

# V&V Reference Report

## L2 ASCDS Version : 8.5

Observation 60067 - L2 Version 3  
Chandra X-Ray Center

L2 Processing Date : Dec 8 2012

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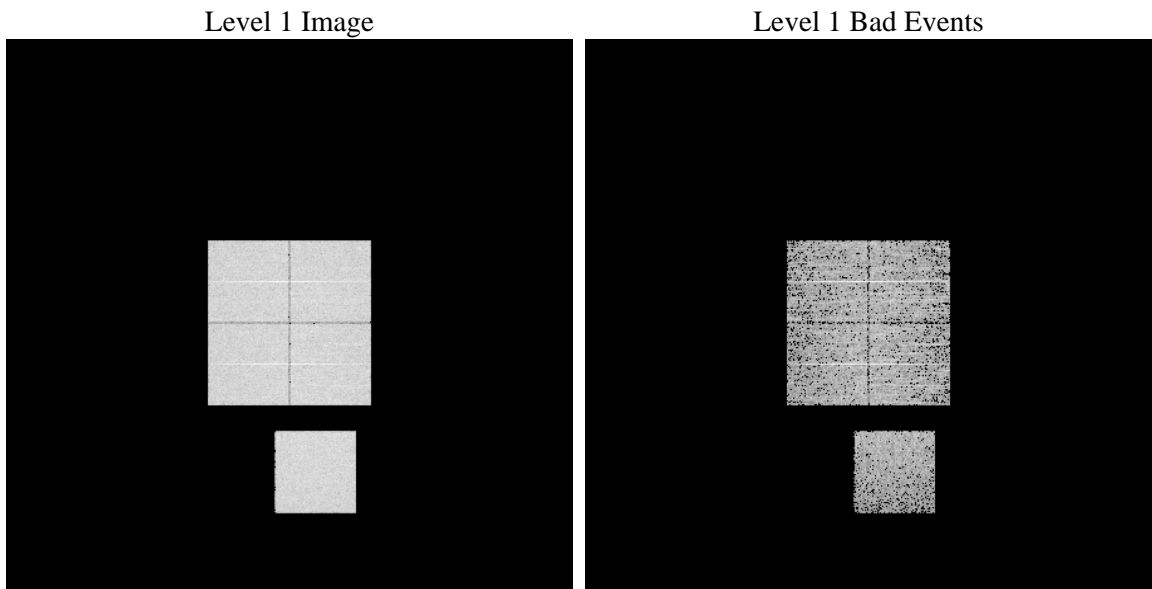
# 1 Front

|          |   |  |
|----------|---|--|
| seq_num  | &#160   | Sequence number                                    |
| obs_id   | 60067   | Observation id                                     |
| title    | ACIS-01237 diagnostics                          | Proposal title                                     |
| observer | CHANDRA engineering request/realtime commanding | Principal investig                                 |
| object   | &#160   | Source name  |
| dtcycle  | 0   | &#160  |
| cycle    | P   | events are from which exps? P[rimary]<br>S[econdar |
| ra_targ  | 0.0   | Observer's specified target RA [deg]               |
| dec_targ | 0.0   | Observer's specified target Dec [deg]              |
| ra_nom   | 206.99437336701                                 | Nominal RA [deg]                                   |
| dec_nom  | -43.020386603081                                | Nominal Dec [deg]                                  |
| roll_nom | 228.4192522585                                  | Nominal Roll [deg]                                 |
| revision | 3   | Processing version of data                         |
| ontime   | 4753.5803389847                                 | Sum of GTIs [s]                                    |
| livetime | 1838.823860782                                  | Livetime [s]                                       |
| ontime0  | 4753.5803389847                                 | Sum of GTIs [s]                                    |
| ontime1  | 4753.5803490281                                 | Sum of GTIs [s]                                    |
| ontime2  | 4753.5803389847                                 | Sum of GTIs [s]                                    |
| ontime3  | 4753.5803689361                                 | Sum of GTIs [s]                                    |
| ontime7  | 4753.5803389847                                 | Sum of GTIs [s]                                    |
| l2events | 263914  | Number of level 2 events                           |

