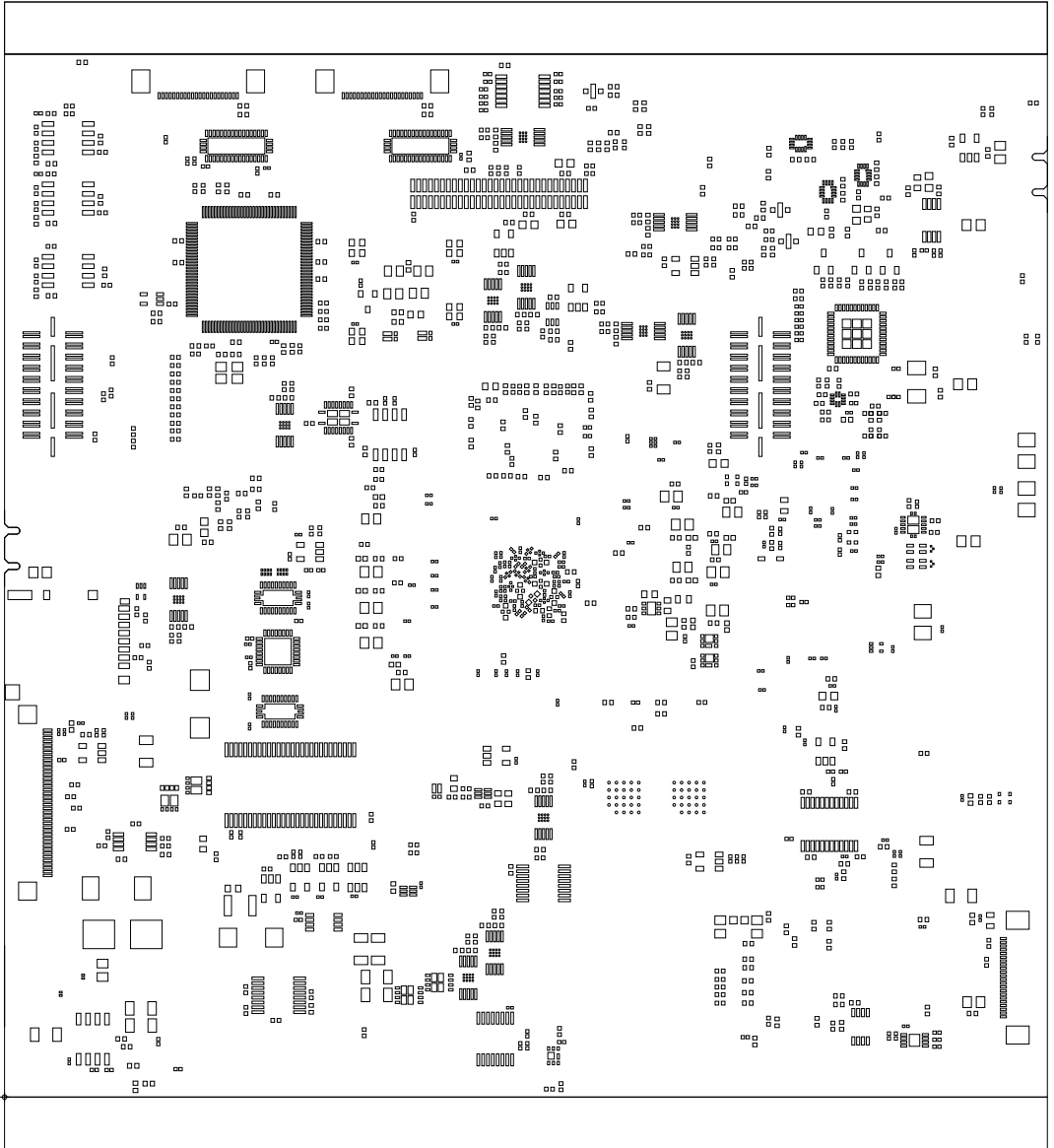


	TEXAS INSTRUMENTS		PROC170E1
BOARD NAME:	TDA4VEN & AM67 EVALUATION MODULE	REV: E1	DESCRIPTION: SECONDARY-SOLDERMASK
SCALE: 1	DATE: 04.09.2023	SHEET 17 OF 19	





		TEXAS INSTRUMENTS		PROC170E1
BOARD NAME:	TDA4VEN & AM67 EVALUATION MODULE	REV: E1	DESCRIPTION:	SECONDARY-PASTEMASK
SCALE: 1		DATE: 04.09.2023	SHEET 19 OF 19	

ART FILM - BSLK

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FABRICATION NOTES:

- FABRICATE PCB IN ACCORDANCE WITH IPC-6012C, CLASS 2, PER IPC-6011. PCB SHALL BE MANUFACTURED USING IT180A OR EQUIVALENT.
- MATERIALS:
  - LAMINATE AND PREPREG (B-STAGE) TO BE IN ACCORDANCE WITH IPC-4101/126. (MIN.TG 180)
  - COPPER FOIL TO BE IN ACCORDANCE WITH IPC-MF-150. UNLESS OTHERWISE SPECIFIED, THE COPPER FOIL THICKNESS TOLERANCES SHALL BE AS PER IPC 6012B TABLE NO.3-7 AND 3-8.
- ALL HOLES SHALL BE LOCATED WITHIN 0.15MM DIAMETER OF TRUE POSITION. LAYER TO LAYER REGISTRATION SHALL BE WITHIN 0.125MM.
- BOW AND TWIST SHALL NOT EXCEED MORE THAN 0.75% OF THE DESIGN LENGTH.
- CONDUCTOR WIDTH SHALL NOT BE LESS THAN 20% FROM ITS ORIGINAL DATA. INCASE FOR MATCHING IMPEDANCE MISTRAL SHALL APPROVE THE MODIFIED WIDTHS AND SPACING. TRACE WIDTH SHALL BE MEASURED ON THE SURFACE IN CONTACT WITH THE LAMINATE.
- AUTOMATED OPTICAL INSPECTION OF ALL THE LAYERS IS REQUIRED.
- FINISH:
  - ALL EXPOSED CONDUCTIVE PATTERN AREAS NOT COVERED WITH SOLDER MASK OR OTHER PLATING SHALL BE ENIG. ELECTROLESS NICKEL/IMMERSION GOLD. ELECTROLESS NICKEL SHALL BE 3.6 MICRONS. TYPICAL IMMERSION GOLD THICKNESS SHALL BE 0.04-0.06 MICRONS OF SOLDERABLE IMMERSION GOLD SURFACE.
  - APPLY LIQUID PHOTO IMAGEABLE SOLDER MASK PER IPC-SM-840, CLASS H, TO BOTH SIDES OF THE BOARD OVER BARE COPPER. VIA HOLES THAT HAVE MASK OPEN SHALL BE FILLED WITH NON CONDUCTIVE INK AND CAP PLATED. ALL OTHER VIA HOLES SHALL BE FILLED WITH NON CONDUCTIVE INK AND COVERED WITH SOLDER MASK. ONLY SOLDERMASK IMAGES THAT ARE 0.08(0.003") PER SIDE SHALL BE REDUCED IF REQUIRED. ALL OTHER SOLDER MASK IMAGES SHALL NOT BE ENLARGED. DEFAULT COLOUR OF SOLDER MASK SHALL BE GREEN.
  - SILKSCREEN SHALL BE WHITE, PERMANENT, ORGANIC, NON-CONDUCTIVE INK. THERE SHALL BE NO SILKSCREEN ON ANY SOLDERABLE COMPONENT PAD. CLIPPING OF SILK SCREEN SHALL BE ALLOWED IF THE SILK SCREEN FALLS ON SOLDERABLE AREAS.
  - SURFACE AND VIA HOLES FINISH SHALL NOT BE LESS THAN 20UM [0.00079"], INCASE OF LASER VIA'S, BLIND VIA'S SHALL NOT BE LESS THAN 12UM [0.00047"] AND BURIED VIA'S SHALL NOT BE LESS THAN 15UM [0.0006"].
  - ALL HOLES SURROUNDED BY LAND <=0.010" SHALL BE COMPLAINT TO IPC6012, CLASS 2.
- MARKING:
  - BOARD SHALL MEET THE REQUIREMENTS OF UL-796E WITH FLAMMABILITY RATING OF MINIMUM 94V-0. UL LOGO,UL FILE NUMBER, MANUFACTURER'S IDENTIFICATION AND DATE CODE LETTER SHALL BE RENDERED IN SILKSCREEN.
- TEST REQUIREMENTS:
  - 100% NET LIST ELECTRICAL VERIFICATION USING MISTRAL SUPPLIED IPC-D-356 NET LIST FOR OPENS AND SHORTS.
- THEIEVING IS ALLOWED ONLY IN THE PANEL FRAME, NOT IN THE CIRCUIT AREA.
- TEAR DROPS SHALL BE ADDED ON INTERNAL AND EXTERNAL LAYER FOR ALL THE VIA'S AND THROUGH HOLE PADS.
- FINISHED PCB THICKNESS SHALL BE 0.069" +/-10%.
- MIN TRACE WIDTH/SPACING ON BOARD IS 0.003"/0.0032".
- ALL THE IMPEDANCE SHALL BE MATCHED AS PER IMPEDANCE TABLE WITH +/-10% TOLERANCE.
- ENSURE THAT UL REGISTERED E-FILE NUMBER SHALL BE PRINTED ON PCB SILKSCREEN.
- ALL UNCONNECTED VIA'S SHALL BE SUPPRESSED IN INTERNAL LAYERS.
- BACKDRILLING TO BE DONE FROM L12 TO L04 AND L12 TO L06
- FOR DETAILED STACKUP, PROC170\_STACKUP.PDF SHALL BE REFERRED
- V SCORE TO BE DONE AS PER DETAIL A

