This technical note presents the results of noise measurements made on a typical production run of LDX-3412 Precision Current Sources.

MEASUREMENT SETUP
The LDX-3412s were set for an output of 100 mA through a 50Ω metal film resistor. A Millivac® MV-812A precision multimeter was used to measure the RMS noise voltage across the resistor (at room temperature), as shown below in Figure 1.

Then the RMS noise current was calculated using Ohm’s Law:

\[ I = \frac{E}{R} \]

The output bandwidth of the LDX-3412 is 100 Hz, and the input bandwidth of the MV-812A is 5 MHz.

RESULTS
The noise data was recorded for each LDX-3412, and this data was entered in the histogram shown in Figure 2. The typical output noise for an LDX-3412 is less than 1 µA rms.