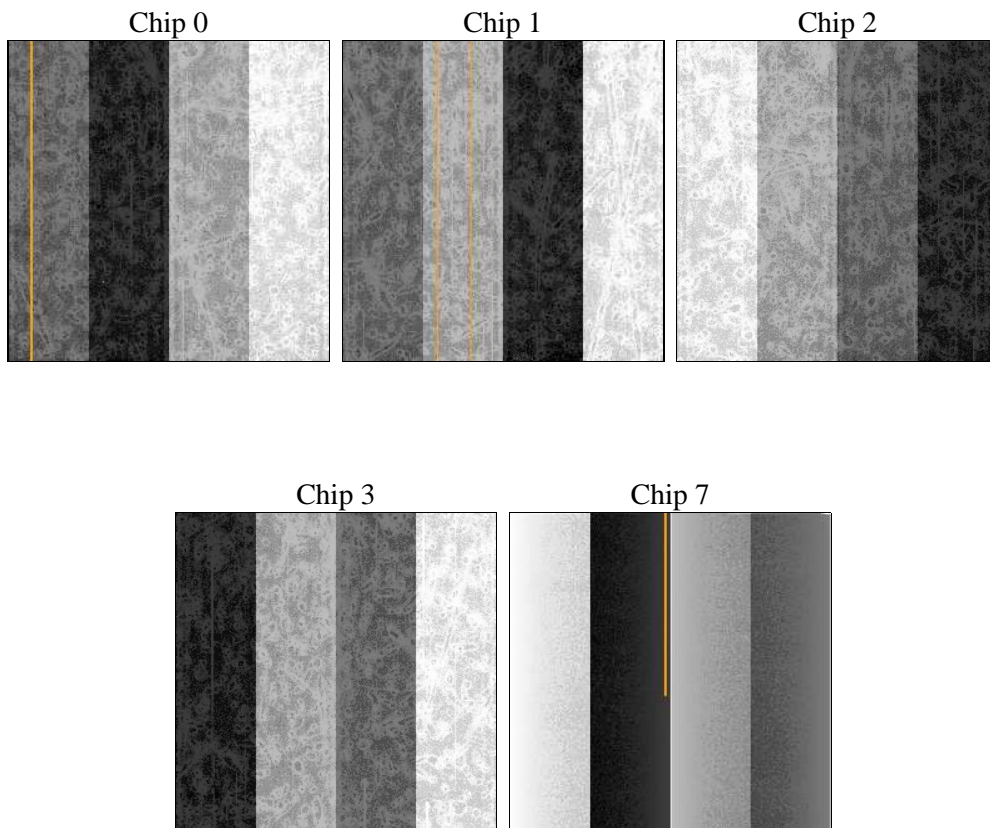
## 2 OBI Primary

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 0.0             | [s] Scheduled observation exposure time |
| ascdsver | 8.5                 | Processing system revision     | ontime         | 4753.5803389847 | Sum of GTIs [s]                         |
| caldsver | 4.5.4               | &#160                          | ontime0        | 4753.5803389847 | Sum of GTIs [s]                         |
| date     | 2012-12-08T14:02:42 | Date and time of file creation | ontime1        | 4753.5803490281 | Sum of GTIs [s]                         |
| revision | 3                   | Processing version of data     | ontime2        | 4753.5803389847 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 4753.5803689361 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 4753.5803389847 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 363271          | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 7 |
|-----------------|-------|-------|-------|-------|-------|
| level 1 events  | 71421 | 72247 | 71728 | 73600 | 74275 |
| rejected events | 16926 | 17939 | 17321 | 18966 | 14203 |
| rejected %      | 23%   | 24%   | 24%   | 25%   | 19%   |

|                | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 7 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 30186 | 29790 | 30592 | 30578 | 14787 |
|                | 42%   | 41%   | 42%   | 41%   | 19%   |
| grade 1 events | 133   | 133   | 171   | 159   | 51    |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 9483  | 9599  | 9214  | 9440  | 13269 |
|                | 13%   | 13%   | 12%   | 12%   | 17%   |
| grade 3 events | 3556  | 3606  | 3496  | 3570  | 6158  |
|                | 4%    | 4%    | 4%    | 4%    | 8%    |
| grade 4 events | 3458  | 3409  | 3523  | 3579  | 6114  |
|                | 4%    | 4%    | 4%    | 4%    | 8%    |
| grade 5 events | 914   | 907   | 900   | 1033  | 2282  |
|                | 1%    | 1%    | 1%    | 1%    | 3%    |
| grade 6 events | 7812  | 7904  | 7582  | 7467  | 19744 |
|                | 10%   | 10%   | 10%   | 10%   | 26%   |
| grade 7 events | 15879 | 16899 | 16250 | 17774 | 11870 |
|                | 22%   | 23%   | 22%   | 24%   | 15%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               |
|-----------------------------------|---------------------|----------------------|
| Instrument                        | ACIS                | ACIS                 |
| Detector                          | ACIS-01237          | ACIS-01237           |
| Grating                           | NONE                | NONE                 |
| Data mode                         | FAINT               | FAINT                |
| Observation mode                  | SECONDARY           | SECONDARY            |
| [deg] Pointing RA                 | 0                   | 206.9943733670107    |
| [deg] Pointing Dec                | 0                   | -43.02038660308062   |
| [deg] Pointing Roll               | 0.0                 | 228.4192522585008    |
| [mm] SIM focus pos                | -0.782348           | -0.6828225247311905  |
| [mm] SIM defocus                  | 0                   | 0.8505141146731063   |
| [mm] SIM translation stage pos    | -233.592463         | 250.466033080201     |
| [mm] SIM translation stage offset | 0                   | -0.01005468664627074 |
| [s] Observation start time (MET)  | 210864743.935993    | 210864742.91098      |
| Observation start date            | 2004-09-06T13:32:24 | 2004-09-06T13:32:22  |
| [s] Observation end time (MET)    | 210879743.786662    | 210879742.76165      |
| Observation end date              | 2004-09-06T17:42:24 | 2004-09-06T17:42:22  |
| Read mode                         | TIMED               | TIMED                |

