

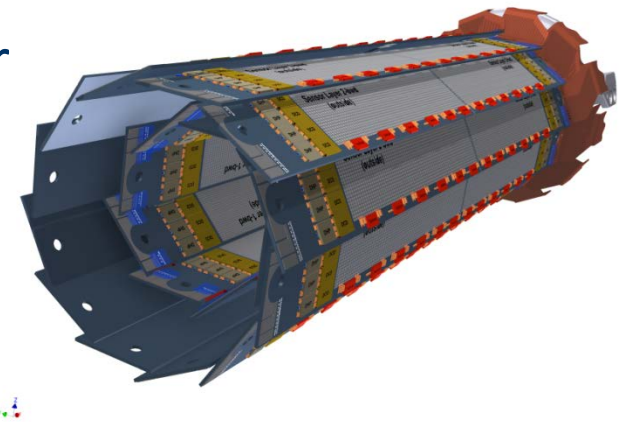


MPP Module Testing



20.12.2017

Philipp Leitl, Felix Mueller





L1_019

Sw-Vref: -5400 mV

Sw-sub + Clear-on + Clear-off: -2 mA

	min.	Set Current	max.	min.	Set Voltage	max.	Reg.	Voltage at Regulator	Voltage at Load	Current	
sw-sub	0 mA	50 mA	50 mA	-7100 mV	-7000 mV	0 mV	■	-7033 mV	-6994 mV	-18 mA	sw-sub
sw-dvdd	0 mA	30 mA	30 mA	0 mV	1800 mV	2000 mV	■	2883 mV	1801 mV	20 mA	sw-dvdd
sw-refin	0 mA	30 mA	30 mA	-7100 mV	-5400 mV	0 mV	■	-5401 mV	-5403 mV	0 mA	sw-refin
dcd-amplov	0 mA	1300 mA	1400 mA	0 mV	400 mV	500 mV	■	963 mV	400 mV	-735 mA	dcd-amplov
dcd-avdd	0 mA	3000 mA	3000 mA	0 mV	1800 mV	2000 mV	■	4795 mV	1799 mV	2660 mA	dcd-avdd
dcd-dvdd	0 mA	940 mA	1000 mA	0 mV	1800 mV	2000 mV	■	3490 mV	1800 mV	807 mA	dcd-dvdd
dcd-refin	0 mA	1000 mA	1000 mA	0 mV	750 mV	1300 mV	■	2254 mV	750 mV	161 mA	dcd-refin
dhp-core	0 mA	730 mA	800 mA	0 mV	1200 mV	1640 mV	■	2865 mV	1200 mV	643 mA	dhp-core
dhp-io	0 mA	550 mA	550 mA	0 mV	1800 mV	2000 mV	■	3302 mV	1800 mV	287 mA	dhp-io
bulk	0 mA	10 mA	10 mA	0 mV	10000 mV	10000 mV	■	10001 mV	10000 mV	0 mA	bulk
clear-on	0 mA	70 mA	70 mA	0 mV	8000 mV	22000 mV	■	8120 mV	7992 mV	26 mA	clear-on
clear-off	0 mA	70 mA	70 mA	0 mV	5000 mV	20000 mV	■	4962 mV	5005 mV	-10 mA	clear-off
gate-on1	0 mA	15 mA	30 mA	-4000 mV	3000 mV	5000 mV	■	2997 mV	3000 mV	0 mA	gate-on1
gate-on2	0 mA	15 mA	30 mA	-4000 mV	3000 mV	5000 mV	■	3006 mV	3003 mV	0 mA	gate-on2
gate-on3	0 mA	15 mA	30 mA	-4000 mV	3000 mV	5000 mV	■	3007 mV	3003 mV	0 mA	gate-on3
gate-off	0 mA	30 mA	30 mA	0 mV	5000 mV	6000 mV	■	5045 mV	4994 mV	7 mA	gate-off
source	0 mA	150 mA	150 mA	0 mV	6000 mV	7000 mV	■	7157 mV	6000 mV	1 mA	source
ccg1	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	-7 mV	-5 mV	0 mA	ccg1
ccg2	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	0 mV	3 mV	0 mA	ccg2
ccg3	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	-3 mV	-4 mV	0 mA	ccg3
hv	0 uA	1000 uA	10000 uA	-80000 mV	-70000 mV	0 mV	■	-69921 mV	-69972 mV	-56 uA	hv
drift	0 mA	10 mA	10 mA	-6000 mV	-5000 mV	0 mV	■	-5000 mV	-4997 mV	0 mA	drift
polycover	0 mA	0 mA	10 mA	0 mV	0 mV	0 mV	■	5 mV	1 mV	0 mA	polycover
guard	0 mA	10 mA	30 mA	-6000 mV	-5000 mV	0 mV	■	-4998 mV	-5003 mV	0 mA	guard



