APV25 Bonding Scheme

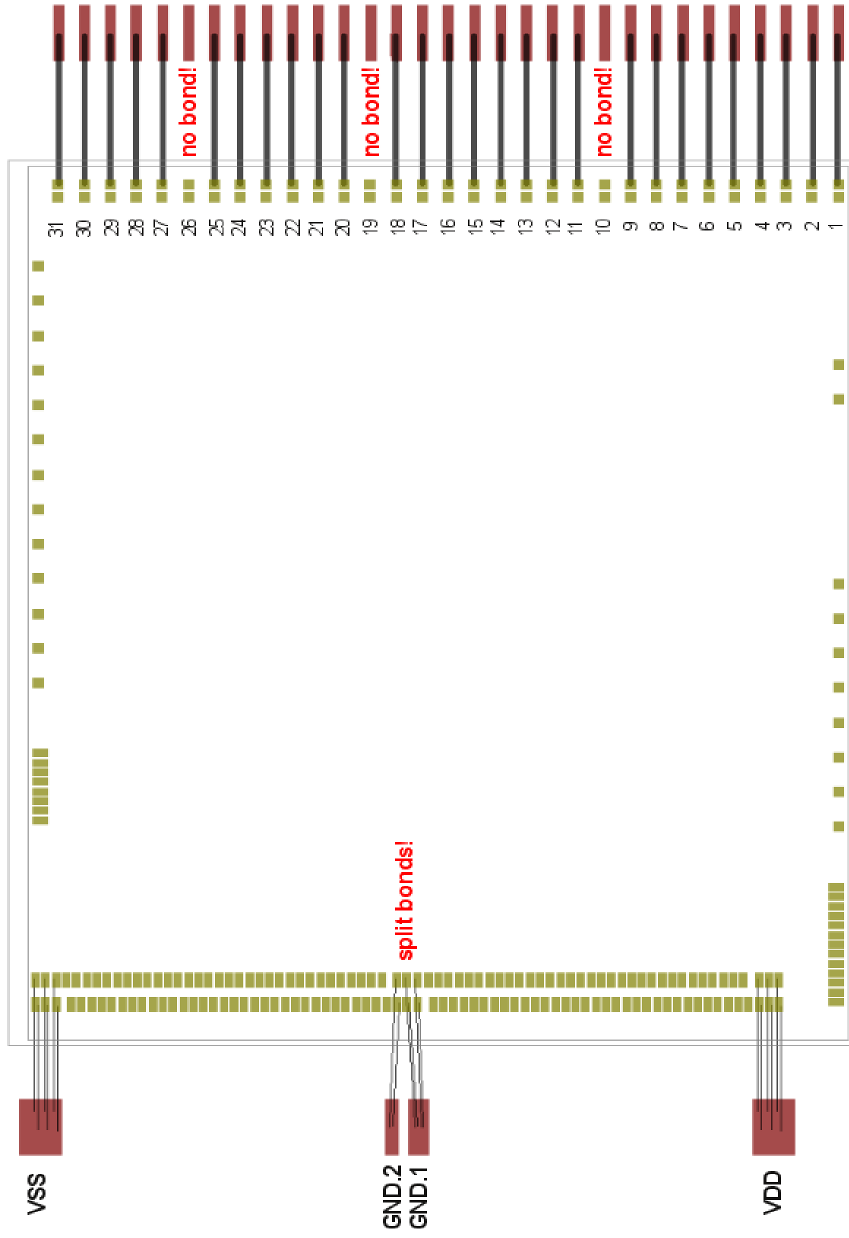
assymetric powering, internal biasing, external address selection

