

## Measuring background noise in the presence of a signal with the Models 2015 and 2016

Starting with B08 firmware, the Models 2015 and 2016 have the ability to measure the background noise in the presence of a signal. (Background noise is the RMS energy not contained in the fundamental or any of its harmonics).

The background noise is available after a distortion measurement has been taken, much in the same way the RMS value is available. The same restrictions apply, i.e., the unit must be set to trigger one reading at a time and is available over the bus only. The new bus command is :SENSe:DISTortion:BNOISe?

The background noise value can also be an option for the internal sweep measurement. An additional choice to the :OUTPut:LIST:ELEMents command parameters of DIST and AMPL is BNOIS. The data returned from an :OUTPut:LIST:DATA? query is ordered as <dist1>, <ampl1>, <bnois1> , <dist2>, <ampl2>, <bnois2>, etc. The actual data elements sent are determined by the elements selected.

For example, if the command is:

```
OUTP:LIST:ELEM DIST,BNOIS
```

the elements returned in response to a OUTP:LIST:DATA? would be:

```
<dist1>, <bnois1>,<dist2>, <bnois2>, etc.
```