

# XRT Timeline to be uploaded on 2016/09/22

Period: 2016/09/22 10:49:00 - 2016/09/27 11:02:00

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## Normal mode

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| XOB #1AFD: AR Standard-A(Filter-Ratio with Al/poly and thin-Be) with PFB, 384x384 at 1064 1048, thin-Be, thick-Al, Al/Poly context, with G-band (3ms/3ms) |  |  |                                       |  |  |          |      |                                 |       |     |     |                      |      |                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|---------------------------------------|--|--|----------|------|---------------------------------|-------|-----|-----|----------------------|------|---------------------------|
| Term                                                                                                                                                      |  |  | Pointing (x, y)                       |  |  |          |      | Comment                         |       |     |     |                      |      |                           |
| 09/22 11:02:00 - 09/22 14:16:30                                                                                                                           |  |  | Track ( 579.1, -8.1) @ 09/22 10:59:00 |  |  |          |      | # OP start + 10min, AR12593 obs |       |     |     |                      |      |                           |
| PROG= 06 Inf.-time(s)                                                                                                                                     |  |  |                                       |  |  |          |      |                                 |       |     |     |                      |      |                           |
| Subr= 1                                                                                                                                                   |  |  | 1-time(s)                             |  |  | 2.0sec   |      |                                 |       |     |     |                      |      |                           |
| Seqn= 56                                                                                                                                                  |  |  | 1-time(s)                             |  |  | 2.0sec   |      |                                 |       |     |     |                      |      |                           |
| Open/G-band                                                                                                                                               |  |  | Open/G-band                           |  |  | open     | Safe | Norm                            | 3ms   | Obs | 1x1 | 384x384 (1064, 1048) | DPCM | 0 0 2.0sec                |
| Open/G-band                                                                                                                                               |  |  | Open/G-band                           |  |  | close    | Safe | Norm                            | 3ms   | Obs | 1x1 | 384x384 (1064, 1048) | DPCM | 0 0 2.0sec                |
| Open/Ti-poly                                                                                                                                              |  |  | Open/thick-Al                         |  |  | close    | Safe | Dark                            | 16.0s | Obs | 1x1 | 384x384 (1064, 1048) | Q=98 | 0 0 2.0sec                |
| Seqn= 42                                                                                                                                                  |  |  | 3-time(s)                             |  |  | 2.0sec   |      |                                 |       |     |     |                      |      |                           |
| Al-poly/Open                                                                                                                                              |  |  | thin-Be/Open                          |  |  | close    | Safe | Norm                            | 500ms | Obs | 1x1 | 384x384 (1064, 1048) | Q=95 | 3 0 2.0sec                |
| thin-Be/Open                                                                                                                                              |  |  | med-Be/Open                           |  |  | close    | Safe | Norm                            | 5.66s | Obs | 1x1 | 512x512 (1064, 1048) | Q=95 | 3 0 2.0sec                |
| Open/thick-Al                                                                                                                                             |  |  | Open/thick-Al                         |  |  | close    | Safe | Norm                            | 16.0s | Obs | 1x1 | 384x384 (1064, 1048) | Q=95 | 3 0 2.0sec                |
| Seqn= 32                                                                                                                                                  |  |  | 30-time(s)                            |  |  | 120.0sec |      |                                 |       |     |     |                      |      |                           |
| thin-Be/Open                                                                                                                                              |  |  | med-Be/Open                           |  |  | close    | Safe | Norm                            | 1.00s | Obs | 1x1 | 384x384 (1064, 1048) | Q=95 | 3 0 2.0sec                |
| Al-poly/Open                                                                                                                                              |  |  | thin-Be/Open                          |  |  | close    | Safe | Norm                            | 500ms | Obs | 1x1 | 384x384 (1064, 1048) | Q=95 | 3 0 34.0sec               |
| thin-Be/Open                                                                                                                                              |  |  | med-Be/Open                           |  |  | close    | Safe | Norm                            | 1.00s | Obs | 1x1 | 384x384 (1064, 1048) | Q=95 | 3 1 2.0sec                |
| Al-poly/Open                                                                                                                                              |  |  | thin-Be/Open                          |  |  | close    | Safe | Norm                            | 500ms | Obs | 1x1 | 384x384 (1064, 1048) | Q=95 | 3 1 34.0sec               |
| thin-Be/Open                                                                                                                                              |  |  | med-Be/Open                           |  |  | close    | Safe | Norm                            | 1.00s | Obs | 1x1 | 384x384 (1064, 1048) | Q=95 | 3 2 2.0sec                |
| Al-poly/Open                                                                                                                                              |  |  | thin-Be/Open                          |  |  | close    | Safe | Norm                            | 500ms | Obs | 1x1 | 384x384 (1064, 1048) | Q=95 | 3 2 2.0sec                |
| Default Filter                                                                                                                                            |  |  | Thicker Filter                        |  |  | VLS      | mode | image                           | Exp.  | CCD | Bin | ROI: size (center)   |      | Comp. AEC Buffer Interval |

| XOB #1AFE: AR - Standard Core - (Filter-Ratio with Al/poly and thin-Be long/short pairs) with PFB, 384x384 at 1064 1048, thin-Be, and Al/poly context, with |  |                |                                       |          |      |       |       |                   |     |                      |      |       |            |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------|---------------------------------------|----------|------|-------|-------|-------------------|-----|----------------------|------|-------|------------|----------|
| Term                                                                                                                                                        |  |                | Pointing (x, y)                       |          |      |       |       | Comment           |     |                      |      |       |            |          |
| 09/22 14:33:00 - 09/22 16:59:54                                                                                                                             |  |                | Track ( 604.6, -5.6) @ 09/22 14:30:00 |          |      |       |       | HOP315 on AR12593 |     |                      |      |       |            |          |
| 09/23 08:09:06 - 09/23 10:59:54                                                                                                                             |  |                | Track ( 678.3, 7.8) @ 09/23 07:18:00  |          |      |       |       | HOP323 at AR12593 |     |                      |      |       |            |          |
| 09/23 11:03:00 - 09/23 14:29:54                                                                                                                             |  |                | Track ( 738.4, 11.1) @ 09/23 11:00:00 |          |      |       |       | AR12593 obs       |     |                      |      |       |            |          |
| 09/23 14:33:00 - 09/23 17:36:24                                                                                                                             |  |                | Track ( 758.4, 14.2) @ 09/23 14:30:00 |          |      |       |       | HOP315 at AR12593 |     |                      |      |       |            |          |
| 09/24 01:19:30 - 09/24 05:53:54                                                                                                                             |  |                | Track ( 814.5, 24.3) @ 09/24 01:16:30 |          |      |       |       | AR12593 obs       |     |                      |      |       |            |          |
| 09/24 07:21:00 - 09/24 09:58:30                                                                                                                             |  |                | Track ( 804.0, 30.3) @ 09/24 07:18:00 |          |      |       |       | HOP323 at AR12593 |     |                      |      |       |            |          |
| PROG= 09 Inf.-time(s)                                                                                                                                       |  |                |                                       |          |      |       |       |                   |     |                      |      |       |            |          |
| Subr= 1                                                                                                                                                     |  | 1-time(s)      |                                       | 2.0sec   |      |       |       |                   |     |                      |      |       |            |          |
| Seqn= 56                                                                                                                                                    |  | 1-time(s)      |                                       | 2.0sec   |      |       |       |                   |     |                      |      |       |            |          |
| Open/G-band                                                                                                                                                 |  | Open/G-band    |                                       | open     | Safe | Norm  | 3ms   | Obs               | 1x1 | 384x384 (1064, 1048) | DPCM | 0     | 0          | 2.0sec   |
| Open/G-band                                                                                                                                                 |  | Open/G-band    |                                       | close    | Safe | Norm  | 3ms   | Obs               | 1x1 | 384x384 (1064, 1048) | DPCM | 0     | 0          | 2.0sec   |
| Open/Ti-poly                                                                                                                                                |  | Open/thick-Al  |                                       | close    | Safe | Dark  | 16.0s | Obs               | 1x1 | 384x384 (1064, 1048) | Q=98 | 0     | 0          | 2.0sec   |
| Subr= 2                                                                                                                                                     |  | 5-time(s)      |                                       | 2.0sec   |      |       |       |                   |     |                      |      |       |            |          |
| Seqn= 75                                                                                                                                                    |  | 1-time(s)      |                                       | 2.0sec   |      |       |       |                   |     |                      |      |       |            |          |
| Al-poly/Open                                                                                                                                                |  | thin-Be/Open   |                                       | close    | Safe | Norm  | 250ms | Obs               | 1x1 | 384x384 (1064, 1048) | Q=95 | 2     | 0          | 2.0sec   |
| Al-poly/Open                                                                                                                                                |  | thin-Be/Open   |                                       | close    | Safe | Norm  | 250ms | Obs               | 1x1 | 384x384 (1064, 1048) | Q=95 | 3     | 0          | 2.0sec   |
| thin-Be/Open                                                                                                                                                |  | med-Be/Open    |                                       | close    | Safe | Norm  | 500ms | Obs               | 1x1 | 384x384 (1064, 1048) | Q=95 | 2     | 0          | 2.0sec   |
| thin-Be/Open                                                                                                                                                |  | med-Be/Open    |                                       | close    | Safe | Norm  | 500ms | Obs               | 1x1 | 384x384 (1064, 1048) | Q=95 | 3     | 0          | 2.0sec   |
| Seqn= 53                                                                                                                                                    |  | 4-time(s)      |                                       | 180.0sec |      |       |       |                   |     |                      |      |       |            |          |
| Al-poly/Open                                                                                                                                                |  | thin-Be/Open   |                                       | close    | Safe | Norm  | 250ms | Obs               | 1x1 | 384x384 (1064, 1048) | Q=95 | 1     | 0          | 2.0sec   |
| thin-Be/Open                                                                                                                                                |  | med-Be/Open    |                                       | close    | Safe | Norm  | 500ms | Obs               | 1x1 | 384x384 (1064, 1048) | Q=95 | 1     | 0          | 55.0sec  |
| Al-poly/Open                                                                                                                                                |  | thin-Be/Open   |                                       | close    | Safe | Norm  | 250ms | Obs               | 1x1 | 384x384 (1064, 1048) | Q=95 | 1     | 1          | 2.0sec   |
| thin-Be/Open                                                                                                                                                |  | med-Be/Open    |                                       | close    | Safe | Norm  | 500ms | Obs               | 1x1 | 384x384 (1064, 1048) | Q=95 | 1     | 1          | 55.0sec  |
| Al-poly/Open                                                                                                                                                |  | thin-Be/Open   |                                       | close    | Safe | Norm  | 250ms | Obs               | 1x1 | 384x384 (1064, 1048) | Q=95 | 1     | 2          | 2.0sec   |
| thin-Be/Open                                                                                                                                                |  | med-Be/Open    |                                       | close    | Safe | Norm  | 500ms | Obs               | 1x1 | 384x384 (1064, 1048) | Q=95 | 1     | 2          | 2.0sec   |
| Default Filter                                                                                                                                              |  | Thicker Filter |                                       | VLS      | mode | image | Exp.  | CCD               | Bin | ROI: size (center)   |      | Comp. | AEC Buffer | Interval |

| XOB #1B14: Synoptic Q95 2x2 - Al/mesh(24/256/2897) + Dark cal(2x2 4x4 8x8 512 Q98) + Dark cal(1x1 512x2048 - 1x1 2048x512) + Al-poly(45/512/4096) + Ti |  |  |                   |       |      |                             |       |     |     |                        |      |   |   |        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-------------------|-------|------|-----------------------------|-------|-----|-----|------------------------|------|---|---|--------|
| Term                                                                                                                                                   |  |  | Pointing (x, y)   |       |      | Comment                     |       |     |     |                        |      |   |   |        |
| 09/22 17:03:00 - 09/22 17:09:54                                                                                                                        |  |  | Fixed ( 0.0, 0.0) |       |      | synoptic, shifted 4.0 min   |       |     |     |                        |      |   |   |        |
| 09/23 05:37:30 - 09/23 05:44:24                                                                                                                        |  |  | Fixed ( 0.0, 0.0) |       |      | synoptic, shifted -25.5 min |       |     |     |                        |      |   |   |        |
| 09/23 17:39:30 - 09/23 17:46:24                                                                                                                        |  |  | Fixed ( 0.0, 0.0) |       |      | synoptic, shifted -23.5 min |       |     |     |                        |      |   |   |        |
| 09/24 05:57:00 - 09/24 06:38:00                                                                                                                        |  |  | Fixed ( 0.0, 0.0) |       |      | synoptic, shifted -6.0 min  |       |     |     |                        |      |   |   |        |
| PROG= 14 1-time(s)                                                                                                                                     |  |  |                   |       |      |                             |       |     |     |                        |      |   |   |        |
| Subr= 1 1-time(s)                                                                                                                                      |  |  | 2.0sec            |       |      |                             |       |     |     |                        |      |   |   |        |
| Seqn= 5 1-time(s)                                                                                                                                      |  |  | 2.0sec            |       |      |                             |       |     |     |                        |      |   |   |        |
| Open/Ti-poly                                                                                                                                           |  |  | Open/thick-Al     | close | Safe | Dark                        | 500ms | Obs | 2x2 | 2048x2048 (1024, 1024) | Q=98 | 0 | 0 | 2.0sec |
| Open/Ti-poly                                                                                                                                           |  |  | Open/thick-Al     | close | Safe | Dark                        | 500ms | Obs | 4x4 | 2048x2048 (1024, 1024) | Q=98 | 0 | 0 | 2.0sec |
| Open/Ti-poly                                                                                                                                           |  |  | Open/thick-Al     | close | Safe | Dark                        | 500ms | Obs | 8x8 | 2048x2048 (1024, 1024) | Q=98 | 0 | 0 | 2.0sec |
| Open/Ti-poly                                                                                                                                           |  |  | Open/thick-Al     | close | Safe | Dark                        | 500ms | Obs | 1x1 | 2048x512 (1024, 1024)  | DPCM | 0 | 0 | 2.0sec |
| Open/Ti-poly                                                                                                                                           |  |  | Open/thick-Al     | close | Safe | Dark                        | 500ms | Obs | 1x1 | 512x2048 (1024, 1024)  | DPCM | 0 | 0 | 2.0sec |
| Seqn= 1 1-time(s)                                                                                                                                      |  |  | 2.0sec            |       |      |                             |       |     |     |                        |      |   |   |        |
| Open/Al-mesh                                                                                                                                           |  |  | Open/Al-mesh      | close | Safe | Norm                        | 24ms  | Obs | 2x2 | 2048x2048 (1024, 1024) | Q=95 | 0 | 0 | 2.0sec |
| Open/Al-mesh                                                                                                                                           |  |  | Open/Al-mesh      | close | Safe | Norm                        | 250ms | Obs | 2x2 | 2048x2048 (1024, 1024) | Q=95 | 0 | 0 | 2.0sec |
| Open/Al-mesh                                                                                                                                           |  |  | Open/Al-mesh      | close | Safe | Norm                        | 2.83s | Obs | 2x2 | 2048x2048 (1024, 1024) | Q=95 | 0 | 0 | 2.0sec |
| Seqn= 99 1-time(s)                                                                                                                                     |  |  | 2.0sec            |       |      |                             |       |     |     |                        |      |   |   |        |
| Al-poly/Open                                                                                                                                           |  |  | Al-poly/Open      | close | Safe | Norm                        | 44ms  | Obs | 2x2 | 2048x2048 (1024, 1024) | Q=95 | 0 | 0 | 2.0sec |
| Al-poly/Open                                                                                                                                           |  |  | Al-poly/Open      | close | Safe | Norm                        | 500ms | Obs | 2x2 | 2048x2048 (1024, 1024) | Q=95 | 0 | 0 | 2.0sec |

|                                  |                  |       |      |       |       |     |     |                        |       |            |          |        |
|----------------------------------|------------------|-------|------|-------|-------|-----|-----|------------------------|-------|------------|----------|--------|
| Al-poly/Open                     | Al-poly/thick-Al | close | Safe | Norm  | 4.00s | Obs | 2x2 | 2048x2048 (1024, 1024) | Q=95  | 0          | 0        | 2.0sec |
| <b>Seqn= 67 1-time(s) 2.0sec</b> |                  |       |      |       |       |     |     |                        |       |            |          |        |
| thin-Be/Open                     | thin-Be/Open     | close | Safe | Norm  | 177ms | Obs | 2x2 | 2048x2048 (1024, 1024) | Q=95  | 0          | 0        | 2.0sec |
| thin-Be/Open                     | thin-Be/Open     | close | Safe | Norm  | 2.00s | Obs | 2x2 | 2048x2048 (1024, 1024) | Q=95  | 0          | 0        | 2.0sec |
| thin-Be/Open                     | thin-Be/Open     | close | Safe | Norm  | 11.3s | Obs | 2x2 | 2048x2048 (1024, 1024) | Q=95  | 0          | 0        | 2.0sec |
| <b>Seqn= 54 1-time(s) 2.0sec</b> |                  |       |      |       |       |     |     |                        |       |            |          |        |
| Open/G-band                      | Open/G-band      | open  | Safe | Norm  | 3ms   | Obs | 1x1 | 2048x2048 (1024, 1024) | Q=90  | 0          | 0        | 2.0sec |
| Open/G-band                      | Open/G-band      | close | Safe | Norm  | 3ms   | Obs | 1x1 | 2048x2048 (1024, 1024) | Q=95  | 0          | 0        | 2.0sec |
| Default Filter                   | Thicker Filter   | VLS   | mode | image | Exp.  | CCD | Bin | ROI: size (center)     | Comp. | AEC Buffer | Interval |        |

#### XOB #1B4D: HOP81/206 2-filter - Al/poly 8s, Al/mesh 6s 60s cadence, G-band - 384x384 3ms

| Term                            |              | Pointing (x, y)                         |         |      |       | Comment            |     |     |                      |      |       |            |          |
|---------------------------------|--------------|-----------------------------------------|---------|------|-------|--------------------|-----|-----|----------------------|------|-------|------------|----------|
| 09/22 17:13:00 - 09/22 23:09:54 |              | Fixed ( -18.0, 867.0)                   |         |      |       | # HOP206 at N-pole |     |     |                      |      |       |            |          |
| 09/23 19:19:30 - 09/24 01:16:24 |              | Track ( 140.9, -142.6) @ 09/23 19:16:30 |         |      |       | EIS CH obs         |     |     |                      |      |       |            |          |
| PROG= 15 Inf.-time(s)           |              |                                         |         |      |       |                    |     |     |                      |      |       |            |          |
| ┌                               | Subr= 1      | 1-time(s)                               | 2.0sec  |      |       |                    |     |     |                      |      |       |            |          |
|                                 | ┌ Seqn= 9    | 2-time(s)                               | 2.0sec  |      |       |                    |     |     |                      |      |       |            |          |
|                                 | Open/G-band  | Open/G-band                             | close   | Safe | Norm  | 3ms                | Obs | 1x1 | 384x384 (1064, 1048) | DPCM | 0     | 0          | 2.0sec   |
|                                 | Subr= 2      | 1-time(s)                               | 2.0sec  |      |       |                    |     |     |                      |      |       |            |          |
|                                 | ┌ Seqn= 7    | 1-time(s)                               | 30.0sec |      |       |                    |     |     |                      |      |       |            |          |
|                                 | Open/G-band  | Open/G-band                             | open    | Safe | Norm  | 3ms                | Obs | 1x1 | 384x384 (1064, 1048) | Q=90 | 0     | 0          | 2.0sec   |
|                                 | Subr= 3      | 30-time(s)                              | 2.0sec  |      |       |                    |     |     |                      |      |       |            |          |
|                                 | ┌ Seqn= 24   | 1-time(s)                               | 60.0sec |      |       |                    |     |     |                      |      |       |            |          |
|                                 | Open/Al-mesh | Open/thick-Al                           | close   | Safe | Norm  | 5.66s              | Obs | 1x1 | 384x384 (1064, 1048) | Q=90 | 0     | 0          | 2.0sec   |
|                                 | Al-poly/Open | Al-poly/Open                            | close   | Safe | Norm  | 8.00s              | Obs | 1x1 | 384x384 (1064, 1048) | Q=90 | 0     | 0          | 2.0sec   |
| Default Filter                  |              | Thicker Filter                          | VLS     | mode | image | Exp.               | CCD | Bin | ROI: size (center)   |      | Comp. | AEC Buffer | Interval |

