ASSEMBLY NOTES BLOCK

1. This is a static sensitive assembly- use static eliminating measures during assembly and handling.
2. Manufacture to IPC 610A workmanship standards.
3. Trim component leads within .062 from solder side of PWA with exception of indicated area, which must be trimmed to .010 +/- .010
4. Apply part number and serial number labels in areas shown.
5. Install item 19 (120-1032-001 heat sink as follows:
   A. Clean bottom surface of heat sink and mounting
   B. Apply sufficient amount of Item 21 (120-1031-001), epoxy tube, to bottom of heat sink.
   C. Apply Item 21, activator tube to mounting surface of Pentium Module
   D. Mount heat sink onto Pentium Module and allow to sit for 30 seconds.
6. Discard nylon washer supplied with Item 16 (120-9958-002)

FABRICATION NOTES BLOCK

1. MAT'L: Copper clad plated sheet per MIL-P-13949/4, Type GFM,
   A. Copper Weight:
      a) Outer Layers 1.5 OZ.
      b) Inner Plane Layers 1 OZ.
      c) Inner Signal Layers 1 OZ.
   B. Laminate using Pre-Preg Material Per MIL-P-13949/12, Type PC-GF. Tg minimum 170 deg C.
2. Overall Board thickness to be .093 +/- .009.
3. Unless otherwise specified all hole dimensions apply after platting. All plated through holes to have a minimum of .001 copper.
4. All holes shall be located within .003 diameter of true position. Layer to layer registration shall be within .005. All holes surrounded by land shall have a minimum annular ring of .001. Tangency on holes with breakout is acceptable.
5. Conductor widths and spacing shall be within +/- 20% of artwork originals.
6. Apply solder mask (liquid photo imageable) over bare copper, solder mask to be per IPC-SM-84D, Type B, Class 3, Color: Transparent Green. All exposed conductive surfaces to be solder coated.
7. Ware or twist of board shall not exceed .0075 inch per inch.

PAGE DESCRIPTION:

PCB MECHANICAL DETAILS:

1. PCB SIZE: 47.5 mm X 66.5 mm
2. PCB THICKNESS: 1.62 mm
3. NUMBER OF LAYERS: 4
4. IMPEDANCE CONTROL: NO

REVISION TIMELINE			
REV	DESCRIPTION	DATE	APPROVED
1.0	Main release to PCB	24.07.2024	Molganov A.A.

Cadence	Capture CIS 23.10.005	
Cadence	PCB Editor 23.10.005	
TRADEMARK	USED ON	
APPLICATION		

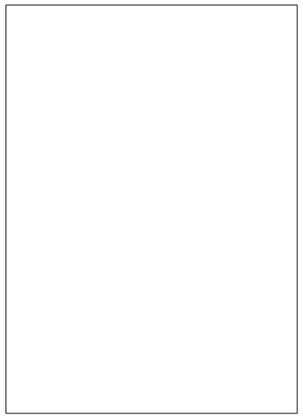
DRAWN	Molganov A.A.	DATE 24.07.2024
ENGINEER	Molganov A.A.	DATE 24.07.2024
CHECKED	Molganov A.A.	DATE 24.07.2024
APPROVED	Vafaev A.R.	DATE 25.07.2024
ISSUED	Vafaev A.R.	DATE 01.09.2024

COVER PAGE

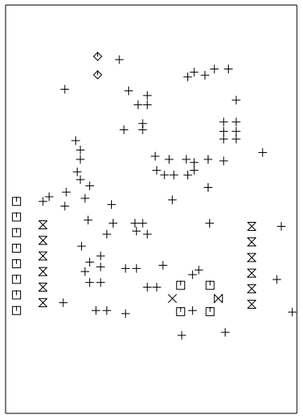
TITLE: ST-Link V3 (Based on STM32F723)

