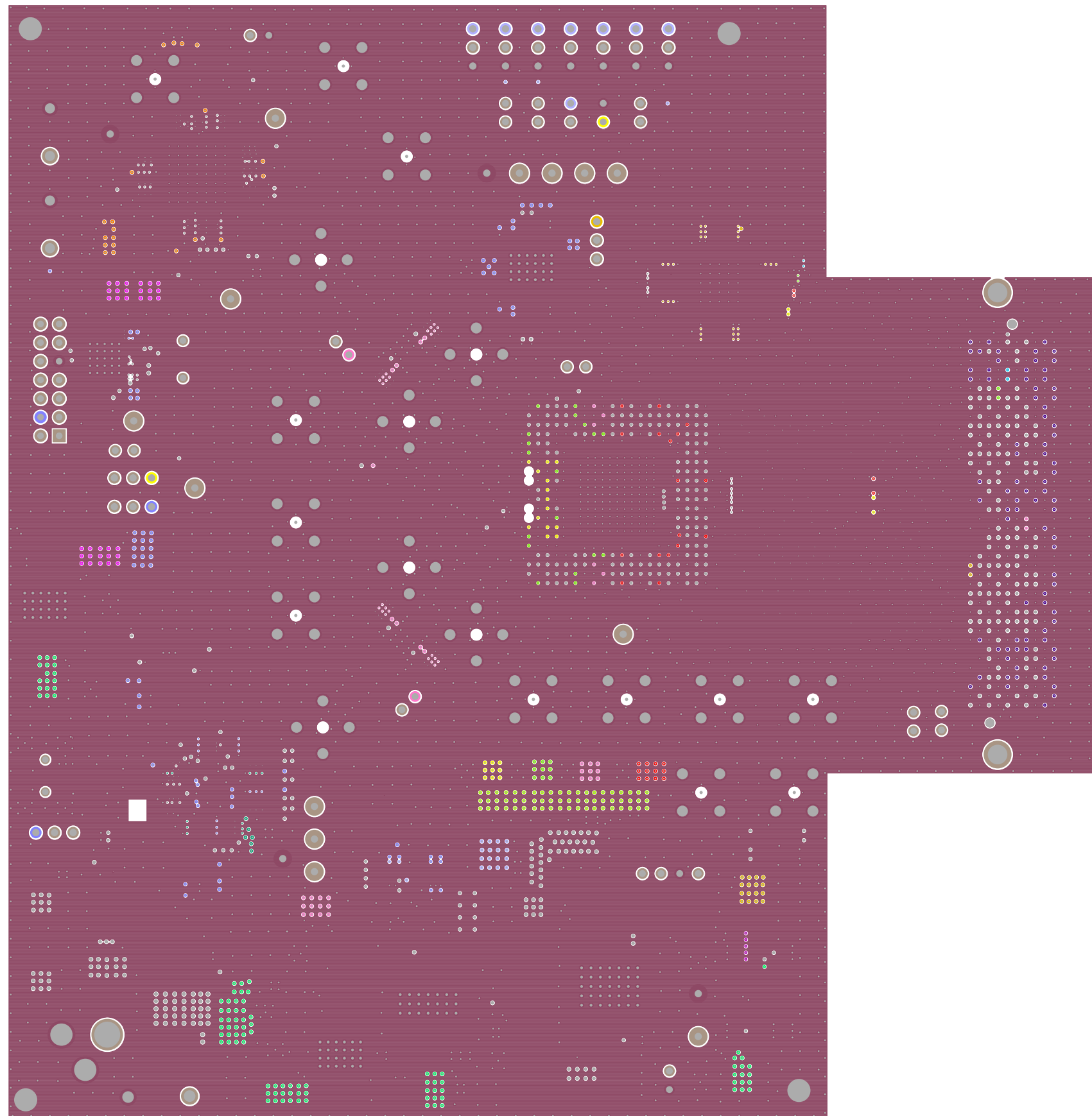


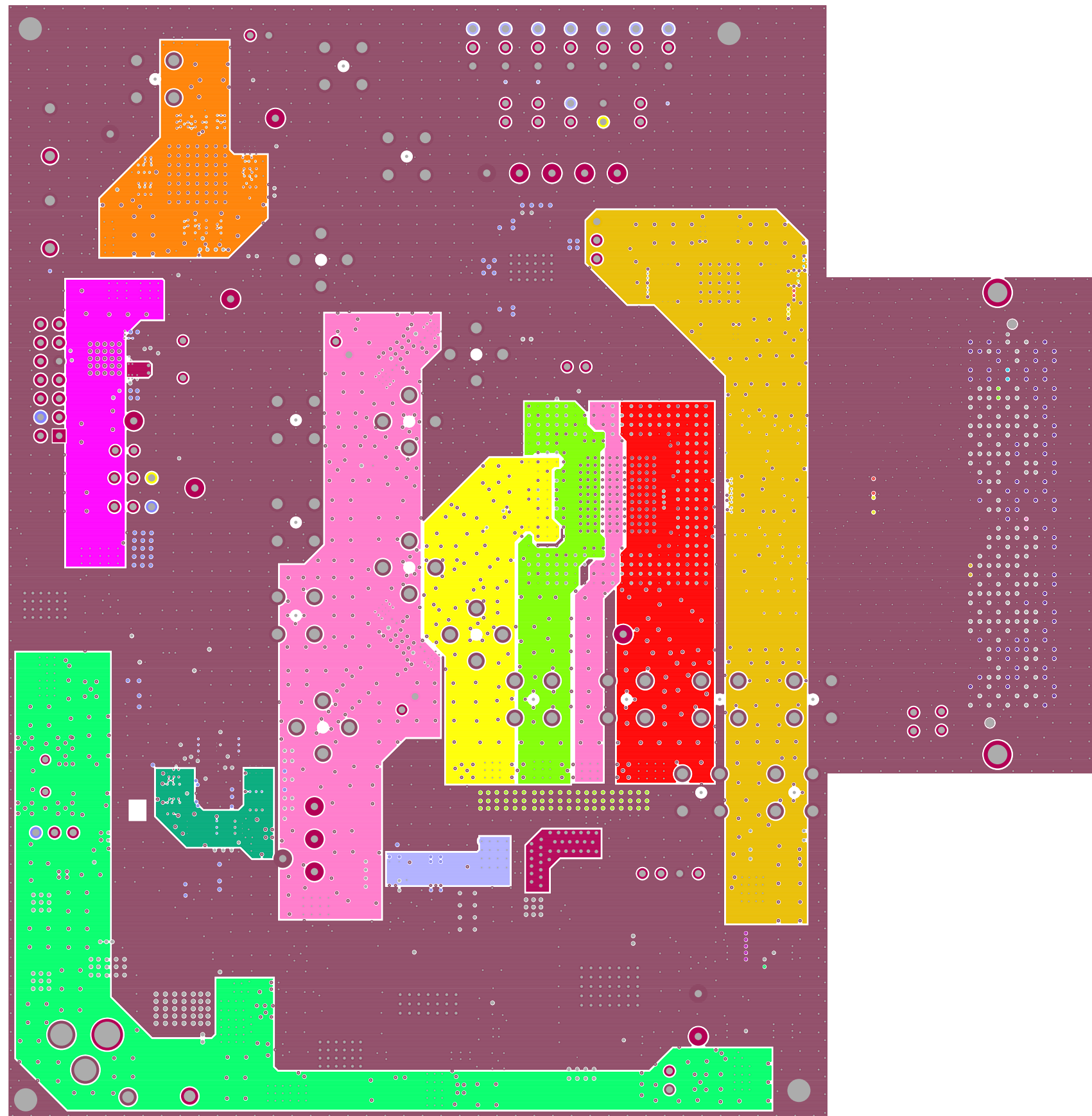
TEXAS INSTRUMENTS, INC.  
TSW12D1620CVAL EVM REV A  
DC073

LAYER 1 (TOP SIDE)