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Sw-Vref: -5300 mV

Sw-sub + Clear-on + Clear-off: -2 mA

	min.	Set Current	max.	min.	Set Voltage	max.	Reg.	Voltage at Regulator	Voltage at Load	Current	
sw-sub	0 mA	50 mA	50 mA	-7100 mV	-7000 mV	0 mV	■	-7047 mV	-7003 mV	-21 mA	sw-sub
sw-dvdd	0 mA	30 mA	30 mA	0 mV	1800 mV	2000 mV	■	2883 mV	1801 mV	20 mA	sw-dvdd
sw-refin	0 mA	30 mA	30 mA	-7100 mV	-5300 mV	0 mV	■	-5301 mV	-5298 mV	0 mA	sw-refin
dcd-amplow	0 mA	1300 mA	1400 mA	0 mV	400 mV	500 mV	■	963 mV	399 mV	-732 mA	dcd-amplow
dcd-avdd	0 mA	3000 mA	3000 mA	0 mV	1800 mV	2000 mV	■	4793 mV	1798 mV	2658 mA	dcd-avdd
dcd-dvdd	0 mA	940 mA	1000 mA	0 mV	1800 mV	2000 mV	■	3490 mV	1801 mV	807 mA	dcd-dvdd
dcd-refin	0 mA	1000 mA	1000 mA	0 mV	750 mV	1300 mV	■	2252 mV	751 mV	161 mA	dcd-refin
dhp-core	0 mA	730 mA	800 mA	0 mV	1200 mV	1640 mV	■	2865 mV	1200 mV	644 mA	dhp-core
dhp-io	0 mA	550 mA	550 mA	0 mV	1800 mV	2000 mV	■	3307 mV	1800 mV	287 mA	dhp-io
bulk	0 mA	10 mA	10 mA	0 mV	10000 mV	10000 mV	■	10007 mV	9993 mV	0 mA	bulk
clear-on	0 mA	70 mA	70 mA	0 mV	8000 mV	22000 mV	■	8276 mV	8000 mV	61 mA	clear-on
clear-off	0 mA	70 mA	70 mA	0 mV	5000 mV	20000 mV	■	4830 mV	5013 mV	-42 mA	clear-off
gate-on1	0 mA	15 mA	30 mA	-4000 mV	3000 mV	5000 mV	■	3001 mV	3000 mV	0 mA	gate-on1
gate-on2	0 mA	15 mA	30 mA	-4000 mV	3000 mV	5000 mV	■	3006 mV	2999 mV	0 mA	gate-on2
gate-on3	0 mA	15 mA	30 mA	-4000 mV	3000 mV	5000 mV	■	2998 mV	2999 mV	0 mA	gate-on3
gate-off	0 mA	30 mA	30 mA	0 mV	5000 mV	6000 mV	■	5037 mV	5002 mV	7 mA	gate-off
source	0 mA	150 mA	150 mA	0 mV	6000 mV	7000 mV	■	7157 mV	6003 mV	1 mA	source
cpg1	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	-3 mV	0 mV	0 mA	cpg1
cpg2	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	0 mV	-2 mV	0 mA	cpg2
cpg3	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	0 mV	1 mV	0 mA	cpg3
hv	0 uA	1000 uA	10000 uA	-80000 mV	-70000 mV	0 mV	■	-69893 mV	-69972 mV	-55 uA	hv
drift	0 mA	10 mA	10 mA	-6000 mV	-5000 mV	0 mV	■	-5000 mV	-5003 mV	0 mA	drift
polycover	0 mA	0 mA	10 mA	0 mV	0 mV	0 mV	■	0 mV	6 mV	0 mA	polycover
guard	0 mA	10 mA	30 mA	-6000 mV	-5000 mV	0 mV	■	-5003 mV	-5003 mV	0 mA	guard



