



Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 37, year 2017

from 11 SEP 2017 to 18 SEP 2017

1.0

1 General Comments

Activities scheduled for this week are those planned for the 37th calendar week of 2017:

11 SEP 2017 to 18 SEP 2017 (DOYs 254 to 261).

The following routine activities were planned this week (see Gantt chart on next page and CRF 683):

- One Warm NIR Calibration on 13 SEP 2017 (DOY 256) with ETO 16:19:45z (orbit 41334) and with the following expected calibration values:

B.T.	=	4.0600°
R.M.S.	=	0.8944
Sun Elevation	=	5.0557°
Moon elevation	=	1.1982°
R.A.	=	104.06°
DEC.	=	-67.44°
- One PMS Offset on 14 SEP 2017 (DOY 257), including three Short Calibrations at 08:52:30.0z, 08:53:04.8z, and 07:53:39.6z (orbit 41142).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

None.



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Schedule Name: 2017_w37_cr ### Display start: 11-09-2017 00:00:00.000 ### Display end: 18-09-2017 00:00:00.000

Date	11/9/2017	12/9/2017	13/9/2017	14/9/2017	15/9/2017	16/9/2017	17/9/2017
SMOS Sequences							
Disable_Cyclic_Function_SEQ			◆	◆			
Enable_Cyclic_Function_SEQ			◆	◆			
External_Calibration_NIR_Full_OBOP_SEQ			■				
Int_LO_Phase_Cal_Noise_Full_EXT_SEQ							
Int_LO_Phase_Cal_Noise_Full_NoEXT_SEQ							
PMS_Offset_Calibration_Full_SEQ							
SBand_Visibility_SEQ							
Update_Cyclic_LO_Pt_Cal_NoU_Full_EXT_SEQ			◆				
Update_Cyclic_LO_Pt_Cal_NoU_Full_NoEXT_SEQ			◆				
XB_Cmd_Downlink_Sb_SEQ							
XB_Cmd_Downlink_Vpa_SEQ							



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3 TC Failures

None.

4 Unforeseen Out of Limits (OOLs)

Several Out of Limits were received this week linked to the three MIRAS anomalies detailed in section 5 of this report (CMN Unlock, MM Latch-up and MM Double Bit Memory Error). Further details on these OOLs can be found in Appendix-A.

5 On Board Anomalies

- The MIRAS instrument CMN, unit H3, unlocked on 2017-09-15T10:53:33.971z (DOY 258). This anomaly was geolocated over Yakutia, Eastern Russia:

Latitude= 61.29°

Longitude= 122.52°

Locking status parameter SPM13167 went out of limits in the FOS PLPC system. The anomaly recovered by itself after a few seconds.

- The MIRAS instrument MM, partition P1, latched up on 2017-09-13T17:56:02.535z (DOY 256). The following parameters went out of limits in the PLPC system:

2017.256.17.56.02,535z DMASME11 LU Switch P1

2017.256.17.56.02,535z DMASME37 SDD LU Detected

This anomaly was geolocated over Antarctica:

Latitude= -79.04°

Longitude= 230.98°

Science data losses happened, 727 seconds, due to the fact that at the time of the anomaly the Write pointer was in position P2 and the Read pointer in position P1 (same partition as the one affected by the anomaly). Recovery took place on 14 SEP 2017, at 16:00:00z (CRF 686).

At the time of the anomaly the position of the MM pointers were as follows:

READ = 871589 (partition P1)

WRITE = 1006579 (partition P2)

- A Mass Memory Double Bit memory Error took place for partition P5 on 2017-09-12T09:26:49.382. No impact on science data since



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Write and Read pointers were in partition P0 at the time of the anomaly.

6 On Board Events Telemetry

The following RAM Single Bit errors befell this week:

Event Description	Packet ID	Severity	Event Time	Parameters
RAM single Bit Error	730	WARN	2017-09-14T22:20:37	21AD350
RAM single Bit Error	730	WARN	2017-09-13T06:54:11	206EAFC
RAM single Bit Error	730	WARN	2017-09-12T21:58:43	220C678
RAM single Bit Error	730	WARN	2017-09-12T04:22:10	21C67D4
RAM single Bit Error	730	WARN	2017-09-11T14:17:25	20C5F08
RAM single Bit Error	730	WARN	2017-09-11T06:09:44	2007C78
RAM single Bit Error	730	WARN	2017-09-11T00:04:52	238111C

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.

10 Exceptional Activities

None.

11 AOB

None.



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APPENDIX A: OOLs

The MIRAS CMN Unlock on the 15th of September generated the following PLPC OOL.

GS_TIME	OBTIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2017-09-15T15:02:47	2017-09-15T10:53:33	SPM13167	H3 LO_Locking	UNLOCK	LOCK

At the time of the P1 Mass Memory Latch-up on the 13th of September, the following two OOLs were issued by the FOS PLPC system.

GS_TIME	OBTIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2017-09-13T19:29:40	2017-09-13T17:56:02	DMASME37	SDD LU Detected	FALSE	TRUE
2017-09-13T19:29:40	2017-09-13T17:56:02	DMASME11	LU Switch P1	OFF	ON

The Mass Memory Double Bit memory error on the 12th of September was highlighted by the following PLPC OOL

GS_TIME	OBTIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2017-09-12T11:01:37	2017-09-12T09:26:49	DMASME44	DB Err In P5	FALSE	TRUE