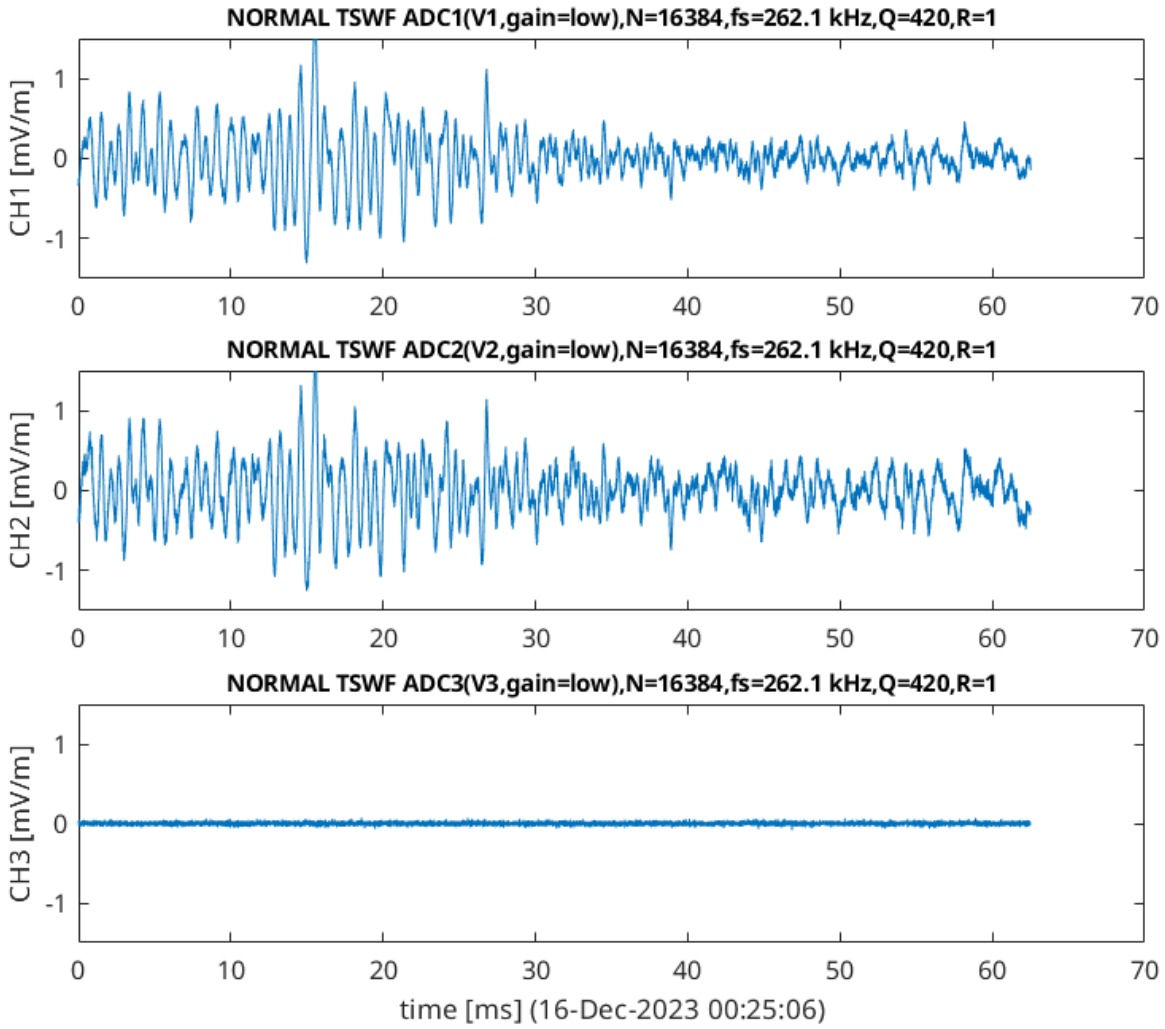
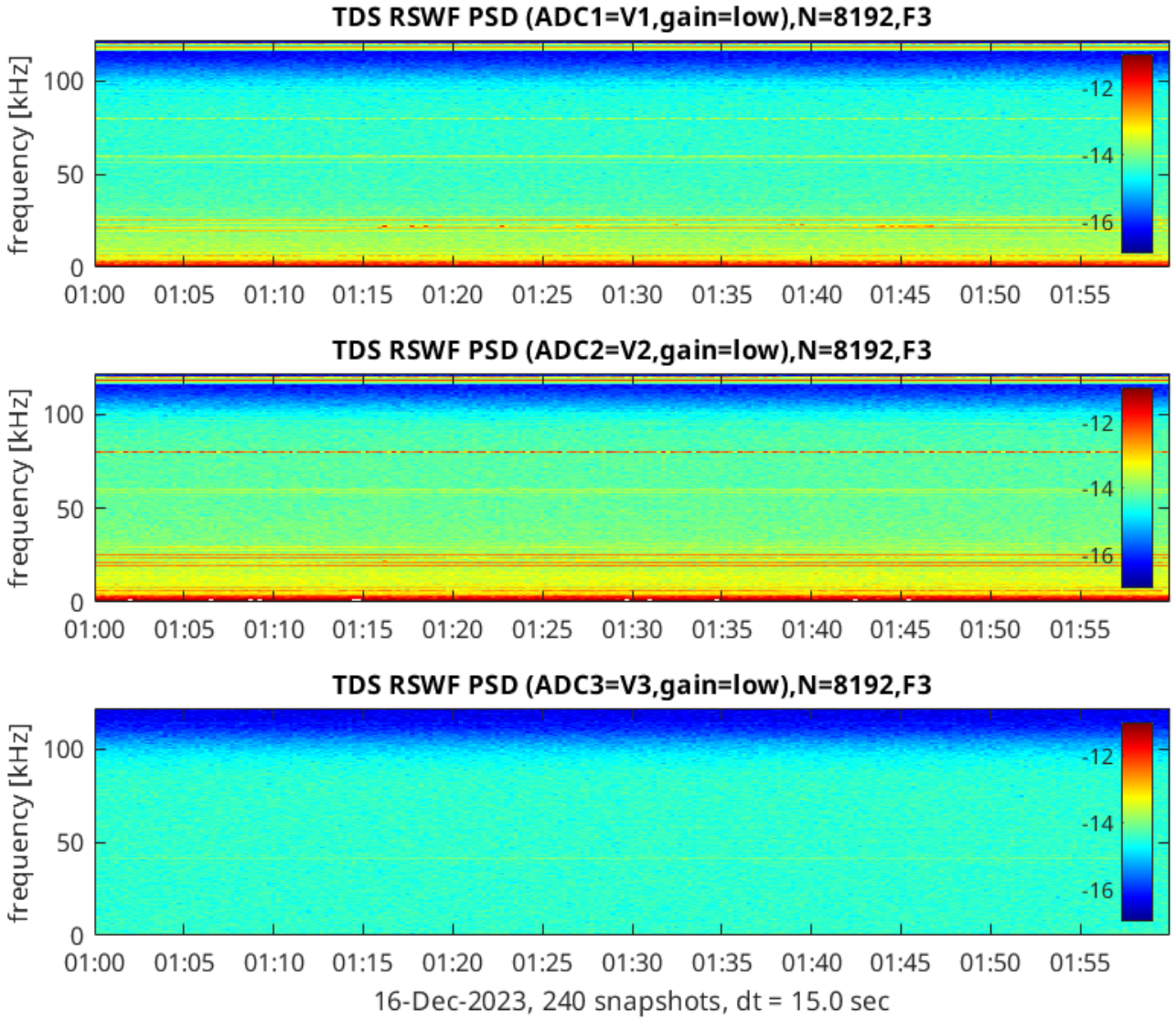
TDS data after the anomaly