| Parameter                       | Planned   | Actual  |
|---------------------------------|-----------|---------|
| Obspar format version number    | 7         | 7       |
| Obspar file type                | PREDICTED | ACTUAL  |
| Obspar update status            | NONE      | UPDATED |
| On-chip summing requested       | N         | N       |
| Subarray requested              | NONE      | NONE    |
| Alternating exposures requested | Y         | Y       |
| [s] Primary exposure time       | 2         | 2       |
| [s] Secondary exposure time     | 3.2       | 3.2     |
| Duty cycle                      | 1         | 1       |

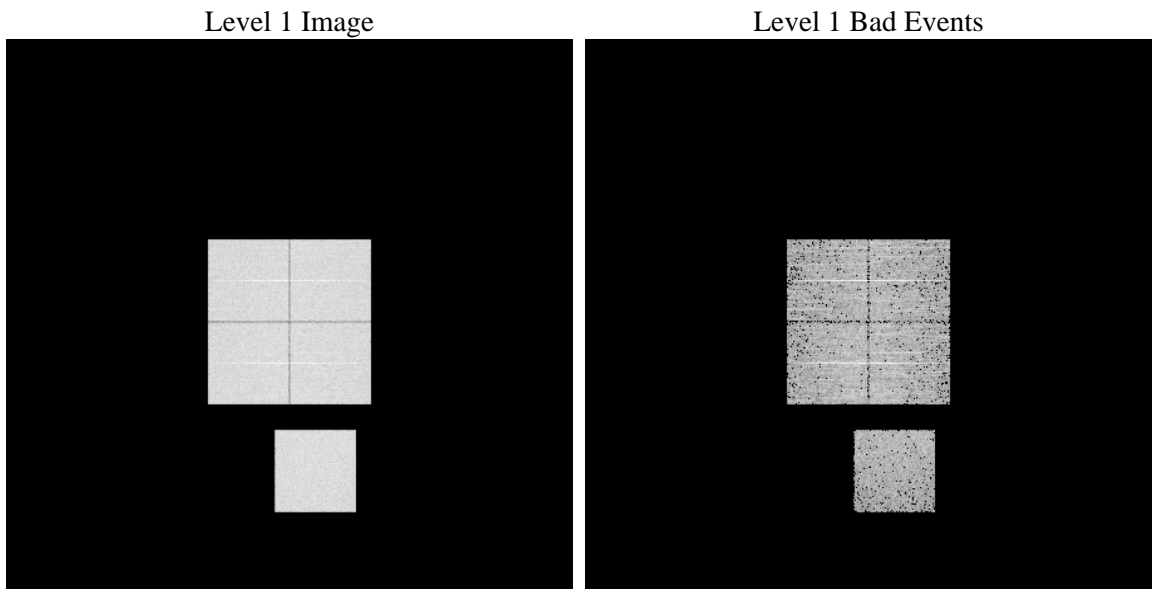
## 2.3 Star Slots

## 2.4 FID Slots

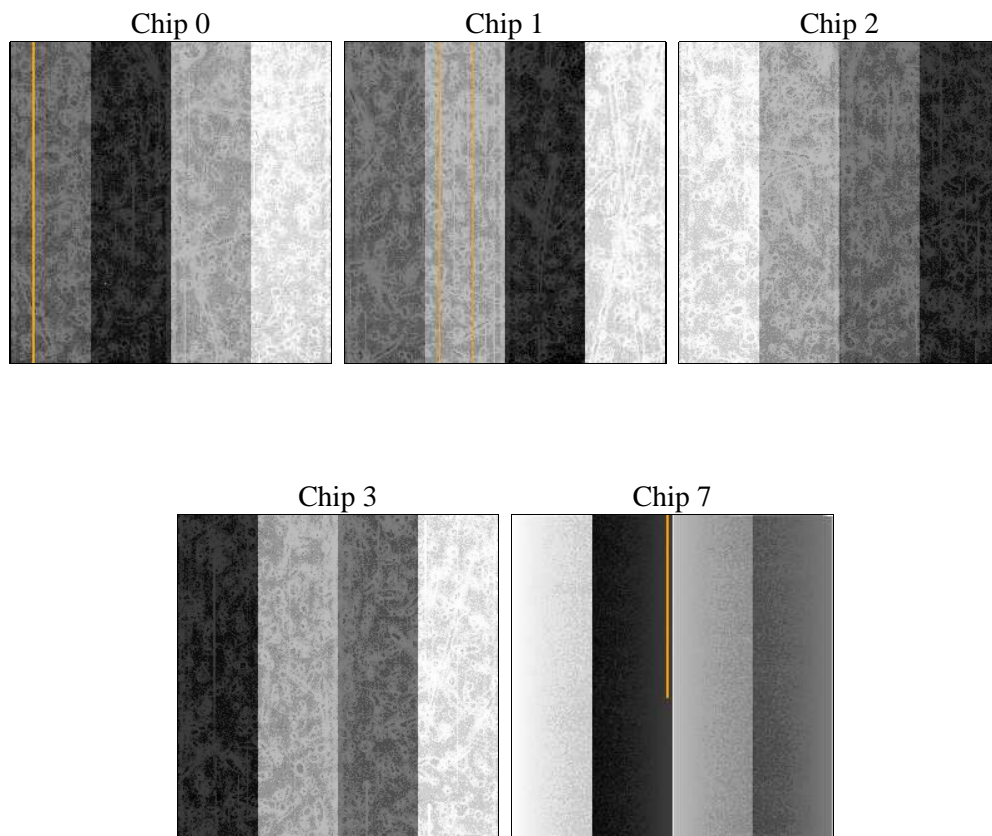
# 3 OBI Secondary

## 3.1 OBI

### 3.1.1 Images



### 3.1.2 Bias



### 3.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 0.0             | [s] Scheduled observation exposure time |
| ascdsver | 8.5                 | Processing system revision     | ontime         | 2981.4753871262 | Sum of GTIs [s]                         |
| caldsver | 4.5.4               | &#160                          | ontime0        | 2981.4755066633 | Sum of GTIs [s]                         |
| date     | 2012-12-08T14:03:40 | Date and time of file creation | ontime1        | 2981.4755066633 | Sum of GTIs [s]                         |
| revision | 3                   | Processing version of data     | ontime2        | 2981.4754867554 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 2981.4755066633 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 2981.4753871262 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 541843          | Number of level 1 events                |

