

How to Choose an AWG:

SDG2000X or SDG1000X ?

Overview

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SIGLENT's SDG2000X and SDG1000X series arbitrary waveform generator have the similar appearance, user interface, but they are signal generators on different levels.



SDG1000X



SDG2000X

The following pages would demonstrate some differences between SDG2000X and SDG1000X, which could be helpful for customers to make choice according to their requirements between these two models. ♪

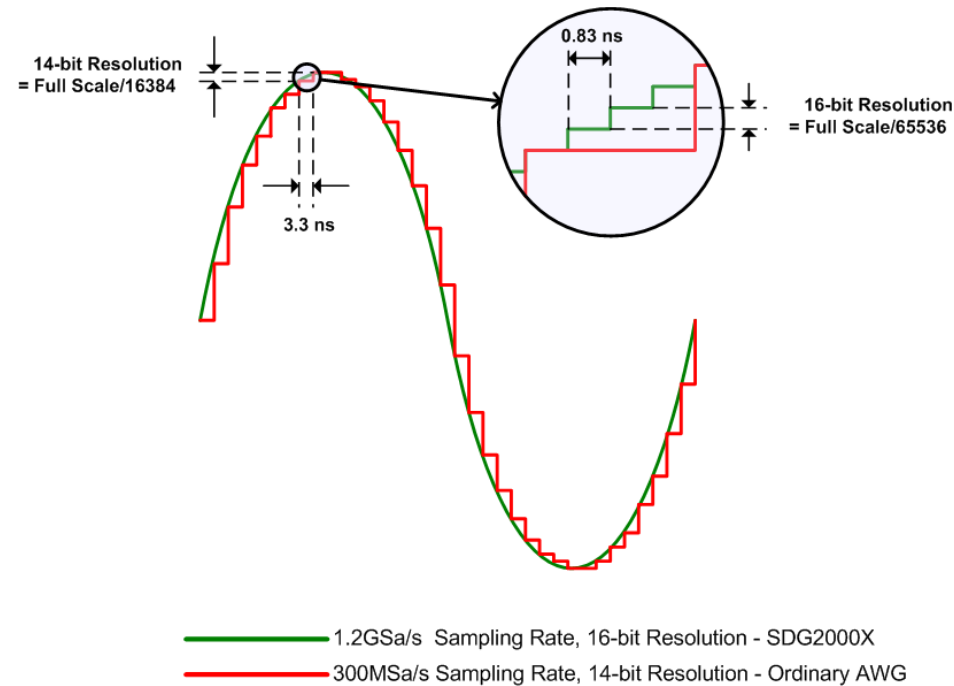
SDG2000X VS SDG1000X

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Parameters	SDG2000X	SDG1000X
Max. Frequency	120 MHz	60 MHz
Sampling Rate	1.2 GSa/s	150 MSa/s
Vertical Resolution	16-bit	14-bit
Time Base Accuracy	2 ppm	25 ppm
Signal Fidelity	Better	Normal
Noise Floor	Better	Normal
Capability of Outputting Large Signal	20 Vpp, up to 20MHz	20 Vpp, up to 10MHz
Pulse Rise/Fall Time	8.4 ns	16.8 ns
Pulse Minimum Width	16.3 ns	32.6 ns
Square/Pulse Jitter	≤ 150 ps	≤ 300 ps+0.05 ppm
TrueArb	Yes	No
Touch Screen	Yes	No
BNC Coaxial Cable	Standard	Optional

