

Measurement examples with WinAudioMLS by www.dr-jordan-design.de

This document shows measurement examples for the following consumer soundcards.

- Creative Labs „Extigy“ USB device
- CMI8338 PCI device
- Terratec Aureon 5.1 Sky

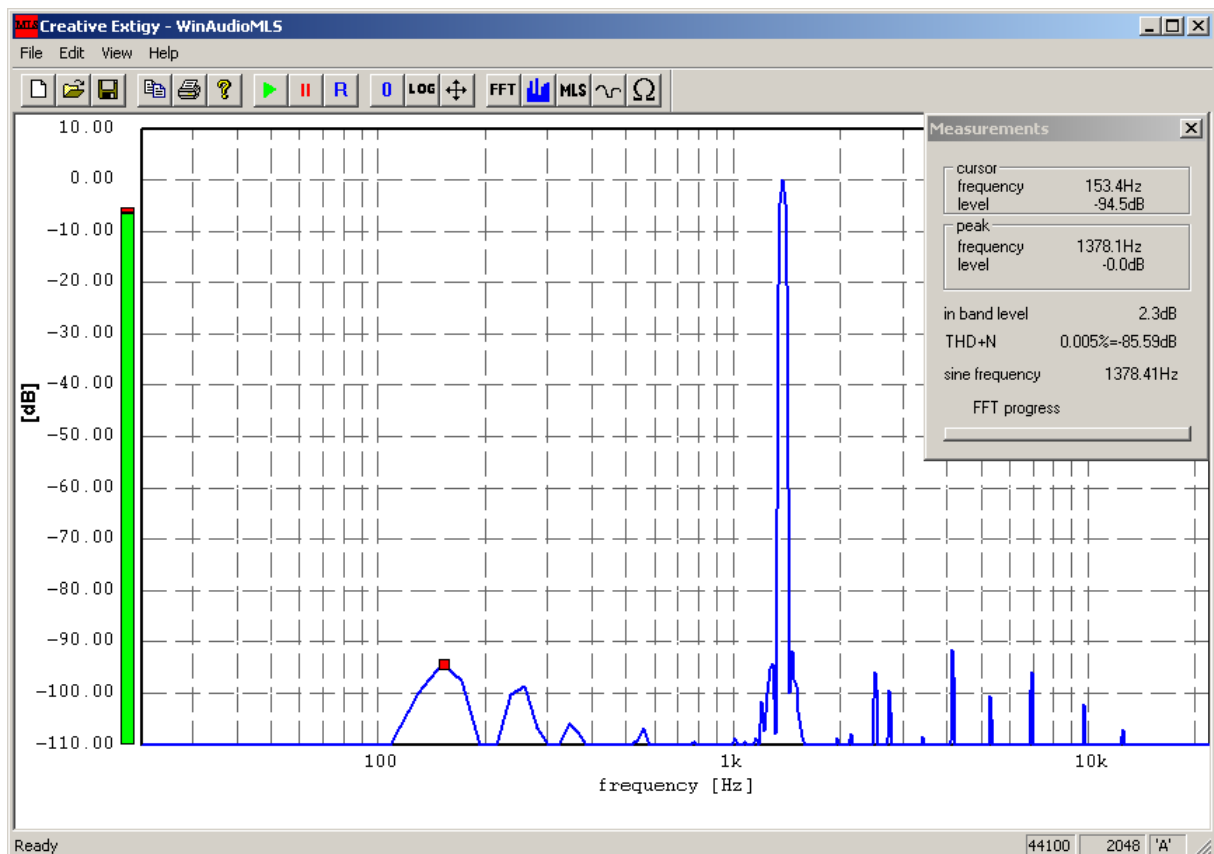
Focus is on dynamic range and frequency response.

Measurement setup: The inputs (line or mic) are directly connected with the outputs of the soundcards. For mic input testing a resistor divider is used (1:500). The soundcards are used in full duplex mode. We use single tone and MLS signals generated with the signal generator, which is part of WinAudioMLS.