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LAYER 2 - GND



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DC073

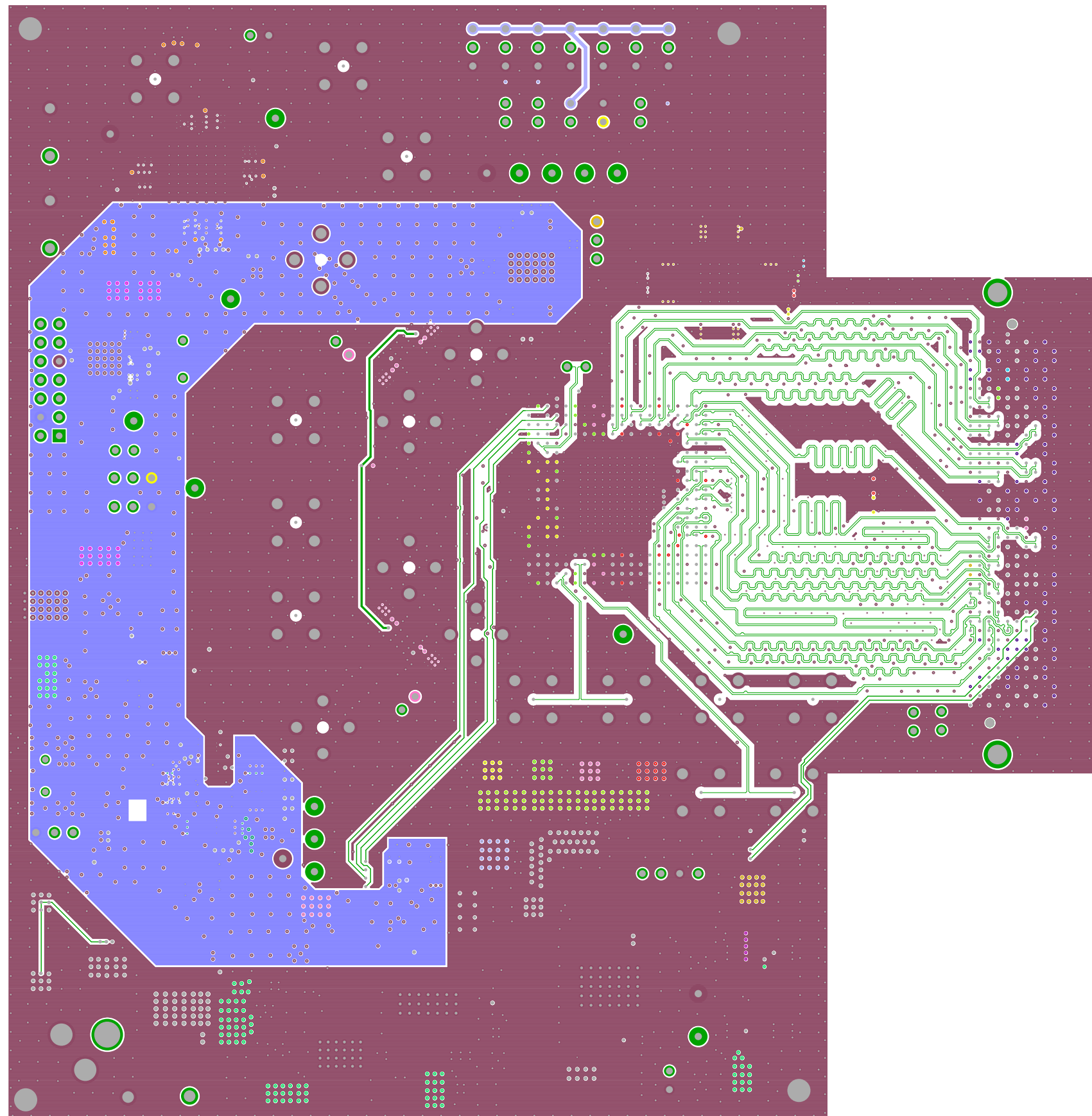
LAYER 3 - PWR



TEXAS INSTRUMENTS, INC.  
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DC073

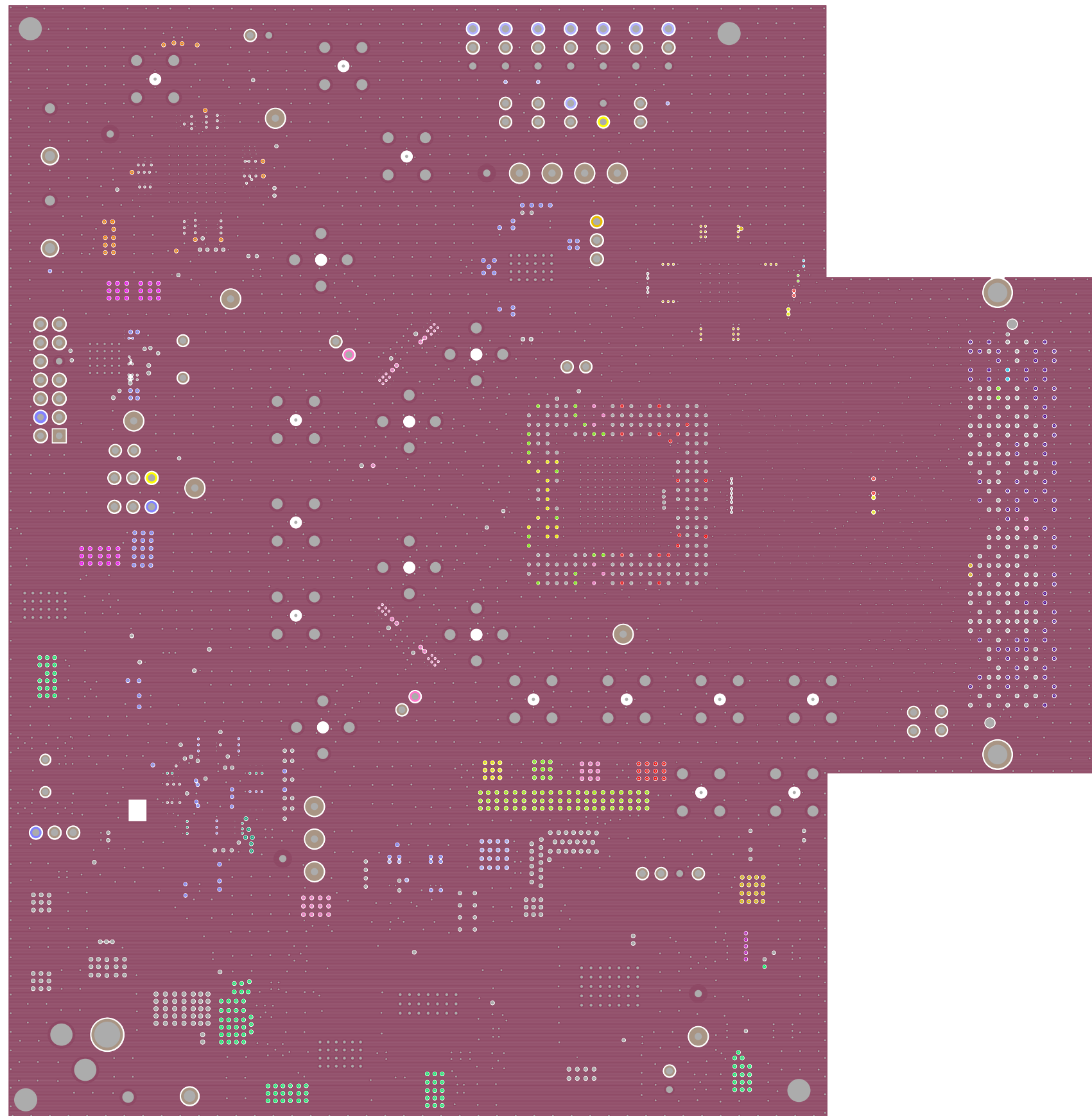
LAYER 4 - GND





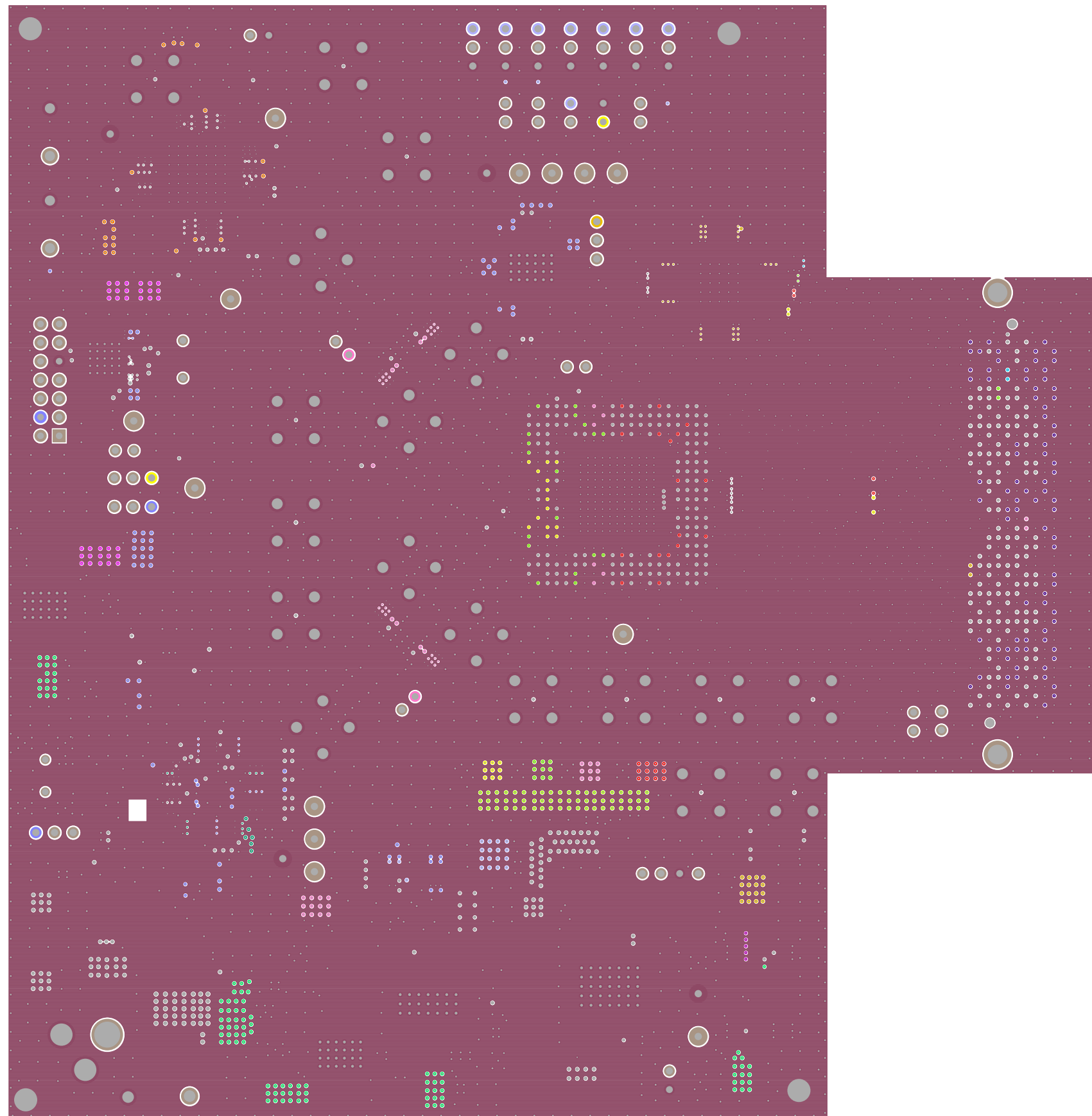
TEXAS INSTRUMENTS, INC.  
TSW12D1620CVL EVM REV A  
DC073

