## **PQC Status Vienna**

Maximilian Babeluk

April 20<sup>th</sup> 2021

## **PQC** Status

- New contacting procedure:
  - Align XY position with camera
  - Use LCR-meter for touchdown
  - Rp in Cp/Rp equivalent circuit as contact-quality measure
  - Across all needles (all VdP on flute1 parallel)
- Automatic re-measurement for suspicious results

Batch	Туре	Wafers	Tested	Status	Date	Link	
VPX35953	2-S	40 pcs	6+3	OK (BD pending,	April 13 <sup>th</sup> 2021	https://in-	L
				p-stop inhom.)		dico.cern.ch/event/10	2858
VPX35496	PS-P	44 pcs	8+0	OK (low Bulk	today	https://in-	
				resistivity)		dico.cern.ch/event/10	2881
VPX35499	PS-P	47 pcs		pending			





HPK_VPX35496_001_PSP_HM_EL   2.23		FET		MOS (	uarter		Polysilio	on VdP	n+ '	VdP	p-sto	p VdP	Capa	itor
HPK_VPX35496_001_PSP_HM_EL		fet	v_fb	c_acc	t_ox	n_ox	vdpPoly		vdpN	vdpN_r	vdpPstp		cap_l	cap_r
HPK_VPX35496_001_PSP_HM_ER  2.23 5.21 8.70 663.3 19.5 ————————————————————————————————————		V	V	pF	nm		kOhm/sq	kOhm/sq	Ohm/sq	Ohm/sq	kOhm/sq	kOhm/sq	pF	pF
HPK_VPX35496_001_PSP_HM_WR 219 5.38 87.4 657.1 13.9 35.5 35.3 18.5 18.5 3.39 HPK_VPX35496_001_PSP_HM_ER 2.50 4.80 86.9 660.6 17.9 15.02 16.02 16.02 16.02 17.02 16.02 17.02 16.02 17.02 16.02 17.02 16.02 17.02 16.02 17.02 16.02 17.02 16.02 17.02 16.02 17.02 16.02 17.02 16.02 17.02 16.02 17.02 16.02 17.02 16.02 17.02 16.02 17.02	HPK_VPX35496_001_PSP_HM_EL	2.23	5.21	87.9	653.3		_	_	35.3	35.1	18.6	18.6	3.46	3.31
HPK_VPX3496_001_PSP_HM_WR L1	HPK_VPX35496_001_PSP_HM_ER	2.57	4.72	86.6	662.9	17.6	_	_	35.1	35.3	18.5	18.5	3.36	3.22
HPK_VPX35496_002_PSP_HM_ER 2.50 4.80 8.67 662.1 17.3	HPK_VPX35496_001_PSP_HM_WL	2.59	4.71	86.7	662.2	17.6	_	_	35.5	35.3	18.5	18.5	3.39	3.24
HPK_UPX35496_002_PSP_MM_ER HPK_UPX35496_002_PSP_MM_W L 24			5.38	87.4	657.1	19.9	_	_	35.3	35.4	18.7	18.7	3.43	3.29
HPK_VPX53496_002_PSP_HM_WR 23 5.28 87.7 655.0 19.6 35.6 35.3 18.5 18.5 3.37 HPK_VPX53496_002_PSP_HM_EL 4.88 87.7 655.0 19.6 35.3 35.4 18.7 18.7 3.42 HPK_VPX53496_010_PSP_HM_ER 2.47 4.88 87.0 660.6 18.2 35.3 35.4 18.6 18.6 3.48 HPK_VPX53496_010_PSP_HM_WR 2.25 5.20 88.1 651.7 19.5 35.4 35.3 18.5 18.7 18.7 3.32 HPK_VPX53496_010_PSP_HM_WR 2.26 4.88 87.0 660.8 17.6 - 35.7 35.4 18.6 18.6 3.36 HPK_VPX53496_010_PSP_HM_WR 2.26 5.30 87.0 660.1 19.5 35.4 35.4 18.6 18.7 18.7 3.41 HPK_VPX53496_010_PSP_HM_ER 2.49 4.88 87.1 659.1 19.5 35.4 35.4 18.6 18.6 3.32 HPK_VPX53496_017_PSP_HM_ER 2.49 4.88 87.1 659.1 18.1 - 35.2 35.4 18.6 18.6 3.32 HPK_VPX53496_017_PSP_HM_WR 2.26 5.25 87.6 655.9 19.5 - 35.7 35.4 18.6 18.7 18.7 3.41 HPK_VPX53496_017_PSP_HM_WR 2.26 5.25 87.6 655.9 19.5 - 35.7 35.4 18.6 18.7 18.7 3.5 18.7 18.7 18.7 18.7 18.7 18.7 18.7 18.7	HPK_VPX35496_002_PSP_HM_EL	failed	5.28	87.7	654.6	19.7	_	_	failed	failed	failed	failed	3.39	3.27
HPK_UPX35496_010_PSP_HM_EL		2.50	4.80	86.9	660.6	17.9	_	_	35.2	35.3	18.6	18.6	3.33	3.21
HPK_UPX35496_010_PSP_HM_ER_ 247_4 88_87_0 660.6 18.2 — — 35.4 35.3 18.6 18.6 3.48 HPK_UPX35496_010_PSP_HM_WL 2.60 4.73 86.7 662.8 17.6 — — 35.7 35.4 18.6 18.6 3.36 HPK_UPX35496_010_PSP_HM_WR 2.65 5.30 87.0 660.1 19.5 — — 35.7 35.4 18.6 18.6 3.36 HPK_UPX35496_010_PSP_HM_WR 2.65 5.30 87.0 660.1 19.5 — — 35.7 35.4 18.6 18.7 18.7 3.41 HPK_UPX35496_017_PSP_HM_ER_ 249_4 88_8 87.1 659.1 18.1 18.1 18.7 3.41 18.7 18.7 3.41 HPK_UPX35496_017_PSP_HM_WR 2.65 5.20 87.6 662.9 17.8 — — 35.2 35.3 18.6 18.6 3.32 HPK_UPX35496_017_PSP_HM_WR 2.64 18.7 18.6 3.32 HPK_UPX35496_017_PSP_HM_WR 2.65 5.20 87.6 655.9 19.5 — 35.7 35.4 18.6 18.7 18.3 3.5 HPK_UPX35496_006_PSP_HM_ER_ 249_4 88_8 87.1 659.1 18.8 18.7 3.40 HPK_UPX35496_006_PSP_HM_ER_ 249_4 88_8 87.1 659.1 18.8 18.7 3.40 HPK_UPX35496_006_PSP_HM_ER_ 270_4 37_8 87.4 657.1 18.8 18.7 3.40 HPK_UPX35496_006_PSP_HM_WR 2.56 5.20 87.6 655.9 18.5 3.37 18.5 18.5 3.37 HPK_UPX35496_006_PSP_HM_WR 2.57 4.37 87.4 657.1 18.6 — 355.0 353.3 18.5 18.5 18.5 3.37 HPK_UPX35496_006_PSP_HM_WR 2.57 4.37 87.6 655.4 19.1 — 35.3 35.1 18.5 18.5 3.37 HPK_UPX35496_006_PSP_HM_RR_ 270_4 37_8 87.1 659.3 16.3 — 35.4 35.4 18.6 18.7 3.36 HPK_UPX35496_002_PSP_HM_RR_ 270_4 4.37 87.1 659.3 16.3 — 35.4 35.2 18.5 18.5 3.37 HPK_UPX35496_002_PSP_HM_RR_ 270_4 4.38 87.1 659.3 16.3 — 35.3 35.1 18.6 18.6 3.33 HPK_UPX35496_002_PSP_HM_RR_ 270_4 4.38 87.7 655.0 16.5 — 35.1 35.2 18.6 18.6 3.33 HPK_UPX35496_002_PSP_HM_RR_ 270_4 4.38 87.7 655.0 16.5 — 35.1 35.2 18.6 18.6 3.33 HPK_UPX35496_002_PSP_HM_RR_ 270_4 4.38 87.7 655.0 16.5 — 35.1 35.2 18.6 18.6 3.33 HPK_UPX35496_000_PSP_HM_RR_ 270_4 4.38 87.7 655.0 16.5 — 35.1 35.1 35.2 18.6 18.6 3.33 18.7 18.7 3.14 HPK_UPX35496_000_PSP_HM_RR_ 270_4 4.38 87.0 655.7 18.7 18.7 3.3 18.7 18.7 3.18 HPK_UPX35496_000_PSP_HM_RR_ 270_4 4.38 87.0 655.0 18.3 18.7 18.7 3.18 18.7 18.7 3.18 HPK_UPX35496_000_PSP_HM_RR_ 270_4 4.38 87.0 655.0 18.3 18.7 18.7 3.18 18.7 18.7 3.18 18.7 18.7 3.18 18.7 18.7 3.18 18.7 18.7 3.18 18.7 18.7 3.18 18.7 18.7 3.18 18.7 18.7 3.18 18.7 18.7 3.18 18.7 18.7 3.18 18.7 18.7 3.18 18	HPK_VPX35496_002_PSP_HM_WL	2.64	4.63	86.7	662.1	17.3	_	_	35.6	35.3	18.5	18.5	3.37	3.25
HPK_UPX35496_010_PSP_MM_ER HPK_UPX35496_010_PSP_MM_WL LOSS	HPK_VPX35496_002_PSP_HM_WR	2.23	5.28	87.7	655.0	19.6	_	_	35.3	35.4	18.7	18.7	3.42	3.29