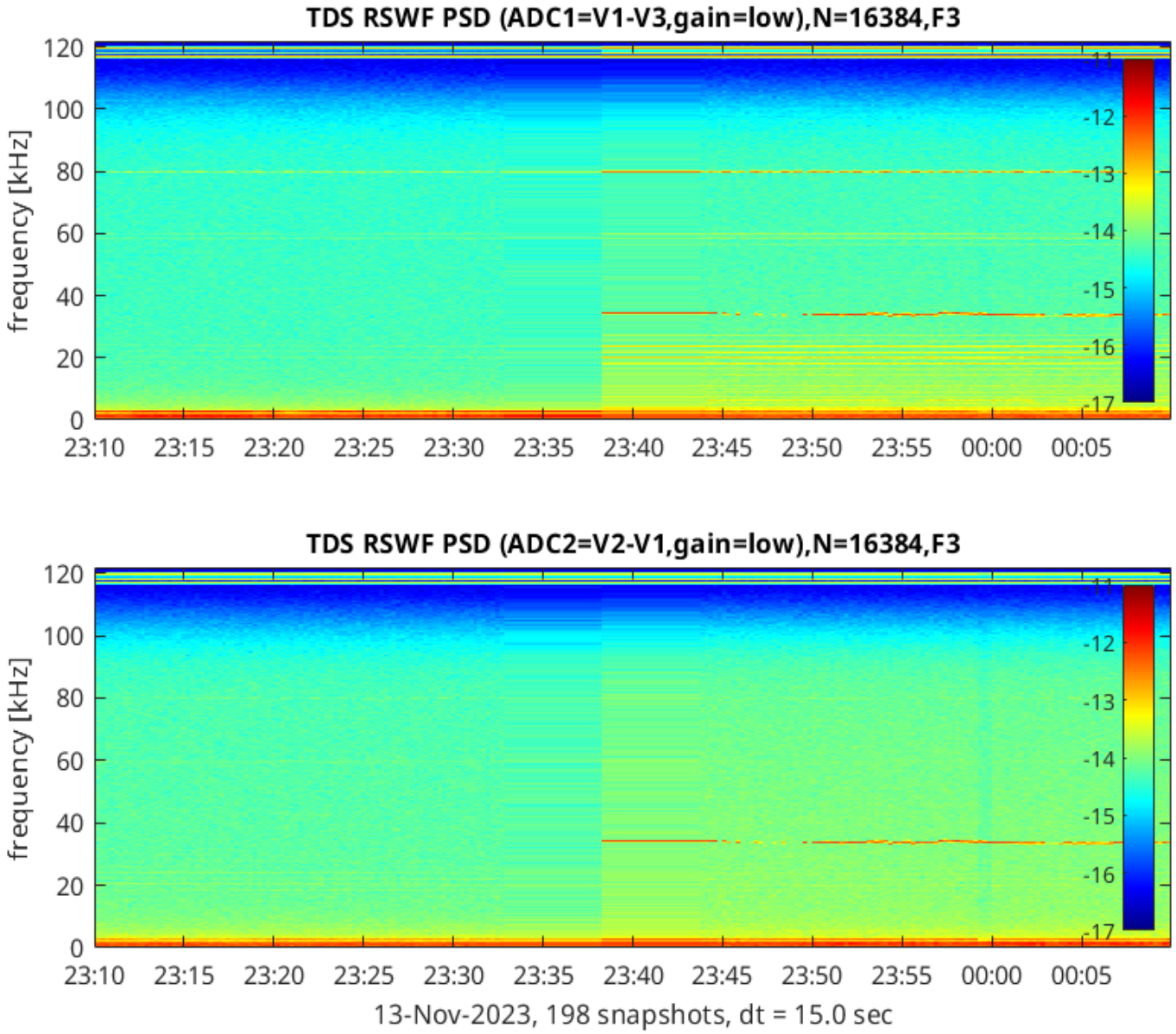
- On December 16, TDS was configured to a monopole mode, where each channel samples a single antenna.
- Clearly, Antenna 3 sees no signal at all
- TDS uses a high frequency preamplifier (different from the one used by the RPW bias), but sharing the same antenna connection “pigtail”