High-performance Sampling System on SDG2000X

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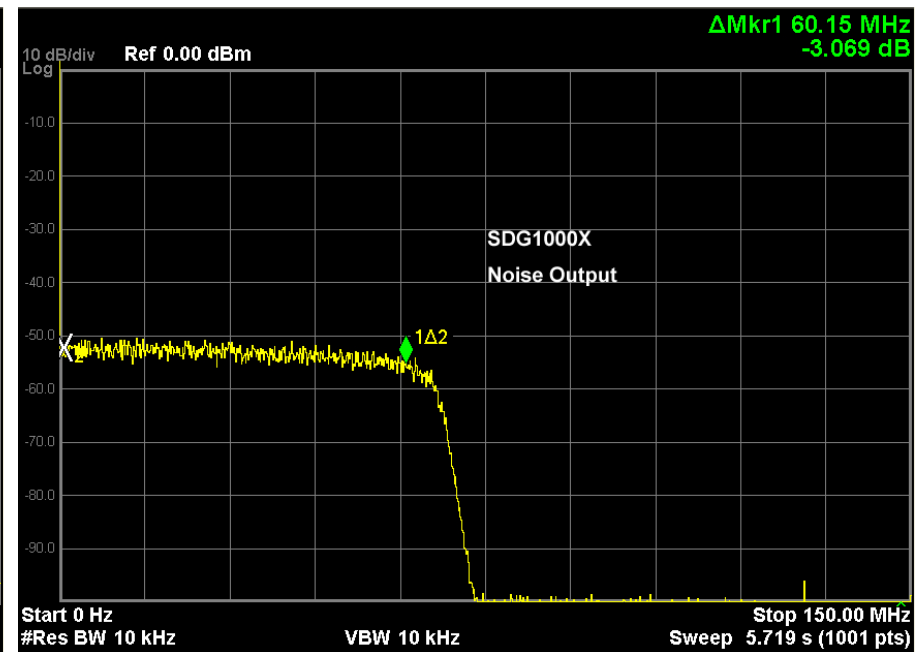
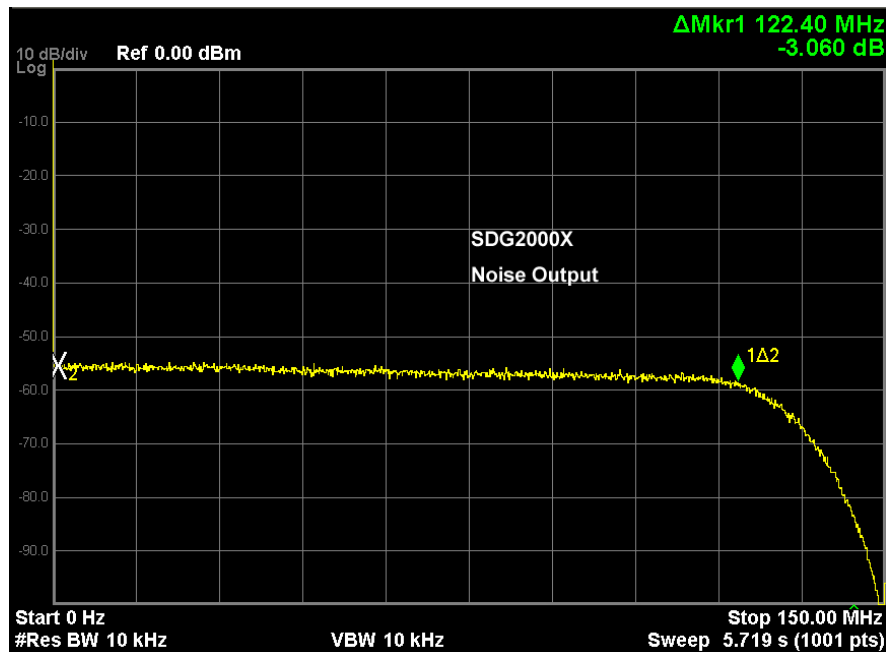


- Benefiting from a 1.2GSa/s and 16-bit sampling system, SDG2000X achieves extremely high accuracy performance in both time domain and amplitude, which leads to more accurately reconstructed waveforms and lower distortion.

Bandwidth

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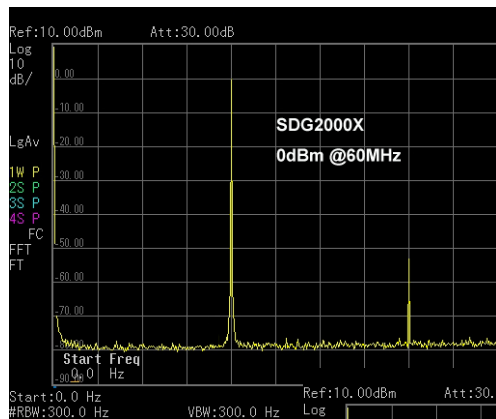
- By doing a frequency response test with white noise, the bandwidth of the analog channel could be observed and measured.
- SDG2000X's bandwidth proves to be greater than 120MHz, twice that of SDG1000X.