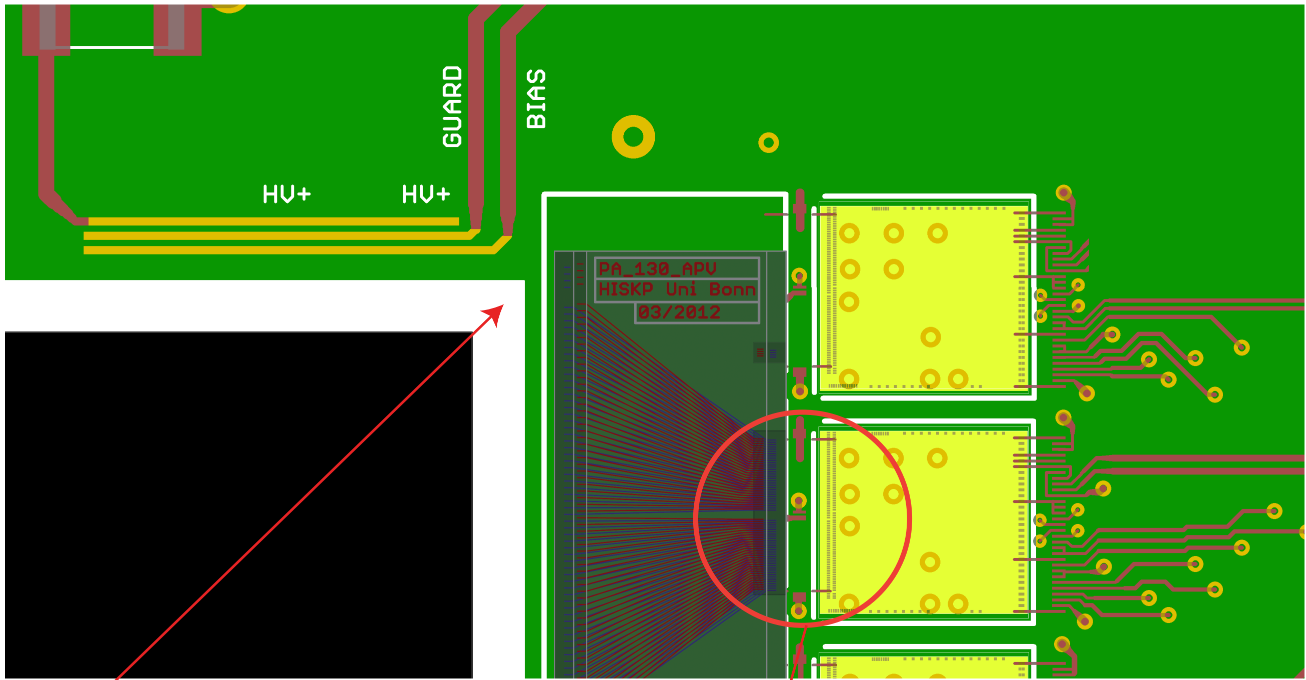
Backend Pads

Pad	designation	
1	VSS	bond
2	VDD	bond
3	TRIG-	bond
4	TRIG+	bond
5	CLK-	bond
6	CLK+	bond
7	VDD	bond
8	VDD	bond
9	RST	bond
10	OUTE	no bond
11	SDAIN	bond
12	SDAOUT	bond
13	SCLK	bond
14	ADD0	bond
15	ADD1	bond
16	ADD2	bond
17	ADD3	bond
18	ADD4	bond
19	MUXOUT	no bond
20	VSS	bond
21	VDD	bond
22	OUT-	bond
23	OUT+	bond
24	VSS	bond
25	VDD	bond
26	IREF	no bond
27	VSS	bond
28	VSS	bond
29	IREFBIAS	bond
30	GND	bond
31	VSS	bond

Frontend Pads

Pad	designation	
	VDD (6 pads)	bond
	GND.1 (4 pads)	bond
	GND.2 (2 pads)	bond
	VSS (6 pads)	bond


no bond!
no bond!
no bond!
31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
split bonds!
VSS
GND.2
GND.1
VDD

