## SKV Air Conditioner Qualify

**Data Description**

<table>
<thead>
<tr>
<th>Sensor</th>
<th>121f02</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>LAB1O2, ER1, Drawer 1</td>
</tr>
<tr>
<td>Inc/Flight</td>
<td>Increment: 4, Flight: 8A</td>
</tr>
<tr>
<td>Plot Type</td>
<td>spectrogram</td>
</tr>
</tbody>
</table>

**Notes:**

- This Russian air conditioner is part of the Environmental Control and Life Support System (ECLSS).
- As part of preparation for an ExtraVehicular Activity (EVA), the crew will move ducting in order to work with hatches. It has been noted that this is accompanied by a temporary deactivation of the air conditioner.
- Nominally one SKV is operating, but there are times when both SKV-1 and SKV-2 are on.
- The nearly continuous operation of this equipment produces a narrowband disturbance near 23.5 Hz. This spectral peak serves as vibratory beacon signal.

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**Graphical Data**

The graph shows the power spectral density (PSD) of the SKV Air Conditioner over a 24-hour period starting at 08:00 GMT on 24th May 2002. The PSD is plotted on a log scale, with frequency on the x-axis and PSD magnitude in log10(g2/Hz) on the y-axis. The graph includes a color scale indicating the magnitude of the PSD. The data is summarized as follows:

- **Sensor**: 121f02
- **Location**: LAB1O2, ER1, Drawer 1
- **Plot Type**: spectrogram
- **Regime**: Vibratory
- **Category**: Vehicle
- **Source**: SKV Air Conditioner
Quantify

Sensor:

121f02

250.0 sa/sec (100.00 Hz)

Location:

LAB1O2, ER1, Drawer 1

Inc/Flight:

Increment: 4, Flight: 8A

Plot Type:

interval RMS

Notes:

For the 8-hour period shown in the figure, Parseval’s theorem was used to derive the RMS acceleration level for a narrow band around the SKV air conditioner’s operating frequency. The results for the frequency band from 23 to 24 Hz is tabulated below:

<table>
<thead>
<tr>
<th>SKV</th>
<th>GMT</th>
<th>Median (µg RMS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ON</td>
<td>08:00 – 11:00</td>
<td>55.4</td>
</tr>
<tr>
<td>OFF</td>
<td>11:00 – 13:28</td>
<td>6.8</td>
</tr>
<tr>
<td>ON</td>
<td>13:28 – 16:00</td>
<td>91.2</td>
</tr>
</tbody>
</table>

Regime: Vibratory

Category: Vehicle

Source: SKV Air Conditioner