MB1272C

CN1
USB
CN5
USB
CN7
USB
HDMI
CN9
CN12

GPIO
CN2

DSI

AUDIO
CN10

ETHERNET CN8

PWR_IN

ST-LINK
CN11

WAKE UP   RESET   USER1   USER2
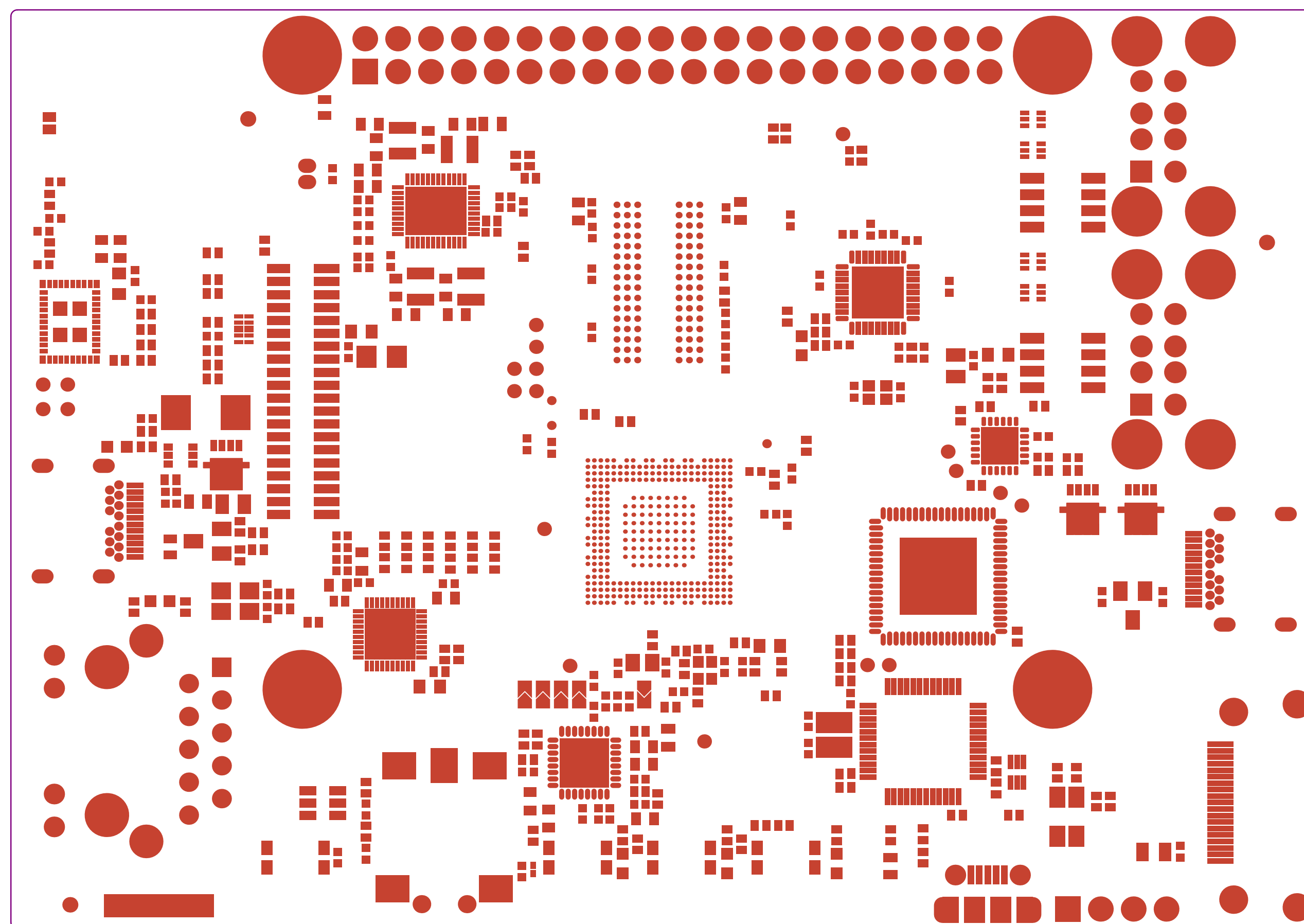
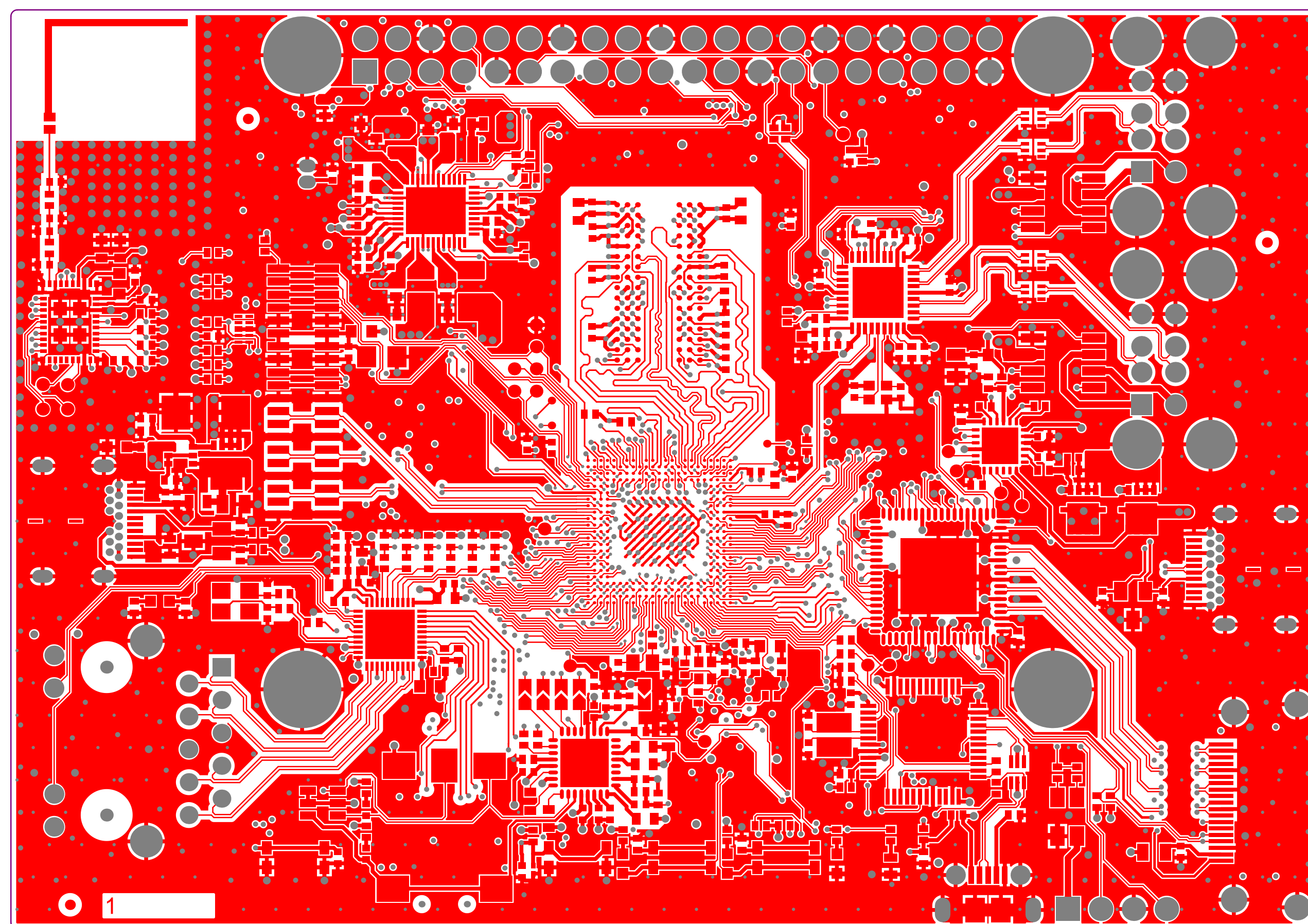