HPK_VPX5496_010_PSP_MM_WR 2.60 4.73 86.7 662.8 17.6 — — 35.7 35.4 18.6 18.6 3.36 HPK_VPX5496_010_PSP_MM_WR 2.60 5.30 87.0 660.1 19.5 — — 35.2 35.4 35.4 18.6 18.7 3.41 HPK_VPX5496_017_PSP_MM_ER 2.49 4.86 87.1 659.1 18.1 18.1 18.7 3.41 HPK_VPX5496_017_PSP_MM_WR 2.60 5.25 87.6 655.9 19.5 — 35.2 35.4 18.6 18.6 3.32 HPK_VPX5496_017_PSP_MM_WR 2.61 5.25 87.6 655.9 19.5 — 35.7 35.4 18.6 18.7 3.35 HPK_VPX5496_017_PSP_MM_WR 2.61 5.25 87.6 655.9 19.5 — 35.7 35.4 18.6 18.7 3.35 HPK_VPX5496_0.67_PSP_MM_ER 2.41 4.79 86.6 66.29 17.8 — 35.7 35.4 18.6 18.7 3.35 HPK_VPX5496_0.67_PSP_MM_ER 2.70 4.37 87.4 657.1 16.6 — 35.3 35.1 18.4 18.5 3.45 HPK_VPX5496_0.67_PSP_MM_WR 2.61 5.25 87.6 655.9 19.5 — 35.4 35.4 35.4 18.6 18.7 3.40 HPK_VPX5496_0.67_PSP_MM_WR 2.57 4.37 87.4 657.1 16.6 — 35.3 35.1 18.5 18.5 3.37 HPK_VPX5496_0.05_PSP_MM_WR 2.55 5.5 87.1 659.3 16.3 — 35.4 35.2 18.5 18.5 3.37 HPK_VPX5496_0.05_PSP_MM_WR 2.55 5.11 87.6 655.4 19.1 — 35.3 35.1 18.5 18.5 3.36 HPK_VPX5496_0.05_PSP_MM_WR 2.55 5.11 87.6 655.4 19.1 — 35.3 35.1 18.5 18.5 3.36 HPK_VPX5496_0.05_PSP_MM_WR 2.55 5.11 87.6 655.4 19.1 — 35.3 35.2 18.6 18.6 3.33 HPK_VPX5496_0.05_PSP_MM_WR 2.55 5.10 8.5 18.5 18.5 3.36 HPK_VPX5496_0.05_PSP_MM_WR 2.55 5.10 8.5 18.5 18.5 3.37 HPK_VPX5496_0.05_PSP_MM_WR 2.55 5.10 8.5 18.5 18.5 3.37 HPK_VPX5496_0.05_PSP_MM_WR 2.55 6.0 88.0 652.7 18.7 — 35.2 18.5 18.5 18.5 3.39 HPK_VPX5496_0.05_PSP_MM_WR 2.55 6.0 88.0 652.5 16.3 — 35.1 35.2 18.6 18.6 3.33 HPK_VPX5496_0.05_PSP_MM_WR 2.55 6.0 88.3 650.8 19.1 — 35.1 35.4 18.7 18.7 3.16 HPK_VPX5496_0.00_PSP_MM_WR 2.55 5.0 88.3 650.8 19.1 — 35.1 35.4 18.7 18.7 3.16 HPK_VPX5496_0.00_PSP_MM_WR 2.55 5.10 8.5 18.5 18.5 18.5 3.37 18.9 18.0 3.10 HPK_VPX5496_0.00_PSP_MM_WR 2.55 5.10 8.8 8.0 653.0 17.0 — 35.1 35.4 18.7 18.7 3.16 HPK_VPX5496_0.00_PSP_MM_WR 2.55 5.0 88.3 650.8 19.1 — 35.1 35.4 18.7 18.7 3.16 HPK_VPX5496_0.00_PSP_MM_WR 2.55 5.0 88.3 650.8 19.1 — 35.1 35.4 18.9 18.0 3.10 HPK_VPX5496_0.00_PSP_MM_WR 2.55 5.0 88.3 650.8 19.1 — 35.1 35.3 18.0 18.0 3.30 18.9 18.0 3.12 HPK_VPX5496_0.00_PSP_MM_WR 2.55 5.0	HPK_VPX35496_010_PSP_HM_EL	2.25	5.20	88.1	651.7	19.5	_	_	35.4	35.3	18.6	18.6	3.48	3.34
HPK_UPX35496_01_PSP_HM_EL	HPK_VPX35496_010_PSP_HM_ER	2.47	4.88	87.0	660.6	18.2	_	_	35.3	35.3	18.7	18.7	3.38	3.25
HPK_UPX35496_017_PSP_MM_ER	HPK_VPX35496_010_PSP_HM_WL	2.60	4.73	86.7	662.8	17.6	_	_	35.7	35.4	18.6	18.6	3.36	3.22
HPK_UPX35496_017_PSP_MM_ER HPK_UPX35496_017_PSP_MM_WL L41	HPK_VPX35496_010_PSP_HM_WR	2.26	5.30	87.0	660.1	19.5	_	_	35.4	35.4	18.7	18.7	3.41	3.27
HPK_VPX35496_017_PSP_HM_VL	HPK_VPX35496_017_PSP_HM_EL	2.28	5.12	87.8	654.0	19.2	_	_	35.2	35.3	18.6	18.6	3.38	3.26
HPK_VPX35496_017_PSP_HM_WL	HPK VPX35496 017 PSP HM ER	2.49	4.86	87.1	659.1	18.1	_	_	35.2	35.4	18.7	18.6	3.32	3.21
HPK_UPX35496_026_PSP_HM_ER		2.41	4.79	86.6	662.9	17.8	_	_	35.7	35.4	18.6	18.7	3.35	3.23
HPK_VPX35496_0.05_PSP_HM_ER 2.38 5.00 88.2 651.4 18.8 — — 35.3 35.1 18.4 18.5 3.45 HPK_VPX35496_0.05_PSP_HM_WR 2.75 4.37 87.4 657.1 16.6 — — 35.3 35.1 18.5 18.5 3.37 HPK_VPX35496_0.05_PSP_HM_WR 2.55 5.11 8.7 6.655.4 19.1 — — 35.4 35.2 18.5 18.5 3.37 HPK_VPX35496_0.02_PSP_HM_ER 2.38 4.99 88.0 652.7 18.7 — — 35.2 35.2 18.6 18.7 3.36 HPK_VPX35496_0.02_PSP_HM_ER 2.38 4.99 88.0 652.7 18.7 — — 35.2 35.2 18.6 18.7 3.36 HPK_VPX35496_0.02_PSP_HM_ER 2.38 4.99 88.0 652.7 18.7 — — 35.1 35.2 18.6 18.6 3.33 HPK_VPX35496_0.02_PSP_HM_ER 2.37 4.34 87.7 655.0 16.5 — — 35.1 35.2 18.6 18.6 3.33 HPK_VPX35496_0.02_PSP_HM_ER 2.75 4.25 88.0 652.5 16.3 — — 35.6 35.2 18.6 18.6 3.33 HPK_VPX35496_0.02_PSP_HM_ER 2.75 4.25 88.0 652.5 18.9 — 35.3 35.3 18.7 18.7 3.41 HPK_VPX35496_0.02_PSP_HM_ER 2.31 5.00 88.4 649.5 18.9 — 35.3 35.2 18.6 18.6 3.34 HPK_VPX35496_0.00_PSP_HM_ER 2.25 4.47 88.0 653.0 17.0 — — 35.1 35.2 18.6 18.7 18.7 3.16 HPK_VPX35496_0.00_PSP_HM_WL 2.26 5.09 88.3 650.8 19.1 — 35.6 35.2 18.6 18.7 18.7 3.18 HPK_VPX35496_0.04_PSP_HM_EL 2.27 5.12 67.8 653.3 19.1 — 35.6 35.2 18.8 18.8 3.22 HPK_VPX35496_0.04_PSP_HM_EL 2.26 5.09 88.3 650.8 19.1 — 35.6 35.2 18.9 18.9 18.9 3.12 HPK_VPX35496_0.04_PSP_HM_EL 2.27 5.12 67.8 653.3 19.1 — 35.1 35.2 18.9 18.9 3.12 HPK_VPX35496_0.04_PSP_HM_EL 2.28 4.00 87.9 653.4 17.4 — 35.1 35.1 35.2 18.9 18.9 3.12 HPK_VPX35496_0.04_PSP_HM_EL 2.29 5.16 88.8 646.8 19.5 — 35.1 35.3 18.9 18.9 3.12 HPK_VPX35496_0.04_PSP_HM_UR 2.20 5.16 88.8 646.8 19.5 — 35.1 35.3 18.9 18.9 3.12 HPK_VPX35496_0.04_PSP_HM_UR 2.20 5.16 88.8 646.8 19.5 — 35.5 35.3 35.3 18.6 18.7 3.34 Nerage	HPK VPX35496 017 PSP HM WR	2.26	5.25	87.6	655.9	19.5	_	_	35.4	35.4	18.8	18.7	3.40	3.28
HPK_UPX35496_0.05_PSP_HM_ER HPK_UPX35496_0.05_PSP_HM_WL 2.78 HPK_UPX35496_0.05_PSP_HM_WL 2.78 HPK_UPX35496_0.05_PSP_HM_WR 2.35 HPK_UPX35496_0.05_PSP_HM_WR 2.35 HPK_UPX35496_0.05_PSP_HM_WR 2.37 HPK_UPX35496_0.05_PSP_HM_WL 2.70 4.34 HPK_UPX35496_0.05_PSP_HM_WL 2.70 4.34 HPK_UPX35496_0.05_PSP_HM_WL 2.70 4.34 HPK_UPX35496_0.05_PSP_HM_WL 2.70 4.25 HPK_UPX35496_0.05_PSP_HM_WL 2.37 HPK_UPX35496_0.00_PSP_HM_EL 2.53 HPK_UPX35496_0.00_PSP_HM_EL 2.53 HPK_UPX35496_0.00_PSP_HM_EL 2.63 HPK_UPX35496_0.00_PSP_HM_UR 2.66 HPK_UPX35496_0.00_PSP_HM_UR 2.66 HPK_UPX35496_0.00_PSP_HM_UR 2.67 HPK_UPX35496_0.00_PSP_HM_UR 2.67 HPK_UPX35496_0.00_PSP_HM_UR 2.68 HPK_UPX35496_0.00_PSP_HM_UR 2.69 HPK_UPX35496_0.00_PSP_HM_UR 2.60 HPK_UPX35496_0.00_PSP_HM_UR 2.61 HPK_UPX35496_0.00_PSP_HM_UR 2.62 HPK_UPX35496_0.00_PSP_HM_UR 2.63 HPK_UPX35496_0.00_PSP_HM_UR 2.64 HPK_UPX35496_0.00_PSP_HM_UR 2.65 HPK_UPX35496_0.00_PSP_HM_UR 2.66 HPK_UPX35496_0.00_PSP_HM_UR 2.67 HPK_UPX35496_0.00_PSP_HM_UR 2.67 HPK_UPX35496_0.00_PSP_HM_UR 2.67 HPK_UPX35496_0.00_		2.38	5.00	88.2	651.4	18.8	_	_	35.3	35.1	18.4	18.5	3.45	3.30