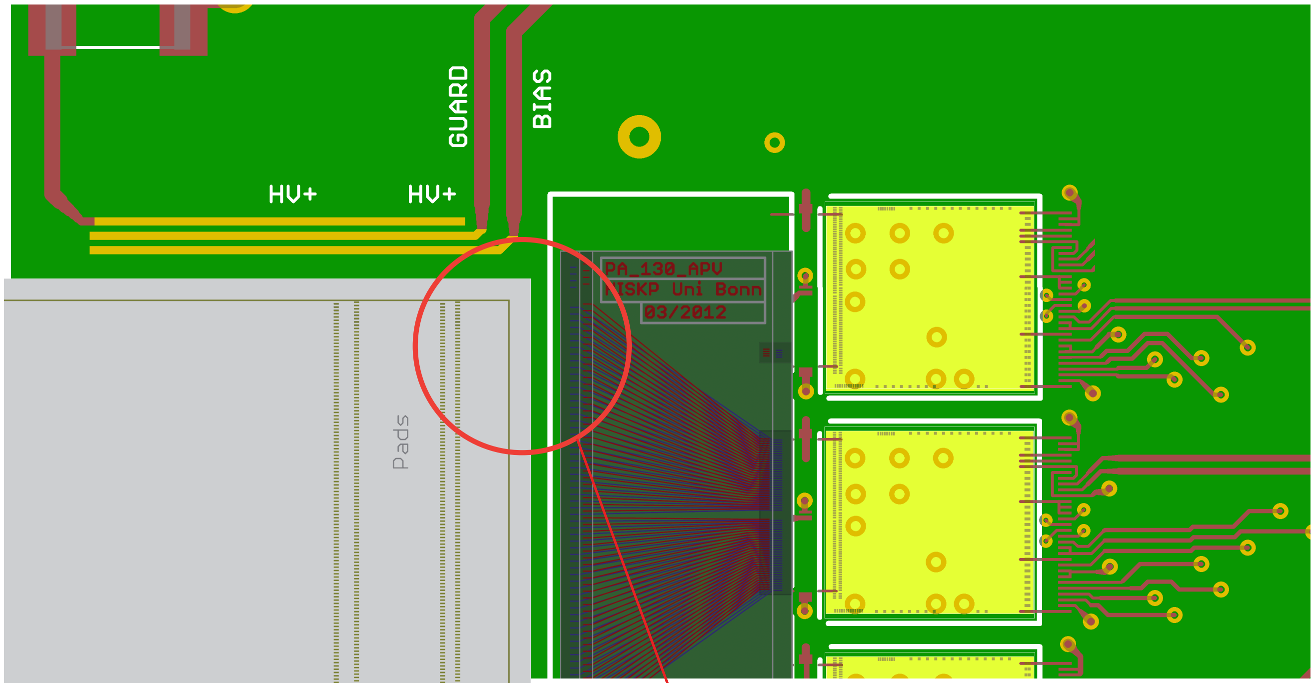


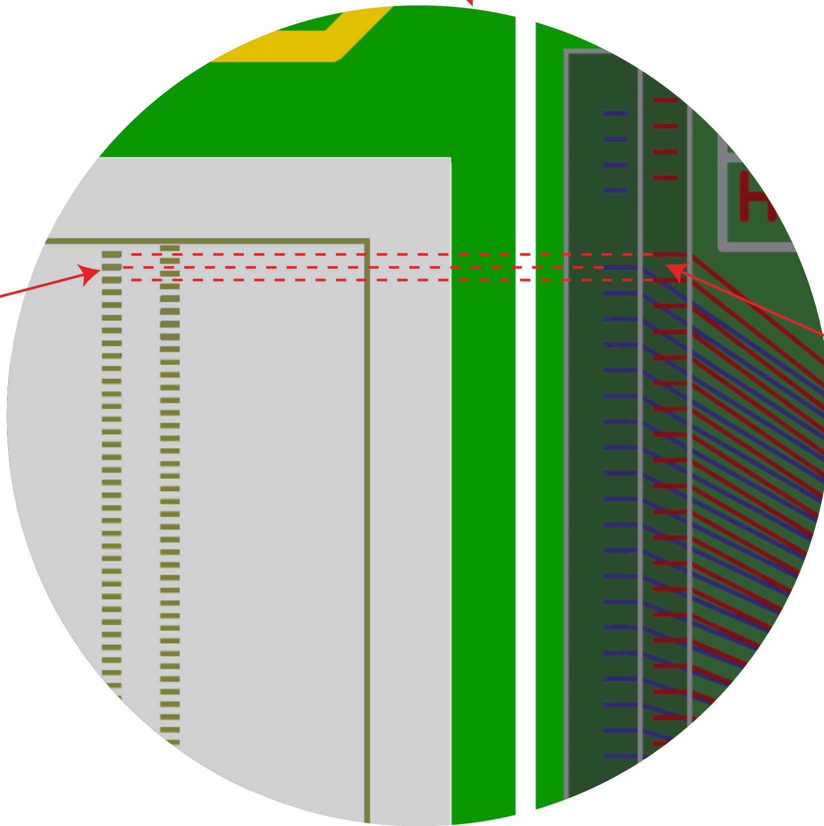
Sensor positioning: align corner to white marking on PCB;

Markings on PCB aligned with the most external pads of the PA

Markings on PCB aligned with the most external input pads of the APV (remind: there are two blocks of 6 supply pads at each end of the front-end side of the APV)