START	TARGET	MUST CUT	MUST NOT CUT
L12	L06	L07	L05

BACKDRILL: BOTTOM to L6-PWR1				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
	7.96	+3.0/-3.0	PLATED	4

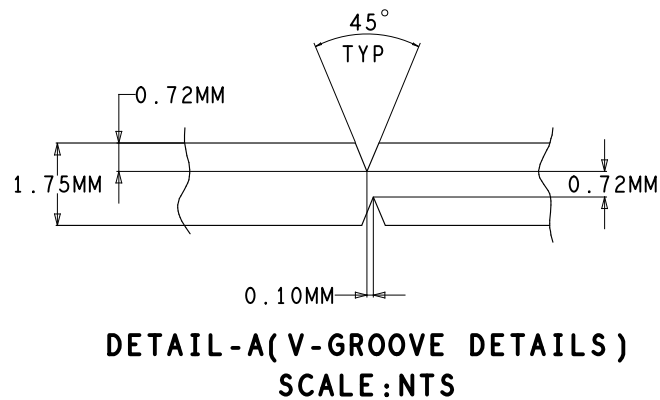
NOTES:  
- DRILL SIZES LISTED IN LEGEND ARE CONSIDERED FINISHED.  
- VENDOR IS REQUIRED TO SELECT TOOLING FOR OVERDRILLING.  
- LEGEND DOES NOT SPECIFY DEPTH INTO ADJACENT DIELECTRIC LAYER.

START	TARGET	MUST CUT	MUST NOT CUT
L12	L04	L05	L03

BACKDRILL: BOTTOM to L4-GND2				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
	7.96	+3.0/-3.0	PLATED	29

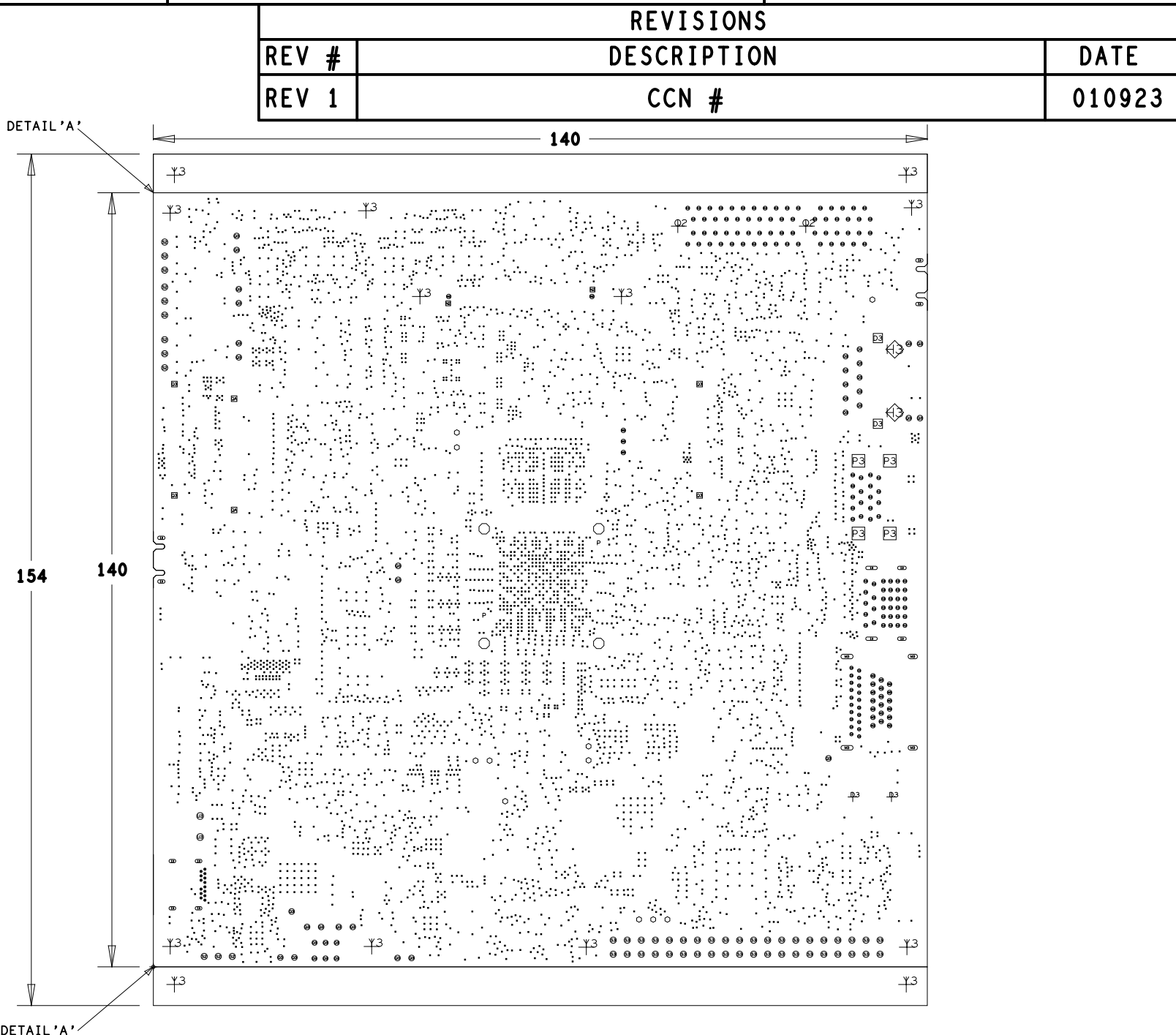
NOTES:  
- DRILL SIZES LISTED IN LEGEND ARE CONSIDERED FINISHED.  
- VENDOR IS REQUIRED TO SELECT TOOLING FOR OVERDRILLING.  
- LEGEND DOES NOT SPECIFY DEPTH INTO ADJACENT DIELECTRIC LAYER.


DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
1	7.96	+3.0/-3.0	PLATED	33
2	8.0	+3.0/-3.0	PLATED	133
3	8.0	+3.0/-3.0	PLATED	5305
4	10.0	+0.0/-10.0	PLATED	52
5	16.0	+3.0/-3.0	PLATED	14
6	24.0	+3.0/-3.0	PLATED	20
7	28.0	+3.0/-3.0	PLATED	115
8	32.0	+2.0/-2.0	PLATED	2
9	32.0	+3.0/-3.0	PLATED	22
10	36.0	+3.0/-3.0	PLATED	16
11	40.0	+0.0/-0.0	PLATED	11
12	40.0	+3.0/-3.0	PLATED	22
13	44.0	+2.0/-2.0	PLATED	12
14	44.0	+3.0/-3.0	PLATED	40
15	48.0	+3.0/-3.0	PLATED	2
16	66.0	+3.0/-3.0	PLATED	2
17	90.0	+3.0/-3.0	PLATED	4
18	34.0	+2.0/-2.0	NON-PLATED	2
19	34.0	+3.0/-3.0	NON-PLATED	2
20	40.0	+1.97/-1.97	NON-PLATED	2
21	40.0	+3.0/-3.0	NON-PLATED	4
22	66.0	+3.0/-3.0	NON-PLATED	2
23	66.93	+2.0/-2.0	NON-PLATED	4
24	92.0	+2.0/-2.0	NON-PLATED	2
25	108.0	+3.0/-3.0	NON-PLATED	13
26	126.0	+3.0/-3.0	NON-PLATED	2
27	48.0x24.0	+3.0/-3.0	PLATED	4
28	52.0x24.0	+3.0/-3.0	PLATED	4
29	62.0x24.0	+3.0/-3.0	PLATED	2
30	66.0x32.0	+3.0/-3.0	PLATED	2
31	82.0x24.0	+3.0/-3.0	PLATED	2
32	86.0x32.0	+3.0/-3.0	PLATED	2



IMPEDANCE SPECIFICATIONS

SL#	TYPE	LAYER	TRACEWIDTH(Mils)	SPACING(Mils)	IMPEDANCE(Ohms)	REF LAYER
01	EDGE COUPLED MICROSTRIP	L1/L12	4	5.5	120	L2/L11
02	EDGE COUPLED MICROSTRIP	L1/L12	4.1	6.2	100	L2/L11
03	EDGE COUPLED MICROSTRIP	L1/L12	4.5	4.5	90	L2/L11
04	EDGE COUPLED MICROSTRIP	L1/L12	5.2	4.5	85	L2/L11
05	EDGE COUPLED MICROSTRIP	L1/L12	6	4.5	80	L2/L11
06	EDGE COUPLED MICROSTRIP	L1/L12	9.1	4.5	66	L2/L11
07	MICROSTRIP	L1/L12	12.5	-	33	L2/L11
08	MICROSTRIP	L1/L12	9	-	40	L2/L11
09	MICROSTRIP	L1/L12	5.9	-	50	L2/L11
10	EDGE COUPLED STRIPLINE	L3	6.6	4.5	66	L2/L4
11	EDGE COUPLED STRIPLINE	L3,L5	4.3	4.5	80	L2/L4,L4/L6
12	EDGE COUPLED STRIPLINE	L10	3.7	4.5	85	L9/L11
13	EDGE COUPLED STRIPLINE	L3,L10,L8	3.6	5.8	90	L2/L4,L9/L11,L7/L9
14	EDGE COUPLED STRIPLINE	L3,L5,L8,L10	3.2	8	100	L2/L4,L4/L6,L7/L9,L9/L11
15	STRIPLINE	L3	8	-	33	L2/L4
16	STRIPLINE	L3,L5	5.7	-	40	L2/L4,L4/L6
17	STRIPLINE	L3,L5,L8,L10	3.5	-	50	L2/L4,L4/L6,L7/L9,L9/L11
18	STRIPLINE	L8	8	-	33	L7/L9
19	STRIPLINE	L3	3.2	16	133	L2/L4



