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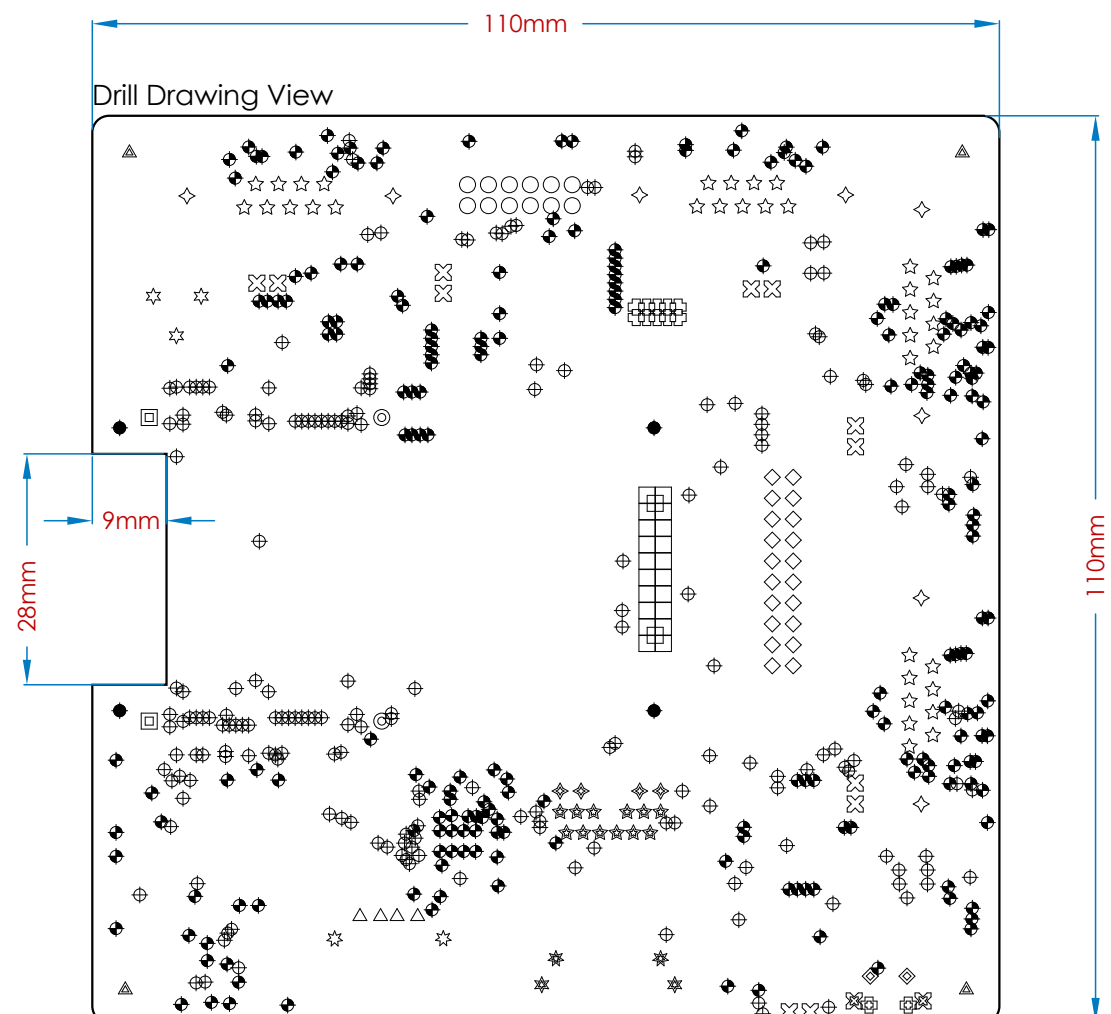
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Drill Table

Symbol	Count	Hole Size	Plated	Hole Tolerance
□	22	0.76mm	Non-Plated	None
○	12	0.9mm	Plated	None
◇	20	1.02mm	Plated	None
⊗	12	0.99mm	Plated	None
⊕	10	0.71mm	Plated	None
◇	8	3.26mm	Plated	None
☆	36	1.09mm	Plated	None
☆	3	0.8mm	Plated	None
☆	2	2.3mm	Plated	None
△	4	0.95mm	Plated	None
□	2	1.2mm	Non-Plated	None
◎	2	0.8mm	Non-Plated	None
◇	2	0.65mm	Plated	None
⊗	2	0.6mm	Plated	None
⊕	2	0.85mm	Plated	None
◇	4	1.02mm	Plated	None
☆	12	0.89mm	Plated	None
☆	2	1.57mm	Plated	None
☆	2	3.25mm	Non-Plated	None
△	4	3.5mm	Plated	None
●	4	3.5mm	Non-Plated	None
⊕	201	0.2mm	Plated	None
◆	218	0.25mm	Plated	None



