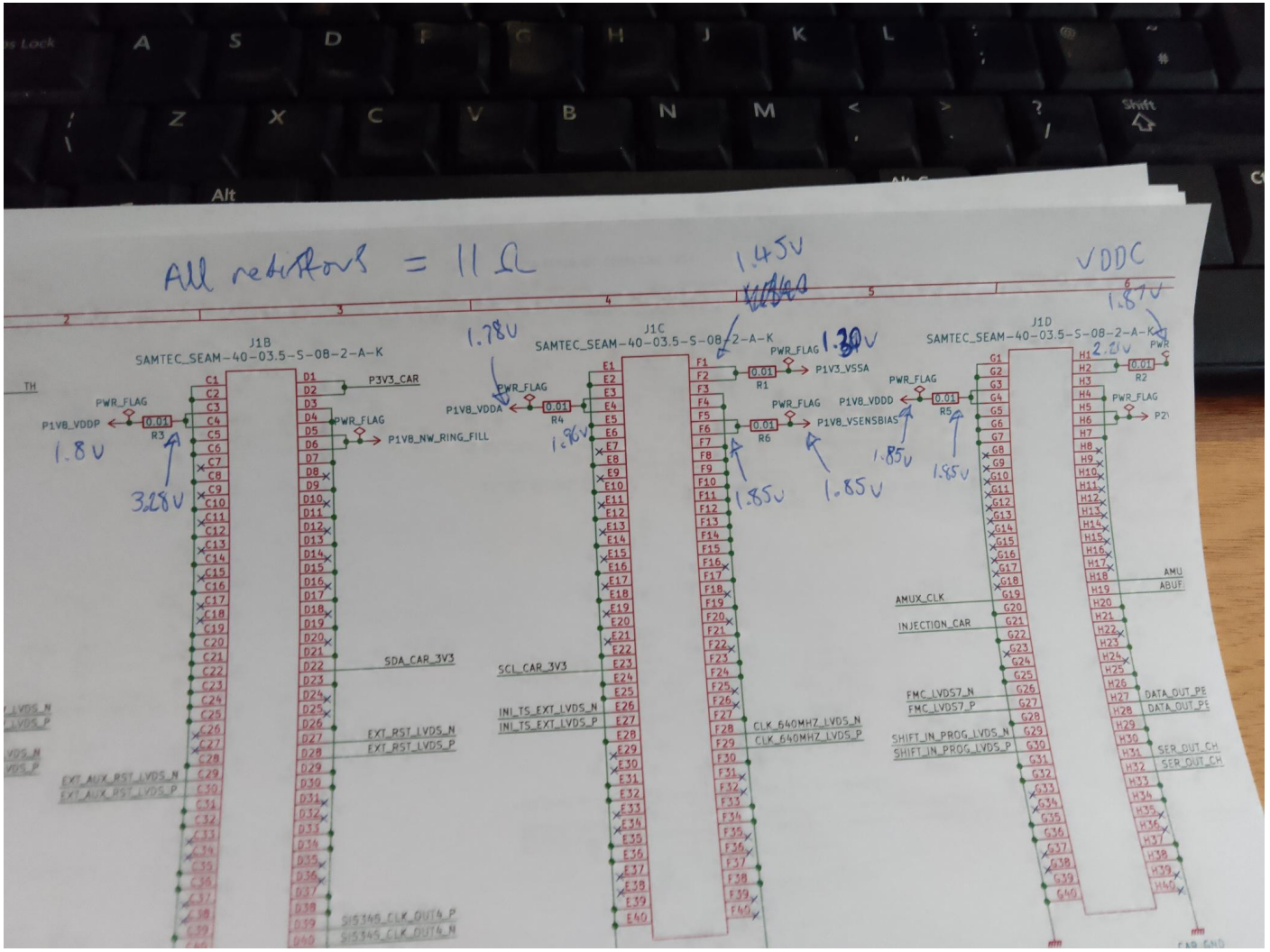
RD50-MPW4 Measurements - update

11/07/24

rd50-mpw4 - power consumption



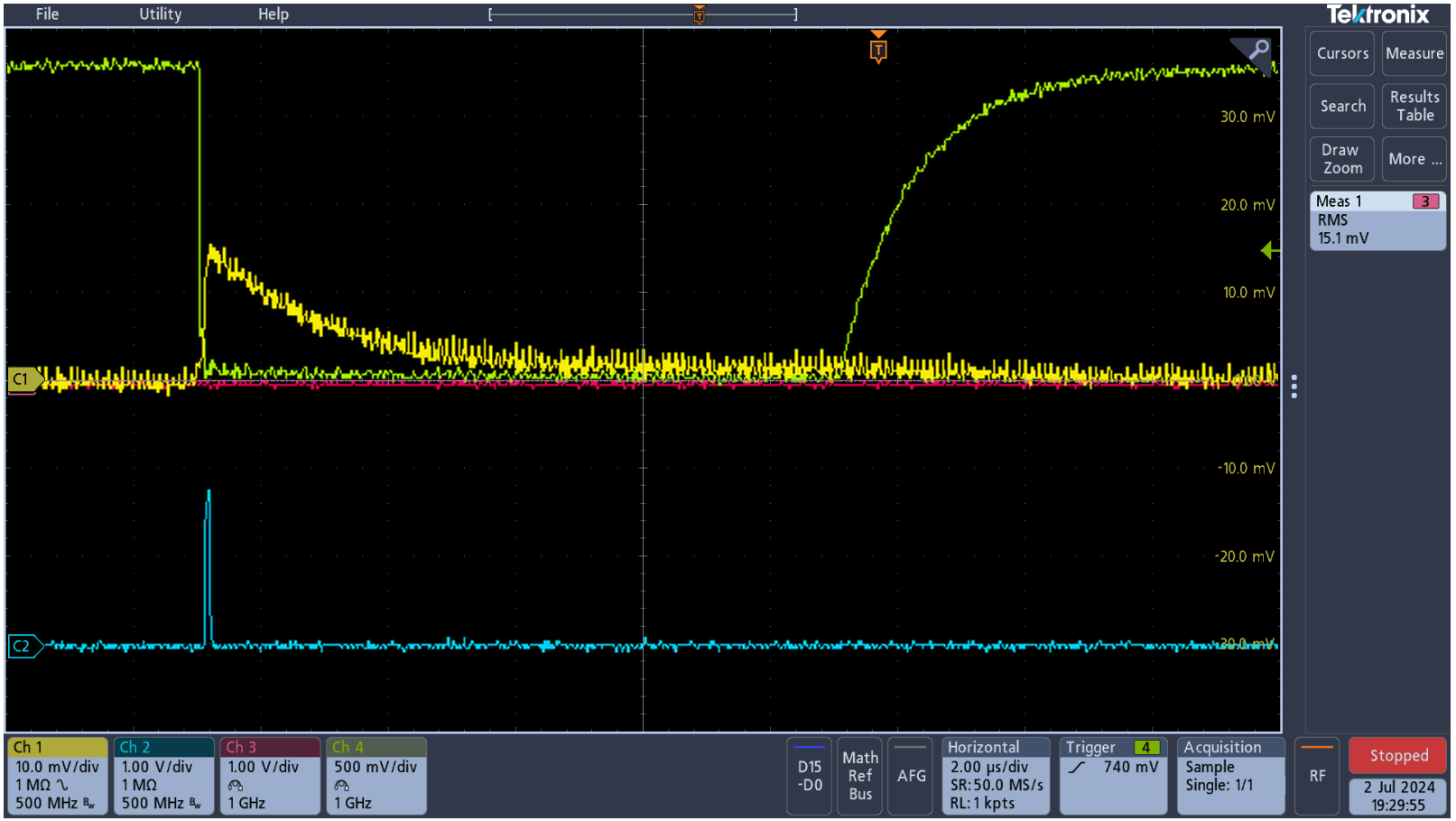
rd50-mpw4 - power consumption

	A	B	C	D	E	F	G	H	I	J	K
1	voltage	vin	vout	vdiff	current	power		chip length mm	chip width mm	chip area	
2											
3	vddc	2.21	1.87	0.34	0.030909091	0.0578		5.36	6.3	33.768	
4	vdda	1.96	1.78	0.18	0.016363636	0.02912727					
5	vssa	1.45	1.3	0.15	0.013636364	0.01772727					
6	vddp	3.28	1.8	1.48	0.134545455	0.24218182					
7	vsensbias	1.85	1.85	0	0	0		chip length (no periphery) mm	chip width (no periphery) mm	chip area	
8	vddd	1.85	1.85	0	0	0					
9								5.36	4.9	26.264	
10											
11				total power		0.34683636					
12											
13				power/mm2		0.01027116					
14											
15				total power without digital perihery		0.10465455					
16											
17				power/mm2 without digital periphery		0.00398471					
18											
19											

