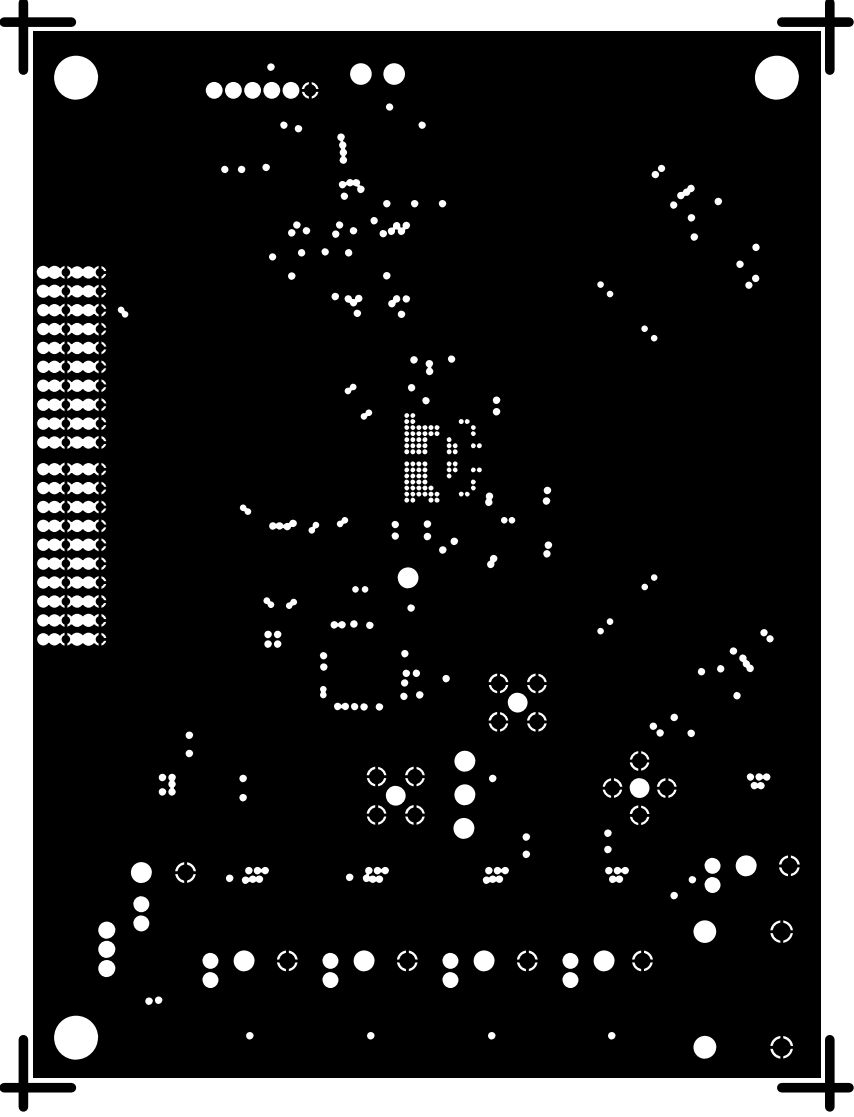
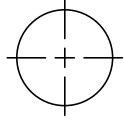
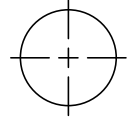
L5 SIGNAL
HSC 09022
REV B