Signal Fidelity

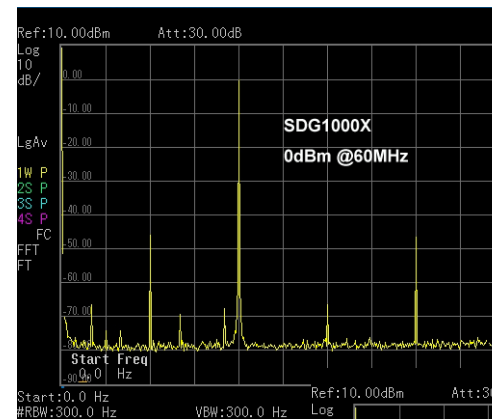
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- With DAC sampling rates up to 1.2GSa/s, the frequency domain of SDG2000X looks much cleaner than SDG1000X with lower sampling rates of 150MSa/s. ♪



SDG2000X

Excellent harmonic distortion and SFDR ♪



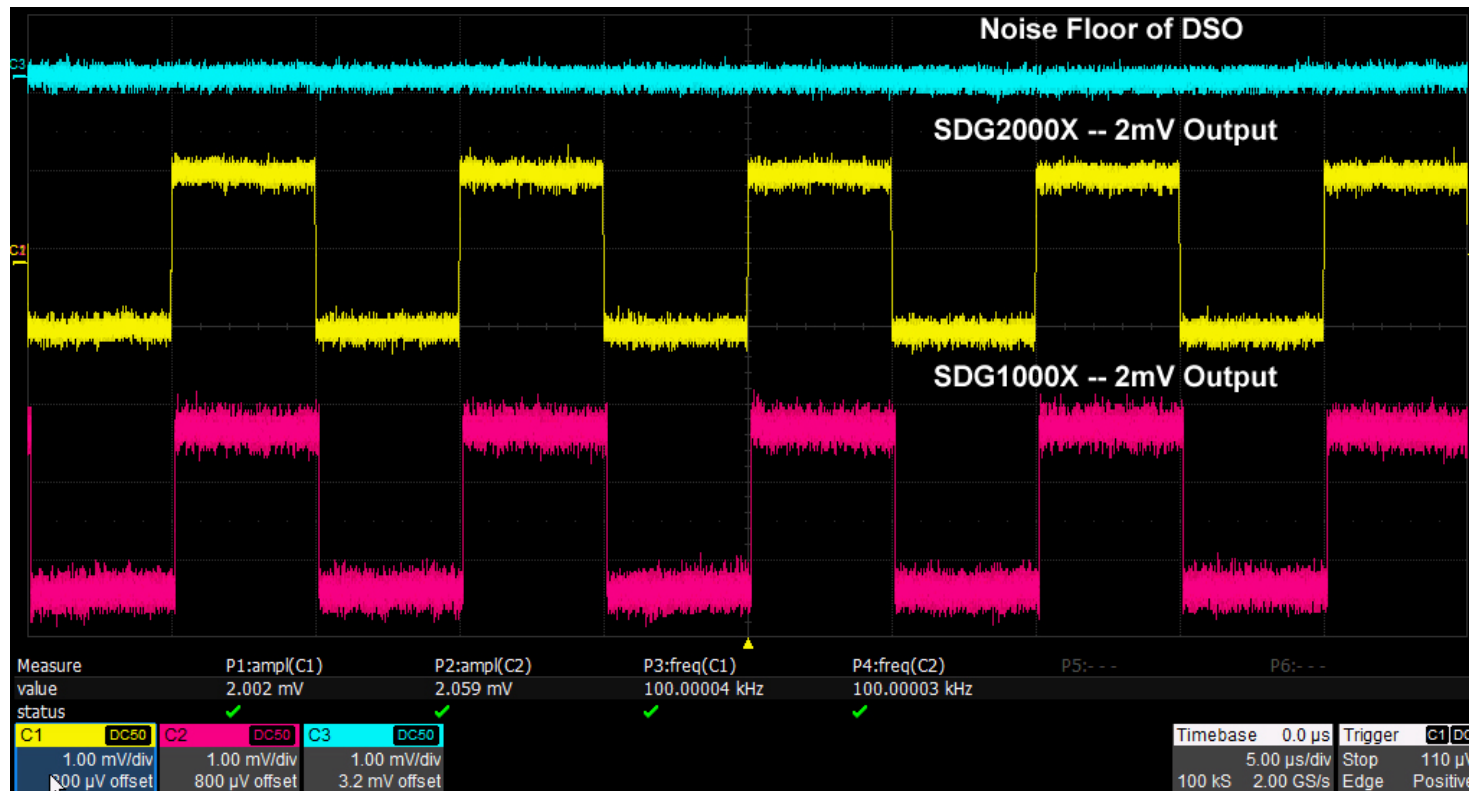
SDG1000X

Ordinary in HD and SFDR performance ♪

Noise Floor