#### XOB #1AFF: AR - Standard Core - (Filter-Ratio with Al/poly and thin-Be long/short pairs) with PFB, 384x384 at 1064 1048, thin-Be, and Al/poly context, with

| Term                            |  |                | Pointing (x, y) |         |       |       |                  | Comment |                   |                      |      |       |            |          |
|---------------------------------|--|----------------|-----------------|---------|-------|-------|------------------|---------|-------------------|----------------------|------|-------|------------|----------|
| 09/22 23:13:00 - 09/23 00:39:54 |  |                | Track ( 664.4,  |         | 1.1)  |       | @ 09/22 23:10:00 |         | Jet obs with IRIS |                      |      |       |            |          |
| 09/23 00:43:00 - 09/23 05:34:24 |  |                | Track ( 674.3,  |         | 2.3)  |       | @ 09/23 00:40:00 |         | AR12593 obs       |                      |      |       |            |          |
| 09/23 05:47:30 - 09/23 07:16:05 |  |                | Track ( 706.7,  |         | 6.5)  |       | @ 09/23 05:44:30 |         | Cont,             |                      |      |       |            |          |
| 09/23 17:49:30 - 09/23 19:16:24 |  |                | Track ( 776.4,  |         | 17.2) |       | @ 09/23 17:46:30 |         | Jet obs with IRIS |                      |      |       |            |          |
| PROG= 01 Inf.-time(s)           |  |                |                 |         |       |       |                  |         |                   |                      |      |       |            |          |
| Subr= 1                         |  | 1-time(s)      |                 | 2.0sec  |       |       |                  |         |                   |                      |      |       |            |          |
| Seqn= 56                        |  | 1-time(s)      |                 | 2.0sec  |       |       |                  |         |                   |                      |      |       |            |          |
| Open/G-band                     |  | Open/G-band    |                 | open    | Safe  | Norm  | 3ms              | Obs     | 1x1               | 384x384 (1064, 1048) | DPCM | 0     | 0          | 2.0sec   |
| Open/G-band                     |  | Open/G-band    |                 | close   | Safe  | Norm  | 3ms              | Obs     | 1x1               | 384x384 (1064, 1048) | DPCM | 0     | 0          | 2.0sec   |
| Open/Ti-poly                    |  | Open/thick-Al  |                 | close   | Safe  | Dark  | 16.0s            | Obs     | 1x1               | 384x384 (1064, 1048) | Q=98 | 0     | 0          | 2.0sec   |
| Subr= 2                         |  | 5-time(s)      |                 | 2.0sec  |       |       |                  |         |                   |                      |      |       |            |          |
| Seqn= 75                        |  | 1-time(s)      |                 | 2.0sec  |       |       |                  |         |                   |                      |      |       |            |          |
| Al-poly/Open                    |  | thin-Be/Open   |                 | close   | Safe  | Norm  | 250ms            | Obs     | 1x1               | 384x384 (1064, 1048) | Q=95 | 2     | 0          | 2.0sec   |
| Al-poly/Open                    |  | thin-Be/Open   |                 | close   | Safe  | Norm  | 250ms            | Obs     | 1x1               | 384x384 (1064, 1048) | Q=95 | 3     | 0          | 2.0sec   |
| thin-Be/Open                    |  | med-Be/Open    |                 | close   | Safe  | Norm  | 500ms            | Obs     | 1x1               | 384x384 (1064, 1048) | Q=95 | 2     | 0          | 2.0sec   |
| thin-Be/Open                    |  | med-Be/Open    |                 | close   | Safe  | Norm  | 500ms            | Obs     | 1x1               | 384x384 (1064, 1048) | Q=95 | 3     | 0          | 2.0sec   |
| Seqn= 96                        |  | 4-time(s)      |                 | 60.0sec |       |       |                  |         |                   |                      |      |       |            |          |
| Al-poly/Open                    |  | thin-Be/Open   |                 | close   | Safe  | Norm  | 250ms            | Obs     | 1x1               | 384x384 (1064, 1048) | Q=95 | 1     | 0          | 2.0sec   |
| thin-Be/Open                    |  | med-Be/Open    |                 | close   | Safe  | Norm  | 500ms            | Obs     | 1x1               | 384x384 (1064, 1048) | Q=95 | 1     | 0          | 15.0sec  |
| Al-poly/Open                    |  | thin-Be/Open   |                 | close   | Safe  | Norm  | 250ms            | Obs     | 1x1               | 384x384 (1064, 1048) | Q=95 | 1     | 1          | 2.0sec   |
| thin-Be/Open                    |  | med-Be/Open    |                 | close   | Safe  | Norm  | 500ms            | Obs     | 1x1               | 384x384 (1064, 1048) | Q=95 | 1     | 1          | 15.0sec  |
| Al-poly/Open                    |  | thin-Be/Open   |                 | close   | Safe  | Norm  | 250ms            | Obs     | 1x1               | 384x384 (1064, 1048) | Q=95 | 1     | 2          | 2.0sec   |
| thin-Be/Open                    |  | med-Be/Open    |                 | close   | Safe  | Norm  | 500ms            | Obs     | 1x1               | 384x384 (1064, 1048) | Q=95 | 1     | 2          | 2.0sec   |
| Default Filter                  |  | Thicker Filter |                 | VLS     | mode  | image | Exp.             | CCD     | Bin               | ROI: size (center)   |      | Comp. | AEC Buffer | Interval |

\* \* \* \* \*

#### Flare mode

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#### XOB #1AE7: Flare - multifilter 26 sec cadence (Be/thin, Be/med, Al/thick), AEC 3(thin-Be AEC2), 384x384 + context (med-Al,thick-Be -384x384 + Al-poly 512

| Term                            | Pointing (x, y)                         | Comment                                                      |
|---------------------------------|-----------------------------------------|--------------------------------------------------------------|
| 09/22 11:02:00 - 09/22 14:16:30 | Track ( 579.1, -8.1) @ 09/22 10:59:00   | # OP start + 10min, AR12593 obs                              |
| 09/22 14:33:00 - 09/22 16:59:54 | Track ( 604.6, -5.6) @ 09/22 14:30:00   | HOP315 on AR12593                                            |
| 09/22 17:13:00 - 09/22 23:09:54 | Fixed ( -18.0, 867.0)                   | # HOP206 at N-pole                                           |
| 09/22 23:13:00 - 09/23 00:39:54 | Track ( 664.4, 1.1) @ 09/22 23:10:00    | Jet obs with IRIS                                            |
| 09/23 00:43:00 - 09/23 05:34:24 | Track ( 674.3, 2.3) @ 09/23 00:40:00    | AR12593 obs                                                  |
| 09/23 05:47:30 - 09/23 07:16:05 | Track ( 706.7, 6.5) @ 09/23 05:44:30    | Cont,                                                        |
| 09/23 08:09:06 - 09/23 10:59:54 | Track ( 678.3, 7.8) @ 09/23 07:18:00    | HOP323 at AR12593                                            |
| 09/23 11:03:00 - 09/23 14:29:54 | Track ( 738.4, 11.1) @ 09/23 11:00:00   | AR12593 obs                                                  |
| 09/23 14:33:00 - 09/23 17:36:24 | Track ( 758.4, 14.2) @ 09/23 14:30:00   | HOP315 at AR12593                                            |
| 09/23 17:49:30 - 09/23 19:16:24 | Track ( 776.4, 17.2) @ 09/23 17:46:30   | Jet obs with IRIS                                            |
| 09/23 19:19:30 - 09/24 01:16:24 | Track ( 140.9, -142.6) @ 09/23 19:16:30 | EIS CH obs                                                   |
| 09/24 01:19:30 - 09/24 05:53:54 | Track ( 814.5, 24.3) @ 09/24 01:16:30   | AR12593 obs                                                  |
| 09/24 07:21:00 - 09/24 09:58:30 | Track ( 804.0, 30.3) @ 09/24 07:18:00   | HOP323 at AR12593                                            |
| PROG= 07 30-time(s)             |                                         |                                                              |
| Subr= 1                         | 20-time(s)                              | 2.0sec                                                       |
| Seqn= 11                        | 1-time(s)                               | 2.0sec                                                       |
| Al-poly/Open                    | Al-poly/thick-Al close                  | Safe Norm 125ms Obs 2x2 512x512 (1024, 1024) Q=95 2 0 2.0sec |
| Seqn=100                        | 1-time(s)                               | 10.0sec                                                      |
| thin-Be/Open                    | med-Be/Open close                       | Safe Norm 125ms Obs 1x1 384x384 (1024, 1024) Q=95 2 0 2.0sec |

|          |                |                  |        |      |       |       |     |     |                      |       |            |          |        |
|----------|----------------|------------------|--------|------|-------|-------|-----|-----|----------------------|-------|------------|----------|--------|
|          | med-Be/Open    | Open/thick-Al    | close  | Safe | Norm  | 250ms | Obs | 1x1 | 384x384 (1024, 1024) | Q=95  | 3          | 0        | 2.0sec |
|          | Open/thick-Al  | Open/thick-Be    | close  | Safe | Norm  | 1.00s | Obs | 1x1 | 384x384 (1024, 1024) | Q=95  | 3          | 0        | 2.0sec |
| Subr= 2  | 1-time(s)      |                  | 2.0sec |      |       |       |     |     |                      |       |            |          |        |
| Seqn= 10 | 1-time(s)      |                  | 2.0sec |      |       |       |     |     |                      |       |            |          |        |
|          | med-Al/Open    | med-Al/thick-Al  | close  | Safe | Norm  | 500ms | Obs | 1x1 | 384x384 (1024, 1024) | Q=95  | 3          | 0        | 2.0sec |
|          | Open/thick-Be  | Open/thick-Be    | close  | Safe | Norm  | 2.00s | Obs | 1x1 | 384x384 (1024, 1024) | Q=95  | 3          | 0        | 2.0sec |
| Seqn= 11 | 1-time(s)      |                  | 2.0sec |      |       |       |     |     |                      |       |            |          |        |
|          | Al-poly/Open   | Al-poly/thick-Al | close  | Safe | Norm  | 125ms | Obs | 2x2 | 512x512 (1024, 1024) | Q=95  | 2          | 0        | 2.0sec |
| Seqn= 84 | 1-time(s)      |                  | 2.0sec |      |       |       |     |     |                      |       |            |          |        |
|          | Open/G-band    | Open/G-band      | open   | Safe | Norm  | 3ms   | Obs | 1x1 | 384x384 (1024, 1024) | Q=98  | 0          | 0        | 2.0sec |
|          | Open/G-band    | Open/G-band      | close  | Safe | Norm  | 3ms   | Obs | 1x1 | 384x384 (1024, 1024) | Q=98  | 0          | 0        | 2.0sec |
|          | Open/thick-Al  | Open/thick-Al    | close  | Safe | Dark  | 1.00s | Obs | 1x1 | 384x384 (1024, 1024) | Q=98  | 0          | 0        | 2.0sec |
|          | Open/thick-Al  | Open/thick-Al    | close  | Safe | Dark  | 1.00s | Obs | 2x2 | 512x512 (1024, 1024) | Q=98  | 0          | 0        | 2.0sec |
|          | Default Filter | Thicker Filter   | VLS    | mode | image | Exp.  | CCD | Bin | ROI: size (center)   | Comp. | AEC Buffer | Interval |        |

\* \* \* \* \*

## Active Region Search

\* \* \* \* \*

NOT USED

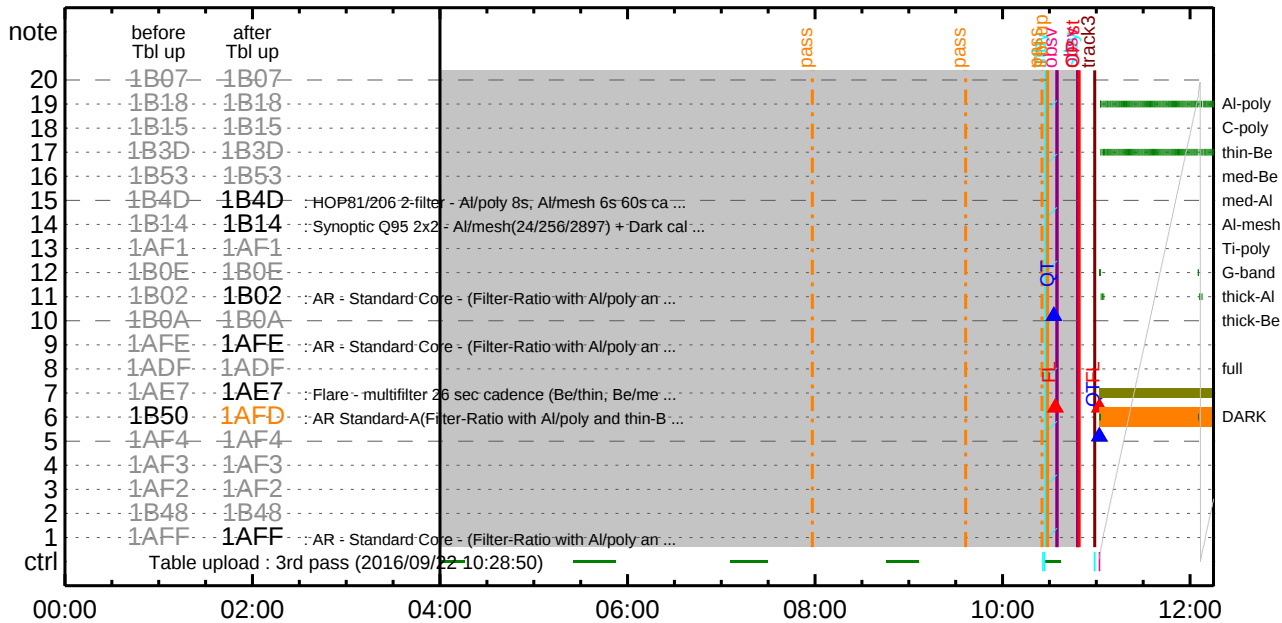
\* \* \* \* \*

## Flare Detection

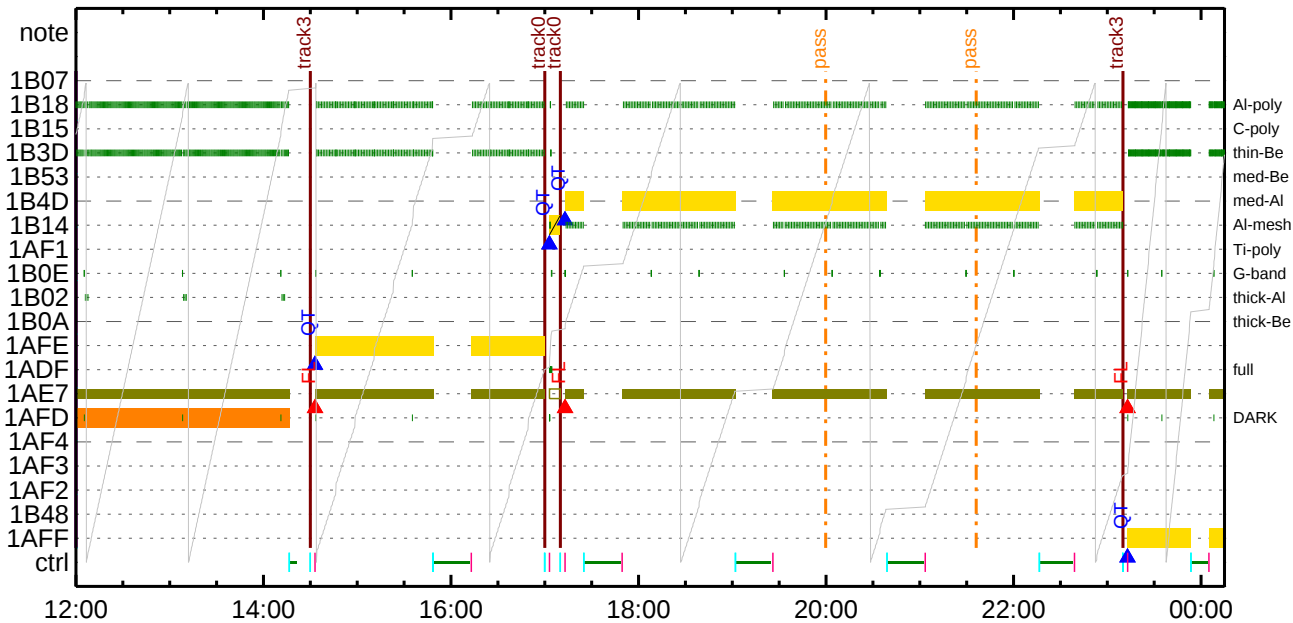
\* \* \* \* \*

| FLD Patrol                      |                |                |                                       |      |       |      |     |                                 |                    |       |            |          |  |
|---------------------------------|----------------|----------------|---------------------------------------|------|-------|------|-----|---------------------------------|--------------------|-------|------------|----------|--|
| Term                            |                |                | Pointing (x, y)                       |      |       |      |     | Comment                         |                    |       |            |          |  |
| 09/22 10:59:18 - 09/22 17:00:18 |                |                | Track ( 579.1, -8.1) @ 09/22 10:59:00 |      |       |      |     | # OP start + 10min, AR12593 obs |                    |       |            |          |  |
| 09/22 17:10:18 - 09/23 05:34:48 |                |                | Fixed ( -18.0, 867.0)                 |      |       |      |     | # HOP206 at N-pole              |                    |       |            |          |  |
| 09/23 05:44:48 - 09/23 17:36:48 |                |                | Track ( 706.7, 6.5) @ 09/23 05:44:30  |      |       |      |     | Cont,                           |                    |       |            |          |  |
| 09/23 17:46:48 - 09/24 05:54:18 |                |                | Track ( 776.4, 17.2) @ 09/23 17:46:30 |      |       |      |     | Jet obs with IRIS               |                    |       |            |          |  |
| 09/24 07:18:18 - 09/27 11:02:00 |                |                | Track ( 804.0, 30.3) @ 09/24 07:18:00 |      |       |      |     | HOP323 at AR12593               |                    |       |            |          |  |
|                                 | Open/Ti-poly   | Open/thick-Al  | close                                 | Safe | Norm  | 8ms  | Obs | 8x8                             | Q=50               |       | 30sec      |          |  |
|                                 | Default Filter | Thicker Filter | VLS                                   | mode | image | Exp. | CCD | Bin                             | ROI: size (center) | Comp. | AEC Buffer | Interval |  |