Note:

- All PCB Fabrication note dimensions are in mm unless otherwise specified
  - Use Swift Navigation supplied gerber data, fabrication drawing, and reference documents to fabricate printed circuit board (PCB)
  - Board shall conform to IPC-6011 and IPC-6012 class 2 specifications. Inspections and acceptance criteria per IPC-C-600, class 2
  - Complete netlist comparison shall be performed by fabricator prior to fabrication per IPC-9252 paragraph 5.3. Reference Swift Navigation supplied IPC-D-356 netlist files
  - 100% electrical test is required for shorts and continuity
  - Fabricator has approval to adjust all soldermask clearances to a maximum of 0.003"
  - Base material shall be NEMA FR-4 (UL94V-0) with minimum TG of 170C, use IPC-4101/126. Final printed circuit board must be RoHS compliant
  - Drill boards using electronic drill data, drill drawing, and drill chart. For holes not otherwise specified the hole tolerance shall not exceed +/- 0.003"
  - All hole and via dimensions on fab drawing and in drill chart are considered finished hole sizes after plating has been applied
  - PCB edges shall be clean cut without burrs
  - After the application of solder mask over bare copper (SMOBC) per IPC-SM-840, soldermask residue on surface mount pads is not permitted. No solder shall be permitted under solder mask contamination in excess of 10% of the total pad areas will be considered sufficient for lot rejection. All traces must be completely covered with soldermask.
  - Surface plating shall be electroless nickel immersion gold (ENIG)
  - Walls of plated through holes shall be copper with a thickness of no less than 0.001"
  - No exposed copper shall be allowed
  - clear and legible white epoxy silkscreen required per supplied gerbers. Silkscreen to be removed from exposed pads as required
  - PCB Thickness 0.062" +/- 10%
  - Foil registration to be within 0.005" of supplied artwork when measured in reference to tooling hole or lower left corner. Front to back registration must be held to +/-0.005" and be concentric to all drilled holes within 0.005"
- 18 Soldermask color is blue, silkscreen color is white.

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	SwiftNavigation	
		DIMENSIONS ARE IN INCHES		DRAWN	12/2/2016	TITLE	
		TOLERANCES:		CHECKED		Host Board	
		FRACTIONAL ±		ENG APPR.	Jas Condley	SIZE	
		ANGULAR: MACH ± BEND ±		MFG APPR.		DWG. NO.	
		TWO PLACE DECIMAL ±		Q.A.		00177-03 Rev. 1	
		THREE PLACE DECIMAL ±		COMMENTS:		SCALE: 1:1	
		INTERPRET GEOMETRIC TOLERANCING PER:				WEIGHT:	
		MATERIAL				SHEET 1 OF 14	
NEXT ASSY	USED ON	FINISH					
APPLICATION		DO NOT SCALE DRAWING					

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Layer Stack Legend

Material	Layer	Thickness	Dielectric Material	Type	Gerber
	Top Paste			Paste Mask	GTP
	Top Overlay			Legend	GTO
Surface Material	Top Solder	0.01mm	Solder Resist	Solder Mask	GTS
<b>Copper</b>	<b>Top Layer</b>	<b>0.051mm</b>		<b>Signal</b>	<b>GTL</b>
Prepreg		0.069mm	370HR	Dielectric	
<b>Copper</b>	<b>GND</b>	<b>0.03mm</b>		<b>Internal Plane</b>	<b>GP1</b>
Core		0.533mm	370HR	Dielectric	
<b>Copper</b>	<b>Signal Layer 1</b>	<b>0.03mm</b>		<b>Signal</b>	<b>G1</b>
Prepreg		0.095mm	370HR	Dielectric	
<b>Copper</b>	<b>Signal Layer 2</b>	<b>0.03mm</b>		<b>Signal</b>	<b>G2</b>
Core		0.533mm	370HR	Dielectric	
<b>Copper</b>	<b>PWR</b>	<b>0.03mm</b>		<b>Internal Plane</b>	<b>GP2</b>
Prepreg		0.069mm	370HR	Dielectric	
<b>Copper</b>	<b>Bottom Layer</b>	<b>0.051mm</b>		<b>Signal</b>	<b>GBL</b>
Surface Material	Bottom Solder	0.01mm	Solder Resist	Solder Mask	GBS
	Bottom Overlay			Legend	GBO
	Bottom Paste			Paste Mask	GBP

