

DC Link Ripple Test

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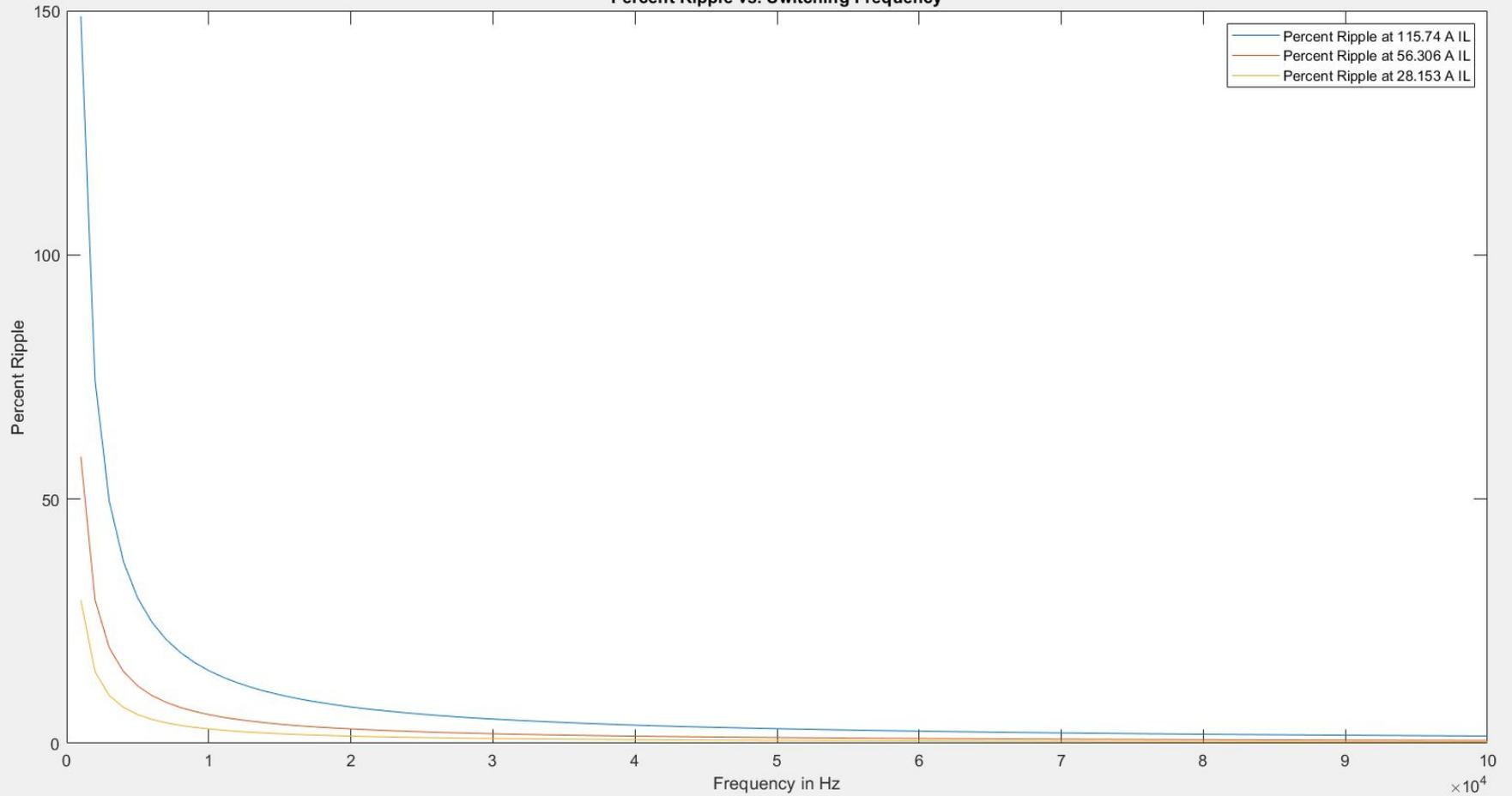
Parameters

- **Plotted percent ripple on the DC bus**
- **Using 180 uF DC Link Capacitor**
- **Switching frequency varying between 1kHz and 100 kHz**
- **Tested at three different currents**
 - **$I_{peak} = 115.74 \text{ A}$**
 - **$I_{nominal} = 56.306 \text{ A}$**
 - **$I_{light} = 28.153 \text{ A}$**
- **I inferred the light current as what we might see as an average during a drive cycle.**
 - **Please let me know if there are better numbers I could test**



Results

Percent Ripple vs. Switching Frequency



Results

- **Percent Ripple was high for the extremes (high current and low switching frequency)**
 - **These extremes will not occur within the system.**
- **For more likely values the Percent ripple seemed to be more reasonable**
 - **9.3% at 115.74 A and 16 kHz**
 - **4.6% at 115.74 A and 32 kHz**
 - **3.67% at 56.306 A and 16 kHz**
 - **1.8% at 56.306 A and 32 kHz**