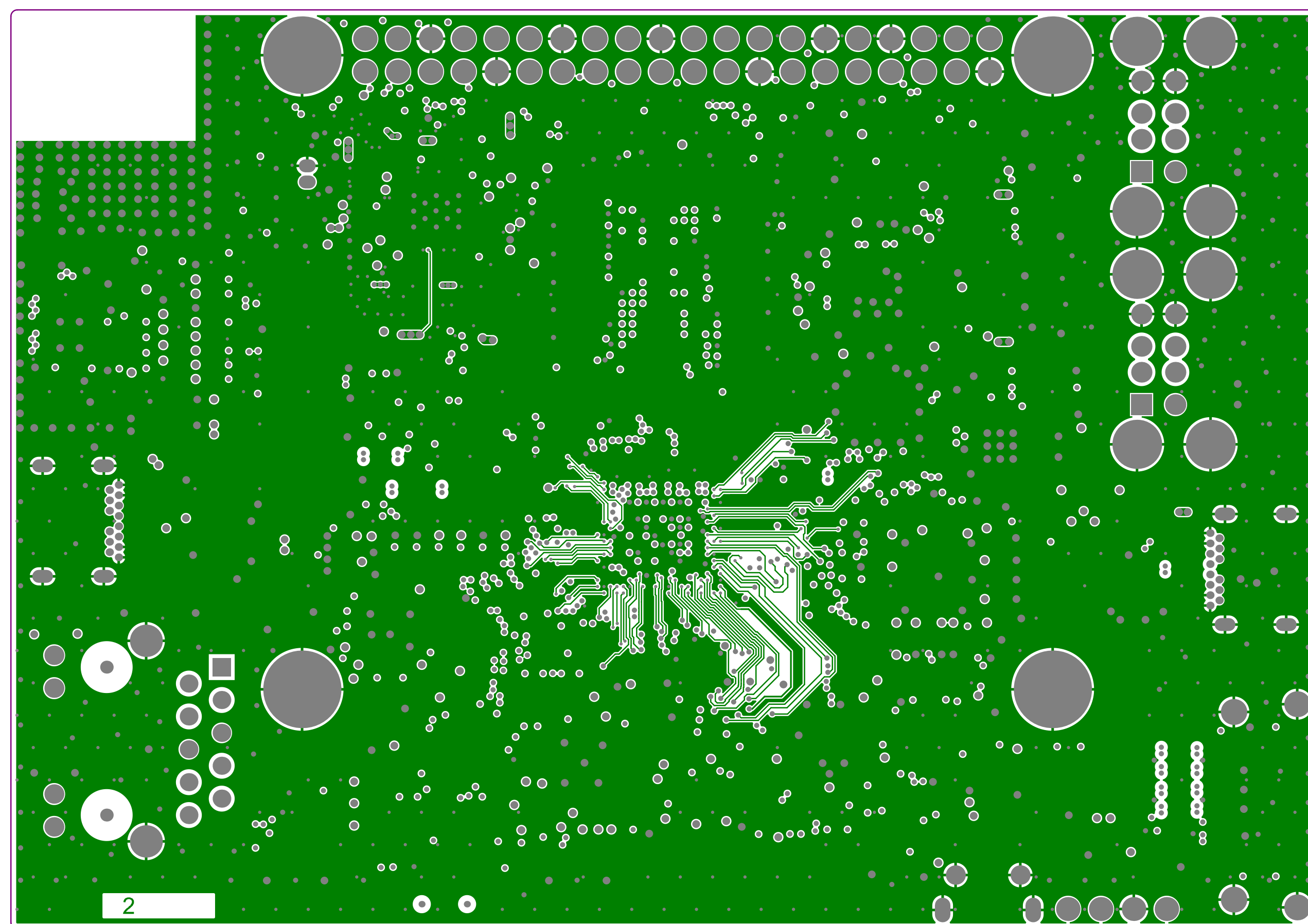Top Solder   .GTS
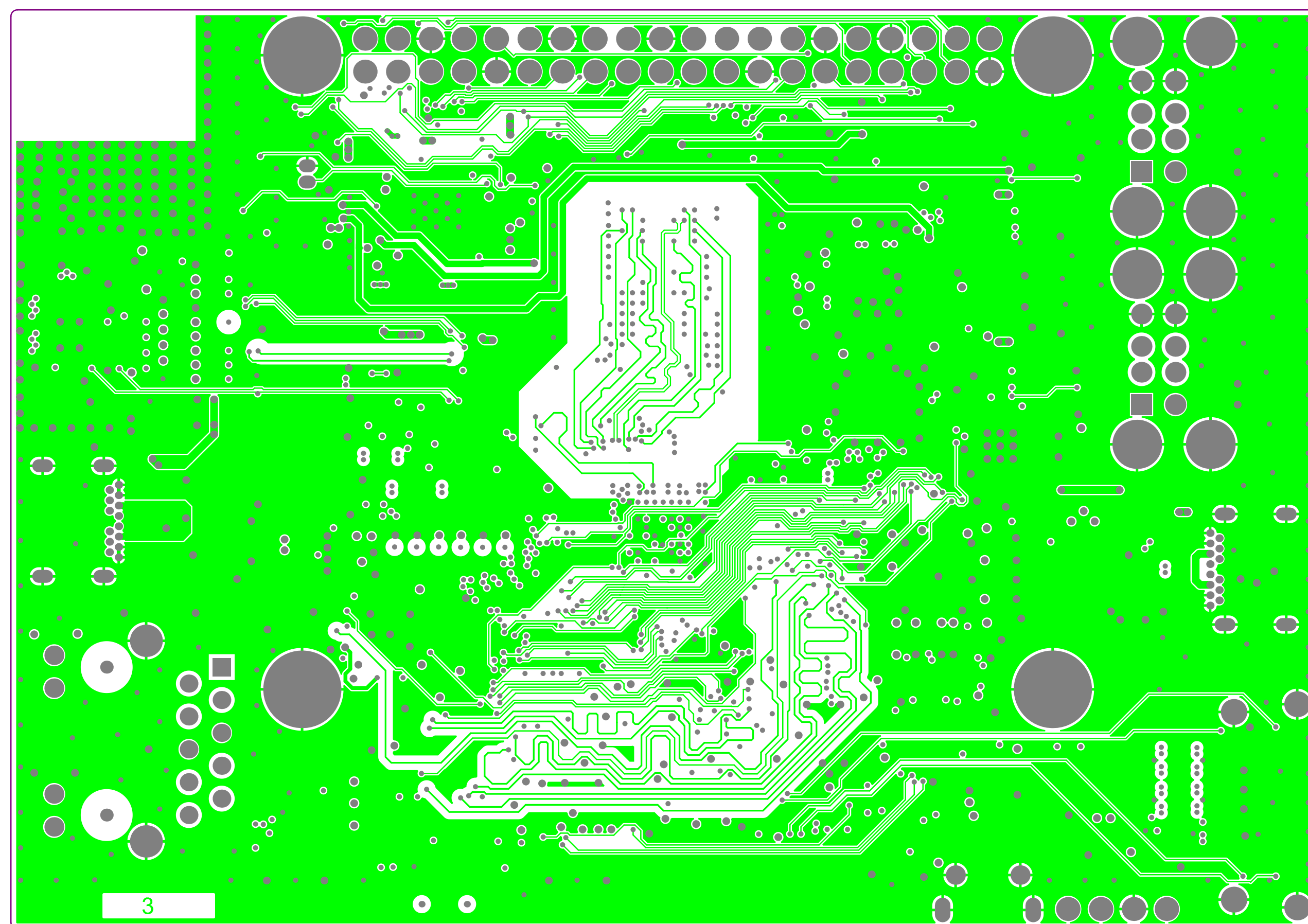
1

