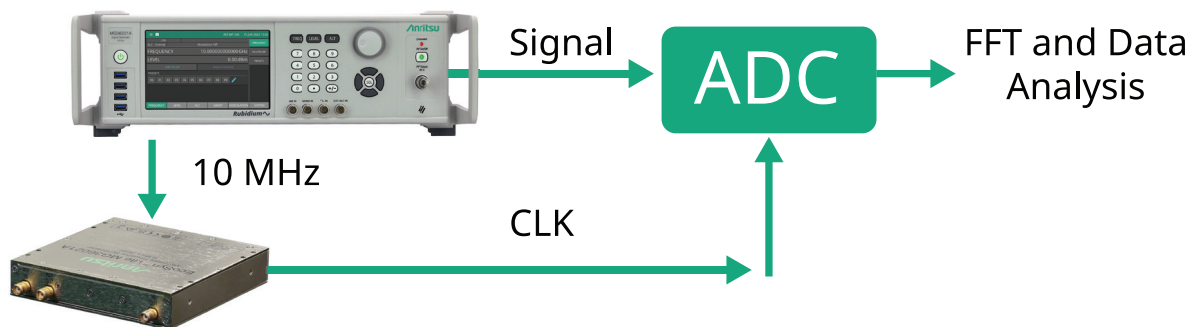


Testing Giga Sample ADCs and DACs

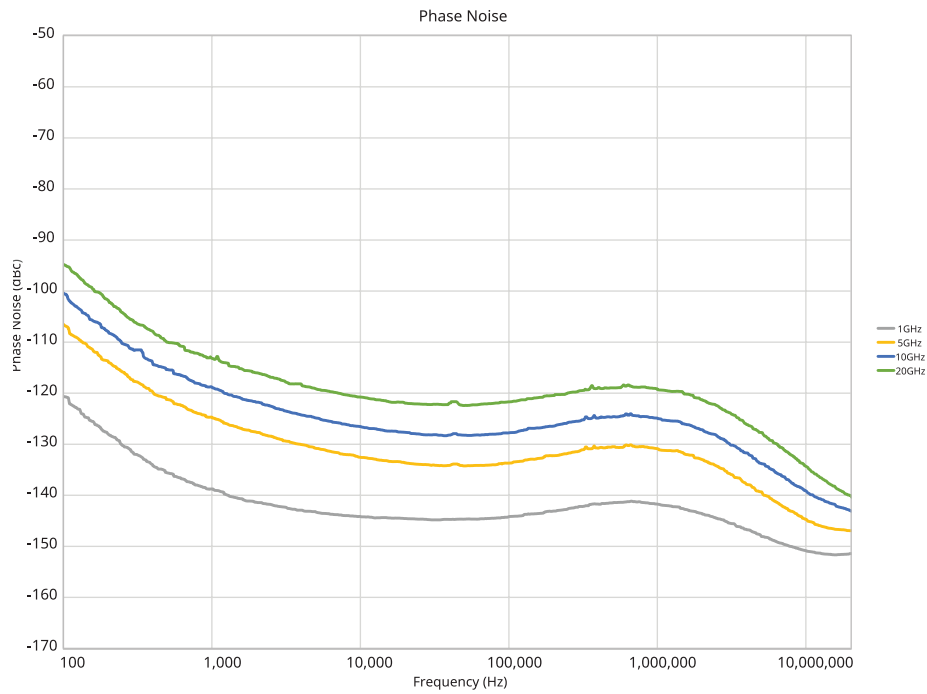
Introduction

Today's high speed ADCs and DACs are moving ever closer to antenna in transceivers thus enabling direct digital conversion and DSP processing of RF very early in Tx/Rx signal processing chains. Testing high speed ADC requires two high purity analog sources, one for the signal input into the ADC and another for the clock. Typical ADC measurements include ENOB, SFDR, SNR, SINAD, Harmonic distortion, IMD.

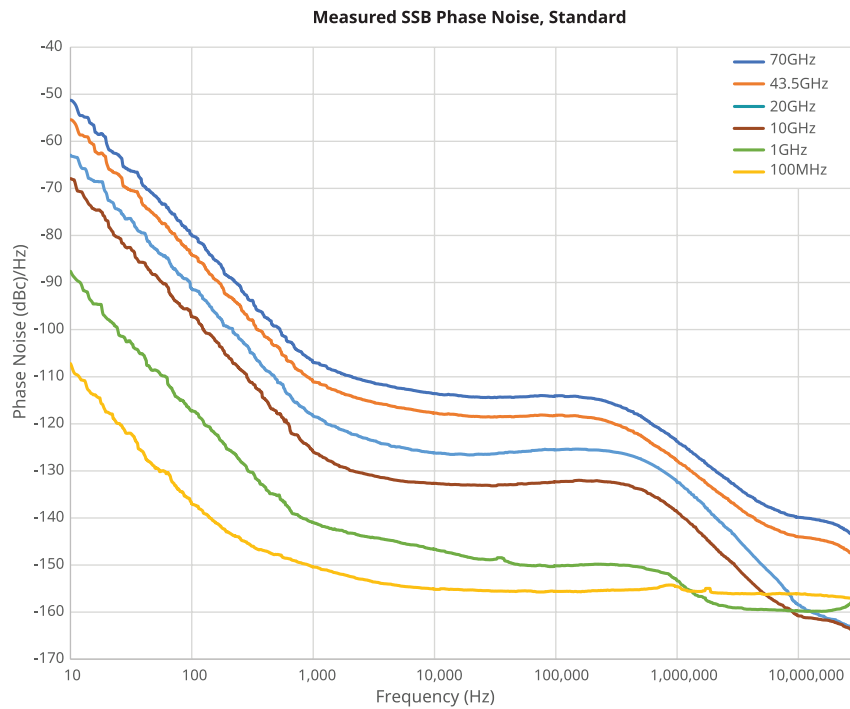
Anritsu's EcoSyn™ Lite along with Rubidium™ signal generator can be used to make high speed ADC measurements. EcoSyn Lite is locked to 10 MHz reference from Rubidium. The RF output frequency and power of both EcoSyn Lite and Rubidium can be independently controlled during the measurement. With EcoSyn Lite as clock source, ADCs and DACs with sampling rates up to 20 GHz can be tested.



EcoSyn Lite with its very low clock jitter performance and robust output power, is well suited to be used as sampling clock of ADC. Anritsu's Rubidium Signal generator with its exceptional phase noise performance and low harmonics is ideal to be used as input signal of the ADC. Both sources with their superior performance have the least impact on true ENOB, SFDR, SNR and other parameters of the ADC, thus leading to most accurate measurements.



EcoSyn Lite Phase Noise



Rubidium Phase Noise

EcoSyn Lite's very low RMS jitter and wideband phase noise makes it best choice as a clock source for testing high speed ADC and DAC. RMS jitter of a clock source reduces true SNR of the ADC/DAC and hence should be as small as possible. ADC is a sampled system and its analog input signal is convolved with clock signal in frequency domain. If clock signal's bandwidth is greater than Nyquist bandwidth at the input of the ADC, which is not uncommon, wideband phase noise of the clock is aliased into ADC output and accumulated many times thus worsening SNR. The EcoSyn Lite keeps both jitter and wideband phase noise very low to enable better measurement.



Specifications are subject to change without notice.

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