SIZE	CAGE CODE	DWG NO	REV
A3			A

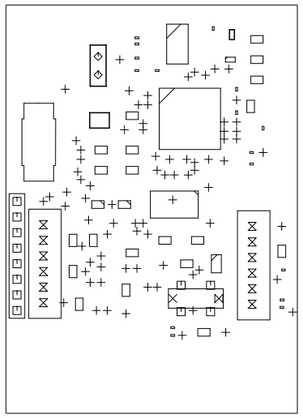
SCALE 1 : 1 | SHEET 1 OF 4



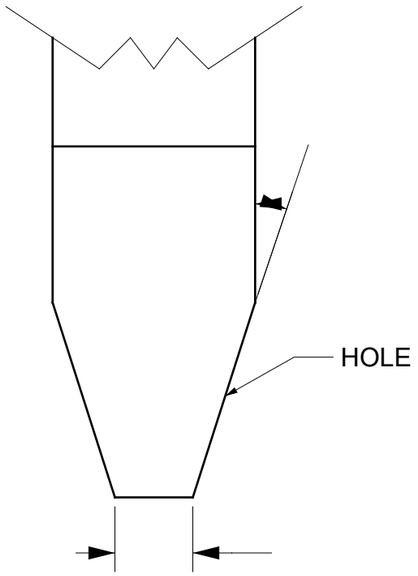
BOARD OUTLINE



DRILL PATTERN

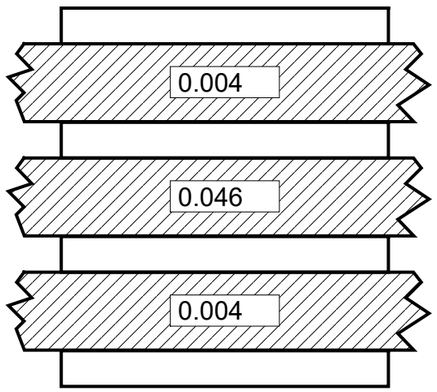


PCB View

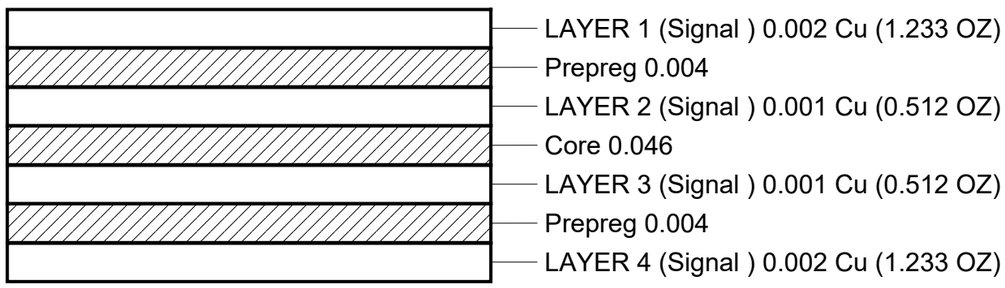


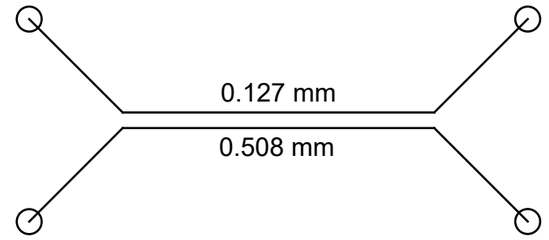
Drill Chart				
Size	Sym	Qty	Plated	Tolerance
0.013	+	79	Yes	+0/-0.013
0.024	X	1	No	+/-0.002
0.028	⊓	12	Yes	+/-0.003
0.035	◇	2	No	+/-0.002
0.043	⧖	12	Yes	+/-0.003
0.046	⋈	1	No	+/-0.002
Total		107		

LAYER STACK-UP



LAYER	COPPER
Signal (LAYER 1)	1.233 OZ
Signal (LAYER 2)	0.512 OZ
Signal (LAYER 3)	0.512 OZ
Signal (LAYER 4)	1.233 OZ

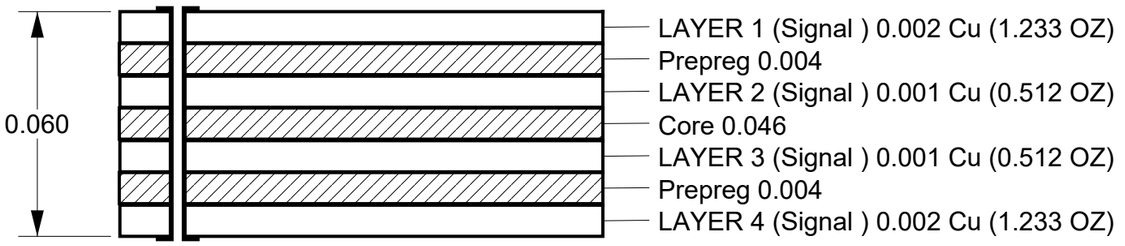




SCALE: NONE

TRACE WIDTH

VIA STACK-UP



PCB Materials Table		
Material Name	**Material Type**	**Qty**
COPPER	Conductor	4
FR-4	Dielectric PrePreg	3

