

# V&V Reference Report

## L2 ASCDS Version : 10.3.1

Observation 52272 - L2 Version 1  
Chandra X-Ray Center

L2 Processing Date : Dec 6 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        |

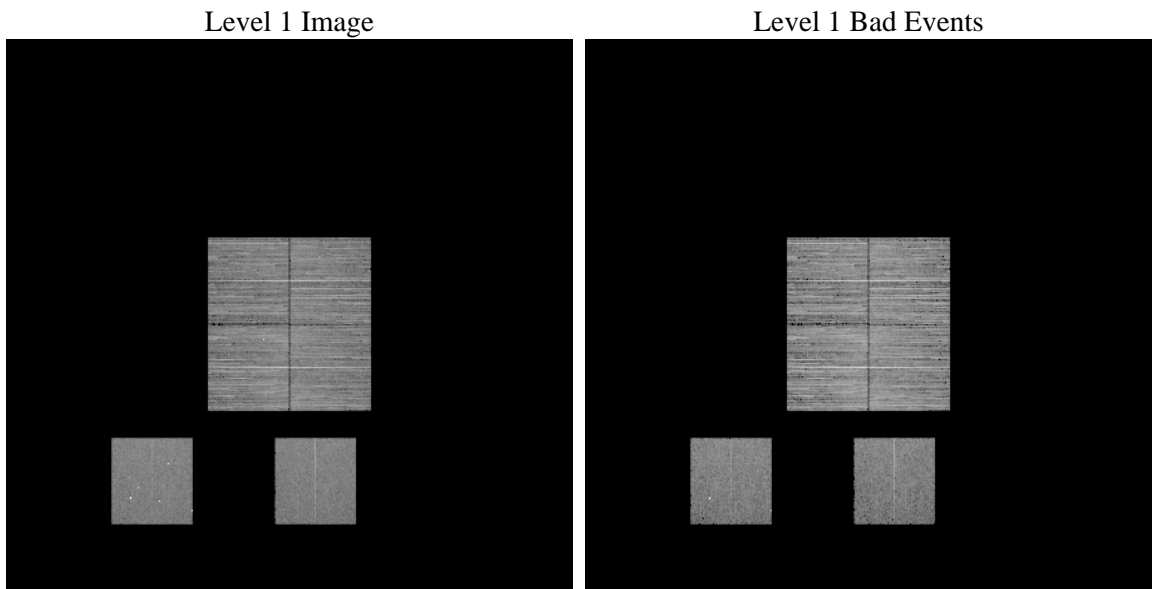
# 1 Front

|          |   |   |
|----------|---|---|
| seq_num  | &#160   | Sequence number                             |
| obs_id   | 52272   | Observation id                              |
| title    | ACIS-012357 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   | 46.609219058199                                 | Nominal RA [deg]                            |
| dec_nom  | 31.972133132305                                 | Nominal Dec [deg]                           |
| roll_nom | 252.9187596978                                  | Nominal Roll [deg]                          |
| revision | 1   | Processing version of data                  |
| ontime   | 6527.9999757409                                 | Sum of GTIs [s]                             |
| livetime | 6445.3385093584                                 | Livetime [s]                                |
| ontime0  | 6527.9999757409                                 | Sum of GTIs [s]                             |
| ontime1  | 6527.9999757409                                 | Sum of GTIs [s]                             |
| ontime2  | 6527.9999757409                                 | Sum of GTIs [s]                             |
| ontime3  | 6527.9999757409                                 | Sum of GTIs [s]                             |
| ontime5  | 6527.9999757409                                 | Sum of GTIs [s]                             |
| ontime7  | 6527.9999757409                                 | Sum of GTIs [s]                             |
| l2events | 143867  | Number of level 2 events                    |