Bond every front-end channel of the APV with the corresponding PA pad

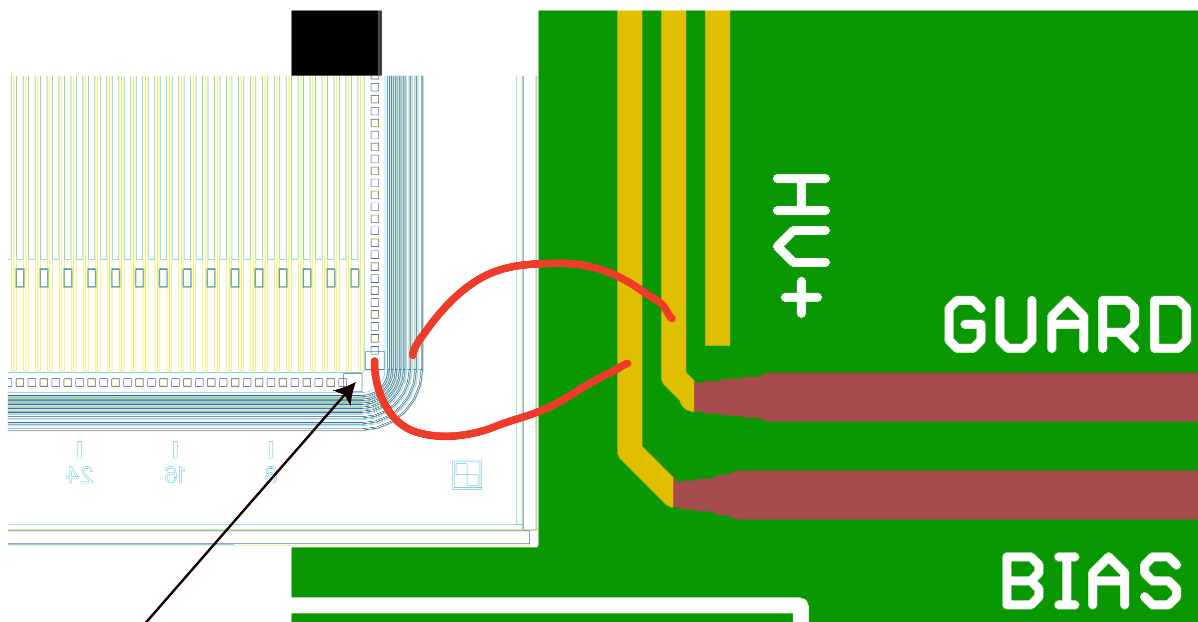




Bond every second pad on the sensor (only one column - either left or right column is fine)

Bond every pad on the PA

p-side: BIAS to bias ring on the sensor
p-side: GUARD to guard ring on sensor if possible



openings on the bias ring (larger square on corners and along borders)

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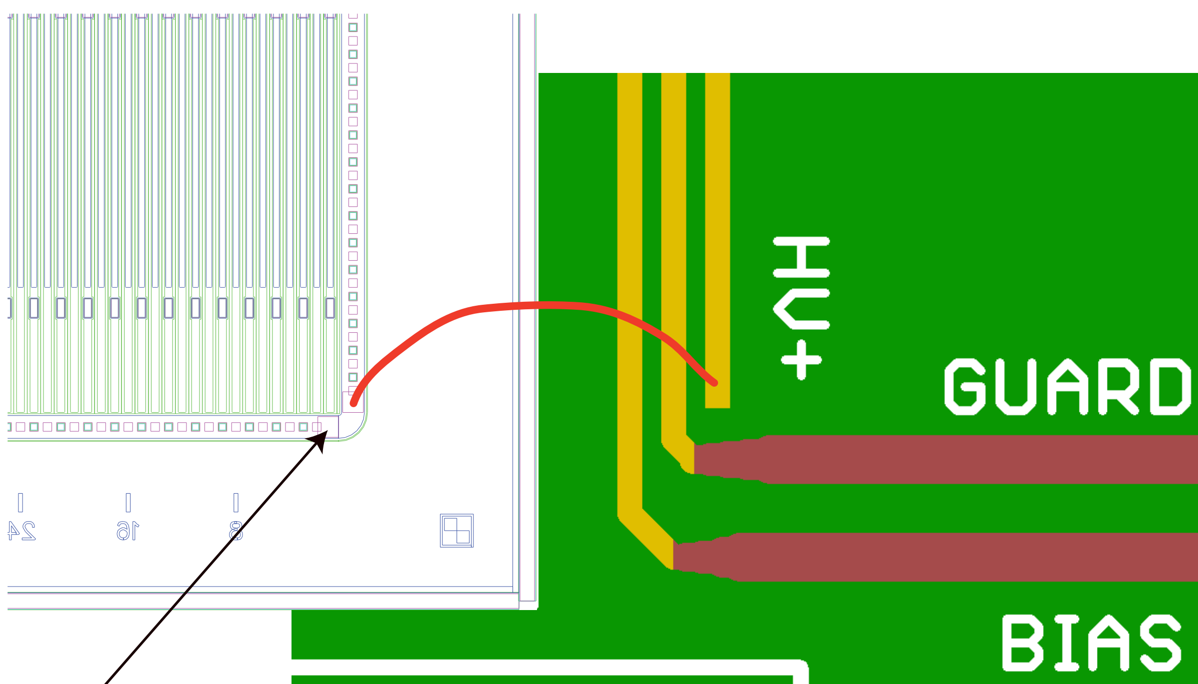
n-side: HV+ to bias ring on the sensor
n-side is bonded to the board with the LEMO connector



openings on the bias ring (larger square on corners and along borders)