Creative Labs „Extigy“ USB device

1) Distortion and noise analysis **Line input**

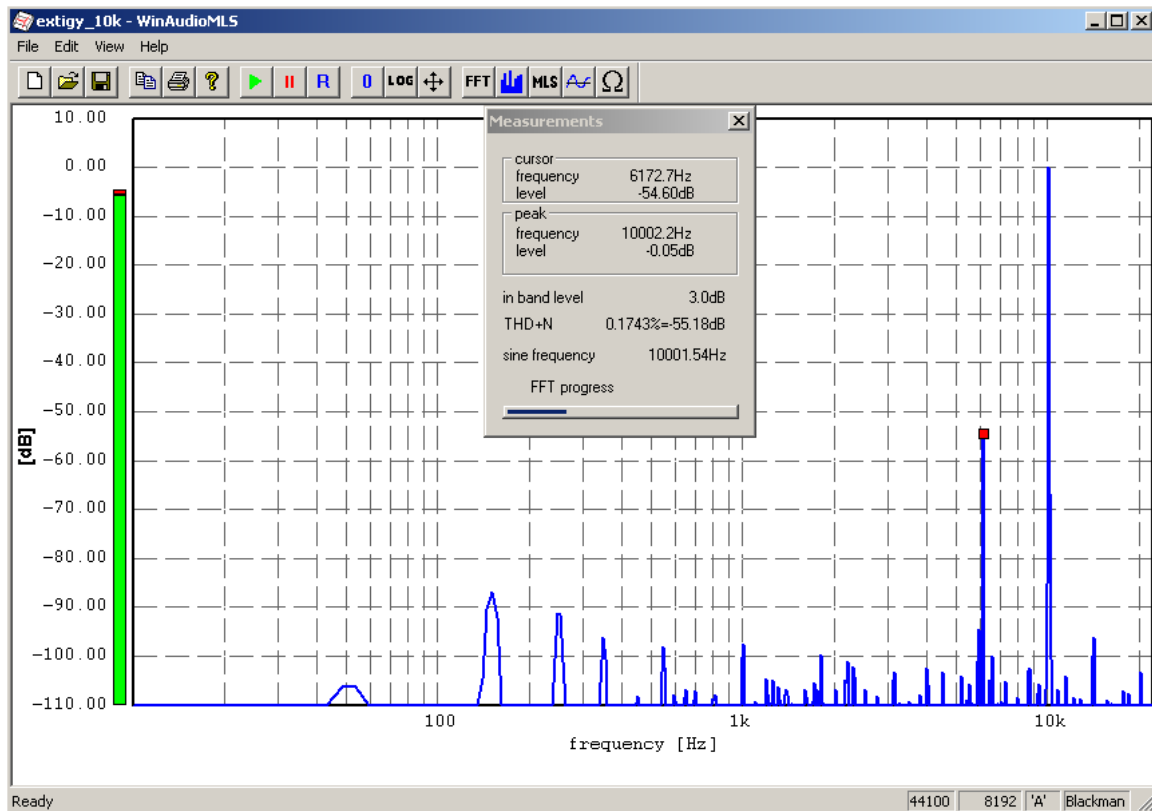
- Sine input with 1378.125 Hz
- FFT size is 2048
- Weighting with ‚A‘ curve
- Windowing with Blackman



