Operations Notes
FOS Team @ ESAC
Reported by:
J. Fauste/J.M. Castro Cerón

Topic:
Date:
Issue:

FOS Report for week 05, year 2016
from 01 FEB 2016 to 08 FEB 2016
1.0

1 General Comments

Activities scheduled for this week are those planned for the 05th calendar week of 2016:

01 FEB 2016 to 08 FEB 2016 (DoYs 032 to 039).

The following routine activities were planned this week (see Gantt chart on next page and CRF 550):

- One Warm NIR Calibration on 03 FEB 2016 (DoY 034) with ETO 04:00:27.0z (orbit 32866) and with the following expected calibration values:

        B.T.   = 3.6786
        R.M.S.   = 0.0775
        Sun Elevation   = 9.9856 degrees
        R.A.   = 040.1283 degrees
        DEC.   = -16.0428 degrees

- Two LONG Calibrations on 04 FEB 2016 (DoY 035), which encompassed two orbital periods starting at 15:23:00.0z (orbit 32887) and 17:03:00.0z (orbit 32888).
- Local Oscillator Calibrations every 10 minutes.
- *X* band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

Due to the CCU reset that happened on the 7th of February 2016, the following XBand passes were not acquired at Ground Segment level:

2016-02-07T07:29:06.679000   2016-02-07T07:36:17.387000
2016-02-07T09:11:30.963000   2016-02-07T09:16:21.195000
2016-02-07T10:53:47.175000   2016-02-07T10:57:16.358000
2016-02-07T12:34:46.713000   2016-02-07T12:39:29.492000
2016-02-07T14:14:52.292000   2016-02-07T14:21:55.333000
2016-02-07T15:54:36.375000   2016-02-07T16:03:34.932000

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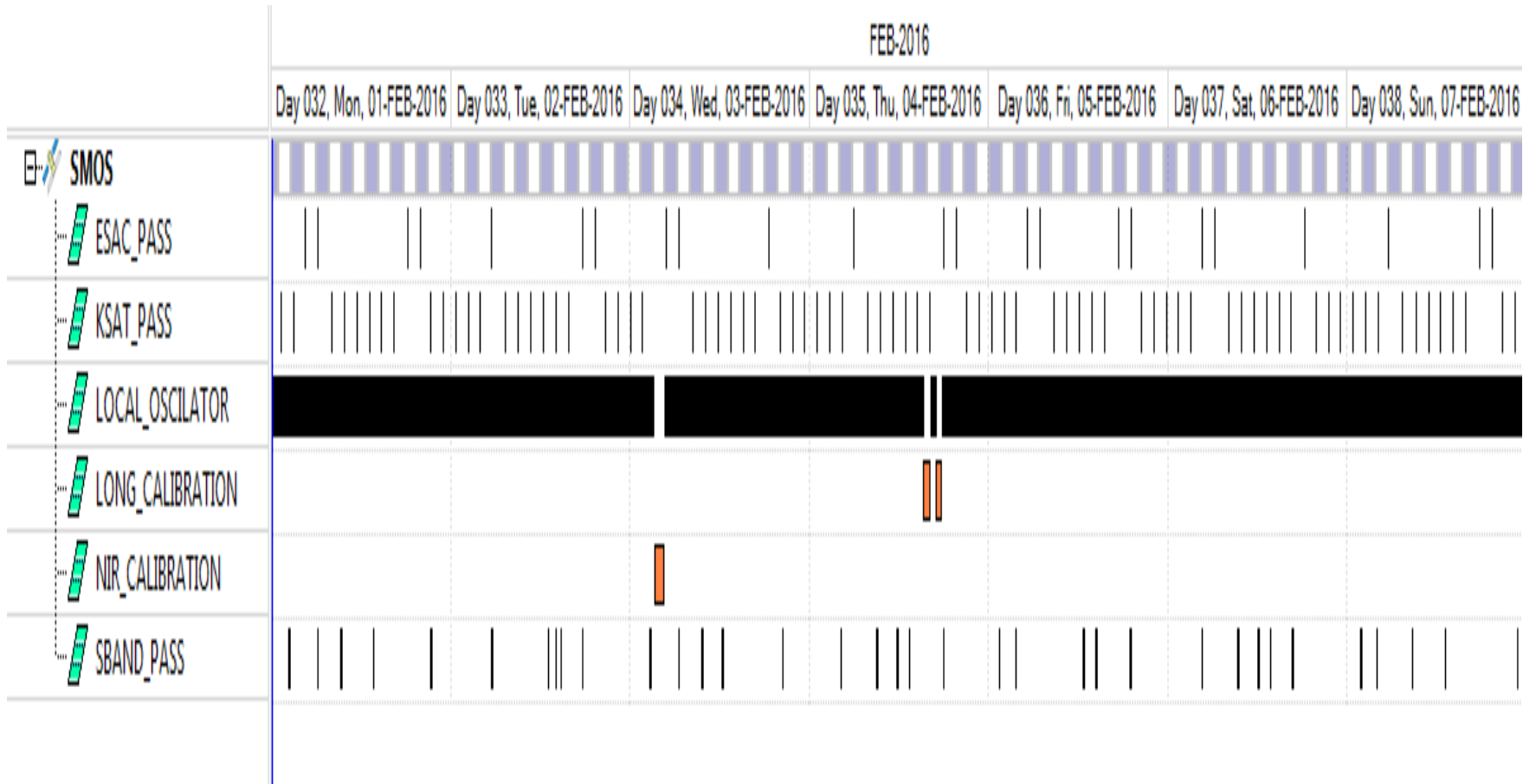
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3   TC Failures

