Jitter spectrum measurements with a digital oscilloscope

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Clockworks Signal Processing released an application note that measures jitter using a SIGLENT XE series of oscilloscopes.

The basic idea is simple enough – measure the clock edges and see if they are all exactly evenly spaced or if they change (jitter) over time. A non-uniform clock fed to an ADC or DAC will produce FM and/or AM effects, as well as raise the noise floor. The effects of the clock jitter depend on the nature of the jitter. Random jitter can have less objectionable audible effects than jitter dominated by a specific frequency. There are many ways for interfering signals to couple into clock lines to cause problems.

The link below takes you to the note that looks at using a garden variety DSO (200 MHz BW, 1 Gsample/sec) to see if it can take the place of a $50,000 setup that would normally be wheeled out to investigate a jitter problem.

https://clk.works/2020/05/jitter-spectrum-measurement-with-a-dso/

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