

R227 R1

R228 R32
R229 R33

R320 R64
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R322 R66
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R324 R729
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R105-R107

R108-R110
R111-R113

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R144-R146
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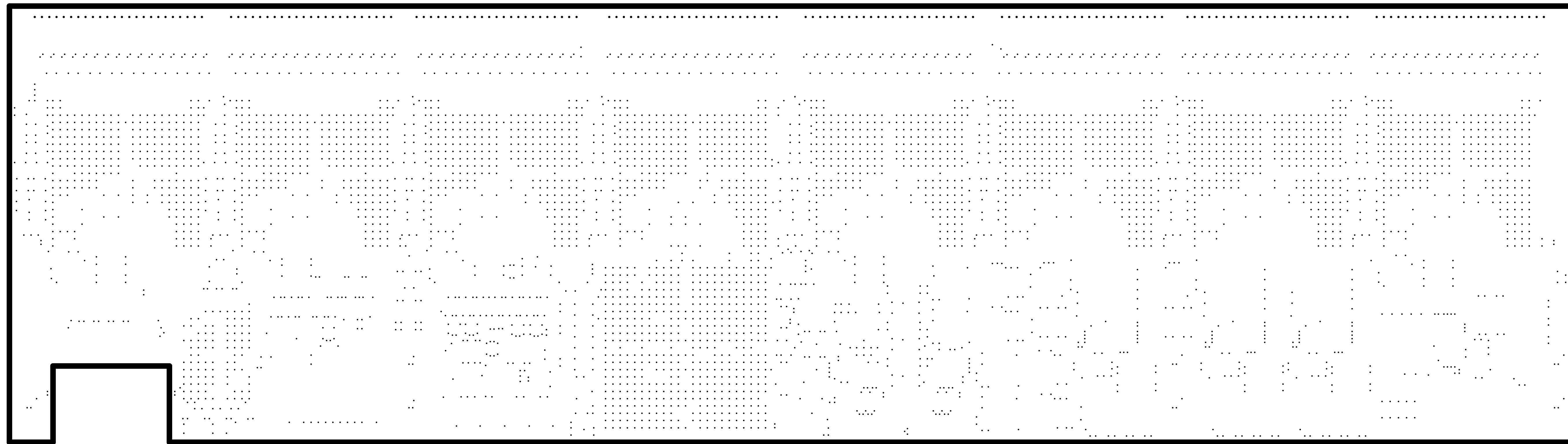
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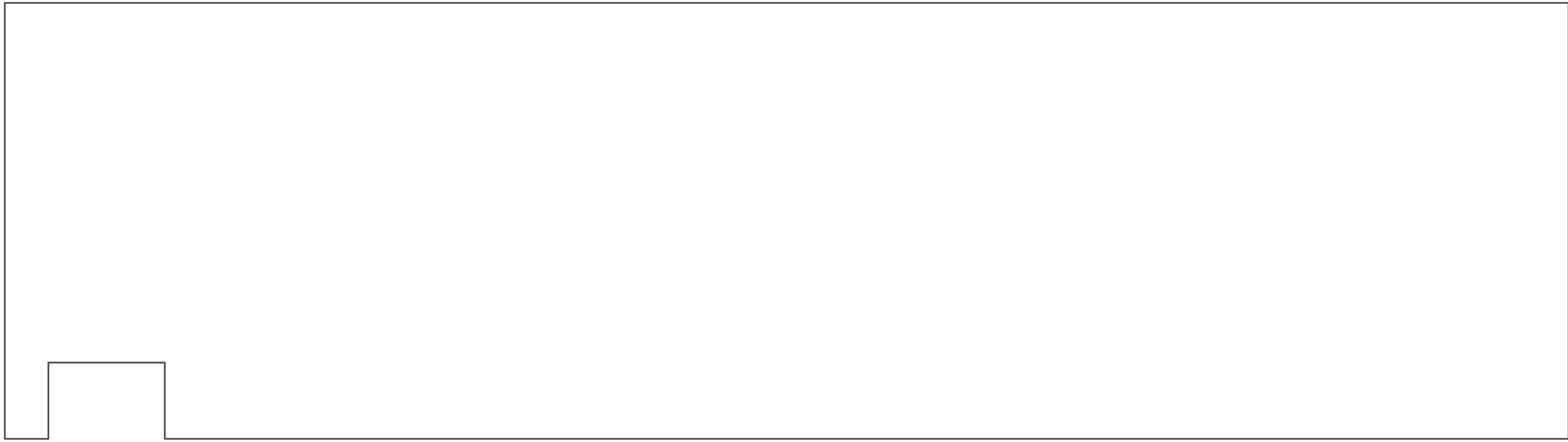
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PHYSICS
THE UNIVERSITY
OF ARIZONA

