

# V&V Reference Report

## L2 ASCDS Version : 10.2.1

Observation 53024 - L2 Version 1  
Chandra X-Ray Center

L2 Processing Date : Feb 10 2014

## 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        |

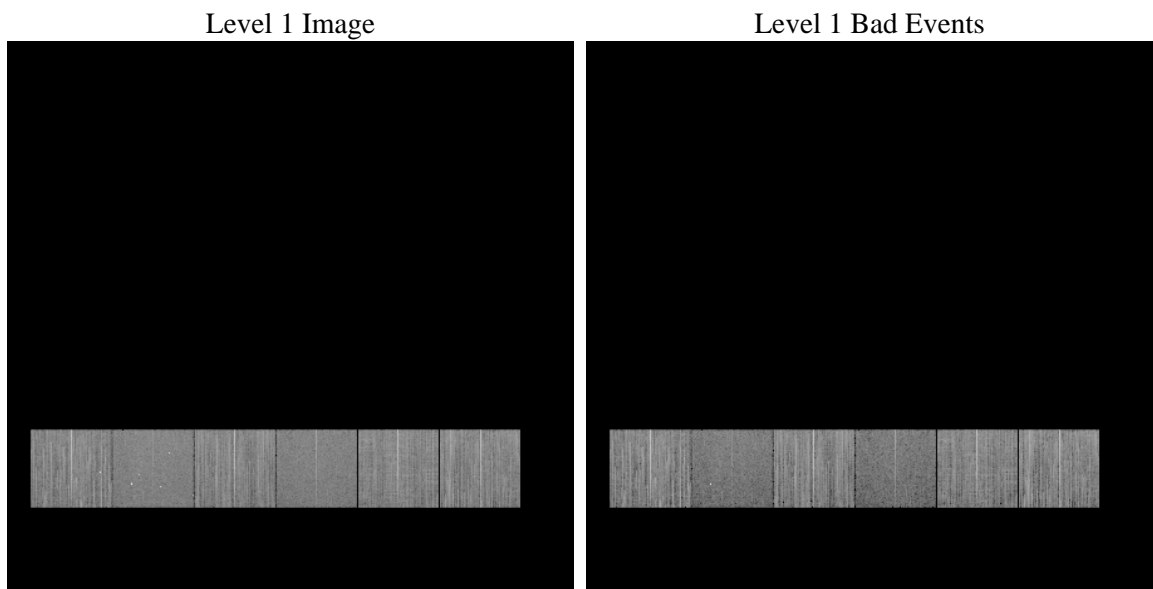
# 1 Front

|          |   |   |
|----------|---|---|
| seq_num  | &#160   | Sequence number                             |
| obs_id   | 53024   | 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   | 158.54242056572                                 | Nominal RA [deg]                            |
| dec_nom  | -5.8483284425191                                | Nominal Dec [deg]                           |
| roll_nom | 36.774981598386                                 | Nominal Roll [deg]                          |
| revision | 1   | Processing version of data                  |
| ontime   | 8281.5999692082                                 | Sum of GTIs [s]                             |
| livetime | 8176.7333638173                                 | Livetime [s]                                |
| ontime4  | 8281.5999692082                                 | Sum of GTIs [s]                             |
| ontime5  | 8281.5999692082                                 | Sum of GTIs [s]                             |
| ontime6  | 8281.5999692082                                 | Sum of GTIs [s]                             |
| ontime7  | 8281.5999692082                                 | Sum of GTIs [s]                             |
| ontime8  | 8281.5999692082                                 | Sum of GTIs [s]                             |
| ontime9  | 8281.5999692082                                 | Sum of GTIs [s]                             |
| l2events | 211187  | Number of level 2 events                    |