LAYER 5 - SIG1



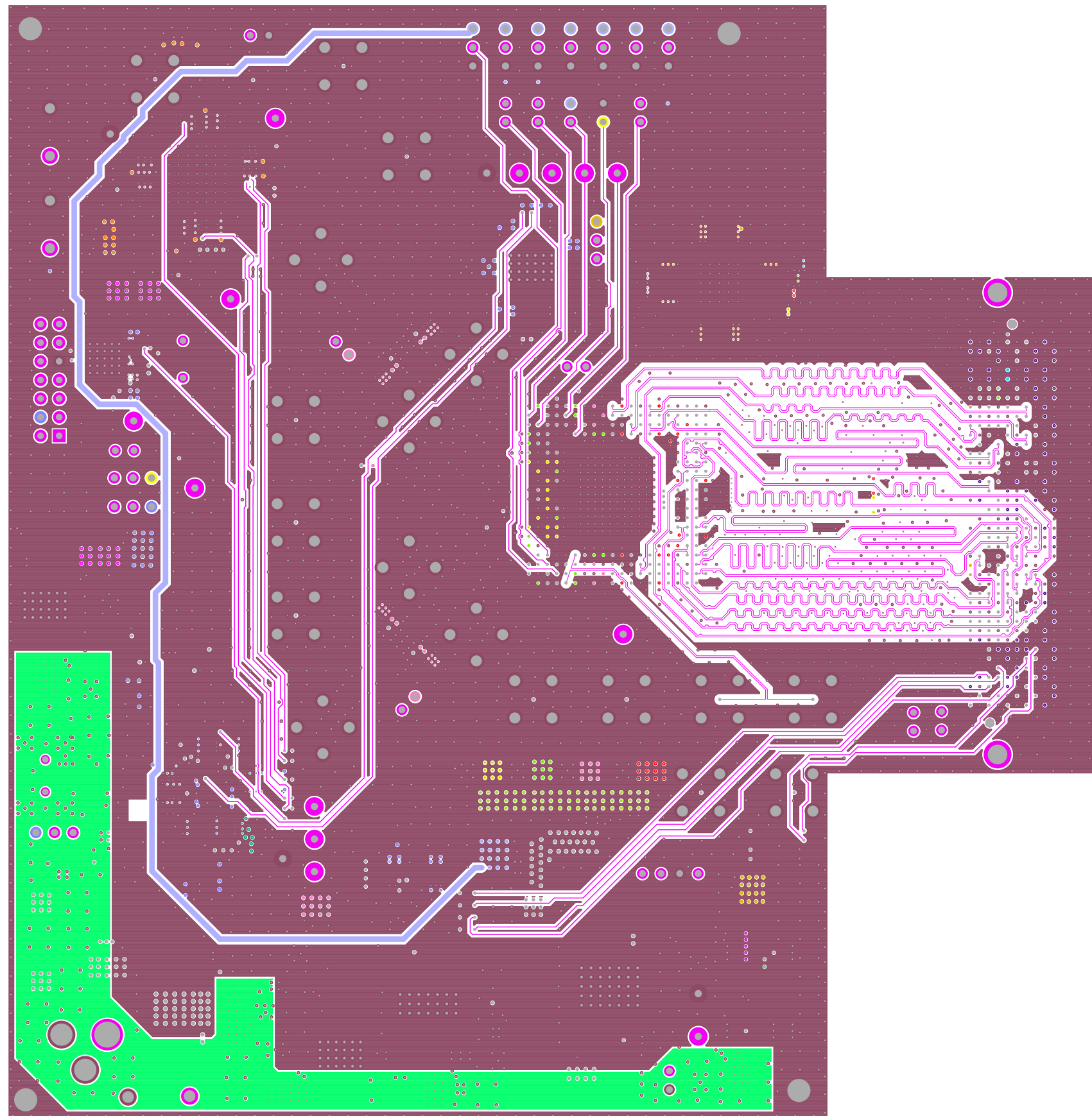
TEXAS INSTRUMENTS, INC.  
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LAYER 6 - GND