Total thickness: 1.543mm

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NEXT ASSY	USED ON	FINISH				
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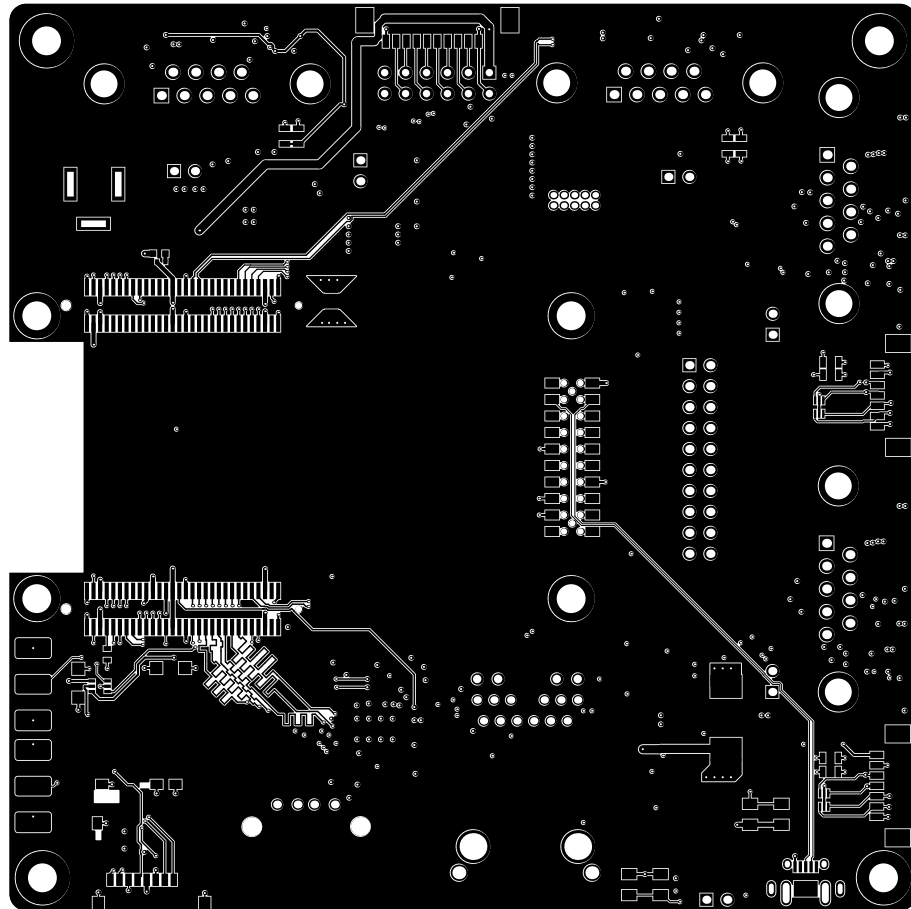
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Top Layer (Scale: 1.09090899434712)



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			CHECKED			SIZE DWG. NO. 00177-03 Rev. 1		
			ENG APPR.	Jas Condley				
		MFG APPR.			COMMENTS:			
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		MATERIAL			APPLICATION			
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NEXT ASSY	USED ON							

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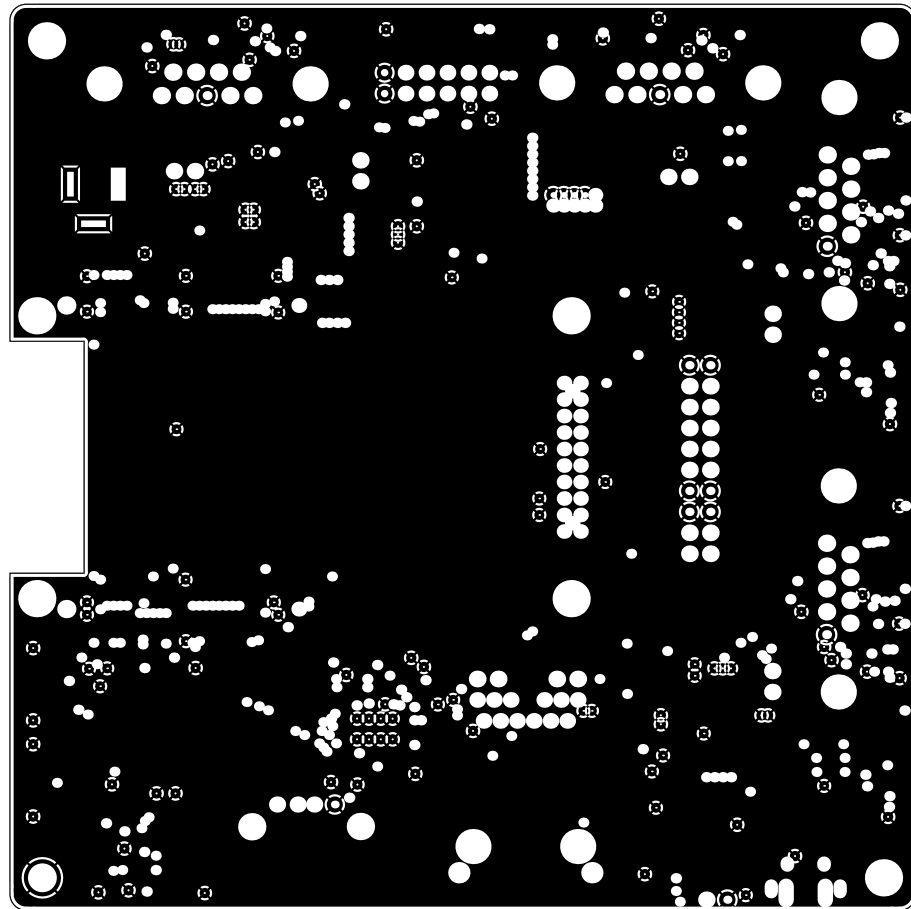
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GND (Scale: 1.09090899434712)