L1_019

Sw-Vref: -5200 mV

Sw-sub + Clear-on + Clear-off: -2 mA

	min.	Set Current	max.	min.	Set Voltage	max.	Reg.	voltage at Regulator	voltage at Load	Current	
sw-sub	0 mA	50 mA	50 mA	-7100 mV	-7000 mV	0 mV	■	-7052 mV	-7003 mV	-23 mA	sw-sub
sw-dvdd	0 mA	30 mA	30 mA	0 mV	1800 mV	2000 mV	■	2889 mV	1803 mV	20 mA	sw-dvdd
sw-refin	0 mA	30 mA	30 mA	-7100 mV	-5200 mV	0 mV	■	-5200 mV	-5198 mV	0 mA	sw-refin
dcd-amplov	0 mA	1300 mA	1400 mA	0 mV	400 mV	500 mV	■	960 mV	400 mV	-732 mA	dcd-amplov
dcd-avdd	0 mA	3000 mA	3000 mA	0 mV	1800 mV	2000 mV	■	4795 mV	1800 mV	2659 mA	dcd-avdd
dcd-dvdd	0 mA	940 mA	1000 mA	0 mV	1800 mV	2000 mV	■	3496 mV	1801 mV	808 mA	dcd-dvdd
dcd-refin	0 mA	1000 mA	1000 mA	0 mV	750 mV	1300 mV	■	2254 mV	751 mV	160 mA	dcd-refin
dhp-core	0 mA	730 mA	800 mA	0 mV	1200 mV	1640 mV	■	2871 mV	1199 mV	643 mA	dhp-core
dhp-io	0 mA	550 mA	550 mA	0 mV	1800 mV	2000 mV	■	3310 mV	1800 mV	283 mA	dhp-io
bulk	0 mA	10 mA	10 mA	0 mV	10000 mV	10000 mV	■	10001 mV	9993 mV	0 mA	bulk
clear-on	0 mA	70 mA	70 mA	0 mV	8000 mV	22000 mV	■	8301 mV	8008 mV	67 mA	clear-on
clear-off	0 mA	70 mA	70 mA	0 mV	5000 mV	20000 mV	■	4806 mV	5005 mV	-46 mA	clear-off
gate-on1	0 mA	15 mA	30 mA	-4000 mV	3000 mV	5000 mV	■	3001 mV	2996 mV	0 mA	gate-on1
gate-on2	0 mA	15 mA	30 mA	-4000 mV	3000 mV	5000 mV	■	3006 mV	2999 mV	0 mA	gate-on2
gate-on3	0 mA	15 mA	30 mA	-4000 mV	3000 mV	5000 mV	■	2998 mV	3003 mV	0 mA	gate-on3
gate-off	0 mA	30 mA	30 mA	0 mV	5000 mV	6000 mV	■	5041 mV	4998 mV	7 mA	gate-off
source	0 mA	150 mA	150 mA	0 mV	6000 mV	7000 mV	■	7163 mV	6000 mV	1 mA	source
ccg1	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	-3 mV	0 mV	0 mA	ccg1
ccg2	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	-3 mV	-2 mV	0 mA	ccg2
ccg3	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	0 mV	1 mV	0 mA	ccg3
hv	0 uA	1000 uA	10000 uA	-80000 mV	-70000 mV	0 mV	■	-69921 mV	-69972 mV	-57 uA	hv
drift	0 mA	10 mA	10 mA	-6000 mV	-5000 mV	0 mV	■	-5000 mV	-4997 mV	0 mA	drift
polycover	0 mA	0 mA	10 mA	0 mV	0 mV	0 mV	■	5 mV	1 mV	0 mA	polycover
guard	0 mA	10 mA	30 mA	-6000 mV	-5000 mV	0 mV	■	-5008 mV	-5008 mV	0 mA	guard