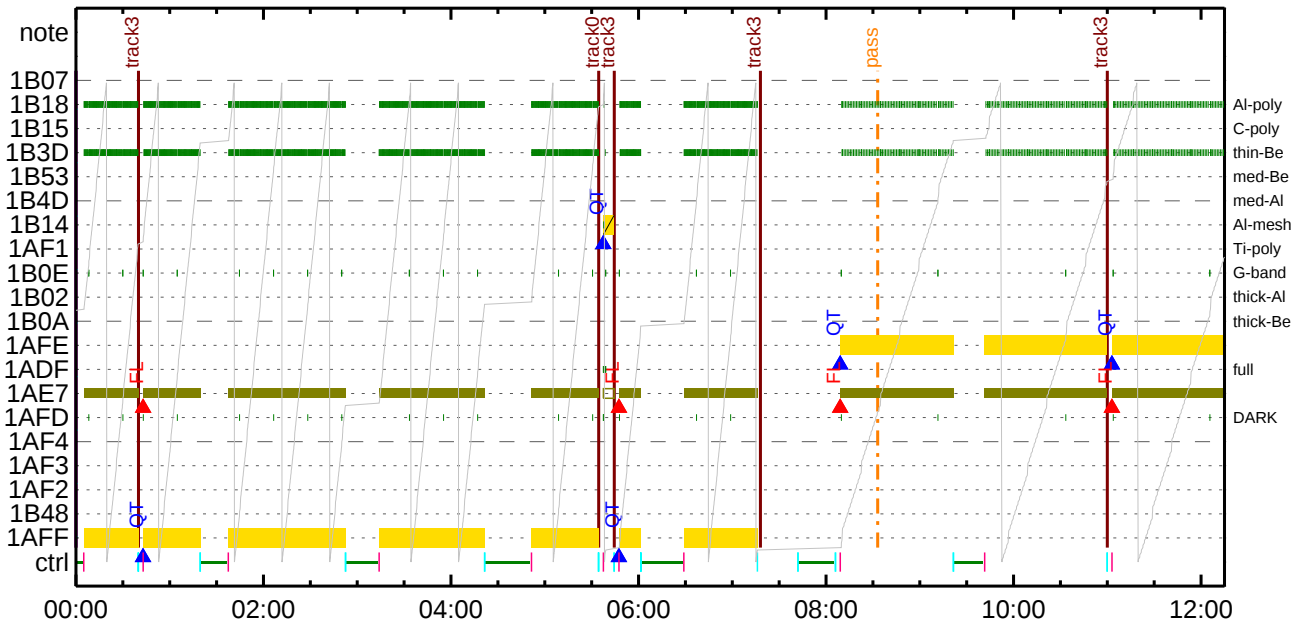
# CMDI #0198 2016/09/22



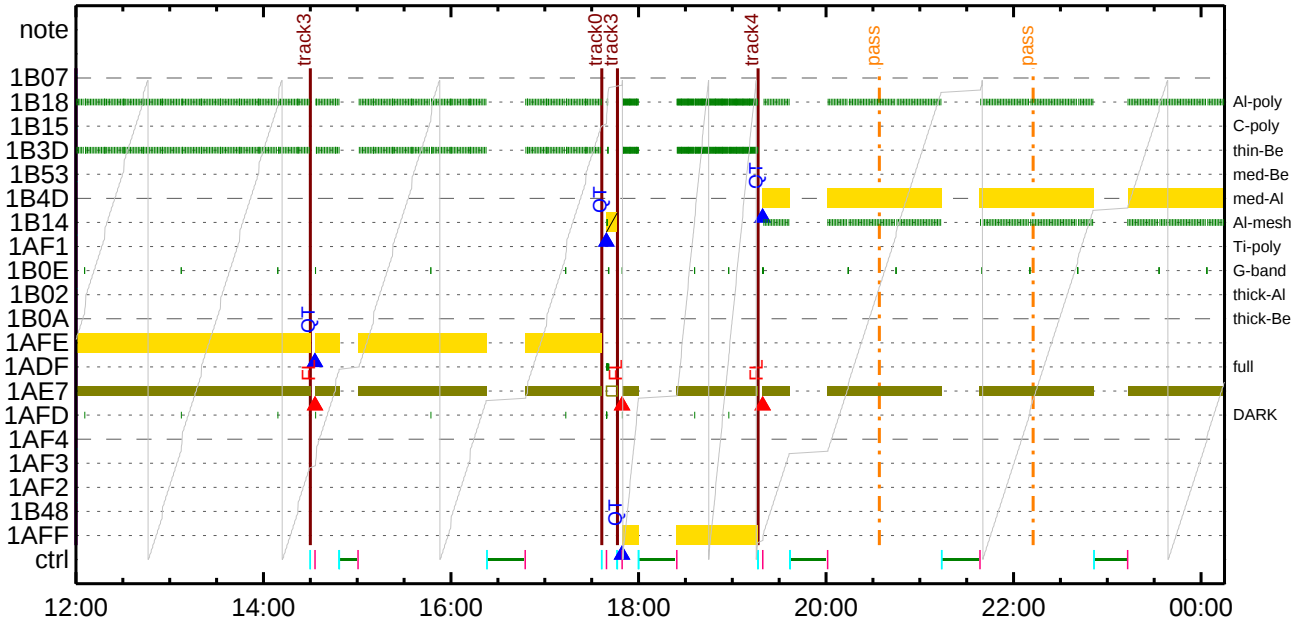
# CMDI #0198 2016/09/22



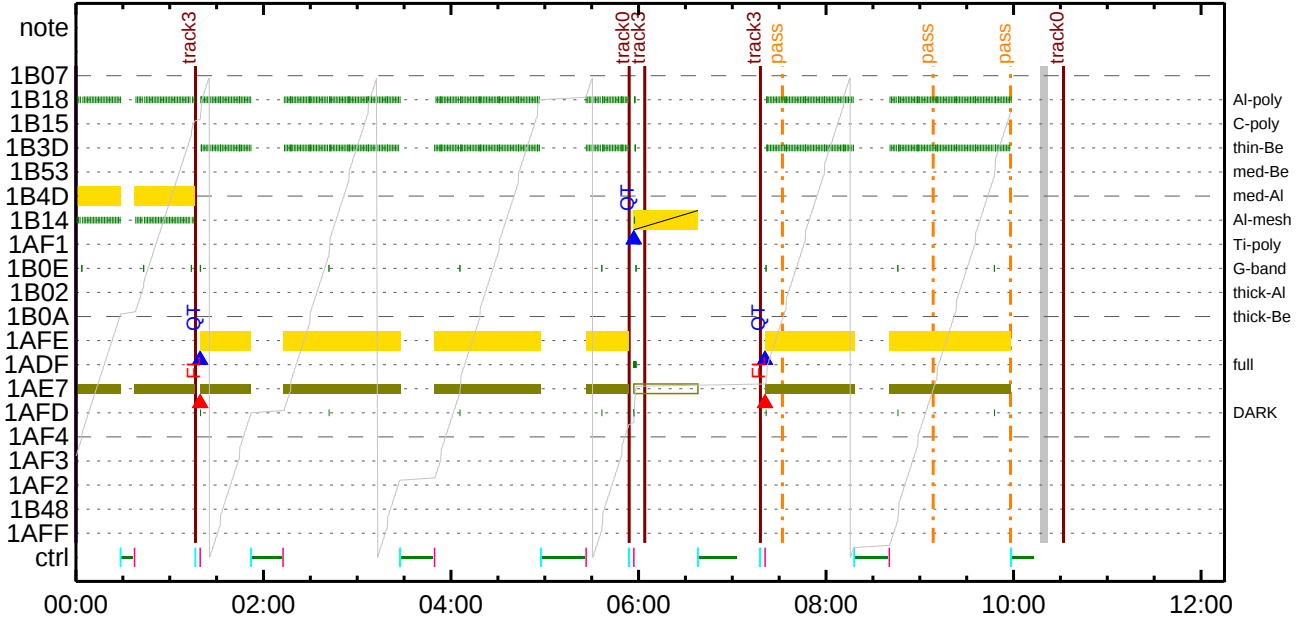
# CMDI #0198 2016/09/23



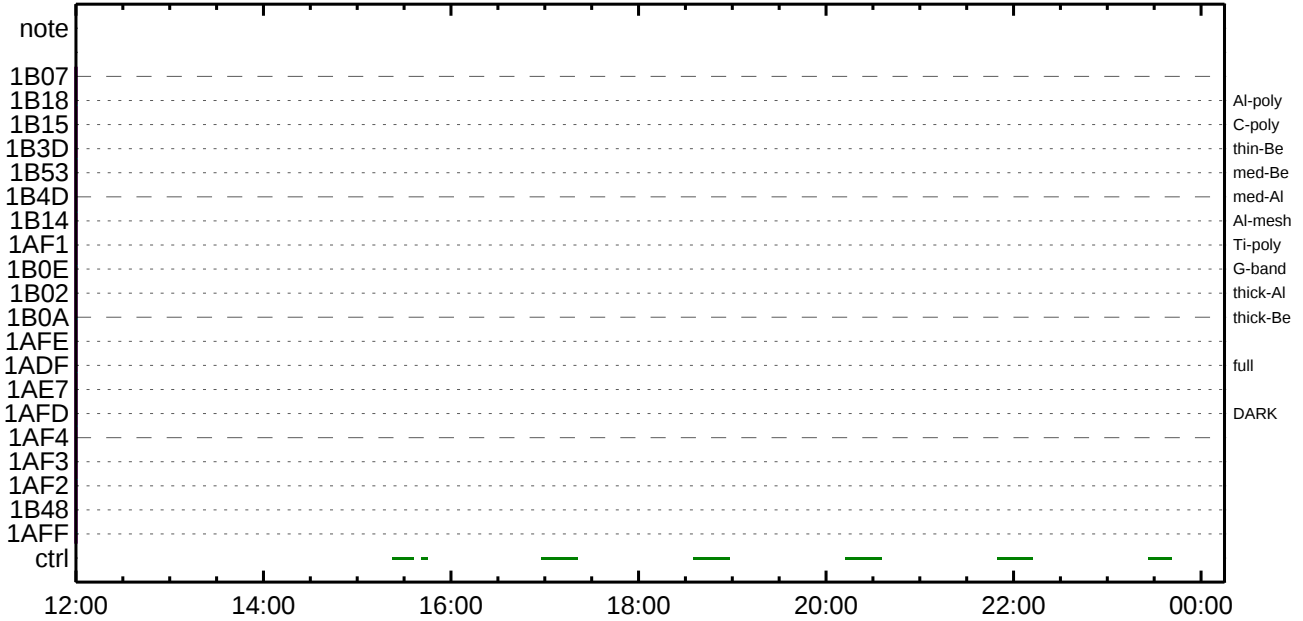
# CMDI #0198 2016/09/23



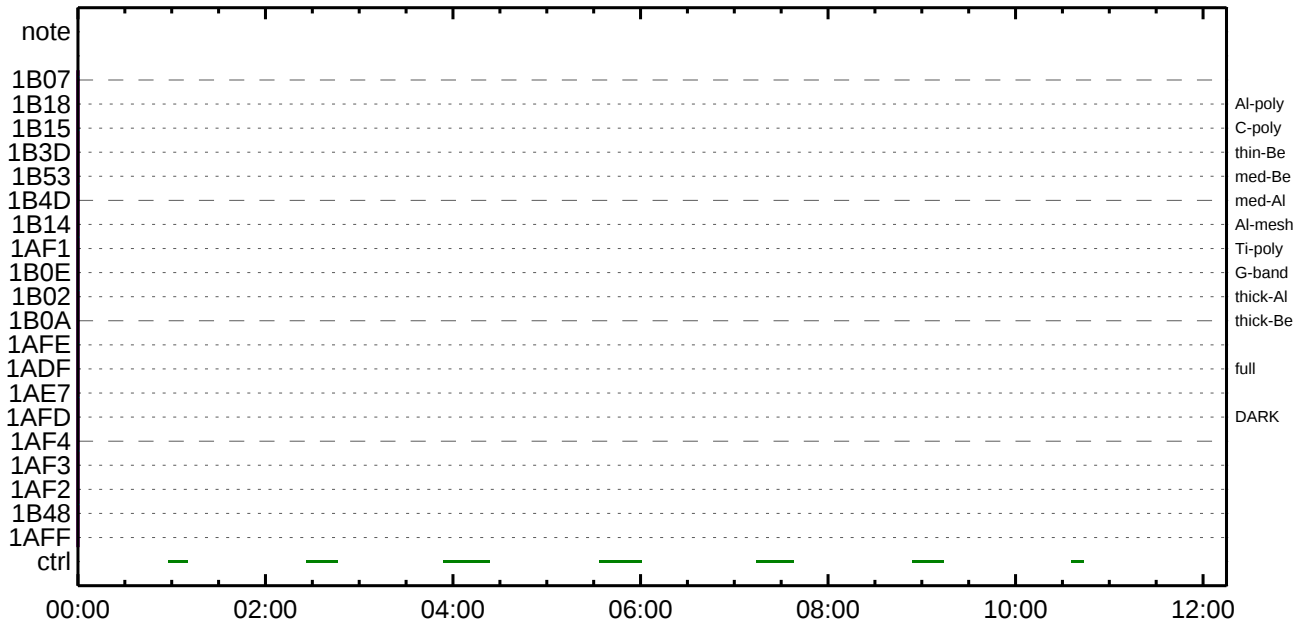
# CMDI #0198 2016/09/24



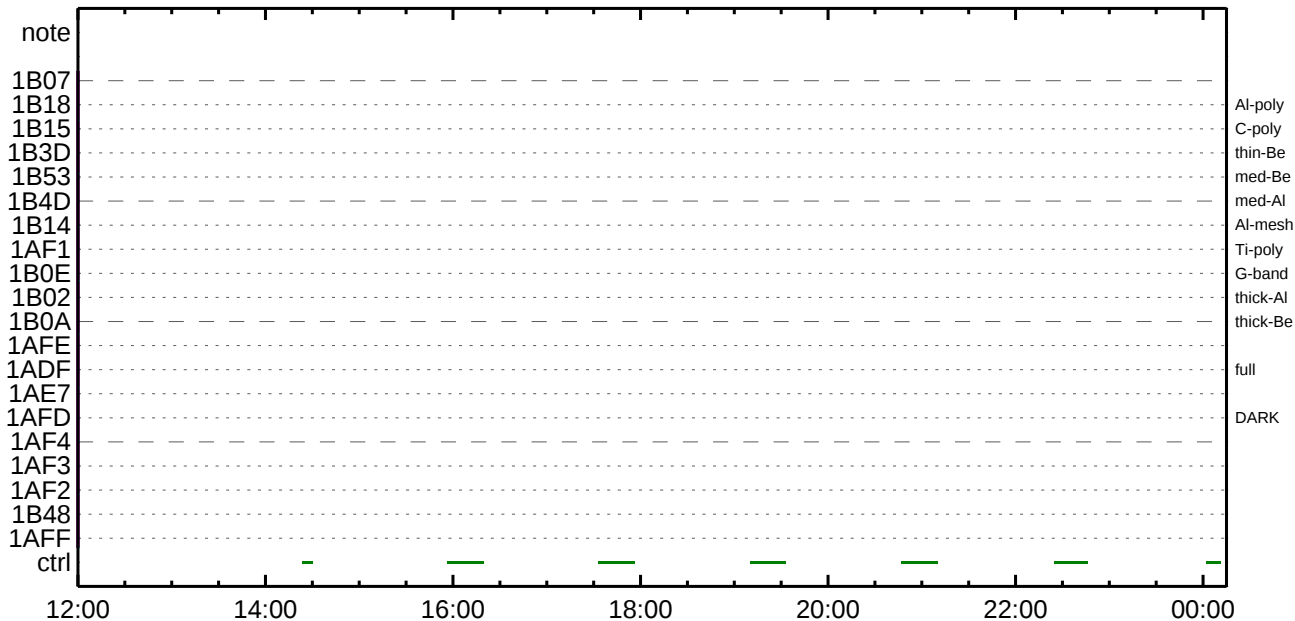
# CMDI #0198 2016/09/24



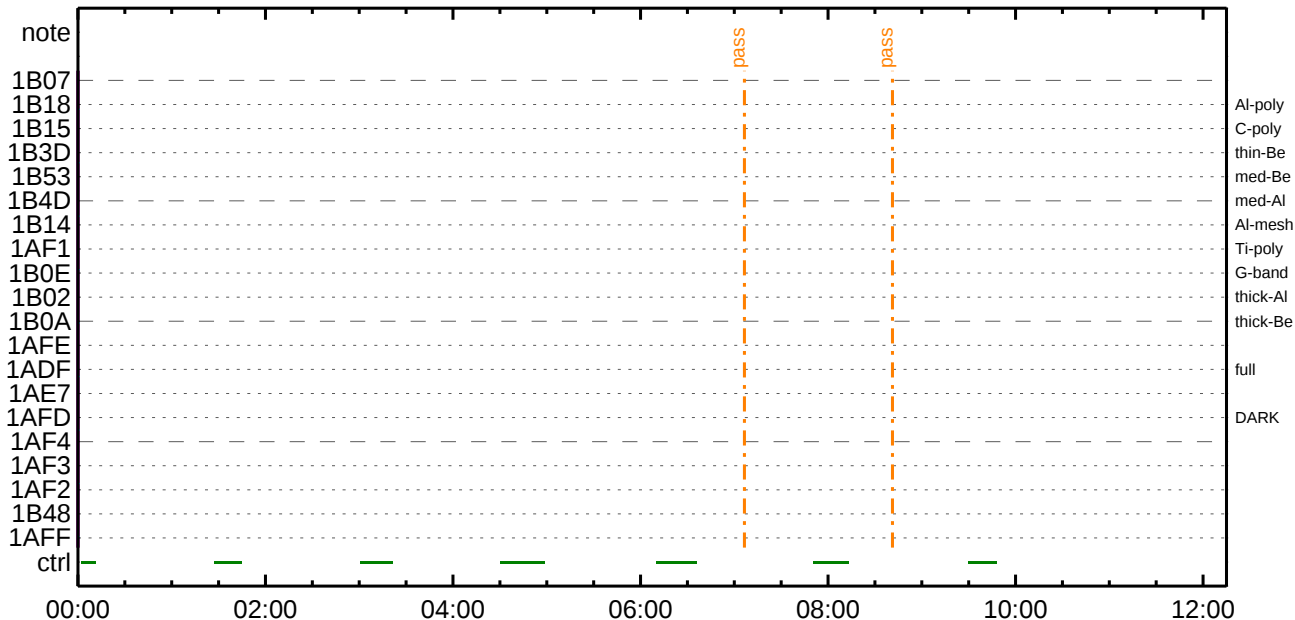
# CMDI #0198 2016/09/25



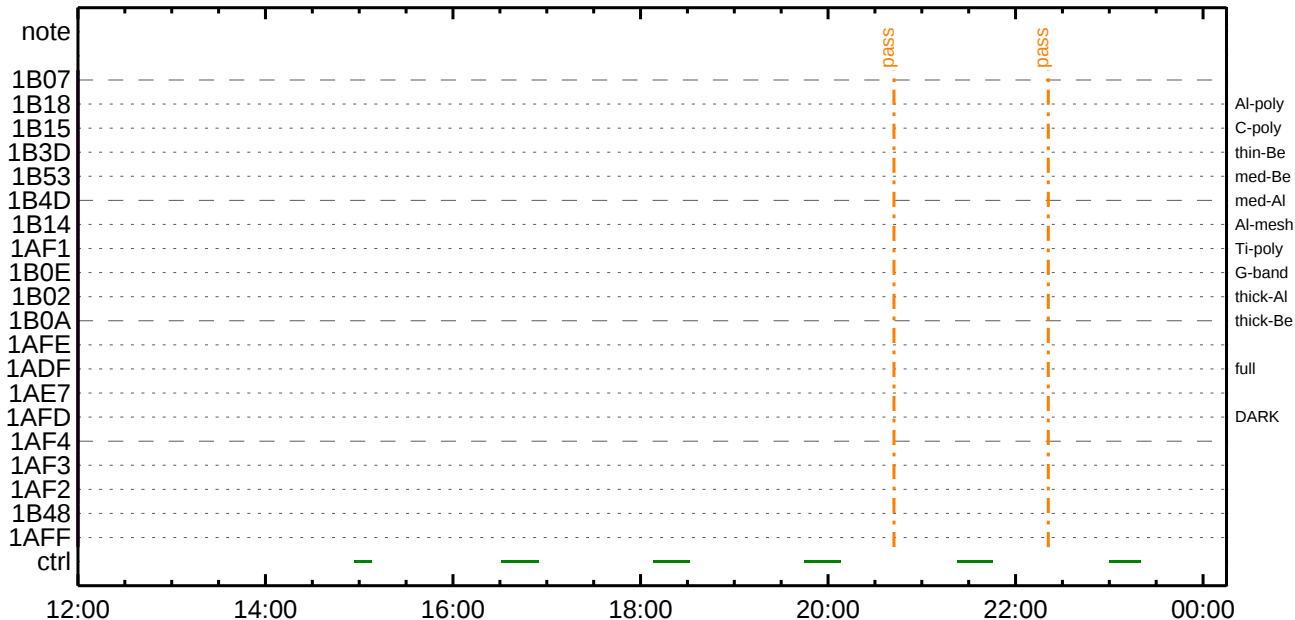
# CMDI #0198 2016/09/25



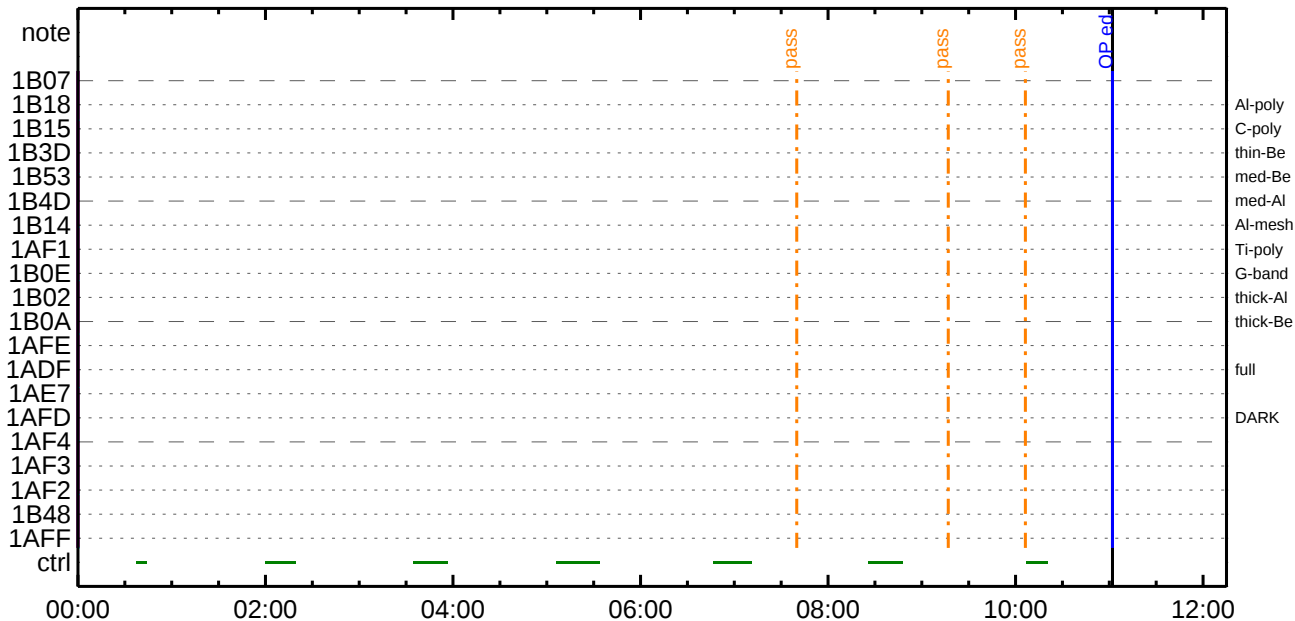
# CMDI #0198 2016/09/26



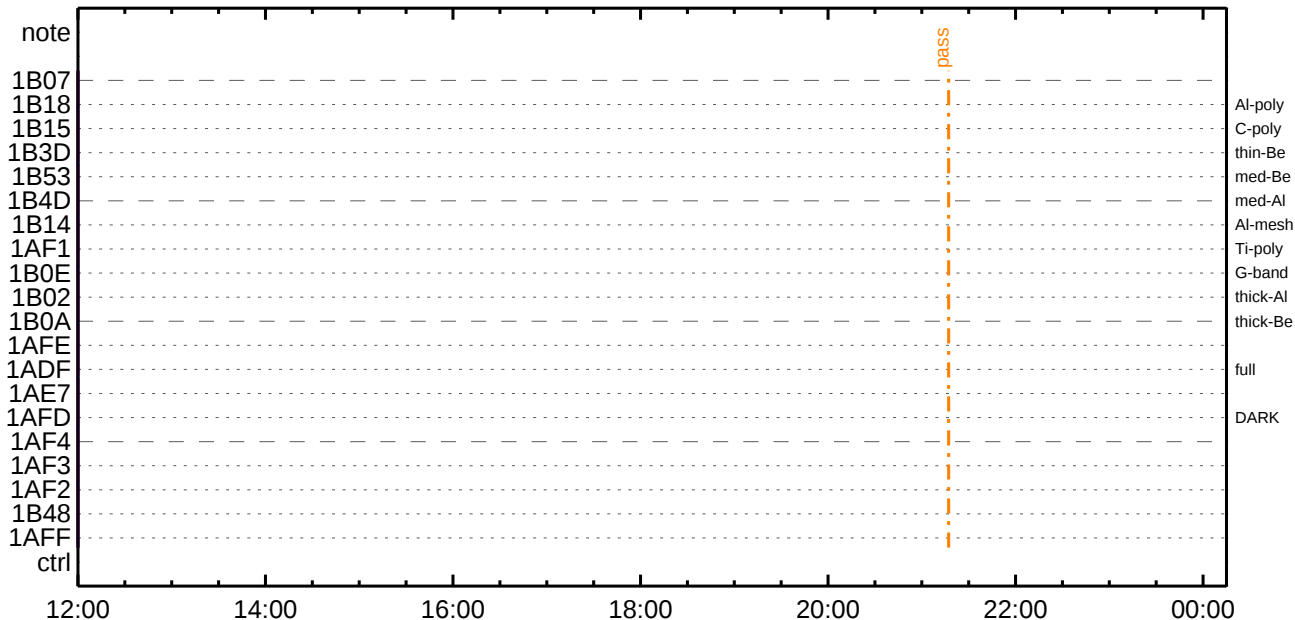
# CMDI #0198 2016/09/26



# CMDI #0198 2016/09/27



# CMDI #0198 2016/09/27



```
main-130 2016-09-22 14:02:13 289 33 SOLAR-B MAIN //
0001 C.
0002 . C. ***** AOS *****
0003 C.
0004 . C. iãAOS¥Á¥$¥Ã¥¬¼Ä»Üjã
0005 C.
0006 C. ¥Ã¥ßj¼¥³¥P¥Ó¥ÉÄ÷¿®
0007 +. DC 00-00 NULL_DUMMY_CMD
0008 C.
0009 . C. ***** AOCS : Reload orbital element (send every contact) *****
0010 C. ÄïjË¤¿¤Ä¤•µ°Æ»Î×Å¤¤I¥¢¥Ã¥×¥i¼¥ÊjËËè½µ•îÊjËÈ¼°¿¤¤•¤¿¼î¹¿¤IjÇÀ®, ù¤¹¤è¤¤¤ÇÄ÷¿®¤•¤Ê¤¤¤³¤Èj£
0011 +. DC 02-8E AOCU_ORB_UPD
0012 C.
0013 C.
0014 . C. *****
0015 C. XÄ÷¿®µjON
0016 C. *****
0017 C. ¨ °ÆÄ, Î×ÊÝ¤äLOS¤¤¤¿¤I»p´Ö¤ò¹îî, ¤•jÇÉÔÎ×¤EXÄÓON¤I¹Ô¤Ê¤i¤Ê¤¤¤³¤Èj£
0018 C.
0019 +. DC 03-B4 TCIA_XPA_ON/HI
0020 M. WAIT_SEC 1
0021 + DC 03-84 TCIA_XMOD_ON
0022 M. WAIT_SEC 1
0023 + DC 03-95 TCIA_XMOD_QPSK
0024 C. ÇÇ[HK1_XPA_ON/OFF] EQ ON
0025 C. ÇÇ[HK1_XPA_PWR_HI/L0] EQ HI
0026 C. ÇÇ[HK1_XMOD_ON/OFF] EQ ON
0027 C. ÇÇ[HK1_XMOD_QPSK/PM] EQ QPSK
0028 C.
0029 . C. X¥Ð¥Ó¥É¥i¥Ã¥¬¼ÖÄÖ¤¬¼Äê¤•¤¿¤¤èjÇ°Ê²¼¤I°ÆÄ, ¼ê½¿¤ò¼Ä¹Ô¤¹¤èj£
0030 C.
0031 . C. *****
0032 C. DR PT1 ÄÎ¼i°ÆÄ,
0033 C. *****
0034 C. ¨ RESTARTjËPT1jË¤•¤¿¤¤¼¼î¹¿¤IjÇ°Ê²¼¤I¼Ä¹Ô¤»¤ºjÇDCBC-150¤Ø¿Ê¤àj£
0035 C.
0036 . C. jãPT1°ÆÄ, ³«»îjã
0037 +. DC 01-29 DHU_S/X_VC4_OFF