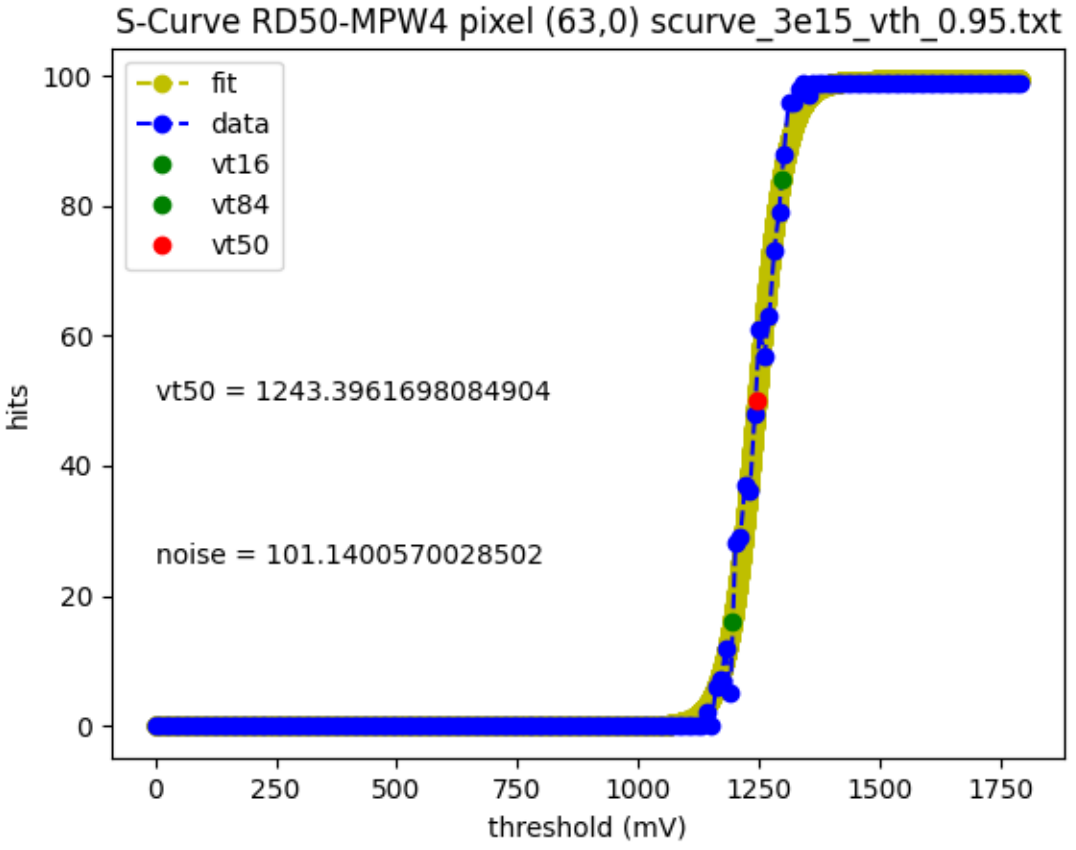
rd50-mpw4 s-curves 3e15

UNIVERSITY OF LIVERPOOL

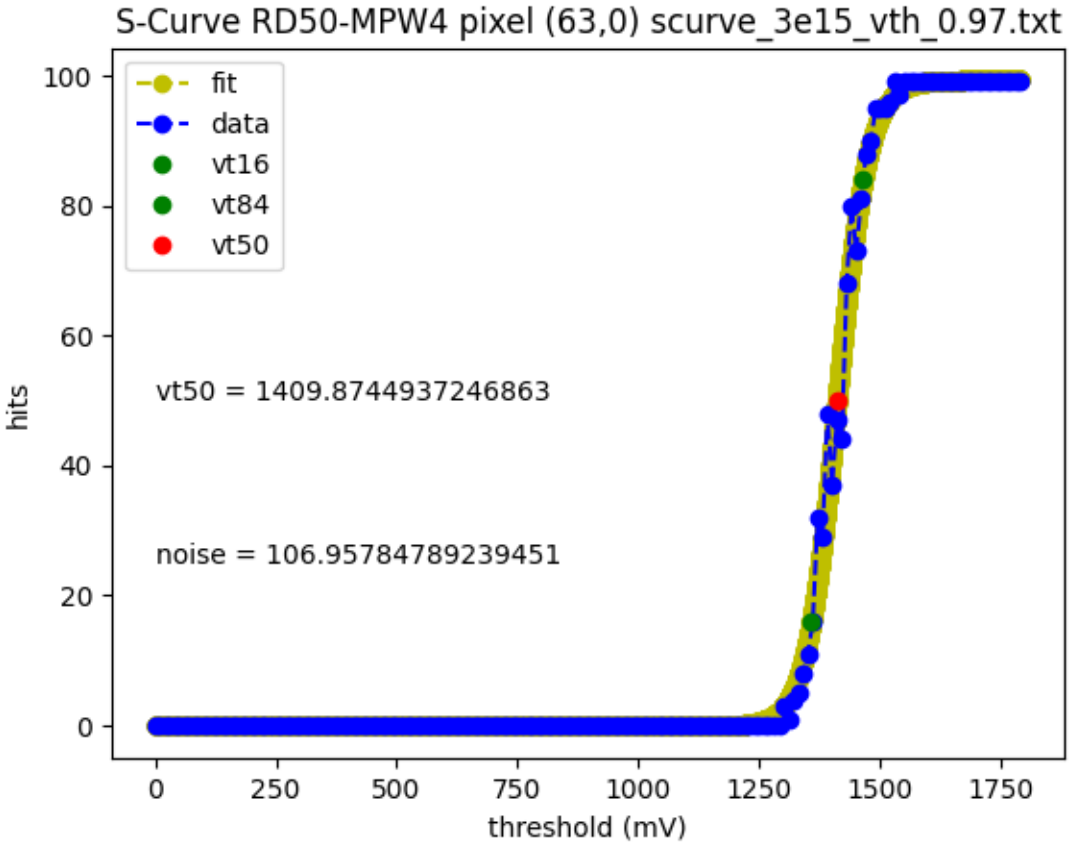
rd50-mpw4 s-curves - 3e15



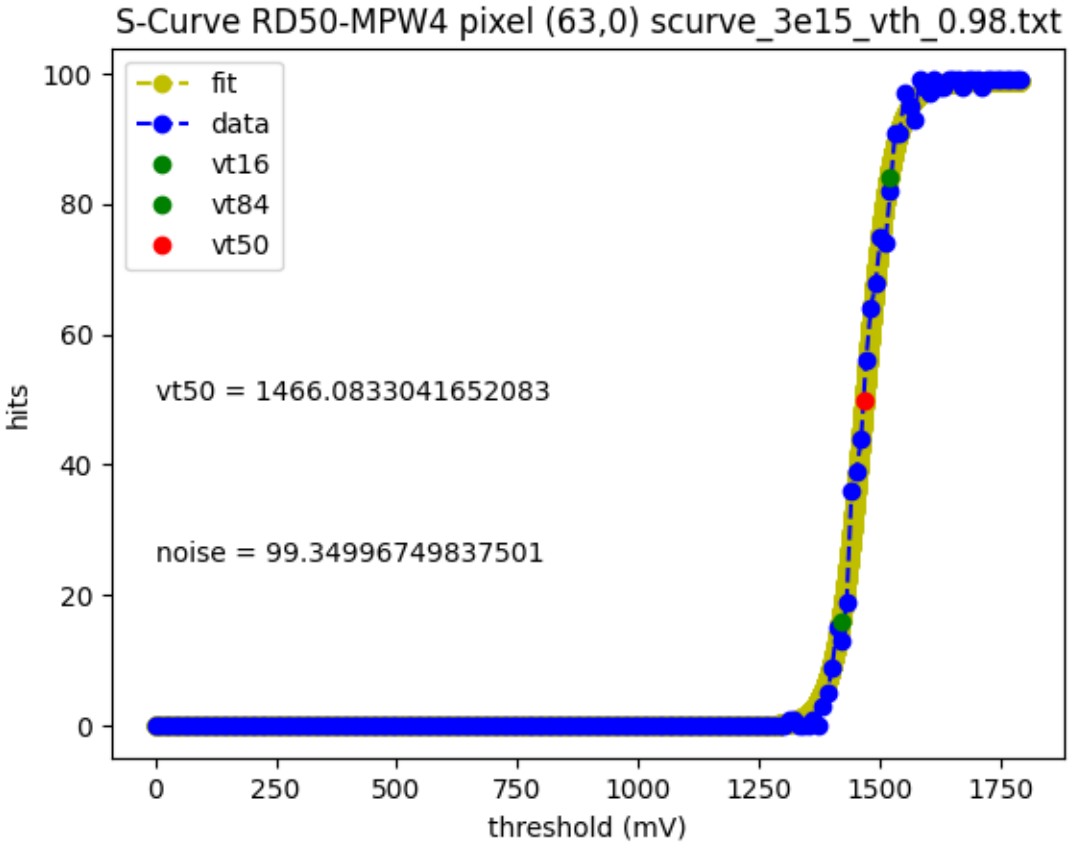