Sw-Vref: -5200 mV

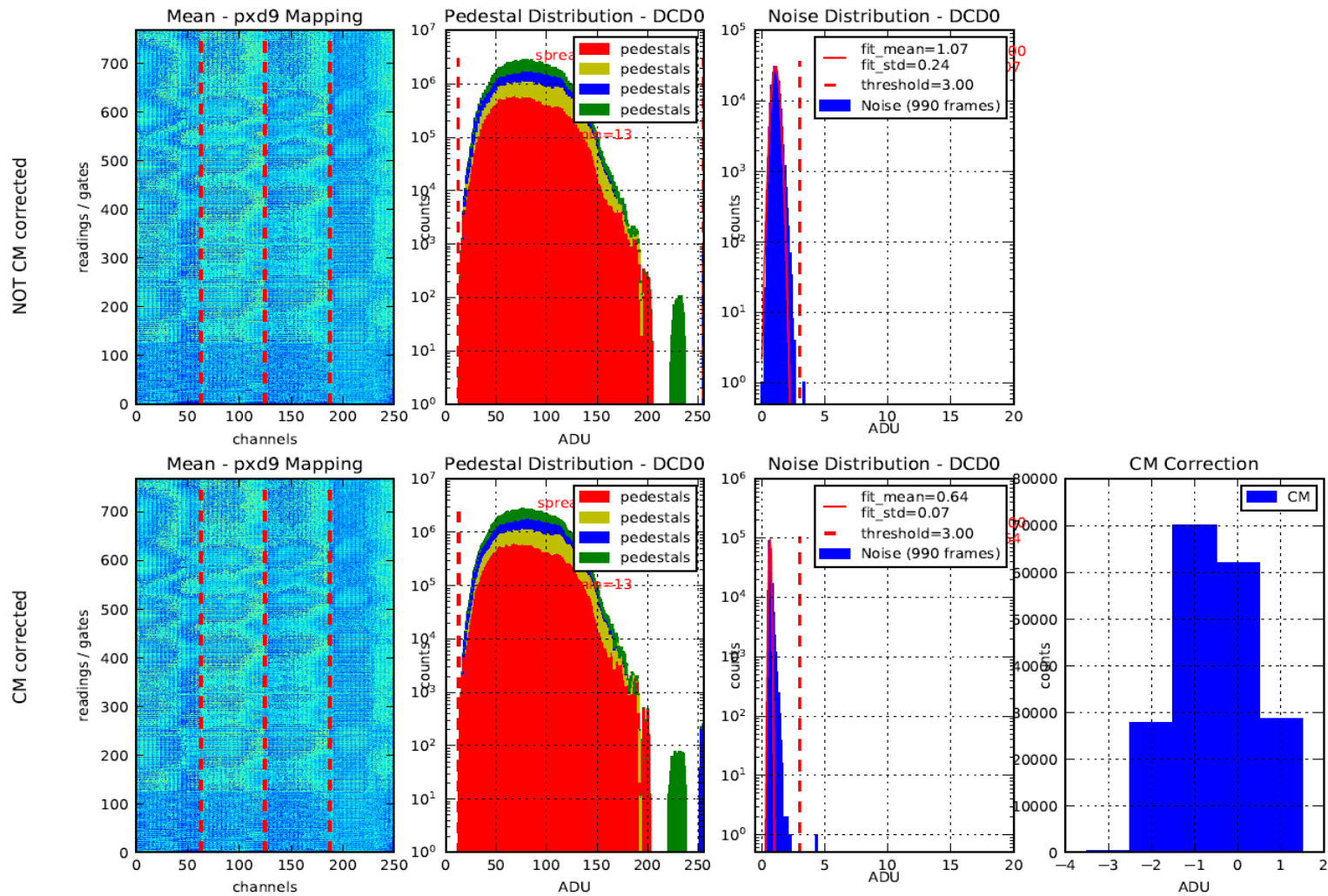
	min.	Set Current	max.	min.	Set Voltage	max.	Reg.	Voltage at Regulator	Voltage at Load	Current	
sw-sub	0 mA	50 mA	50 mA	-7100 mV	-7000 mV	0 mV	■	-7057 mV	-7003 mV	-27 mA	sw-sub
sw-dvdd	0 mA	30 mA	30 mA	0 mV	1800 mV	2000 mV	■	2889 mV	1800 mV	20 mA	sw-dvdd
sw-refin	0 mA	30 mA	30 mA	-7100 mV	-5200 mV	0 mV	■	-5210 mV	-5198 mV	0 mA	sw-refin
dcd-amplow	0 mA	1300 mA	1400 mA	0 mV	400 mV	500 mV	■	965 mV	400 mV	-735 mA	dcd-amplow
dcd-avdd	0 mA	3000 mA	3000 mA	0 mV	1800 mV	2000 mV	■	4806 mV	1799 mV	2663 mA	dcd-avdd
dcd-dvdd	0 mA	940 mA	1000 mA	0 mV	1800 mV	2000 mV	■	3501 mV	1801 mV	806 mA	dcd-dvdd
dcd-refin	0 mA	1000 mA	1000 mA	0 mV	750 mV	1300 mV	■	2259 mV	751 mV	160 mA	dcd-refin
dhp-core	0 mA	730 mA	800 mA	0 mV	1200 mV	1640 mV	■	2873 mV	1200 mV	643 mA	dhp-core
dhp-io	0 mA	550 mA	550 mA	0 mV	1800 mV	2000 mV	■	3313 mV	1802 mV	285 mA	dhp-io
bulk	0 mA	10 mA	10 mA	0 mV	10000 mV	10000 mV	■	10001 mV	10006 mV	0 mA	bulk
clear-on	0 mA	100 mA	150 mA	0 mV	19000 mV	22000 mV	■	19355 mV	19003 mV	80 mA	clear-on
