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## Operations Notes

FOS Team @ ESAC

Reported by:

*J. Fauste/J.M. Castro Cerón*

Topic:

Date:

Issue:

**FOS Report for week 36, year 2022**

from 05 SEP 2022 to 12 SEP 2022

**1.0**

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### 1 General Comments

Activities scheduled for this week are those planned for the 36<sup>th</sup> calendar week of 2022:

05 SEP 2022 to 12 SEP 2022 (DOYs 248 to 255).

The following routine activities were planned this week (see Gantt chart on next page and CRF 1072).

- One PMS Offset on 08 SEP 2022 (DOY 251), including three Short Calibrations at 06:27:00.0z, 06:27:34.8z, and 06:28:09.6z (orbit 67531).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

### 2 Mission Planning Deviations

None.



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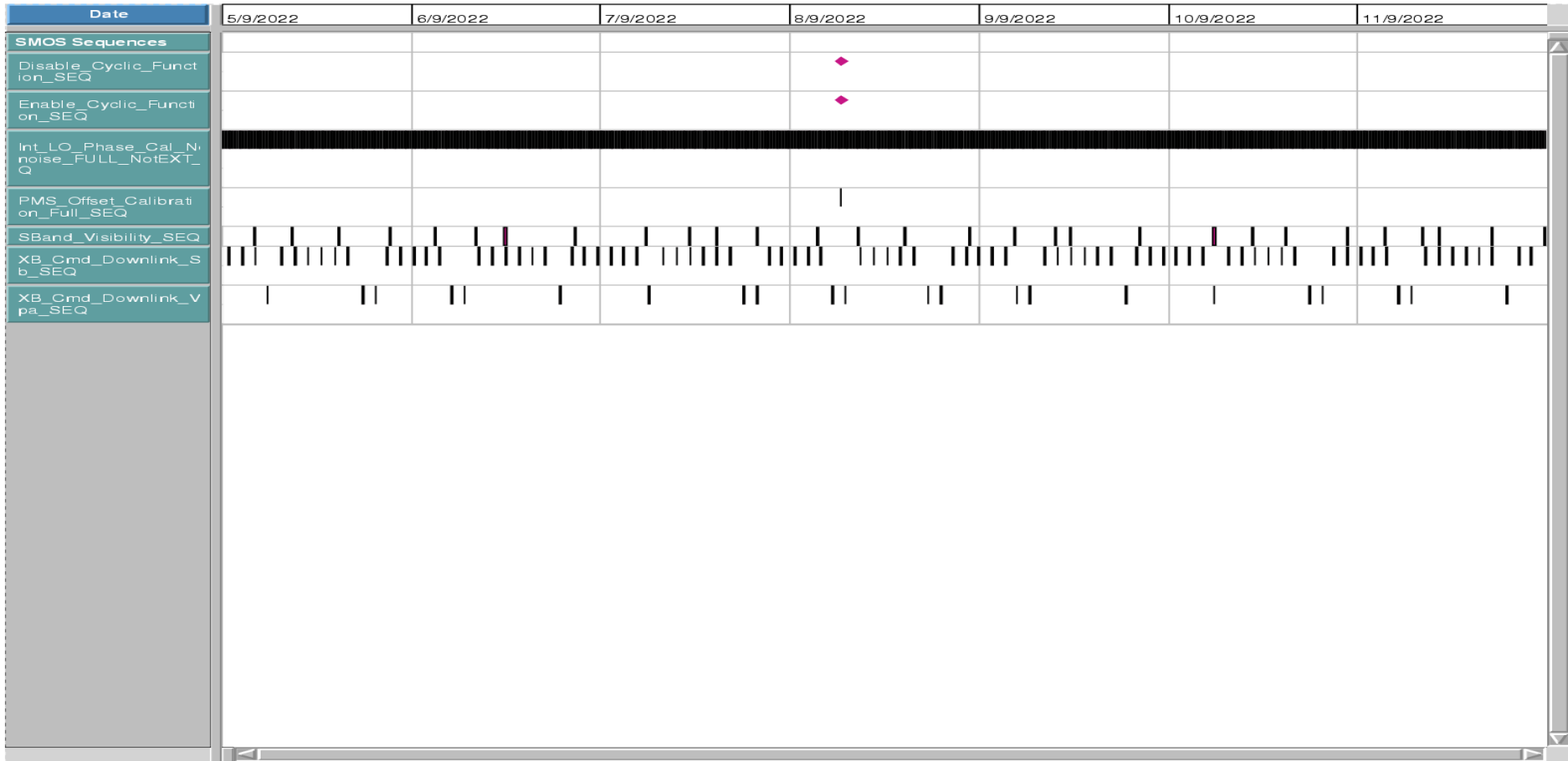
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Schedule Name: 2022\_w36\_cr ### Display start: 05-09-2022 00:00:00.000 ### Display end: 12-09-2022 00:00:00.000





## 3 TC Failures

None.

## 4 On Board Anomalies

- A new MIRAS CCU reset happened on 2022-09-05T05:41:36.309z (DOY 248), at the end of ESAC X band pass with AOS 2022-09-05T05:38:07z.

