

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 56909 - L2 Version 2  
Chandra X-Ray Center

L2 Processing Date : Jun 11 2012

## Contents

|          |                               |          |
|----------|-------------------------------|----------|
| <b>1</b> | <b>Front</b>                  | <b>2</b> |
| <b>2</b> | <b>OBI</b>                    | <b>3</b> |
| 2.1      | OBI . . . . .                 | 3        |
| 2.1.1    | Images . . . . .              | 3        |
| 2.1.2    | Bias . . . . .                | 3        |
| 2.1.3    | Parameters . . . . .          | 4        |
| 2.1.4    | Events . . . . .              | 4        |
| 2.2      | Compared Parameters . . . . . | 5        |
| 2.3      | Star Slots . . . . .          | 6        |
| 2.4      | FID Slots . . . . .           | 6        |
| <b>A</b> | <b>Summary</b>                | <b>7</b> |
| A.1      | Status . . . . .              | 7        |
| A.2      | Comments . . . . .            | 7        |

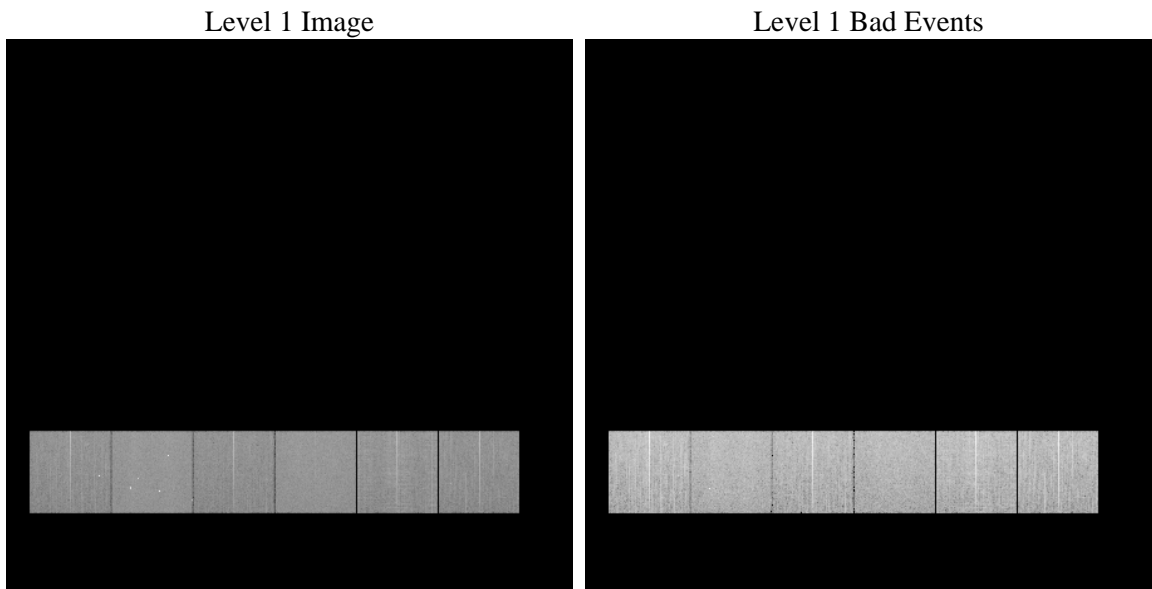
# 1 Front

|          |   |   |
|----------|---|---|
| seq_num  | &#160   | Sequence number                             |
| obs_id   | 56909   | 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   | 317.23229124377                                 | Nominal RA [deg]                            |
| dec_nom  | -45.282533127038                                | Nominal Dec [deg]                           |
| roll_nom | 4.7636758908149                                 | Nominal Roll [deg]                          |
| revision | 2   | Processing version of data                  |
| ontime   | 8451.1999685764                                 | Sum of GTIs [s]                             |
| livetime | 8344.1857858726                                 | Livetime [s]                                |
| ontime4  | 8451.1999685764                                 | Sum of GTIs [s]                             |
| ontime5  | 8451.1999685764                                 | Sum of GTIs [s]                             |
| ontime6  | 8451.1999685764                                 | Sum of GTIs [s]                             |
| ontime7  | 8451.1999685764                                 | Sum of GTIs [s]                             |
| ontime8  | 8451.1999685764                                 | Sum of GTIs [s]                             |
| ontime9  | 8451.1999685764                                 | Sum of GTIs [s]                             |
| l2events | 521309  | Number of level 2 events                    |