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- With lower noise floor in the output, SDG2000X gets higher SNR and greater performance of small signals than SDG1000X.



Capability of Outputting Large Signal

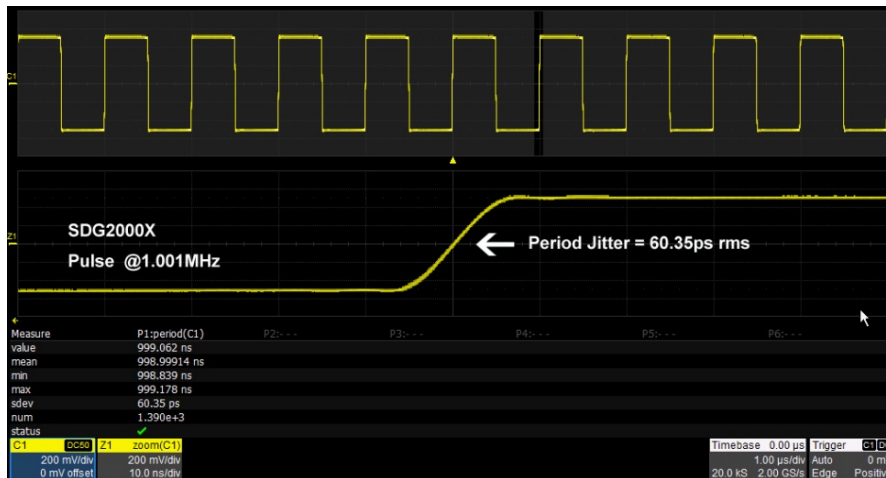
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- SDG2000X: 20Vpp amplitude can be guaranteed even at the frequency of 20MHz. 🎵
- SDG1000X: 20Vpp amplitude is guaranteed with the max. frequency up to 10MHz. 🎵

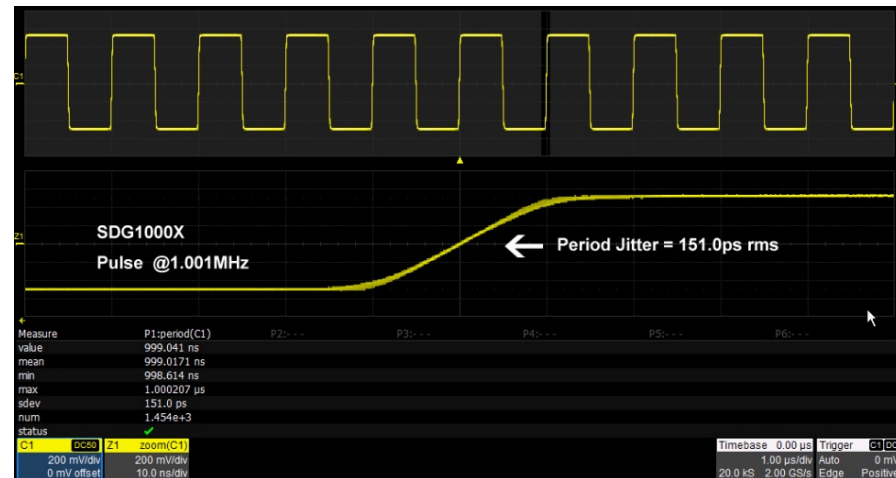


Pulse Performance (1)

