

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 58405 - L2 Version 2  
Chandra X-Ray Center

L2 Processing Date : Apr 24 2012

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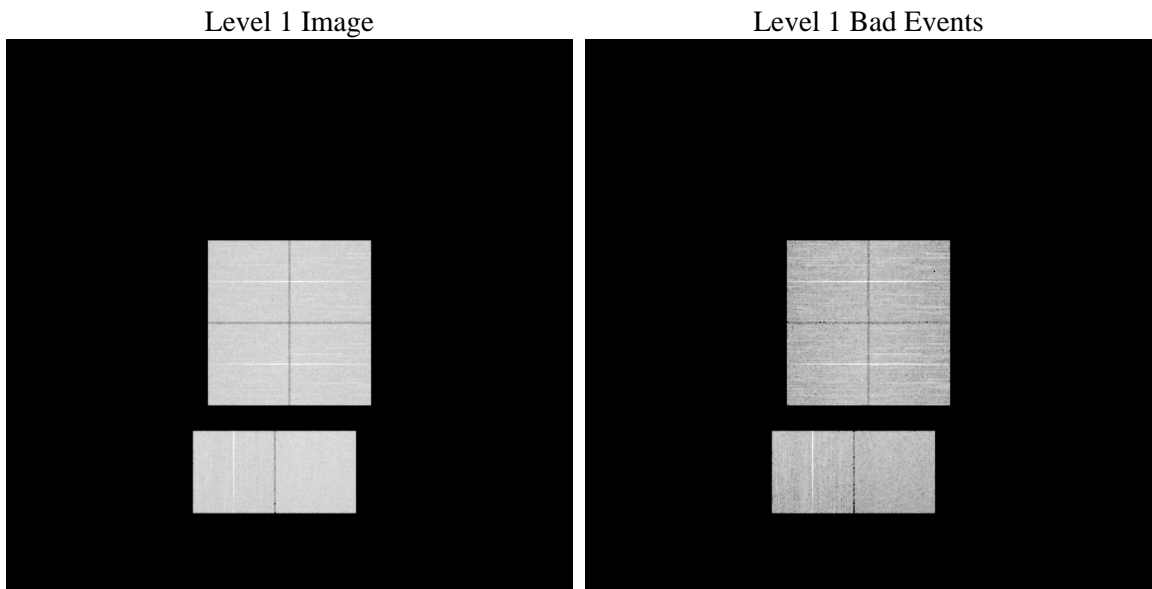
# 1 Front

|          |   |   |
|----------|---|---|
| seq_num  | &#160   | Sequence number                             |
| obs_id   | 58405   | Observation id                              |
| title    | ACIS-012367 diagnostics                         | Proposal title                              |
| observer | CHANDRA engineering request/realtime commanding | Principal investig                          |
| object   | &#160   | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 0.0   | Observer's specified target RA [deg]        |
| dec_targ | 0.0   | Observer's specified target Dec [deg]       |
| ra_nom   | 192.61246431249                                 | Nominal RA [deg]                            |
| dec_nom  | -11.428265474987                                | Nominal Dec [deg]                           |
| roll_nom | 257.16176596612                                 | Nominal Roll [deg]                          |
| revision | 2   | Processing version of data                  |
| ontime   | 8268.7999692559                                 | Sum of GTIs [s]                             |
| livetime | 8164.0954451716                                 | Livetime [s]                                |
| ontime0  | 8268.7999692559                                 | Sum of GTIs [s]                             |
| ontime1  | 8268.7744191885                                 | Sum of GTIs [s]                             |
| ontime2  | 8268.7333791852                                 | Sum of GTIs [s]                             |
| ontime3  | 8268.7999692559                                 | Sum of GTIs [s]                             |
| ontime6  | 8268.6923391819                                 | Sum of GTIs [s]                             |
| ontime7  | 8268.7999692559                                 | Sum of GTIs [s]                             |
| l2events | 730890  | Number of level 2 events                    |