HPK_UPX35496_026_PSP_HM_WL		2.70	4.37	87.4	657.1	16.6	_	_	35.0	35.3	18.5	18.5	3.37	3.23
HPK_UPX35496_02F_PSP_MM_WR		2 78	4 30	87 1	659.3	16.3	_	_	35.4	35.2	18.5	18.5	3 38	3.24
HPK_UPX35496_032_PSP_IM_ER		2.35	5.11	87.6	655.4	19.1	_	_	35.3	35.5	18.5	18.5	3.42	3.28
HPK_UPX35496_032_PSP_HM_ER HPK_UPX35496_032_PSP_HM_WL 275		2.38	4.99	88.0	652.7	18.7	_	_	35.2	35.2	18.6	18.7	3.36	3.24
HPK_VPX35496_032_PSP_HM_WL		2.70	4.34	87.7	655.0	16.5	_	_	35.1	35.2	18.6	18.6	3.33	3.21
HPK_UPX35496_040_PSP_HM_WR		2 75	4 25	88.0	652.5	16.3	_	_	35.6	35.2	18.6	18.6	3 39	3.26
HPK_UPX35496_040_PSP_IM_EL   2.31			5.02	88.0		18.9	_	_					3.41	3.28
HPK_VPX35496_040_PSP_HM_ER							_	_						3.11
HPK_UPX35496_040_PSP_HM_WL   2.68							_	_						3.04
HPK_VPX35496_040_PSP_HM_WR														3.06
HPK_UPX35496_044_PSP_HM_EL   2.27   5.12   87.8   664.3   19.1     35.1   35.2   18.9   18.8   3.14     HPK_UPX35496_044_PSP_HM_ER   2.53   4.60   87.9   653.4   17.4     35.5   35.3   18.9   18.9   3.19     HPK_UPX35496_044_PSP_HM_WL   2.83   4.47   88.5   648.9   17.1     35.7   35.4   18.9   18.9   3.19     HPK_UPX35496_044_PSP_HM_WR   2.20   5.16   88.8   648.8   10.5     35.7   35.5   18.9   18.9   3.19     HPK_UPX35496_044_PSP_HM_WR   2.20   5.16   88.8   648.8   10.5     35.7   35.5   18.9   18.9   3.23     Median   nan   nan   87.6   655.6   nan   0.00   0.00   35.3   35.3   18.7   18.7   3.37     Average   nan   nan   87.6   655.6   nan   0.00   0.00   35.4   35.3   18.7   18.7   3.34     Std dev.   nan   nan   0.6   4.4   nan   0.00   0.00   0.00   0.0   0.0   1.0   1.0   1.0     O   0.00   0.00   0.00   0.00   0.00   0.00   0.00     O   0.00   0.00   0.00   0.00   0.00   0.00   0.00     O   0.00   0.00   0.00   0.00   0.00   0.00     O   0.00   0.00   0.00   0.00   0.00     O							_	_						3.10
HPK_VPX35496_044_PSP_MM_ER     2.53     4.60     87.9     653.4     17.4     —     —     35.1     13.9     18.9     3.12       HPK_VPX35496_044_PSP_MW     2.63     4.47     88.5     64.8     17.1     —     —     35.7     35.4     18.9     18.0     3.19       HPK_VPX35496_044_PSP_HM_WR     2.20     5.16     88.8     646.8     19.5     —     —     35.5     35.5     18.9     18.9     3.23       Medisin     nan     nan     87.7     654.8     nan     0.00     0.00     35.3     35.3     18.6     18.7     337       Average     nan     nan     87.6     655.6     nan     0.00     0.00     35.4     35.3     18.7     18.7     337       Stid dev.     nan     nan     0.6     4.4     nan     0.00     0.00     35.4     35.3     18.7     18.7     337							_	_						3.03
HPK_VPX35496_044_PSP_HM_WL     2.63     4.47     88.5     648.9     17.1     —     —     35.7     35.4     18.9     18.9     3.19       HPK_VPX35496_044_PSP_HM_WR     2.20     5.16     88.8     646.8     19.5     —     —     35.5     35.5     18.9     18.9     3.23       Median     nan     nan     87.7     654.8     nan     0.00     0.00     35.3     35.3     18.6     18.7     3.37       Average     nan     nan     87.6     655.6     nan     0.00     0.00     35.4     35.3     18.7     18.7     3.34       Std dev.     nan     nan     0.6     4.4     nan     0.00     0.00     0.0     0.2     0.1     0.1     0.1     0.10							_	_						3.02
HPK_VPX35496_044_PSP_HM_WR         2.20         5.16         88.8         646.8         19.5         —         —         35.5         35.5         18.9         18.9         3.23           Median         nan         nan         87.7         654.8         nan         0.00         0.00         35.3         35.3         18.6         18.7         3.37           Average         nan         nan         87.6         655.6         nan         0.00         0.00         35.4         35.3         18.7         18.7         3.34           Std dev.         nan         nan         0.0         0.00         0.00         0.2         0.1         0.1         0.1         0.1														3.02
Median         nan         nan         87.7         654.8         nan         0.00         0.00         35.3         35.3         18.6         18.7         3.37           Average         nan         nan         87.6         655.6         nan         0.00         0.00         35.4         35.3         18.7         18.7         3.34           Std dev.         nan         nan         nan         0.6         4.4         nan         0.00         0.00         0.2         0.1 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>3.12</td></t<>														3.12
Average         nan         nan         87.6         655.6         nan         0.00         0.00         35.4         35.3         18.7         18.7         3.34           Std dev.         nan         nan         0.6         4.4         nan         0.00         0.0         0.2         0.1         0.1         0.1         0.1         0.10														3.24
Std dev.   nan   nan   0.6   4.4   nan   0.00   0.00   0.2   0.1   0.1   0.1   0.10														3.24
														0.09
														32/32
000/100 $000/100$ $000/100$ $000/100$ $100/100$ $100/100$ $0.97/100$ $0.97/100$														1.00