SIGNATURES		DATE		 TEXAS INSTRUMENTS	PROC170E1
LAYOUT BY	JAL	040923			
REVIEWED BY	ZA	040923			
APPROVED BY	AMB	040923			
				TDA4VEN and AM67 EVALUATION MODULE	
		SIZE D			Rev E1
		SCALE : NONE			SHEET 1 OF 19

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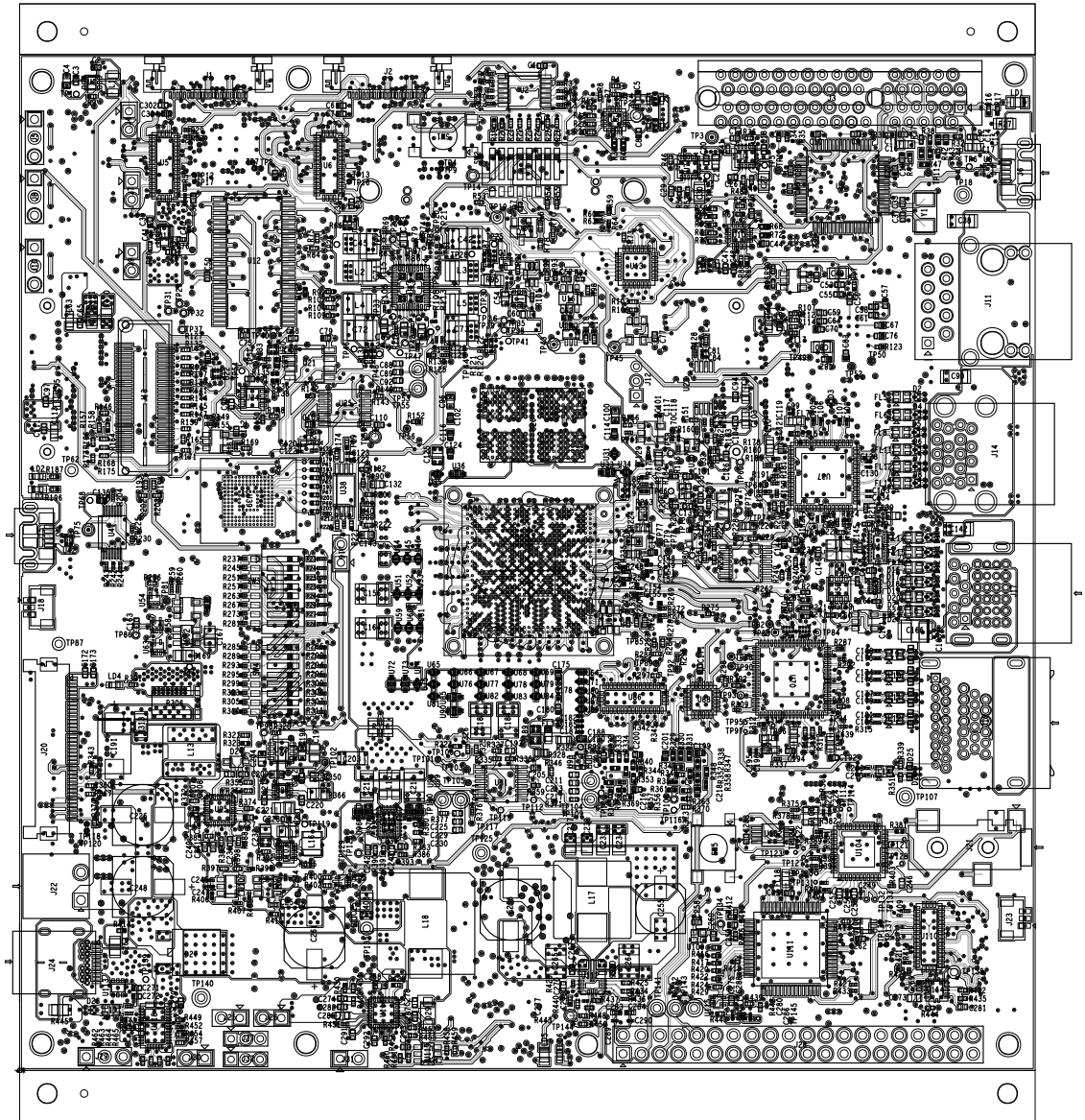
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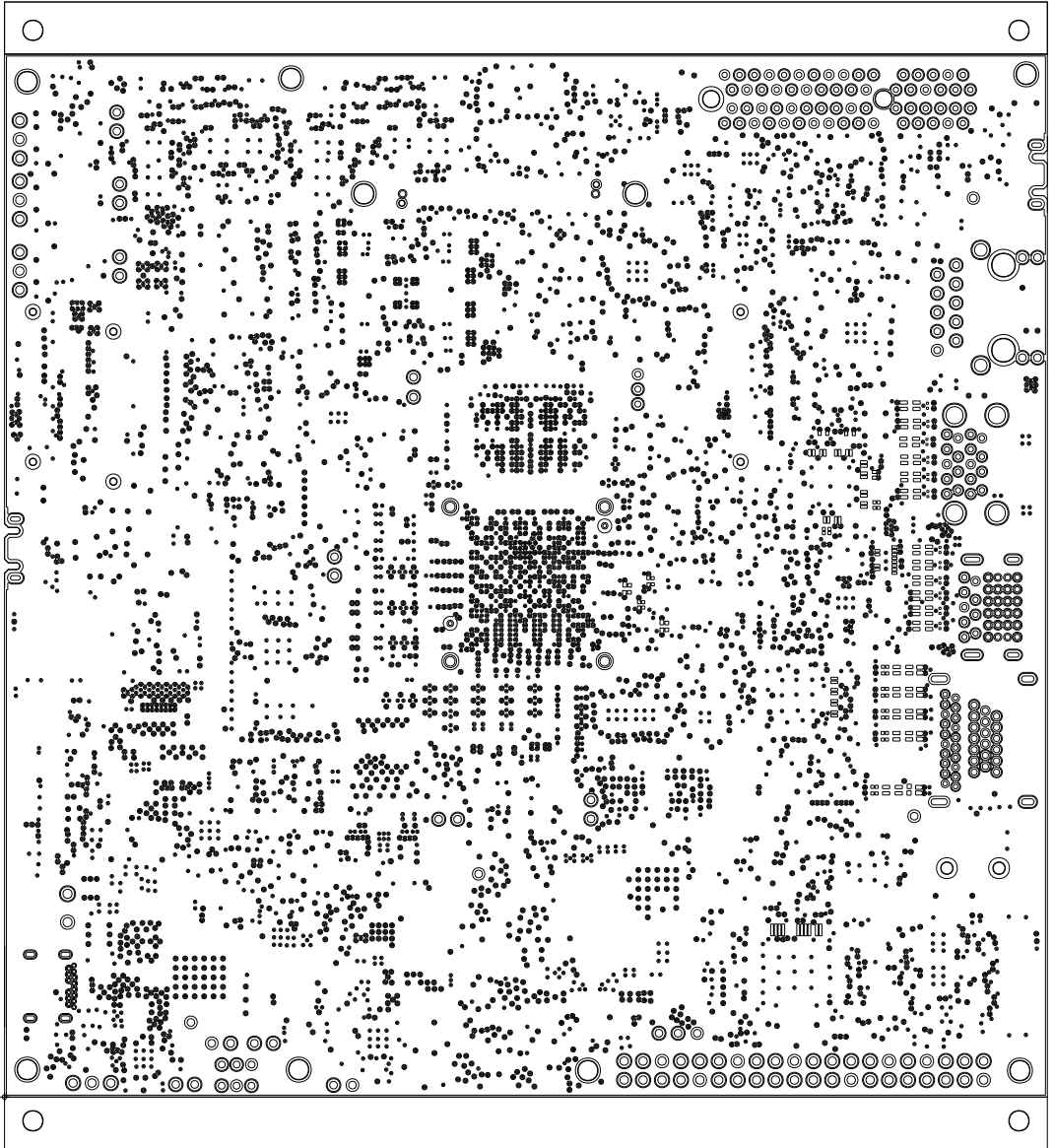
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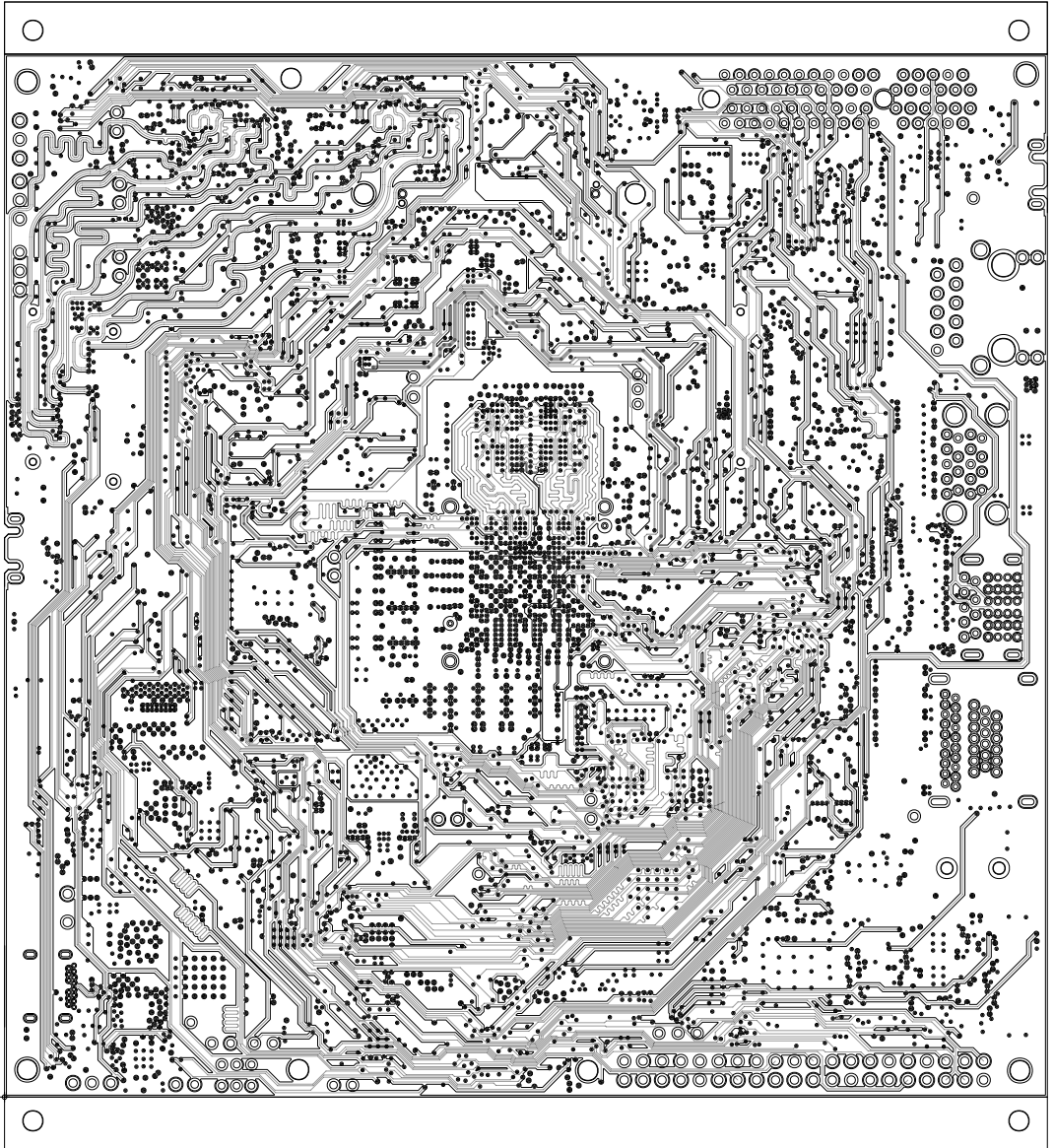
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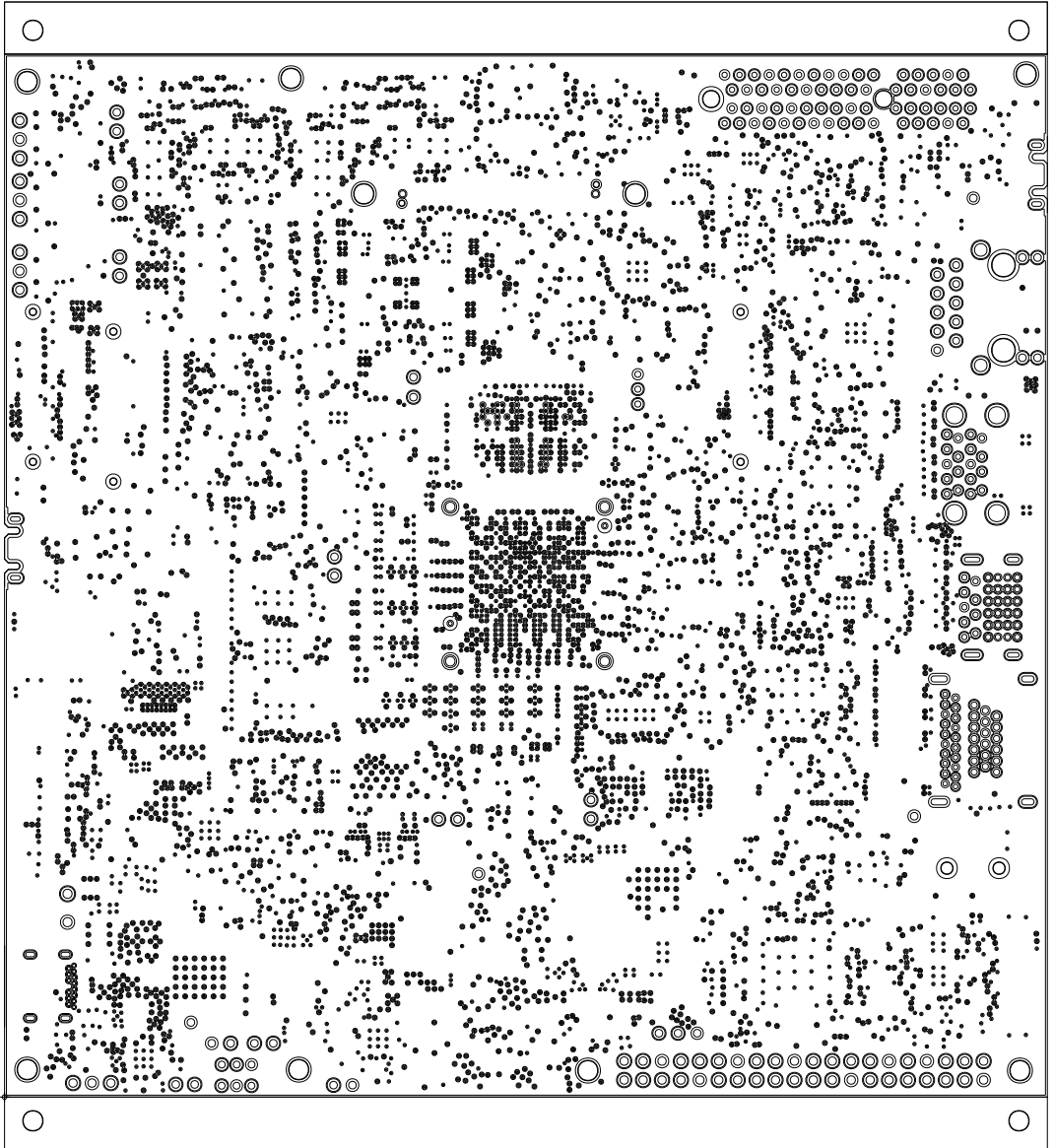
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BOARD NAME:	TDA4VEN & AM67 EVALUATION MODULE		REV: E1	DESCRIPTION: ASSEMBLY TOP DE-SIG	
	SCALE: 1		DATE: 04.09.2023	SHEET 04 OF 19	