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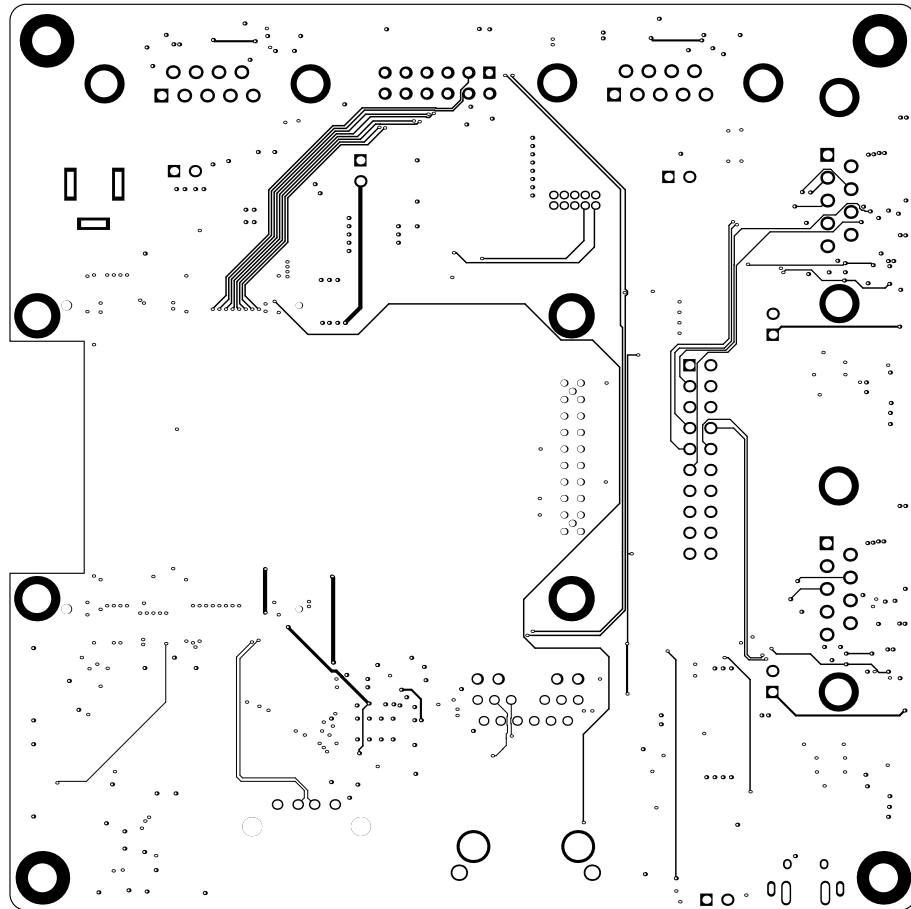
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Signal Layer 1 (Scale: 1.09090899434712)