	FET		MOS C	uarter)		Polysilio	on VdP	n+	VdP	p-sto	p VdP	Capa	citor
	fet	v_fb	c_acc	t_ox	n_ox	vdpPoly	vdp- Poly_r	vdpN	vdpN_r	vdpPstp	vdpP- stp_r	cap_l	cap_r
	V	V	pF	nm	1E10cm^-	kOhm/sq	kOhm/sq	Ohm/sq	Ohm/sq	kOhm/sq	kOhm/sq	pF	pF
PK_VPX35496_001_PSP_HM_EL	2.23	5.21	87.9	653.3	19.5	_	_	35.3	35.1	18.6	18.6	3.46	3.31
PK_VPX35496_001_PSP_HM_ER	2.57	4.72	86.6	662.9	17.6	_	_	35.1	35.3	18.5	18.5	3.36	3.22
PK_VPX35496_001_PSP_HM_WL	2.59	4.71	86.7	662.2	17.6	_		35.5	35.3	18.5	18.5	3.39	3.24
PK_VPX35496_001_PSP_HM_WR	2.19	5.38	87.4	657.1	19.9	_	_	35.3	35.4	18.7	18.7	3.43	3.29
PK_VPX35496_002_PSP_HM_EL	failed	5.28	87.7	654.6	19.7	_	_	failed	failed	failed	failed	3.39	3.27
PK_VPX35496_002_PSP_HM_ER	2.50	4.80	86.9	660.6	17.9	_		35.2	35.3	18.6	18.6	3.33	3.21
PK_VPX35496_002_PSP_HM_WL	2.64	4.63	86.7	662.1	17.3		_	35.6	35.3	18.5	18.5	3.37	3.25
Pk							_	35.3	35.4	18.7	18.7	3.42	3.29
rk							_	35.4	35.3	18.6	18.6	3.48	3.34
🖔 🌘 Flatband vo	ltage l	higher	than	2-5/1	25-5		_	35.3	35.3	18.7	18.7	3.38	3.25
· ry	itage i	inginei	tilali	2 3/1	5 5		_	35.7	35.4	18.6	18.6	3.36	3.22
°			- C / D				_	35.4	35.4	18.7	18.7	3.41	3.27
→ FET V <sub>th</sub> lov	ver tha	an in i	2-5/P	5-5			_	35.2	35.3	18.6	18.6	3.38	3.26
•к			,				_	35.2	35.4	18.7	18.6	3.32	3.21
Very good p	cton	and E	ET V	/ . ha	magar	i+v/	_	35.7	35.4	18.6	18.7	3.35	3.23
	-stop	anu i	LI V	th 1101	nogei	iity	_	35.4	35.4	18.8	18.7	3.40	3.28
PK							_	35.3	35.1	18.4	18.5	3.45	3.30
🐕 🌘 No polysilic	on lave	er on	PS-P				_	35.0	35.3	18.5	18.5	3.37	3.23
· ,							_	35.4	35.2	18.5	18.5	3.38	3.24
PK				4			_	35.3	35.5	18.5	18.5	3.42	3.28
🖟 🌘 High capaci	tance	on ca	pacito	r stru	cture		_	35.2	35.2	18.6	18.7	3.36	3.24
PH .							_	35.1	35.2	18.6	18.6	3.33	3.21
K_VFX33490_032_F3F_HW_VVL	2.13	4.20	00.0	002.0	10.5		_	35.6	35.2	18.6	18.6	3.39	3.26
PK_VPX35496_032_PSP_HM_WR	2.37	5.02	88.0	652.7	18.9	_	_	35.3	35.3	18.7	18.7	3.41	3.28
PK_VPX35496_040_PSP_HM_EL	2.31	5.00	88.4	649.5	18.9	_	_	35.3	35.2	18.7	18.8	3.24	3.11
PK_VPX35496_040_PSP_HM_ER	2.63	4.47	88.0	653.0	17.0	_	_	35.1	35.4	18.7	18.7	3.16	3.04
PK_VPX35496_040_PSP_HM_WL	2.68	4.33	88.1	652.0	16.6	_	_	35.6	35.2	18.7	18.7	3.18	3.06
PK_VPX35496_040_PSP_HM_WR	2.26	5.09	88.3	650.8	19.1	_	_	35.4	35.4	18.8	18.8	3.22	3.10
PK_VPX35496_044_PSP_HM_EL	2.27	5.12	87.8	654.3	19.1	_	_	35.1	35.2	18.9	18.8	3.14	3.03
PK_VPX35496_044_PSP_HM_ER	2.53	4.60	87.9	653.4	17.4	_	_	35.1	35.3	18.9	18.9	3.12	3.02
PK_VPX35496_044_PSP_HM_WL	2.63	4.47	88.5	648.9	17.1	_	_	35.7	35.4	18.9	18.9	3.19	3.09
PK_VPX35496_044_PSP_HM_WR	2.20	5.16	88.8	646.8	19.5	_	_	35.5	35.5	18.9	18.9	3.23	3.12
edian	nan	nan	87.7	654.8	nan	0.00	0.00	35.3	35.3	18.6	18.7	3.37	3.24
verage	nan	nan	87.6	655.6	nan	0.00	0.00	35.4	35.3	18.7	18.7	3.34	3.21
d dev.	nan	nan	0.6	4.4	nan	0.00	0.00	0.2	0.1	0.1	0.1	0.10	0.09
		0/32	32/32	32/32	0/32	1/1	1/1	31/32	31/32	31/32	31/32	32/32	32/32
K/Tot. K (rel)	0/32	0/32	32/32	32/32	0/52						31/32		