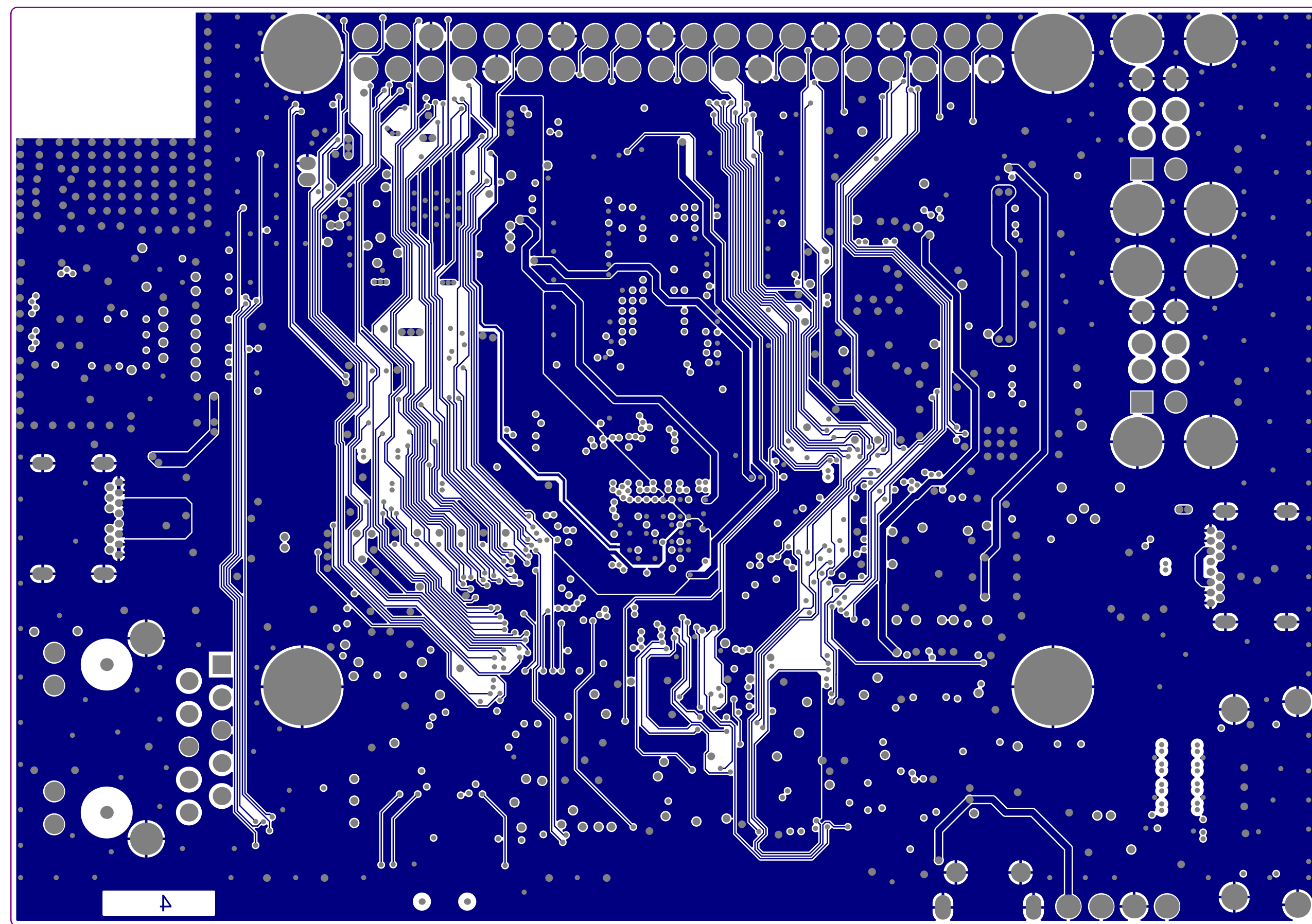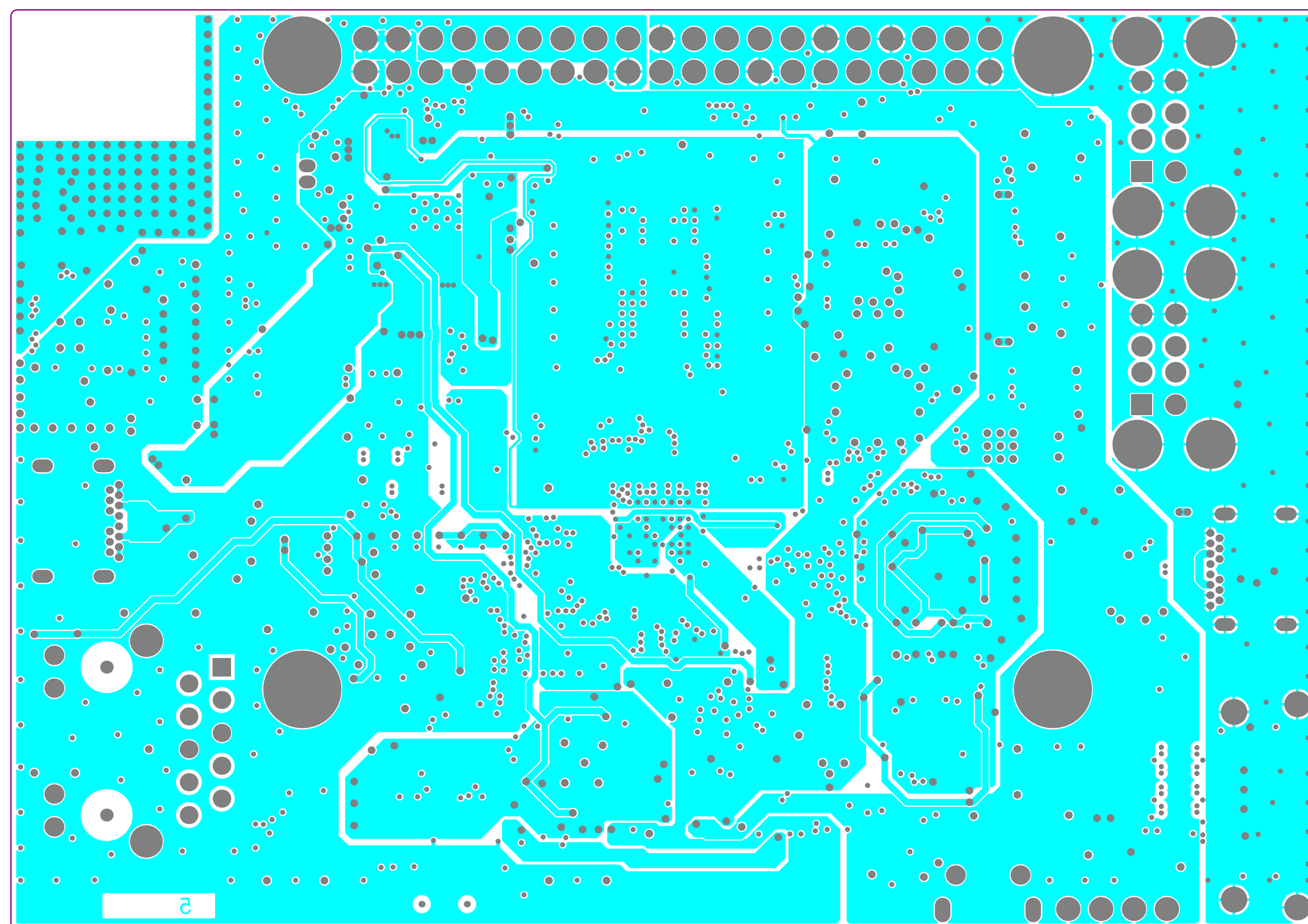