

# Measurement results – in numbers and graphs

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## Preface

The Amplifier was used with the testbench supply as power source and the voltage was set to 42V.

As measurement source, a PC soundcard was used and as analyzer, a distortion magnifier set to +40dB and the same soundcard were used.

All input spectras were sampled with 3 averages and stored as spreadsheet.

This spreadsheets were analyzed by a script, wich summed up the 2<sup>nd</sup> to 9<sup>th</sup> harmonic and add the 40dB magnify factor for bare THD values. The same script summed all but the testfrequency bins, take the windowing function and the magnifier gain into account for the THD+N values.

All measurements were taken at the speaker connector and used therefore the SSR.

As load resistance, a 4R2 and a 8R4 load were used.

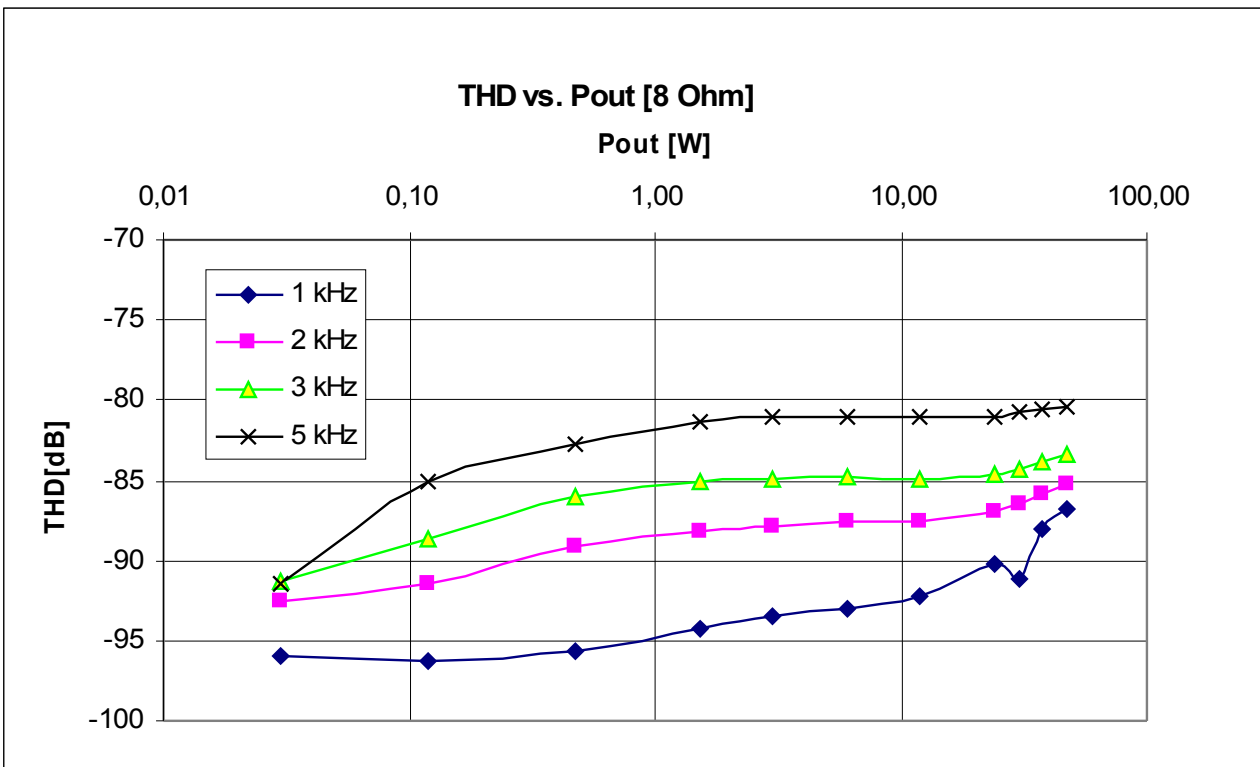
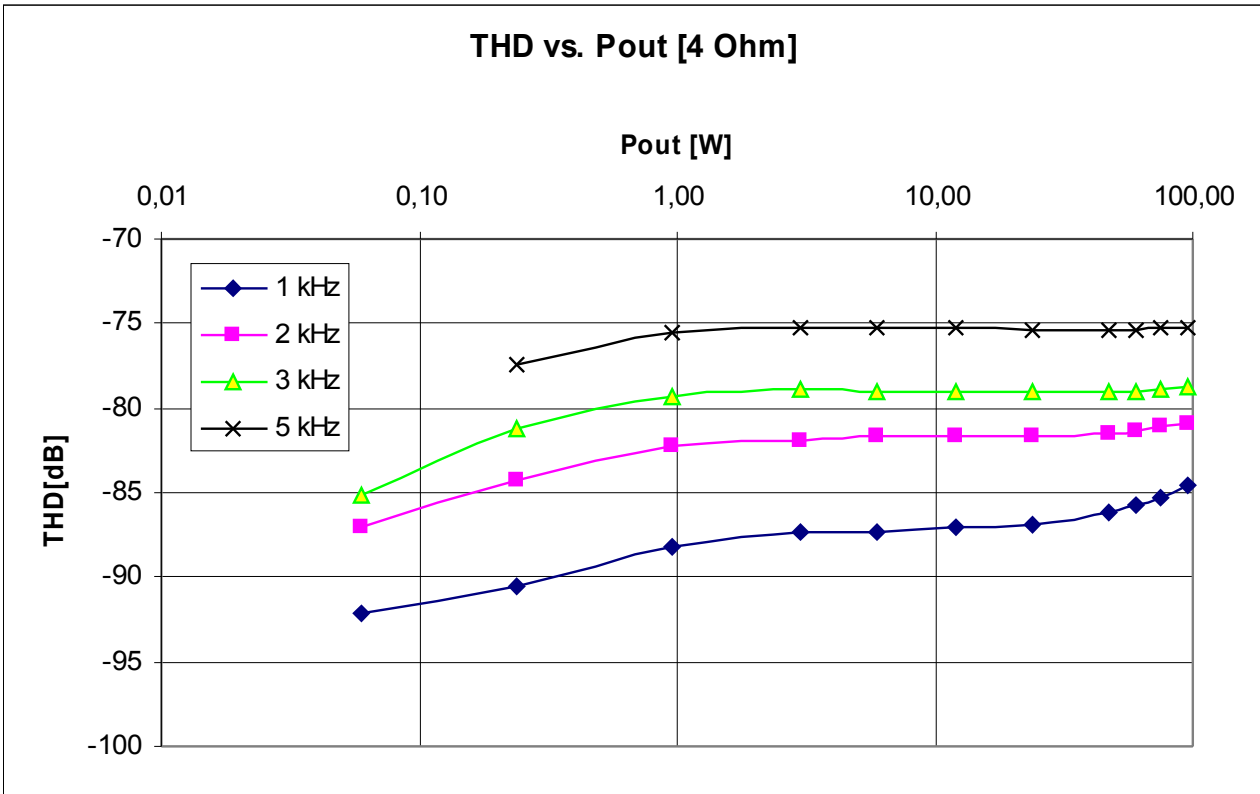
## Levels/Power