clear-off	0 mA	70 mA	70 mA	0 mV	5000 mV	20000 mV	■	4740 mV	5005 mV	-61 mA	clear-off
gate-on1	0 mA	15 mA	30 mA	-4000 mV	3000 mV	5000 mV	■	3019 mV	2996 mV	1 mA	gate-on1
gate-on2	0 mA	15 mA	30 mA	-4000 mV	3000 mV	5000 mV	■	3024 mV	2999 mV	1 mA	gate-on2
gate-on3	0 mA	15 mA	30 mA	-4000 mV	3000 mV	5000 mV	■	3016 mV	2999 mV	1 mA	gate-on3
gate-off	0 mA	30 mA	30 mA	0 mV	5000 mV	6000 mV	■	5041 mV	4998 mV	6 mA	gate-off
source	0 mA	150 mA	150 mA	0 mV	6000 mV	7000 mV	■	7168 mV	6000 mV	1 mA	source
ccg1	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	0 mV	-5 mV	0 mA	ccg1
ccg2	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	-3 mV	3 mV	0 mA	ccg2
ccg3	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	-3 mV	-4 mV	0 mA	ccg3
hv	0 uA	1000 uA	10000 uA	-80000 mV	-70000 mV	0 mV	■	-69949 mV	-70000 mV	-41 uA	hv
drift	0 mA	10 mA	10 mA	-6000 mV	-5000 mV	0 mV	■	-5005 mV	-5003 mV	0 mA	drift
polycover	0 mA	0 mA	10 mA	0 mV	0 mV	0 mV	■	5 mV	6 mV	0 mA	polycover
guard	0 mA	10 mA	30 mA	-6000 mV	-5000 mV	0 mV	■	-5008 mV	-5008 mV	0 mA	guard

