



## Operations Notes

FOS Team @ ESAC

Reported by:

*J. Fauste/J.M. Castro Cerón*

Topic:

Date:

Issue:

**FOS Report for week 04, year 2021**

from 25 JAN 2021 to 01 FEB 2021

**1.0**

### 1 General Comments

Activities scheduled for this week are those planned for the 04<sup>th</sup> calendar week of 2021:

25 JAN 2021 to 01 FEB 2021 (DOYs 025 to 032).

The following routine activities were planned this week (see Gantt chart on next page and CRF 943).

- One PMS Offset on 28 JAN 2021 (DOY 028), including three Short Calibrations at 06:16:00.0z, 06:16:34.8z, and 06:17:09.6z (orbit 59070).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

### 2 Mission Planning Deviations

Because of the CCU reset on the 25<sup>th</sup> of January, the following X band GS passes were not acquired:

Xband_ESAC	2021-01-25T07:08:34	2021-01-25T07:12:15	221
Xband_SVAL	2021-01-25T09:00:24	2021-01-25T09:05:31	306
Xband_SVAL	2021-01-25T10:42:46	2021-01-25T10:46:17	211
Xband_SVAL	2021-01-25T12:23:55	2021-01-25T12:28:23	267
Xband_SVAL	2021-01-25T14:04:05	2021-01-25T14:10:51	406
Xband_SVAL	2021-01-25T15:43:51	2021-01-25T15:52:38	527
Xband_ESAC	2021-01-25T17:37:20	2021-01-25T17:42:04	283



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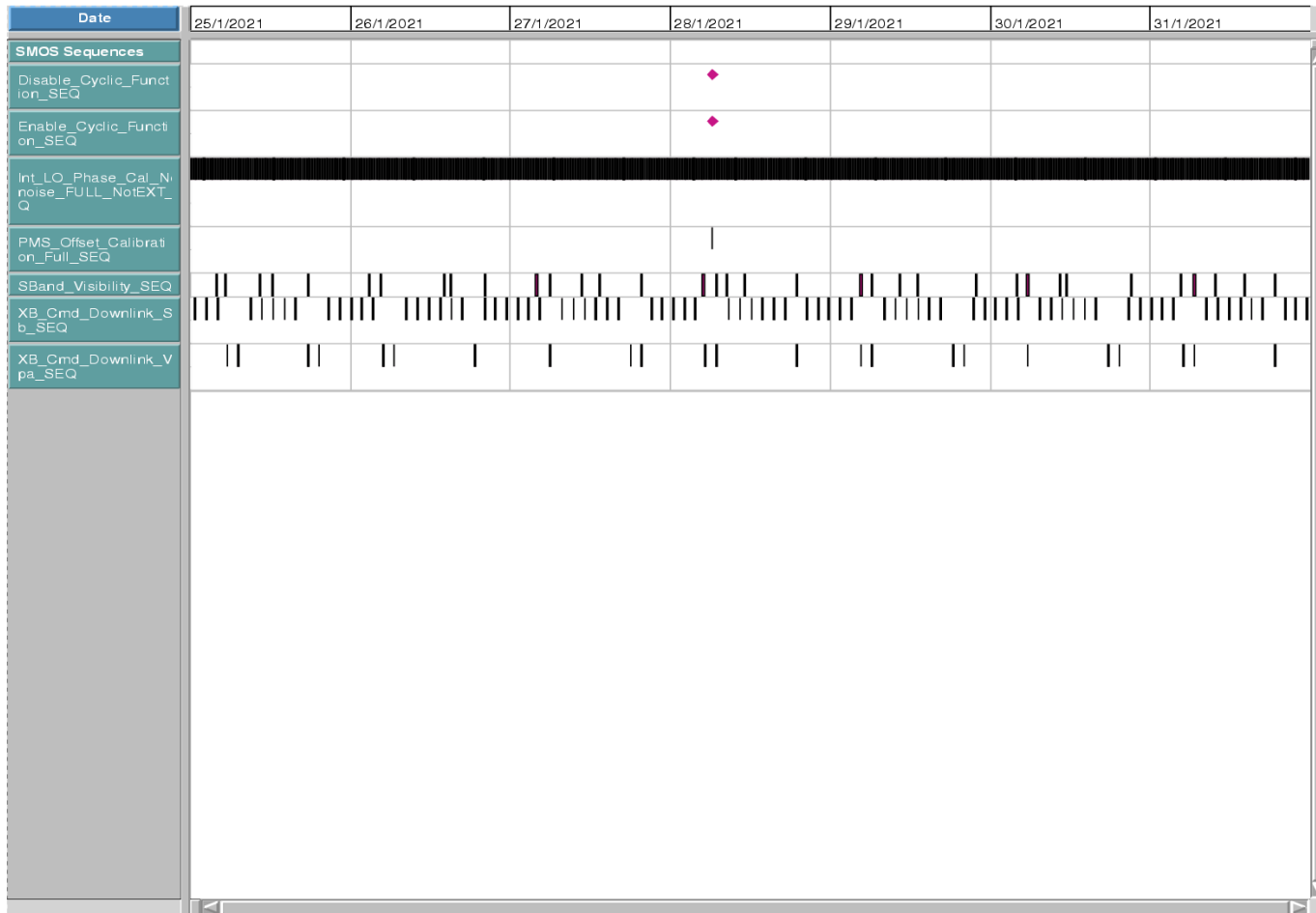
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Schedule Name: 2021\_w04\_cr ### Display start: 25-01-2021 00:00:00.000 ### Display end: 01-02-2021 00:00:00.000





## 3 TC Failures

None.