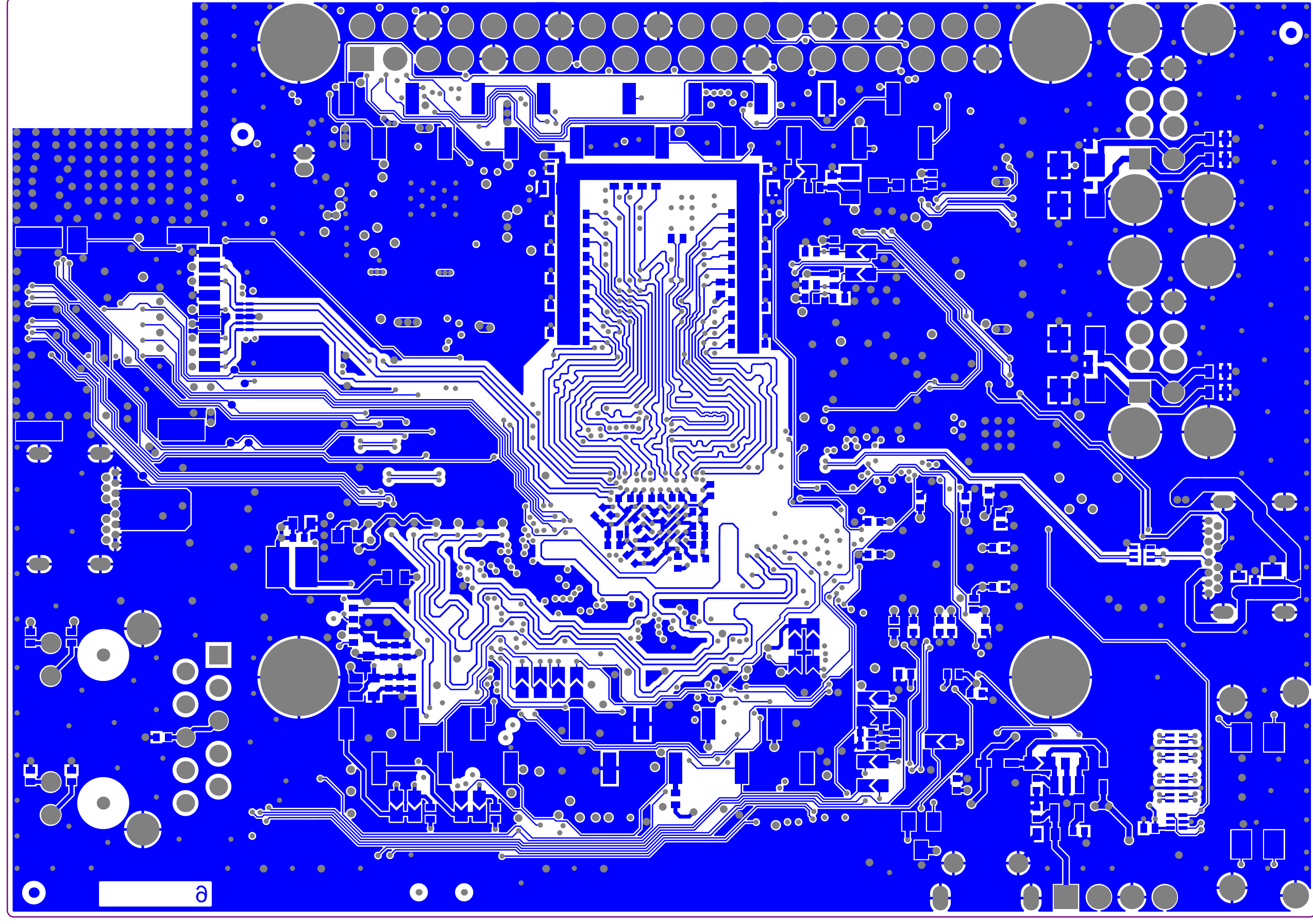Top Layer   .GTL