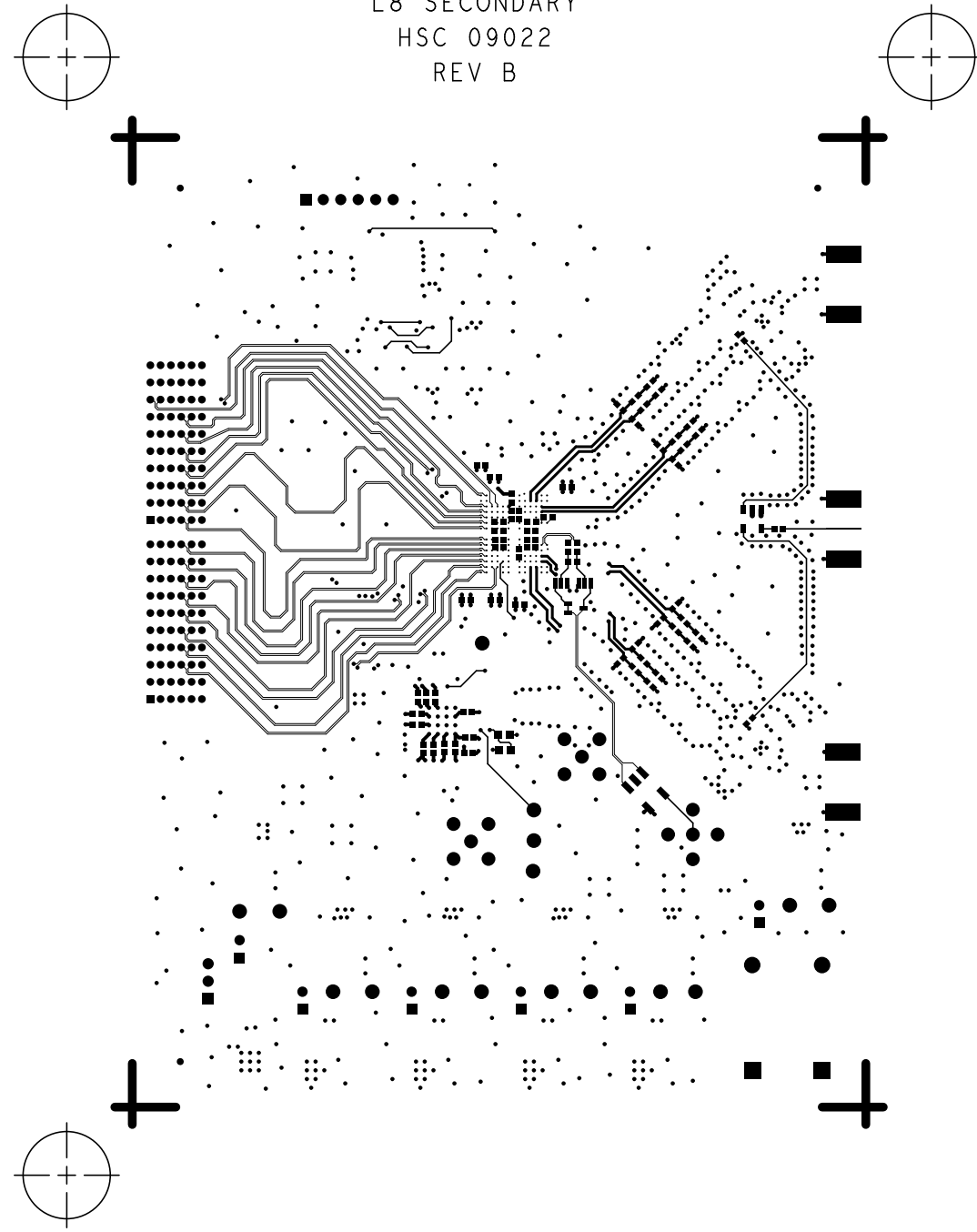
L6 POWER
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REV B



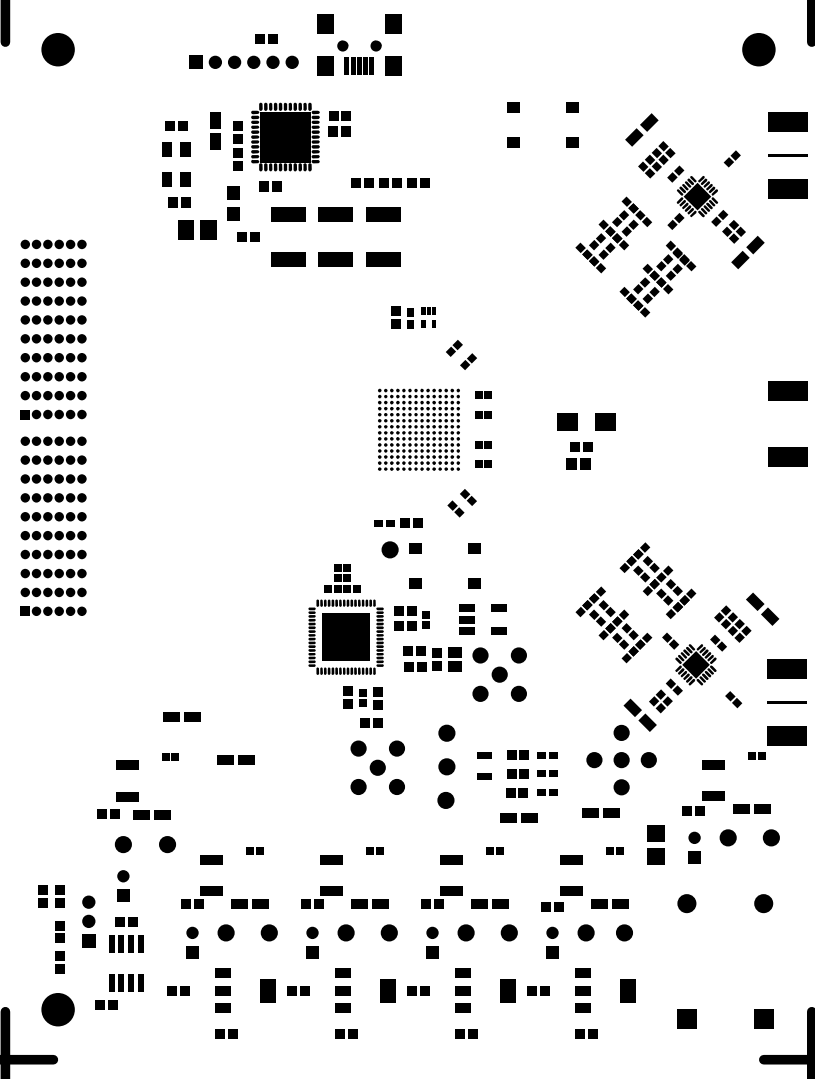
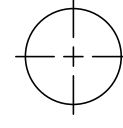
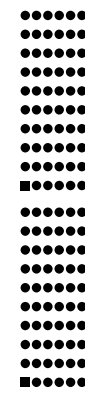
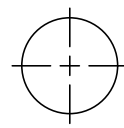
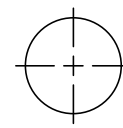
L7 GROUND
HSC 09022
REV B



