

detdaq19, run 285 (Dec 2, 2021)

Performance Measures

Operating Voltages/Currents, Temperature, Humidity

Channel	V	I
AVDD (202)	6.0	1.4
DVDD (203)	6.0	0.8
PVDD (205)	3.0	0.9
HV (5)	200	1e-8

Temp	Humidity
7°	4.5%

Pedestal Summary

Method: Dark environment, nominal operation, collect 1000 frames @120Hz. Generate per-pixel mean and standard deviation over 1000 frames. Pixels more than 3 sigma out of detector-wide mean are flagged bad. Files archived as xxxx.

Map of pedestal non-conforming pixels for all gain modes [here](#).

Gain Mode	Mean Pedestal Value (ADU)	Number of NCP	Pixels Map, Histogram
FH	2945 ± 118	39	Graphs
FM	2909 ± 113	39	Graphs
FL	2893 ± 110	39	Graphs
AHL	2948 ± 116	39	Graphs
AML	2911 ± 111	39	Graphs

Notes: 20-30 hot pixels (NCP) at 200V bias. They begin to disappear at lower voltages, completely disappear by ~30V

Noise Summary

Map of noise non-conforming pixels for all gain modes [here](#).

Gain Mode	Variation (ADU)	Number of NCP	Pixels Map, Histogram
FH	5	104	Graphs
FM	2	23	Graphs
FL	2	1854	Graphs
AHL	6	146	Graphs
AML	3	16	Graphs

Gain and uniformity (photon source)

Map of gain non-conforming pixels for all gain modes [here](#).

Gain Mode	Number of NCP
FH	0
FM	0
FL	0
AHL	9

Configuration Settings

EPIX10ka Configuration

Version	e2040002	EpixRunTrigDelay (0->2147483647)	64000	adcStreamMode (0->1)	0	AsicMask (0x0->0xf)	f
DigitalCardId0	1663404124	EpixDaqTrigDelay (0->2147483647)	64000	testPatternEnable (0->1)	0	EnableAutomaticRunTrigger (0->1)	0
DigitalCardId1	1354881					NumbClockTicksPerRunTrigger	833333
AnalogCardId0	853123073	DacSetting (0x0->0xffff)	0	AcqToAsicRODelay (0->2147483647)	44050	GhostCorrEn (0->1)	1
AnalogCardId1	503316505	asicGR (0->1)	0	AsicR0ToAsicAcq (0->2147483647)	12969	OversampleEn (0->1)	0
CarrierId0	170007809	asicGRControl (0->1)	0	AsicAcqWidth (0->2147483647)	12969	OversampleSize (0->7)	0
CarrierId1	1459617814	asicAcq (0->1)	0	AsicAcqToPPmatL (0->2147483647)	259	ScopeEnable (0->1)	0
BaseClockFrequency	129687500					ScopeTrigEdge (0->1)	1
FirmwareHash	328bae7048ccae416f1b007847c1fb5f74157f3	asicAcqControl (0->1)	0	AsicPPmatToReadout (0->2147483647)	0	ScopeTrigCh (0->15)	6
FirmwareDesc	Epix10ka: Vivado v2020.1, rdsrv306 (Ubuntu 20.04.1 LTS), Built Thu 15 Jul 2021 11:29:19 AM PDT by mkwiatko	asicR0 (0->1)	0	AsicRoCkHalfT (0->2147483647)	5	ScopeArmMode (0->3)	2
EvrRunCode (0->255)	40	asicPpmat (0->1)	1	AdcCkHalfT (1->400)	1	ScopeAdcThresh (0x0->0xffff)	0
EvrDaqCode (0->255)	40	asicPpmatControl (0->1)	1	AsicROWidth (0->2147483647)	39	ScopeHoldoff (0->8191)	0
EvrRunTrigDelay (0->2147483647)	1	asicPpbe (0->1)	0	AdcPipelineDelay0 (0->2147483647)	32	ScopeOffset (0->8191)	15
NumberOfAsicsPerRow (2->2)	2	asicPpbeControl (0->1)	0	AdcPipelineDelay1 (0->2147483647)	32	ScopeTraceLength (0x0->0x1fff)	1000
NumberOfAsicsPerColumn (2->2)	2			AdcPipelineDelay2 (0->2147483647)	32	ScopeSkipSamples (0->8191)	0
NumberOfRowsPerAsic (176->176)	176	asicRoCk (0->1)	0	AdcPipelineDelay3 (0->2147483647)	32	ScopeInputA (0->31)	0
NumberOfReadableRowsPerAsic (0->176)	176					ScopeInputB (0->31)	4
NumberOffPixelsPerAsicRow (192->192)	192						
CalibrationRowCountPerASIC (2->2)	2						
EnvironmentalRowCountPerASIC (1->1)	1						
ASICs	0						
Pixel Map		asicRoCkControl (0->1)	0				
Calib Map							
Save		Cancel					

Linearity (signal injection)

Thermal measurements (all thermometers)