- Innovative EasyPulse technology is applied both in SDG2000X and SDG1000X, but higher time base accuracy and better channel design make SDG2000X more perfect in Pulse performance. 🎵



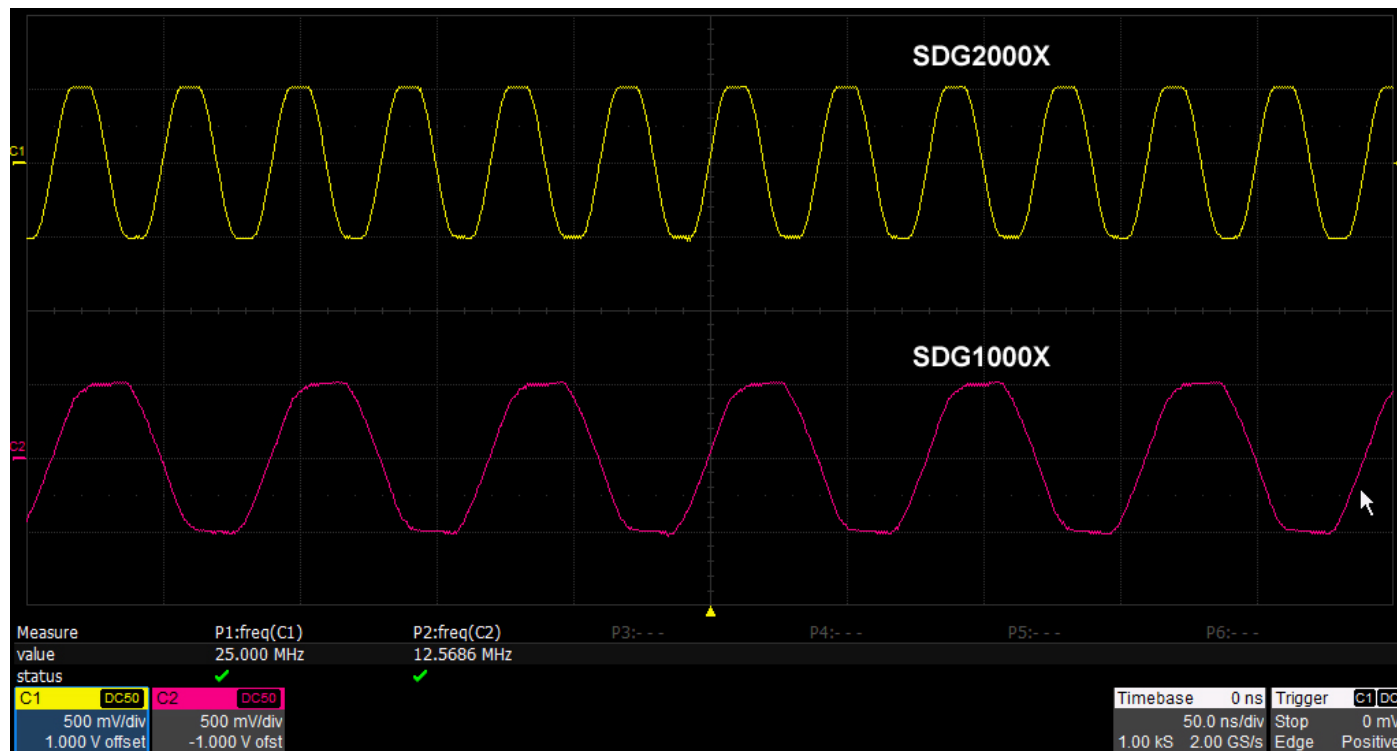
SDG2000X: Pulse Jitter < 150 ps



