



## Operations Notes

FOS Team @ ESAC

Reported by:

*J. Fauste/J.M. Castro Cerón*

Topic:

Date:

Issue:

**FOS Report for week 52, year 2017**

from 25 DEC 2017 to 01 JAN 2018

**1.0**

## 1 General Comments

Activities scheduled for this week are those planned for the 52<sup>nd</sup> calendar week of 2017:

25 DEC 2017 to 01 JAN 2018 (DOYs 359 to 001).

The following routine activities were planned this week (see Gantt chart on next page and CRF 706). The planning for this week was assembled together with the one of week 01 of year 2018 and both uploaded to the spacecraft on the 21<sup>st</sup> of December.

- One Warm NIR Calibration on 29 DEC 2017 (DOY 363) with ETO 17:08:31z (orbit 42874) and with the following expected calibration values:

B.T.	=	3.99°
R.M.S.	=	0.37
Sun elevation	=	9.96°
Moon elevation	=	-53.74°
R.A.	=	191.32°
DEC.	=	-19.09°
- Two LONG Calibrations on 30 DEC 2017 (DOY 364), which encompassed two semi-orbital periods starting at 14:14:30z (orbit 42887) and 15:57:00z (orbit 42888).
- One FTR Calibration on 31 DEC 2017 (DOY 365) with ETO 17:43:32z (orbit 42904) and with the following expected calibration values:

B.T.	=	3.51°
R.M.S.	=	0.14
Sun elevation	=	-13.92°
Moon elevation	=	-6.47°
R.A.	=	186.12°
DEC.	=	-26.58°
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

## 2 Mission Planning Deviations

None.



# Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

**FOS Report for week 52, year 2017**

from 25 DEC 2017 to 01 JAN 2018

**1.0**

Schedule Name: 2017\_w52\_cr ### Display start: 25-12-2017 00:00:00.000 ### Display end: 26-12-2017 09:36:00.000





## 3 TC Failures

None.

## 4 Unforeseen Out of Limits (OOLs)

Three set of unexpected Out of limits, linked to the three MIRAS anomalies that happened during this week, were issued by the FOS PLPC system. These three anomalies were: the two CMN Unlocks that happened on the 26<sup>th</sup> and 29<sup>th</sup> of December and the Mass Memory latch up on the 25<sup>th</sup> of December. Further details of these three anomalies can be seen in section 5 and Appendix-A of this report.

## 5 On Board Anomalies

- The MIRAS instrument CMN, unit B3, unlocked on 2017-12-29T19:48:41.709z (DOY 363). This anomaly was geolocated over the Brazil coast, South Atlantic Anomaly:

*Latitude* = -16.56°

*Longitude* = 330.59°

Only locking status parameter SPM19167 went out of limits in the FOS PLPC system. The anomaly recovered by itself after a few seconds.

- The MIRAS instrument CMN, unit H3, unlocked on 2017-12-26T21:43:27.171z (DOY 360). This anomaly was geolocated over central part of Brazil:

*Latitude* = -9.08°

*Longitude* = 303.06°

Both parameters locking status parameter SPM13167 and power output SPM13162 went out of limits in the FOS PLPC system. The anomaly recovered in 3 epochs.

- The MIRAS instrument MM, partition P1, latched up on 2017-12-25T11:19:37.911z (DOY 359). This anomaly was geolocated over the coast of Chile:

*Latitude* = -30.62°

*Longitude* = 285.07°

There were no science data losses associated with this anomaly because it affected partition P1, while the Read and Write pointers were on partition P3 and P4, respectively. Recovery took place on 27 DEC 2017, at 06:00:00z (CRF 707). At the time of the anomaly the position of the MM pointers were as follows:

*READ* = 1584021 (*partition P3*)

*WRITE* = 1802707 (*partition P4*)



## Operations Notes

FOS Team @ ESAC

Reported by:

*J. Fauste/J.M. Castro Cerón*

Topic:

Date:

Issue:

**FOS Report for week 52, year 2017**

from 25 DEC 2017 to 01 JAN 2018

**1.0**

### 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	2017-12-31T23:00	21FD6C0
RAM single Bit Error	730	WARN	2017-12-28T11:16	217CEF8

### 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.



## Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

**FOS Report for week 52, year 2017**

Date:

from 25 DEC 2017 to 01 JAN 2018

Issue:

**1.0**

## APPENDIX A: OOLs

At the time of the CMN Unlock of B3 unit on the 29<sup>th</sup> of December, the following temporal OOL was issued by the FOS PLPC system:

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2017-12-30T05:32:06	2017-12-29T19:48:41	SPM19167	B3 LO_Locking	UNLOCK	LOCK

The H3 CMN Unlock on the 26<sup>th</sup> of December, generated the following two OOLs on the FOS PLPC system

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2017-12-27T04:12:12	2017-12-26T21:43:27	SPM13162	H3 LO_Out_Power	NOT-OK	OK
2017-12-27T04:12:12	2017-12-26T21:43:28	SPM13167	H3 LO_Locking	UNLOCK	LOCK

The Mass Memory latch up of partition P1, generated the two following FOS PLPC OOLs

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2017-12-25T14:49:11	2017-12-25T11:19:37	DMASME37	SDD LU Detected	FALSE	TRUE
2017-12-25T14:49:11	2017-12-25T11:19:37	DMASME11	LU Switch P1	OFF	ON