

**Antonio ATA Cooled Feed
Feed Tip Vibration Measurements Various Dampeners
2018-12-07, Minex Engineering, Matt Fleming**

| Version | Date | Comment | Initials |
|-----------|------------|--------------|--------------|
| Version 0 | 2018-12-07 | Preliminary. | Matt Fleming |

Contents:

None at this time

Summary:

This document collects some preliminary measurement of vibration for the Sunpower GT Cryocooler with a passive dampener and an active dampener. The expectation was that the active dampener would be significantly better but preliminary measurements are unclear. Some of our problem resolving performance may be due to the mounting of the accelerometer.

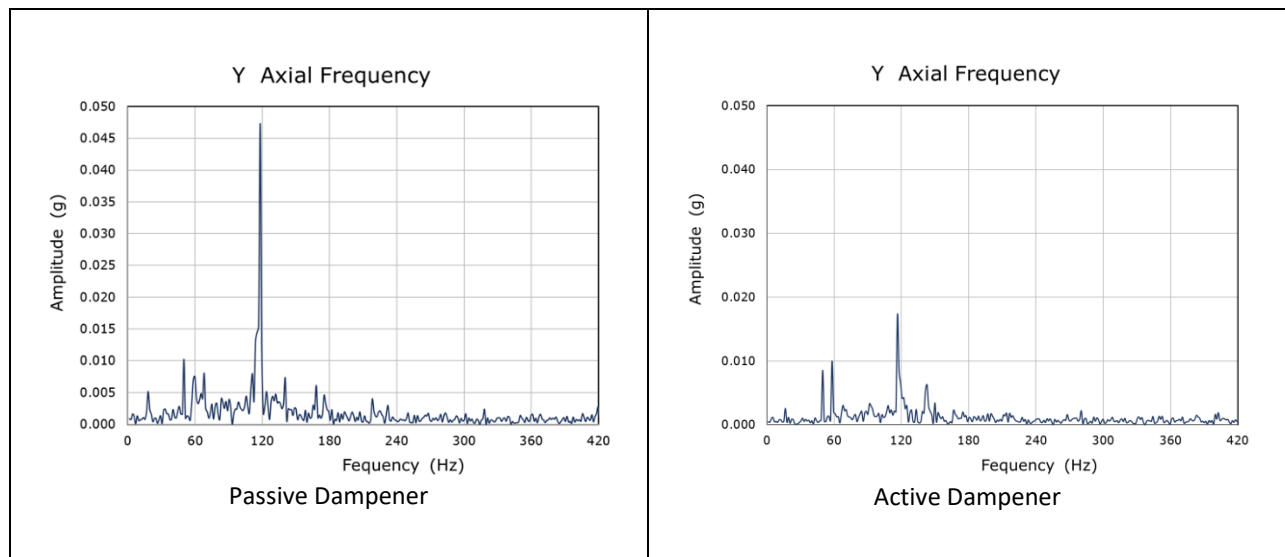
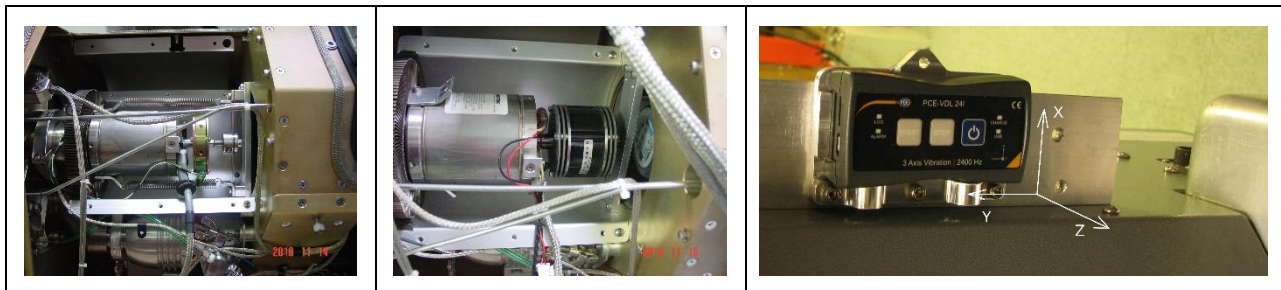
Discussion:

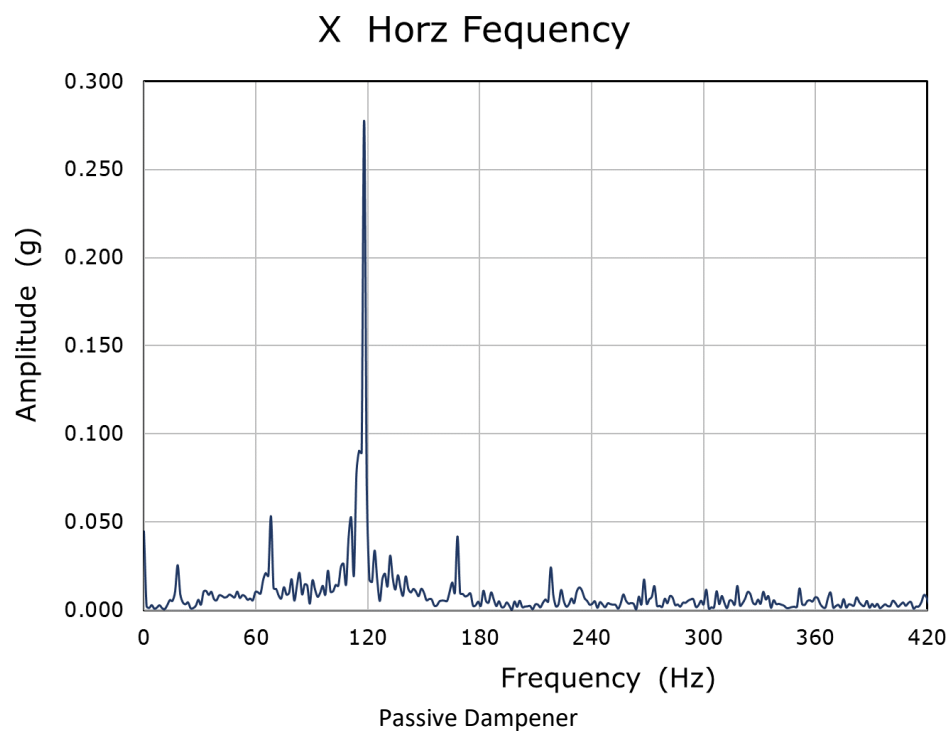
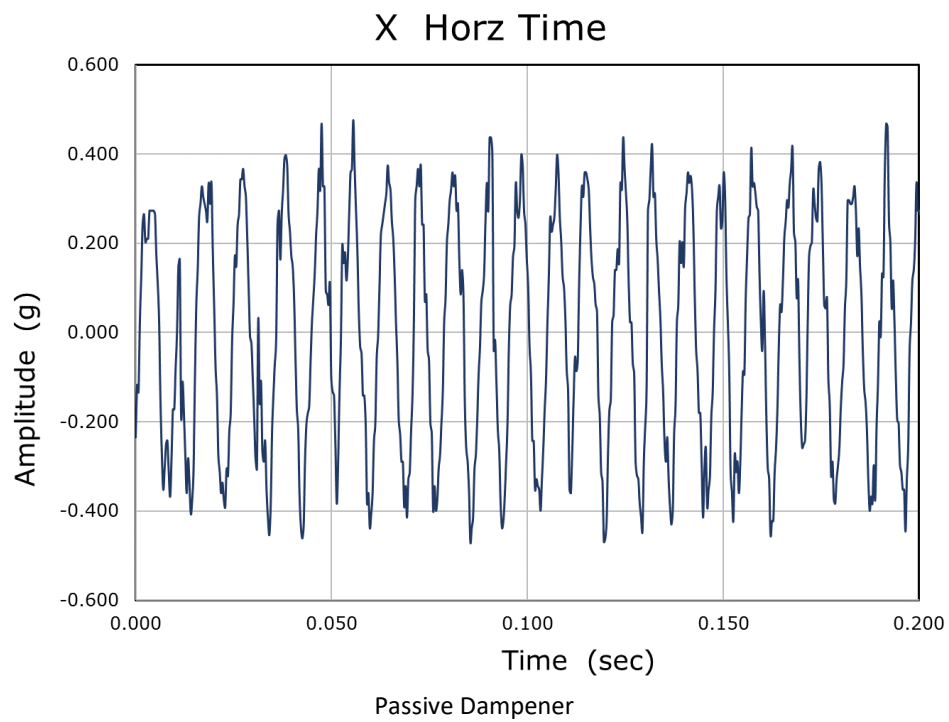
Below are some images of FFT Amplitude vs Frequency for the axis parallel to the cryocooler action. The active dampener gives a reduction,