The anomaly was detected by the FOS team upon reception of XBand pass over ESAC with AOS at 05:38:07z. The instrument reset at the end of the pass; but because of its long-foreseen duration, the autonomous auto-downlink function was triggered and a second short pass was then executed. This second pass allowed FOS to see the anomaly on PXMF system. Following that, FOS immediately called CNES Control Room for heads-up on the recovery and agreed on execution of CRF No. 1073 for upcoming S band GS pass with AOS at 2022-09-05T08:46:00z. This CRF included replanning of week 36.

The execution of this CRF also cancelled the foreseen execution of the MM latch-up recovery for partition P3 that occurred the day before on 3 SEP 2022, at 11:41:49z. CRF for that anomaly was anyway not previously sent to CNES since the CCU reset was detected before latch-up CRF preparation.

Last MIRAS TM packet received was time stamped at 05:41:36.309z. Reset was triggered by the standard OBSW error Task Overrun (information included in the Boot Report packet). No anomaly packet preceded the reset

As per FOS replanning in CRF No. 1073, nominal MIRAS X band GS dumps were resumed over Svalbard 2022-09-05T15:55:05z. Because of this anomaly the following X band GS passes were not acquired:

Xband_SVAL	2022-09-05T07:29:36	2022-09-05T07:36:48	431
Xband_SVAL	2022-09-05T09:12:00	2022-09-05T09:16:51	291
Xband_SVAL	2022-09-05T10:54:17	2022-09-05T10:57:46	209
Xband_SVAL	2022-09-05T12:35:17	2022-09-05T12:39:59	281
Xband_SVAL	2022-09-05T14:15:23	2022-09-05T14:22:25	42

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



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READ = 3873933 (Partition P8)

WRITE = 99779 (Partition P0)

The anomaly was geolocated over east part of Spain:

Latitude= 38.25°

Longitude= 358.21°

## 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	WARN	2022-09-05T05:42:11	20C2DF4
RAM single Bit Error	730	WARN	2022-09-05T10:35:56	2215F40

## 6 FOS Systems Status

- New *FlexPlan*, version 4.6.4, was installed by GMV on the SPGF-2 server. FOS successfully tested this new version with Mission Planning of week 38 of year 2022.
- On the 7<sup>th</sup> of September, SCOS Patch identified as PLPC-V2\_10\_39 was installed on PLPCPRM machine. This patch enhanced the SCOS PROTEUS TC History task.
- On the 8<sup>th</sup> of September a new PLPC patch version for DDS task was installed to transfer the HK PUS TM files from PLPC to SMTA machine through *scp* instead of *sftp*. This is to avoid the sporadic problem seen on the MUST TM ingestion where TM files seem sort of corrupted and TM data is not fully ingested.

## 7 Data Reception from CNES

All S band passes were correctly received from CNES and successfully processed by the FOS PLPC system.

## 8 X Band Data Reception in PXMF

None, all S band passes successfully received and processed.

## 9 Exceptional Activities

None.

## 10 AOB

None.



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## APPENDIX A: OOLs

During the execution of the CCU recovery procedure, the following TM parameter went out of limits indicating that the MIRAS was temporary disabled after the CCU reset.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2022-09-05T15:04:52	2022-09-05T08:48:15	NTLHK022	ITL Ena State	Disabled	Enabled

The following TM parameters went out of limits on the FOS PLPC system at the time of the CCU reset on the 5<sup>th</sup> of September.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2022-09-05T09:14:12	2022-09-05T05:42:10	SPM22167	C3 LO_Locking	UNLOCK	LOCK
2022-09-05T09:14:12	2022-09-05T05:42:10	SPM21167	C2 LO_Locking	UNLOCK	LOCK
2022-09-05T09:14:12	2022-09-05T05:42:10	SPM20167	C1 LO_Locking	UNLOCK	LOCK
2022-09-05T09:14:12	2022-09-05T05:42:10	SPM19167	B3 LO_Locking	UNLOCK	LOCK
2022-09-05T09:14:12	2022-09-05T05:42:10	SPM18167	B2 LO_Locking	UNLOCK	LOCK
2022-09-05T09:14:12	2022-09-05T05:42:10	SPM17167	B1 LO_Locking	UNLOCK	LOCK
2022-09-05T09:14:12	2022-09-05T05:42:10	SPM16167	A3 LO_Locking	UNLOCK	LOCK
2022-09-05T09:14:12	2022-09-05T05:42:10	SPM15167	A2 LO_Locking	UNLOCK	LOCK
2022-09-05T09:14:12	2022-09-05T05:42:10	SPM14167	A1 LO_Locking	UNLOCK	LOCK
2022-09-05T09:14:12	2022-09-05T05:42:10	SPM13167	H3 LO_Locking	UNLOCK	LOCK
2022-09-05T09:14:12	2022-09-05T05:42:10	SPM12172	H2 LO_locking	UNLOCK	LOCK
2022-09-05T09:14:12	2022-09-05T05:42:10	SPM11167	H1 LO_Locking	UNLOCK	LOCK



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2022-09-05T09:14:12	2022-09-05T05:42:10	SPC02106	Instrument_Mode	Inst Init	Any
2022-09-05T09:14:12	2022-09-05T05:42:10	XNIRABST	NIR AB VALID ST	NOT-OK	OK
2022-09-05T09:14:12	2022-09-05T05:42:10	XNIRBCST	NIR BC VALID ST	NOT-OK	OK
2022-09-05T09:14:12	2022-09-05T05:42:10	XNIRCAST	NIR CA VALID ST	NOT-OK	OK