	GCD	Poly-R	L	ine thickne	SS	break-
						down
	i_surf	me-	lw_n	lw_pstp4	lw_pstp2	v_bd
		and_poly				
	pА	MOhm	um	um	um	V
HPK_VPX35496_001_PSP_HM_EL	13.38	_	35.0	60.8	37.2	160.0
HPK_VPX35496_001_PSP_HM_ER	11.52	_	34.3	58.6	36.8	166.0
HPK_VPX35496_001_PSP_HM_WL	10.43	_	35.0	57.5	36.5	162.0
HPK_VPX35496_001_PSP_HM_WR	failed	_	35.1	61.6	37.5	158.0
HPK_VPX35496_002_PSP_HM_EL	14.28	_	failed	failed	failed	failed
HPK_VPX35496_002_PSP_HM_ER	12.46	_	34.8	59.0	36.9	160.0
HPK_VPX35496_002_PSP_HM_WL	12.92	_	34.9	57.9	36.6	160.0
HPK_VPX35496_002_PSP_HM_WR	13.75	_	35.1	61.2	37.2	161.0
HPK_VPX35496_010_PSP_HM_EL	14.34	_	34.9	61.0	37.1	164.0
HPK_VPX35496_010_PSP_HM_ER	13.11	_	34.6	58.8	36.8	160.0
HPK_VPX35496_010_PSP_HM_WL	12.55	_	35.0	57.4	36.4	172.0
HPK_VPX35496_010_PSP_HM_WR	14.21	_	35.0	61.0	37.3	162.0
HPK_VPX35496_017_PSP_HM_EL	14.23	_	34.8	60.6	37.0	160.0
HPK_VPX35496_017_PSP_HM_ER	13.33	_	34.7	58.8	37.0	161.0
HPK_VPX35496_017_PSP_HM_WL	13.02	_	34.9	58.3	36.6	162.0
HPK_VPX35496_017_PSP_HM_WR	14.27	_	35.0	61.1	37.3	164.0
HPK_VPX35496_026_PSP_HM_EL	14.41	_	35.0	60.3	36.9	160.0
HPK_VPX35496_026_PSP_HM_ER	11.20	_	34.6	58.0	36.7	failed
HPK_VPX35496_026_PSP_HM_WL	11.23	_	34.8	57.2	36.8	150.0
HPK_VPX35496_026_PSP_HM_WR	13.73	_	35.0	60.2	37.0	159.0
HPK_VPX35496_032_PSP_HM_EL	14.30	_	34.7	60.2	36.9	160.0
HPK_VPX35496_032_PSP_HM_ER	11.33	_	34.5	57.7	36.3	150.0
HPK_VPX35496_032_PSP_HM_WL	11.60	_	34.7	57.0	36.0	150.0
HPK_VPX35496_032_PSP_HM_WR	14.54	_	34.9	60.6	37.1	160.0
HPK_VPX35496_040_PSP_HM_EL	15.62	_	34.8	60.0	37.0	170.0
HPK_VPX35496_040_PSP_HM_ER	12.82	_	34.5	58.3	36.4	170.0
HPK_VPX35496_040_PSP_HM_WL	12.49	_	35.0	57.1	36.5	165.0
HPK_VPX35496_040_PSP_HM_WR	15.03	_	34.9	62.2	38.4	155.0
HPK_VPX35496_044_PSP_HM_EL	15.65	_	34.7	61.0	37.1	165.0
HPK_VPX35496_044_PSP_HM_ER	12.99	_	34.6	58.7	36.5	165.0
HPK_VPX35496_044_PSP_HM_WL	12.83	_	34.8	58.0	36.7	160.0
HPK_VPX35496_044_PSP_HM_WR	14.95	_	34.9	60.9	36.8	155.0
Median	13.33	0.00	34.9	59.0	36.9	160.0
Average	13.31	0.00	34.8	59.4	36.9	160.9
Std dev.	1.33	0.00	0.2	1.5	0.4	5.3
OK/Tot.	31/32	1/1	31/32	31/32	31/32	30/32
OK (rel)	0.97	1.00	0.97	0.97	0.97	0.94