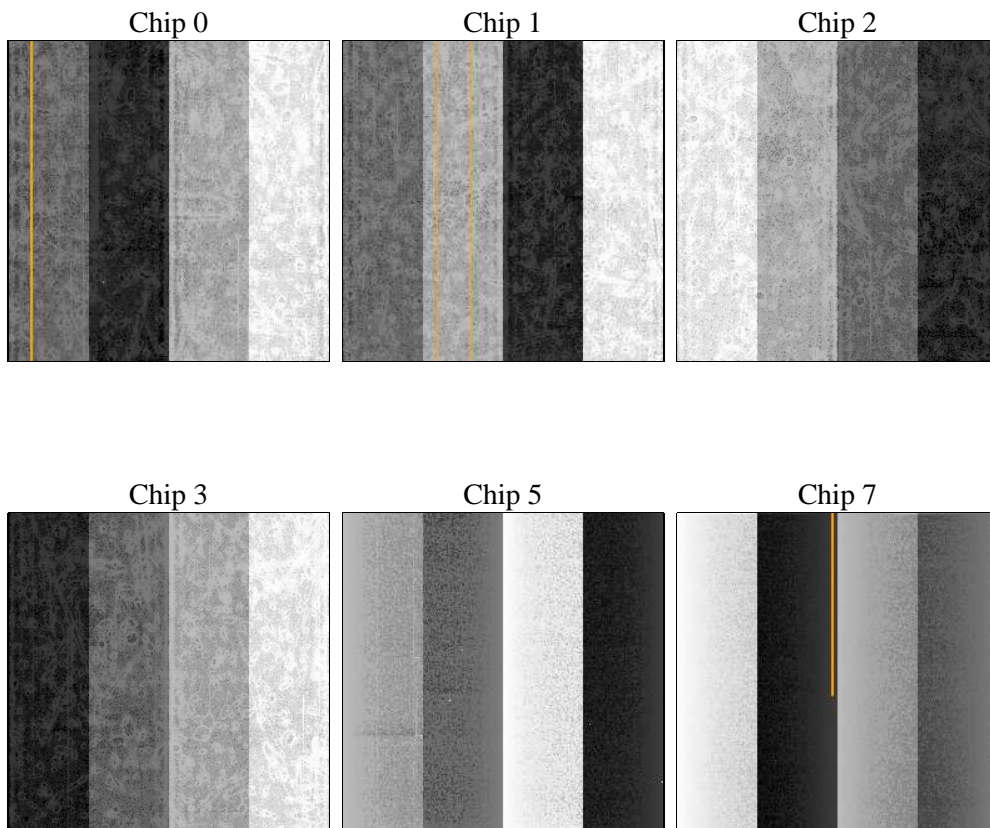
## 2 OBI

### 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 | 10.3.1              | Processing system revision     | ontime         | 6527.9999757409 | Sum of GTIs [s]                         |
| caldsver | 4.6.4               | &#160                          | ontime0        | 6527.9999757409 | Sum of GTIs [s]                         |
| date     | 2014-12-06T20:44:34 | Date and time of file creation | ontime1        | 6527.9999757409 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime2        | 6527.9999757409 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 6527.9999757409 | Sum of GTIs [s]                         |
|          |                     |                                | ontime5        | 6527.9999757409 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 6527.9999757409 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 640958          | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 5  | ccd 7 |                | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 5 | ccd 7 |
|-----------------|--------|--------|--------|--------|--------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events  | 102899 | 112594 | 122168 | 112990 | 101544 | 88763 | grade 0 events | 9271  | 9103  | 9698  | 9606  | 8583  | 5020  |
| rejected events | 84388  | 93803  | 101698 | 94434  | 54636  | 51011 |                | 9%    | 8%    | 7%    | 8%    | 8%    | 5%    |
| rejected %      | 82%    | 83%    | 83%    | 83%    | 53%    | 57%   | grade 1 events | 41    | 48    | 55    | 51    | 107   | 62    |
|                 |        |        |        |        |        |       |                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
|                 |        |        |        |        |        |       | grade 2 events | 3913  | 4337  | 5717  | 3716  | 15774 | 9587  |
|                 |        |        |        |        |        |       |                | 3%    | 3%    | 4%    | 3%    | 15%   | 10%   |
|                 |        |        |        |        |        |       | grade 3 events | 1344  | 1205  | 1273  | 1354  | 1933  | 3026  |
|                 |        |        |        |        |        |       |                | 1%    | 1%    | 1%    | 1%    | 1%    | 3%    |
|                 |        |        |        |        |        |       | grade 4 events | 1265  | 1242  | 1293  | 1370  | 2228  | 2986  |
|                 |        |        |        |        |        |       |                | 1%    | 1%    | 1%    | 1%    | 2%    | 3%    |
|                 |        |        |        |        |        |       | grade 5 events | 2058  | 2126  | 1957  | 2358  | 4686  | 5721  |
|                 |        |        |        |        |        |       |                | 2%    | 1%    | 1%    | 2%    | 4%    | 6%    |
|                 |        |        |        |        |        |       | grade 6 events | 3081  | 3279  | 2910  | 2899  | 19314 | 17908 |
|                 |        |        |        |        |        |       |                | 2%    | 2%    | 2%    | 2%    | 19%   | 20%   |
|                 |        |        |        |        |        |       | grade 7 events | 81926 | 91254 | 99265 | 91636 | 48919 | 44453 |
|                 |        |        |        |        |        |       |                | 79%   | 81%   | 81%   | 81%   | 48%   | 50%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-012357         | ACIS-012357          | 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                   | 46.60921905819859    | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | 0                   | 31.97213313230491    | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 0.0                 | 252.9187596978015    | [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)  | 534170417.761947    | 534170416.73695      |                                       |           |         |
| Observation start date            | 2014-12-05T12:40:18 | 2014-12-05T12:40:16  |                                       |           |         |
| [s] Observation end time (MET)    | 534178341.012388    | 534178339.98739      |                                       |           |         |
| Observation end date              | 2014-12-05T14:52:21 | 2014-12-05T14:52:19  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## **2.3 Star Slots**

## **2.4 FID Slots**

## **A Summary**

### **A.1 Status**

|                            |                 |
|----------------------------|-----------------|
| V&V Scientist              | Jen Lauer       |
| V&V Date (YYYY-MM-DD)      | 2014.12.08      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 6.5279999757409 |

### **A.2 Comments**