for 60 Hz 0.008 to 0.010 which is a essentially no change

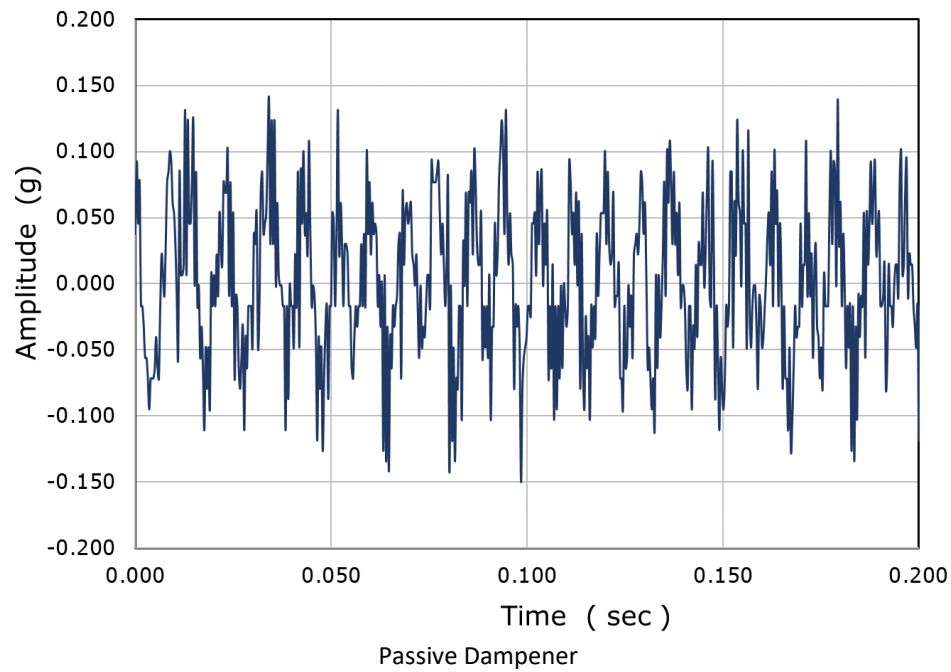
for 120 Hz 0.047 to 0.018 which is a factor of about 2.6

Reductions in perpendicular directions have not been evaluated yet.