5/10





		GCD	Poly-R	L	ine thickne	is	break- down
		i_surf	me-	lw n	lw_pstp4	lw_pstp2	v_bd
			and_poly		pacp+	pstp2	
		pA	MOhm	um	um	um	V
	HPK_VPX35496_001_PSP_HM_EL	13.38	_	35.0	60.8	37.2	160.0
	HPK_VPX35496_001_PSP_HM_ER	11.52	_	34.3	58.6	36.8	166.0
	HPK_VPX35496_001_PSP_HM_WL	10.43	_	35.0	57.5	36.5	162.0
	HPK_VPX35496_001_PSP_HM_WR	failed	_	35.1	61.6	37.5	158.0
	HPK_VPX35496_002_PSP_HM_EL	14.28	_	failed	failed	failed	failed
	HPK_VPX35496_002_PSP_HM_ER	12.46	_	34.8	59.0	36.9	160.0
	HPK_VPX35496_002_PSP_HM_WL	12.92	_	34.9	57.9	36.6	160.0
	HPK_VPX35496_002_PSP_HM_WR	13.75	_	35.1	61.2	37.2	161.0
	HPK_VPX35496_010_PSP_HM_EL	14.34	_	34.9	61.0	37.1	164.0
	HPK_VPX35496_010_PSP_HM_ER	13.11	_	34.6	58.8	36.8	160.0
	HPK_VPX35496_010_PSP_HM_WL	12.55	_	35.0	57.4	36.4	172.0
	HPK_VPX35496_010_PSP_HM_WR	14.21	_	35.0	61.0	37.3	162.0
	HPK_VPX35496_017_PSP_HM_EL	14.23	_	34.8	60.6	37.0	160.0
	HPK_VPX35496_017_PSP_HM_ER	13.33	_	34.7	58.8	37.0	161.0
	HPK_VPX35496_017_PSP_HM_WL	13.02	_	34.9	58.3	36.6	162.0
	HPK VPX35496 017 PSP HM WR	14.27		35.0	61.1	37.3	164.0
					).3	36.9	160.0
Farly dielectric	breakdown, often the	minir	nal 15	inv/	3.0	36.7	failed
Early dicicetific	breakdown, orten the		1141 15		7.2	36.8	150.0
Diagram Interior		والمستانين	34-34	ورودة والعراب	).2	37.0	159.0
Fits to nigh ca	spacitance on flute $1\colon$ $1$	tnin o	xiae is	tninr	ier 🏻	36.9	160.0
					1.7	36.3	150.0
	HDIC VENDOS 022 PCP LIM WE	11.00	_	34.7	0.7c	36.0	150.0 160.0
	HPK_VPX35496_032_PSP_HM_WR HPK_VPX35496_040_PSP_HM_EL	14.54 15.62	_	34.9 34.8	60.6 60.0	37.1 37.0	160.0
	HPK VPX35496_040_F3F_HM_EL	12.82	_	34.5	58.3	36.4	170.0
	HPK_VPX35496_040_F3F_HM_ER	12.62	_	35.0	57.1	36.5	165.0
	HPK_VPX35496_040_F3F_HM_WR	15.03	_	34.9	62.2	38.4	155.0
	HPK_VPX35496_044_PSP_HM_EL	15.65		34.7	61.0	37.1	165.0
	HPK_VPX35496_044_PSP_HM_ER	12.99		34.6	58.7	36.5	165.0
	HPK_VPX35496_044_PSP_HM_WL	12.83		34.8	58.0	36.7	160.0
	HPK_VPX35496_044_PSP_HM_WR	14.95		34.9	60.9	36.8	155.0
	Median	13.33	0.00	34.9	59.0	36.9	160.0
	Average	13.31	0.00	34.8	59.4	36.9	160.0
	,	13.31	0.00	34.0	35.4	30.9	100.9



6/10

0.00

1/1 31/32

1.00

1.5

31/32

0.97

0.2

0.97

0.4

31/32 30/32

0.97

5.3

0.94

1.33

0.97

31/32

Average Std dev.

OK/Tot.

OK (rel)





