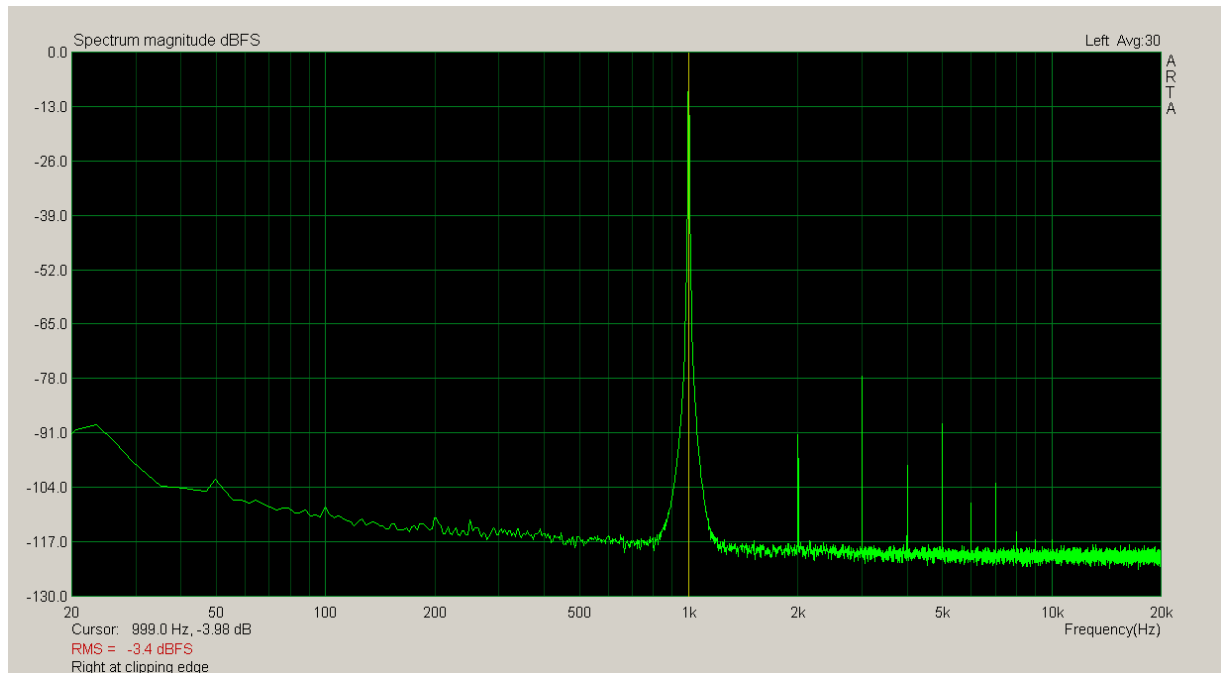


Hi Ivo,

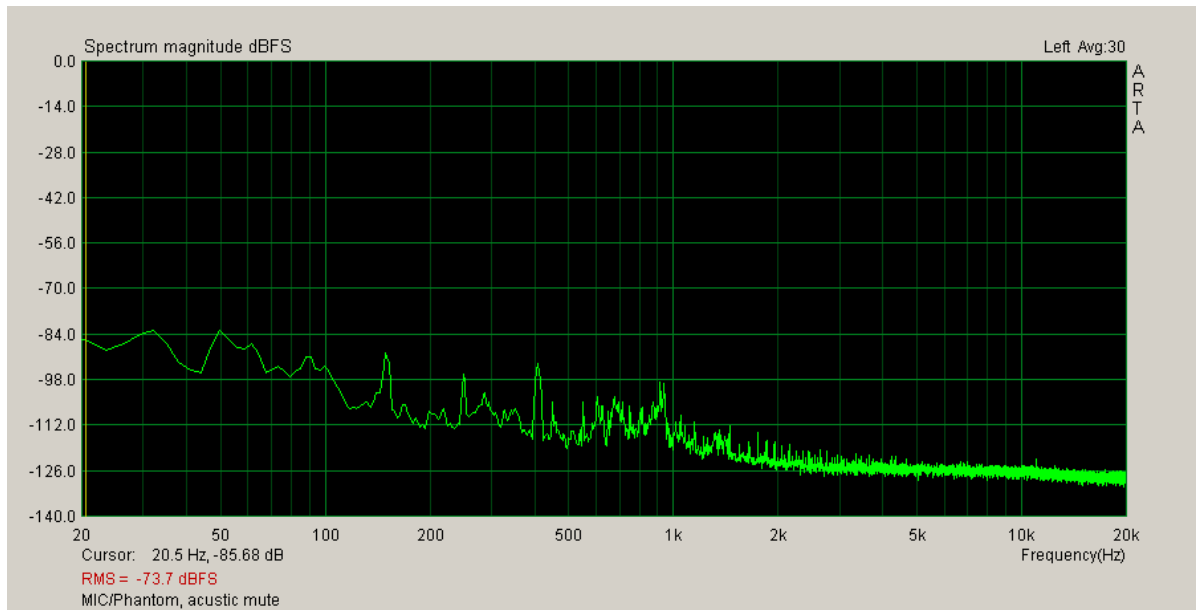
Today I hooked up MEASSY's microphone amplifier to my M-AUDIO Transit USB-soundcard by balancing the input in a floating manner with a high quality transformer (Haufe RK284/1) and I used the ARTA measurement capabilities. The preamplifier input gain was set to 22dB as in your case. To avoid hard clipping, the output signal was reduced accordingly in the properties menu window. This is the ARTA spectrum analyzer result:



