

# V&V Reference Report

## L2 ASCDS Version : 10.4.1

Observation 51755 - L2 Version 1  
Chandra X-Ray Center

L2 Processing Date : Jul 13 2015

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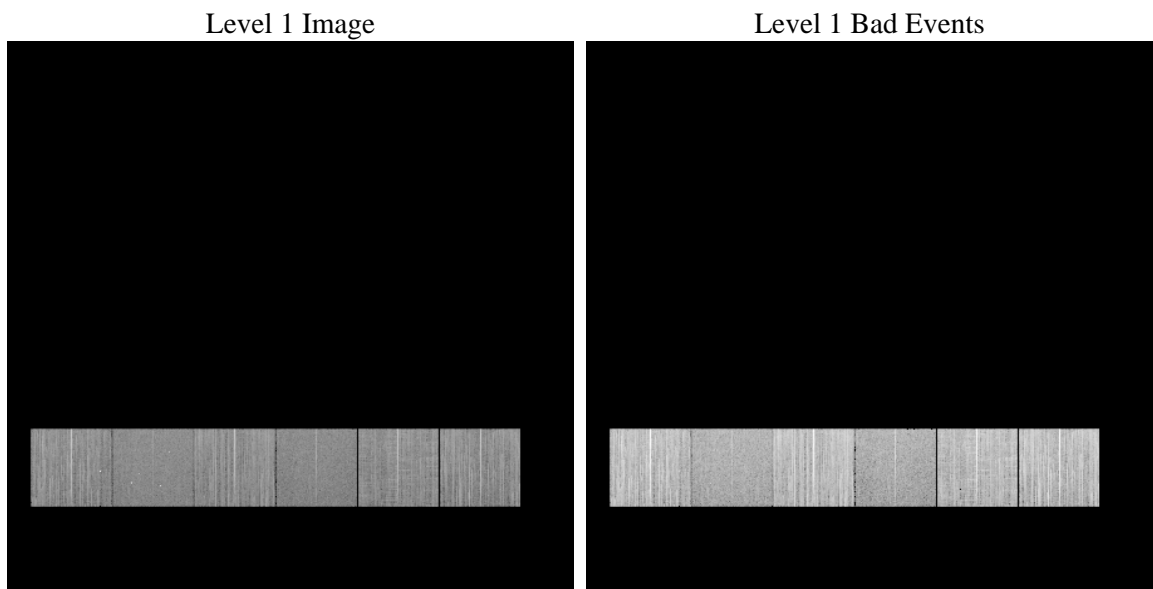
# 1 Front

|          |   |   |
|----------|---|---|
| seq_num  | &#160   | Sequence number                             |
| obs_id   | 51755   | Observation id                              |
| title    | ACIS-456789 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   | 319.97213581691                                 | Nominal RA [deg]                            |
| dec_nom  | -26.610028292125                                | Nominal Dec [deg]                           |
| roll_nom | 85.809513207137                                 | Nominal Roll [deg]                          |
| revision | 1   | Processing version of data                  |
| ontime   | 8216.9538725615                                 | Sum of GTIs [s]                             |
| livetime | 8112.9058549715                                 | Livetime [s]                                |
| ontime4  | 8216.830752492                                  | Sum of GTIs [s]                             |
| ontime5  | 8216.9128324986                                 | Sum of GTIs [s]                             |
| ontime6  | 8213.6307823658                                 | Sum of GTIs [s]                             |
| ontime7  | 8216.9538725615                                 | Sum of GTIs [s]                             |
| ontime8  | 8216.7897125483                                 | Sum of GTIs [s]                             |
| ontime9  | 8216.9949125051                                 | Sum of GTIs [s]                             |
| l2events | 182186  | Number of level 2 events                    |