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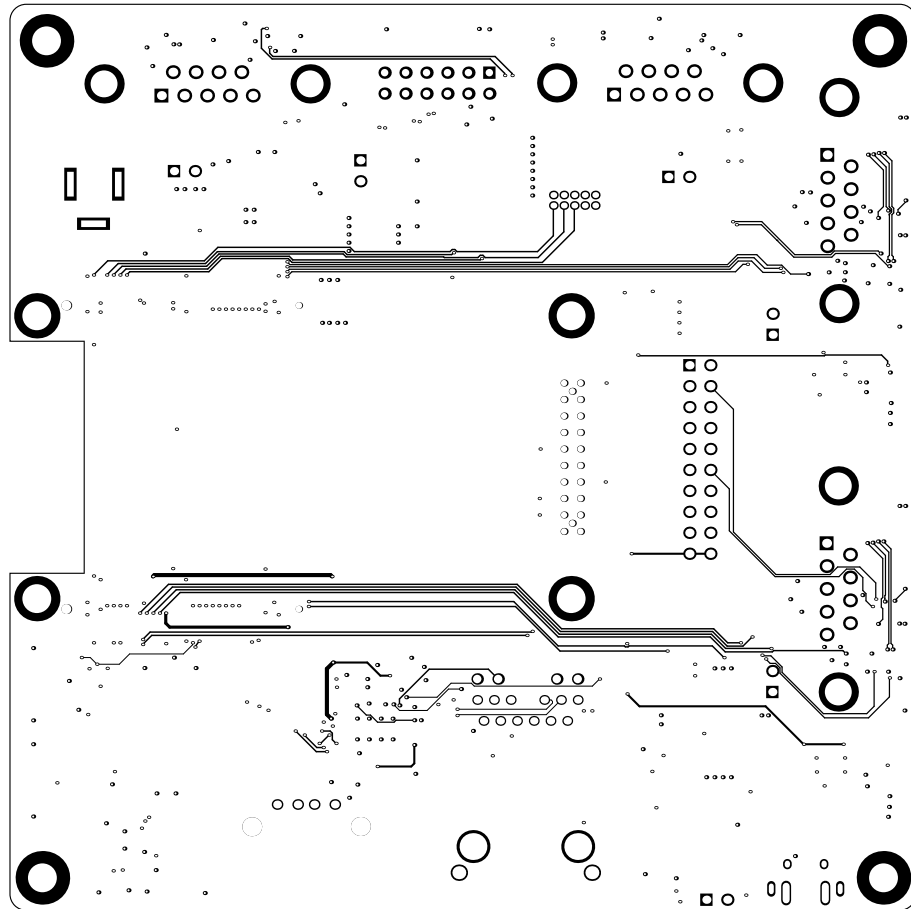
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Signal Layer 2 (Scale: 1.09090899434712)



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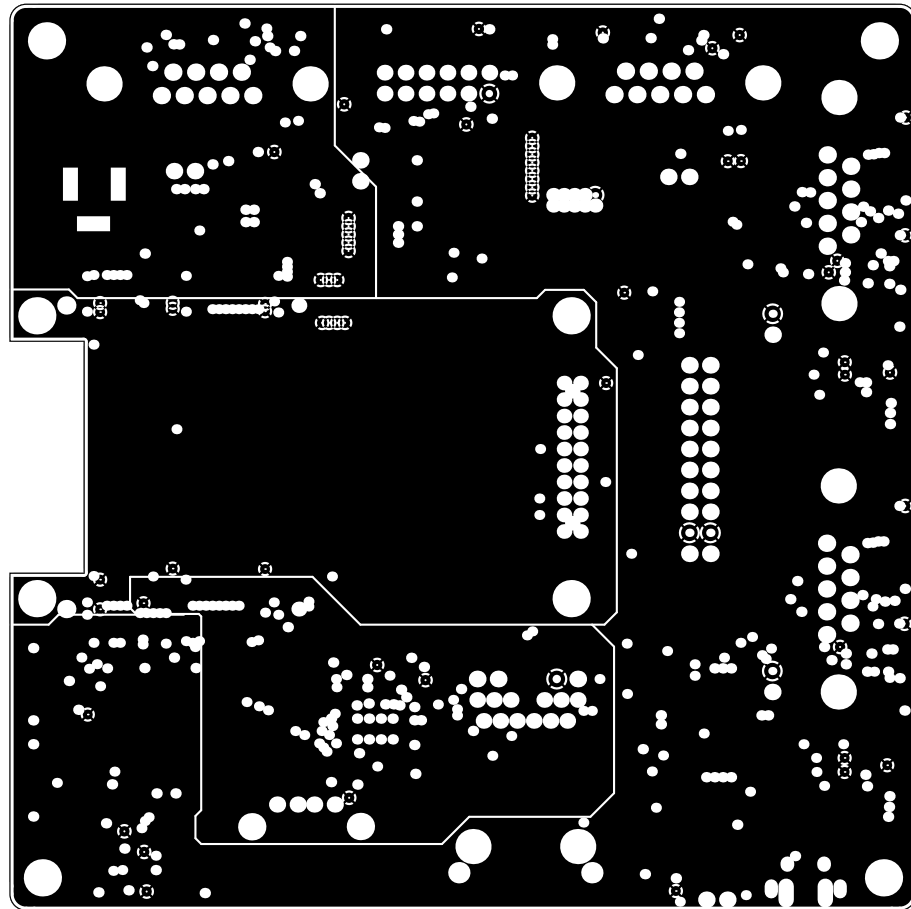
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PWR (Scale: 1.09090899434712)