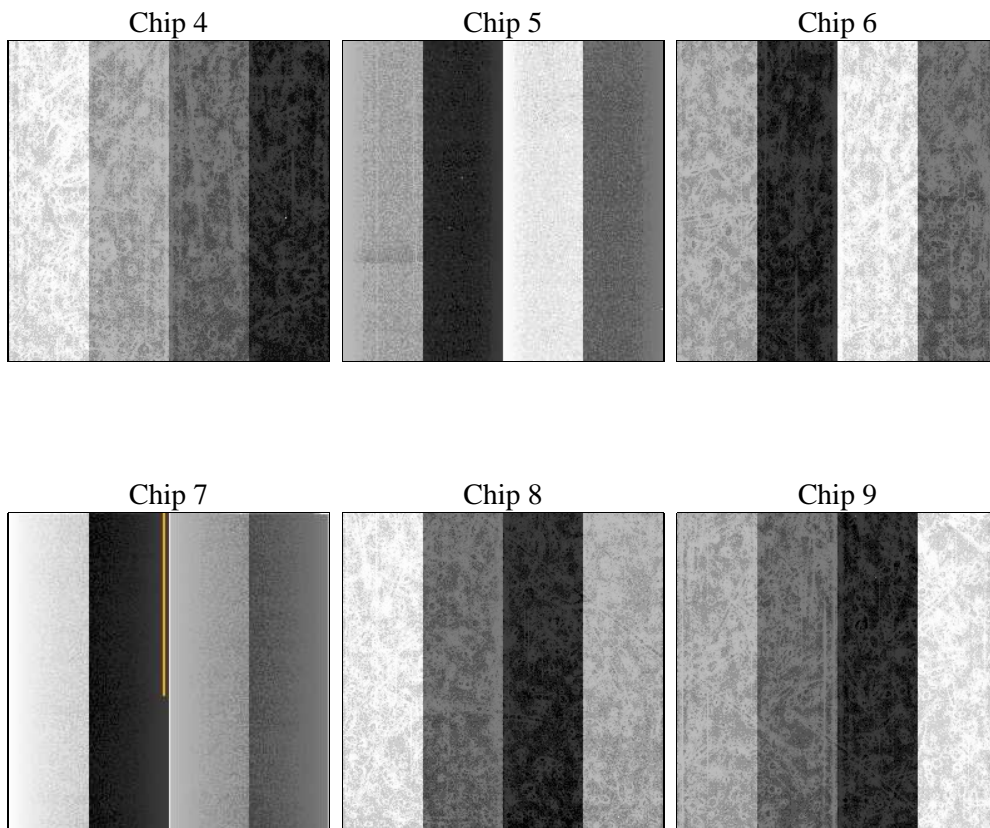
## 2 OBI

### 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 | 8.4.5               | Processing system revision     | ontime         | 8451.1999685764 | Sum of GTIs [s]                         |
| caldsver | 4.4.10              | &#160                          | ontime4        | 8451.1999685764 | Sum of GTIs [s]                         |
| date     | 2012-06-11T14:50:08 | Date and time of file creation | ontime5        | 8451.1999685764 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime6        | 8451.1999685764 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 8451.1999685764 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 8451.1999685764 | Sum of GTIs [s]                         |
|          |                     |                                | ontime9        | 8451.1999685764 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 1077022         | 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  | 168078 | 202080 | 161435 | 193230 | 187906 | 164293 | grade 0 events | 43991 | 20644 | 42323 | 21473 | 47023 | 41325 |
| rejected events | 90656  | 78653  | 80944  | 75248  | 92141  | 86085  |                | 26%   | 10%   | 26%   | 11%   | 25%   | 25%   |
| rejected %      | 53%    | 38%    | 50%    | 38%    | 49%    | 52%    | grade 1 events | 496   | 260   | 287   | 191   | 330   | 320   |
|                 |        |        |        |        |        |        |                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
|                 |        |        |        |        |        |        | grade 2 events | 12484 | 42441 | 14211 | 25301 | 17896 | 13713 |
|                 |        |        |        |        |        |        |                | 7%    | 21%   | 8%    | 13%   | 9%    | 8%    |
|                 |        |        |        |        |        |        | grade 3 events | 5445  | 5681  | 5307  | 10841 | 7244  | 5415  |
|                 |        |        |        |        |        |        |                | 3%    | 2%    | 3%    | 5%    | 3%    | 3%    |
|                 |        |        |        |        |        |        | grade 4 events | 5437  | 5434  | 5108  | 10735 | 6917  | 5306  |
|                 |        |        |        |        |        |        |                | 3%    | 2%    | 3%    | 5%    | 3%    | 3%    |
|                 |        |        |        |        |        |        | grade 5 events | 4609  | 10713 | 4730  | 12137 | 6241  | 5260  |
|                 |        |        |        |        |        |        |                | 2%    | 5%    | 2%    | 6%    | 3%    | 3%    |
|                 |        |        |        |        |        |        | grade 6 events | 10065 | 49227 | 13542 | 49632 | 16685 | 12449 |
|                 |        |        |        |        |        |        |                | 5%    | 24%   | 8%    | 25%   | 8%    | 7%    |
|                 |        |        |        |        |        |        | grade 7 events | 85551 | 67680 | 75927 | 62920 | 85570 | 80505 |
|                 |        |        |        |        |        |        |                | 50%   | 33%   | 47%   | 32%   | 45%   | 49%   |

## 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                   | 317.2322912437732    | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | 0                   | -45.28253312703761   | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 0.0                 | 4.76367589081494     | [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)  | 365811993.601237    | 365811992.57623      |                                       |           |         |
| Observation start date            | 2009-08-04T22:26:34 | 2009-08-04T22:26:32  |                                       |           |         |
| [s] Observation end time (MET)    | 365822173.901747    | 365822172.87674      |                                       |           |         |
| Observation end date              | 2009-08-05T01:16:14 | 2009-08-05T01:16:12  |                                       |           |         |
| 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)      | 2012.06.14      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 8.4511999685764 |

### A.2 Comments