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DC073

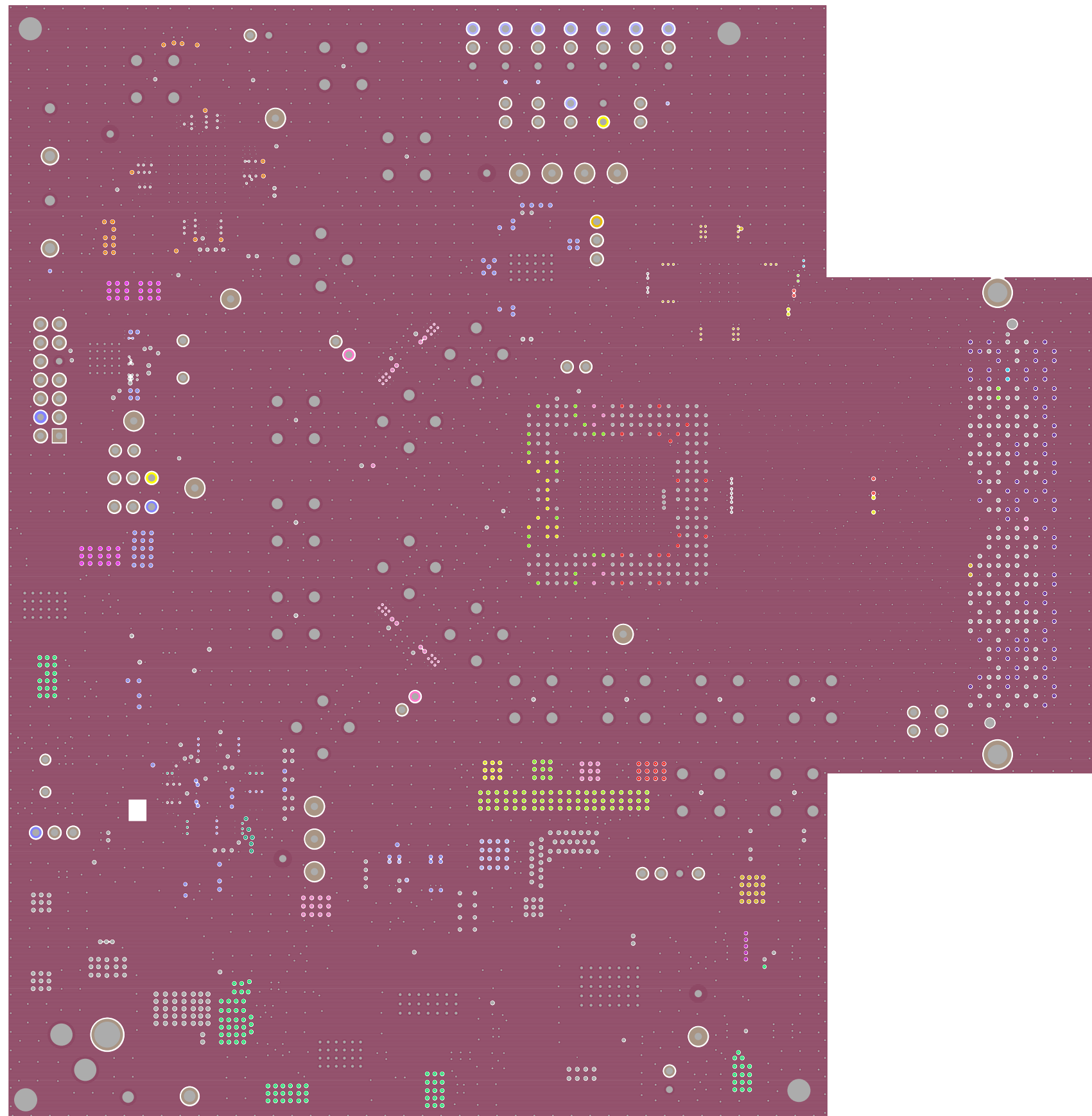
LAYER 7 - GND



TEXAS INSTRUMENTS, INC.  
TSW12D1620CVL EVM REV A  
DC073

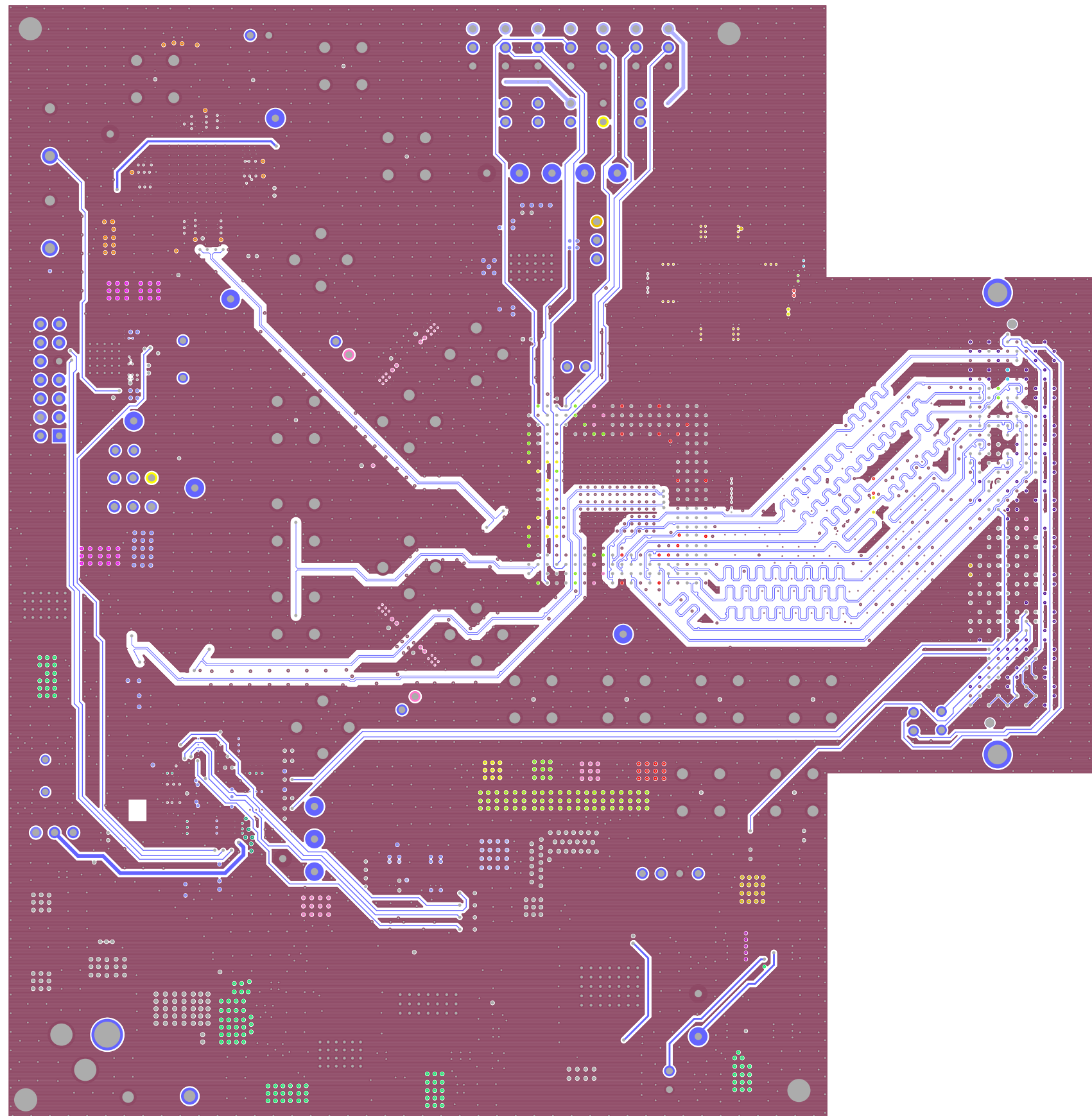
LAYER 8 - SIG2





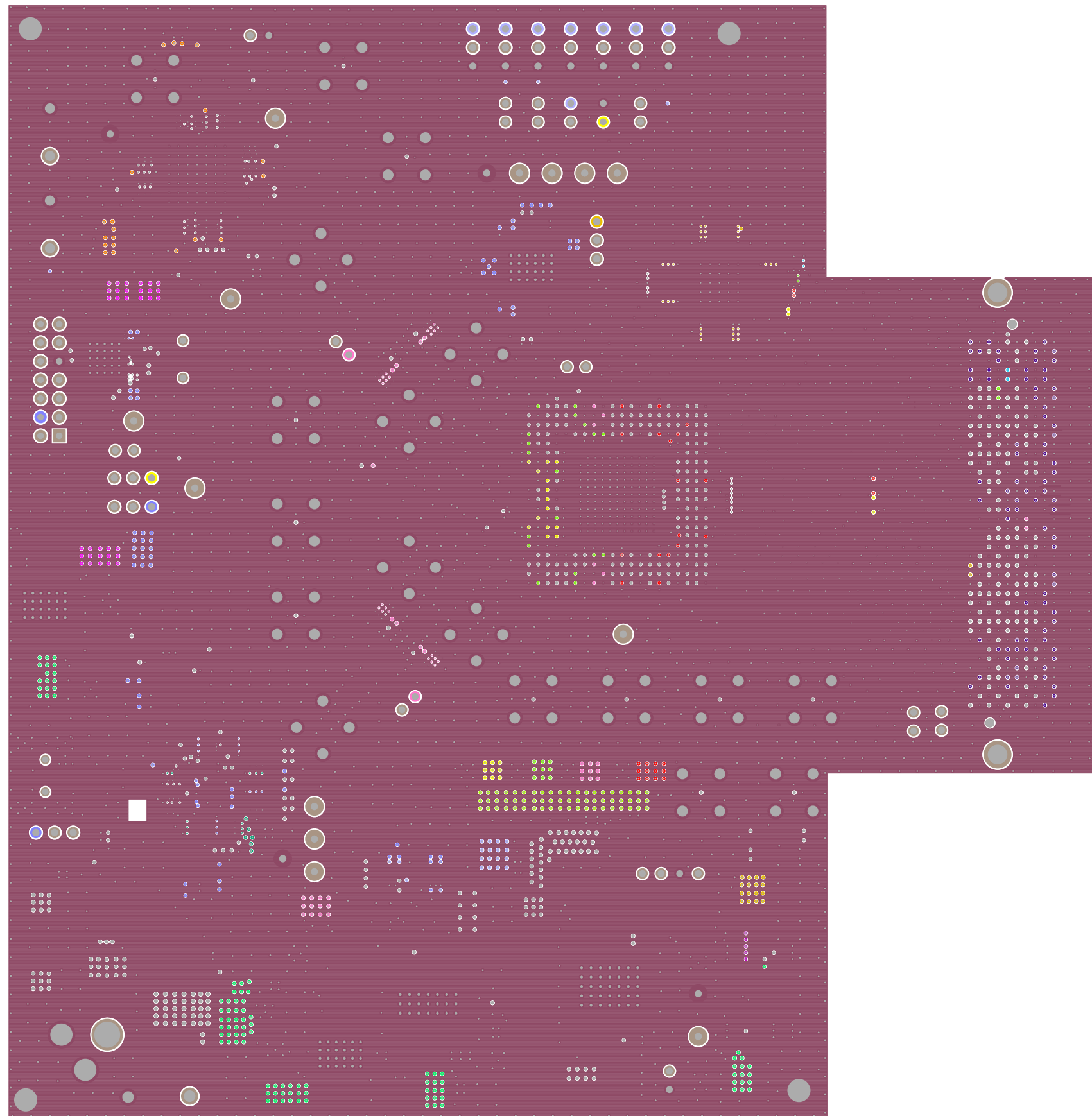
TEXAS INSTRUMENTS, INC.  
TSW12D1620CVL EVM REV A  
DC073