TDS data after the anomaly (spectrum)



- Channel3 only sees (analog) noise, comparable to a situation when the preamplifier would be grounded at its input.
- Even the 120 kHz interference from the PCDU is gone.

TDS data during anomaly on Nov 13



- V3 anomaly occurred on Nov 13, 23:38.
- TDS was in a dipole configuration
- Channel 1 (V1-V3) observes an increase in background interferences due to changing from a dipole to effective monopole
- Increase of the 40 kHz interference observed on both channels, this is common after a BIAS current change.
- A slight increase of background noise on V2-V1 channel observed too. Origin unknown, may or may be related to the anomaly or a bias current change.

Data loss and possible mitigations on TDS

- On TDS we usually run in a dipole config, sampling
  - CH1 = V3-V1
  - CH2 = V1-V2
  - CH3 = V2

This configuration is not suitable anymore, because the V3-V1 dipole is degraded

- Short term configuration (since January 22)
  - A full monopole config CH1 = V1, CH2 = V2, CH3 = V3
- Short term configuration (since January 22)
  - CH1 = V1
  - CH2 = V1-V2
  - CH3 = V2
- After this configuration change, the data degradation on TDS will not be too bad
  - We will still be able to recover two components of E-field
  - Triggering of the automatic detection can be done on the V1-V2 dipole as until now, which provides the cleanest spectrum.
  - Slightly increased noise on the V1 and V2 monopoles, compared to dipole measurements
  - On the other hand, this configuration is (somehow) better for dust detection.