·		Diode	Half			Meta	I VdP		p-edge			Bulk VdP	
	i600	v_fd	rho	d_conc	me-	vdp_met	vdp_met_	r vdp_cb	vdp_cb_r	t_line_cb	vdpBulk	vdp-	vdp-
					and_meta							Bulk_r	
	uA	V	kOhm	1E12cm^-	Ohm	mOhm/sq	mOhm/sq	kOhm/sq	kOhm/sq	um	kOhm/sq	kOhm/sq	kOhm*cn
			cm	3									
HPK_VPX35496_001_PSP_HM_EL			failed		243.1	27.0	26.3	1.23	1.23	33.5	61.7	61.8	
HPK_VPX35496_001_PSP_HM_ER	failed	failed	failed	failed	242.7	26.9	26.2	1.23	1.23	33.9		61.2	
HPK_VPX35496_001_PSP_HM_WL	failed	290.0	2.12	6.54	241.5	26.2	24.7	1.19	1.19	33.3		61.2	
HPK_VPX35496_001_PSP_HM_WR			failed		239.6	26.0	26.0	1.19	1.19	33.4	61.6	61.2	3.31
HPK_VPX35496_002_PSP_HM_EL			failed		240.7	27.2	26.8	1.25	1.25	33.4	60.7	60.7	3.28
HPK_VPX35496_002_PSP_HM_ER	failed	failed	failed	failed	240.0	25.6	26.3	1.24	1.24	33.7	60.4	60.4	3.26
HPK_VPX35496_002_PSP_HM_WL	failed	279.8	2.08	6.69	238.5	26.8	26.3	1.21	1.20	33.4	60.3	60.6	3.26
HPK_VPX35496_002_PSP_HM_WR			failed		237.1	26.8	26.2	1.20	1.20	33.5	60.7	60.9	3.28
HPK_VPX35496_010_PSP_HM_EL	failed	failed	failed	failed	238.6	26.8	26.1	1.24	1.24	33.5	60.6		3.28
HPK_VPX35496_010_PSP_HM_ER	failed	332.5	2.19	6.33	238.3	26.8	26.3	1.23	1.23	33.9	60.7	60.5	3.27
HPK_VPX35496_010_PSP_HM_WL	390.1	failed	failed	failed	236.1	26.5	25.7	1.19	1.19	33.0	60.5	60.5	
HPK_VPX35496_010_PSP_HM_WR	failed		failed		234.8	26.4	26.2	1.19	1.19	33.3	60.3	60.6	3.26
HPK_VPX35496_017_PSP_HM_EL			failed		235.8	26.5	26.4	1.25	1.25	33.6	60.9	60.8	
HPK_VPX35496_017_PSP_HM_ER	failed	343.9	2.11	6.58	235.0	27.1	25.8	1.24	1.24	33.6	61.0	60.9	3.29
HPK_VPX35496_017_PSP_HM_WL	495.3	failed	failed	failed	234.3	26.6	26.2	1.20	1.20	33.7	60.9	60.9	3.29
HPK_VPX35496_017_PSP_HM_WR	failed		failed		232.5	26.2	26.4	1.20	1.20	33.5	60.5	60.6	3.27
HPK_VPX35496_026_PSP_HM_EL	failed	352.7	1.86	7.48	240.0	26.6	25.7	1.24	1.24	33.2	60.9	61.1	3.29
HPK_VPX35496_026_PSP_HM_ER	failed	291.5	2.01	6.90	239.4	25.9	25.9	1.25	1.24	33.6	60.9	60.9	3.29
HPK_VPX35496_026_PSP_HM_WL	327.5	293.4	2.02	6.87	237.8	26.9	26.0	1.20	1.20	33.5	61.4	61.1	3.31
HPK_VPX35496_026_PSP_HM_WR	failed	failed	failed	failed	236.9	25.7	25.8	1.19	1.20	33.8	60.7	60.3	3.27
HPK_VPX35496_032_PSP_HM_EL	$\overline{}$	_	_	_	240.3	22.4	22.5	1.23	1.24	32.8	62.2	61.8	3.35
HPK_VPX35496_032_PSP_HM_ER	-	_	_	_	239.6	22.2	22.2	1.24	1.24	33.5	61.9	61.8	3.34
HPK_VPX35496_032_PSP_HM_WL	i — i	_	_	_	237.7	22.1	22.0	1.19	1.18	33.9	62.2	61.8	3.35
HPK_VPX35496_032_PSP_HM_WR	i — i	-	_	_	236.1	21.9	22.1	1.19	1.19	33.1	61.4	61.6	3.32
HPK_VPX35496_040_PSP_HM_EL		_	_	_	237.3	20.3	20.1	1.24	1.24	33.2	61.9	61.5	3.33
HPK_VPX35496_040_PSP_HM_ER	_	_	_	_	236.4	20.1	19.9	1.25	1.24	33.7	62.1	62.2	3.36
HPK VPX35496 040 PSP HM WL	i — i	_	_	_	236.0	20.2	20.0	1.20	1.19	33.6	60.7	60.7	3.28
HPK_VPX35496_040_PSP_HM_WR	l — i	-1	_	_	234.7	20.0	19.9	1.20	1.20	33.7	61.7	61.7	3.33
HPK_VPX35496_044_PSP_HM_EL		_	_	_	233.2	20.4	20.1	1.24	1.25	33.3	61.7	61.6	3.33
HPK_VPX35496_044_PSP_HM_ER	i — i	_	_	_	231.9	20.2	20.0	1 24	1 24	33.5	61.6	61.7	3.33
HPK VPX35496 044 PSP HM WL	i — i	-1	_	_	231.3	20.1	20.1	1.20	1.19	32.8	61.5	61.4	
HPK_VPX35496_044_PSP_HM_WR		_	_	_	229.7	19.9	19.9	1.19	1.19	33.3	61.1	61.1	3.30
Median	nan	292.5	nan	nan	237.2	26.1	25.8	1.22	1.22	33.5	61.1	61.1	nar
Average	nan	305.2	nan	nan	237.1	24.4	24.1	1.22	1.22	33.5	61.2	61.1	nar
Std dev.	nan	24.0	nan	nan	3.2	2.8	2.7	0.02	0.02	0.3	0.6	0.5	nar
OK/Tot.	0/20	6/20	0/20	0/20	32/32	32/32	32/32	32/32	32/32	32/32	32/32	32/32	0/32
OK (rel)	0.00	0.30	0.00	0,00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	0.00







- Bulk resistivity lower than 3.5 kOhm\*cm
- DiodeHalf does not work on PS-P, stopped measuring it as agreed
- Metal clover leaf investigations running:
  - 30 mA close to what is possible for K2410
  - different maximum for current ramp

		• result depends on maxim	num current
HPK	_VPX3	35496_010_PSP_HM_WR failed failed	failed failed 234
	_	VdP Metal fwd: HPK VPX35496 032	PSP HM WR
	0.4 -		a production
\ \ \ \	0.2	market de la company de la com	R. Comment
Voltage / mV	0.0	ad Table	
	-0.2	Nagar and a second as a second	
	-0.4	Runaer:	21.89 mOhm/sq correlation: 0.997
	-3	-100000 -75000 -50000 -25000 0 25000 Current / uA	50000 75000 100000