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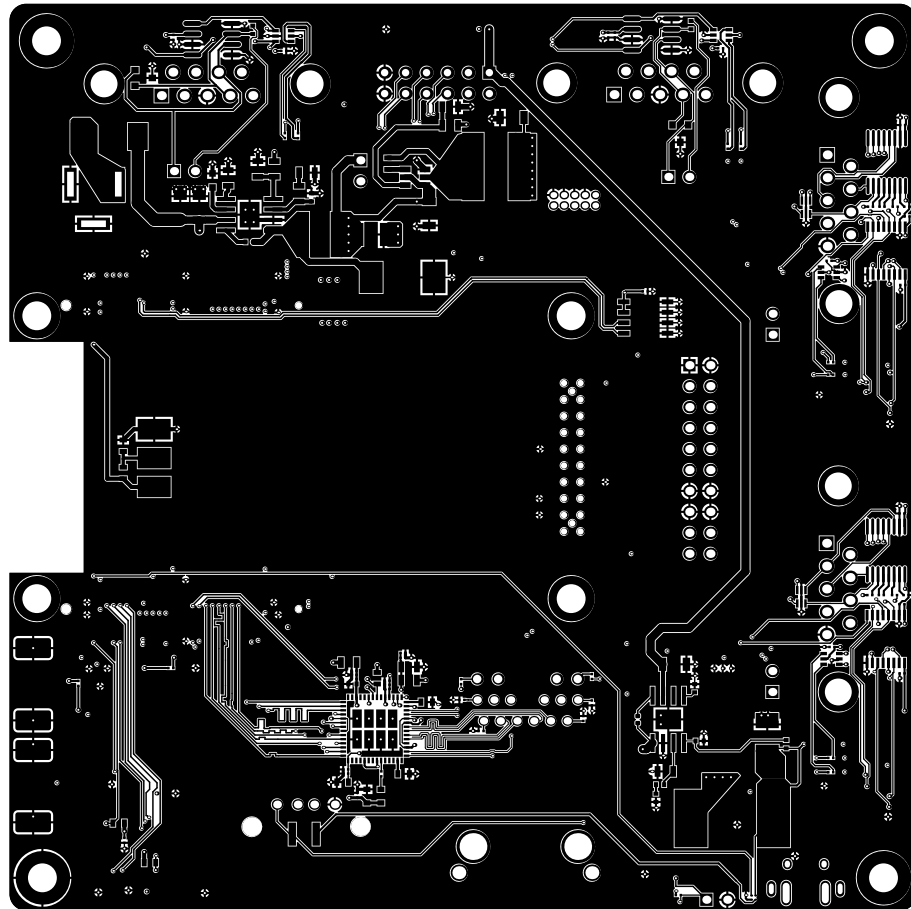
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Bottom Layer (Scale: 1.09090899434712)



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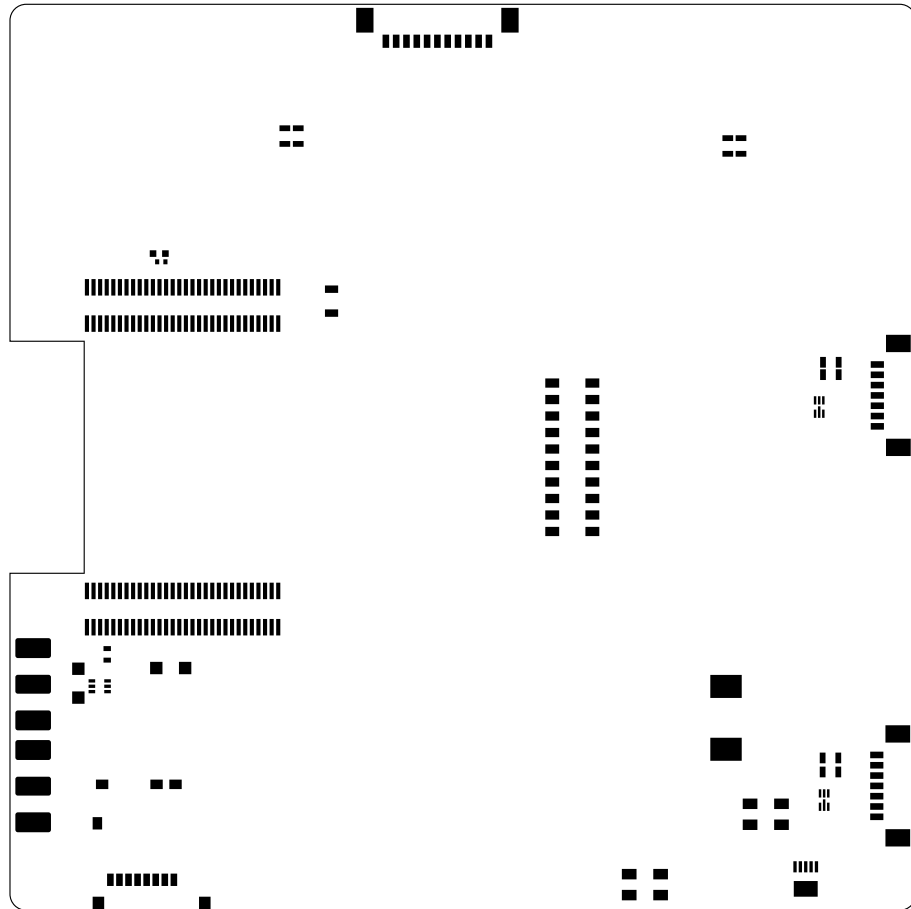
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Top Paste (Scale: 1.09090899434712)