2) Distortion and noise analysis **Line input**

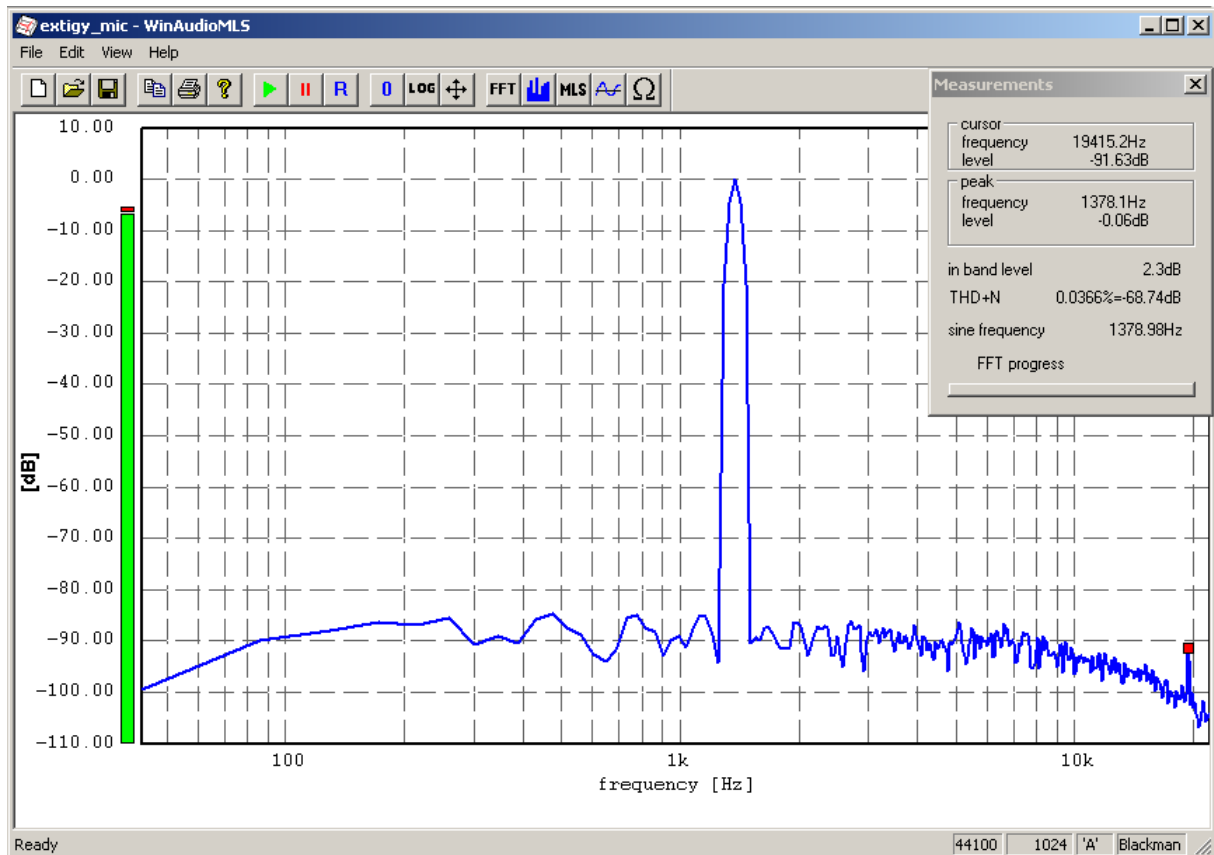
- Sine input with 10kHz
- FFT size is 8192
- Weighting with 'A' curve
- Windowing with Blackman
- Sample rate 44100Hz

The Extigy shows extremely high distortion at higher frequencies. This effect occurs for 44100Hz sample rate, only. At 48000Hz the spectrum is clean. From our point of view this is a severe bug in the Extigy's firmware.