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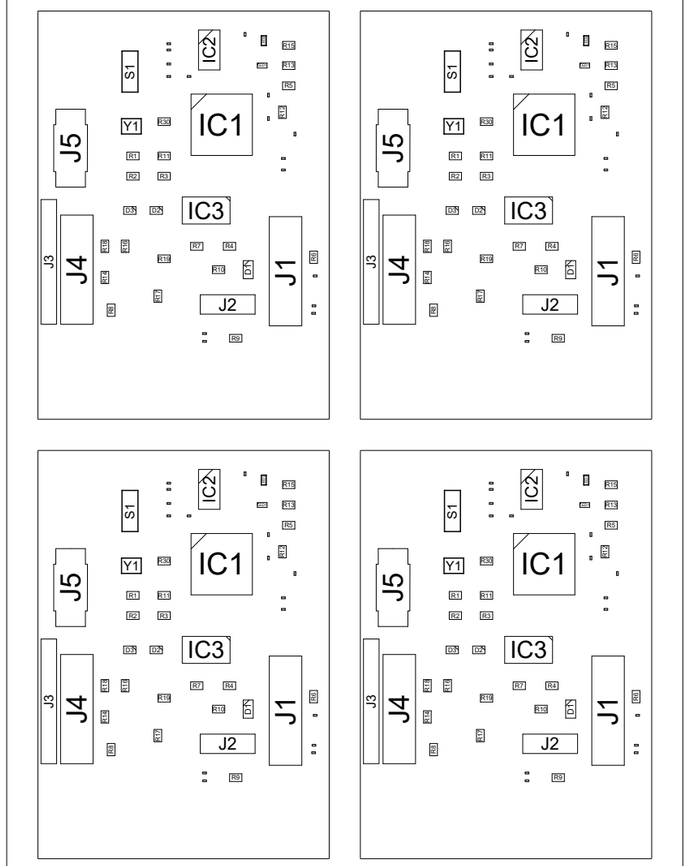
DRAWN	Molganov A.A.	24.07.2024
ENGINEER	Molganov A.A.	24.07.2024
CHECKED	Molganov A.A.	24.07.2024
APPROVED	Vafaev A.R.	25.07.2024
ISSUED	Vafaev A.R.	01.09.2024

LAYER MATERIALS AND STACK-UP

TITLE: ST-Link V3 (Based on STM32F723)

SIZE	CAGE CODE	DWG NO	REV
A3			A

SCALE 1 : 1 | SHEET 2 OF 4



Component Coordinates					
Part Type	**Ref Des**	**Side**	**X**	**Y**	**Angle**
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_100	R30	TOP	6.940	10.390	0.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_100	R19	TOP	6.940	9.510	0.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_100	R18	TOP	6.560	9.590	90.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_100	R17	TOP	6.900	9.270	270.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_100	R16	TOP	6.690	9.590	270.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_100	R15	TOP	7.740	10.880	0.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_100	R14	TOP	6.560	9.390	270.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_100	R13	TOP	7.740	10.750	0.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_3K	R12	TOP	7.700	10.450	90.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_10K	R11	TOP	6.940	10.170	180.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_10K	R10	TOP	7.290	9.440	0.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_10K	R9	TOP	7.400	9.000	0.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_100	R8	TOP	6.600	9.180	270.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_100	R7	TOP	7.150	9.590	180.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_100K	R6	TOP	7.900	9.520	270.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_100	R5	TOP	7.740	10.620	0.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_100K	R4	TOP	7.360	9.590	180.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_4.7K	R3	TOP	6.940	10.040	0.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_4.7K	R2	TOP	6.740	10.040	0.000
ERA-6ARB472V_ERA6AEB1020V_DISCRETE_4.7K	R1	TOP	6.740	10.170	180.000
SM0603SRC_SM0603SRC_SM0603SRC	LED2	TOP	7.580	10.910	180.000
SM0603GCL_LEDC1608X60N_SM0603GCL	LED1	TOP	7.570	10.750	0.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_100NF	C16	TOP	7.460	10.950	90.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_100NF	C15	TOP	7.900	9.160	0.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_100NF	C14	TOP	7.706	10.080	0.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_100NF	C13	TOP	7.706	10.154	0.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_100NF	C12	TOP	7.902	9.208	0.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_100NF	C11	TOP	7.200	8.980	0.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_100NF	C10	TOP	7.200	9.030	0.000

