

# How do I find the Spurious Free Dynamic Range (SFDR) for an SDG function generator?

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If the SFDR is not listed directly in the specifications, you can find it by selecting the largest value between the harmonic and non-harmonic spurious data from the specification sheet at the frequency of interest.

For example, here is the SDG6X generator specs for harmonic and non-harmonic distortion:

<u>Harmonic distortion</u>		-65	dBc	0 dBm, 0~1 MHz ( included )
		-60	dBc	0 dBm, 1~60 MHz ( included )
		-50	dBc	0 dBm, 60~100 MHz ( included )
		-40	dBc	0 dBm, 100~200 MHz ( included )
		-30	dBc	0 dBm, 200~300 MHz ( included )
		-28	dBc	0 dBm, above 300 MHz
Total Harmonic Distortion		0.075	%	0 dBm, 10 Hz ~ 20 kHz
<u>Non-harmonic spurious</u>		-60	dBc	0 dBm, ≤350 MHz
		-55	dBc	0 dBm, >350 MHz

If the signal of interest was 500 kHz, then the Non-Harmonic spur spec of - 60dBc (which is the worst) would be the reported SFDR.

If the signal was 100 MHz, then it would be the harmonic distortion spec of -50dBc, which is the worst.



### **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](mailto:info@siglent.com)  
[www.siglentamerica.com/](http://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](mailto:info-eu@siglent.com)  
[www.siglenteu.com](http://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](mailto:sales@siglent.com)  
[www.siglent.com/ens](http://www.siglent.com/ens)