LAYER 9 - GND



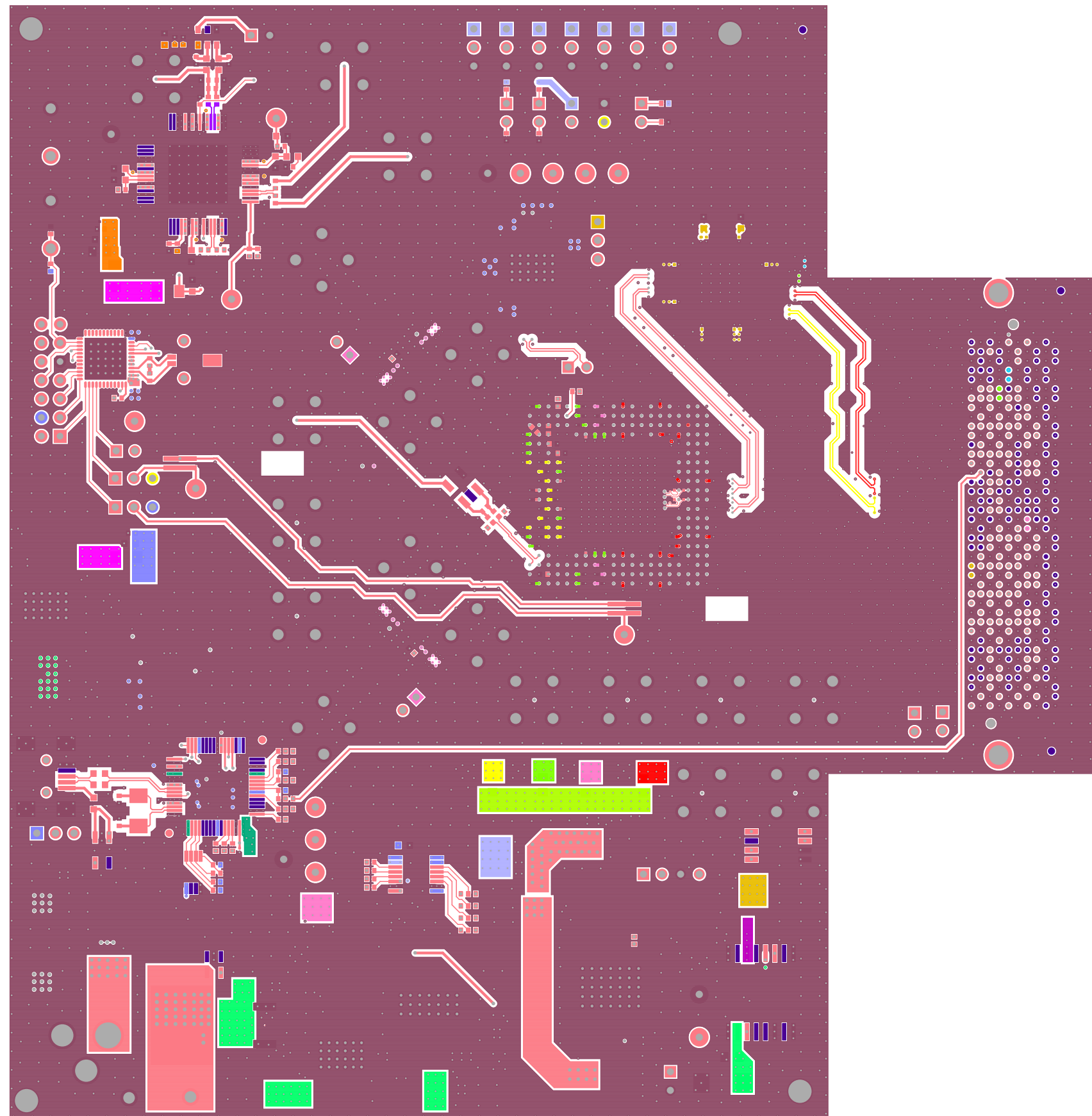
TEXAS INSTRUMENTS, INC.  
TSW12D1620CVL EVM REV A  
DC073

LAYER 10 - SIG3



TEXAS INSTRUMENTS, INC.  
TSW12D1620CVL EVM REV A  
DC073

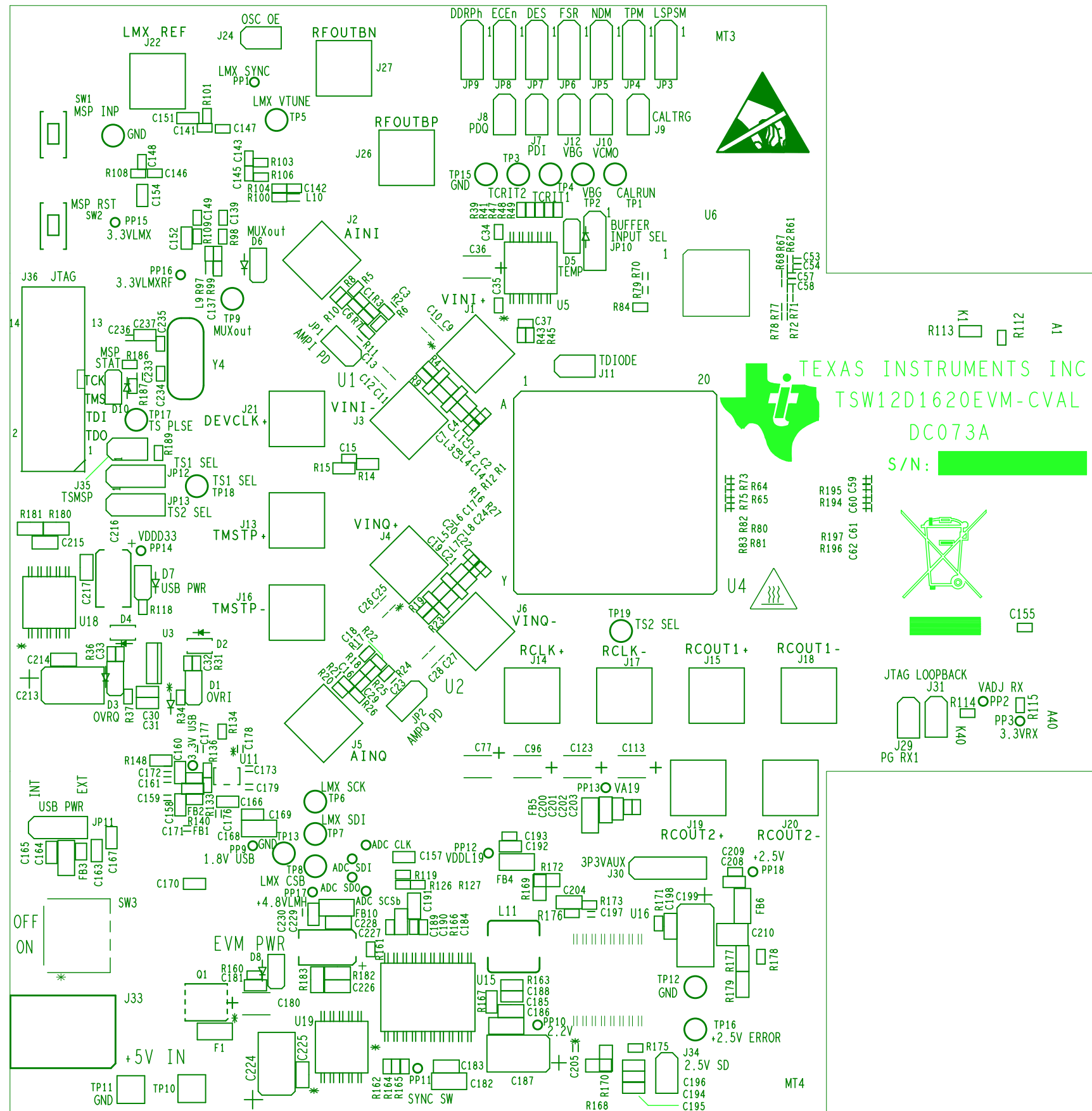
LAYER 11 - GND



TEXAS INSTRUMENTS, INC.  
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DC073

LAYER 12 (BOTTOM SIDE)