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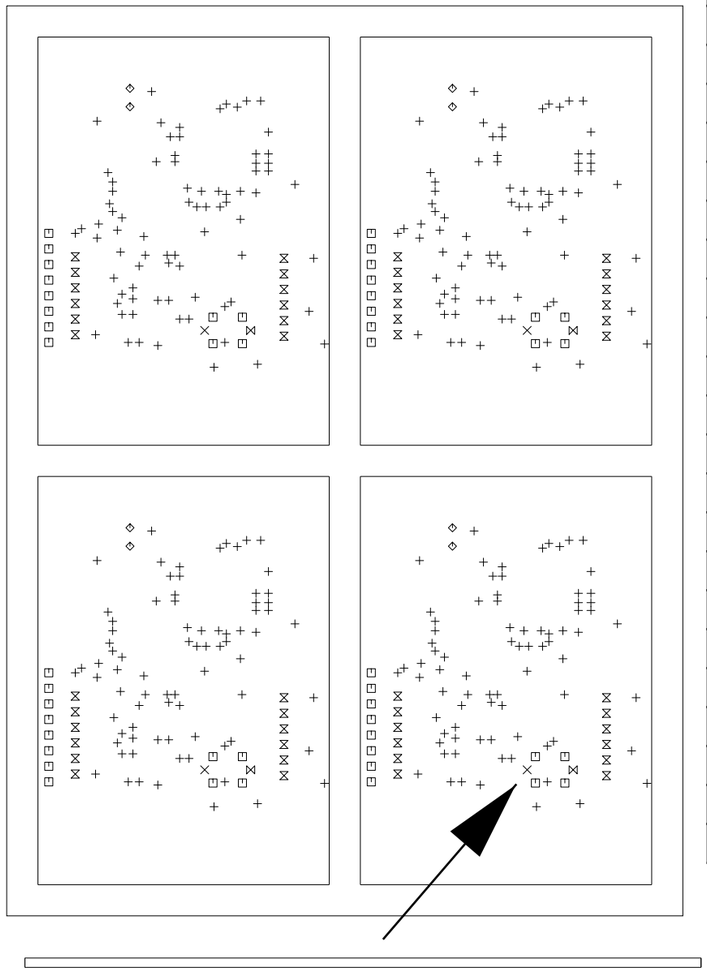
PANELS AND ELEMENTS 1

DRAWN Molganov A.A.	DATE 24.07.2024	TITLE ST-Link V3 (Based on STM32F723)	
ENGINEER Molganov A.A.	DATE 24.07.2024		
CHECKED Molganov A.A.	DATE 24.07.2024		
APPROVED Vafaev A.R.	DATE 25.07.2024	SIZE A3 / CAGE CODE / DWG NO	REV A
ISSUED Vafaev A.R.	DATE 01.09.2024	SCALE 1 : 1	SHEET 3 OF 4



GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_100NF	C9	TOP	6.970	10.680	180.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_100NF	C8	TOP	7.100	10.680	0.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_2.2UF	C7	TOP	7.610	10.560	90.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_2.2UF	C6	TOP	7.780	10.310	270.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_2.2UF	C5	TOP	7.610	10.410	270.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_10UF	C4	TOP	6.970	10.760	0.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_10UF	C3	TOP	6.970	10.890	0.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_100NF	C2	TOP	6.970	10.850	0.000
GRM033D70E105ME15D_CAPC0603X33N_DISCRETE_100NF	C1	TOP	7.910	9.400	180.000
LM1117MPX-33NOPB_SOT230P700X180-4N_LM1117MPX-33NOPB	IC2	TOP	7.230	10.850	0.000
ASE-25.000MHZ-LC-T_ASE24576MHZLCT_ASE-25.000MHZ-LC-T	Y1	TOP	6.730	10.360	0.000
SRV05-4ATCT_SOT95P280X145-6N_SRV05-4ATCT	D1	TOP	7.480	9.440	0.000
SMF05C.TCT_SOT65P210X110-6N_SMF05C.TCT	D3	TOP	6.720	9.820	270.000
SMF05C.TCT_SOT65P210X110-6N_SMF05C.TCT	D2	TOP	6.890	9.820	270.000
280372-1_SHDR6W63P0X254_1X6_1780X500X1280P_280372-1	J4	TOP	6.370	9.690	270.000
280372-1_SHDR6W63P0X254_1X6_1780X500X1280P_280372-1	J1	TOP	7.710	9.680	270.000
PCM12SMTR_PCM12SMTR_PCM12SMTR	S1	TOP	6.790	10.800	270.000
08-0625-70_HDRV8W51P0X254_1X8_2032X254X816P_08-0625-70	J3	TOP	6.200	9.840	270.000
95278-401A10LF_95278401A10LF_95278-401A10LF	J5	TOP	6.340	10.220	270.000
219320-0001_2193200001_219320-0001	J2	TOP	7.240	9.250	0.000
SN74LVC8T245PWR_SOP65P640X120-24N_SN74LVC8T245PWR	IC3	TOP	7.210	9.820	270.000
STM32F723IEK6_BGA201C65P15X15_1000X1000X60_STM32F723IEK6	IC1	TOP	7.310	10.370	0.000

