- **Mimmi**

  Mimmi takes pictures every minute.

  Every measurement series will give 5 x106 samples, each with 12 bits resolution.

  **Total Amount of bits:** 3600000000 bits


- **Musse**

  In the worst case, Musse's modes are changed once per day and each mode needs 128 bytes of data from ground.

  The raw data from the instrument consists of 4 measurements sampled at a rate of 12 Hz, with 12 bits of resolution.

  **Total Amount of bits:** 3486182 bits


- **Kajsa**

  Kajsa is controlled through 3 signals, and depending on signal it will perform a measurement with a resolution of 16 bits with a maximum sampling rate of 1 Hz.

  **Total Amount of bits:** 96838 bits


- **Kalle, Piff and Puff**

  Kalle,Piff and Puff are three instrument that may work separately or in combination in common measurement series in a number of combinations.

  At most they will work all three simultaneously and for a whole orbital period.

  The data exchanged by Kalle, Piff och Puff are controlled by the ground station.

  All three of them will perform measurement with a resolution of 16 bits and with a sampling rate of 12 Hz

  **Total Amount of bits:** 871546 bits (all three working and sending data at the same time)


- **House keeping signals**

  The system shall also monitor the following signals:

    - 50 temperature measurements each of 8 bits

    - 10 voltage measurements on the power bus each of 8 bits

    - 20 currents measurements each of 8 bits

- 8 pressure analysis each of 8 bits

- 43 single status bits at 0.02 Hz sampling rate

- 8 re-eads of digital 8 bit control registers that shall be read when they are changed

**Total Amount of bits (Temperature):** 2420960 bits
**Total Amount of bits (Power):** 484192 bits
**Total Amount of bits (Current):** 968384 bits
**Total Amount of bits (Pressure):** 387359 bits
**Total Amount of bits (Others):** 392533 bits

**Total Amount of bits:** 3781927 bits

For all of the sensors, when not stated, it has been assumed a period of 1 second between one measurament and the other.

**Budget bits to be sent:** 3608236494
**Total bits available to be transferred in 10' using SpaceWire:** 240000000000

| bits budget per satellite's orbital period | | | | | |
| --- | --- | --- | --- | --- | --- |
| Mimmi | Musse | Kajsa | Kalle, Pich and Puff | House keeping | Total |
| 36000000000 | 3486182 | 96838 | 871546 | 3781927 | 3608236494 |