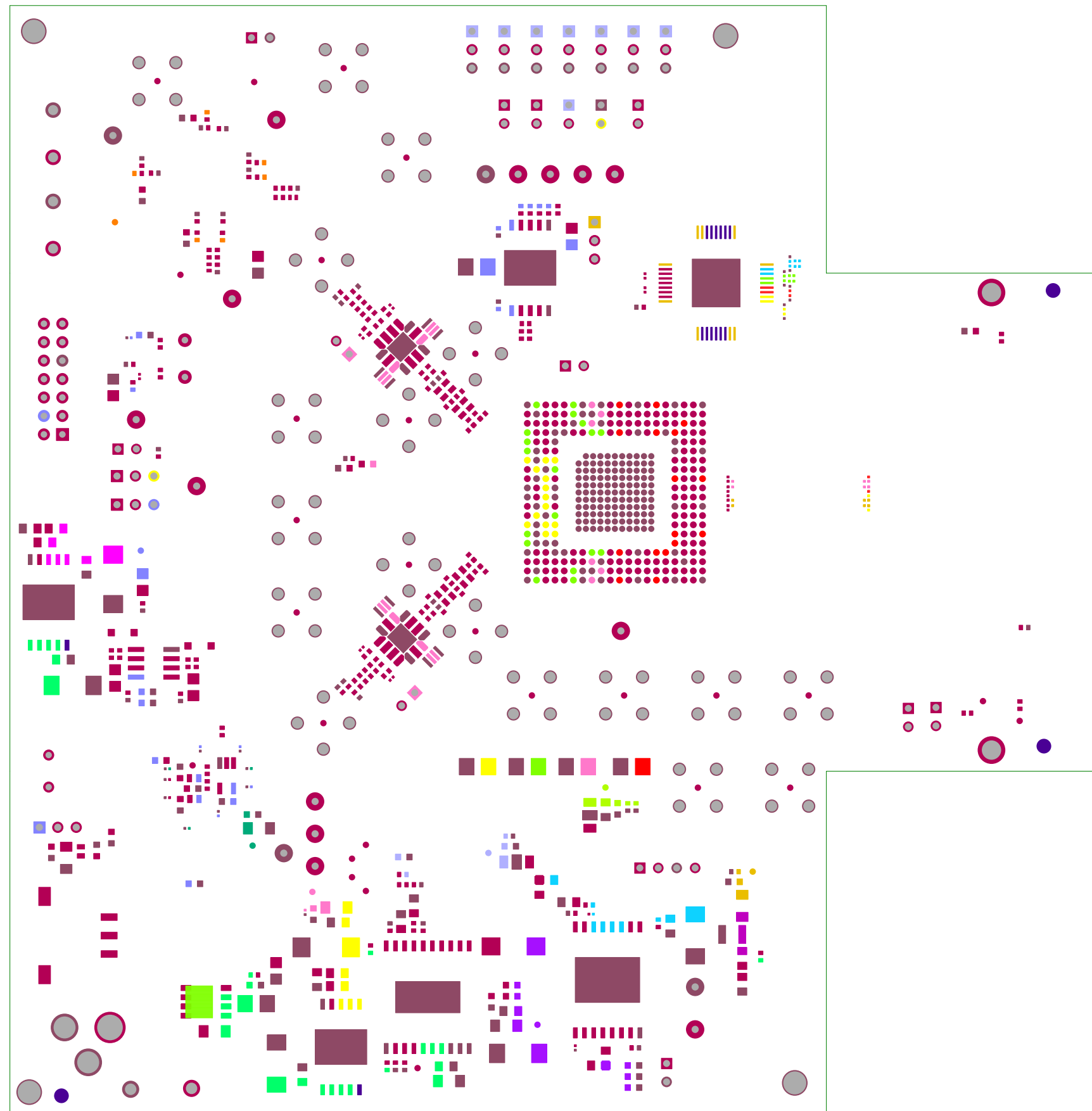




TEXAS INSTRUMENTS, INC.  
 TSW12D1620CVAL EVM REV A  
 DC073

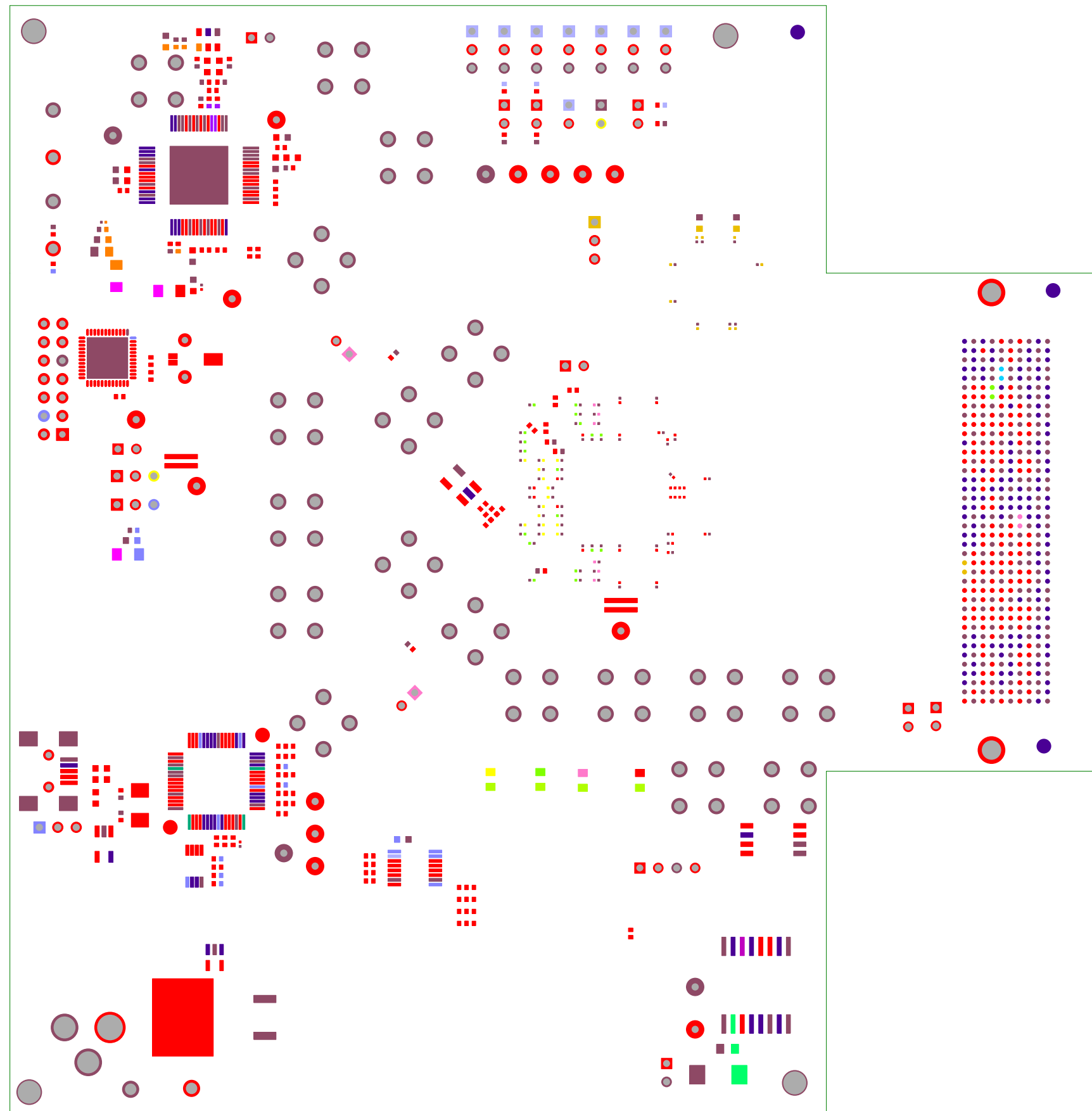
SILKSCREEN TOP





TEXAS INSTRUMENTS, INC.  
TSW12D1620CVL EVM REV A  
DC073

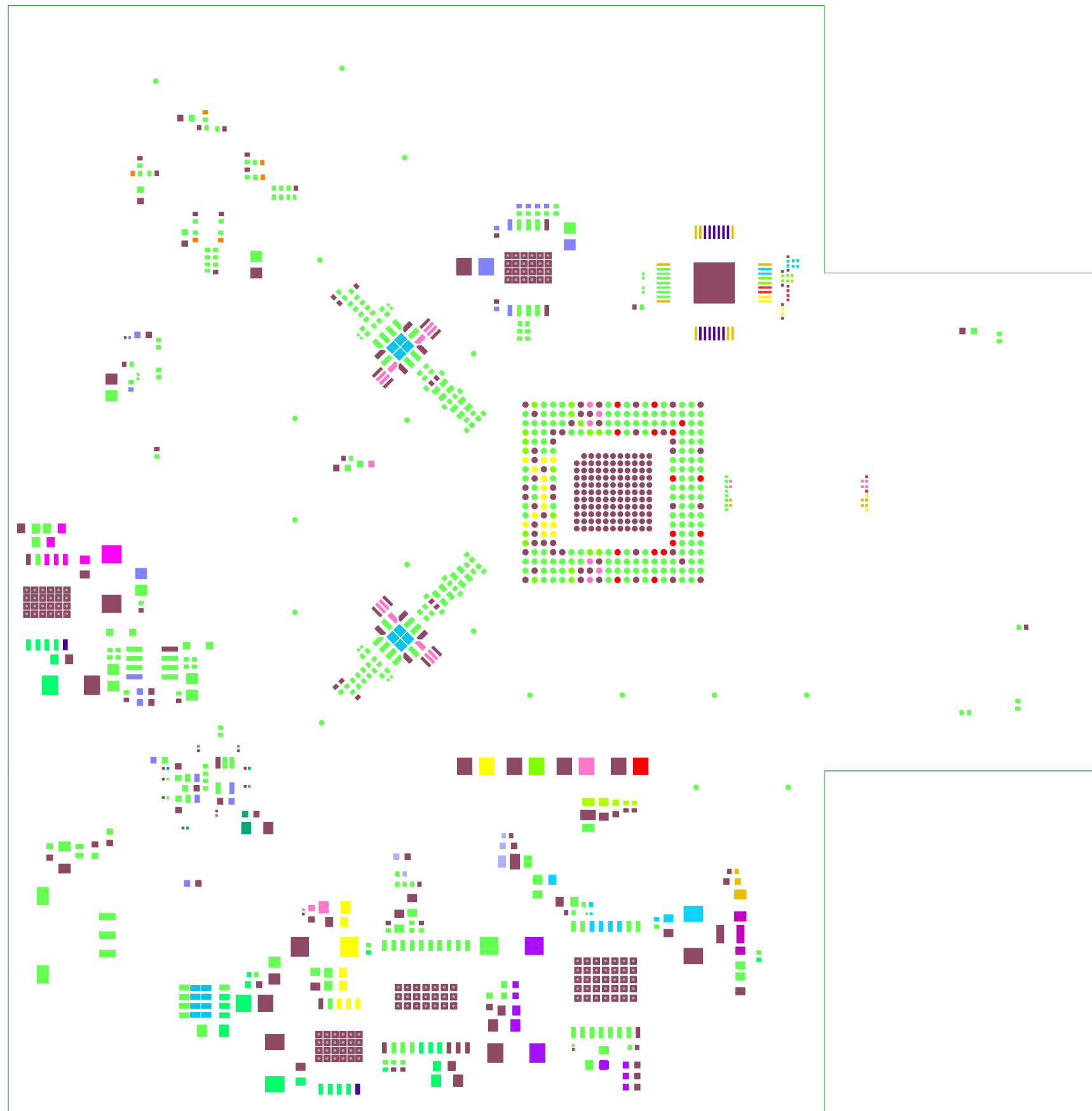
SOLDERMASK TOP



TEXAS INSTRUMENTS, INC.  
TSW12D1620CVL EVM REV A  