3) Distortion and noise analysis MIC input

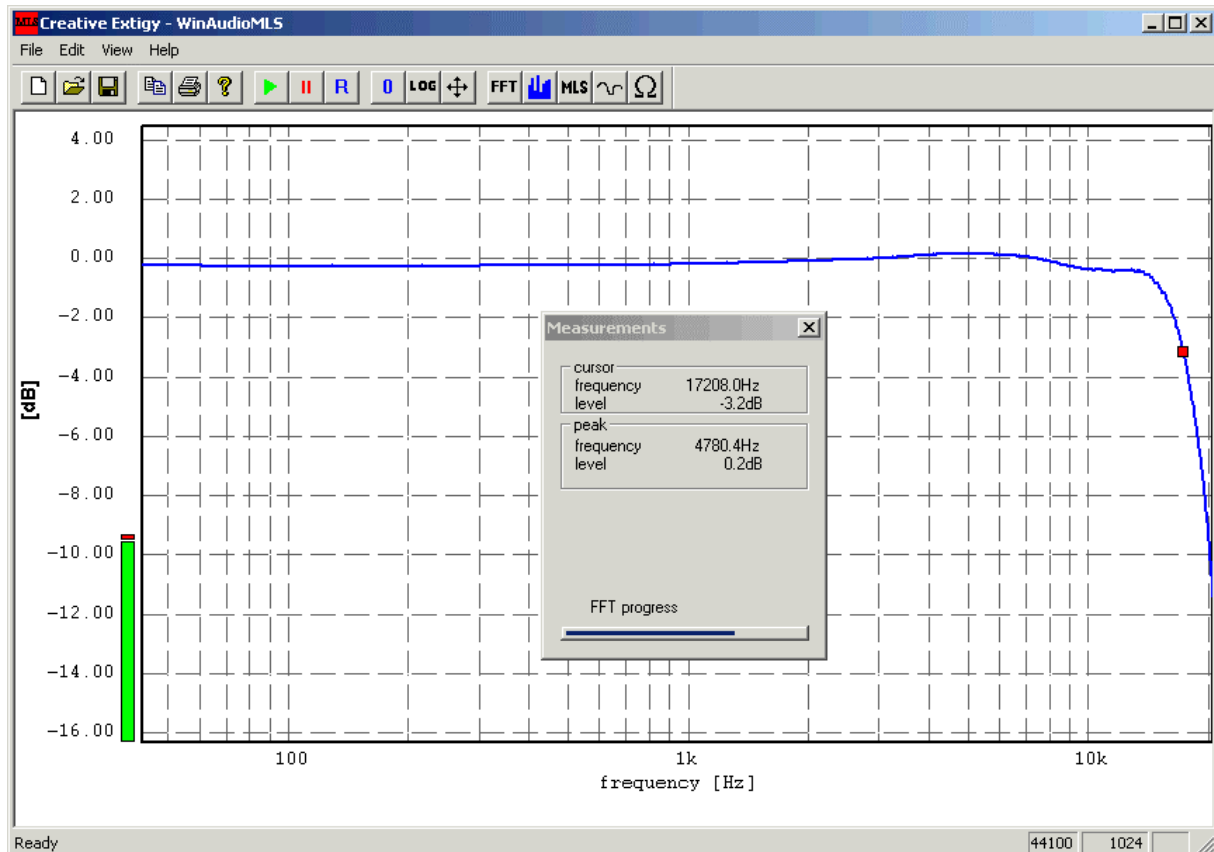
- Sine input with 1378.125 Hz
- FFT size is 1024
- Weighting with 'A' curve
- Windowing with Blackman
- input gain is at max



4) Frequency response **Line input**

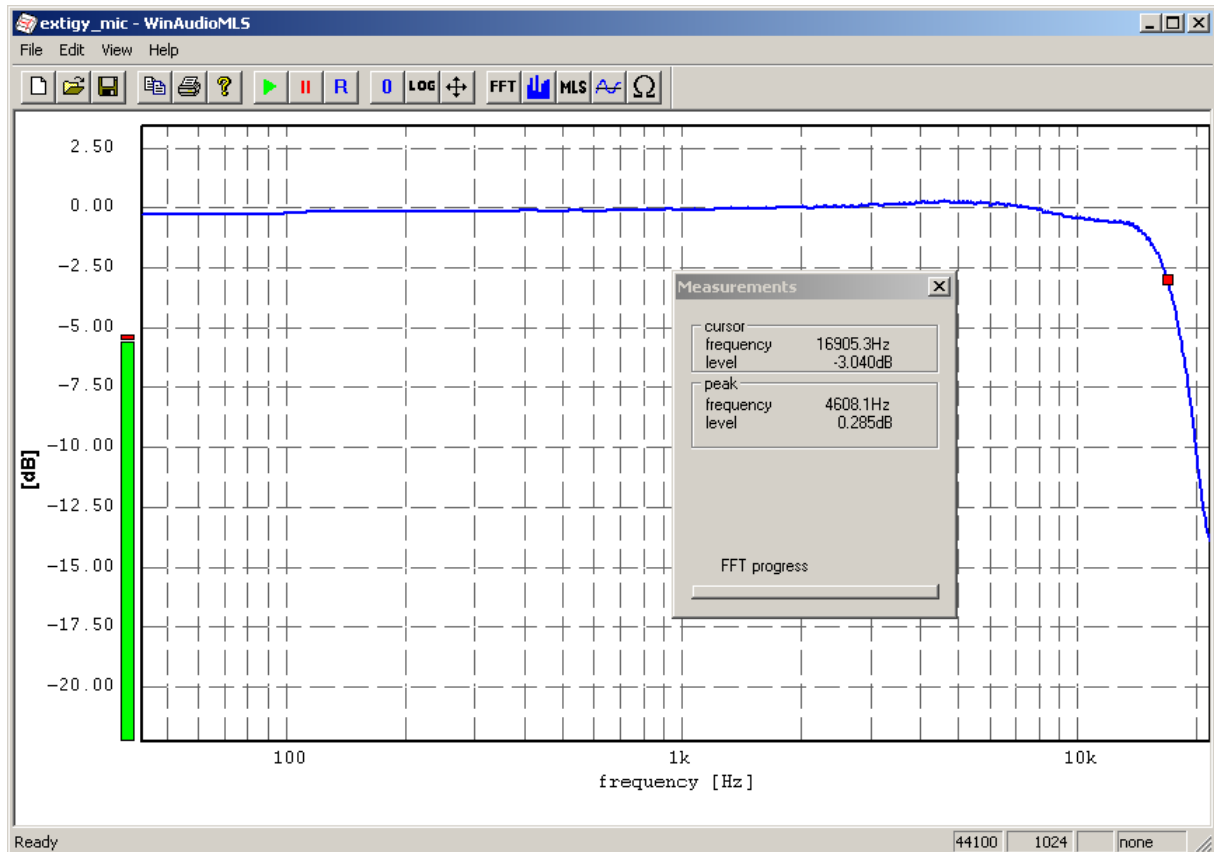
- MLS measurement
- MLS size is 4095
- FFT size is 1024