Sw-Vref: -5200 mV, voltages for source measuring

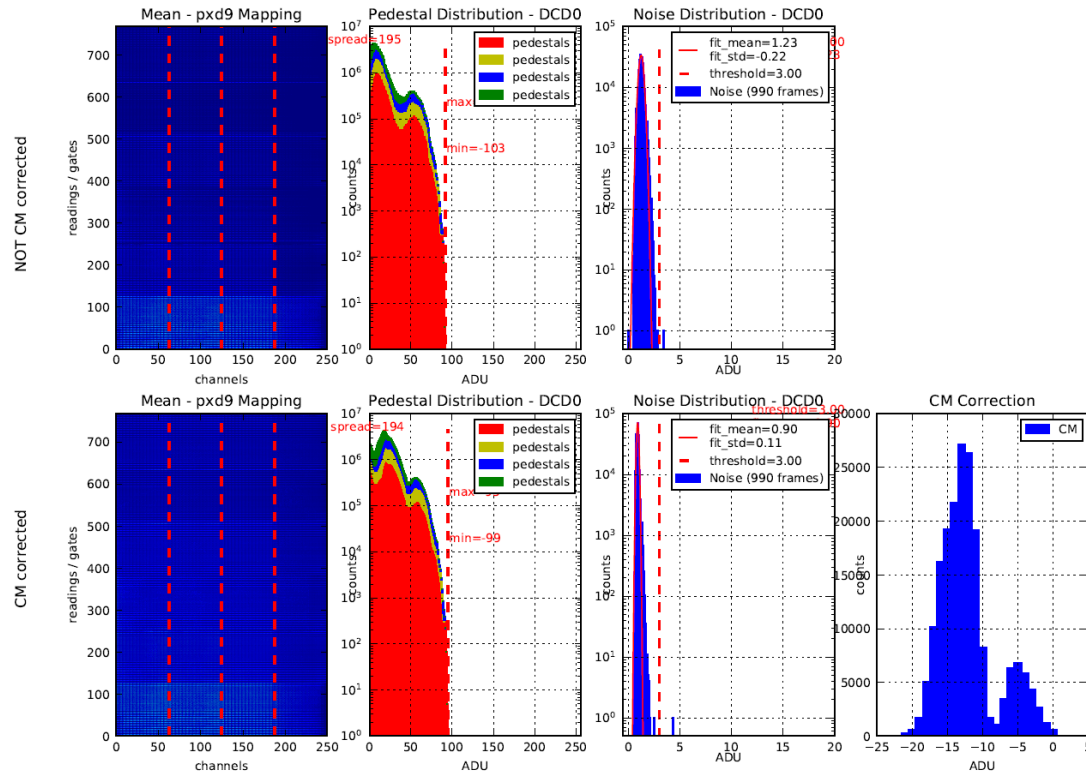
	min.	Set Current	max.	min.	Set Voltage	max.	Reg.	Voltage at Regulator	Voltage at Load	Current	
sw-sub	0 mA	50 mA	50 mA	-7100 mV	-7000 mV	0 mV	■	-7076 mV	-7003 mV	-19 mA	sw-sub
sw-dvdd	0 mA	30 mA	30 mA	0 mV	1800 mV	2000 mV	■	2923 mV	1801 mV	20 mA	sw-dvdd
sw-refin	0 mA	30 mA	30 mA	-7100 mV	-5200 mV	0 mV	■	-5410 mV	-5203 mV	0 mA	sw-refin
dcd-amplow	0 mA	1300 mA	1400 mA	0 mV	400 mV	500 mV	■	1181 mV	399 mV	-740 mA	dcd-amplow
dcd-avdd	0 mA	3000 mA	3000 mA	0 mV	1800 mV	2000 mV	■	5230 mV	1791 mV	2928 mA	dcd-avdd
dcd-dvdd	0 mA	940 mA	1000 mA	0 mV	1800 mV	2000 mV	■	3564 mV	1801 mV	833 mA	dcd-dvdd
dcd-refin	0 mA	1000 mA	1000 mA	0 mV	750 mV	1300 mV	■	2530 mV	750 mV	177 mA	dcd-refin
dhp-core	0 mA	730 mA	800 mA	0 mV	1200 mV	1640 mV	■	2923 mV	1200 mV	655 mA	dhp-core
dhp-io	0 mA	550 mA	550 mA	0 mV	1800 mV	2000 mV	■	3347 mV	1801 mV	283 mA	dhp-io
bulk	0 mA	10 mA	10 mA	0 mV	10000 mV	10000 mV	■	10001 mV	10000 mV	0 mA	bulk
clear-on	0 mA	100 mA	150 mA	0 mV	19000 mV	22000 mV	■	19305 mV	19003 mV	75 mA	clear-on
clear-off	0 mA	100 mA	150 mA	0 mV	5000 mV	20000 mV	■	4723 mV	5013 mV	-58 mA	clear-off
gate-on1	0 mA	15 mA	30 mA	-4000 mV	-2500 mV	5000 mV	■	-2557 mV	-2506 mV	-6 mA	gate-on1
gate-on2	0 mA	15 mA	30 mA	-4000 mV	-2400 mV	5000 mV	■	-2476 mV	-2399 mV	-6 mA	gate-on2
gate-on3	0 mA	15 mA	30 mA	-4000 mV	-2400 mV	5000 mV	■	-2473 mV	-2401 mV	-6 mA	gate-on3
gate-off	0 mA	30 mA	30 mA	0 mV	5000 mV	6000 mV	■	5103 mV	4998 mV	25 mA	gate-off
source	0 mA	120 mA	150 mA	0 mV	6000 mV	7000 mV	■	7481 mV	6000 mV	82 mA	source
ccg1	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	5 mV	0 mV	0 mA	ccg1
ccg2	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	0 mV	-2 mV	0 mA	ccg2
ccg3	0 mA	10 mA	10 mA	-5000 mV	0 mV	0 mV	■	-3 mV	-4 mV	0 mA	ccg3
hv	0 uA	1000 uA	10000 uA	-80000 mV	-70000 mV	0 mV	■	-69921 mV	-69972 mV	-39 uA	hv
drift	0 mA	10 mA	10 mA	-6000 mV	-5000 mV	0 mV	■	-5005 mV	-5003 mV	0 mA	drift
polycover	0 mA	0 mA	10 mA	0 mV	0 mV	0 mV	■	10 mV	-3 mV	0 mA	polycover
guard	0 mA	10 mA	30 mA	-6000 mV	-5000 mV	0 mV	■	-5003 mV	-5008 mV	0 mA	guard



