



## Operations Notes

FOS Team @ ESAC

Reported by:

*J. Fauste/J.M. Castro Cerón*

Topic:

Date:

Issue:

**FOS Report for week 49, year 2020**

from 30 NOV 2020 to 07 DEC 2020

**1.0**

## 1 General Comments

Activities scheduled for this week are those planned for the 49<sup>th</sup> calendar week of 2020:

30 NOV 2020 to 07 DEC 2020 (DOYs 335 to 342).

The following routine activities were planned this week (see Gantt chart on next page and CRF 931).

- One PMS Offset on 03 DEC 2020 (DOY 338), including three Short Calibrations at 05:55:30.0z, 05:56:04.8z, and 05:56:39.6z (orbit 58264).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

## 2 Mission Planning Deviations

Because of the CCU reset that happened on the 1<sup>st</sup> of December the following X-Band passes were not acquired on ground:

| STATION    | AOS                 | LOS                 | DURATION |
|------------|---------------------|---------------------|----------|
| Xband_SVAL | 2020-12-02T00:39:42 | 2020-12-02T00:50:04 | 621      |
| Xband_SVAL | 2020-12-02T02:18:37 | 2020-12-02T02:29:04 | 627      |
| Xband_SVAL | 2020-12-02T03:58:12 | 2020-12-02T04:08:20 | 608      |
| Xband_ESAC | 2020-12-02T07:10:45 | 2020-12-02T07:14:05 | 200      |
| Xband_SVAL | 2020-12-02T09:02:28 | 2020-12-02T09:07:32 | 303      |
| Xband_SVAL | 2020-12-02T10:44:49 | 2020-12-02T10:48:20 | 210      |
| Xband_SVAL | 2020-12-02T12:25:57 | 2020-12-02T12:30:27 | 270      |
| Xband_SVAL | 2020-12-02T14:06:06 | 2020-12-02T14:12:55 | 409      |



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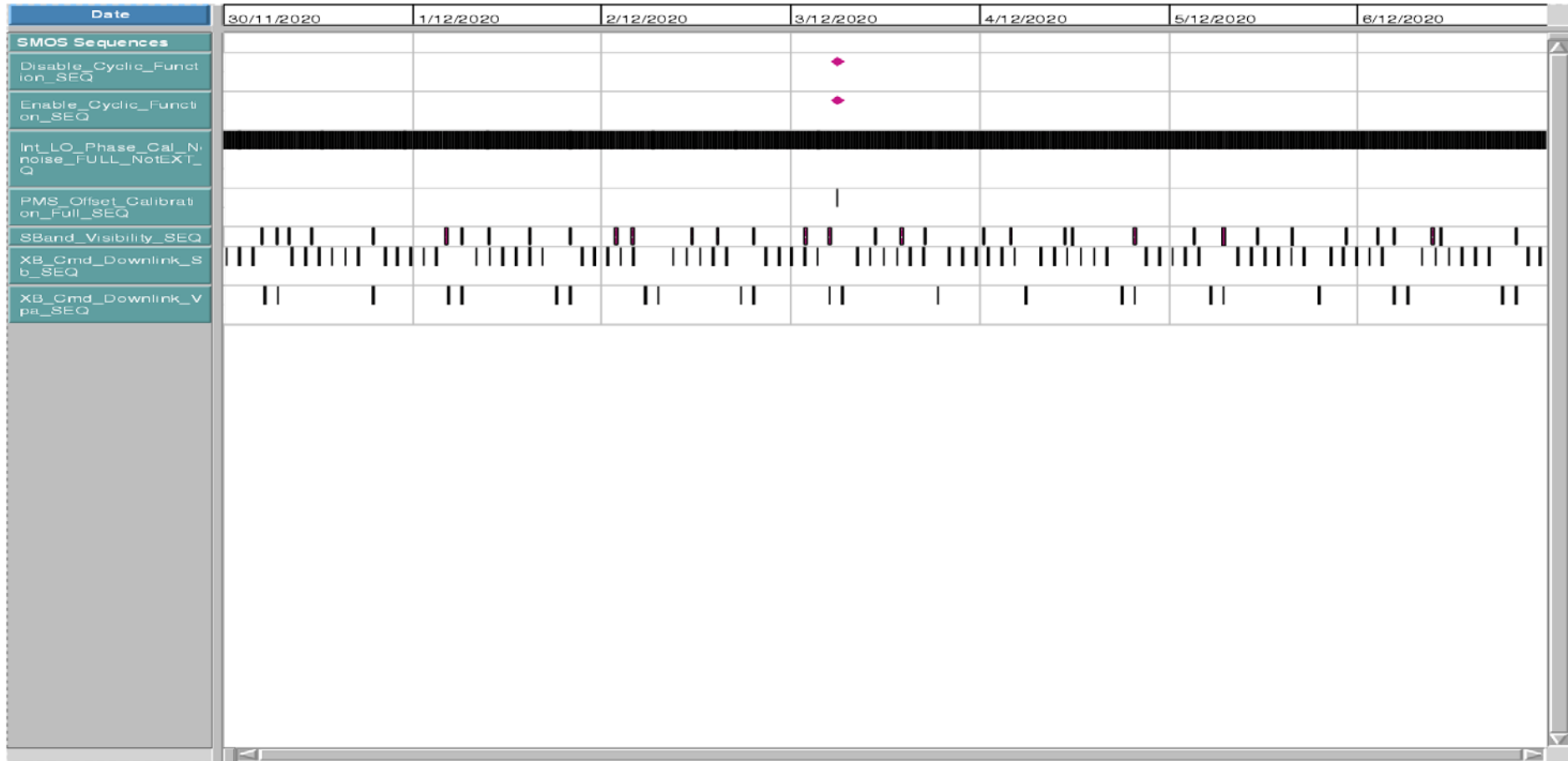
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Schedule Name: 2020\_w49\_cr ### Display start: 30-11-2020 00:00:00.000 ### Display end: 07-12-2020 00:00:00.000





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## 3 TC Failures

None.