0301 MMFE-8 Oct 22-14







NOTES: UNLESS OTHERWISE SPECIFIED

Symbol	Hit Count	Finished Hole Size	Plated	Hole Type	Physical Length	Rout Path Length
⊗	2	1.400mm (55.12mil)	PTH	Round		
◇	3	1.000mm (39.37mil)	NPTH	Round		
⊗	4	1.550mm (61.02mil)	NPTH	Round		
⊕	4	1.778mm (70.00mil)	PTH	Round		
⊙	7	1.350mm (53.15mil)	NPTH	Round		
○	8	0.650mm (25.59mil)	PTH	Slot	1.700mm (66.93mil)	1.050mm (41.34mil)
▼	8	1.350mm (53.15mil)	PTH	Round		
□	12	0.800mm (31.50mil)	PTH	Round		
▽	32	0.900mm (35.43mil)	PTH	Round		
▣	40	0.889mm (35.00mil)	PTH	Round		
⊗	4666	0.203mm (8.00mil)	PTH	Round		
	4786 Total					

Components 2596
Pins 10599
Vias 4666
Holes 4778
Nets 2227

- BOARD SHALL BE FABRICATED – PERFORMANCE CLASS II AS PER IPC-6011 AND IPC-6012
- VENDOR IDENTIFICATION AND DATE CODE OF MANUFACTURING SHALL BE ETCHED ON THE SOLDER SIDE OF BOARD
- FABRICATE USING FILM "FAB/DRILL IDENT" FOR REFERENCE
- PERMANENTLY MARK BARE BOARD WITH TEST STAMP USING NON-CONDUCTIVE INK
- SILKSCREEN BOTH SIDES WITH NON-CONDUCTIVE INK, NOT ALLOWED ON COMPONENT PADS, COMPONENT MOUNTING HOLES, OR VIAS (COLOR = WHITE)
- MATERIAL: PER IPC-4101A/24/26/29/99, COPPER CLAD, HIGH TEMPERATURE FR4 CLASS EPOXY GLASS RATED UL94V-0, 0.5 OZ COPPER FOR EXTERNAL LAYERS AND 0.5 OZ COPPER FOR INTERNAL LAYERS. MUST SURVIVE ASSEMBLY MAX REFLOW OF 260 DEG C (6 PASSES)
 - Td RATING: > 340 DEG C
 - Z AXIS CTE < 3.5%
 - Tg > 170 DEG C (MIN)
- SOLDER MASK: SMOBC PER IPC-SM-840C, CLASS T, TYPE LPI, 0.0002" MIN TO 0.0008" MAX MEASURED OVER COPPER PLATING, MUST CLEAR ALL LANDS AS INDICATED ON GERBER SOLDER MASK LAYERS, (COLOR = GREEN)
- FINISH: ELECTRO-LESS NICKEL IMMERSION GOLD (ENIG), 2-8 MICRO INCHES GOLD OVER 150-250 MICRO INCHES NICKEL
- SOLDERABILITY TEST: CATEGORY 2 OF J-STD-003
- ALL TEST POINTS SHALL BE FREE OF SOLDERMASK AND SILKSCREEN
- ALL HOLE SIZES ARE AFTER PLATING
- VENDOR MAY USE TEAR DROPS TO IMPROVE ANNULAR RINGS AS LONG AS DRC RULES ARE FOLLOWED
- FINISHED BOARDS SHALL NOT HAVE NICKS, SCRATCHES, VOIDS, EXPOSED COPPER, POOR PLATING OR MISDRILLED HOLES
- TIE-BARS ON THERMAL PADS SHOULD BE 15 MILS MINIMUM WIDTH
- MAKE ALL VIA CONNECTIONS TO POWER AND GROUND PLANES SOLID
- VENDOR MAY ADD COPPER THIEVING AS NEEDED TO IMPROVE MANUFACTURABILITY, THIEVING TO BE 0.030" ROUND PADS AT 0.050" SPACING. THIEVING WILL HAVE A MINIMUM OF 0.100" CLEARANCE FROM EXISTING COPPER AND SHOULD NOT BE PLACED UNDER SURFACE MOUNT DEVICES
- ALL UNCONNECTED PADS ON INNER SIGNAL LAYERS MUST BE REMOVED
- ALL FINISHED BOARDS TO BE 100% ELECTRICALLY TESTED
- UNLESS OTHERWISE INDICATED, ALL LINEAR TOLERANCES SHALL BE XX +/- .010 AND XXX +/- .005



ALL DIMENSIONS = mm

ADDITIONAL NOTES:

- FINISHED BOARD THICKNESS = 0.0961" (+/- 0.007")
- ALL VIAS ON PRIMARY COMPONENT SIDE (LAYER 1) ARE TO BE TENTED WITH APPROPRIATE SOLDER MASK (SECONDARY OPERATION)
- TO IMPROVE SILKSCREEN LEGIBILITY, USE #300 MESH