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NEXT ASSY	USED ON	FINISH				SCALE: 1:1	WEIGHT:
APPLICATION		DO NOT SCALE DRAWING				SHEET 9 OF 14	

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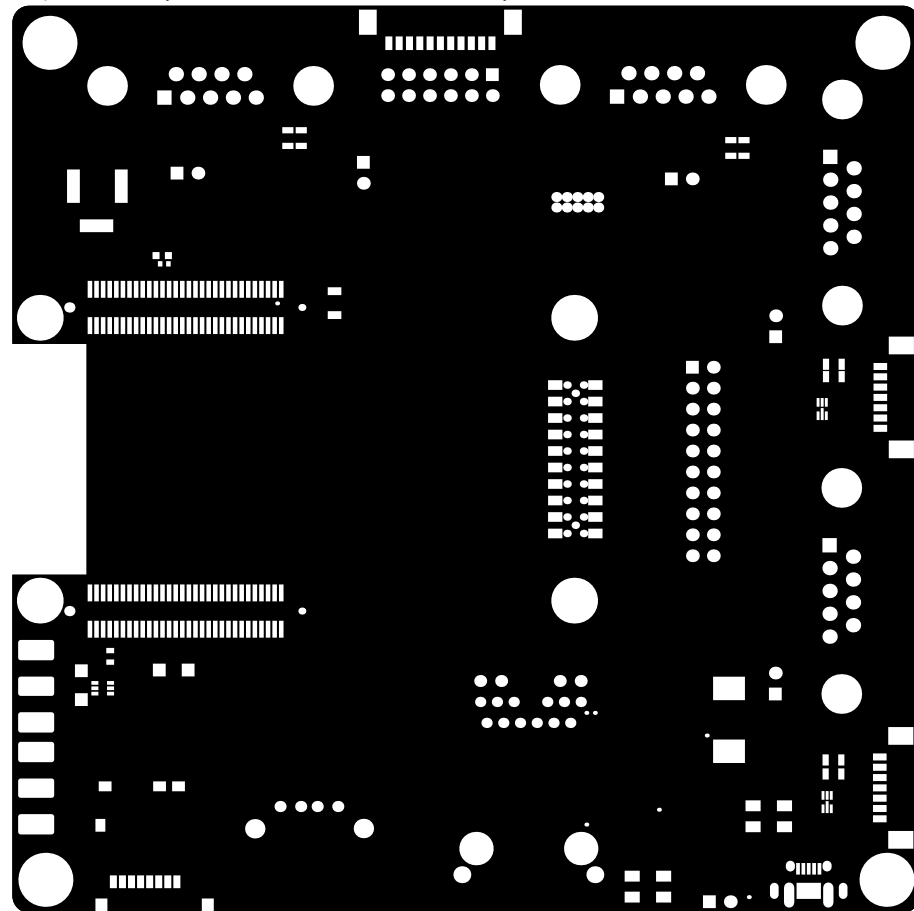
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Top Solder (Scale: 1.09090899434712)



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NEXT ASSY	USED ON	FINISH				SCALE: 1:1	WEIGHT:
APPLICATION		DO NOT SCALE DRAWING				SHEET 11 OF 14	