Bandwidth is limited to 17kHz. Even much cheaper devices have a better bandwidth. Nevertheless, this product has many advantages. The frequency response can be compensated with a reference measurement by WinAudioMLS.



5) Frequency response Mic input

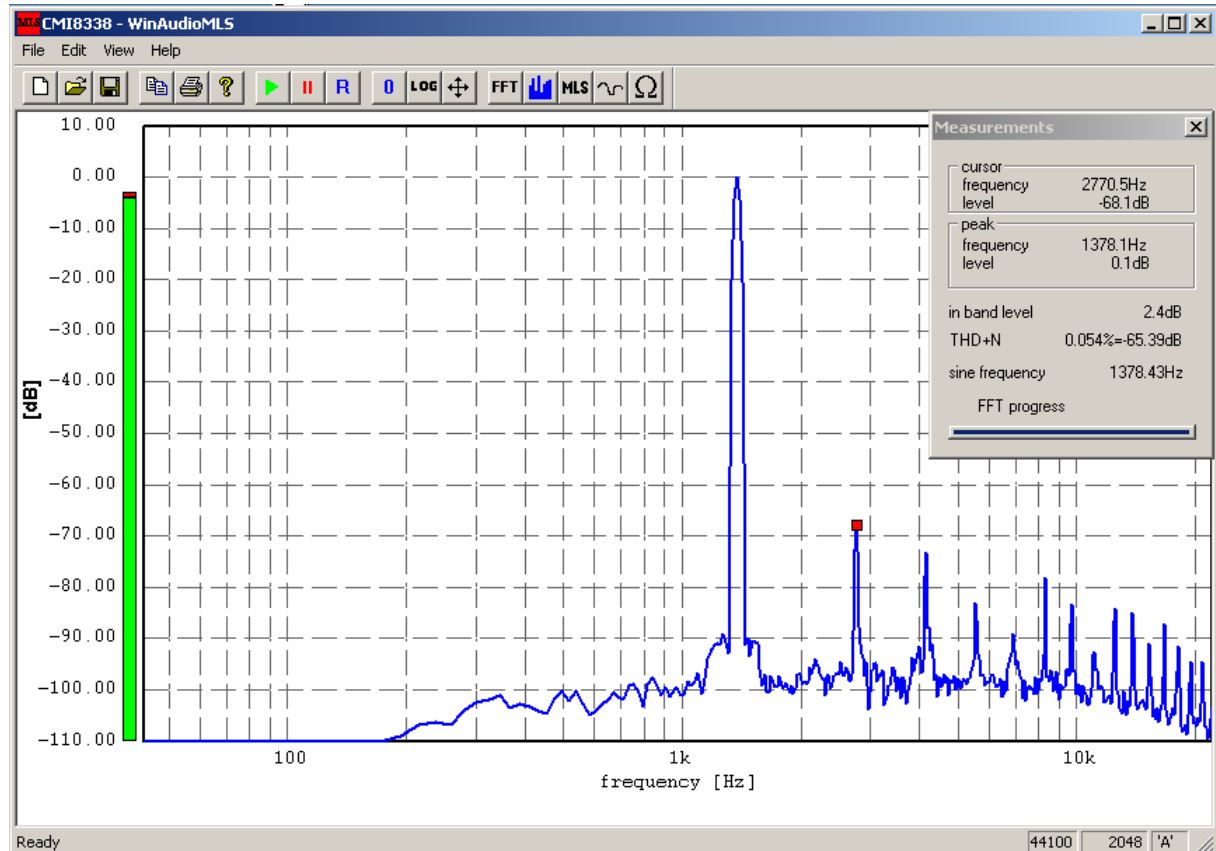
- MLS measurement
- MLS size is 4095
- FFT size is 1024
- gain is at max



