

# V&V Summary Report

## L2 ASCDS Version : 10.2.2

Observation 16431 - L2 Version 2  
Chandra X-Ray Center

L2 Processing Date : Dec 12 2014

See axaff16431N002-VV001\_vvref2.pdf for the full report

|                            |                 |
|----------------------------|-----------------|
| V&V Scientist              | Joy Nichols     |
| V&V Date (YYYY-MM-DD)      | 2015.10.08      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 15.050399850488 |

## Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.

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Zeroth order piled up. The zeroth order sky position was determined using a software tool developed by CXC called findzero, which is available in CIAO as part of the tgdetect2 tool. The tool calculates the point of intersection of the readout streak on the ACIS CCD and the meg dispersed spectral arm, rather than using a centroid position of the source. The findzero results are more accurate than source centroid in this case.

|          |  |   |
|----------|--|---|
| seq_num  | 790271                                   | Sequence number                             |
| obs_id   | 16431                                    | Observation id                              |
| title    | AO-15 Calibration Observations of Mkn421 | Proposal title                              |
| observer | Dr. CXC Calibration                      | Principal investigator                      |
| object   | MKN421                                   | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 166.113333                               | Observer's specified target RA [deg]        |
| dec_targ | 38.208806                                | Observer's specified target Dec [deg]       |
| ra_nom   | 166.11630744573                          | Nominal RA [deg]                            |
| dec_nom  | 38.207106543448                          | Nominal Dec [deg]                           |
| roll_nom | 261.93052420213                          | Nominal Roll [deg]                          |
| revision | 2  | Processing version of data                  |
| ontime   | 15050.399850488                          | Sum of GTIs [s]                             |
| livetime | 14797.364910518                          | Livetime [s]                                |
| ontime5  | 15050.399850488                          | Sum of GTIs [s]                             |
| ontime6  | 15047.95884043                           | Sum of GTIs [s]                             |
| ontime7  | 15050.399850488                          | Sum of GTIs [s]                             |
| ontime8  | 15050.399850488                          | Sum of GTIs [s]                             |
| ontime9  | 15050.399850488                          | Sum of GTIs [s]                             |
| l2events | 220976                                   | Number of level 2 events                    |