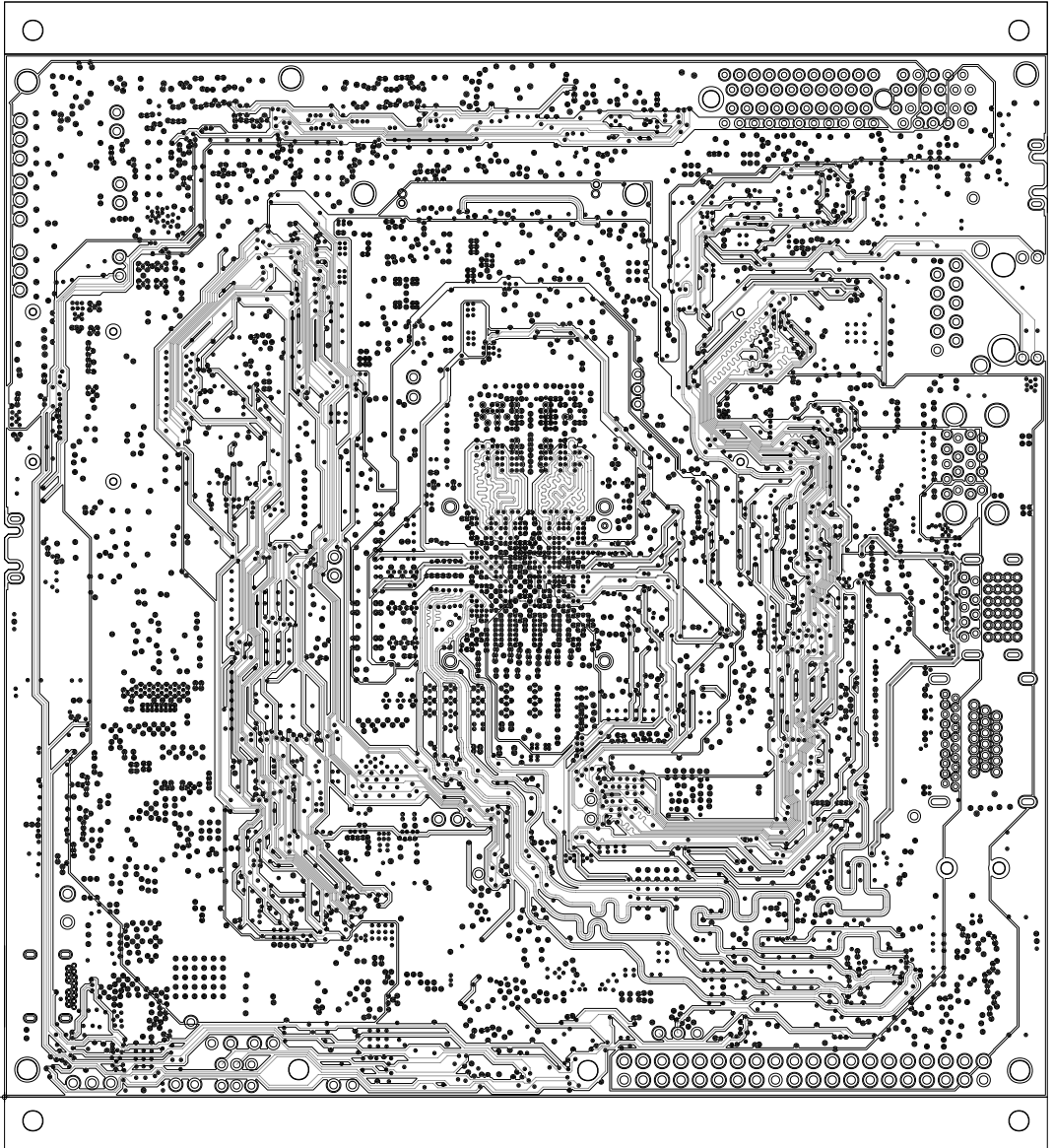
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BOARD NAME: TDA4VEN & AM67 EVALUATION MODULE		REV: E1	DESCRIPTION: GROUND-PLANE-01	
SCALE: 1		DATE: 04.09.2023	SHEET 05 OF 19	