## 4 On Board Anomalies

- The MIRAS instrument CCU reset on 2020-12-01T23:04:53.999z (DOY 337). The reset was firstly noticed by the CNES on call team upon reception of KER-1 S-Band pass with AOS at 01:40z. CNES Ops on-call manager notified the anomaly to FOS oncall engineer in a phone call received on the 2<sup>sd</sup> of December at 02:20z. Following that FOS oncall Engineer phoned KSAT team at 03:28z.

The reset took place at the end of Svalbard X band pass with AOS at 23:01:18z. Last TM packet received before the reset was time stamped at 2020-12-01T23:04:53.999z. This reset was triggered by the standard Task Overrun error (information included on the Boot Report packet).

The recovery took place on the 2<sup>sd</sup> of DEC by execution of dedicated replanning CRF number 934 uploaded by CNES during S-Band pass KER-2 with AOS at 2020-12-02T11:20:30z

As per this re-planning, nominal MIRAS X band GS dumps were resumed on 2020-12-02T15:46:08z (Svalbard pass).

MIRAS auto-downlink function triggered the execution of ESAC pass with AOS at 2020-12-02T05:29:03z

The reset anomaly was preceded by the following alarm packet:

| OB Time               | Event                    | Severity | ID  |
|-----------------------|--------------------------|----------|-----|
| 2020.336.23.04.53.999 | MM_Science_Write_Failure | ALARM    | 692 |

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

*Read* = 28635, *MM Partition PO*

*Write* = 288199, *MM Partition PO*

The anomaly was geolocated over Artic regions:

*Latitude* = 81.42°

*Longitude* = 50.82°

## 5 On Board Events Telemetry

The following Alarm packet was received immediately before the CCU reset of the 1<sup>st</sup> of December.

| Event Description | Packet ID | Severity | Event Time | Parameters |
|-------------------|-----------|----------|------------|------------|
|-------------------|-----------|----------|------------|------------|



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|                          |     |       |                     |                      |
|--------------------------|-----|-------|---------------------|----------------------|
| MM_Science_Write_Failure | 692 | ALARM | 2020-12-01T23:04:53 | <a href="#">Link</a> |
|--------------------------|-----|-------|---------------------|----------------------|

The following RAM Single Bit errors befell this week:

| Event Description    | Packet ID | Severity | Event Time          | Parameters |
|----------------------|-----------|----------|---------------------|------------|
| RAM single Bit Error | 730       | WARN     | 2020-12-03T09:51:57 | 23A2048    |
| RAM single Bit Error | 730       | WARN     | 2020-12-05T10:40:28 | 202CC70    |

### 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

During the execution of the CCU recovery procedure on the 2<sup>sd</sup> of December, the following expected out of limit was temporary received on the PLPC system.

| GS_TIME             | OB_TIME             | PARAMETER | DESCRIPTION   | OOL Value | Check Value |
|---------------------|---------------------|-----------|---------------|-----------|-------------|
| 2020-12-02T14:55:29 | 2020-12-02T11:22:55 | NTLHK022  | ITL Ena State | Disabled  | Enabled     |

The following list of parameters went temporary out of limit on the FOS PLPC system at the time the CCU recovery on the 1<sup>st</sup> of December;

| GS_TIME             | OB_TIME             | PARAMETER | DESCRIPTION   | OOL Value | Check Value |
|---------------------|---------------------|-----------|---------------|-----------|-------------|
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | SPM22167  | C3 LO_Locking | UNLOCK    | LOCK        |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | SPM21167  | C2 LO_Locking | UNLOCK    | LOCK        |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | SPM20167  | C1 LO_Locking | UNLOCK    | LOCK        |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | SPM19167  | B3 LO_Locking | UNLOCK    | LOCK        |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | SPM18167  | B2 LO_Locking | UNLOCK    | LOCK        |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | SPM17167  | B1 LO_Locking | UNLOCK    | LOCK        |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | SPM16167  | A3 LO_Locking | UNLOCK    | LOCK        |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | SPM15167  | A2 LO_Locking | UNLOCK    | LOCK        |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | SPM14167  | A1 LO_Locking | UNLOCK    | LOCK        |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | SPM13167  | H3 LO_Locking | UNLOCK    | LOCK        |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | SPM12172  | H2 LO_locking | UNLOCK    | LOCK        |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | SPM11167  | H1 LO_Locking | UNLOCK    | LOCK        |



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|                     |                     |          |                 |           |     |
|---------------------|---------------------|----------|-----------------|-----------|-----|
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | SPC02106 | Instrument_Mode | Inst Init | Any |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | XNIRABST | NIR AB VALID ST | NOT-OK    | OK  |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | XNIRBCST | NIR BC VALID ST | NOT-OK    | OK  |
| 2020-12-02T02:13:54 | 2020-12-01T23:05:27 | XNIRCAST | NIR CA VALID ST | NOT-OK    | OK  |