Question: "Why does my INL/DNL result look bad?"
Don Blair

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The INL/DNL result of an ADC is bad. I expected +/- 1 LSB but I am seeing 10 LSBs of error. What is wrong?

Answer:

Check this first:

1. Are you missing any codes? Look at the histogram of the output. You should see data or hits on every code. If you don't, then check:

2. Are you supplying enough voltage to ensure that every code is hit? In the case of linearity, you want to over-drive the DUT by 5-10% to ensure every code is hit. Also, remember about input offsets.

3. Do you have the right voltage on the power supplies and references? Incorrect values here may also cause codes to be missed.