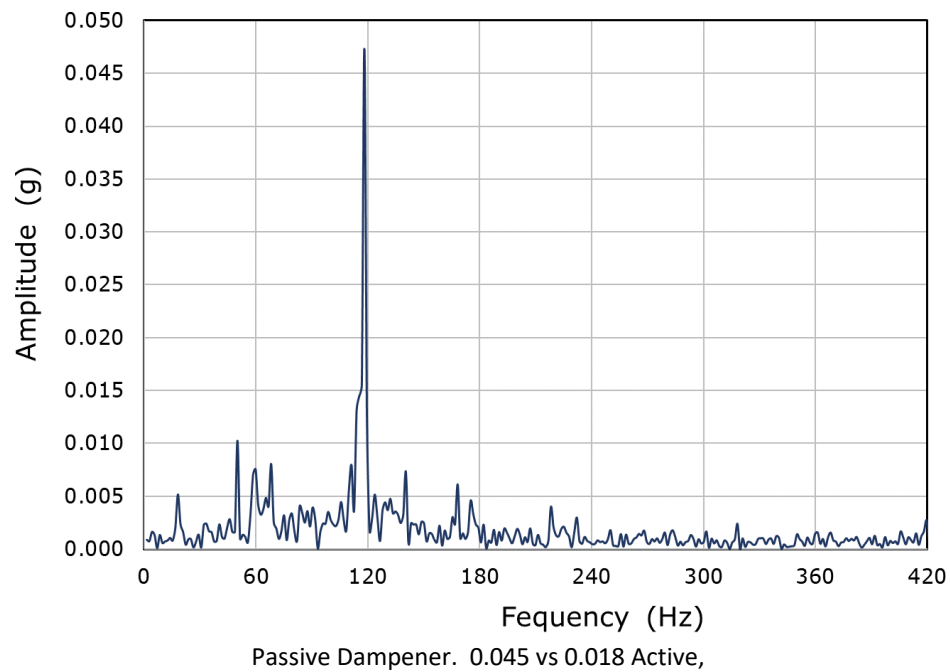




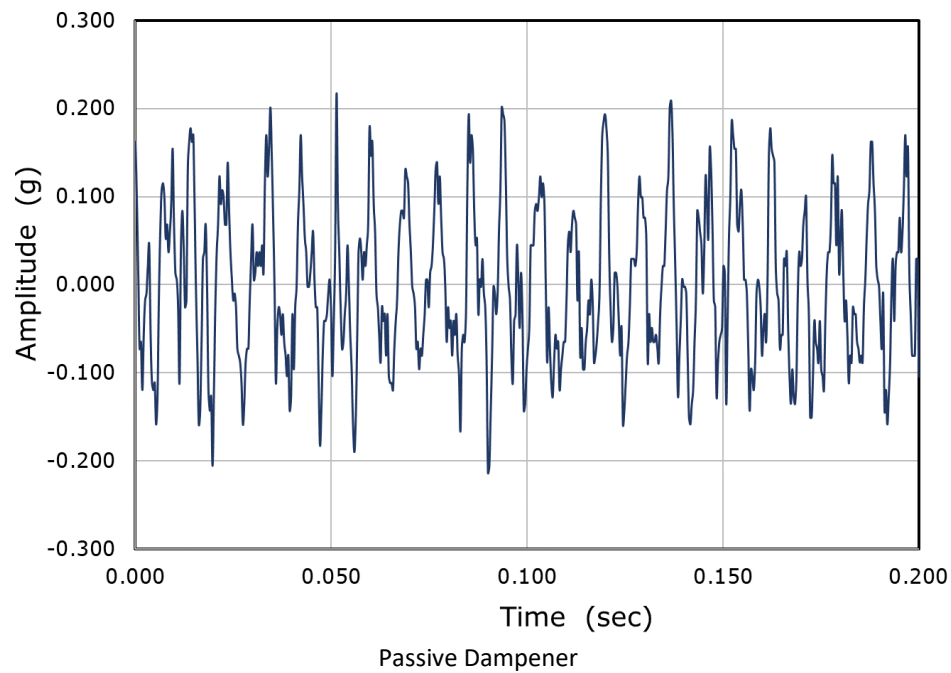
Y Axial Time



Y Axial Frequency



Z Vert Time



Z Vert Frequency