None.

4   Unforeseen Out of Limits (OOLs)

Several Out of Limits were received on PLPC system at the time of the CCU reset on the 7th of February. For further details see Appendix-A.

5   On Board Anomalies

- MIRAS suffered a new CCU Reset on 2016-02-07T04:12:33.963z. First indications of a possible CCU reset were initially seen by the FOS on call engineer around 2016-02-07T08:00z. At that time the X band pass over ESAC at 05:37z acquired few telemetry packets. Also at that time the Svalbard pass from 2016-02-07T07:29z to 2016-02T07T07:36z was not acquired at Ground Station level. Later on also Svalbard pass from 2016-02-07T09:11z to 2016-02-07T09:16z was also not acquired by KSAT. Following these two acquisition failures a telephone call from KSAT to the FOS oncall phone was received around 2016-02-07T09:30z. Communication with the CNES on call team was performed around 2016-02-07T10:16z.

  The reset happened at the end of the Svalbard X Band Pass that started on 2016-02-07T04:08:25s. Said pass was scheduled for a duration of 588 s. The reset occurred at 3m and 8s after AoS, and before the switch off of the X Band Antenna, scheduled at 04:17:03z. The last TM packet received before the reset was at 04:11:49z. Re-planning was considered by FOS in CRF No. 551 and uploaded by CNES during GS Pass KER-14 on 2016-02-07T13:08:06z.

  MIRAS planning activities were resumed on 2016-02-07T17.48.42.855z. Due to this reset the following list of Svalbard passes were not acquired at Ground Station level:
  from 2016-02-07T07:29:06 to 2016-02-07T07:36:17
  from 2016-02-07T09:11:30 to 2016-02-07T09:16:21
  from 2016-02-07T10:53:47 to 2016-02-07T10:57:16
  from 2016-02-07T12:34:46 to 2016-02-07T12:39:29
  from 2016-02-07T14:14:52 to 2016-02-07T14:21:55
  from 2016-02-07T15:54:36 to 2016-02-07T16:03:34

  The sequence of events prior to the CCU was:
  2016-02-07 4:08:25.222   XBand Powered On
  2016-02-07 04:08:49.222   MM Full Dump Start
  2016-02-07 04:12:34.233   Mode Change To Full Pol

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No Alarm packets were received before the reset event.