DC073

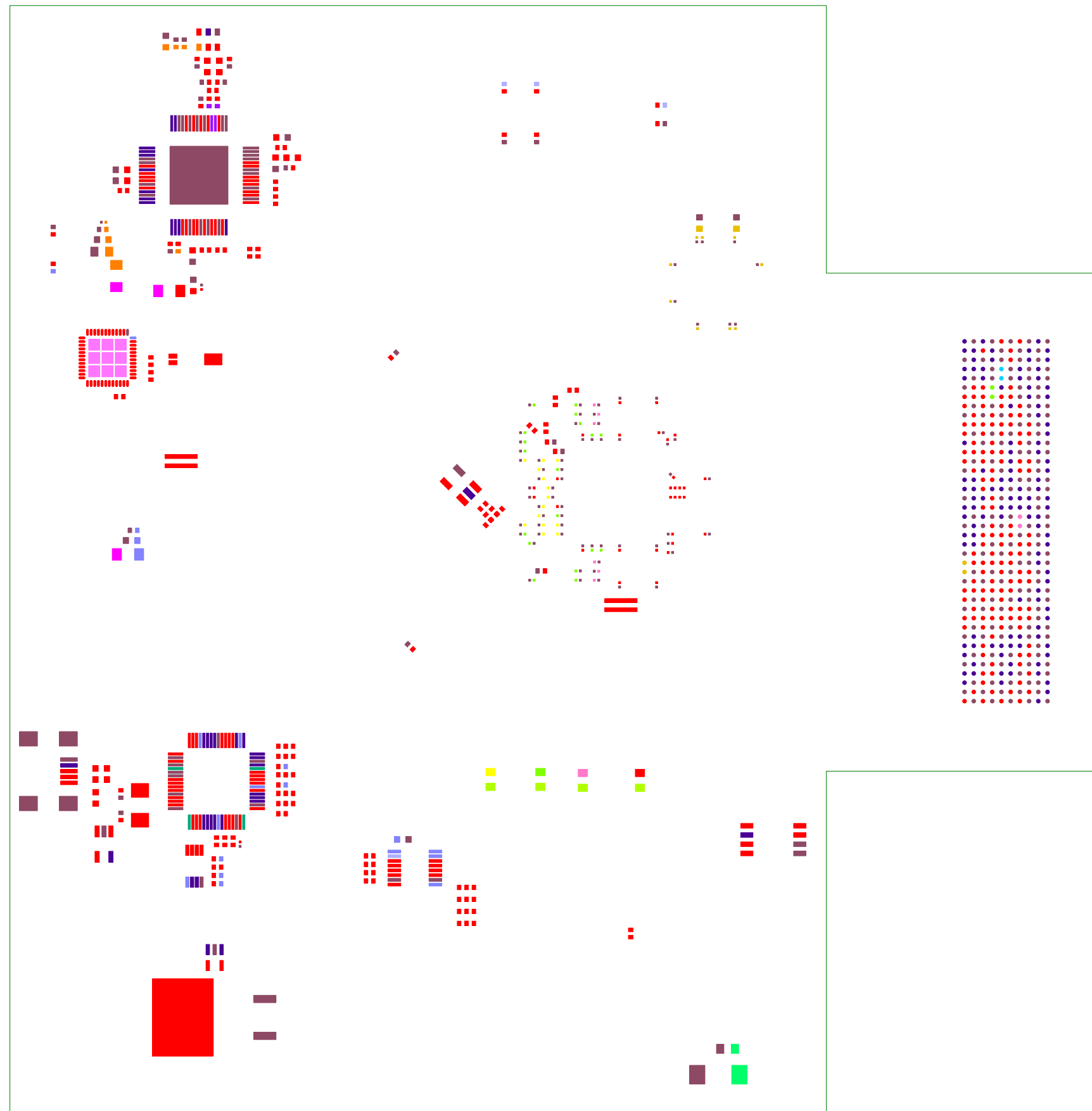
SOLDERMASK BOTTOM





TEXAS INSTRUMENTS, INC.  
TSW12D1620CVAL EVM REV A  
DC073

PASTEMASK TOP



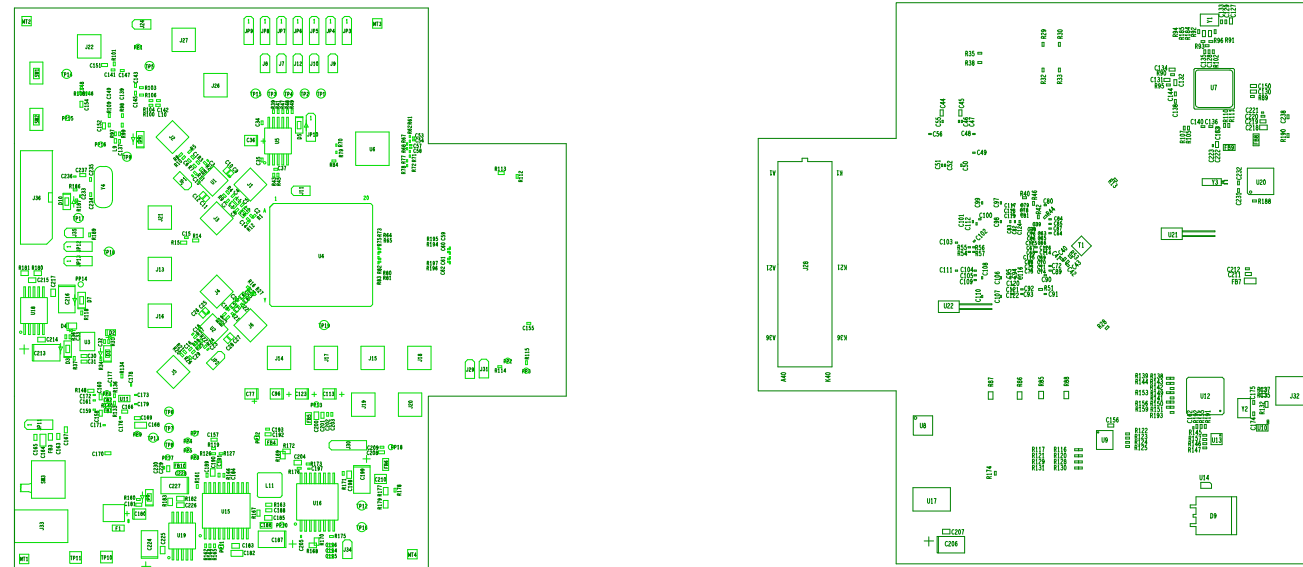
TEXAS INSTRUMENTS, INC.  
TSW12D1620CVL EVM REV A  
DC073

PASTEMASK BOTTOM

THIS DRAWING IS INTENDED TO HELP IN THE ASSEMBLY OF THE DESIGN.