2

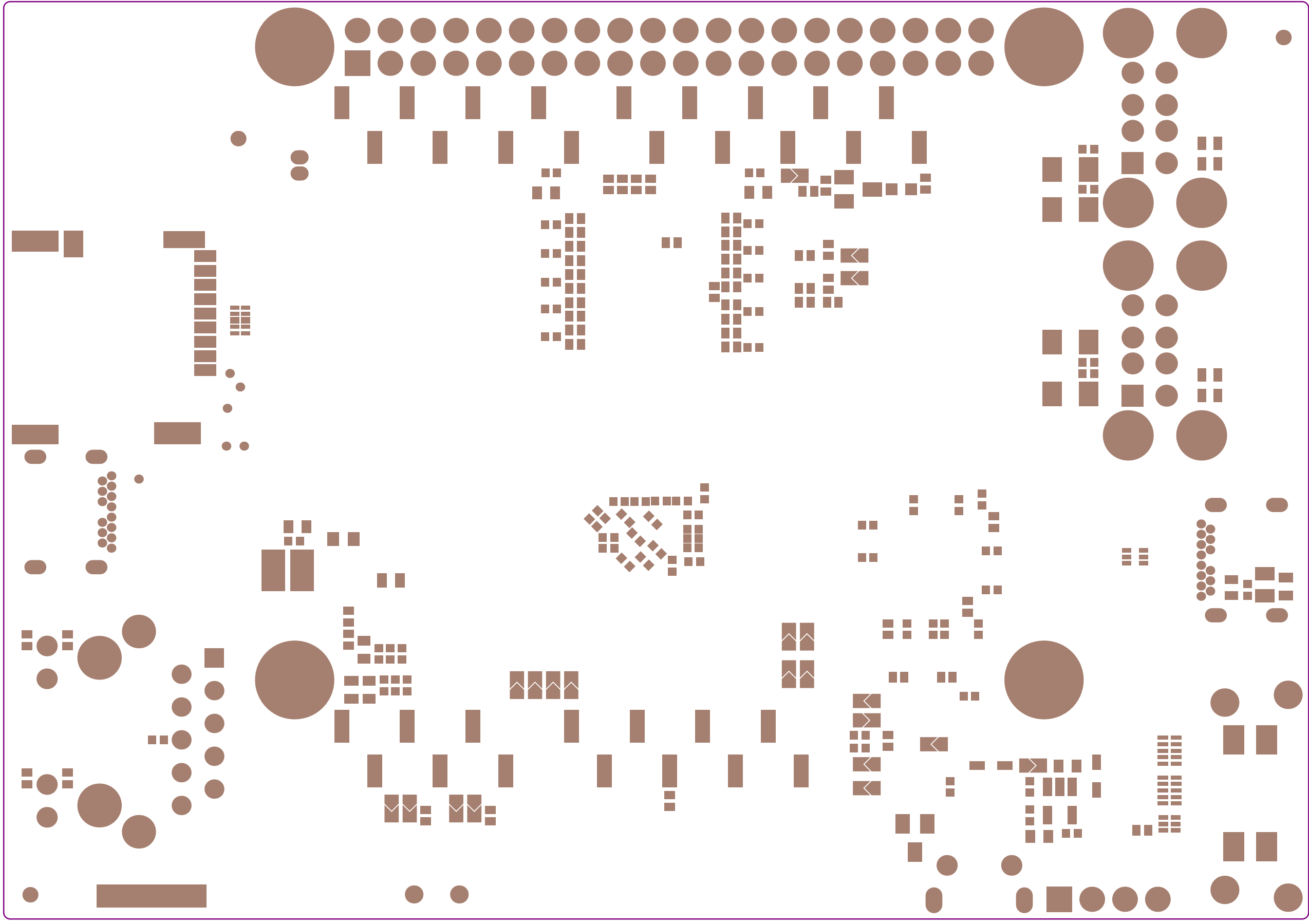Signal Layer 1   .G1

Signal Layer 2 .G2

Signal Layer 4 .G4

PCB SPECIFICATIONS :