		TEXAS INSTRUMENTS		PROC170E1
BOARD NAME: TDA4VEN & AM67 EVALUATION MODULE		REV: E1	DESCRIPTION: INNER-SIGNAL-01	
SCALE: 1		DATE: 04.09.2023	SHEET 06 OF 19	

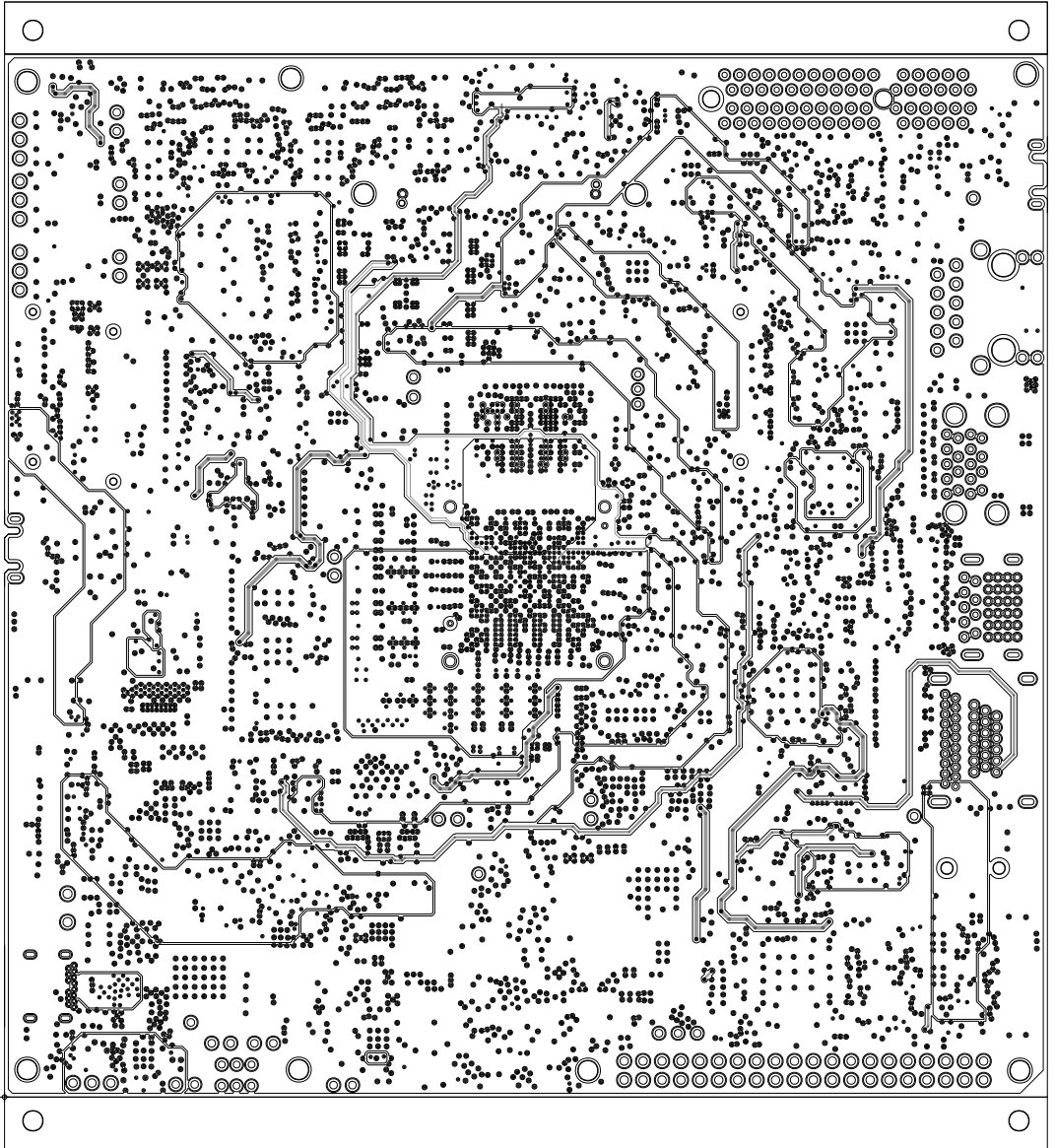


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BOARD NAME: TDA4VEN & AM67 EVALUATION MODULE		REV: E1	DESCRIPTION: GROUND-PLANE-02	
SCALE: 1		DATE: 04.09.2023	SHEET 07 OF 19	



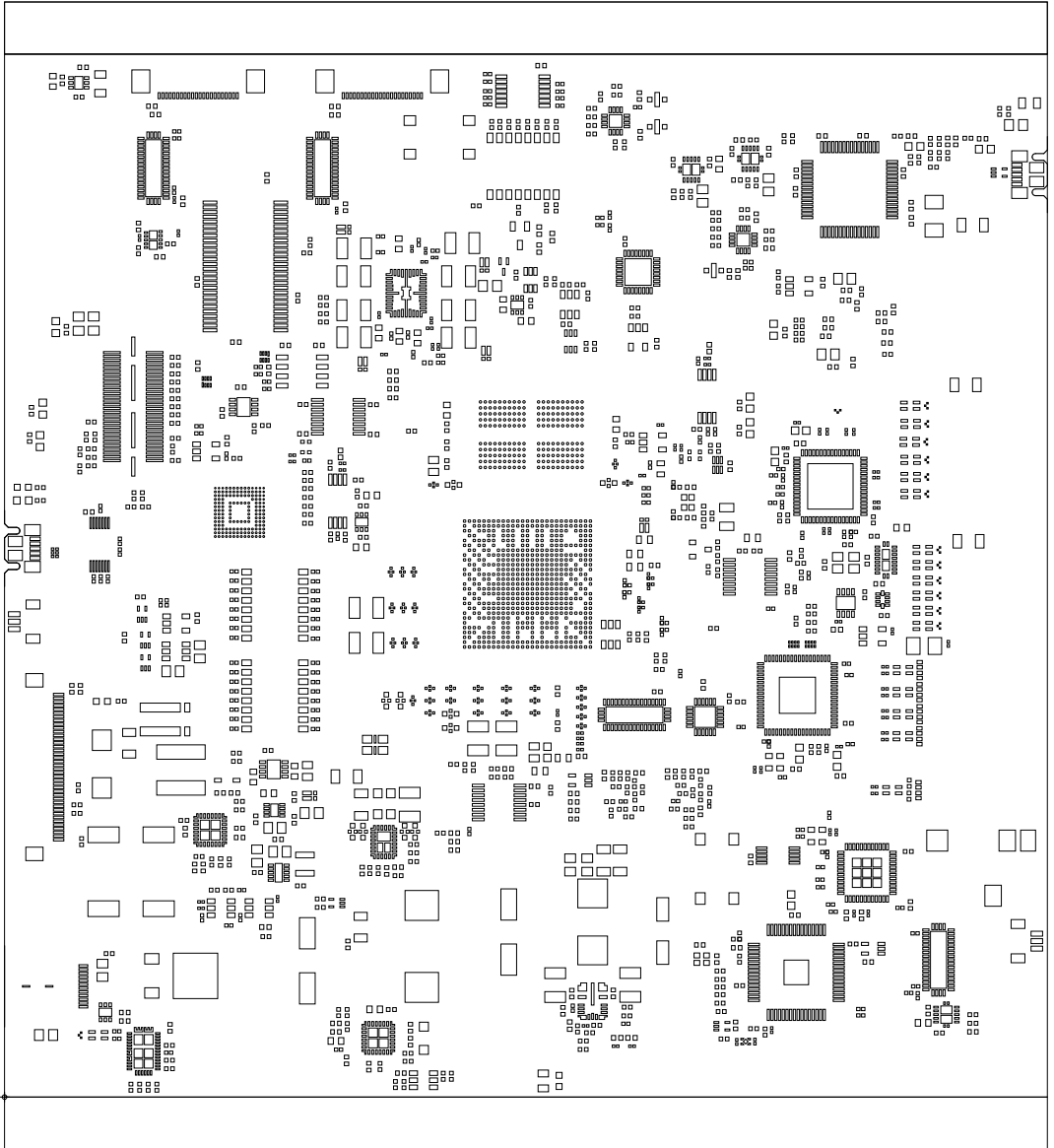
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BOARD NAME: TDA4VEN & AM67 EVALUATION MODULE		REV: E1	DESCRIPTION: INNER-SIGNAL-02	
SCALE: 1		DATE: 04.09.2023	SHEET 08 OF 19	