Drill Chart

Size	Sym	Qty	Plated	Tolerance
0.013	+	79	Yes	+0/-0.013
0.024	X	1	No	+/-0.002
0.028	⊥	12	Yes	+/-0.003
0.035	◇	2	No	+/-0.002
0.043	⧖	12	Yes	+/-0.003
0.046	⋈	1	No	+/-0.002
Total		107		

DOSTI инновационный центр

DRAWN Molganov A.A.	DATE 24.07.2024	PANELS AND ELEMENTS 2
ENGINEER Molganov A.A.	DATE 24.07.2024	TITLE: ST-Link V3 (Based on STM32F723)
CHECKED Molganov A.A.	DATE 24.07.2024	
APPROVED Vafaev A.R.	DATE 25.07.2024	SIZE A3 / CAGE CODE / DWG NO / REV A
ISSUED Vafaev A.R.	DATE 01.09.2024	SCALE 1 : 1 / SHEET 4 OF 4

8	7	6	5	4	3	2	1

F

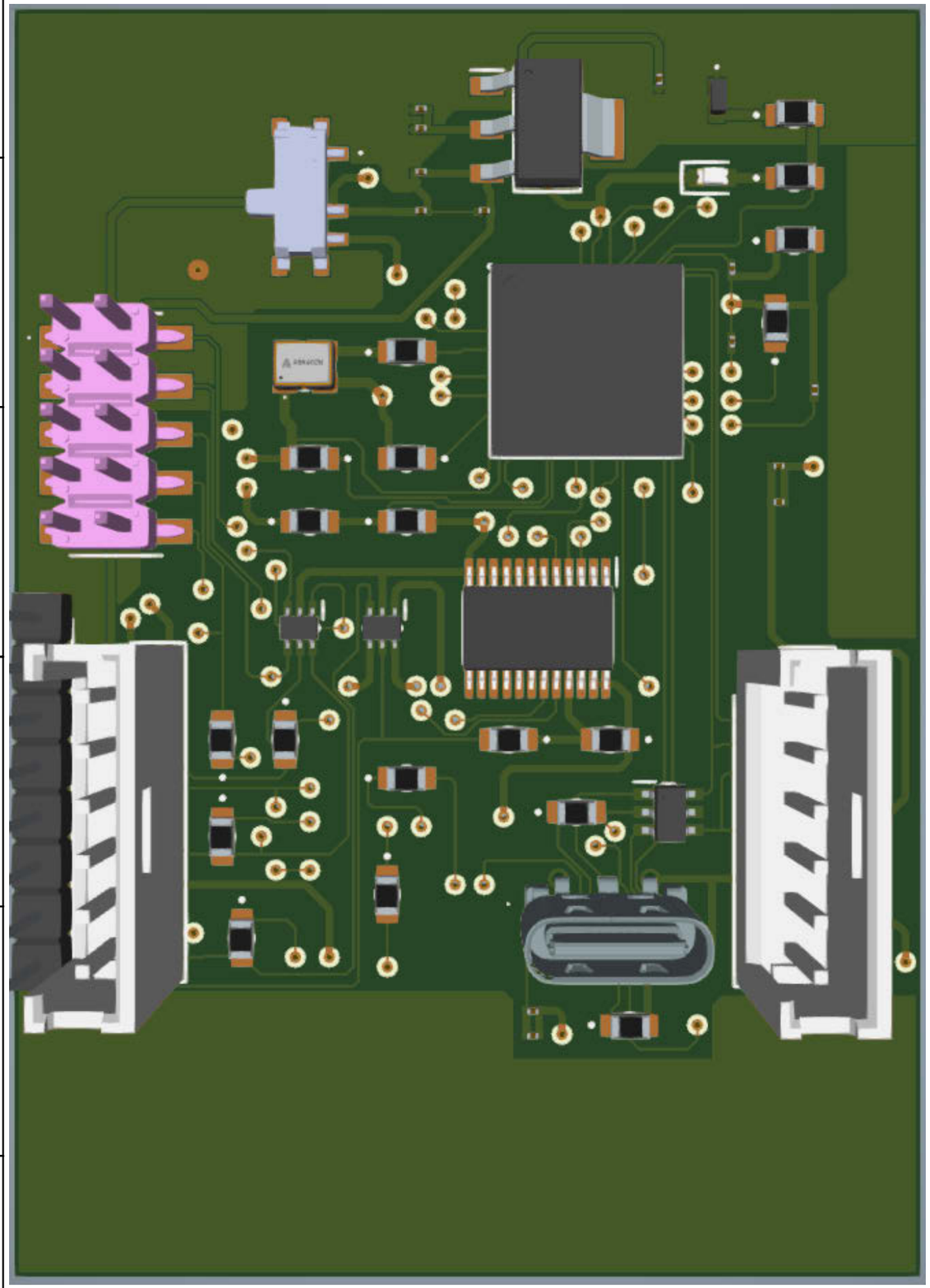
E

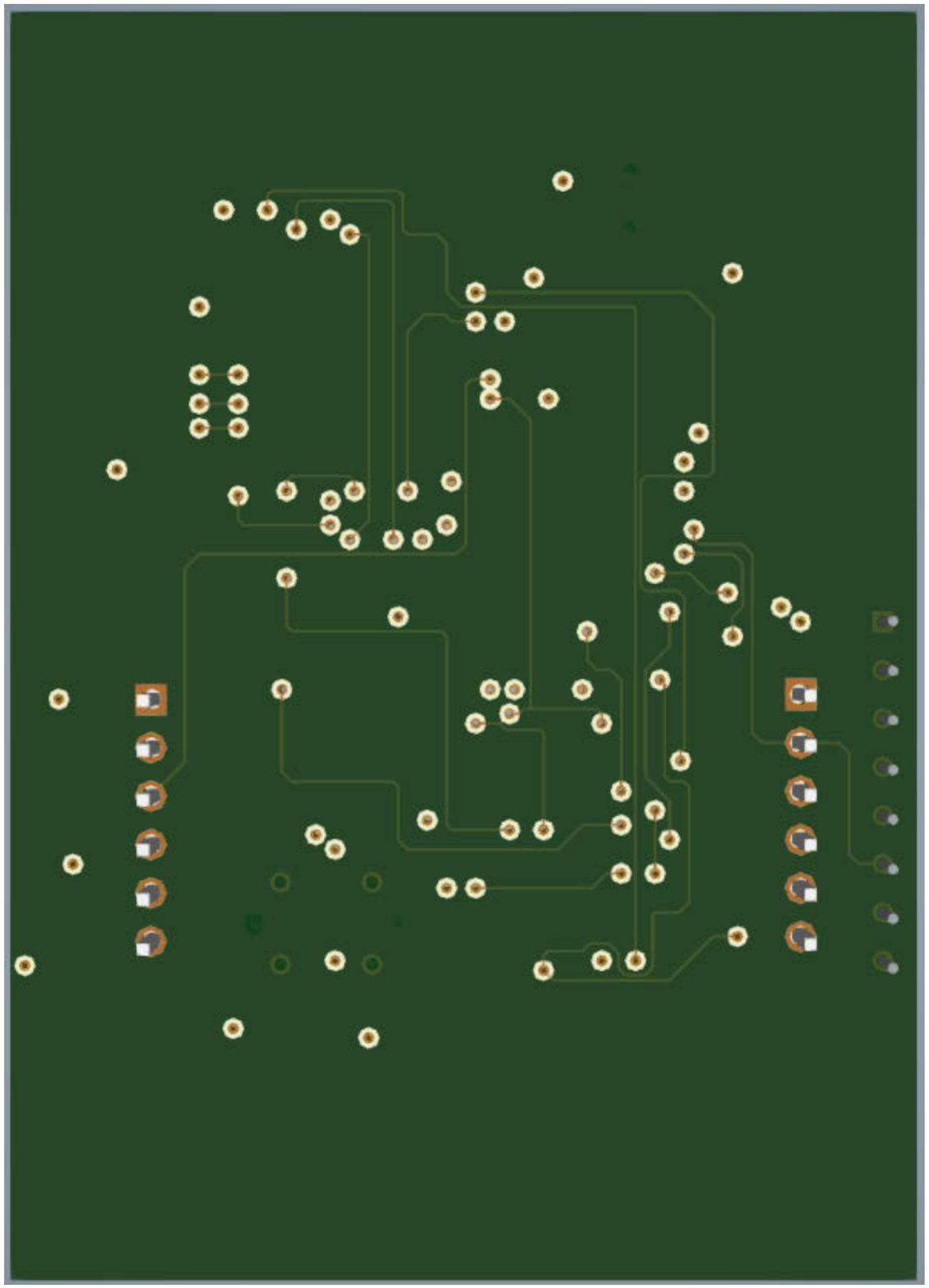
D