A. MATERIAL : FR-4 ☐ TG-170 ☒ TG-150 ☐ TG-140
B. MATERIAL FAMILY : N/A
C. SOLDERMASK COLOR : ☒ BLUE ☐ WHITE ☐ RED ☐ BLACK
D. SILKSCREEN COLOR : ☒ WHITE ☐ YELLOW ☐ BLACK ☐ Blue ink PANTONE 2955
E. SURFACE FINISH : ☒ ENIG ☐ IMMERSION SILVER ☐ IMMERSION TIN
☐ HASL ☐ HASL (PB-FREE) ☐ GOLDEN FINGER
F. IMPEDANCE CONTROL : ☐ NO ☒ YES (SEE IMPEDANCE TABLE FOR DETAIL INFORMATION)
G. THROUGH VIA : PLUG THE VIAS WHICH ARE COVERED WITH SOLDERMASK ONE OR TWO SIDE.
PLUG MATERIAL : ☒ SOLDERMASK ☐ NON-CONDUCTIVE EPOXY.
H. STACK-UP : SEE LAYER STACK-UP SEQUENCE FOR OVERALL THICKNESS.

PCB : TYPE 4

ASPECT-RATIO, AXE Z :

6:1 to 8:1
LEVEL "B"

MINIMUN PARAMETERS

DEFAULT
TRACKS : 0.090mm
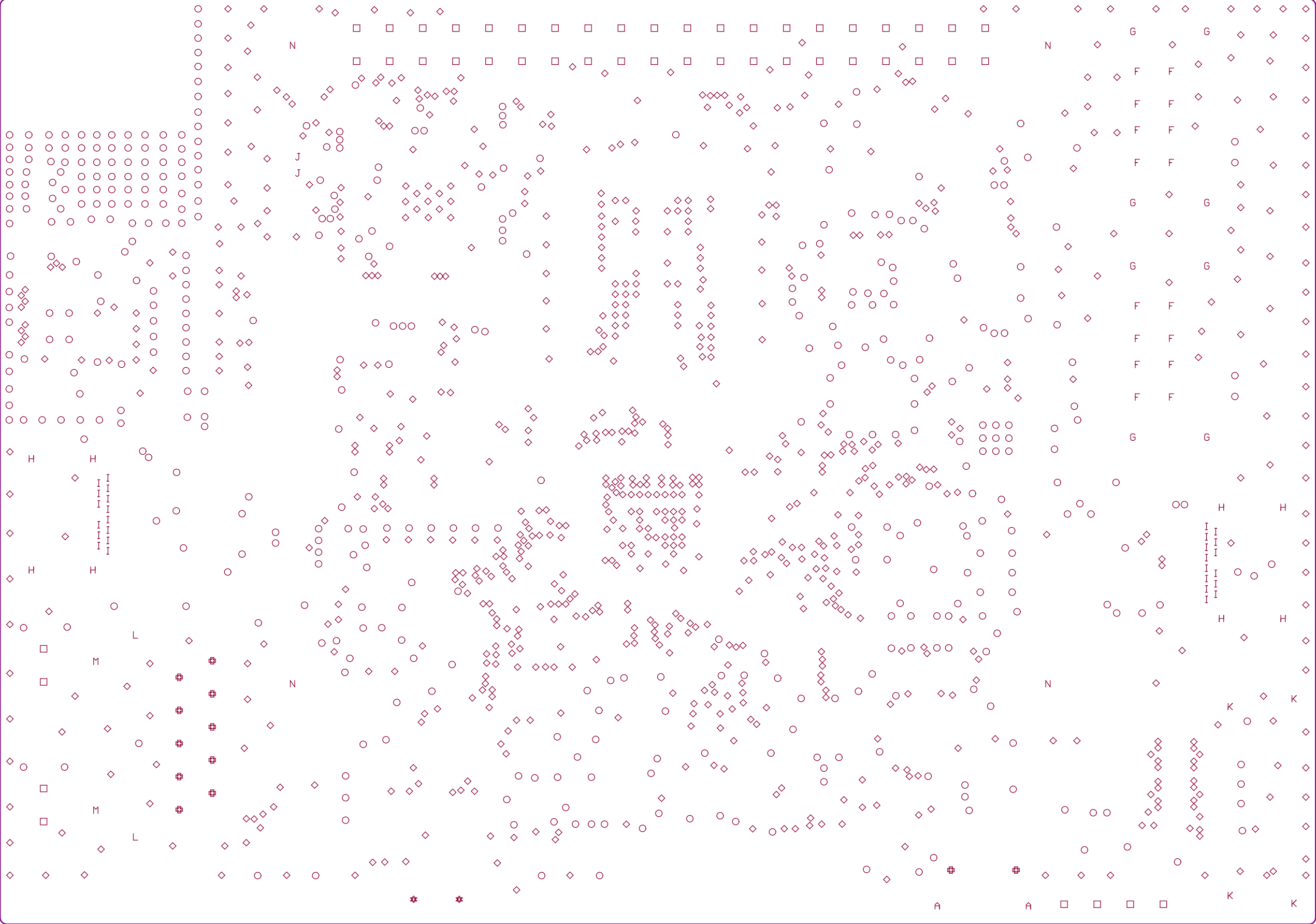GAPS : 0.090mm

MCU
TRACKS : 0.090mm
GAPS : 0.080mm

IMPEDANCE TABLE   DDR

LAYER	TRACE (mm)	SPACING (mm)	IMPEDANCE (Single ended)	IMPEDANCE (Differential)	TOL.
TOP	0.120	0.300	55 ohm	NA	+/- 10%
	0.100/0.130/0.100	NA	100 ohm	+/- 10%
LAYER 2	0.127	0.300	55 ohm	NA	+/- 10%
	0.090/0.140/0.090	NA	100 ohm	+/- 10%
BOTTOM	0.120	0.300	55 ohm	NA	+/- 10%
	0.100/0.130/0.100	NA	100 ohm	+/- 10%

IMPEDANCE TABLE   SDMMC1

LAYER	TRACE (mm)	SPACING (mm)	IMPEDANCE (Single ended)	IMPEDANCE (Differential)	TOL.
TOP/BOTTOM	0.130	0.260	50 ohm	NA	+/- 15%
LAYER 2	0.090	0.260	50 ohm	NA	+/- 15%

IMPEDANCE TABLE   USB

LAYER	TRACE (mm)	SPACING (mm)	IMPEDANCE (Single ended)	IMPEDANCE (Differential)	TOL.
TOP/BOTTOM	0.100	0.090	NA	90 ohm	+/- 15%

IMPEDANCE TABLE   DSI

LAYER	TRACE (mm)	SPACING (mm)	IMPEDANCE (Single ended)	IMPEDANCE (Differential)	TOL.
TOP/BOTTOM	0.100	0.130	NA	100 ohm	+/- 15%

Layer	Name	Material	Thickness	Constant	Board Layer Stack
1	Top Overlay				
2	Top Solder	Solder Resist	0,020mm	3,5	
3	Top Layer	Copper	0,035mm		
4	Dielectric 1	IT-180A 3313H	0,099mm	4,2	