## 4 On Board Anomalies

- The MIRAS CMN, unit H1, unlocked 2021-01-27T13:37:33,396z (DOY 027). This anomaly was geolocated over the Filchner-Ronne Ice Shelf (Antarctica):

*Latitude* = -81.40°

*Longitude* = 323.48°

Both parameters, output power SPM11162 and locking status SPM11167, went out of limits in the FOS PLPC system. The anomaly recovered in 3 epochs.

- The MIRAS instrument CCU reset on 2021-01-25T05:30:28.458z (DOY 025). The reset was firstly noticed by DPGS team since reception of the second X-band pass over ESAC with AOS at 07:08:34z was not acquired on ground followed by the failure over Svalbard at 09:00:24z. Based on that, FOS phoned call CNES SOGS control centre to alert flight control on a possible CCU reset. The reset was finally confirmed by CNES upon reception of S-band pass KUX-21 with AOS 10:13:26z.

The reset took place at the end of ESAC X band pass with AOS at 05:27:05z. Last TM packet received before the reset was time stamped at 2021-01-25T05:30:28.458z. This reset was triggered by the standard Task Overrun error (information included on the Boot Report packet).

The recovery took place on the 25<sup>th</sup> of January by execution of dedicated replanning CRF number 944 uploaded by CNES during S-Band pass IVK-16 with AOS at 2021-01-25T12:12:48z. As per this re-planning, nominal, MIRAS X band GS dumps will resume on 2021-01-25T19:14:25z (Second ESAC evening pass of the day).

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

*Read* = 1940442, MM partition P4

*Write* = 2179864, MM partition P4

The anomaly was geolocated over east side of Spain

*Latitude* = 37.60°

*Longitude* = 1.27°



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## 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	2021-01-25t05:31:00	22330D0
RAM single Bit Error	730	WARN	2021-01-30T01:22:31	22A8A58

On the 25<sup>th</sup> of January, the following Alarm packets were received immediately before the onboard CCU reset.

Event Description	Packet ID	Severity	Event Time	Parameters
MM_Error_Counters_Acquisition_Failure	689	ALARM	2021-01-25T05:30:25	No
MM_Scrub_Frequency_Acquisition_Failure	690	ALARM	2021-01-25Y05:30:25	No
MM_Address_Acquisition_Failure	684	ALARM	2021-01-25T05:30:25	No
MM_Science_Write_Failure	692	ALARM	2021-01-25T05:30:25	Link
MM_Science_Write_Failure	692	ALARM	2021-01-25T05:30:26	Link
MM_Science_Write_Failure	692	ALARM	2021-01-25T05:30:26	Link

## 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.

## 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

The following TM parameters went temporary out of limits on FOS PLPC system at the time of the CMN Unlock anomaly on the 27<sup>th</sup> of January.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2021-01-27T19:54:30	2021-01-27T13:37:33	SPM11167	H1 LO_Locking	UNLOCK	LOCK
2021-01-27T19:54:30	2021-01-27T13:37:33	SPM11162	H1 LO_Out_Power	NOT-OK	OK

During the execution of the CCU recovery, the following TM parameter went nominally out of limits indicating the temporal disable of the MIRAS ITL.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2021-01-25T17:53:50	2021-01-25T12:14:56	NLHK022	ITL Ena State	Disabled	Enabled

At the time of the MIRAS CCU reset on the 25<sup>th</sup> of January the following list of TM parameters went temporary out of limits.

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2021-01-25T10:36:20	2021-01-25T05:30:59	SPM22167	C3 LO_Locking	UNLOCK	LOCK
2021-01-25T10:36:20	2021-01-25T05:30:59	SPM21167	C2 LO_Locking	UNLOCK	LOCK
2021-01-25T10:36:20	2021-01-25T05:30:59	SPM20167	C1 LO_Locking	UNLOCK	LOCK
2021-01-25T10:36:20	2021-01-25T05:30:59	SPM19167	B3 LO_Locking	UNLOCK	LOCK
2021-01-25T10:36:20	2021-01-25T05:30:59	SPM18167	B2 LO_Locking	UNLOCK	LOCK
2021-01-25T10:36:20	2021-01-25T05:30:59	SPM17167	B1 LO_Locking	UNLOCK	LOCK



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2021-01-25T10:36:20	2021-01-25T05:30:59	SPM16167	A3 LO_Locking	UNLOCK	LOCK
2021-01-25T10:36:20	2021-01-25T05:30:59	SPM15167	A2 LO_Locking	UNLOCK	LOCK
2021-01-25T10:36:20	2021-01-25T05:30:59	SPM14167	A1 LO_Locking	UNLOCK	LOCK
2021-01-25T10:36:20	2021-01-25T05:30:59	SPM13167	H3 LO_Locking	UNLOCK	LOCK
2021-01-25T10:36:20	2021-01-25T05:30:59	SPM12172	H2 LO_locking	UNLOCK	LOCK
2021-01-25T10:36:20	2021-01-25T05:30:59	SPM11167	H1 LO_Locking	UNLOCK	LOCK
2021-01-25T10:36:20	2021-01-25T05:30:59	SPC02106	Instrument_Mode	Inst Init	Any
2021-01-25T10:36:20	2021-01-25T05:30:59	XNIRABST	NIR AB VALID ST	NOT-OK	OK
2021-01-25T10:36:20	2021-01-25T05:30:59	XNIRBCST	NIR BC VALID ST	NOT-OK	OK
2021-01-25T10:36:20	2021-01-25T05:30:59	XNIRCAST	NIR CA VALID ST	NOT-OK	OK