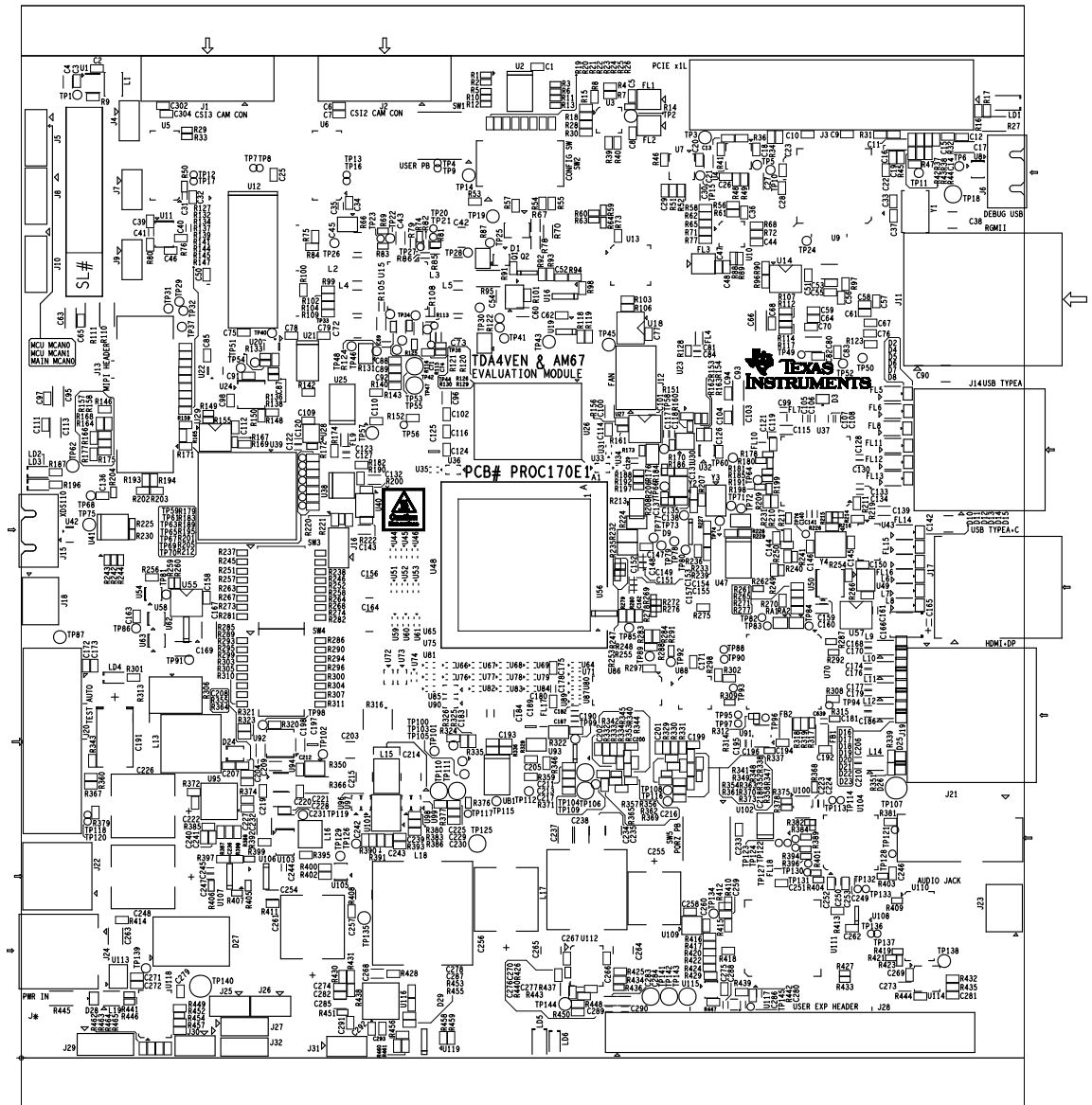


		TEXAS INSTRUMENTS		PROC170E1
BOARD NAME:	TDA4VEN & AM67 EVALUATION MODULE	REV: E1	DESCRIPTION:	POWER-PLANE-01
SCALE: 1		DATE: 04.09.2023	SHEET 09 OF 19	