The values of the READ and WRITE pointers at the time of the reset were:

Read	= 1692893, MM Partition P3
Write	= 1954977, MM Partition P4

The geolocation of the event was over Artic Regions:

LAT.	= 77.140913
LONG.	= 346.555476

As specified in the instrument boot report the reason for the reset was the usual Task Overrun problem (8012 HEX).

- Temperature of LICEF A10, had a sudden increase of around 1.5 degrees on the 9th of January 2016 (see FOS report for week01 year 2016). From that point onwards the values of this parameter remain inside a new upper band between 24.7 and 27 degrees. This new upper band is slight increasing with time, which is compatible with the past evolution of this parameter at this time of the year. In fact this temperature reached its maximum seasonal value on the 31st of January and is now slowly decreasing.

6 On Board Events Telemetry

The following RAM Single Bit Errors befell this week:

Event Description	Severity	Event Time	Parameters
RAM Single Bit Error	WARN	2016.038T04:12:34.463	22EF748
RAM Single Bit Error	WARN	2016.038.21.41.48.291	2005BAC

7 FOS Systems Status

All FOS Systems nominal.

8 Data Reception from CNES

All *S* Band Passes were correctly received from CNES and successfully processed by the FOS PLPC System.

9 *X* Band Data Reception in PXMF

None, all *S* Band Passes successfully received and processed.

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10 Exceptional Activities

Replanning of CCU reset on the 7th of February 2016

11 AOB

None.

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APPENDIX A: OOLs

The following set of Out of Limit alarms were received at the time the CCU reset on the 7th of February:

GS_TIME	OBTIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2016.038.09.17.22.322	2016.038.04.12.33.963	XNIRCAST	NIR CA VALID ST	NOT-OK	OK
2016.038.09.17.22.322	2016.038.04.12.33.963	XNIRBCST	NIR BC VALID ST	NOT-OK	OK
2016.038.09.17.22.322	2016.038.04.12.33.963	XNIRABST	NIR AB VALID ST	NOT-OK	OK
2016.038.09.17.22.319	2016.038.04.12.33.963	SPM12172	H2 LO_locking	UNLOCK	LOCK
2016.038.09.17.22.319	2016.038.04.12.33.963	SPM11167	H1 LO_Locking	UNLOCK	LOCK
2016.038.09.17.22.319	2016.038.04.12.33.963	SPC02106	Instrument_Mode	Inst Init	Any other
2016.038.09.17.22.318	2016.038.04.12.33.963	SPM16167	A3 LO_Locking	UNLOCK	LOCK
2016.038.09.17.22.318	2016.038.04.12.33.963	SPM15167	A2 LO_Locking	UNLOCK	LOCK
2016.038.09.17.22.318	2016.038.04.12.33.963	SPM14167	A1 LO_Locking	UNLOCK	LOCK
2016.038.09.17.22.318	2016.038.04.12.33.963	SPM13167	H3 LO_Locking	UNLOCK	LOCK
2016.038.09.17.22.317	2016.038.04.12.33.963	SPM20167	C1 LO_Locking	UNLOCK	LOCK
2016.038.09.17.22.317	2016.038.04.12.33.963	SPM19167	B3 LO_Locking	UNLOCK	LOCK
2016.038.09.17.22.317	2016.038.04.12.33.963	SPM18167	B2 LO_Locking	UNLOCK	LOCK
2016.038.09.17.22.317	2016.038.04.12.33.963	SPM17167	B1 LO_Locking	UNLOCK	LOCK
2016.038.09.17.22.316	2016.038.04.12.33.963	SPM22167	C3 LO_Locking	UNLOCK	LOCK
2016.038.09.17.22.316	2016.038.04.12.33.963	SPM21167	C2 LO_Locking	UNLOCK	LOCK

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The following PLPC alarm was received indicating the temporary disable of the MIRAS ITL alarm as part of the CCU recovery procedure on the 7th February.

GS_TIME	OBTIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2016.038.21.46.35.298	2016.038.13.10.12.694	NTLHK022	ITL Ena State	Disabled	Enabled