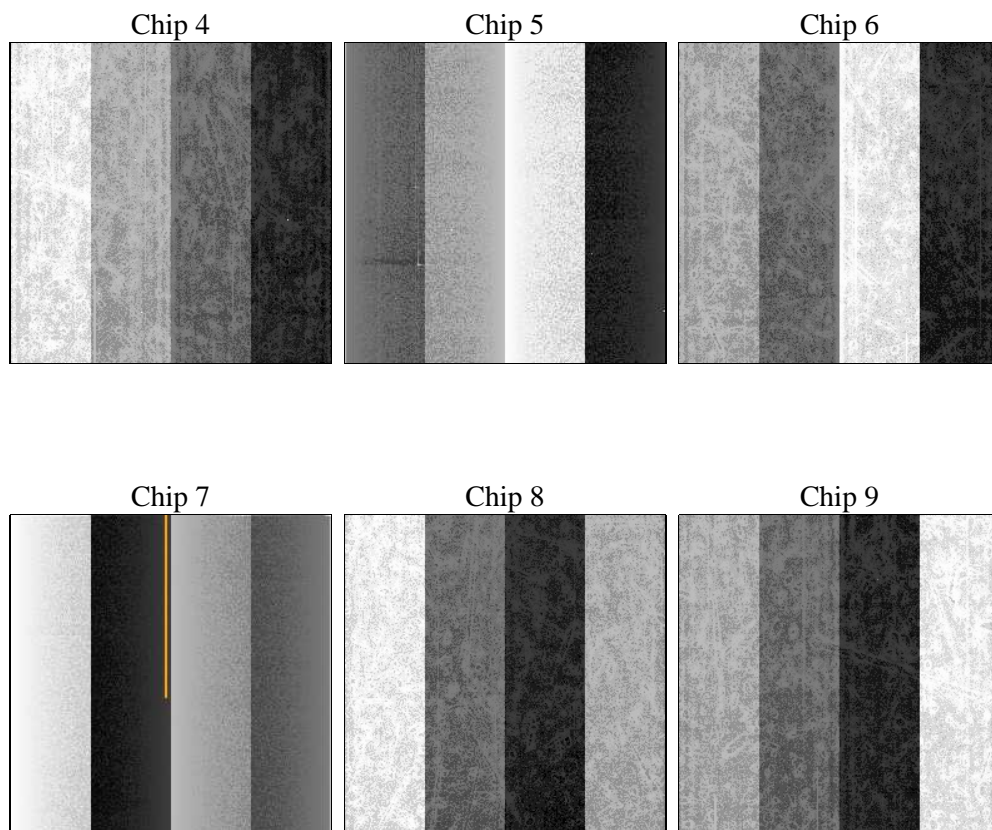
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 2                   | Obi number                     | sched_exp_time | 0.0             | [s] Scheduled observation exposure time |
| ascdsver | 10.4.1              | Processing system revision     | ontime         | 8216.9538725615 | Sum of GTIs [s]                         |
| caldsver | 4.6.8               | &#160                          | ontime4        | 8216.830752492  | Sum of GTIs [s]                         |
| date     | 2015-07-13T18:30:50 | Date and time of file creation | ontime5        | 8216.9128324986 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime6        | 8213.6307823658 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 8216.9538725615 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 8216.7897125483 | Sum of GTIs [s]                         |
|          |                     |                                | ontime9        | 8216.9949125051 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 873068          | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 4  | ccd 5  | ccd 6  | ccd 7  | ccd 8  | ccd 9  |                | ccd 4  | ccd 5 | ccd 6  | ccd 7 | ccd 8  | ccd 9  |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|--------|-------|--------|-------|--------|--------|
| level 1 events  | 157185 | 126764 | 157760 | 116301 | 153822 | 161236 | grade 0 events | 13310  | 4856  | 10804  | 6043  | 13353  | 11107  |
| rejected events | 133063 | 73357  | 134660 | 67713  | 121593 | 138260 |                | 8%     | 3%    | 6%     | 5%    | 8%     | 6%     |
| rejected %      | 84%    | 57%    | 85%    | 58%    | 79%    | 85%    | grade 1 events | 120    | 133   | 54     | 90    | 95     | 65     |
|                 |        |        |        |        |        |        |                | 0%     | 0%    | 0%     | 0%    | 0%     | 0%     |
|                 |        |        |        |        |        |        | grade 2 events | 4458   | 19448 | 5033   | 11995 | 7054   | 4731   |
|                 |        |        |        |        |        |        |                | 2%     | 15%   | 3%     | 10%   | 4%     | 2%     |
|                 |        |        |        |        |        |        | grade 3 events | 1683   | 1695  | 1568   | 3836  | 2658   | 1609   |
|                 |        |        |        |        |        |        |                | 1%     | 1%    | 0%     | 3%    | 1%     | 0%     |
|                 |        |        |        |        |        |        | grade 4 events | 1612   | 1627  | 1576   | 3836  | 2563   | 1638   |
|                 |        |        |        |        |        |        |                | 1%     | 1%    | 0%     | 3%    | 1%     | 1%     |
|                 |        |        |        |        |        |        | grade 5 events | 3117   | 6033  | 3175   | 7588  | 4179   | 3420   |
|                 |        |        |        |        |        |        |                | 1%     | 4%    | 2%     | 6%    | 2%     | 2%     |
|                 |        |        |        |        |        |        | grade 6 events | 3169   | 25969 | 4204   | 23052 | 6729   | 3992   |
|                 |        |        |        |        |        |        |                | 2%     | 20%   | 2%     | 19%   | 4%     | 2%     |
|                 |        |        |        |        |        |        | grade 7 events | 129716 | 67003 | 131346 | 59861 | 117191 | 134674 |
|                 |        |        |        |        |        |        |                | 82%    | 52%   | 83%    | 51%   | 76%    | 83%    |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-456789         | ACIS-456789          | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | FAINT               | FAINT                | Number of optional ACIS chips dropped | 0         | 0       |
| Observation mode                  | SECONDARY           | SECONDARY            | On-chip summing requested             | N         | N       |
| [deg] Pointing RA                 | 0                   | 319.9721358169136    | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | 0                   | -26.61002829212511   | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 0.0                 | 85.8095132071372     | [s] Primary exposure time             | 3.2       | 3.2     |
| [mm] SIM focus pos                | -1.429586           | -0.6828225247311905  |                                       |           |         |
| [mm] SIM defocus                  | 0.1037507710433287  | 0.8505141146731063   |                                       |           |         |
| [mm] SIM translation stage pos    | 250.455976          | 250.466033080201     |                                       |           |         |
| [mm] SIM translation stage offset | 0                   | -0.01005468664627074 |                                       |           |         |
| [s] Observation start time (MET)  | 553132063.973446    | 553132062.94845      |                                       |           |         |
| Observation start date            | 2015-07-12T23:47:44 | 2015-07-12T23:47:42  |                                       |           |         |
| [s] Observation end time (MET)    | 553141928.574001    | 553141927.549        |                                       |           |         |
| Observation end date              | 2015-07-13T02:32:09 | 2015-07-13T02:32:07  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## **2.3 Star Slots**

## **2.4 FID Slots**

## A Summary

### A.1 Status

|                            |                 |
|----------------------------|-----------------|
| V&V Scientist              | Beth Sundheim   |
| V&V Date (YYYY-MM-DD)      | 2015.07.13      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 8.2169538725615 |

### A.2 Comments