

## Inquire – Knowledge Base Article

**Product Group:** Microlog  
**Product:** Microlog Generic  
**Version:** N/A

### Abstract

This article describes the “ski slope” characteristic shown in a vibration spectrum in the Microlog, which happens to obscure part of, or the entire, vibration spectrum.

### Overview

First of all, ski slopes are mainly seen in either Velocity (A-V) or Displacement (A-D) because of the *integration* process – ‘Single Integration’ for Velocity (A-V), and ‘Double Integration’ for Displacement (A-D). Integration is a process that amplifies low frequencies. Specifically for Acceleration to Velocity integration, frequencies below 61.4 Hz are amplified. The lower the frequency, the stronger the amplification.

Therefore, any low-frequency vibrations generated by the application could show up as a ski slope. However, if strong, low frequencies are not expected for the monitored application or if the ski slope is intermittent for the monitored POINT, it could be another issue (i.e. a cable problem). It is a concern if the ski slope values are high (i.e. > 20 IPS). There are many possible reasons why the Microlog will display low frequency ski slopes in the spectrum. Below are some known possible causes and solutions:

#### Possible Causes:

- Bad or intermittent accelerometer cable
- Bad or intermittent accelerometer
- Low Freq Cut-off set too low
- 25-Pin "D" connector is faulty
- Electrical or magnetic interference

**Solution:**

- Change out the cable
- Change out the accelerometer
- Raise Low Freq. Cut-off to mask noise
- Send Microlog back for evaluation
- Should use "Twisted Shielded" cable

If a strong ski slope is shown while performing low-frequency monitoring, the CMVA60-ULS is recommended, which is better suited for low-frequency monitoring. If a strong ski slope remains visible knowing that the Microlog is in good shape, consider performing the measurement strictly in acceleration, using the time domain window to determine the nature of the low frequency. Also note that the setting of Fmax influences the Microlog's capability of measuring low frequencies (the lower the Fmax value, the more low frequency will be seen).

Keep in mind that a magnet mounted sensor will give better results (less low-frequency noise) than performing a handheld measurement.

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For further assistance, please contact the Technical Support Group by phone at 1-800-523-7514 option 8, or by email at [tsg-americas@skf.com](mailto:tsg-americas@skf.com).