

Q.1 (11.7 of J&K)

The following measurements are found from a 3-bit unipolar DAC with $V_{\text{ref}} = 8 \text{ V}$: (-0.01, 1.03, 2.02, 2.96, 3.95, 5.02, 6.00, 7.08). In units of LSBs, find the offset error, gain error, maximum DNL, and maximum INL.

Q.2 (11.10 of J&K)

Consider the following measured voltage values for a 2-bit DAC with a reference voltage of 4 V:

{00 ↔ 0.01 V} {01 ↔ 1.02 V} {10 ↔ 1.97 V} {11 ↔ 3.02 V}

In the units of LSB, find the offset error, gain error, worst absolute and relative accuracies, and worst differential nonlinearity. Restate the relative accuracy in terms of an N-bit accuracy.