0038 + DC 06-C8 DR_PT1_REP_SEL
0039 BC (01 00)
0040 + DC 06-B3 DR_REP_START
0041 + DC 01-32 DHU_X_VC4_ON
0042 C. ÇÇ[HK1_REP_PT_1/2] EQ PT1 (¼Ä¹Ô, j¼Ú)
0043 C. ÇÇ[HK1_REP_STA/STP] EQ START (¼Ä¹Ô, j¼Ú)
0044 C. ÇÇ[HK1_X_VC4_ON/OFF] EQ ON (¼Ä¹Ô, j¼Ú)
0045 C.
0046 . C. jã¥¢¥ó¥Æ¥ÊÄÜÄØjÊÄ•Äº²ÖÈòjË, ä¤I°ÆÄ, °Æ³«jã
0047 +. DC 06-B3 DR_REP_START
0048 + DC 01-32 DHU_X_VC4_ON
0049 C. ÇÇ[HK1_REP_PT_1/2] EQ PT1 (¼Ä¹Ô, j¼Ú)
0050 C. ÇÇ[HK1_REP_STA/STP] EQ START (¼Ä¹Ô, j¼Ú)
0051 C. ÇÇ[HK1_X_VC4_ON/OFF] EQ ON (¼Ä¹Ô, j¼Ú)
0052 C.
0053 C.
0054 . C. PT1°ÆÄ, ¤¬¼«Æ°Ää»ß¤•¤¿, äjÇ°Ê²¼¤ò¼Ä¹Ô¤¹¤èj£
0055 C. ¥¢¥ó¥Æ¥ÊÄÜÄØ¤ÄÄ•Äº²ÖÈò¬¼ä¤¤¼¼î¹¿¤I'°î»¤¹¤è¤¤¤ÇÄÔ¤Äj£
0056 C.
0057 . C. *****
0058 C. DR PT2 ÄÎ¼i°ÆÄ,
0059 C. *****
0060 C. ¨ RESTARTjËPT2jË¤•¤¿¤¤¼¼î¹¿¤IjÇ°Ê²¼¤I¼Ä¹Ô¤»¤ºjÇDCBC-151¤Ø¿Ê¤àj£
0061 C.
0062 . C. jãPT2°ÆÄ, ³«»îjã
0063 +. DC 01-29 DHU_S/X_VC4_OFF
0064 + DC 06-C8 DR_PT2_REP_SEL
0065 BC (02 00)
0066 + DC 06-B3 DR_REP_START
0067 + DC 01-32 DHU_X_VC4_ON
0068 C. ÇÇ[HK1_REP_PT_1/2] EQ PT2 (¼Ä¹Ô, j¼Ú)
0069 C. ÇÇ[HK1_REP_STA/STP] EQ START (¼Ä¹Ô, j¼Ú)
0070 C. ÇÇ[HK1_X_VC4_ON/OFF] EQ ON (¼Ä¹Ô, j¼Ú)
0071 C.
0072 . C. jã¥¢¥ó¥Æ¥ÊÄÜÄØjÊÄ•Äº²ÖÈòjË, ä¤I°ÆÄ, °Æ³«jã
0073 +. DC 06-B3 DR_REP_START
0074 + DC 01-32 DHU_X_VC4_ON
0075 C. ÇÇ[HK1_REP_PT_1/2] EQ PT2 (¼Ä¹Ô, j¼Ú)
0076 C. ÇÇ[HK1_REP_STA/STP] EQ START (¼Ä¹Ô, j¼Ú)
0077 C. ÇÇ[HK1_X_VC4_ON/OFF] EQ ON (¼Ä¹Ô, j¼Ú)
0078 C.
0079 . C. *****
0080 C. DR°ÆÄ, Ää»ßjÇXÄ÷¿®µjOFF
0081 C. *****
0082 C.
0083 . C. jãDR°ÆÄ, Ää»ßjã
0084 +. DC 06-B4 DR_REP_STOP
0085 + DC 01-29 DHU_S/X_VC4_OFF
0086 C. ÇÇ[HK1_REP_STA/STP] EQ STOP
0087 C. ÇÇ[HK1_S_VC4_ON/OFF] EQ OFF
0088 C. ÇÇ[HK1_X_VC4_ON/OFF] EQ OFF
0089 C.
0090 . C. jãXÄ÷¿®µjOFFjã
0091 +. DC 03-85 TCIA_XMOD_OFF
0092 M. WAIT_SEC 1
0093 + DC 03-B5 TCIA_XPA_OFF
0094 C. ÇÇ[HK1_XMOD_ON/OFF] EQ OFF
0095 C. ÇÇ[HK1_XPA_ON/OFF] EQ OFF
```