CMI8338 PCI device

1) Distortion and noise analysis

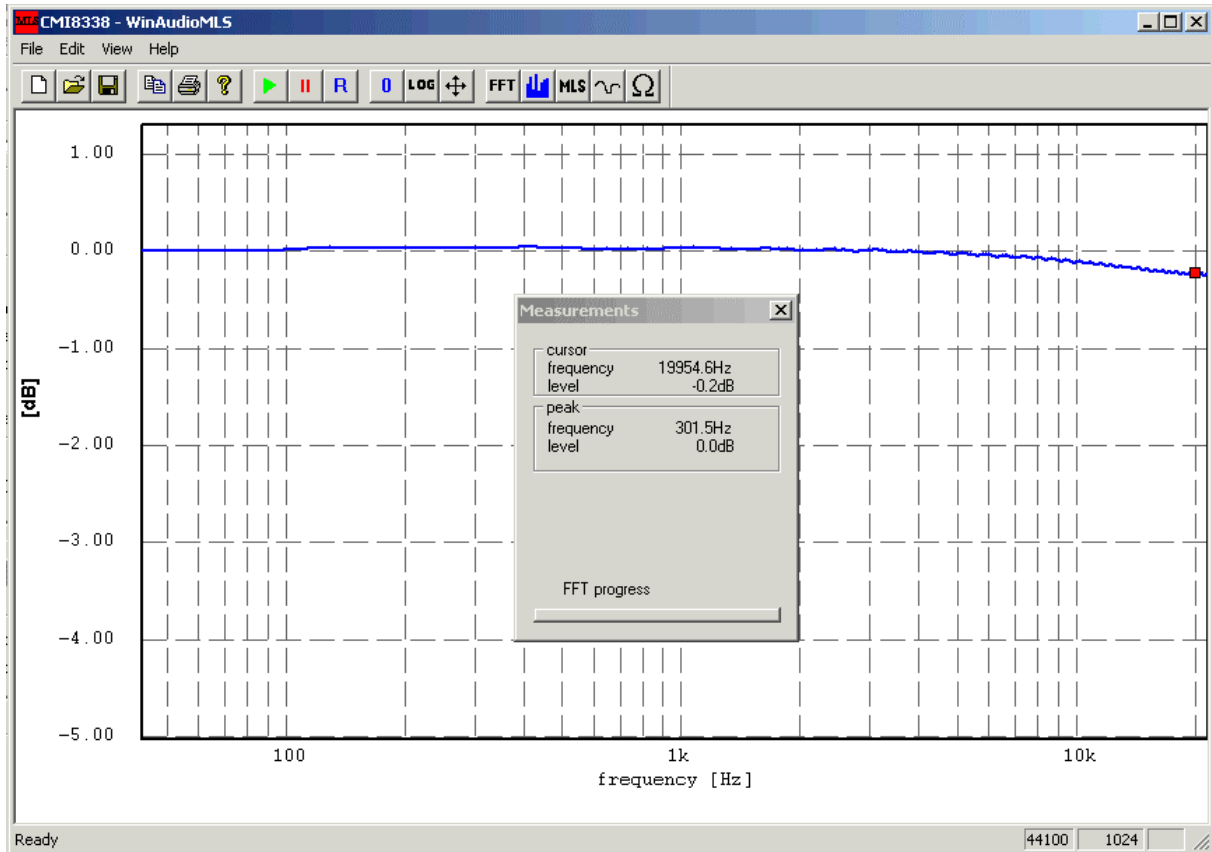
- Sine input with 1378.125 Hz
- FFT size is 2048
- Weighting with ‚A‘ curve
- Windowing with Blackman



