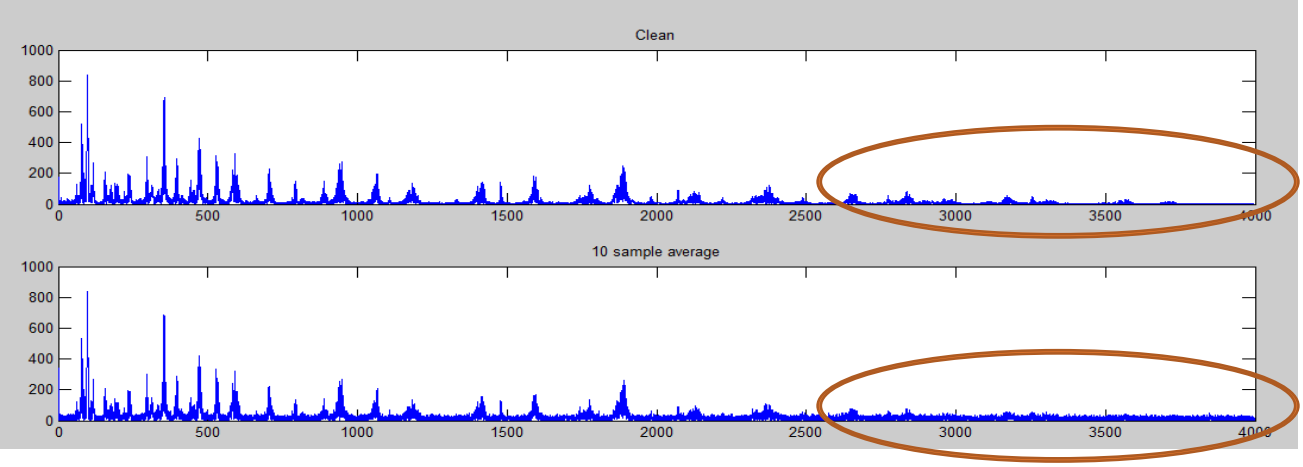
5.2. Including the harmonics in the frequency selection

When sound is produced by the music instruments, often, the harmonics of the fundamental frequency is also generated. These harmonics are lower in amplitude and usually buried in the noise. The amplitude is so low that we cannot detect using FFT graph and exclusion of these harmonics can cause distortion in the filtered audio track.



As an extension in the previous part, frequency selection, we now include frequencies at multiples of the frequency that we detect in FFT.

```
%include harmonics of the frequency
          if tempMaxArray(i) > fftTreshold*6 ;
              harmonics = 2;
              while i*harmonics < length(T) && harmonics <4
                 mask(i*harmonics) = 1;
                 harmonics = harmonics +1;
              end
          end
```

As a result, we achieved a better audio quality and better MSE value with this addition of high frequency components