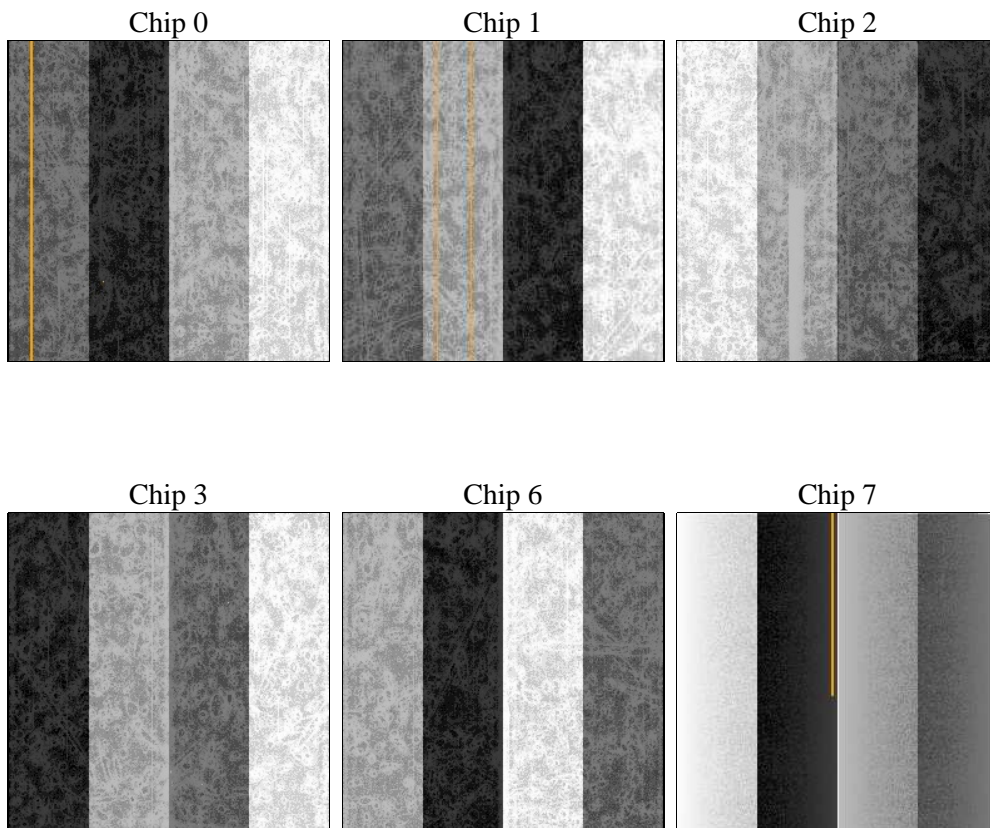
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 1                   | Obi number                     | sched_exp_time | 0.0             | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4               | Processing system revision     | ontime         | 8268.7999692559 | Sum of GTIs [s]                         |
| caldsver | 4.4.9               | &#160                          | ontime0        | 8268.7999692559 | Sum of GTIs [s]                         |
| date     | 2012-04-24T10:31:01 | Date and time of file creation | ontime1        | 8268.7744191885 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime2        | 8268.7333791852 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 8268.7999692559 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 8268.6923391819 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 8268.7999692559 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 1226830         | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 6  | ccd 7  |                | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events  | 195825 | 196930 | 202168 | 203563 | 205133 | 223211 | grade 0 events | 66060 | 63469 | 68500 | 68122 | 64616 | 31246 |
| rejected events | 74536  | 74792  | 79877  | 81304  | 79265  | 66803  |                | 33%   | 32%   | 33%   | 33%   | 31%   | 13%   |
| rejected %      | 38%    | 37%    | 39%    | 39%    | 38%    | 29%    | grade 1 events | 422   | 345   | 473   | 551   | 348   | 128   |
|                 |        |        |        |        |        |        |                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
|                 |        |        |        |        |        |        | grade 2 events | 21473 | 24551 | 19602 | 20254 | 25001 | 34820 |
|                 |        |        |        |        |        |        |                | 10%   | 12%   | 9%    | 9%    | 12%   | 15%   |
|                 |        |        |        |        |        |        | grade 3 events | 7826  | 7531  | 8194  | 8111  | 7425  | 14259 |
|                 |        |        |        |        |        |        |                | 3%    | 3%    | 4%    | 3%    | 3%    | 6%    |
|                 |        |        |        |        |        |        | grade 4 events | 7766  | 7526  | 8261  | 8103  | 7428  | 14077 |
|                 |        |        |        |        |        |        |                | 3%    | 3%    | 4%    | 3%    | 3%    | 6%    |
|                 |        |        |        |        |        |        | grade 5 events | 3877  | 3784  | 3720  | 4181  | 3968  | 10208 |
|                 |        |        |        |        |        |        |                | 1%    | 1%    | 1%    | 2%    | 1%    | 4%    |
|                 |        |        |        |        |        |        | grade 6 events | 18220 | 19121 | 17781 | 17718 | 21442 | 62066 |
|                 |        |        |        |        |        |        |                | 9%    | 9%    | 8%    | 8%    | 10%   | 27%   |
|                 |        |        |        |        |        |        | grade 7 events | 70181 | 70603 | 75637 | 76523 | 74905 | 56407 |
|                 |        |        |        |        |        |        |                | 35%   | 35%   | 37%   | 37%   | 36%   | 25%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual                |
|-----------------------------------|---------------------|-----------------------|
| Instrument                        | ACIS                | ACIS                  |
| Detector                          | ACIS-012367         | ACIS-012367           |
| Grating                           | NONE                | NONE                  |
| Data mode                         | FAINT               | FAINT                 |
| Observation mode                  | SECONDARY           | SECONDARY             |
| [deg] Pointing RA                 | 0                   | 192.6124643124948     |
| [deg] Pointing Dec                | 0                   | -11.42826547498656    |
| [deg] Pointing Roll               | 0.0                 | 257.1617659661161     |
| [mm] SIM focus pos                | -0.782348           | -0.6828225247311905   |
| [mm] SIM defocus                  | 0                   | 0.8505141146731063    |
| [mm] SIM translation stage pos    | -233.592463         | 250.4635187648994     |
| [mm] SIM translation stage offset | 0                   | -0.007540371344731511 |
| [s] Observation start time (MET)  | 294748570.716258    | 294748569.69126       |
| Observation start date            | 2007-05-05T10:36:11 | 2007-05-05T10:36:09   |
| [s] Observation end time (MET)    | 294772053.467379    | 294772052.44238       |
| Observation end date              | 2007-05-05T17:07:33 | 2007-05-05T17:07:32   |
| 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 | N         | N       |
| [s] Primary exposure time       | 3.2       | 3.2     |

## 2.3 Star Slots

## 2.4 FID Slots

# A Summary

## A.1 Status

|                            |                 |
|----------------------------|-----------------|
| V&V Scientist              | Jen Lauer       |
| V&V Date (YYYY-MM-DD)      | 2012.04.27      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 8.2687999692559 |

## A.2 Comments

The bias map for CCD\_ID = 2 suffers from anomalously high bias values in an 'exacto-knife'-shaped area of the bias file. Pixels in the event data that have been bias-corrected by one of the affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small ( $\sim 20$  eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. No attempt has been made to correct the anomalous values in this bias file because the focal plane temperature is at least 5 degrees between this observation and other observations.