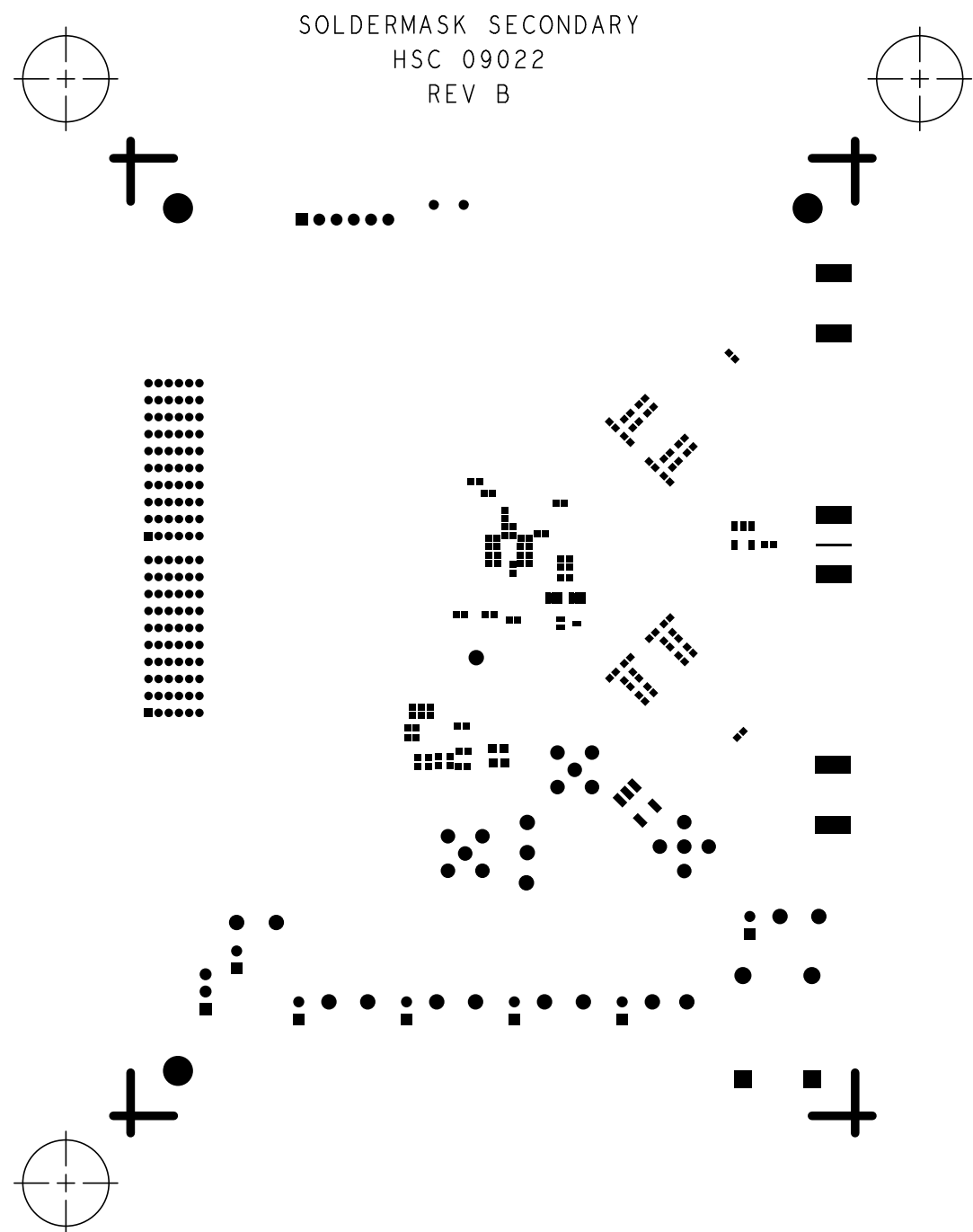
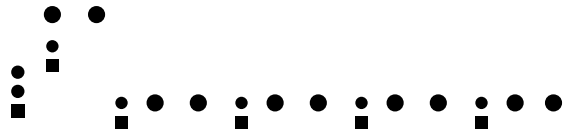
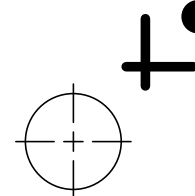
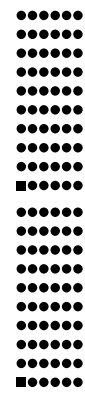
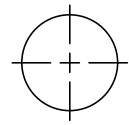
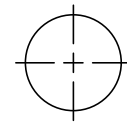
L8 SECONDARY
HSC 09022
REV B