L1_019 – Pedestals 7.12.17 (before sw-v-problem)

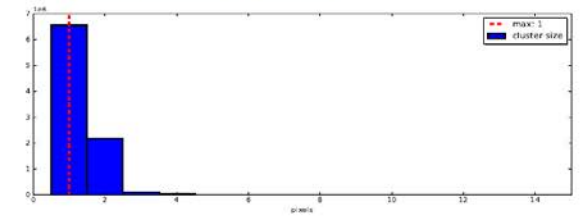
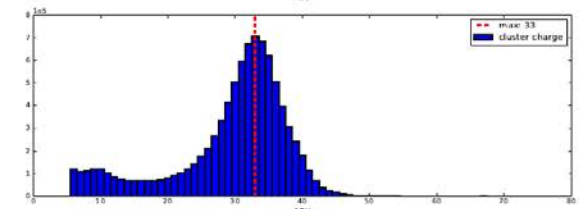
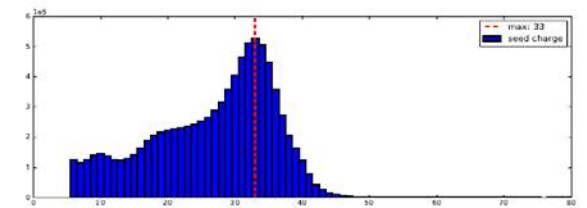
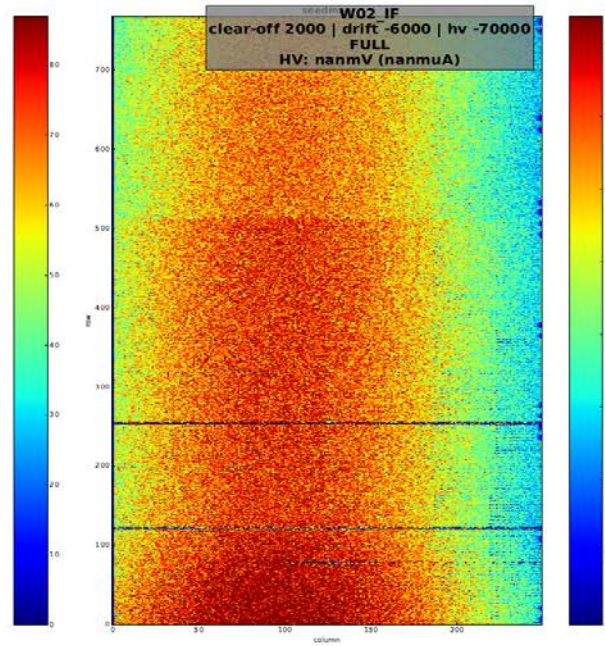
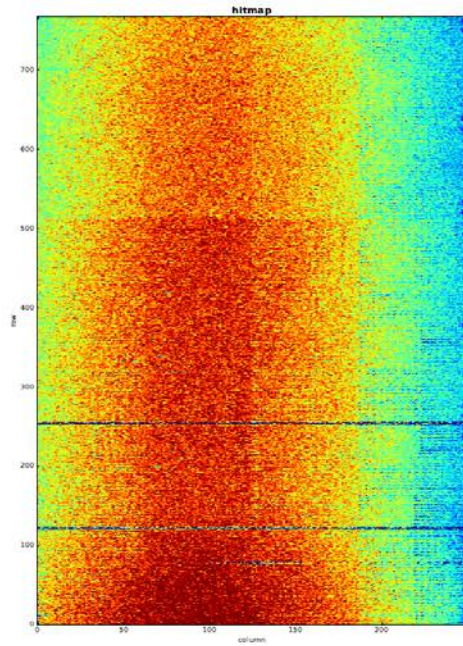