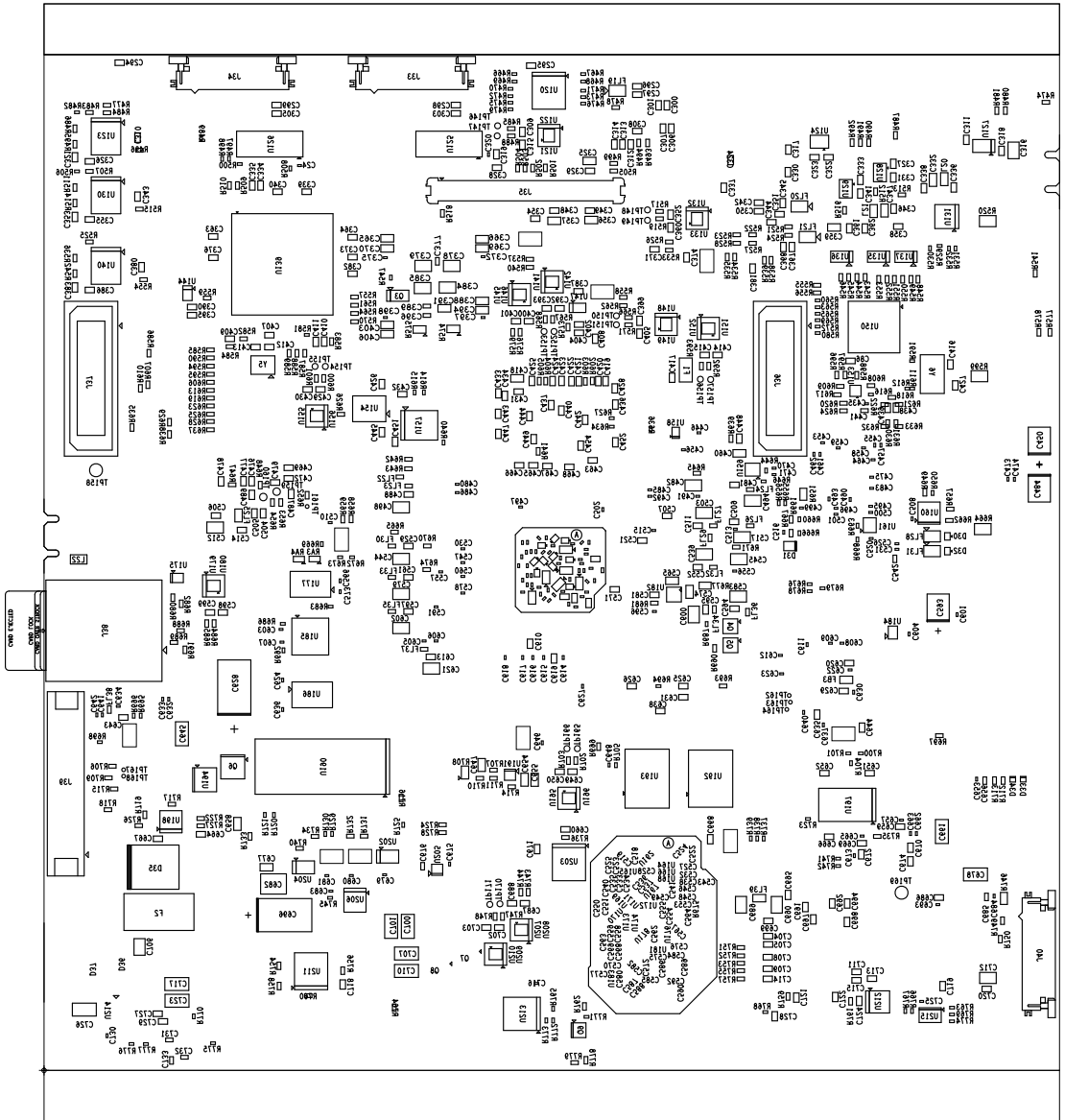
ART FILM - L12\_SOLD



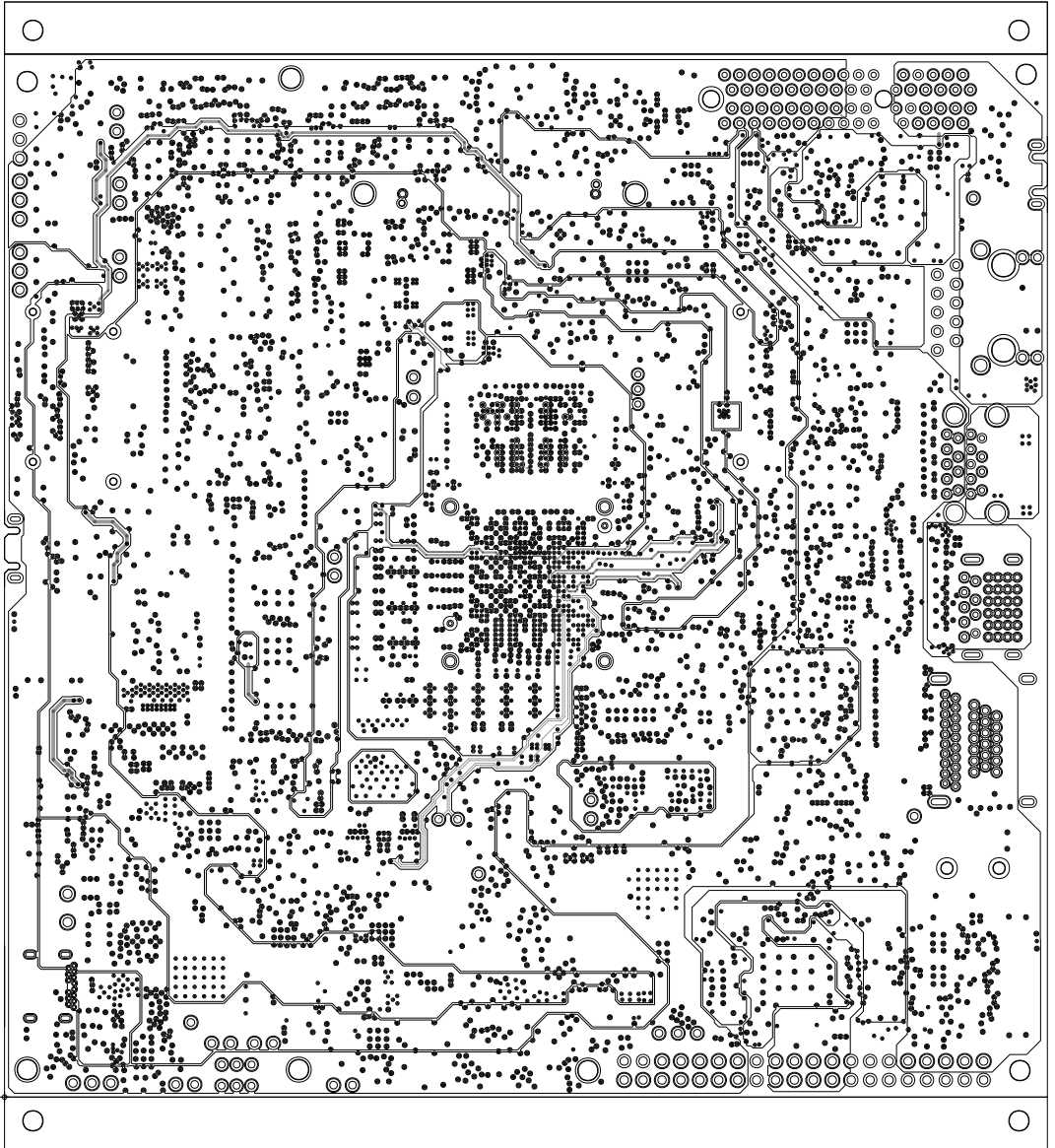
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BOARD NAME:	TDA4VEN & AM67 EVALUATION MODULE	REV: E1	DESCRIPTION:	PRIMARY-PASTEMASK
SCALE: 1		DATE: 04.09.2023	SHEET 18 OF 19	



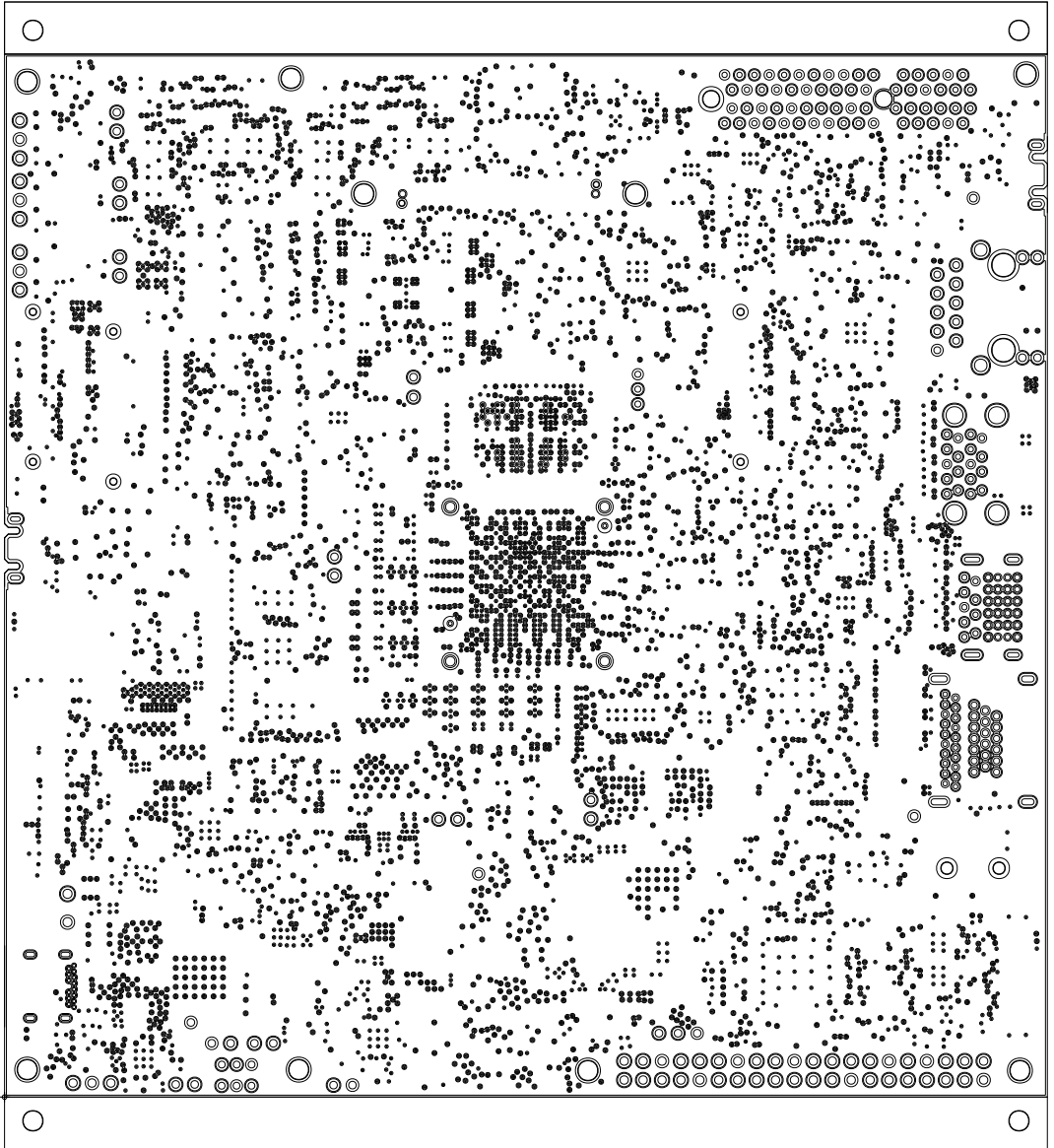
	TEXAS INSTRUMENTS		PROC170E1	
BOARD NAME:	REV: E1	DESCRIPTION:	PRIMARY-SILKSCREEN	
SCALE: 1	DATE: 04.09.2023		SHEET 02 OF 19	



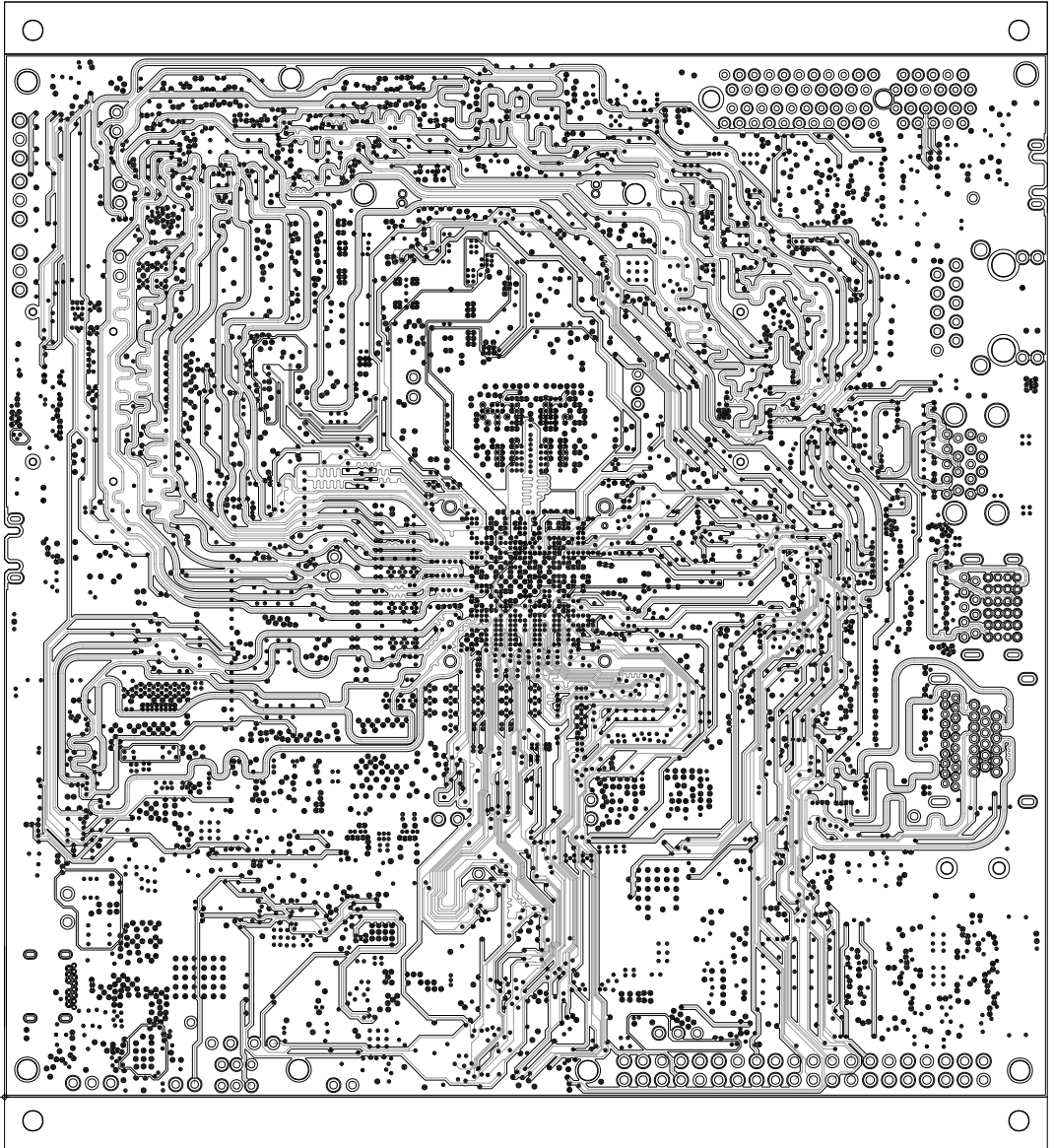
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BOARD NAME:		TDA44VEN & AM67 EVALUATION MODULE	REV: E1	DESCRIPTION:	ASSEMBLY BOTTOM
SCALE: 1		DATE: 04.09.2023		SHEET	OF 19