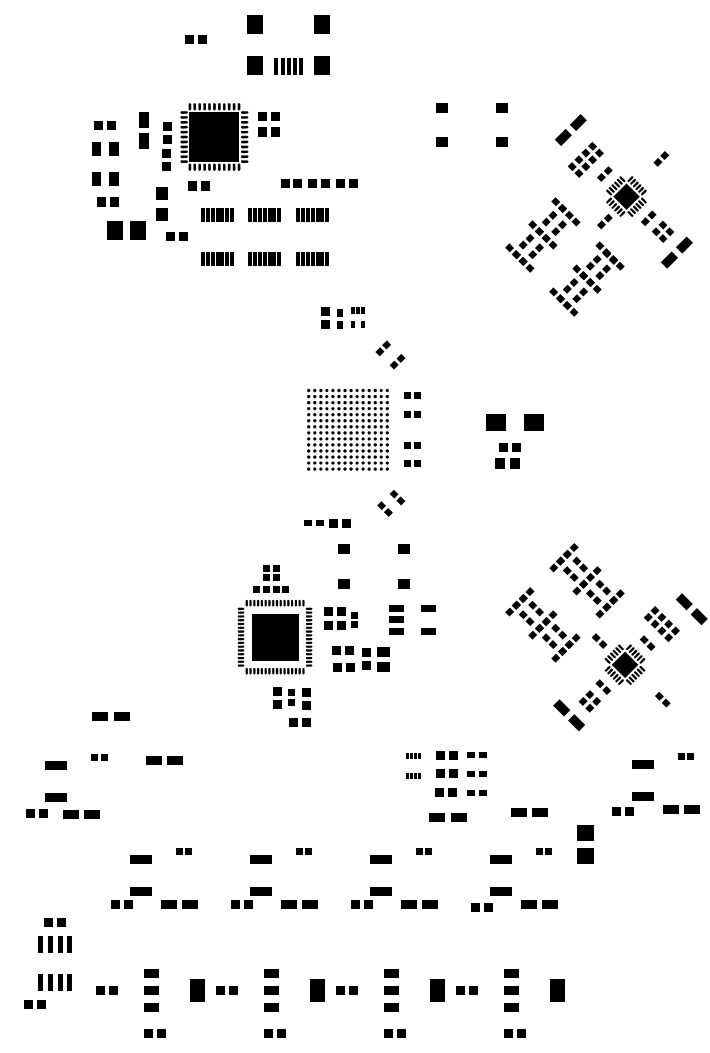
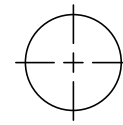
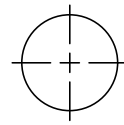
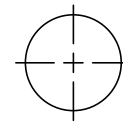
SOLDERMASK PRIMARY
HSC 09022
REV B

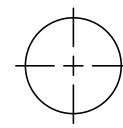


SOLDERMASK SECONDARY
HSC 09022
REV B

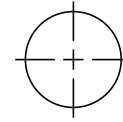
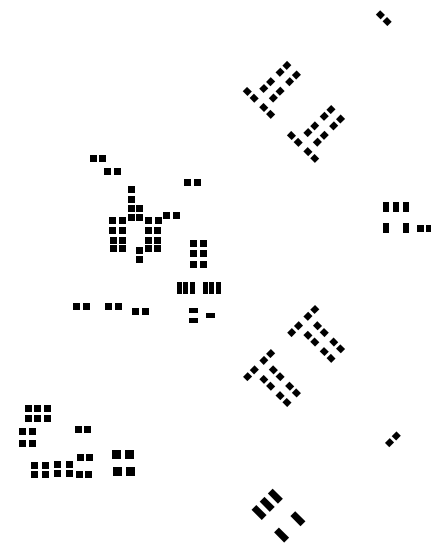
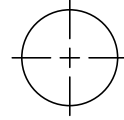


PASTEMASK PRIMARY
HSC 09022
REV B





PASTEMASK SECONDARY
HSC 09022
REV B



SILKSCREEN PRIMARY
HSC 09022
REV B