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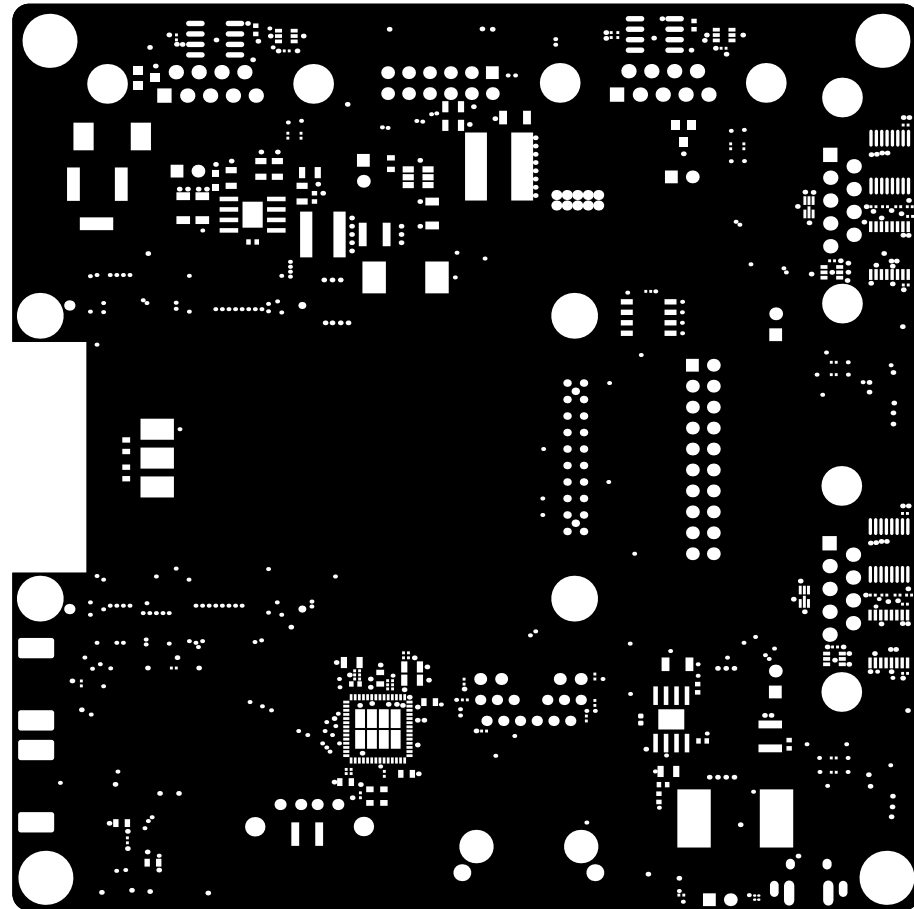
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Bottom Solder (Scale: 1.09090899434712)



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		INTERPRET GEOMETRIC TOLERANCING PER:					
		MATERIAL					
NEXT ASSY	USED ON	FINISH					
APPLICATION		DO NOT SCALE DRAWING					

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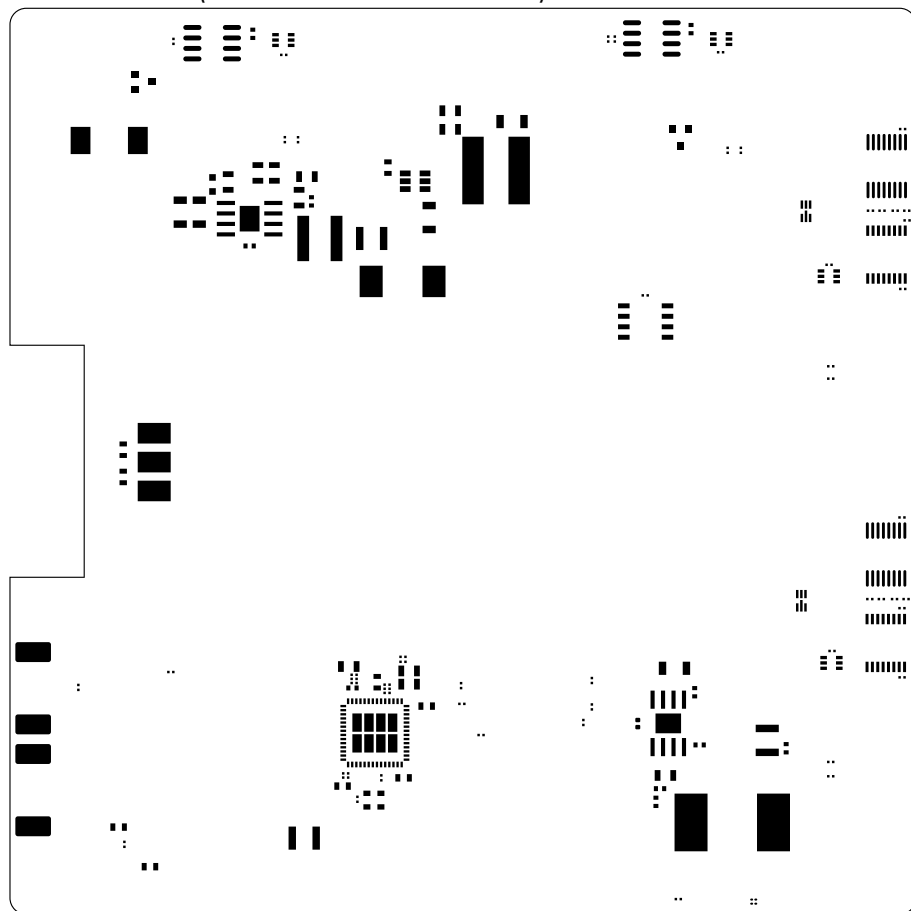
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Bottom Paste (Scale: 1.09090899434712)



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		MATERIAL					SHEET 14 OF 14
		FINISH					
NEXT ASSY	USED ON	DO NOT SCALE DRAWING					
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