SDG1000X: < 300 ps + 0.05 ppm

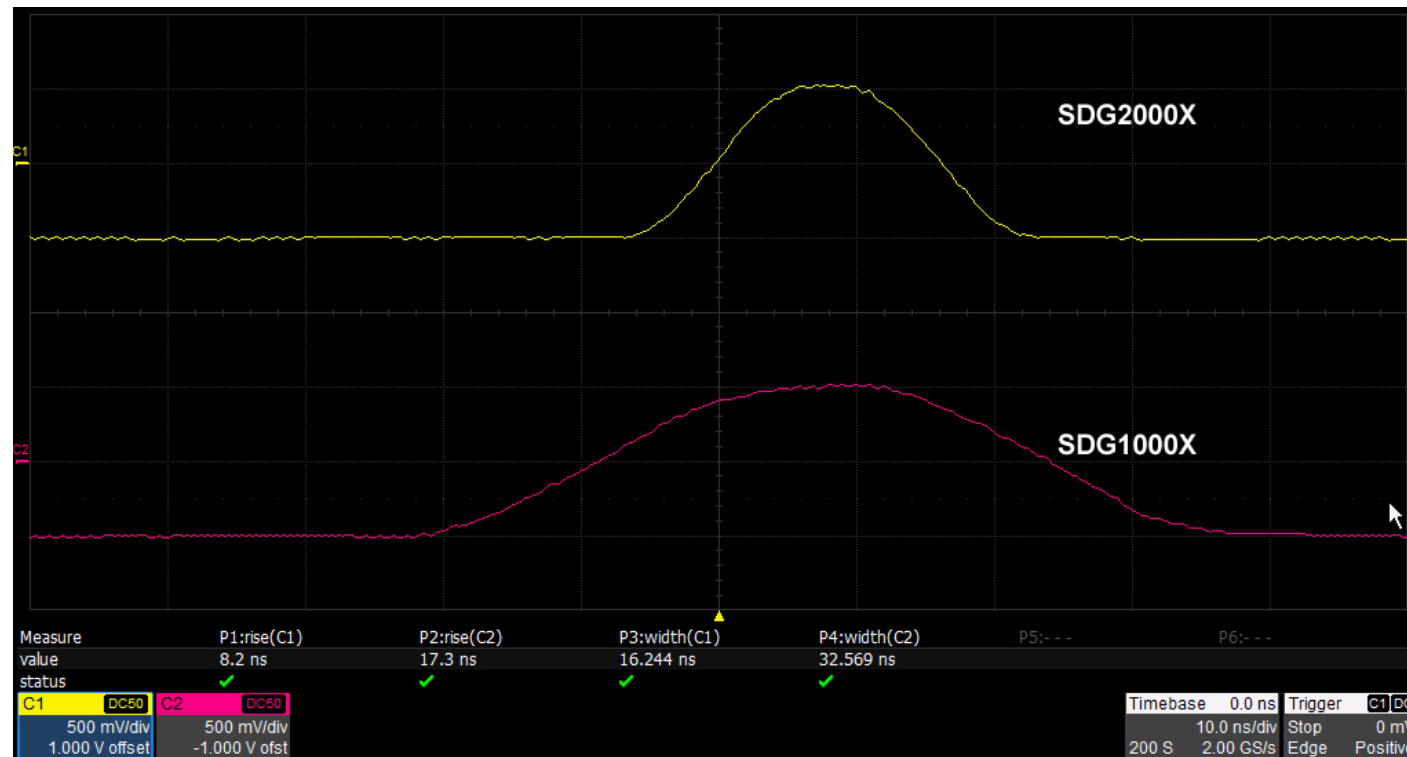
Pulse Performance (2)

- SDG2000X: Maximum frequency of Pulse is up to 25MHz.♪
- SDG1000X: Maximum frequency of Pulse is only 12.5MHz.♪



Pulse Performance (3)