[illegible]

```
0194 C.  
0195 +. TI 2016-09-22 10:48:59.5  
0196 DC 01-B2 DHU_OP_START EQ 1COUNTUP  
0197 C. ¢¢[HK1_TI_CMD_NUM]  
0198 C.  
0199 C. °Ê²¼¤İÄê%ıİŇ¤İ¥Á¥S¥Ã¥¹âİÜ  
0200 C. ¢¢[HK1_TI_CMD_ENA/DIS] EQ ENA  
0201 C. ¢¢[HK1_TI_CMD_NUM] EQ 4  
0202 C. ¢¢[HK1_NEXT_EXEC_PIM] EQ DHU  
0203 C. ¢¢[HK1_NEXT_EXEC_DC] EQ 0xB3  
0204 C.  
0205 C. *****  
0206 C. TIIÎ°è¥Ä¥Ó¥×  
0207 C. *****  
0208 C.  
0209 C. TI_TBL(0x03AB00-0x03AEFF;S 1024byte)  
0210 +. DC 01-23 DHU_DMA_DMP_PRM_SET  
0211 BC (03 ab 03 01 02)  
0212 C. ¢¢[HK1_DMP_TOP_ADRS_1] EQ 07  
0213 C. ¢¢[HK1_DMP_TOP_ADRS_0] EQ 2B  
0214 C. ¢¢[HK1_DMP_BLOCK_NUM] EQ 3  
0215 C. ¢¢[HK1_DMP_REPEAT_NUM] EQ 0  
0216 C. ¢¢[HK1_DMA_DMP_PIM] EQ DHU  
0217 +. DC 01-22 DHU_MODE_CHNG  
0218 BC (07 0b f8)  
0219 C. ¢¢[HK1_PKT_FORM_NO] EQ 7  
0220 C. ¢¢[HK1_PKT_GEN_TIME] EQ 0.25 s  
0221 C. ¢¢[HK1_S_TLM_BIT_RATE] EQ 32k  
0222 C. ¢¢[HK1_X_TLM_BIT_RATE] EQ 4M  
0223 C. ¢¢[HK1_DMP_CHK_FLG] EQ EXEC  
0224 C.  
0225 C. ¥À¥Ó¥×½ªİ»¤ò³İÇŞ  
0226 C. ¢¢[HK1_DMP_CHK_FLG] EQ NON  
0227 C.  
0228 C. RAM ID=TI_TBL¤İ¥Ê¹Ç•ë²İOK¤ò³İÇŞ  
0229 C.  
0230 C. DHU¥âı¼¥ÉıÊ¼Ý½, ¥İı¼¥ÈıË¤òİá¤¹  
0231 +. DC 01-22 DHU_MODE_CHNG  
0232 BC (02 0a f8)  
0233 C. ¢¢[HK1_PKT_FORM_NO] EQ 2  
0234 C. ¢¢[HK1_PKT_GEN_TIME] EQ 0.5S  
0235 C. ¢¢[HK1_S_TLM_BIT_RATE] EQ 32K  
0236 C. ¢¢[HK1_X_TLM_BIT_RATE] EQ 4M  
0237 C.  
0238 C. Stop EIS observation and temporarily disable EIS mode changes  
0239 C.  
0240 C.  
0241 C. ***** Start EIS operation (TI set) *****  
0242 C. Execute, after the success of OP upload.  
0243 C. Set EIS TI-commands  
0244 +. TI 2016-09-22 10:48:30.0  
0245 DC 07-FC EIS_MODE_MANU  
0246 BC (21 02)  
0247 +. TI 2016-09-22 10:48:40.0  
0248 DC 07-FC EIS_MODE_CHG_DIS  
0249 BC (22)  
0250 C. [ ] [HK1_TI_CMD_NUM] EQ 2 COUNTUP  
0251 C. ***** End EIS operation (TI set) *****  
0252 C.  
0253 C.  
0254 C. *****  
0255 C. SOT TI command set  
0256 C. *****  
0257 C. Execute, after the success of OP upload.  
0258 +. TI 2016-09-22 10:48:16.0  
0259 DC 07-F0 MDP_SOT_MODE_STBY  
0260 BC (41)  
0261 C. -----  
0262 C. HK1_TI_CMD_NUM = 1 CNTUP [ ]  
0263 C. -----  
0264 C. ***** SOT END *****  
0265 C.  
0266 C. ***** XRT START *****  
0267 C. Execute, after the success of OP upload.  
0268 +. TI 2016-09-22 10:48:00.0  
0269 DC 07-F0 MDP_XRT_MODE_STBY  
0270 BC (c3)  
0271 C. [ ] [HK1_TI_CMD_NUM] EQ 1COUNTUP  
0272 C.  
0273 C. ***** XRT END *****  
0274 C.  
0275 C. ***** MDP ´ÜÃİ¤İ»Ö¼Ý¤ĖÂ¤¤¹¤ēDCBC•×²è *****  
0276 C. (%ã°İ¥Ö¥Å¥Ė¥¤¥Ė¥ā¥Ç¥ē¤Ė¼¤¤¼¥Ä»Ü¤¹¤ē)  
0277 S. DC-BC dcbc-402:DCBC  
0278 (MDP_known_event)  
0279 C.  
0280 C.  
0281 C. ***** ¥Ð¥¹•İ Daily±çİŇ¤Ė´Ø¹¤ēDCBC•×²è *****  
0282 S. DC-BC dcbc-153:DCBC  
0283 (SPECIAL-CMD_DAILY_OPERATIN_DCB)  
0284 C.  
0285 C.  
0286 C. įăŁOS¥Á¥S¥Ã¥¼¥Ä»Üįă  
0287 C.  
0288 C. ***** LOS *****  
0289 C.
```

```
main-131 2016-09-22 14:03:13 169 33 SOLAR-B MAIN //
0001 C.
0002 . C. ***** AOS *****
0003 C.
0004 . C. iãAOS¥Á¥S¥Ã¥¬¼Ä»Üjã
0005 C.
0006 C. ¥Ä¥ßj¼¥³¥P¥ó¥ÉÄ÷¿®
0007 +. DC 00-00 NULL_DUMMY_CMD
0008 C.
0009 . C. ***** AOCS : Reload orbital element (send every contact) *****
0010 C. Äi;Ê¤¿¤Ä¤•µ°Æ»Í×ÅÇ¤I¥¢¥Å¥×¥i¼¥ÉjÊÊ½µ•İÊjÊ¤E¼°ÇÖ¤•¤¿¼¹Ç¤İj¢À®, ù¤¹¤Ê¤¤¤ÇÄ÷¿®¤•¤Ê¤¤¤³¤Êj£
0011 +. DC 02-8E AOCU_ORB_UPD
0012 C.
0013 C.
0014 . C. *****
0015 C. XÄ÷¿®µjON
0016 C. *****
0017 C. ¨ °ÆÄ, İ×EÝ¤äLOS¤¤Ç¤İ»p´Ö¤ò¹İİ, ¤•j¢EÖİ×¤EXÄÓON¤İ¹Ö¤Ê¤İ¤Ê¤¤¤³¤Êj£
0018 C.
0019 +. DC 03-B4 TCIA_XPA_ON/HI
0020 M. WAIT_SEC 1
0021 +. DC 03-84 TCIA_XMOD_ON
0022 M. WAIT_SEC 1
0023 +. DC 03-95 TCIA_XMOD_QPSK
0024 C. ¢¢[HK1_XPA_ON/OFF] EQ ON
0025 C. ¢¢[HK1_XPA_PWR_HI/LO] EQ HI
0026 C. ¢¢[HK1_XMOD_ON/OFF] EQ ON
0027 C. ¢¢[HK1_XMOD_QPSK/PM] EQ QPSK
0028 C.
0029 . C. X¥Ð¥ó¥É¥İ¥Ä¥¬¾ÖÄÖ¤¬°ÄÄ¤¤•¤¿¤éj¢°Ê²¼¤İ°ÆÄ, ¼ê½Ç¤¤½Ä¹Ö¤¹¤èj£
0030 C.
0031 . C. *****
0032 C. DR PT1 Äİ¼İ°ÆÄ
0033 C. *****
0034 C. ¨ RESTARTjÊPT1jÊ¤•¤¿¤¤¼¹Ç¤İj¢°Ê²¼¤İ¼Ä¹Ö¤¤¤¤j¢DCBC-150¤Ø¿Ê¤àj£
0035 C.
0036 . C. jãPT1°ÆÄ, ³«»İjã
0037 +. DC 01-29 DHU_S/X_VC4_OFF
0038 +. DC 06-C8 DR_PT1_REP_SEL
0039 BC (01 00)
0040 +. DC 06-B3 DR_REP_START
0041 +. DC 01-32 DHU_X_VC4_ON
0042 C. ¢¢[HK1_REP_PT_1/2] EQ PT1 (¼Ä¹Ö, i¼Ú)
0043 C. ¢¢[HK1_REP_STA/STP] EQ START (¼Ä¹Ö, i¼Ú)
0044 C. ¢¢[HK1_X_VC4_ON/OFF] EQ ON (¼Ä¹Ö, i¼Ú)
0045 C.
0046 . C. jã¥¢¥ó¥Æ¥ÉÄÜÄØjÊÄ•Äº²öÈòjÊ, ä¤İ°ÆÄ, °Æ³«jã
0047 +. DC 06-B3 DR_REP_START
0048 +. DC 01-32 DHU_X_VC4_ON
0049 C. ¢¢[HK1_REP_PT_1/2] EQ PT1 (¼Ä¹Ö, i¼Ú)
0050 C. ¢¢[HK1_REP_STA/STP] EQ START (¼Ä¹Ö, i¼Ú)
0051 C. ¢¢[HK1_X_VC4_ON/OFF] EQ ON (¼Ä¹Ö, i¼Ú)
0052 C.
0053 C.
0054 . C. PT1°ÆÄ, ¤¬¼«Æ°Ää»ß¤•¤¿, äj¢°Ê²¼¤¤½Ä¹Ö¤¹¤èj£
0055 C. ¥¢¥ó¥Æ¥ÉÄÜÄØ¤äÄ•Äº²öÈò¤¬¶ä¤¤¼¹Ç¤İ °İ»¤¹¤Ê¤¤¤¤ÇÄÖ¤Äj£
0056 C.
0057 . C. *****
0058 C. DR PT2 Äİ¼İ°ÆÄ
0059 C. *****
0060 C. ¨ RESTARTjÊPT2jÊ¤•¤¿¤¤¼¹Ç¤İj¢°Ê²¼¤İ¼Ä¹Ö¤¤¤¤j¢DCBC-151¤Ø¿Ê¤àj£
0061 C.
0062 . C. jãPT2°ÆÄ, ³«»İjã
0063 +. DC 01-29 DHU_S/X_VC4_OFF
0064 +. DC 06-C8 DR_PT2_REP_SEL
0065 BC (02 00)
0066 +. DC 06-B3 DR_REP_START
0067 +. DC 01-32 DHU_X_VC4_ON
0068 C. ¢¢[HK1_REP_PT_1/2] EQ PT2 (¼Ä¹Ö, i¼Ú)
0069 C. ¢¢[HK1_REP_STA/STP] EQ START (¼Ä¹Ö, i¼Ú)
0070 C. ¢¢[HK1_X_VC4_ON/OFF] EQ ON (¼Ä¹Ö, i¼Ú)
0071 C.
0072 . C. jã¥¢¥ó¥Æ¥ÉÄÜÄØjÊÄ•Äº²öÈòjÊ, ä¤İ°ÆÄ, °Æ³«jã
0073 +. DC 06-B3 DR_REP_START
0074 +. DC 01-32 DHU_X_VC4_ON
0075 C. ¢¢[HK1_REP_PT_1/2] EQ PT2 (¼Ä¹Ö, i¼Ú)
0076 C. ¢¢[HK1_REP_STA/STP] EQ START (¼Ä¹Ö, i¼Ú)
0077 C. ¢¢[HK1_X_VC4_ON/OFF] EQ ON (¼Ä¹Ö, i¼Ú)
0078 C.
0079 . C. *****
0080 C. DR°ÆÄ, Ää»ßj¢XÄ÷¿®µjOFF
0081 C. *****
0082 C.
0083 . C. jãDR°ÆÄ, Ää»ßjã
0084 +. DC 06-B4 DR_REP_STOP
0085 +. DC 01-29 DHU_S/X_VC4_OFF
0086 C. ¢¢[HK1_REP_STA/STP] EQ STOP
0087 C. ¢¢[HK1_S_VC4_ON/OFF] EQ OFF
0088 C. ¢¢[HK1_X_VC4_ON/OFF] EQ OFF
0089 C.
0090 . C. jãXÄ÷¿®µjOFFjã
0091 +. DC 03-85 TCIA_XMOD_OFF
0092 M. WAIT_SEC 1
0093 +. DC 03-B5 TCIA_XPA_OFF
0094 C. ¢¢[HK1_XMOD_ON/OFF] EQ OFF
0095 C. ¢¢[HK1_XPA_ON/OFF] EQ OFF
```

```
0096      C.  
0097      C.  
0098      . C. ***** AOCS Commands (Tracking Curve Upload) *****  
0099      C. Upload the Orbit Element and the Target Attitude  
0100      C. RAM-ID:TARGET_ATT  
0101      . S. RAM    ram-150:TARGET_ATT  
0102      (  
0103      C.  
0104      C.  
0105      C. Set the dump memory area of TARGET_ATT  
0106      +. DC 02-48 AOCU_DUMP_SET  
0107      BC   (07 00 00 00 18 00)  
0108      C.  
0109      C. <A_STS1>[MEMORY OPERATE SATUS] ADRS = 070000 [ ]  
0110      C.  
0111      C.  
0112      C. Change the TLMFormatNo for the AOCS Dump Format  
0113      +. DC 01-22 DHU_MODE_CHNG  
0114      BC   (04 0b f8)  
0115      C.  
0116      C. Wait for AOCS DUMP to end  
0117      C.  
0118      . C. Check the dump memory  
0119      C.  
0120      C. Result = OK [ ]  
0121      C.  
0122      +. DC 01-22 DHU_MODE_CHNG  
0123      BC   (02 0a f8)  
0124      C.  
0125      C. <A_***>[TLM STS] FMT = 2 [ ]  
0126      C.  
0127      +. DC 02-8E AOCU_ORB_UPD  
0128      . C.  
0129      . C. Load OBSTBL, dump OBSTBL, enable EIS mode changes  
0130      +. DC 07-FC EIS_MODE_CHG_ENA  
0131      BC   (20)  
0132      . C. Verify EIS_MODE_CHG_FLG is ENA  
0133      +. DC 07-FC EIS_MODE_MANU  
0134      BC   (21 02)  
0135      . C. Verify EIS in MANUAL mode  
0136      . C. Estimated OBSTBL upload time is 24s  
0137      C. *****  
0138      C. EIS START OBSTBL LOAD  
0139      C. *****  
0140      . S. RAM    ram-820:EIS_OBSTBL  
0141      (  
0142      +. DC 07-FC EIS_DUMP_OBSTBL  
0143      BC   (07 07 07 00 00 70 00)  
0144      C.  
0145      C. Execute, after the success of OBSTBL upload.  
0146      C. Set EIS TI-commands  
0147      +. TI 2016-09-22 10:48:50.0  
0148      DC 07-FC EIS_MODE_CHG_ENA  
0149      BC   (20)  
0150      . C. [ ] [HK1_TI_CMD_NUM] EQ 1 COUNTUP  
0151      C. *****  
0152      C. EIS END OBSTBL LOAD  
0153      C. *****  
0154      C.  
0155      . C. ***** MDP `ûÃîï»ö%ýðĒÂÐ□■ēDCBC•×²è *****  
0156      C. (%ā°ī¥ŲĂŸÉ▷¥Ê¥â¥Ɔ¥ë□Ĕ¼□□Ā»Ů□¹□é)  
0157      . S. DC-BC dcbc-402:DCBC  
0158      (MDP_known_event)  
0159      C.  
0160      C.  
0161      . C. ***** ¥Đ¥¹•İ Daily±¿ÎÑ□Ě´Ø□¹ēDCBC•×²è *****  
0162      . S. DC-BC dcbc-153:DCBC  
0163      (SPECIAL-CMD_DAILY_OPERATIN_DCB)  
0164      C.  
0165      C.  
0166      . C. ¡ăLOS¥Á¥Ś¥Ǻ¥¬¼Ā»Û¡ă  
0167      C.  
0168      . C. ***** LOS *****  
0169      C.
```

(a) Spacecraft Operation Procedure (real-commands)

```
main-132 2016-09-22 14:03:13 128 33 SOLAR-B MAIN //
0001 C.
0002 . C. ***** AOS *****
0003 C.
0004 . C. iãAOS¥Á¥S¥Ã¥¼Á»Üjã
0005 C.
0006 C. ¥À¥Bj¼¥³¥D¥Ó¥ÉÁ÷¿®
0007 +. DC 00-00 NULL_DUMMY_CMD
0008 C.
0009 . C. ***** AOCS : Reload orbital element (send every contact) *****
0010 C. ĀiĒ□¿□A□•μ°£»İ×AÇ□İ¥C¥A¥×¥İj¼¥ÉjĒĒē½μ•īĒĒjĒēĒ¼°Ç□□•□¿¼i¹Ç□İjÇÀ®, ū□¹□ē□□□ÇÁ÷¿®□•□Ē□□□³□Ēēj£
0011 +. DC 02-8E AOCU_ORB_UPD
0012 C.
0013 C.
0014 . C. *****
0015 C. SOT table upload
0016 C. *****
0017 . C. < Stop SP table >
0018 +. DC 07-F0 MDP_SP_CTRL_MANU
0019 BC (61)
0020 C. -----
0021 C. MDP_SP_CTRL_MODE = MANU [ ]
0022 C. -----
0023 C.
0024 . C. <Upload SP Observation Table>
0025 . S. RAM ram-286:MDP_OBS_S
0026 ()
0027 C.
0028 . C. < Dump RAMID=MDP_OBS_S >
0029 +. DC 07-F0 MDP_DUMP_SPTBL
0030 BC (83 07 00 00 00 38 b8)
0031 C. -----
0032 C. MDP_OBS_S verify = OK/NG [ ]
0033 C. -----
0034 C.
0035 C. *****
0036 C. SOT TI command set
0037 C. *****
0038 C. Execute, after the success of TBL upload.
0039 +. TI 2016-09-22 10:48:18.0
0040 DC 07-F0 MDP_SOT_MODE_OBSV
0041 BC (40)
0042 C. -----
0043 C. HK1_TI_CMD_NUM = 1 CNTUP [ ]
0044 C. -----
0045 C.
0046 C.
0047 C. ***** XRT START *****
0048 C.
0049 +. DC 07-F0 MDP_XRT_CTRL_MANU
0050 BC (c1)
0051 +. DC 07-F0 MDP_XRT_CTRL_MANU
0052 BC (c1)
0053 +. DC 07-F0 MDP_XRT_MODE_STBY
0054 BC (c3)
0055 . C. ----- Success Verify ? OK / NG_____
0056 C.
0057 C. XRT Obs. Table Upload
0058 . S. RAM ram-291:MDP_OBS_X
0059 ()
0060 C.
0061 +. DC 07-F0 MDP_DUMP_XRTTBL
0062 BC (84 07 00 00 00 3a d4)
0063 . C. ----- Comparison Check ? OK / ERR _____
0064 C.
0065 C.
0066 +. DC 07-F0 MDP_XRT_ROI_SET
0067 BC (cd 01 b1 b1 04 04)
0068 +. DC 07-F0 MDP_XRT_ROI_SET
0069 BC (cd 02 b1 b1 08 08)
0070 +. DC 07-F0 MDP_XRT_ROI_SET
0071 BC (cd 03 b1 b1 08 08)
0072 +. DC 07-F0 MDP_XRT_ROI_SET
0073 BC (cd 04 b1 b1 06 06)
0074 +. DC 07-F0 MDP_XRT_ROI_SET
0075 BC (cd 05 85 83 06 06)
0076 +. DC 07-F0 MDP_XRT_ROI_SET
0077 BC (cd 06 85 83 06 06)
0078 +. DC 07-F0 MDP_XRT_ROI_SET
0079 BC (cd 07 85 83 08 08)
0080 +. DC 07-F0 MDP_XRT_ROI_SET
0081 BC (cd 08 80 80 20 20)
0082 +. DC 07-F0 MDP_XRT_ROI_SET
0083 BC (cd 09 80 80 20 08)
0084 +. DC 07-F0 MDP_XRT_ROI_SET
0085 BC (cd 0a 80 80 08 20)
0086 +. DC 07-F0 MDP_XRT_ROI_SET
0087 BC (cd 0f 80 80 06 06)
0088 +. DC 07-F0 MDP_XRT_ROI_SET
0089 BC (cd 10 80 80 08 08)
0090 +. DC 07-F0 MDP_XRT_FLD_DIS
0091 BC (d9)
0092 +. DC 07-F0 MDP_XRT_FLRCTRL_DIS
0093 BC (c9)
0094 +. DC 07-F0 MDP_XRT_ARS_DIS
0095 BC (d5)
```

```

00096 +. DC 07-F0 MDP_XRT_QT_PROG_SET
00097 BC (c4 0b)
00098 +. DC 07-F0 MDP_XRT_FL_PROG_SET
00099 BC (c5 07)
0100 . C. ----- Success Verify ? OK / NG ____
0101 C.
0102 C.
0103 . C. All OK? Yes--> Please Proceed. / No --> Stop here.
0104 C.
0105 +. DC 07-F0 MDP_XRT_MODE_OBSV
0106 BC (c2)
0107 +. TI 2016-09-22 10:48:02.0
0108 DC 07-F0 MDP_XRT_MODE_OBSV
0109 BC (c2)
0110 . C. ----- Success Verify ? OK / NG ____
0111 C.
0112 C. ***** XRT END *****
0113 C.
0114 . C. ***** MDP `0ÃïaÎ»0%YpEÃð1aèDCBC•x²è *****
0115 S. (%ã°i¥0¥Ã¥E¥p¥E¥ã¥c¥è¥½¥a¥¼¥ã¥Ü01aè)
0116 . S. DC-BC dcbc-402:DCBC
0117 (MDP_known_event)
0118 C.
0119 C.
0120 . C. ***** ¥Ð¥¹•İ Daily±¿İÑaE'0a1aèDCBC•x²è *****
0121 . S. DC-BC dcbc-153:DCBC
0122 (SPECIAL-CMD_DAILY_OPERATIN_DCB)
0123 C.
0124 C.
0125 . C. jãLOS¥Ã¥S¥Ã¥¼¥ã¥Üjã
0126 C.
0127 . C. ***** LOS *****
0128 C.