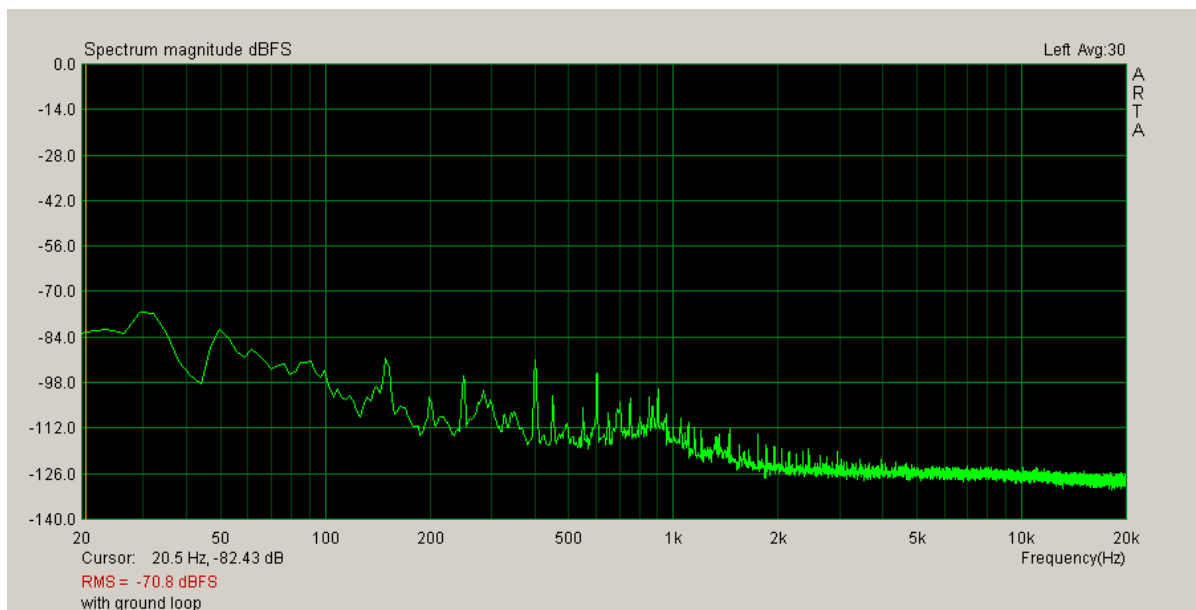
As you can see I live in a low-EMI environment, there are no spurious. THD is roughly at -80dB and the higher odd components are a hint to the Transit-ADC being close to overload (fully differential modulator design). The noise floor is at -80dB after interpolation and caused by the attenuation of the Transit-DAC.

The good news is: There is no hum induced by the mains transformer! Your remark about a ground loop could still be correct. However I would like to know how you obtained your measurement result, because a grounded (by protection earth *PE*) and unbalanced excitation is definitely not reflecting the real-world application! I consulted experts in this field. After all, the effect of your grounded top- and bottom-plate is still not clear to me...

I tried two simple other things. – I connected a phantom-powered microphone and acoustically muted it (by two cushions). First, I only connected the Transit input for the measurement and then I additionally connected the output to the amplifier to force a ground loop, if any shows up. This is what happens:



There is only little interference, mainly from rectification and bad ESR (old Capacitors) but none from the transformer. However, as a good result the noise floor is comparable (even better) to your measurements and the peaks are much below 80dB!



There is more or less no difference with the output-to-amplifier connected. Clearly, this waives the ground loop theory, although my 'loop' is small with two cables of 30cm... Consider that a floating I/O-connection cannot induce a ground loop.

Comments always welcome. Thank you again and best regards

Sergej