C

B

A

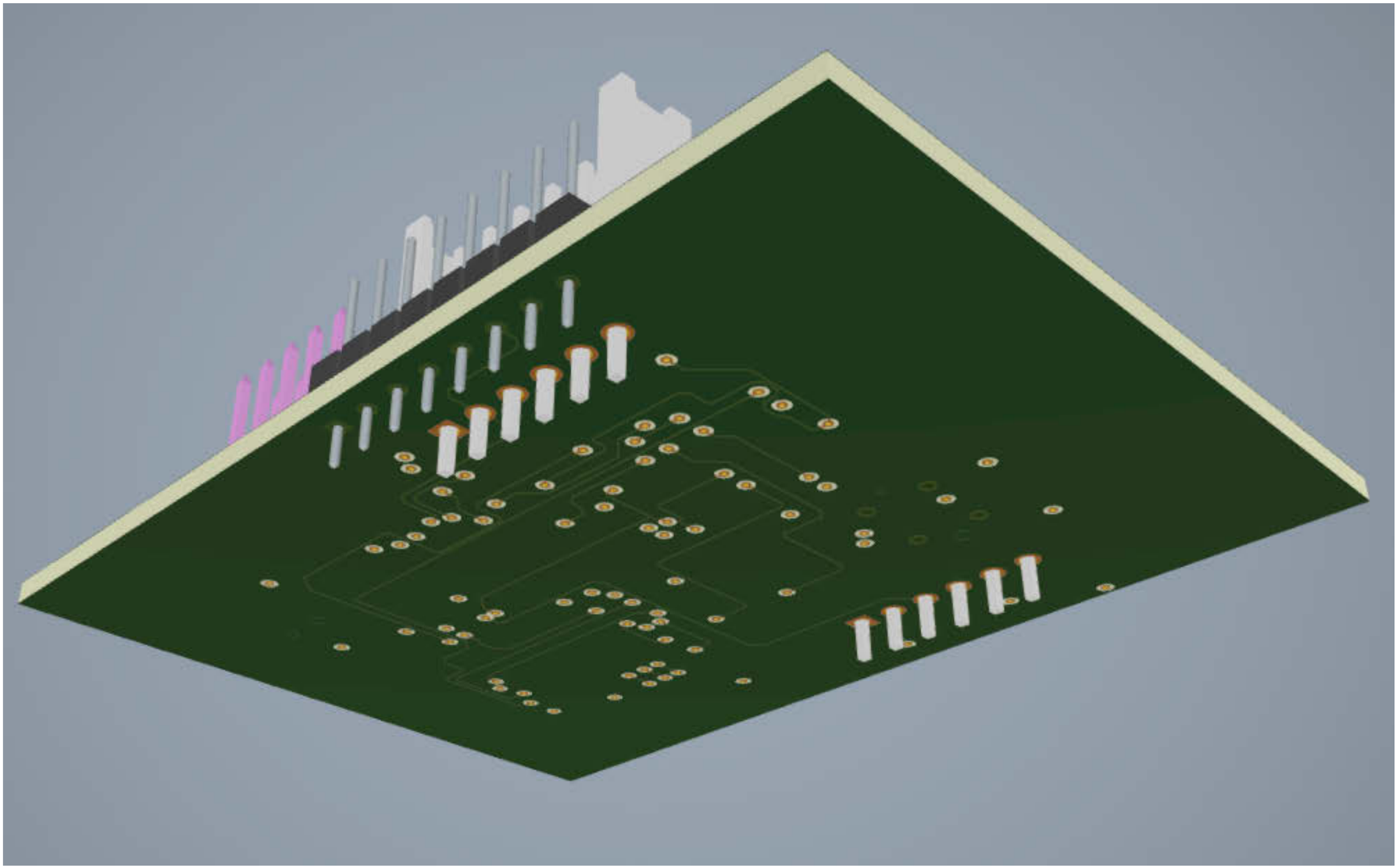




8	7	6	5	4	3	2	1

8 7 6 5 4 3 2 1

F E D C B A



8 7 6 5 4 3 2 1

8	7	6	5	4	3	2	1

F

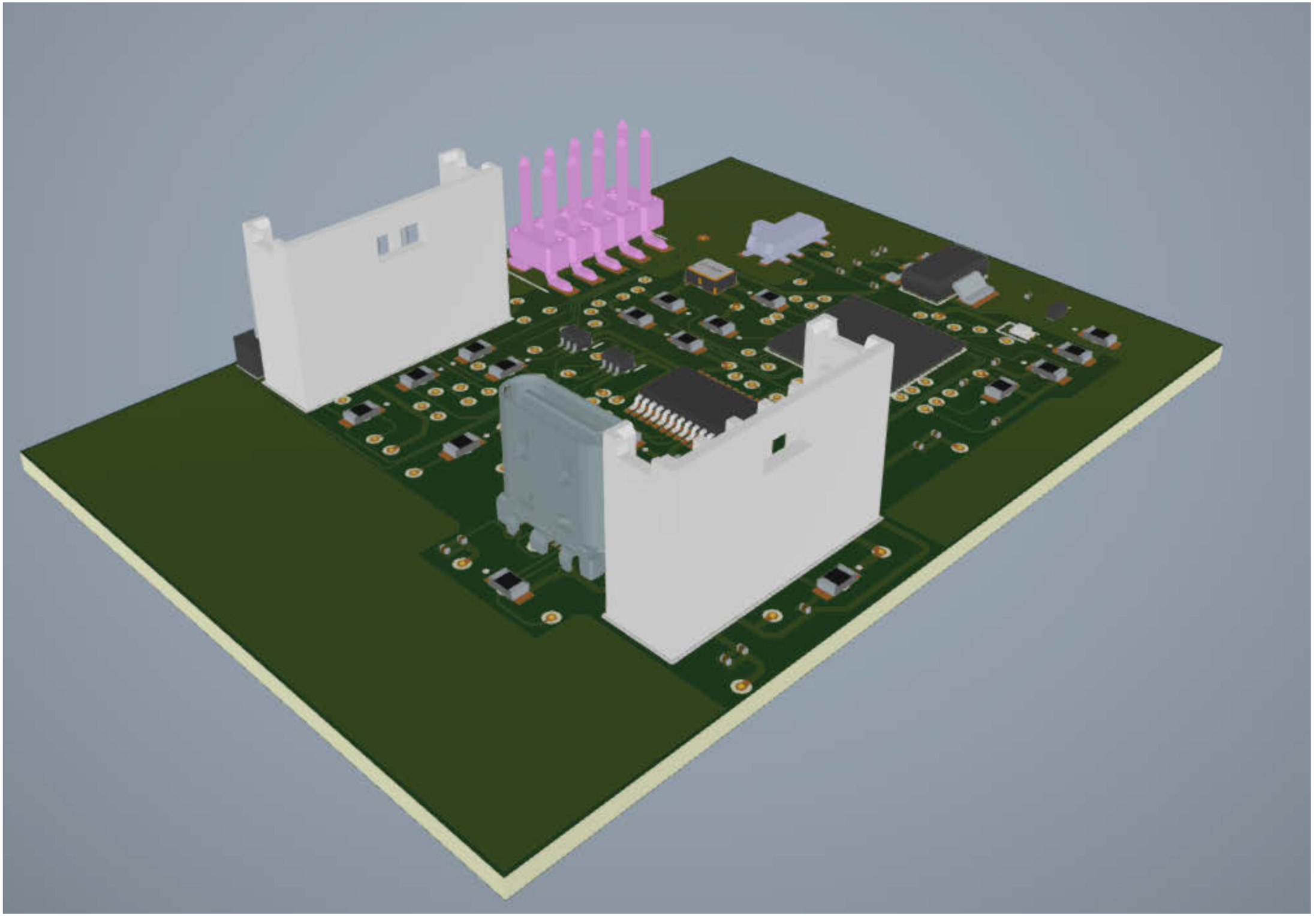
E

D

C

B

A



8 7 6 5 4 3 2 1