		Meta	I VdP			p-edge			Bulk VdP	
	ne-	vdp_met	vdp_met_	r١	dp_cb	vdp_cb_r	t_line_cb	vdpBulk	vdp-	vdp-
	etal								Bulk_r	Bulk_rho
	nm	mOhm/sq	mOhm/sq	kO	hm/sq	kOhm/sq	um	kOhm/sq	kOhm/sq	kOhm*cm
	3.1	27.0	26.3			1.23	33.5	61.7	61.8	3.33
	2.7	26.9	26.2		$\sim$	1.23	33.9	61.2	61.2	3.30
	1.5	26.2	24.7		VdP)	1.19	33.3	61.4	61.2	3.31
	9.6	26.0	26.0		٧	1.19	33.4	61.6	61.2	3.31
	0.7	27.2	26.8			1.25	33.4	60.7	60.7	3.28
	0.0	25.6	26.3		(met.	1.24	33.7	60.4	60.4	3.26
	3.5	26.8	26.3		et	1.20	33.4	60.3	60.6	3.26
	7.1	26.8	26.2		Ě	1.20	33.5	60.7	60.9	3.28
	3.6	26.8	26.1		ے	1.24	33.5	60.6	60.8	3.28
	В.3	26.8	26.3			1.23	33.9	60.7	60.5	3.27
	5.1	26.5	25.7		range	1.19	33.0	60.5	60.5	3.27
3	34.8	26.4	26.2		_≃	1.19	33.3	60.3	60.6	3.26
	В	26.5	26.4		ē	1.25	33.6	60.9	60.8	3.29
	D	27.1	25.8		_	1.24	33.6	61.0	60.9	3.29
	3	26.6	26.2		30mA	1.20	33.7	60.9	60.9	3.29
	5	26.2	26.4		2	1.20	33.5	60.5	60.6	3.27
	D	26.6	25.7			1.24	33.2	60.9	61.1	3.29
	4	25.9	25.9		$\approx$	1.24	33.6	60.9	60.9	3.29
	В	26.9	26.0		٠.,	1.20	33.5	61.4	61.1	3.31
	9	25.7	25.8		. √	1.20	33.8	60.7	60.3	3.27
	3	22.4	22.5		_ ~	1.24	32.8	62.2	61.8	3.35
	5	22.2	22.2		Æ	1.24	33.5	61.9	61.8	3.34
	7	22.1	22.0		$\approx$	1.18	33.9	62.2	61.8	3.35
	1	21.9	22.1		$\sim$	1.19	33.1	61.4	61.6	3.32
	3	20.3	20.1			1.24	33.2	61.9	61.5	3.33
	4	20.1	19.9		4	1.24	33.7	62.1	62.2	3.36
	D	20.2	20.0		200mA	1.19	33.6	60.7	60.7	3.28
	7	20.0	19.9		드	1.20	33.7	61.7	61.7	3.33
	2	20.4	20.1		$\simeq$	1.25	33.3	61.7	61.6	3.33
	9	20.2	20.0		$\approx$	1.24	33.5	61.6	61.7	3.33
	3	20.1	20.1		٠.	1.19	32.8	61.5	61.4	3.32
	7	19.9	19.9			1.19	33.3	61.1	61.1	3.30
	2	26.1	25.8		1.22	1.22	33.5	61.1	61.1	nan
	1	24.4	24.1		1.22	1.22	33.5	61.2	61.1	nan
	2	2.8	2.7		0.02	0.02	0.3	0.6	0.5	nan
,	2	32/32	32/32		32/32	32/32	32/32	32/32	32/32	0/32
	D	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.00





	GCD05	CB			Contact chai	n
	i_surf05	r_cont_po	ly_cont_n	cont_p	cont_poly	cont_n
	pA	kOhm	Ohm	kOhm	MOhm	kOhm
HPK_VPX35496_001_PSP_HM_EL	19.3	_	27.8	71.5	_	96.8
HPK_VPX35496_001_PSP_HM_ER	16.0	_	28.2	71.5	_	94.1
HPK_VPX35496_001_PSP_HM_WL	17.7	_	27.9	69.3	_	90.7
HPK_VPX35496_001_PSP_HM_WR	19.4	_	28.0	70.6	_	94.5
HPK_VPX35496_002_PSP_HM_EL	19.4	_	failed	71.5	_	92.2
HPK_VPX35496_002_PSP_HM_ER	16.6	_	28.1	72.2	i —	96.7
HPK_VPX35496_002_PSP_HM_WL	18.2	_	28.0	70.1	_	89.3
HPK_VPX35496_002_PSP_HM_WR	20.7	_	28.1	71.5	_	93.4
HPK_VPX35496_010_PSP_HM_EL	20.4	_	27.9	71.3	i —	90.8
HPK_VPX35496_010_PSP_HM_ER	18.0	_	28.2	71.3	i —	93.7
HPK_VPX35496_010_PSP_HM_WL	18.1	_	27.9	69.6	_	87.6
HPK_VPX35496_010_PSP_HM_WR	20.3	_	28.6	71.0	_	89.2
HPK_VPX35496_017_PSP_HM_EL	20.2	_	27.7	71.9	i —	88.6
HPK_VPX35496_017_PSP_HM_ER	18.4	_	28.0	71.9	_	95.6
HPK_VPX35496_017_PSP_HM_WL	19.1	_	28.0	70.1	_	88.1
HPK_VPX35496_017_PSP_HM_WR	20.5	_	28.4	71.2	_	90.9
HPK_VPX35496_026_PSP_HM_EL	20.3	_	27.7	73.4	i —	83.0
HPK_VPX35496_026_PSP_HM_ER	15.8	_	27.8	73.8	_	86.0
HPK_VPX35496_026_PSP_HM_WL	16.6	_	28.0	71.3	_	80.1
HPK_VPX35496_026_PSP_HM_WR	20.7	_	28.2	72.6	i —	82.1
HPK_VPX35496_032_PSP_HM_EL	20.1	_	27.9	72.5	_	89.7
HPK_VPX35496_032_PSP_HM_ER	15.7	_	27.8	73.2	_	89.5
HPK_VPX35496_032_PSP_HM_WL	17.3	_	27.9	71.4	i —	85.8
HPK_VPX35496_032_PSP_HM_WR	21.0	_	28.5	72.8	i —	88.8
HPK_VPX35496_040_PSP_HM_EL	22.1	_	28.0	72.5	_	90.4
HPK_VPX35496_040_PSP_HM_ER	17.7	_	28.4	73.4	_	92.2
HPK_VPX35496_040_PSP_HM_WL	18.7	_	27.8	71.5	i —	86.4
HPK_VPX35496_040_PSP_HM_WR	22.2	_	28.3	72.3	_	92.0
HPK_VPX35496_044_PSP_HM_EL	21.9	_	28.1	73.0	_	84.6
HPK_VPX35496_044_PSP_HM_ER	17.9	_	28.4	72.2	_	90.3
HPK_VPX35496_044_PSP_HM_WL	19.4	_	27.7	70.9	i —	82.2
HPK_VPX35496_044_PSP_HM_WR	22.4	_	28.2	72.7	_	88.5
Median	19.4	0.0	28.0	71.5	0.0	89.6
Average	19.1	0.0	28.1	71.7	0.0	89.5
Std dev.	1.9	0.0	0.2	1.1	0.0	4.2
OK/Tot.	32/32	1/1	31/32	32/32	1/1	32/32
OK (rel)	1.00	1.00	0.97	1.00	1.00	1.00



# VPX35496: Summary



- Bulk resistivity low
- Breakdown structure: early breakdown, but DC process anyway
- p-stop/FET  $V_{th}$  very homogeneous
- Batch VPX35496 can be accepted?

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Maximilian Babeluk PQC Status Vienna April 20<sup>th</sup> 2021