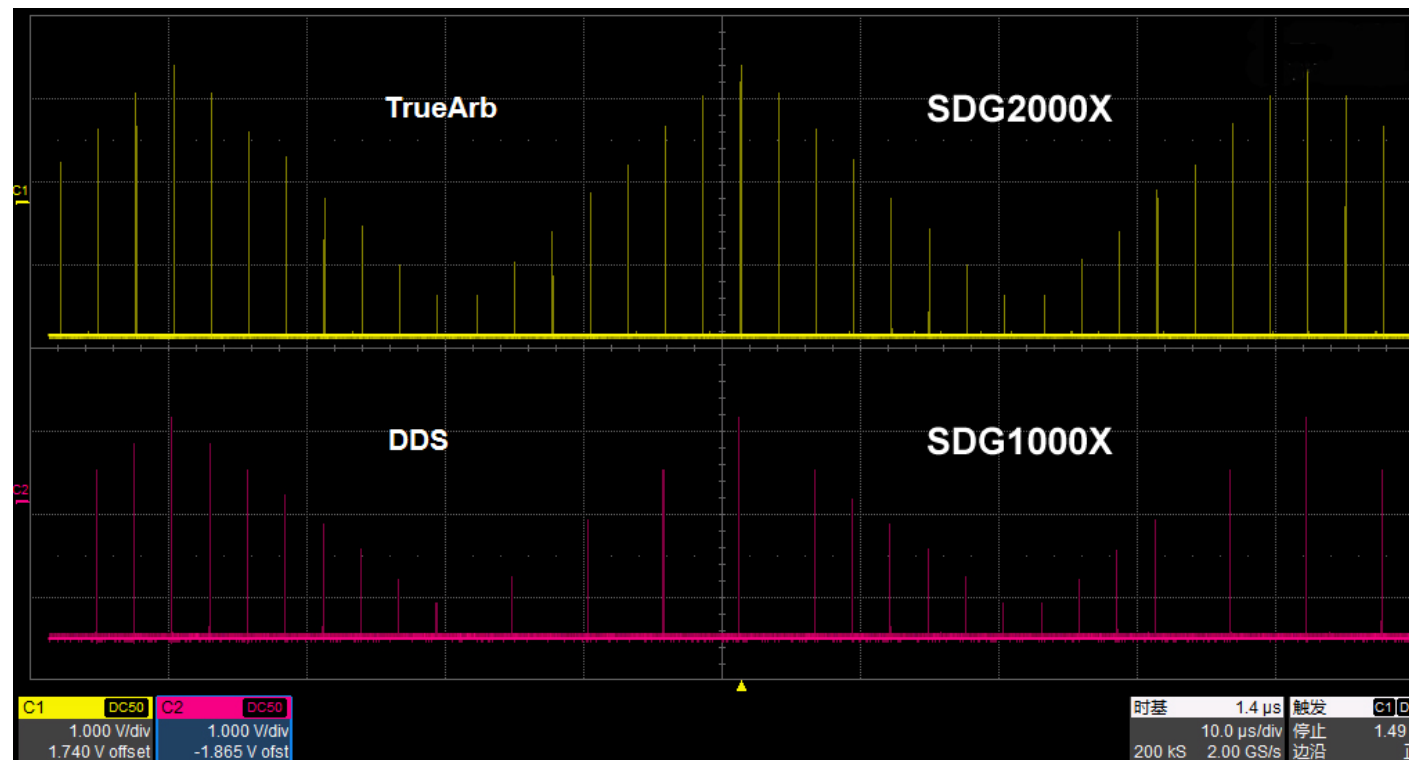
- SDG2000X: Faster edge of 8.4ns; Smaller Pulse width of 16.3ns.♪
- SDG1000X: Rise/Fall time of 16.8ns; Min. Pulse width of 32.6ns.♪



Arbitrary Waveform Performance (1)

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- SDG2000X: TrueArb technology reconstructs all the details of the waveform as defined.♪
- SDG1000X: Traditional DDS could possibly skip some points of the arbitrary waveform.♪



Arbitrary Waveform Performance (2)

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- SDG2000X: As with EasyPulse, TrueArb effectively overcomes the defect that DDS may cause one-clock jitter when generating arbitrary waveforms.♪
- SDG1000X: In traditional DDS technology, the accumulation of phase data would result in some periodic jitters, among which the largest is one period of DDS clock.♪