```

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\*\*\* OP Sequence for XRT \*\*\*

|            |            |                                   |   |                      |
|------------|------------|-----------------------------------|---|----------------------|
| 2016/09/22 | 10:58:54.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/22 | 10:58:56.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/22 | 10:58:58.0 | XRT_FOCUS_POSITION_410_OG [0x19a] |   |                      |
|            |            | XRT_FOCUS_POSITION                | 4 | 07-F8 22 fe 97 00    |
| 2016/09/22 | 10:59:00.0 | AOCS_ORe-point_Start_1_OG [0x097] |   |                      |
|            |            | AOCU_NM                           | 5 | 02-76 03 00 00 00 00 |
| 2016/09/22 | 10:59:18.0 | XRT_FLD_ENA_411_OG [0x19b]        |   |                      |
|            |            | MDP_XRT_FLD_ENA                   | 1 | 07-F0 d8             |
| 2016/09/22 | 10:59:20.0 | XRT_FLRCTRL_ENA_412_OG [0x19c]    |   |                      |
|            |            | MDP_XRT_FLRCTRL_ENA               | 1 | 07-F0 c8             |
| 2016/09/22 | 10:59:22.0 | XRT_AEC_RESET_448_OG [0x1c0]      |   |                      |
|            |            | MDP_XRT_AEC_RESET                 | 1 | 07-F0 d0             |
| 2016/09/22 | 10:59:24.0 | XRT_ARS_DIS_423_OG [0x1a7]        |   |                      |
|            |            | MDP_XRT_ARS_DIS                   | 1 | 07-F0 d5             |
| 2016/09/22 | 10:59:26.0 | XRT_FLD_RESET_433_OG [0x1b1]      |   |                      |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 da             |
| 2016/09/22 | 11:01:56.0 | XRT_QT_PROG_SET_432_OG [0x1b0]    |   |                      |
|            |            | MDP_XRT_QT_PROG_SET               | 2 | 07-F0 c4 06          |
| 2016/09/22 | 11:01:58.0 | XRT_FL_PROG_SET_436_OG [0x1b4]    |   |                      |
|            |            | MDP_XRT_FL_PROG_SET               | 2 | 07-F0 c5 07          |
| 2016/09/22 | 11:02:00.0 | XRT_CTRL_AUTO_408_OG [0x198]      |   |                      |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 c0             |
| 2016/09/22 | 14:16:30.0 | XRT_CTRL_MANU_400_OG [0x190]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/22 | 14:16:32.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/22 | 14:16:34.0 | XRT_FLD_RESET_415_OG [0x19f]      |   |                      |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 da             |
| 2016/09/22 | 14:16:36.0 | XRT_PREFLR_STRT_414_OG [0x19e]    |   |                      |
|            |            | MDP_XRT_PREFLR_STRT               | 1 | 07-F0 e8             |
| 2016/09/22 | 14:19:44.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    |   |                      |
|            |            | MDP_XRT_PREFLR_STOP               | 1 | 07-F0 e9             |
| 2016/09/22 | 14:29:54.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/22 | 14:29:56.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/22 | 14:29:58.0 | XRT_FOCUS_POSITION_410_OG [0x19a] |   |                      |
|            |            | XRT_FOCUS_POSITION                | 4 | 07-F8 22 fe 97 00    |
| 2016/09/22 | 14:30:00.0 | AOCS_ORe-point_Start_1_OG [0x097] |   |                      |
|            |            | AOCU_NM                           | 5 | 02-76 03 00 00 00 00 |
| 2016/09/22 | 14:30:18.0 | XRT_FLD_ENA_411_OG [0x19b]        |   |                      |
|            |            | MDP_XRT_FLD_ENA                   | 1 | 07-F0 d8             |
| 2016/09/22 | 14:30:20.0 | XRT_FLRCTRL_ENA_412_OG [0x19c]    |   |                      |
|            |            | MDP_XRT_FLRCTRL_ENA               | 1 | 07-F0 c8             |
| 2016/09/22 | 14:30:22.0 | XRT_AEC_RESET_448_OG [0x1c0]      |   |                      |
|            |            | MDP_XRT_AEC_RESET                 | 1 | 07-F0 d0             |
| 2016/09/22 | 14:30:24.0 | XRT_ARS_DIS_423_OG [0x1a7]        |   |                      |
|            |            | MDP_XRT_ARS_DIS                   | 1 | 07-F0 d5             |
| 2016/09/22 | 14:30:26.0 | XRT_FLD_RESET_433_OG [0x1b1]      |   |                      |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 da             |
| 2016/09/22 | 14:32:56.0 | XRT_QT_PROG_SET_420_OG [0x1a4]    |   |                      |
|            |            | MDP_XRT_QT_PROG_SET               | 2 | 07-F0 c4 09          |
| 2016/09/22 | 14:32:58.0 | XRT_FL_PROG_SET_436_OG [0x1b4]    |   |                      |
|            |            | MDP_XRT_FL_PROG_SET               | 2 | 07-F0 c5 07          |
| 2016/09/22 | 14:33:00.0 | XRT_CTRL_AUTO_408_OG [0x198]      |   |                      |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 c0             |
| 2016/09/22 | 15:48:30.0 | XRT_CTRL_MANU_400_OG [0x190]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/22 | 15:48:32.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/22 | 15:48:34.0 | XRT_FLD_RESET_415_OG [0x19f]      |   |                      |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 da             |
| 2016/09/22 | 15:48:36.0 | XRT_PREFLR_STRT_414_OG [0x19e]    |   |                      |
|            |            | MDP_XRT_PREFLR_STRT               | 1 | 07-F0 e8             |
| 2016/09/22 | 15:51:44.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    |   |                      |
|            |            | MDP_XRT_PREFLR_STOP               | 1 | 07-F0 e9             |
| 2016/09/22 | 16:12:00.0 | XRT_Custom_430_OG [0x1ae]         |   |                      |
| 2016/09/22 | 16:13:00.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      |   |                      |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 c0             |
| 2016/09/22 | 16:59:54.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/22 | 16:59:56.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/22 | 16:59:58.0 | XRT_FOCUS_POSITION_403_OG [0x193] |   |                      |
|            |            | XRT_FOCUS_POSITION                | 4 | 07-F8 22 ff aa 00    |
| 2016/09/22 | 17:00:00.0 | AOCS_ORe-point_Start_2_OG [0x098] |   |                      |
|            |            | AOCU_NM                           | 5 | 02-76 00 00 00 00 00 |
| 2016/09/22 | 17:00:18.0 | XRT_FLD_DIS_406_OG [0x196]        |   |                      |
|            |            | MDP_XRT_FLD_DIS                   | 1 | 07-F0 d9             |
| 2016/09/22 | 17:02:54.0 | XRT_FLRCTRL_DIS_405_OG [0x195]    |   |                      |
|            |            | MDP_XRT_FLRCTRL_DIS               | 1 | 07-F0 c9             |
| 2016/09/22 | 17:02:56.0 | XRT_ARS_DIS_423_OG [0x1a7]        |   |                      |
|            |            | MDP_XRT_ARS_DIS                   | 1 | 07-F0 d5             |
| 2016/09/22 | 17:02:58.0 | XRT_QT_PROG_SET_417_OG [0x1a1]    |   |                      |
|            |            | MDP_XRT_QT_PROG_SET               | 2 | 07-F0 c4 0e          |
| 2016/09/22 | 17:03:00.0 | XRT_CTRL_AUTO_408_OG [0x198]      |   |                      |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 c0             |
| 2016/09/22 | 17:09:54.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |

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|            |            |                                   |                     |   |       |                |
|------------|------------|-----------------------------------|---------------------|---|-------|----------------|
| 2016/09/22 | 17:09:56.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/22 | 17:09:58.0 | XRT_FOCUS_POSITION_410_0G [0x19a] | XRT_FOCUS_POSITION  | 4 | 07-F8 | 22 fe 97 00    |
| 2016/09/22 | 17:10:00.0 | AOCS_ORe-point_Start_3_0G [0x099] | AOCU_NM             | 5 | 02-76 | 00 b2 f2 01 99 |
| 2016/09/22 | 17:10:18.0 | XRT_FLD_ENA_411_0G [0x19b]        | MDP_XRT_FLD_ENA     | 1 | 07-F0 | d8             |
| 2016/09/22 | 17:10:20.0 | XRT_FLRCTRL_ENA_412_0G [0x19c]    | MDP_XRT_FLRCTRL_ENA | 1 | 07-F0 | c8             |
| 2016/09/22 | 17:10:22.0 | XRT_AEC_RESET_448_0G [0x1c0]      | MDP_XRT_AEC_RESET   | 1 | 07-F0 | d0             |
| 2016/09/22 | 17:10:24.0 | XRT_ARS_DIS_423_0G [0x1a7]        | MDP_XRT_ARS_DIS     | 1 | 07-F0 | d5             |
| 2016/09/22 | 17:10:26.0 | XRT_FLD_RESET_433_0G [0x1b1]      | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da             |
| 2016/09/22 | 17:12:56.0 | XRT_QT_PROG_SET_426_0G [0x1aa]    | MDP_XRT_QT_PROG_SET | 2 | 07-F0 | c4 0f          |
| 2016/09/22 | 17:12:58.0 | XRT_FL_PROG_SET_436_0G [0x1b4]    | MDP_XRT_FL_PROG_SET | 2 | 07-F0 | c5 07          |
| 2016/09/22 | 17:13:00.0 | XRT_CTRL_AUTO_408_0G [0x198]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0             |
| 2016/09/22 | 17:25:00.0 | XRT_CTRL_MANU_400_0G [0x190]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/22 | 17:25:02.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/22 | 17:25:04.0 | XRT_FLD_RESET_415_0G [0x19f]      | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da             |
| 2016/09/22 | 17:25:06.0 | XRT_PREFLR_STRT_414_0G [0x19e]    | MDP_XRT_PREFLR_STRT | 1 | 07-F0 | e8             |
| 2016/09/22 | 17:28:14.0 | XRT_PREFLR_STOP_419_0G [0x1a3]    | MDP_XRT_PREFLR_STOP | 1 | 07-F0 | e9             |
| 2016/09/22 | 17:48:30.0 | XRT_Custom_430_0G [0x1ae]         |                     |   |       |                |
| 2016/09/22 | 17:49:30.0 | XRT_CTRL_AUTO_424_0G [0x1a8]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0             |
| 2016/09/22 | 19:02:00.0 | XRT_CTRL_MANU_400_0G [0x190]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/22 | 19:02:02.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/22 | 19:02:04.0 | XRT_FLD_RESET_415_0G [0x19f]      | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da             |
| 2016/09/22 | 19:02:06.0 | XRT_PREFLR_STRT_414_0G [0x19e]    | MDP_XRT_PREFLR_STRT | 1 | 07-F0 | e8             |
| 2016/09/22 | 19:05:14.0 | XRT_PREFLR_STOP_419_0G [0x1a3]    | MDP_XRT_PREFLR_STOP | 1 | 07-F0 | e9             |
| 2016/09/22 | 19:25:00.0 | XRT_Custom_430_0G [0x1ae]         |                     |   |       |                |
| 2016/09/22 | 19:26:00.0 | XRT_CTRL_AUTO_424_0G [0x1a8]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0             |
| 2016/09/22 | 20:39:00.0 | XRT_CTRL_MANU_400_0G [0x190]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/22 | 20:39:02.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/22 | 20:39:04.0 | XRT_FLD_RESET_415_0G [0x19f]      | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da             |
| 2016/09/22 | 20:39:06.0 | XRT_PREFLR_STRT_414_0G [0x19e]    | MDP_XRT_PREFLR_STRT | 1 | 07-F0 | e8             |
| 2016/09/22 | 20:42:14.0 | XRT_PREFLR_STOP_419_0G [0x1a3]    | MDP_XRT_PREFLR_STOP | 1 | 07-F0 | e9             |
| 2016/09/22 | 21:02:30.0 | XRT_Custom_430_0G [0x1ae]         |                     |   |       |                |
| 2016/09/22 | 21:03:30.0 | XRT_CTRL_AUTO_424_0G [0x1a8]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0             |
| 2016/09/22 | 22:16:30.0 | XRT_CTRL_MANU_400_0G [0x190]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/22 | 22:16:32.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/22 | 22:16:34.0 | XRT_FLD_RESET_415_0G [0x19f]      | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da             |
| 2016/09/22 | 22:16:36.0 | XRT_PREFLR_STRT_414_0G [0x19e]    | MDP_XRT_PREFLR_STRT | 1 | 07-F0 | e8             |
| 2016/09/22 | 22:19:44.0 | XRT_PREFLR_STOP_419_0G [0x1a3]    | MDP_XRT_PREFLR_STOP | 1 | 07-F0 | e9             |
| 2016/09/22 | 22:38:00.0 | XRT_Custom_430_0G [0x1ae]         |                     |   |       |                |
| 2016/09/22 | 22:39:00.0 | XRT_CTRL_AUTO_424_0G [0x1a8]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0             |
| 2016/09/22 | 23:09:54.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/22 | 23:09:56.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/22 | 23:09:58.0 | XRT_FOCUS_POSITION_410_0G [0x19a] | XRT_FOCUS_POSITION  | 4 | 07-F8 | 22 fe 97 00    |
| 2016/09/22 | 23:10:00.0 | AOCS_ORe-point_Start_1_0G [0x097] | AOCU_NM             | 5 | 02-76 | 03 00 00 00 00 |
| 2016/09/22 | 23:10:18.0 | XRT_FLD_ENA_411_0G [0x19b]        | MDP_XRT_FLD_ENA     | 1 | 07-F0 | d8             |
| 2016/09/22 | 23:10:20.0 | XRT_FLRCTRL_ENA_412_0G [0x19c]    | MDP_XRT_FLRCTRL_ENA | 1 | 07-F0 | c8             |
| 2016/09/22 | 23:10:22.0 | XRT_AEC_RESET_448_0G [0x1c0]      | MDP_XRT_AEC_RESET   | 1 | 07-F0 | d0             |
| 2016/09/22 | 23:10:24.0 | XRT_ARS_DIS_423_0G [0x1a7]        | MDP_XRT_ARS_DIS     | 1 | 07-F0 | d5             |
| 2016/09/22 | 23:10:26.0 | XRT_FLD_RESET_433_0G [0x1b1]      | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da             |
| 2016/09/22 | 23:12:56.0 | XRT_QT_PROG_SET_425_0G [0x1a9]    |                     |   |       |                |

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|            |            |                                   |                     |   |       |    |             |
|------------|------------|-----------------------------------|---------------------|---|-------|----|-------------|
| 2016/09/22 | 23:12:58.0 | XRT_FL_PROG_SET_436_OG [0x1b4]    | MDP_XRT_QT_PROG_SET | 2 | 07-F0 | c4 | 01          |
| 2016/09/22 | 23:13:00.0 | XRT_CTRL_AUTO_408_OG [0x198]      | MDP_XRT_FL_PROG_SET | 2 | 07-F0 | c5 | 07          |
| 2016/09/22 | 23:53:30.0 | XRT_CTRL_MANU_400_OG [0x190]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0 |             |
| 2016/09/22 | 23:53:32.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1 |             |
| 2016/09/22 | 23:53:34.0 | XRT_FLD_RESET_415_OG [0x19f]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1 |             |
| 2016/09/22 | 23:53:36.0 | XRT_PREFLR_STRT_414_OG [0x19e]    | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da |             |
| 2016/09/22 | 23:56:44.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    | MDP_XRT_PREFLR_STRT | 1 | 07-F0 | e8 |             |
| 2016/09/23 | 00:04:00.0 | XRT_Custom_430_OG [0x1ae]         | MDP_XRT_PREFLR_STOP | 1 | 07-F0 | e9 |             |
| 2016/09/23 | 00:05:00.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      |                     |   |       |    |             |
| 2016/09/23 | 00:39:54.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0 |             |
| 2016/09/23 | 00:39:56.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1 |             |
| 2016/09/23 | 00:39:58.0 | XRT_FOCUS_POSITION_410_OG [0x19a] | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1 |             |
| 2016/09/23 | 00:40:00.0 | AOCS_ORe-point_Start_1_OG [0x097] | XRT_FOCUS_POSITION  | 4 | 07-F8 | 22 | fe 97 00    |
| 2016/09/23 | 00:40:18.0 | XRT_FLD_ENA_411_OG [0x19b]        | AOCU_NM             | 5 | 02-76 | 03 | 00 00 00 00 |
| 2016/09/23 | 00:40:20.0 | XRT_FLRCTRL_ENA_412_OG [0x19c]    | MDP_XRT_FLD_ENA     | 1 | 07-F0 | d8 |             |
| 2016/09/23 | 00:40:22.0 | XRT_AEC_RESET_448_OG [0x1c0]      | MDP_XRT_FLRCTRL_ENA | 1 | 07-F0 | c8 |             |
| 2016/09/23 | 00:40:24.0 | XRT_ARS_DIS_423_OG [0x1a7]        | MDP_XRT_AEC_RESET   | 1 | 07-F0 | d0 |             |
| 2016/09/23 | 00:40:26.0 | XRT_FLD_RESET_433_OG [0x1b1]      | MDP_XRT_ARS_DIS     | 1 | 07-F0 | d5 |             |
| 2016/09/23 | 00:42:56.0 | XRT_QT_PROG_SET_425_OG [0x1a9]    | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da |             |
| 2016/09/23 | 00:42:58.0 | XRT_FL_PROG_SET_436_OG [0x1b4]    | MDP_XRT_QT_PROG_SET | 2 | 07-F0 | c4 | 01          |
| 2016/09/23 | 00:43:00.0 | XRT_CTRL_AUTO_408_OG [0x198]      | MDP_XRT_FL_PROG_SET | 2 | 07-F0 | c5 | 07          |
| 2016/09/23 | 01:19:30.0 | XRT_CTRL_MANU_400_OG [0x190]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0 |             |
| 2016/09/23 | 01:19:32.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1 |             |
| 2016/09/23 | 01:19:34.0 | XRT_FLD_RESET_415_OG [0x19f]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1 |             |
| 2016/09/23 | 01:19:36.0 | XRT_PREFLR_STRT_414_OG [0x19e]    | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da |             |
| 2016/09/23 | 01:22:44.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    | MDP_XRT_PREFLR_STRT | 1 | 07-F0 | e8 |             |
| 2016/09/23 | 01:36:30.0 | XRT_Custom_430_OG [0x1ae]         | MDP_XRT_PREFLR_STOP | 1 | 07-F0 | e9 |             |
| 2016/09/23 | 01:37:30.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      |                     |   |       |    |             |
| 2016/09/23 | 02:52:30.0 | XRT_CTRL_MANU_400_OG [0x190]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0 |             |
| 2016/09/23 | 02:52:32.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1 |             |
| 2016/09/23 | 02:52:34.0 | XRT_FLD_RESET_415_OG [0x19f]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1 |             |
| 2016/09/23 | 02:52:36.0 | XRT_PREFLR_STRT_414_OG [0x19e]    | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da |             |
| 2016/09/23 | 02:55:44.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    | MDP_XRT_PREFLR_STRT | 1 | 07-F0 | e8 |             |
| 2016/09/23 | 03:13:00.0 | XRT_Custom_430_OG [0x1ae]         | MDP_XRT_PREFLR_STOP | 1 | 07-F0 | e9 |             |
| 2016/09/23 | 03:14:00.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      |                     |   |       |    |             |
| 2016/09/23 | 04:21:30.0 | XRT_CTRL_MANU_400_OG [0x190]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0 |             |
| 2016/09/23 | 04:21:32.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1 |             |
| 2016/09/23 | 04:21:34.0 | XRT_FLD_RESET_415_OG [0x19f]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1 |             |
| 2016/09/23 | 04:21:36.0 | XRT_PREFLR_STRT_414_OG [0x19e]    | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da |             |
| 2016/09/23 | 04:24:44.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    | MDP_XRT_PREFLR_STRT | 1 | 07-F0 | e8 |             |
| 2016/09/23 | 04:50:30.0 | XRT_Custom_430_OG [0x1ae]         | MDP_XRT_PREFLR_STOP | 1 | 07-F0 | e9 |             |
| 2016/09/23 | 04:51:30.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      |                     |   |       |    |             |
| 2016/09/23 | 05:34:24.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0 |             |
| 2016/09/23 | 05:34:26.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1 |             |
| 2016/09/23 | 05:34:28.0 | XRT_FOCUS_POSITION_403_OG [0x193] | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1 |             |
| 2016/09/23 | 05:34:30.0 | AOCS_ORe-point_Start_2_OG [0x098] | XRT_FOCUS_POSITION  | 4 | 07-F8 | 22 | ff aa 00    |
| 2016/09/23 | 05:34:48.0 | XRT_FLD_DIS_406_OG [0x196]        | AOCU_NM             | 5 | 02-76 | 00 | 00 00 00 00 |
| 2016/09/23 | 05:37:24.0 | XRT_FLRCTRL_DIS_405_OG [0x195]    | MDP_XRT_FLD_DIS     | 1 | 07-F0 | d9 |             |
|            |            |                                   | MDP_XRT_FLRCTRL_DIS | 1 | 07-F0 | c9 |             |

