

# Why does the noise floor of my analyzer raise when I enable the tracking generator?

October 25, 2017

There is an increase in the noise floor when enabling the tracking generator. This is due to the IF (intermediate frequency) feedthrough from the Tracking Generator (TG) circuit.

You can check the specifications documents for your analyzer. In many cases, they show the DANL spec's with the TG off due to the increased noise floor when the TG is enabled.

You can lower the noise floor considerably by enabling the Preamplifier and decreasing the attenuator value for the instrument.

## Caution!

You should only do this if you are sure that the RF input amplitude will stay below the damage threshold of the instrument input (+30dBm).

You can adjust the preamplifier and attenuator settings by pressing the Amplitude button on the front panel of the instrument.

Figure 1 on the following page shows the Displayed Average Noise Level (DANL) of a Siglent SSA3000X series with the factory defaults/TG OFF (Yellow), factory defaults/TG ON (Pink), Preamplifier ON/Attenuation 0dB/TG OFF (Blue), and Preamplifier ON/Attenuation 0dB/TG ON (Green)

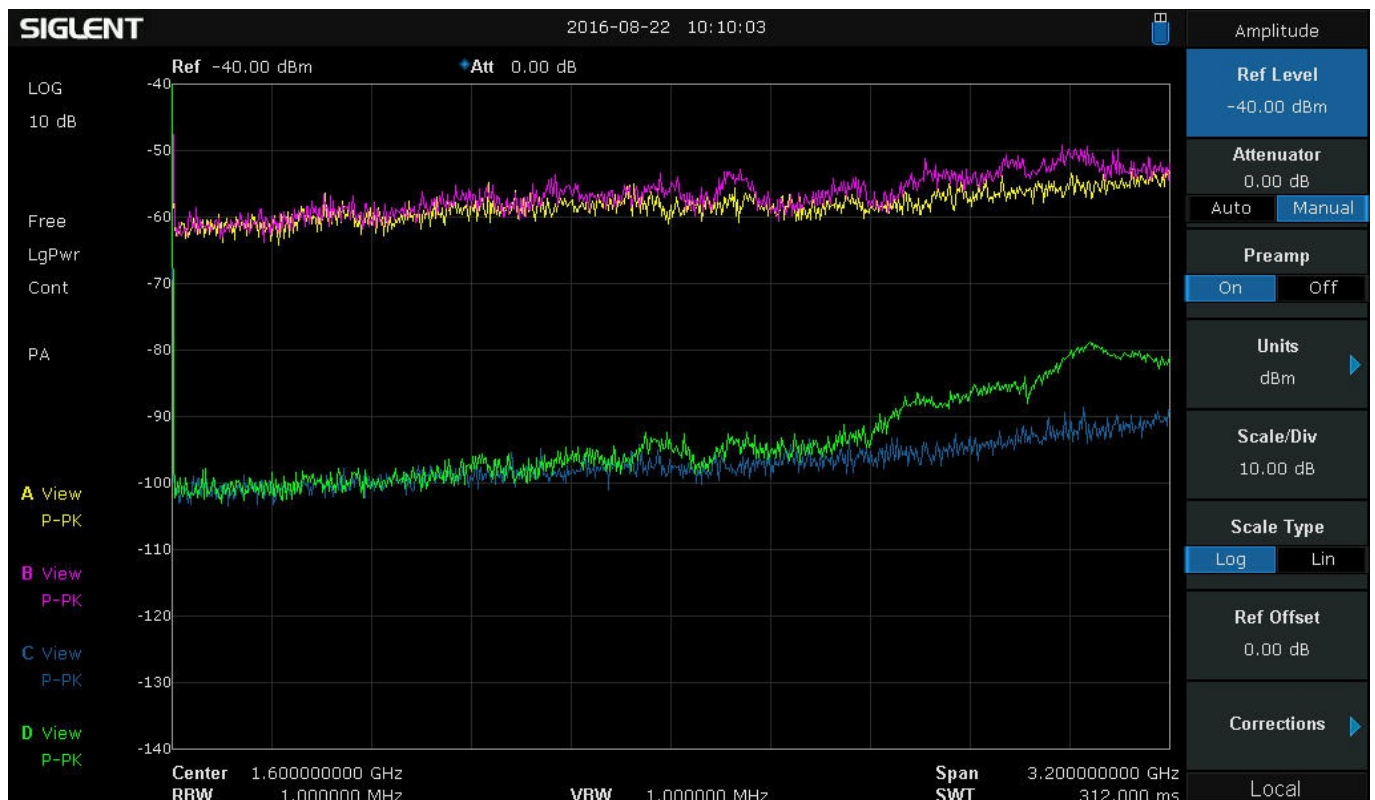


Figure 1: DANL of a Siglent SSA3000X series with the factory defaults/TG OFF (Yellow), factory defaults/TG

ON(Pink), Preamp ON/Attenuation 0dBm/TG OFF (Blue), and Preamp ON/Attenuation 0dBm/TG ON (Green)



### **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)