



Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 37, year 2023

from 11 SEP 2023 to 18 SEP 2023

1.0

1 General Comments

Activities scheduled for this week are those planned for the 37th calendar week of 2023:

11 SEP 2023 to 18 SEP 2023 (DoYs 254 to 261).

The following routine activities were planned this week (see Gantt chart on next page and CRF n° 1145).

- One PMS Offset on 14 SEP 2023 (DoY 257), including three Short Calibrations at 05:45:30.0z, 05:46:04.8z, and 05:46:39.6z (orbit 72869).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

None.



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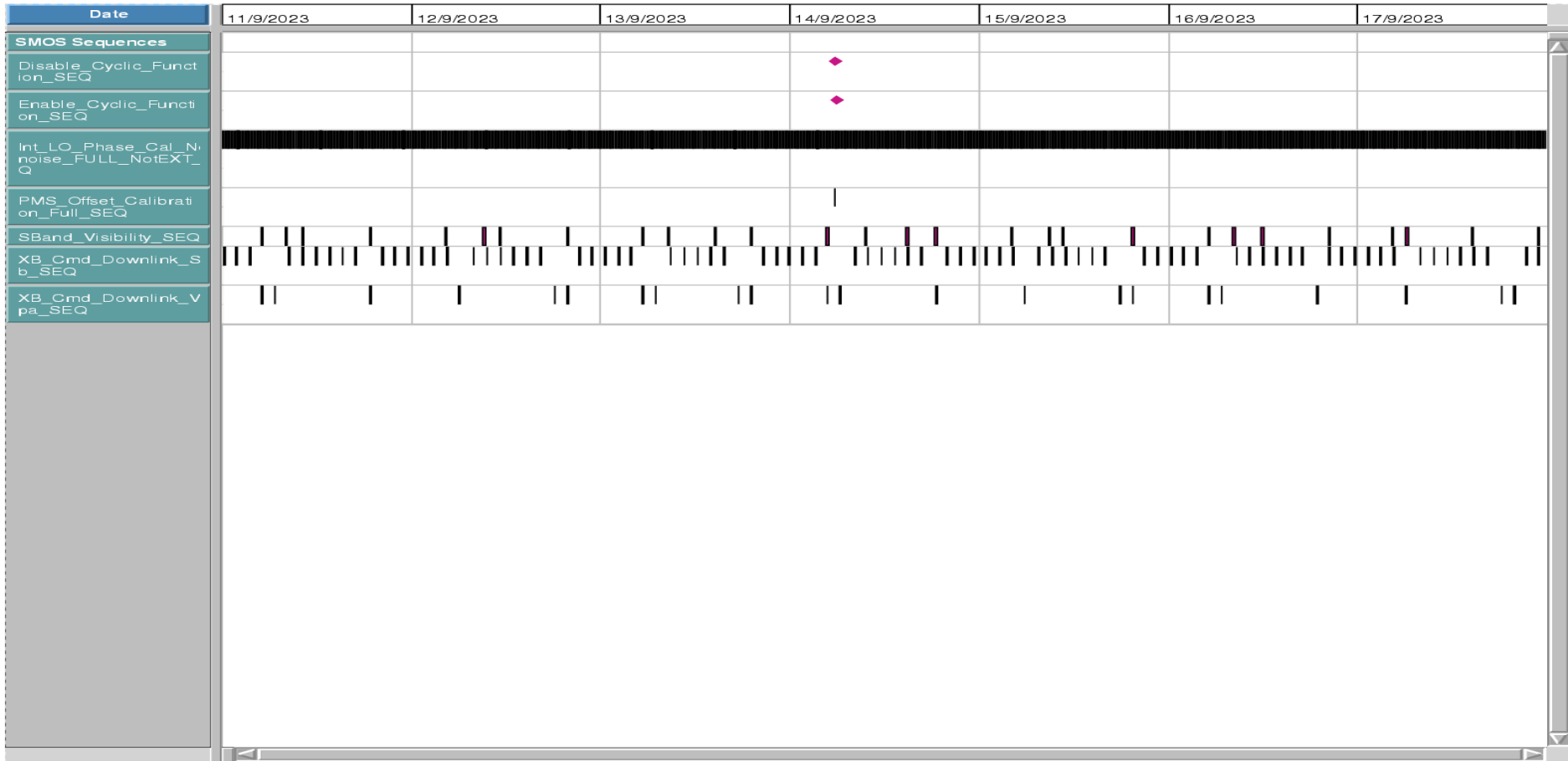
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Schedule Name: 2023_w37_cr ### Display start: 11-09-2023 00:00:00.000 ### Display end: 18-09-2023 00:00:00.000





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3 TC Failures

None.

4 On Board Anomalies

- MIRAS instrument MM, partition P10, latched up 2023-09-17T07:31:43,784z (DoY 260). The following parameters went out of limits in the PLPC system:

2023.260.07.31.43,784z DMASME02 LU Switch P10

2023.260.07.31.43,784z DMASME37 SDD LU Detected

This anomaly was geolocated over the South Atlantic Ocean, midway between the coast of Brazil and the Island of Saint Helena:

LAT. = -14.30°

LONG. = 339.51°

There were no science data losses associated with this anomaly because it affected partition P10 (i.e. a spare partition), while the Read and Write pointers were in partitions P4 and P5, respectively. Recovery took place Monday 18 SEP 2023, at 11:00:00z (CRF No. 1149).

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

READ = 2156806 (partition P4)

WRITE = 2382242 (partition P5)

5 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	WARNING	2023.255.11.08.08,695	21EBD10

6 FOS Systems Status

All FOS systems nominal.

7 Data Reception from CNES

All S band passes were correctly received from CNES and successfully processed by the FOS PLPC system, with the following exceptions:

- S band GS pass:

STATION	PASS	AoS	LoS
-----	-----	-----	-----
STC	18	2023.257.18.23.21	2023.257.18.38.03

contained 112 TM gaps because of an issue with the receiving station.



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Gaps spanned the range:

PUS HKTM

STC-18

from 2023-09-14T14:47:32,144z to 2023-09-14T18:24:56,328z

8 X Band Data Reception in PXMF

- To achieve completion MIRAS PUS TM was recovered from the X band PXMF system and ingested into the MUST-SMTA system 15 SEP 2023. The corresponding E HKTM was lost.

9 Exceptional Activities

GPS time shift anomaly:

- On 2023-09-08T15:45:33z a sudden jump of 39286 s in the GPS on-board time had triggered a PROTEUS FDIR, and caused the on-board time source to autonomously change from GPS to PROTEUS (mode *CC REDUCED*; see FOS Report for week 36, year 2023). The issue was solved Tuesday 12 SEP 2023 by executing a cold re-start of the PROTEUS GPS. Behaviour following the re-start was nominal, including the initial sequence and the convergence process. As of this writing the root cause of this anomaly remains under investigation by CNES and Thales.

10 AOB

None.



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APPENDIX A: OOLs

The following OOLs befell at the time the MIRAS instrument MM, partition P10, latched up 2023-09-17T07:31:43,784z (DoY 260):

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2023.260.14.53.38,612	2023.260.07.31.43,784	DMASME02	LU Switch P10	OFF	ON
2023.260.14.53.38,612	2023.260.07.31.43,784	DMASME37	SDD LU Detected	FALSE	TRUE