5	Signal Layer 1	Copper	0,035mm		
6	Dielectric 2	IT-180A	0,130mm	4,2	
7	Signal Layer 2	Copper	0,035mm		
8	Dielectric 3	IT-180A 1080*2	0,885mm	4,25	
9	Signal Layer 3	Copper	0,035mm		
10	Dielectric 4	IT-180A	0,130mm	4,2	
11	Signal Layer 4	Copper	0,035mm		
12	Dielectric 5	IT-180A 3313H	0,099mm	4,2	
13	Bottom Layer	Copper	0,035mm		
14	Bottom Solder	Solder Resist	0,020mm	3,5	
15	Bottom Overlay				

Drill Drawing   .DRL

Symbol	Count	Hole Size	Plated	Hole Type	Drill Layer Pair	Hole Length	Routed Path Length
▽	530	0,100mm (3,94mil)	PTH	Round	Top Layer - Signal Layer 1	-	-
◇	912	0,200mm (7,87mil)	PTH	Round	Top Layer - Bottom Layer	-	-
O	452	0,300mm (11,81mil)	PTH	Round	Top Layer - Bottom Layer	-	-
I	28	0,400mm (15,75mil)	PTH	Round	Top Layer - Bottom Layer	-	-
J	2	0,500mm (19,69mil)	PTH	Round	Top Layer - Bottom Layer	-	-
H	8	0,600mm (23,62mil)	PTH	Slot	Top Layer - Bottom Layer	1,200mm (47,24mil)	0,600mm (23,62mil)
⟁	2	0,600mm (23,62mil)	PTH	Slot	Top Layer - Bottom Layer	1,300mm (51,18mil)	0,700mm (27,56mil)
⊞	12	0,900mm (35,43mil)	PTH	Round	Top Layer - Bottom Layer	-	-
F	16	0,920mm (36,22mil)	PTH	Round	Top Layer - Bottom Layer	-	-
☐	48	1,000mm (39,37mil)	PTH	Round	Top Layer - Bottom Layer	-	-
✿	2	1,200mm (47,24mil)	NPTH	Round	Top Layer - Bottom Layer	-	-
K	4	1,350mm (53,15mil)	PTH	Round	Top Layer - Bottom Layer	-	-
L	2	1,700mm (66,93mil)	PTH	Round	Top Layer - Bottom Layer	-	-
G	8	2,330mm (91,73mil)	PTH	Round	Top Layer - Bottom Layer	-	-
M	2	3,200mm (125,98mil)	NPTH	Round	Top Layer - Bottom Layer	-	-
N	4	3,500mm (137,80mil)	PTH	Round	Top Layer - Bottom Layer	-	-
	2032 Total						

Slot definitions : Routed Path Length = Calculated from tool start centre position to tool end centre position.
Hole Length   = Routed Path Length + Tool Size = Slot length as defined in the PCB layout