rd50-mpw4 s-curves



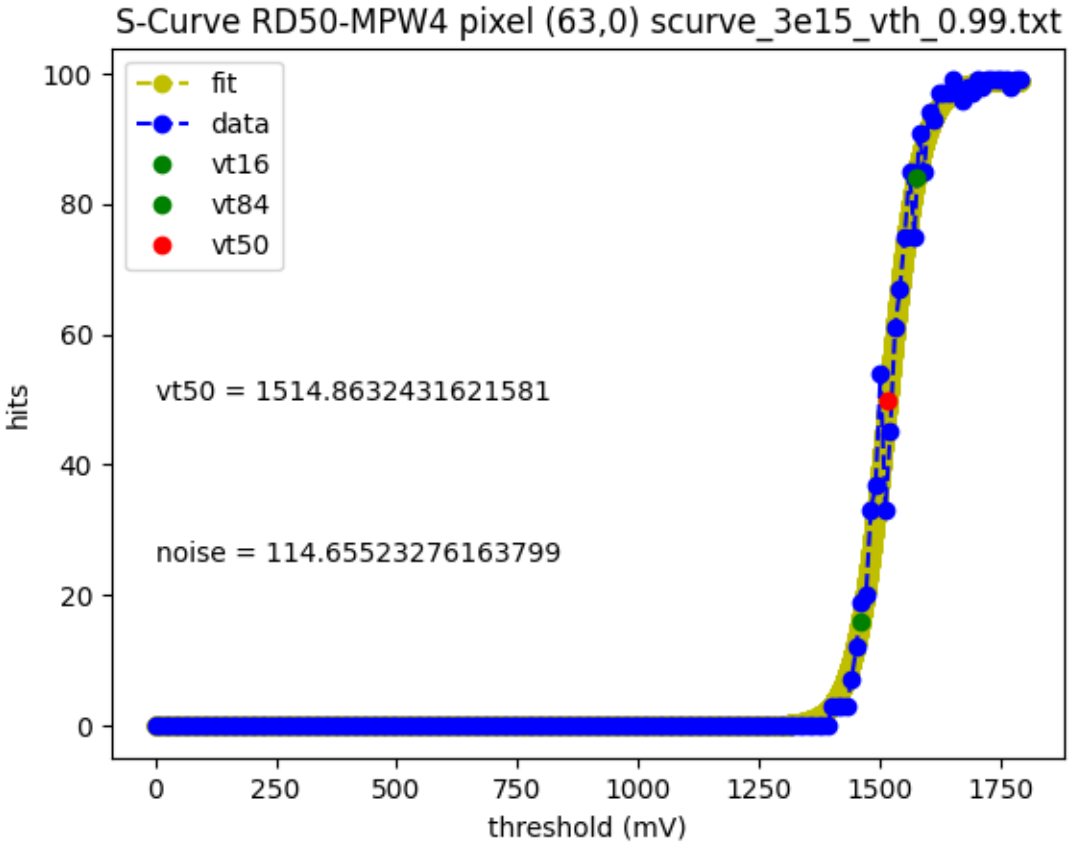
rd50-mpw4 s-curves 3e15



rd50-mpw4 s-curves 3e15



rd50-mpw4 s-curves 3e15



rd50-mpw4 s-curves

- 3e15 chip alive
  - Chip programmable
  - Digital section working and responding
  - S-curves show large reduction in gain
  - Leakage current increased to mA range (~1.2mA @ -100V)
- Further measurements at different HV planned (including source measurements)