ZONE		LTR		REVISIONS		DATE	APPROVED
				DESCRIPTION			

1. REFER TO ODB++ FILE FOR SPECIFIC COMPONENT LOCATION INFORMATION.
2. USE WATER SOLUBLE FLUX DURING BOARD ASSEMBLY. ASSEMBLY MUST BE RoHS COMPLIANT AND LEAD FREE.
3. MARK BOARD'S SILKSCREEN WITH THE APPROPRIATE EVM PART NUMBER AND SERIAL NUMBER.
4. IPC-A-610 / ACCEPTABILITY OF ELECTRONIC ASSEMBLIES, CLASS2, CURRENT REVISION.



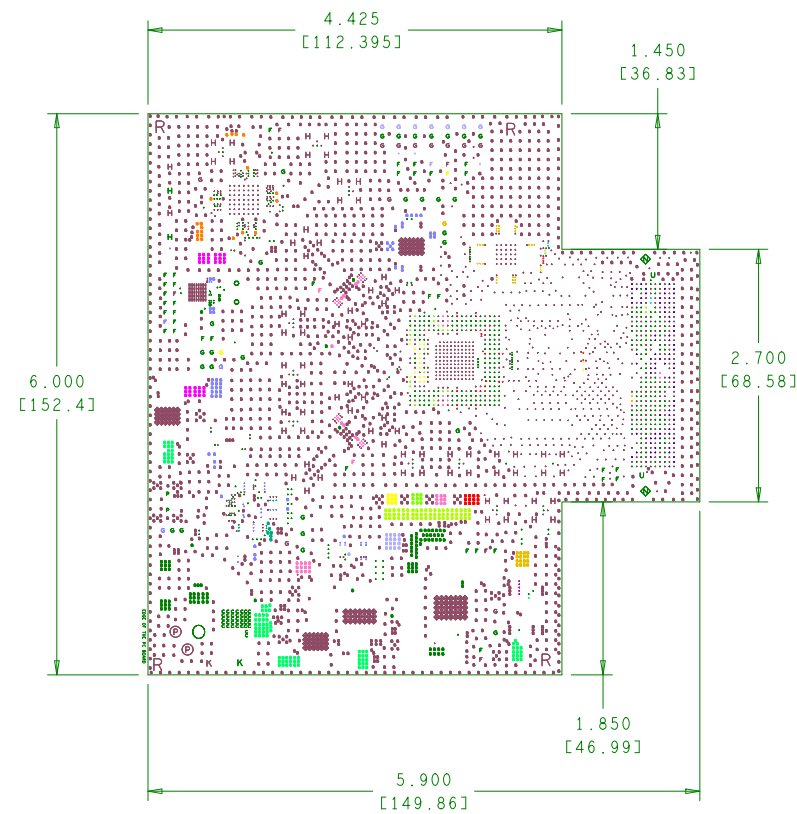
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS    DECIMALS    ANGLES +/-    .XX +/- .01    +/- .XXX +/- .005    +/-	CONTRACT NO.		TEXAS INSTRUMENTS INC.					
	APPROVALS		DATE		ASSEMBLY DRAWING TSW12D1620EVM-CVAL			
	DRAWN L NGUYEN		06-08-18					
MATERIAL SEE NOTE 5	ENGR J BRINKHURST		06-08-18					
FINISH SEE NOTES 7, 8, 9					SIZE B	CODE IDENT NO.	DRAWING NO. DC073	REV. A
DO NOT SCALE DRAWING			SCALE 2:1		SHEET 1 OF 1			

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE

UNLESS OTHERWISE SPECIFIED, ALL NOTES ARE APPLICABLE.

- APPLICATION DESIGN, MANUFACTURING AND INSPECTION DOCUMENTS.  
IPC-2221A & IPC-2222 / DESIGN STANDARD FOR RIGID PRINTED CIRCUIT BOARDS AND RIGID PRINTED BOARD ASSEMBLIES.  
IPC-6012 / QUALIFICATION AND PERFORMANCE SPECIFICATION FOR RIGID PRINTED BOARD, CLASS 2, CURRENT REVISION.  
IPC-A-600 / ACCEPTABILITY OF PRINTED BOARDS, CLASS 2, CURRENT REVISION.
- VIA SIZE APPLY AFTER PLATING. TOLERANCE TO BE  $\pm .003/- .008$ .  
HOLE SIZE APPLY AFTER PLATING. TOLERANCE TO BE  $\pm .003$ .
- REGISTRATION TOLERANCE: ARTWORK  $\pm .002$ .  
ALL HOLE CENTERS  $\pm .005$  FROM DIMENSION DATUM.
- MINIMUM COPPER WALL THICKNESS SHALL BE  $.001$  INCH.  
FOR ALL PLATED THROUGH HOLES. BREAKOUT NOT ALLOWED.
- PROCESS AND MATERIAL MUST CONFORM TO UL 796. MATERIAL MUST MEET OR EXCEED UL FLAMMABILITY RATING 94V-0.  
MATERIAL: MULTI-LAYER (SEE DETAIL 'A')  
SEE LAYER STACKUP FOR ALL PRE-PREG & CORE THICKNESSES, COPPER OZ AND MATERIAL. FINISHED BOARD THICKNESS:  $.062 \pm 10\%$
- MANUFACTURE'S UL MARKING, FLAMMABILITY RATING, LOGO AND DATE CODE TO BE PLACED IN SILKSCREEN ON BOTTOM SIDE OF THE BOARD.
- SMOBC/IMMERSION GOLD: 2 - 5  $\mu$ IN OVER 118-236  $\mu$ IN NICKEL PLATING.
- SOLDERMASK BOTH SIDES USING TAIYO (OR EQUIVALENT)  
COLOR = RED.
- SILKSCREEN BOTH SIDES USING WHITE NPI LEADFREE.  
REGISTRATION TOLERANCE TO BE  $\pm .005$ .  
INK IS NOT ALLOWED ON EXPOSED PLATED AREA.
- P.C. BOARD TO BE FREE OF DIRT, OIL, FINGER PRINTS, ETC.
- BOARD WARPAGE: WARP AND TWIST SHALL NOT EXCEED  $.007$  INCH PER INCH MEASURED AT ANY LOCATION OR DIRECTION ON THE BOARD.
- BOARD MUST BE 100% ELECTRICALLY TESTED TO ENSURE NO SHORTS OR OPEN CIRCUITS AT 20V.

- MINIMUM COPPER CONDUCTOR WIDTH IS: 5MIL.  
MINIMUM COPPER CONDUCTOR SPACING IS: 4.5MIL.
- ALL INNER LAYER UNCONNECTED PADS SHALL BE REMOVED.
- PWB MUST BE ROHS COMPLIANT AND SURVIVE LEAD FREE ASSEMBLY.  
MAX REFLOW OF 260 DEGREES C (6 PASSES).
- ALL THROUGH VIAS TO BE PLUGGED WITH NON-CONDUCTIVE EPOXY MATERIAL.  
PLUGGED VIAS TO BE PLATED AFTER PLUGGING TO PRESENT FLAT SURFACE TO DEVICE.  
NO POTHOLES.



SEE NOTE 16  
SEE NOTE 16  
SEE NOTE 16  
SEE NOTE 16  
SEE NOTE 16  
SEE NOTE 16

DRILL CHART: TOP to BOTTOM			
ALL UNITS ARE IN MILS			
FIGURE	SIZE	PLATED	QTY
-	6.0	PLATED	387
-	8.0	PLATED	1383
-	10.0	PLATED	2337
-	12.0	PLATED	37
-	12.0	PLATED	25
+	15.0	PLATED	128
r	36.0	PLATED	14
o	36.0	PLATED	2
r	38.0	PLATED	30
*	40.0	PLATED	50
H	55.0	PLATED	4
H	59.0	PLATED	72
K	63.0	PLATED	2
◆	106.0	PLATED	2
⊙	120.0	PLATED	2
R	125.0	PLATED	4
O	140.0	PLATED	1
*	35.0	NON-PLATED	2
u	50.0	NON-PLATED	2

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES $\pm$ .XX $\pm$ .01 $\pm$ /- $\pm$ .XXX $\pm$ .005 $\pm$ /-	CONTRACT NO.		TEXAS INSTRUMENTS INC.	
	APPROVALS	DATE	FABRICATION DRAWING TSW12D1620EVM-CVAL	
DRAWN L NGUYEN	06-08-18	REV. A		
MATERIAL SEE NOTE 5	ENG J BRINKHURST	06-08-18	SCALE NONE	SHEET 1 OF 1
FINISH SEE NOTE 7, 8, 9	DRAWING NO. DC073		REV. A	
DO NOT SCALE DRAWING	SCALE NONE		SHEET 1 OF 1	



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