		TEXAS INSTRUMENTS		PROC170E1
BOARD NAME:	TDA4VEN & AM67 EVALUATION MODULE	REV: E1	DESCRIPTION:	POWER-PLANE-02
SCALE: 1		DATE: 04.09.2023	SHEET 10 OF 19	

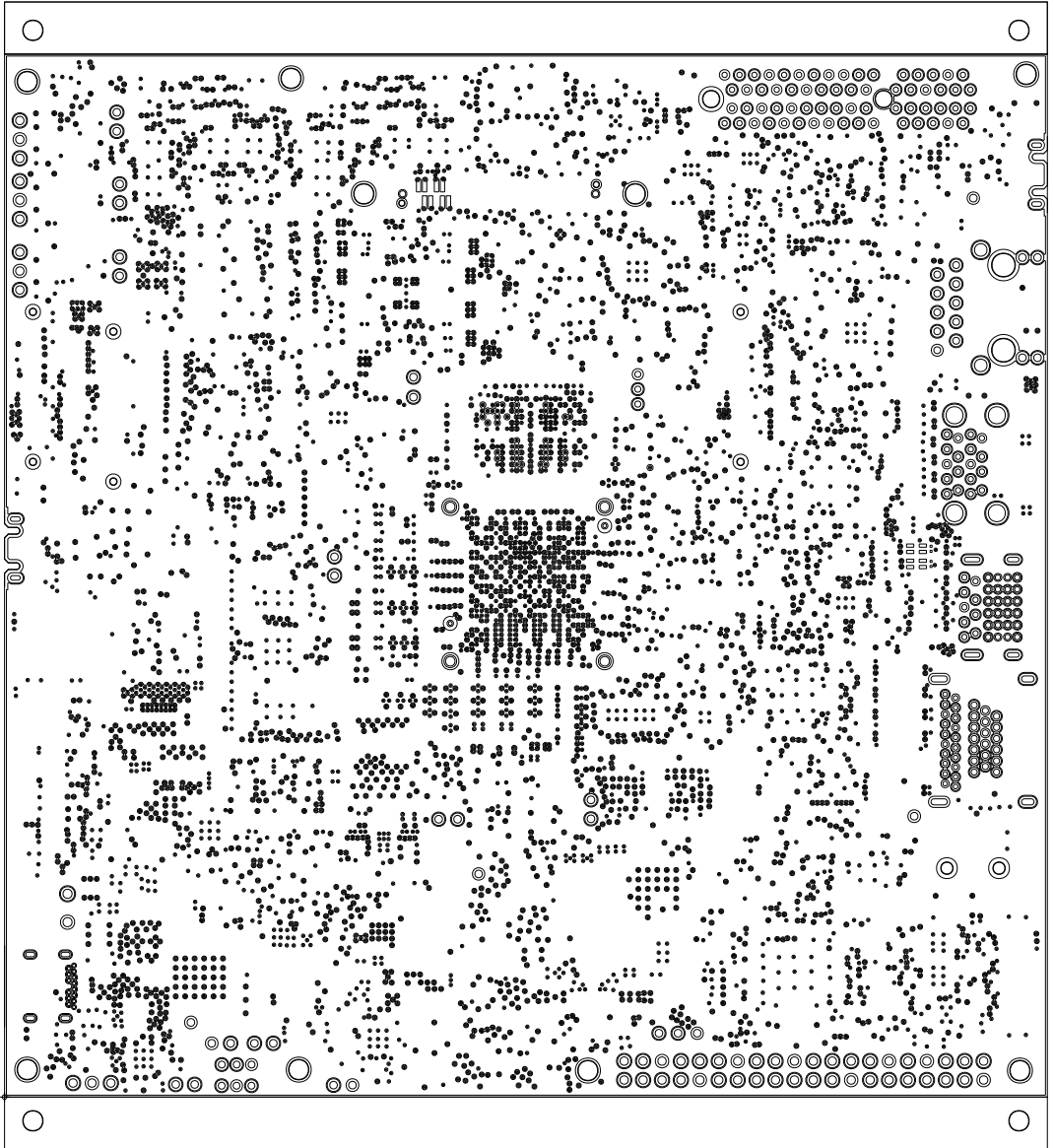


		TEXAS INSTRUMENTS		PROC170E1
BOARD NAME: TDA4VEN & AM67 EVALUATION MODULE		REV: E1	DESCRIPTION: GROUND-PLANE-03	
SCALE: 1		DATE: 04.09.2023	SHEET 12 OF 19	

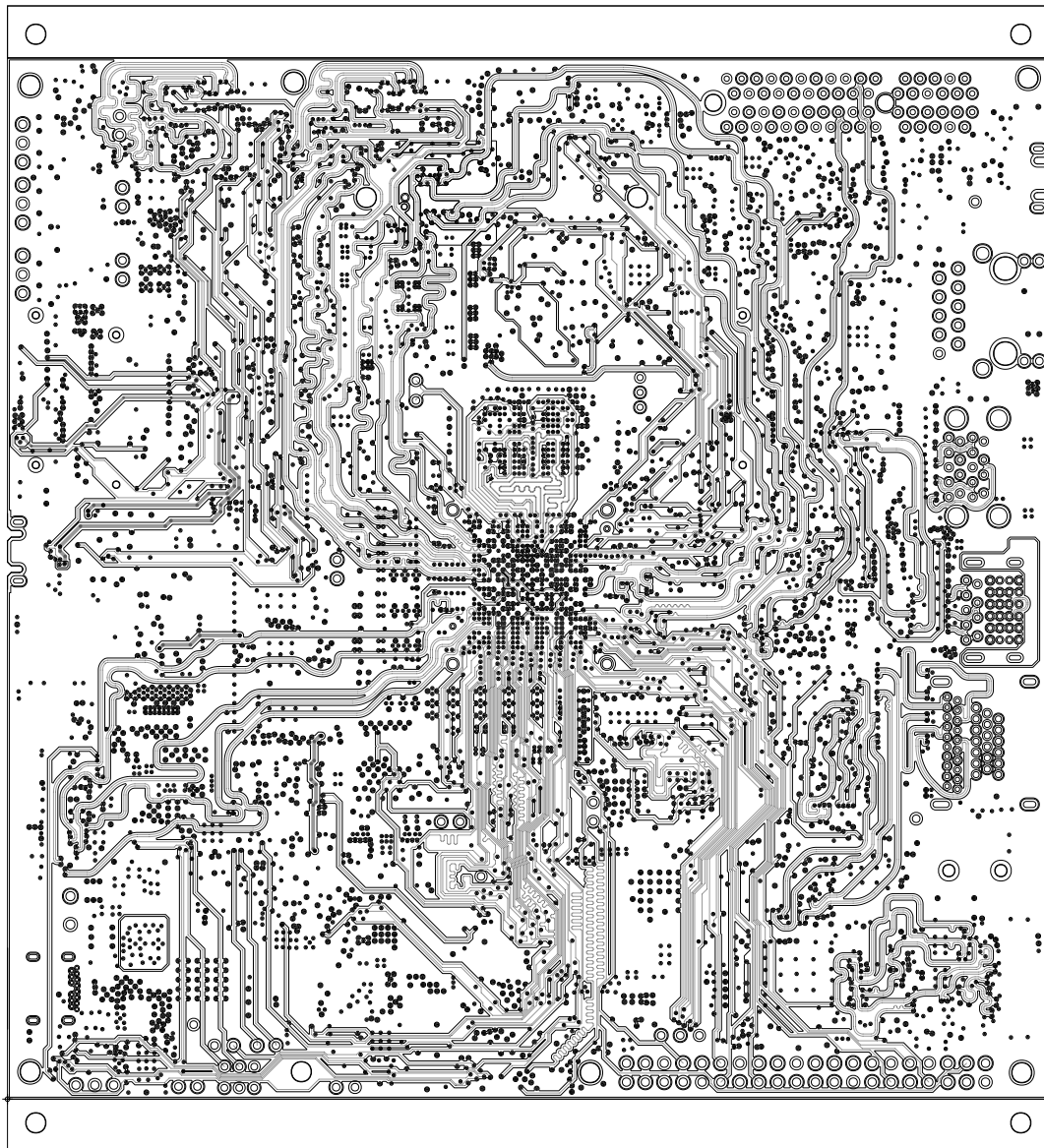


		TEXAS INSTRUMENTS		PROC170E1
BOARD NAME:	TDA4VEN & AM67 EVALUATION MODULE	REV: E1	DESCRIPTION:	INNER-SIGNAL-3
SCALE: 1		DATE: 04.09.2023	SHEET 11 OF 19	





		TEXAS INSTRUMENTS		PROC170E1
BOARD NAME: TDA4VEN & AM67 EVALUATION MODULE		REV: E1	DESCRIPTION: GROUND-PLANE-04	
SCALE: 1		DATE: 04.09.2023	SHEET 14 OF 19	



		TEXAS INSTRUMENTS		PROC170E1
BOARD NAME:	TDA4VEN & AM67 EVALUATION MODULE	REV: E1	DESCRIPTION:	INNER-SIGNAL-4
SCALE: 1		DATE: 04.09.2023	SHEET 13 OF 19	