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|            |            |                                   |   |                      |
|------------|------------|-----------------------------------|---|----------------------|
| 2016/09/23 | 05:37:26.0 | XRT_ARS_DIS_423_OG [0x1a7]        |   |                      |
|            |            | MDP_XRT_ARS_DIS                   | 1 | 07-F0 d5             |
| 2016/09/23 | 05:37:28.0 | XRT_QT_PROG_SET_417_OG [0x1a1]    |   |                      |
|            |            | MDP_XRT_QT_PROG_SET               | 2 | 07-F0 c4 0e          |
| 2016/09/23 | 05:37:30.0 | XRT_CTRL_AUTO_408_OG [0x198]      |   |                      |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 c0             |
| 2016/09/23 | 05:44:24.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/23 | 05:44:26.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/23 | 05:44:28.0 | XRT_FOCUS_POSITION_410_OG [0x19a] |   |                      |
|            |            | XRT_FOCUS_POSITION                | 4 | 07-F8 22 fe 97 00    |
| 2016/09/23 | 05:44:30.0 | AOCS_ORe-point_Start_1_OG [0x097] |   |                      |
|            |            | AOCU_NM                           | 5 | 02-76 03 00 00 00 00 |
| 2016/09/23 | 05:44:48.0 | XRT_FLD_ENA_411_OG [0x19b]        |   |                      |
|            |            | MDP_XRT_FLD_ENA                   | 1 | 07-F0 d8             |
| 2016/09/23 | 05:44:50.0 | XRT_FLRCTRL_ENA_412_OG [0x19c]    |   |                      |
|            |            | MDP_XRT_FLRCTRL_ENA               | 1 | 07-F0 c8             |
| 2016/09/23 | 05:44:52.0 | XRT_AEC_RESET_448_OG [0x1c0]      |   |                      |
|            |            | MDP_XRT_AEC_RESET                 | 1 | 07-F0 d0             |
| 2016/09/23 | 05:44:54.0 | XRT_ARS_DIS_423_OG [0x1a7]        |   |                      |
|            |            | MDP_XRT_ARS_DIS                   | 1 | 07-F0 d5             |
| 2016/09/23 | 05:44:56.0 | XRT_FLD_RESET_433_OG [0x1b1]      |   |                      |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 da             |
| 2016/09/23 | 05:47:26.0 | XRT_QT_PROG_SET_425_OG [0x1a9]    |   |                      |
|            |            | MDP_XRT_QT_PROG_SET               | 2 | 07-F0 c4 01          |
| 2016/09/23 | 05:47:28.0 | XRT_FL_PROG_SET_436_OG [0x1b4]    |   |                      |
|            |            | MDP_XRT_FL_PROG_SET               | 2 | 07-F0 c5 07          |
| 2016/09/23 | 05:47:30.0 | XRT_CTRL_AUTO_408_OG [0x198]      |   |                      |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 c0             |
| 2016/09/23 | 06:01:30.0 | XRT_CTRL_MANU_400_OG [0x190]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/23 | 06:01:32.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/23 | 06:01:34.0 | XRT_FLD_RESET_415_OG [0x19f]      |   |                      |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 da             |
| 2016/09/23 | 06:01:36.0 | XRT_PREFLR_STRT_414_OG [0x19e]    |   |                      |
|            |            | MDP_XRT_PREFLR_STRT               | 1 | 07-F0 e8             |
| 2016/09/23 | 06:04:44.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    |   |                      |
|            |            | MDP_XRT_PREFLR_STOP               | 1 | 07-F0 e9             |
| 2016/09/23 | 06:28:00.0 | XRT_Custom_430_OG [0x1ae]         |   |                      |
| 2016/09/23 | 06:29:00.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      |   |                      |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 c0             |
| 2016/09/23 | 07:16:05.5 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/23 | 07:18:00.0 | AOCS_ORe-point_Start_4_OG [0x09a] |   |                      |
|            |            | AOCU_NM                           | 5 | 02-76 03 00 00 03 64 |
| 2016/09/23 | 07:42:00.0 | XRT_CTRL_MANU_400_OG [0x190]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/23 | 07:42:02.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/23 | 07:42:04.0 | XRT_FLD_RESET_415_OG [0x19f]      |   |                      |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 da             |
| 2016/09/23 | 07:42:06.0 | XRT_PREFLR_STRT_414_OG [0x19e]    |   |                      |
|            |            | MDP_XRT_PREFLR_STRT               | 1 | 07-F0 e8             |
| 2016/09/23 | 07:45:14.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    |   |                      |
|            |            | MDP_XRT_PREFLR_STOP               | 1 | 07-F0 e9             |
| 2016/09/23 | 08:06:00.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/23 | 08:06:02.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/23 | 08:06:04.0 | XRT_FOCUS_POSITION_410_OG [0x19a] |   |                      |
|            |            | XRT_FOCUS_POSITION                | 4 | 07-F8 22 fe 97 00    |
| 2016/09/23 | 08:06:24.0 | XRT_FLD_ENA_411_OG [0x19b]        |   |                      |
|            |            | MDP_XRT_FLD_ENA                   | 1 | 07-F0 d8             |
| 2016/09/23 | 08:06:26.0 | XRT_FLRCTRL_ENA_412_OG [0x19c]    |   |                      |
|            |            | MDP_XRT_FLRCTRL_ENA               | 1 | 07-F0 c8             |
| 2016/09/23 | 08:06:28.0 | XRT_AEC_RESET_448_OG [0x1c0]      |   |                      |
|            |            | MDP_XRT_AEC_RESET                 | 1 | 07-F0 d0             |
| 2016/09/23 | 08:06:30.0 | XRT_ARS_DIS_423_OG [0x1a7]        |   |                      |
|            |            | MDP_XRT_ARS_DIS                   | 1 | 07-F0 d5             |
| 2016/09/23 | 08:06:32.0 | XRT_FLD_RESET_433_OG [0x1b1]      |   |                      |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 da             |
| 2016/09/23 | 08:09:02.0 | XRT_QT_PROG_SET_420_OG [0x1a4]    |   |                      |
|            |            | MDP_XRT_QT_PROG_SET               | 2 | 07-F0 c4 09          |
| 2016/09/23 | 08:09:04.0 | XRT_FL_PROG_SET_436_OG [0x1b4]    |   |                      |
|            |            | MDP_XRT_FL_PROG_SET               | 2 | 07-F0 c5 07          |
| 2016/09/23 | 08:09:06.0 | XRT_CTRL_AUTO_408_OG [0x198]      |   |                      |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 c0             |
| 2016/09/23 | 09:21:30.5 | XRT_CTRL_MANU_400_OG [0x190]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/23 | 09:21:33.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/23 | 09:21:35.0 | XRT_FLD_RESET_415_OG [0x19f]      |   |                      |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 da             |
| 2016/09/23 | 09:21:37.0 | XRT_PREFLR_STRT_414_OG [0x19e]    |   |                      |
|            |            | MDP_XRT_PREFLR_STRT               | 1 | 07-F0 e8             |
| 2016/09/23 | 09:24:45.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    |   |                      |
|            |            | MDP_XRT_PREFLR_STOP               | 1 | 07-F0 e9             |
| 2016/09/23 | 09:40:31.0 | XRT_Custom_430_OG [0x1ae]         |   |                      |
| 2016/09/23 | 09:41:31.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      |   |                      |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 c0             |
| 2016/09/23 | 10:59:54.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |

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|            |            |                                   |                              |   |       |                |  |
|------------|------------|-----------------------------------|------------------------------|---|-------|----------------|--|
| 2016/09/23 | 10:59:56.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_MANU            | 1 | 07-F0 | c1             |  |
| 2016/09/23 | 10:59:58.0 | XRT_FOCUS_POSITION_410_OG [0x19a] | MDP_XRT_CTRL_MANU            | 1 | 07-F0 | c1             |  |
| 2016/09/23 | 11:00:00.0 | AOCs_Or-point_Start_1_OG [0x097]  | XRT_FOCUS_POSITION           | 4 | 07-F8 | 22 fe 97 00    |  |
| 2016/09/23 | 11:00:18.0 | XRT_FLD_ENA_411_OG [0x19b]        | AOCU_NM                      | 5 | 02-76 | 03 00 00 00 00 |  |
| 2016/09/23 | 11:00:20.0 | XRT_FLRCTRL_ENA_412_OG [0x19c]    | MDP_XRT_FLD_ENA              | 1 | 07-F0 | d8             |  |
| 2016/09/23 | 11:00:22.0 | XRT_AEC_RESET_448_OG [0x1c0]      | MDP_XRT_FLRCTRL_ENA          | 1 | 07-F0 | c8             |  |
| 2016/09/23 | 11:00:24.0 | XRT_ARS_DIS_423_OG [0x1a7]        | MDP_XRT_AEC_RESET            | 1 | 07-F0 | d0             |  |
| 2016/09/23 | 11:00:26.0 | XRT_FLD_RESET_433_OG [0x1b1]      | MDP_XRT_ARS_DIS              | 1 | 07-F0 | d5             |  |
| 2016/09/23 | 11:02:56.0 | XRT_QT_PROG_SET_420_OG [0x1a4]    | MDP_XRT_FLD_RESET            | 1 | 07-F0 | da             |  |
| 2016/09/23 | 11:02:58.0 | XRT_FL_PROG_SET_436_OG [0x1b4]    | MDP_XRT_QT_PROG_SET          | 2 | 07-F0 | c4 09          |  |
| 2016/09/23 | 11:03:00.0 | XRT_CTRL_AUTO_408_OG [0x198]      | MDP_XRT_FL_PROG_SET          | 2 | 07-F0 | c5 07          |  |
| 2016/09/23 | 14:29:54.0 | XRT_CTRL_MANU_402_OG [0x192]      | XRT_CTRL_AUTO_408_OG [0x198] | 1 | 07-F0 | c0             |  |
| 2016/09/23 | 14:29:56.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_MANU            | 1 | 07-F0 | c1             |  |
| 2016/09/23 | 14:29:58.0 | XRT_FOCUS_POSITION_410_OG [0x19a] | MDP_XRT_CTRL_MANU            | 1 | 07-F0 | c1             |  |
| 2016/09/23 | 14:30:00.0 | AOCs_Or-point_Start_1_OG [0x097]  | XRT_FOCUS_POSITION           | 4 | 07-F8 | 22 fe 97 00    |  |
| 2016/09/23 | 14:30:18.0 | XRT_FLD_ENA_411_OG [0x19b]        | AOCU_NM                      | 5 | 02-76 | 03 00 00 00 00 |  |
| 2016/09/23 | 14:30:20.0 | XRT_FLRCTRL_ENA_412_OG [0x19c]    | MDP_XRT_FLD_ENA              | 1 | 07-F0 | d8             |  |
| 2016/09/23 | 14:30:22.0 | XRT_AEC_RESET_448_OG [0x1c0]      | MDP_XRT_FLRCTRL_ENA          | 1 | 07-F0 | c8             |  |
| 2016/09/23 | 14:30:24.0 | XRT_ARS_DIS_423_OG [0x1a7]        | MDP_XRT_AEC_RESET            | 1 | 07-F0 | d0             |  |
| 2016/09/23 | 14:30:26.0 | XRT_FLD_RESET_433_OG [0x1b1]      | MDP_XRT_ARS_DIS              | 1 | 07-F0 | d5             |  |
| 2016/09/23 | 14:32:56.0 | XRT_QT_PROG_SET_420_OG [0x1a4]    | MDP_XRT_FLD_RESET            | 1 | 07-F0 | da             |  |
| 2016/09/23 | 14:32:58.0 | XRT_FL_PROG_SET_436_OG [0x1b4]    | MDP_XRT_QT_PROG_SET          | 2 | 07-F0 | c4 09          |  |
| 2016/09/23 | 14:33:00.0 | XRT_CTRL_AUTO_408_OG [0x198]      | MDP_XRT_FL_PROG_SET          | 2 | 07-F0 | c5 07          |  |
| 2016/09/23 | 14:48:30.0 | XRT_CTRL_MANU_400_OG [0x190]      | XRT_CTRL_AUTO_408_OG [0x198] | 1 | 07-F0 | c0             |  |
| 2016/09/23 | 14:48:32.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_MANU            | 1 | 07-F0 | c1             |  |
| 2016/09/23 | 14:48:34.0 | XRT_FLD_RESET_415_OG [0x19f]      | MDP_XRT_CTRL_MANU            | 1 | 07-F0 | c1             |  |
| 2016/09/23 | 14:48:36.0 | XRT_PREFLR_STRT_414_OG [0x19e]    | MDP_XRT_FLD_RESET            | 1 | 07-F0 | da             |  |
| 2016/09/23 | 14:51:44.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    | MDP_XRT_PREFLR_STRT          | 1 | 07-F0 | e8             |  |
| 2016/09/23 | 14:59:30.0 | XRT_Custom_430_OG [0x1ae]         | MDP_XRT_PREFLR_STOP          | 1 | 07-F0 | e9             |  |
| 2016/09/23 | 15:00:30.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      | XRT_Custom_430_OG [0x1ae]    | 1 | 07-F0 | c0             |  |
| 2016/09/23 | 16:23:00.0 | XRT_CTRL_MANU_400_OG [0x190]      | MDP_XRT_CTRL_AUTO            | 1 | 07-F0 | c0             |  |
| 2016/09/23 | 16:23:02.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_MANU            | 1 | 07-F0 | c1             |  |
| 2016/09/23 | 16:23:04.0 | XRT_FLD_RESET_415_OG [0x19f]      | MDP_XRT_CTRL_MANU            | 1 | 07-F0 | c1             |  |
| 2016/09/23 | 16:23:06.0 | XRT_PREFLR_STRT_414_OG [0x19e]    | MDP_XRT_FLD_RESET            | 1 | 07-F0 | da             |  |
| 2016/09/23 | 16:26:14.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    | MDP_XRT_PREFLR_STRT          | 1 | 07-F0 | e8             |  |
| 2016/09/23 | 16:46:30.0 | XRT_Custom_430_OG [0x1ae]         | MDP_XRT_PREFLR_STOP          | 1 | 07-F0 | e9             |  |
| 2016/09/23 | 16:47:30.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      | XRT_Custom_430_OG [0x1ae]    | 1 | 07-F0 | c0             |  |
| 2016/09/23 | 17:36:24.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_AUTO            | 1 | 07-F0 | c0             |  |
| 2016/09/23 | 17:36:26.0 | XRT_CTRL_MANU_402_OG [0x192]      | MDP_XRT_CTRL_MANU            | 1 | 07-F0 | c1             |  |
| 2016/09/23 | 17:36:28.0 | XRT_FOCUS_POSITION_403_OG [0x193] | MDP_XRT_CTRL_MANU            | 1 | 07-F0 | c1             |  |
| 2016/09/23 | 17:36:30.0 | AOCs_Or-point_Start_2_OG [0x098]  | XRT_FOCUS_POSITION           | 4 | 07-F8 | 22 ff aa 00    |  |
| 2016/09/23 | 17:36:48.0 | XRT_FLD_DIS_406_OG [0x196]        | AOCU_NM                      | 5 | 02-76 | 00 00 00 00 00 |  |
| 2016/09/23 | 17:39:24.0 | XRT_FLRCTRL_DIS_405_OG [0x195]    | MDP_XRT_FLD_DIS              | 1 | 07-F0 | d9             |  |
| 2016/09/23 | 17:39:26.0 | XRT_ARS_DIS_423_OG [0x1a7]        | MDP_XRT_FLRCTRL_DIS          | 1 | 07-F0 | c9             |  |
| 2016/09/23 | 17:39:28.0 | XRT_QT_PROG_SET_417_OG [0x1a1]    | MDP_XRT_ARS_DIS              | 1 | 07-F0 | d5             |  |
| 2016/09/23 | 17:39:30.0 | XRT_CTRL_AUTO_408_OG [0x198]      | MDP_XRT_QT_PROG_SET          | 2 | 07-F0 | c4 0e          |  |
| 2016/09/23 | 17:46:24.0 | XRT_CTRL_MANU_402_OG [0x192]      | XRT_CTRL_AUTO_408_OG [0x198] | 1 | 07-F0 | c0             |  |
|            |            |                                   | MDP_XRT_CTRL_MANU            | 1 | 07-F0 | c1             |  |