2) Frequency response

- MLS measurement
- MLS size is 4095
- FFT size is 1024

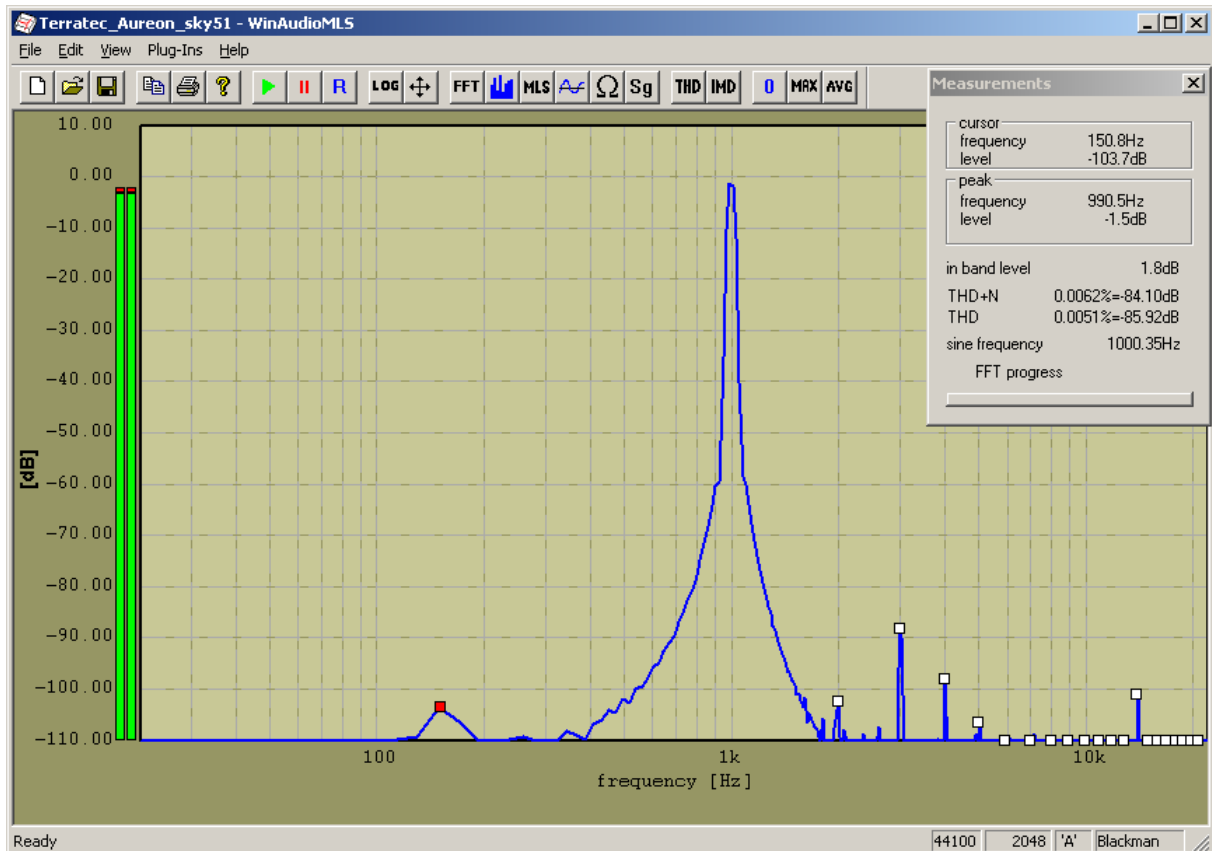
This low-cost device has an almost ideal frequency response.



Terratec Aureon Sky 5.1 PCI device

1) Distortion and noise analysis Line input

- Sine input with 1000 Hz
- FFT size is 2048
- Weighting with ‚A‘ curve
- Windowing with Blackman



2) Frequency response **Line input**

- MLS measurement
- MLS size is 4095
- FFT size is 1024

