

Updated Frequency Uncertainty Calculations (SSA, SSA Plus, SVA)

September 18, 2020

Currently listed datasheet calculation for SSA Frequency Uncertainty is being updated, but as of 08/26/2020, it has not.

Here is the new calculation:

We can use below new specification:

$\pm (\text{frequency indication} \times \text{frequency reference uncertainty} + 1/2(\text{span}/(\text{sweep points}-1)) + 10\% \times \text{resolution bandwidth} + \text{marker resolution})$

For example:

The frequency indication is 500 MHz;

Frequency reference uncertainty is 1 ppm;

The SPAN is 1000 MHz;

The sweep points are 751;

The resolution bandwidth is 100 kHz;

The marker resolution is 1Hz;

So the uncertainty = $\pm (500 \text{ MHz} \times 1 \text{ ppm} + 0.5 \times (1000 / (751 - 1)) + 10\% \times 100 \text{ kHz} + 1 \text{ Hz}) = \pm (500 \text{ Hz} + 666 \text{ Hz} + 10 \text{ kHz} + 1 \text{ Hz}) = \pm 11.167 \text{ kHz}$



North American Headquarters

SIGLENT Technologies America, Inc
6557 Cochran Rd Solon, Ohio 44139
Tel: 440-398-5800
Toll Free:877-515-5551
Fax: 440-399-1211
info@siglent.com
www.siglentamerica.com/

European Sales Offices

SIGLENT TECHNOLOGIES EUROPE GmbH
Staetzlinger Str. 70
86165 Augsburg, Germany
Tel: +49(0)-821-666 0 111 0
Fax: +49(0)-821-666 0 111 22
info-eu@siglent.com
www.siglenteu.com

Asian Headquarters

SIGLENT TECHNOLOGIES CO., LTD.
Blog No.4 & No.5, Antongda Industrial Zone,
3rd Liuxian Road, Bao'an District,
Shenzhen, 518101, China.
Tel:+ 86 755 3661 5186
Fax:+ 86 755 3359 1582
sales@siglent.com
www.siglent.com/ens