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|            |            |                                   |                     |   |       |                |
|------------|------------|-----------------------------------|---------------------|---|-------|----------------|
| 2016/09/23 | 17:46:26.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/23 | 17:46:28.0 | XRT_FOCUS_POSITION_410_0G [0x19a] | XRT_FOCUS_POSITION  | 4 | 07-F8 | 22 fe 97 00    |
| 2016/09/23 | 17:46:30.0 | AOCS_ORe-point_Start_1_0G [0x097] | AOCU_NM             | 5 | 02-76 | 03 00 00 00 00 |
| 2016/09/23 | 17:46:48.0 | XRT_FLD_ENA_411_0G [0x19b]        | MDP_XRT_FLD_ENA     | 1 | 07-F0 | d8             |
| 2016/09/23 | 17:46:50.0 | XRT_FLRCTRL_ENA_412_0G [0x19c]    | MDP_XRT_FLRCTRL_ENA | 1 | 07-F0 | c8             |
| 2016/09/23 | 17:46:52.0 | XRT_AEC_RESET_448_0G [0x1c0]      | MDP_XRT_AEC_RESET   | 1 | 07-F0 | d0             |
| 2016/09/23 | 17:46:54.0 | XRT_ARS_DIS_423_0G [0x1a7]        | MDP_XRT_ARS_DIS     | 1 | 07-F0 | d5             |
| 2016/09/23 | 17:46:56.0 | XRT_FLD_RESET_433_0G [0x1b1]      | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da             |
| 2016/09/23 | 17:49:26.0 | XRT_QT_PROG_SET_425_0G [0x1a9]    | MDP_XRT_QT_PROG_SET | 2 | 07-F0 | c4 01          |
| 2016/09/23 | 17:49:28.0 | XRT_FL_PROG_SET_436_0G [0x1b4]    | MDP_XRT_FL_PROG_SET | 2 | 07-F0 | c5 07          |
| 2016/09/23 | 17:49:30.0 | XRT_CTRL_AUTO_408_0G [0x198]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0             |
| 2016/09/23 | 18:00:00.0 | XRT_CTRL_MANU_400_0G [0x190]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/23 | 18:00:02.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/23 | 18:00:04.0 | XRT_FLD_RESET_415_0G [0x19f]      | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da             |
| 2016/09/23 | 18:00:06.0 | XRT_PREFLR_STRT_414_0G [0x19e]    | MDP_XRT_PREFLR_STRT | 1 | 07-F0 | e8             |
| 2016/09/23 | 18:03:14.0 | XRT_PREFLR_STOP_419_0G [0x1a3]    | MDP_XRT_PREFLR_STOP | 1 | 07-F0 | e9             |
| 2016/09/23 | 18:23:30.0 | XRT_Custom_430_0G [0x1ae]         |                     |   |       |                |
| 2016/09/23 | 18:24:30.0 | XRT_CTRL_AUTO_424_0G [0x1a8]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0             |
| 2016/09/23 | 19:16:24.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/23 | 19:16:26.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/23 | 19:16:28.0 | XRT_FOCUS_POSITION_410_0G [0x19a] | XRT_FOCUS_POSITION  | 4 | 07-F8 | 22 fe 97 00    |
| 2016/09/23 | 19:16:30.0 | AOCS_ORe-point_Start_5_0G [0x09b] | AOCU_NM             | 5 | 02-76 | 04 00 00 00 00 |
| 2016/09/23 | 19:16:48.0 | XRT_FLD_ENA_411_0G [0x19b]        | MDP_XRT_FLD_ENA     | 1 | 07-F0 | d8             |
| 2016/09/23 | 19:16:50.0 | XRT_FLRCTRL_ENA_412_0G [0x19c]    | MDP_XRT_FLRCTRL_ENA | 1 | 07-F0 | c8             |
| 2016/09/23 | 19:16:52.0 | XRT_AEC_RESET_448_0G [0x1c0]      | MDP_XRT_AEC_RESET   | 1 | 07-F0 | d0             |
| 2016/09/23 | 19:16:54.0 | XRT_ARS_DIS_423_0G [0x1a7]        | MDP_XRT_ARS_DIS     | 1 | 07-F0 | d5             |
| 2016/09/23 | 19:16:56.0 | XRT_FLD_RESET_433_0G [0x1b1]      | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da             |
| 2016/09/23 | 19:19:26.0 | XRT_QT_PROG_SET_426_0G [0x1aa]    | MDP_XRT_QT_PROG_SET | 2 | 07-F0 | c4 0f          |
| 2016/09/23 | 19:19:28.0 | XRT_FL_PROG_SET_436_0G [0x1b4]    | MDP_XRT_FL_PROG_SET | 2 | 07-F0 | c5 07          |
| 2016/09/23 | 19:19:30.0 | XRT_CTRL_AUTO_408_0G [0x198]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0             |
| 2016/09/23 | 19:37:00.0 | XRT_CTRL_MANU_400_0G [0x190]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/23 | 19:37:02.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/23 | 19:37:04.0 | XRT_FLD_RESET_415_0G [0x19f]      | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da             |
| 2016/09/23 | 19:37:06.0 | XRT_PREFLR_STRT_414_0G [0x19e]    | MDP_XRT_PREFLR_STRT | 1 | 07-F0 | e8             |
| 2016/09/23 | 19:40:14.0 | XRT_PREFLR_STOP_419_0G [0x1a3]    | MDP_XRT_PREFLR_STOP | 1 | 07-F0 | e9             |
| 2016/09/23 | 20:00:00.0 | XRT_Custom_430_0G [0x1ae]         |                     |   |       |                |
| 2016/09/23 | 20:01:00.0 | XRT_CTRL_AUTO_424_0G [0x1a8]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0             |
| 2016/09/23 | 21:14:00.0 | XRT_CTRL_MANU_400_0G [0x190]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/23 | 21:14:02.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/23 | 21:14:04.0 | XRT_FLD_RESET_415_0G [0x19f]      | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da             |
| 2016/09/23 | 21:14:06.0 | XRT_PREFLR_STRT_414_0G [0x19e]    | MDP_XRT_PREFLR_STRT | 1 | 07-F0 | e8             |
| 2016/09/23 | 21:17:14.0 | XRT_PREFLR_STOP_419_0G [0x1a3]    | MDP_XRT_PREFLR_STOP | 1 | 07-F0 | e9             |
| 2016/09/23 | 21:37:30.0 | XRT_Custom_430_0G [0x1ae]         |                     |   |       |                |
| 2016/09/23 | 21:38:30.0 | XRT_CTRL_AUTO_424_0G [0x1a8]      | MDP_XRT_CTRL_AUTO   | 1 | 07-F0 | c0             |
| 2016/09/23 | 22:51:30.0 | XRT_CTRL_MANU_400_0G [0x190]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/23 | 22:51:32.0 | XRT_CTRL_MANU_402_0G [0x192]      | MDP_XRT_CTRL_MANU   | 1 | 07-F0 | c1             |
| 2016/09/23 | 22:51:34.0 | XRT_FLD_RESET_415_0G [0x19f]      | MDP_XRT_FLD_RESET   | 1 | 07-F0 | da             |
| 2016/09/23 | 22:51:36.0 | XRT_PREFLR_STRT_414_0G [0x19e]    | MDP_XRT_PREFLR_STRT | 1 | 07-F0 | e8             |

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|------------|------------|-----------------------------------|---|-------|----------------|
| 2016/09/23 | 22:54:44.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    |   |       |                |
|            |            | MDP_XRT_PREFLR_STOP               | 1 | 07-F0 | e9             |
| 2016/09/23 | 23:12:00.0 | XRT_Custom_430_OG [0x1ae]         |   |       |                |
| 2016/09/23 | 23:13:00.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      |   |       |                |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 | c0             |
| 2016/09/24 | 00:28:30.0 | XRT_CTRL_MANU_400_OG [0x190]      |   |       |                |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 | c1             |
| 2016/09/24 | 00:28:32.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |       |                |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 | c1             |
| 2016/09/24 | 00:28:34.0 | XRT_FLD_RESET_415_OG [0x19f]      |   |       |                |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 | da             |
| 2016/09/24 | 00:28:36.0 | XRT_PREFLR_STRT_414_OG [0x19e]    |   |       |                |
|            |            | MDP_XRT_PREFLR_STRT               | 1 | 07-F0 | e8             |
| 2016/09/24 | 00:31:44.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    |   |       |                |
|            |            | MDP_XRT_PREFLR_STOP               | 1 | 07-F0 | e9             |
| 2016/09/24 | 00:36:30.0 | XRT_Custom_430_OG [0x1ae]         |   |       |                |
| 2016/09/24 | 00:37:30.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      |   |       |                |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 | c0             |
| 2016/09/24 | 01:16:24.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |       |                |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 | c1             |
| 2016/09/24 | 01:16:26.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |       |                |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 | c1             |
| 2016/09/24 | 01:16:28.0 | XRT_FOCUS_POSITION_410_OG [0x19a] |   |       |                |
|            |            | XRT_FOCUS_POSITION                | 4 | 07-F8 | 22 fe 97 00    |
| 2016/09/24 | 01:16:30.0 | AOCS_ORe-point_Start_1_OG [0x097] |   |       |                |
|            |            | AOCU_NM                           | 5 | 02-76 | 03 00 00 00 00 |
| 2016/09/24 | 01:16:48.0 | XRT_FLD_ENA_411_OG [0x19b]        |   |       |                |
|            |            | MDP_XRT_FLD_ENA                   | 1 | 07-F0 | d8             |
| 2016/09/24 | 01:16:50.0 | XRT_FLRCTRL_ENA_412_OG [0x19c]    |   |       |                |
|            |            | MDP_XRT_FLRCTRL_ENA               | 1 | 07-F0 | c8             |
| 2016/09/24 | 01:16:52.0 | XRT_AEC_RESET_448_OG [0x1c0]      |   |       |                |
|            |            | MDP_XRT_AEC_RESET                 | 1 | 07-F0 | d0             |
| 2016/09/24 | 01:16:54.0 | XRT_ARS_DIS_423_OG [0x1a7]        |   |       |                |
|            |            | MDP_XRT_ARS_DIS                   | 1 | 07-F0 | d5             |
| 2016/09/24 | 01:16:56.0 | XRT_FLD_RESET_433_OG [0x1b1]      |   |       |                |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 | da             |
| 2016/09/24 | 01:19:26.0 | XRT_QT_PROG_SET_420_OG [0x1a4]    |   |       |                |
|            |            | MDP_XRT_QT_PROG_SET               | 2 | 07-F0 | c4 09          |
| 2016/09/24 | 01:19:28.0 | XRT_FL_PROG_SET_436_OG [0x1b4]    |   |       |                |
|            |            | MDP_XRT_FL_PROG_SET               | 2 | 07-F0 | c5 07          |
| 2016/09/24 | 01:19:30.0 | XRT_CTRL_AUTO_408_OG [0x198]      |   |       |                |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 | c0             |
| 2016/09/24 | 01:52:00.0 | XRT_CTRL_MANU_400_OG [0x190]      |   |       |                |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 | c1             |
| 2016/09/24 | 01:52:02.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |       |                |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 | c1             |
| 2016/09/24 | 01:52:04.0 | XRT_FLD_RESET_415_OG [0x19f]      |   |       |                |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 | da             |
| 2016/09/24 | 01:52:06.0 | XRT_PREFLR_STRT_414_OG [0x19e]    |   |       |                |
|            |            | MDP_XRT_PREFLR_STRT               | 1 | 07-F0 | e8             |
| 2016/09/24 | 01:55:14.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    |   |       |                |
|            |            | MDP_XRT_PREFLR_STOP               | 1 | 07-F0 | e9             |
| 2016/09/24 | 02:11:30.0 | XRT_Custom_430_OG [0x1ae]         |   |       |                |
| 2016/09/24 | 02:12:30.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      |   |       |                |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 | c0             |
| 2016/09/24 | 03:27:30.0 | XRT_CTRL_MANU_400_OG [0x190]      |   |       |                |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 | c1             |
| 2016/09/24 | 03:27:32.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |       |                |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 | c1             |
| 2016/09/24 | 03:27:34.0 | XRT_FLD_RESET_415_OG [0x19f]      |   |       |                |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 | da             |
| 2016/09/24 | 03:27:36.0 | XRT_PREFLR_STRT_414_OG [0x19e]    |   |       |                |
|            |            | MDP_XRT_PREFLR_STRT               | 1 | 07-F0 | e8             |
| 2016/09/24 | 03:30:44.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    |   |       |                |
|            |            | MDP_XRT_PREFLR_STOP               | 1 | 07-F0 | e9             |
| 2016/09/24 | 03:48:30.0 | XRT_Custom_430_OG [0x1ae]         |   |       |                |
| 2016/09/24 | 03:49:30.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      |   |       |                |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 | c0             |
| 2016/09/24 | 04:57:30.0 | XRT_CTRL_MANU_400_OG [0x190]      |   |       |                |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 | c1             |
| 2016/09/24 | 04:57:32.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |       |                |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 | c1             |
| 2016/09/24 | 04:57:34.0 | XRT_FLD_RESET_415_OG [0x19f]      |   |       |                |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 | da             |
| 2016/09/24 | 04:57:36.0 | XRT_PREFLR_STRT_414_OG [0x19e]    |   |       |                |
|            |            | MDP_XRT_PREFLR_STRT               | 1 | 07-F0 | e8             |
| 2016/09/24 | 05:00:44.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    |   |       |                |
|            |            | MDP_XRT_PREFLR_STOP               | 1 | 07-F0 | e9             |
| 2016/09/24 | 05:25:30.0 | XRT_Custom_430_OG [0x1ae]         |   |       |                |
| 2016/09/24 | 05:26:30.5 | XRT_CTRL_AUTO_424_OG [0x1a8]      |   |       |                |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 | c0             |
| 2016/09/24 | 05:53:54.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |       |                |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 | c1             |
| 2016/09/24 | 05:53:56.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |       |                |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 | c1             |
| 2016/09/24 | 05:53:58.0 | XRT_FOCUS_POSITION_403_OG [0x193] |   |       |                |
|            |            | XRT_FOCUS_POSITION                | 4 | 07-F8 | 22 ff aa 00    |
| 2016/09/24 | 05:54:00.0 | AOCS_ORe-point_Start_2_OG [0x098] |   |       |                |
|            |            | AOCU_NM                           | 5 | 02-76 | 00 00 00 00 00 |
| 2016/09/24 | 05:54:18.0 | XRT_FLD_DIS_406_OG [0x196]        |   |       |                |
|            |            | MDP_XRT_FLD_DIS                   | 1 | 07-F0 | d9             |
| 2016/09/24 | 05:56:54.0 | XRT_FLRCTRL_DIS_405_OG [0x195]    |   |       |                |
|            |            | MDP_XRT_FLRCTRL_DIS               | 1 | 07-F0 | c9             |

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|            |            |                                   |   |                      |
|------------|------------|-----------------------------------|---|----------------------|
| 2016/09/24 | 05:56:56.0 | XRT_ARS_DIS_423_OG [0x1a7]        |   |                      |
|            |            | MDP_XRT_ARS_DIS                   | 1 | 07-F0 d5             |
| 2016/09/24 | 05:56:58.0 | XRT_QT_PROG_SET_417_OG [0x1a1]    |   |                      |
|            |            | MDP_XRT_QT_PROG_SET               | 2 | 07-F0 c4 0e          |
| 2016/09/24 | 05:57:00.0 | XRT_CTRL_AUTO_408_OG [0x198]      |   |                      |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 c0             |
| 2016/09/24 | 06:04:00.0 | AOCS_ORe-point_Start_1_OG [0x097] |   |                      |
|            |            | AOCU_NM                           | 5 | 02-76 03 00 00 00 00 |
| 2016/09/24 | 06:38:00.0 | XRT_CTRL_MANU_400_OG [0x190]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/24 | 06:38:02.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/24 | 06:38:04.0 | XRT_FLD_RESET_415_OG [0x19f]      |   |                      |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 da             |
| 2016/09/24 | 06:38:06.0 | XRT_PREFLR_STRT_414_OG [0x19e]    |   |                      |
|            |            | MDP_XRT_PREFLR_STRT               | 1 | 07-F0 e8             |
| 2016/09/24 | 06:41:14.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    |   |                      |
|            |            | MDP_XRT_PREFLR_STOP               | 1 | 07-F0 e9             |
| 2016/09/24 | 07:17:54.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/24 | 07:17:56.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/24 | 07:17:58.0 | XRT_FOCUS_POSITION_410_OG [0x19a] |   |                      |
|            |            | XRT_FOCUS_POSITION                | 4 | 07-F8 22 fe 97 00    |
| 2016/09/24 | 07:18:00.0 | AOCS_ORe-point_Start_4_OG [0x09a] |   |                      |
|            |            | AOCU_NM                           | 5 | 02-76 03 00 00 03 64 |
| 2016/09/24 | 07:18:18.0 | XRT_FLD_ENA_411_OG [0x19b]        |   |                      |
|            |            | MDP_XRT_FLD_ENA                   | 1 | 07-F0 d8             |
| 2016/09/24 | 07:18:20.0 | XRT_FLRCTRL_ENA_412_OG [0x19c]    |   |                      |
|            |            | MDP_XRT_FLRCTRL_ENA               | 1 | 07-F0 c8             |
| 2016/09/24 | 07:18:22.0 | XRT_AEC_RESET_448_OG [0x1c0]      |   |                      |
|            |            | MDP_XRT_AEC_RESET                 | 1 | 07-F0 d0             |
| 2016/09/24 | 07:18:24.0 | XRT_ARS_DIS_423_OG [0x1a7]        |   |                      |
|            |            | MDP_XRT_ARS_DIS                   | 1 | 07-F0 d5             |
| 2016/09/24 | 07:18:26.0 | XRT_FLD_RESET_433_OG [0x1b1]      |   |                      |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 da             |
| 2016/09/24 | 07:20:56.0 | XRT_QT_PROG_SET_420_OG [0x1a4]    |   |                      |
|            |            | MDP_XRT_QT_PROG_SET               | 2 | 07-F0 c4 09          |
| 2016/09/24 | 07:20:58.0 | XRT_FL_PROG_SET_436_OG [0x1b4]    |   |                      |
|            |            | MDP_XRT_FL_PROG_SET               | 2 | 07-F0 c5 07          |
| 2016/09/24 | 07:21:00.0 | XRT_CTRL_AUTO_408_OG [0x198]      |   |                      |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 c0             |
| 2016/09/24 | 08:18:00.5 | XRT_CTRL_MANU_400_OG [0x190]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/24 | 08:18:03.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/24 | 08:18:05.0 | XRT_FLD_RESET_415_OG [0x19f]      |   |                      |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 da             |
| 2016/09/24 | 08:18:07.0 | XRT_PREFLR_STRT_414_OG [0x19e]    |   |                      |
|            |            | MDP_XRT_PREFLR_STRT               | 1 | 07-F0 e8             |
| 2016/09/24 | 08:21:15.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    |   |                      |
|            |            | MDP_XRT_PREFLR_STOP               | 1 | 07-F0 e9             |
| 2016/09/24 | 08:39:30.0 | XRT_Custom_430_OG [0x1ae]         |   |                      |
| 2016/09/24 | 08:40:30.0 | XRT_CTRL_AUTO_424_OG [0x1a8]      |   |                      |
|            |            | MDP_XRT_CTRL_AUTO                 | 1 | 07-F0 c0             |
| 2016/09/24 | 09:58:30.0 | XRT_CTRL_MANU_400_OG [0x190]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/24 | 09:58:30.5 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/24 | 09:58:32.0 | XRT_CTRL_MANU_402_OG [0x192]      |   |                      |
|            |            | MDP_XRT_CTRL_MANU                 | 1 | 07-F0 c1             |
| 2016/09/24 | 09:58:34.0 | XRT_FLD_RESET_415_OG [0x19f]      |   |                      |
|            |            | MDP_XRT_FLD_RESET                 | 1 | 07-F0 da             |
| 2016/09/24 | 09:58:36.0 | XRT_PREFLR_STRT_414_OG [0x19e]    |   |                      |
|            |            | MDP_XRT_PREFLR_STRT               | 1 | 07-F0 e8             |
| 2016/09/24 | 10:01:44.0 | XRT_PREFLR_STOP_419_OG [0x1a3]    |   |                      |
|            |            | MDP_XRT_PREFLR_STOP               | 1 | 07-F0 e9             |
| 2016/09/24 | 10:32:00.0 | AOCS_ORe-point_Start_2_OG [0x098] |   |                      |
|            |            | AOCU_NM                           | 5 | 02-76 00 00 00 00 00 |