### 3.1.4 Events

|                 | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 7  |
|-----------------|--------|--------|--------|--------|--------|
| level 1 events  | 105515 | 106293 | 108880 | 108798 | 112357 |
| rejected events | 21198  | 21757  | 23703  | 23696  | 18306  |
| rejected %      | 20%    | 20%    | 21%    | 21%    | 16%    |

|                | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 7 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 46148 | 46445 | 47492 | 47631 | 22689 |
|                | 43%   | 43%   | 43%   | 43%   | 20%   |
| grade 1 events | 260   | 235   | 319   | 356   | 84    |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 14947 | 15156 | 14521 | 14591 | 20354 |
|                | 14%   | 14%   | 13%   | 13%   | 18%   |
| grade 3 events | 5606  | 5333  | 5750  | 5618  | 9424  |
|                | 5%    | 5%    | 5%    | 5%    | 8%    |
| grade 4 events | 5467  | 5394  | 5548  | 5632  | 9410  |
|                | 5%    | 5%    | 5%    | 5%    | 8%    |
| grade 5 events | 1359  | 1366  | 1303  | 1508  | 3380  |
|                | 1%    | 1%    | 1%    | 1%    | 3%    |
| grade 6 events | 12259 | 12308 | 11958 | 11718 | 32288 |
|                | 11%   | 11%   | 10%   | 10%   | 28%   |
| grade 7 events | 19469 | 20056 | 21989 | 21744 | 14728 |
|                | 18%   | 18%   | 20%   | 19%   | 13%   |



## A Summary

### A.1 Status

|                            |                 |
|----------------------------|-----------------|
| V&V Scientist              | Beth Sundheim   |
| V&V Date (YYYY-MM-DD)      | 2012.12.27      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 7.7350557261109 |

### A.2 Comments