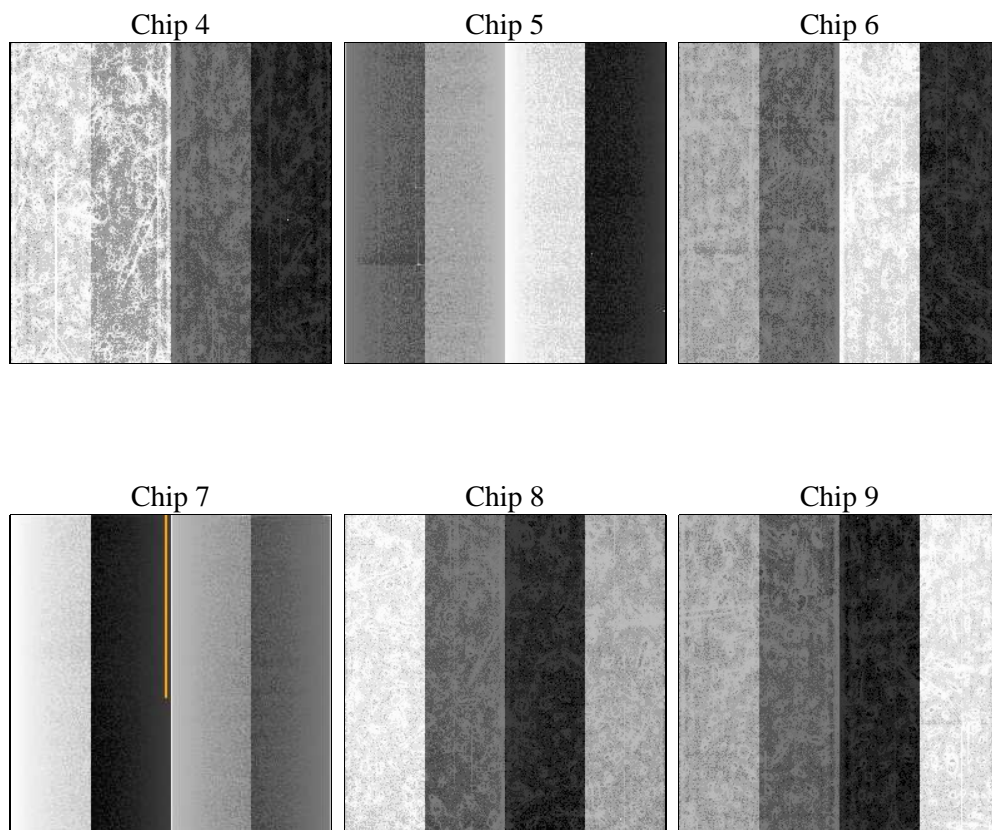
## 2 OBI

### 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 | 10.2.1              | Processing system revision     | ontime         | 8281.5999692082 | Sum of GTIs [s]                         |
| caldsver | 4.6.0               | &#160                          | ontime4        | 8281.5999692082 | Sum of GTIs [s]                         |
| date     | 2014-02-10T06:17:49 | Date and time of file creation | ontime5        | 8281.5999692082 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime6        | 8281.5999692082 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 8281.5999692082 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 8281.5999692082 | Sum of GTIs [s]                         |
|          |                     |                                | ontime9        | 8281.5999692082 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 846648          | 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  | 150280 | 130211 | 147761 | 116798 | 148193 | 153405 | grade 0 events | 16731  | 7251  | 14193  | 7430  | 16764  | 14040  |
| rejected events | 120169 | 71721  | 118716 | 64033  | 110712 | 125423 |                | 11%    | 5%    | 9%     | 6%    | 11%    | 9%     |
| rejected %      | 79%    | 55%    | 80%    | 54%    | 74%    | 81%    | grade 1 events | 118    | 132   | 74     | 88    | 84     | 78     |
|                 |        |        |        |        |        |        |                | 0%     | 0%    | 0%     | 0%    | 0%     | 0%     |
|                 |        |        |        |        |        |        | grade 2 events | 5386   | 21164 | 6040   | 12896 | 7763   | 5447   |
|                 |        |        |        |        |        |        |                | 3%     | 16%   | 4%     | 11%   | 5%     | 3%     |
|                 |        |        |        |        |        |        | grade 3 events | 1995   | 2043  | 1836   | 4373  | 3127   | 1964   |
|                 |        |        |        |        |        |        |                | 1%     | 1%    | 1%     | 3%    | 2%     | 1%     |
|                 |        |        |        |        |        |        | grade 4 events | 2047   | 2053  | 1970   | 4330  | 2954   | 1923   |
|                 |        |        |        |        |        |        |                | 1%     | 1%    | 1%     | 3%    | 1%     | 1%     |
|                 |        |        |        |        |        |        | grade 5 events | 3094   | 6194  | 2916   | 7100  | 4033   | 3392   |
|                 |        |        |        |        |        |        |                | 2%     | 4%    | 1%     | 6%    | 2%     | 2%     |
|                 |        |        |        |        |        |        | grade 6 events | 3962   | 25999 | 5019   | 23736 | 6882   | 4608   |
|                 |        |        |        |        |        |        |                | 2%     | 19%   | 3%     | 20%   | 4%     | 3%     |
|                 |        |        |        |        |        |        | grade 7 events | 116947 | 65375 | 115713 | 56845 | 106586 | 121953 |
|                 |        |        |        |        |        |        |                | 77%    | 50%   | 78%    | 48%   | 71%    | 79%    |

## 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                   | 158.5424205657204    | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | 0                   | -5.848328442519102   | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 0.0                 | 36.77498159838553    | [s] Primary exposure time             | 3.2       | 3.2     |
| [mm] SIM focus pos                | -1.429586           | -1.428180813131781   |                                       |           |         |
| [mm] SIM defocus                  | 0.1037507710433287  | 0.1051558262725154   |                                       |           |         |
| [mm] SIM translation stage pos    | 250.455976          | 250.466033080201     |                                       |           |         |
| [mm] SIM translation stage offset | 0                   | -0.01005468664627074 |                                       |           |         |
| [s] Observation start time (MET)  | 508349311.28239     | 508349310.25739      |                                       |           |         |
| Observation start date            | 2014-02-09T16:08:31 | 2014-02-09T16:08:30  |                                       |           |         |
| [s] Observation end time (MET)    | 508359829.832967    | 508359828.80797      |                                       |           |         |
| Observation end date              | 2014-02-09T19:03:50 | 2014-02-09T19:03:48  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## **2.3 Star Slots**

## **2.4 FID Slots**

## A Summary

### A.1 Status

|                            |                 |
|----------------------------|-----------------|
| V&V Scientist              | Joy Nichols     |
| V&V Date (YYYY-MM-DD)      | 2014.02.10      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 8.2815999692082 |

### A.2 Comments