L1_019 – Pedestals difference 20.12.17-7.12.17



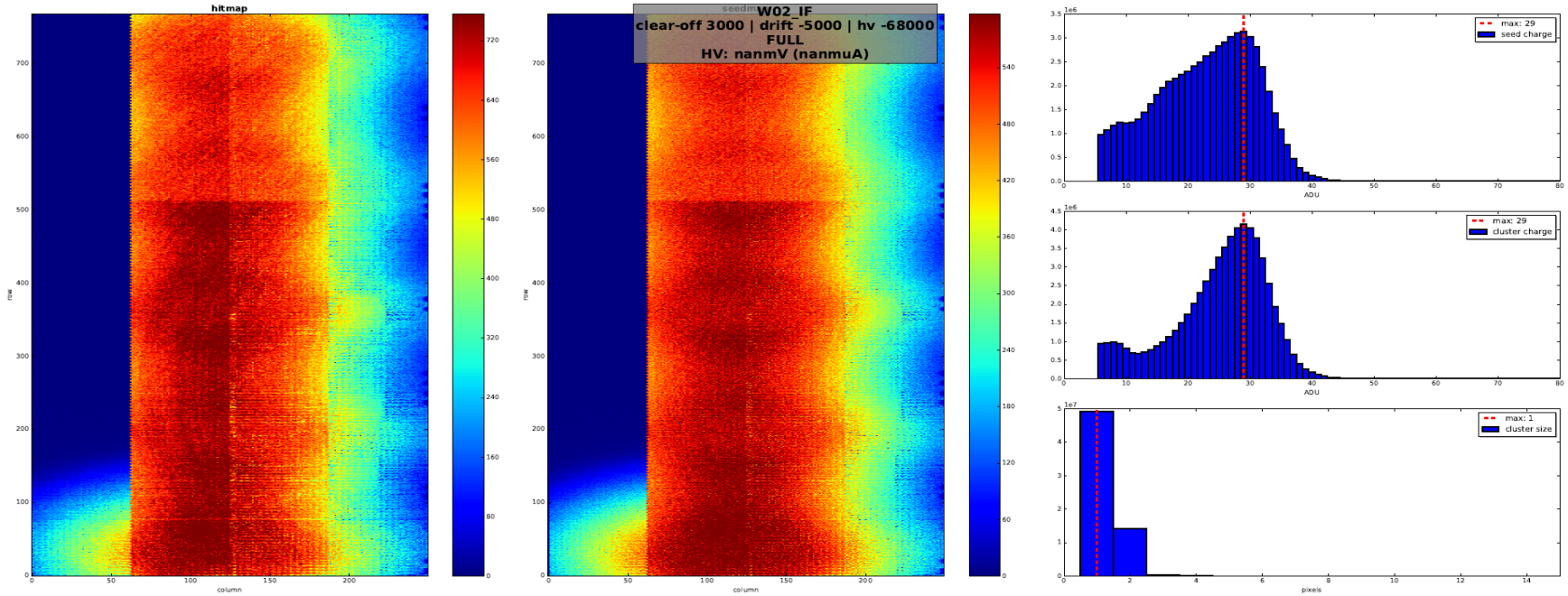


W02_IF 20.12.17





W02_IF 20.12.17



DHP1 link crashed after some time



Switching off manually

source from 6 V to 5 V