<b>Rload</b>	<b>Vout</b>	<b>Pout</b>	<b>Iout</b>	
<b>[R]</b>	<b>[Vrms]</b>	<b>[W]</b>	<b>[Arms]</b>	<b>Annotation</b>
4,2	20,00	95,24	4,76	Testlevel
4,2	21,00	105,00	5,00	max. Level without Clip
8,4	20,00	47,62	2,38	Testlevel
8,4	22,50	60,27	2,68	max. Level without Clip

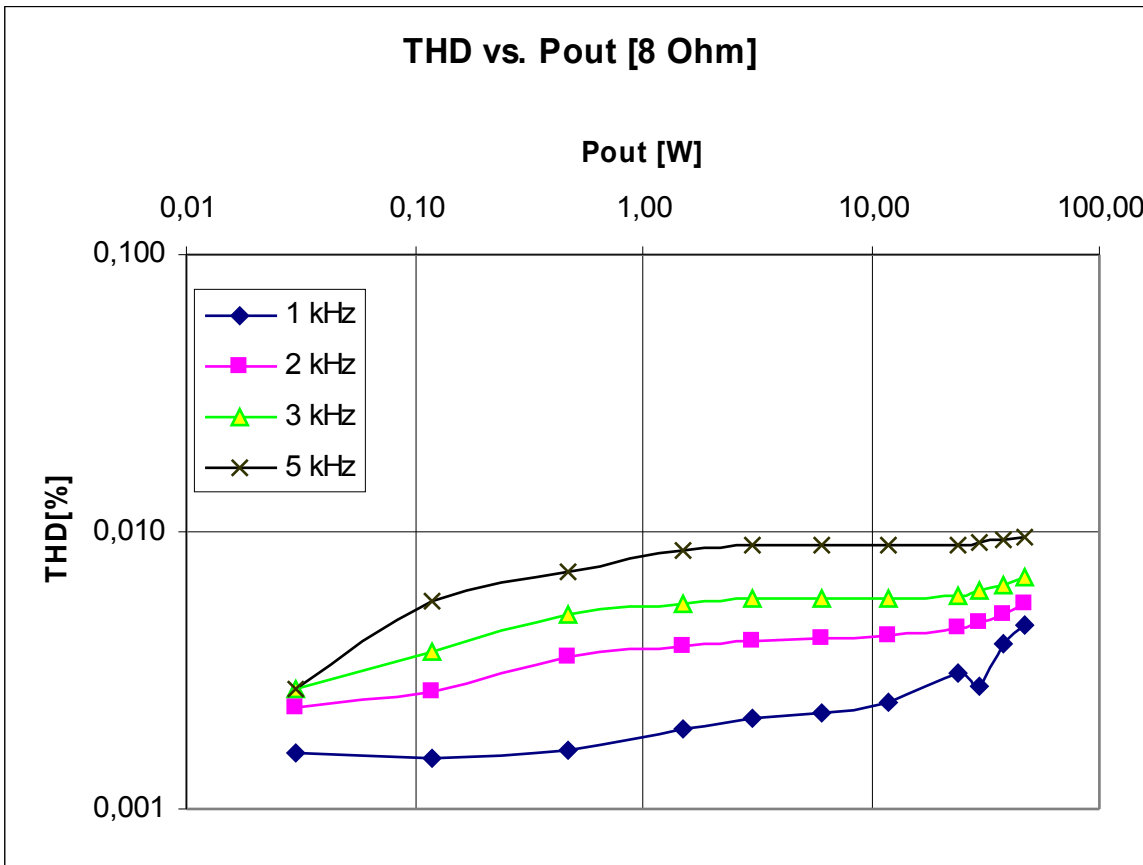
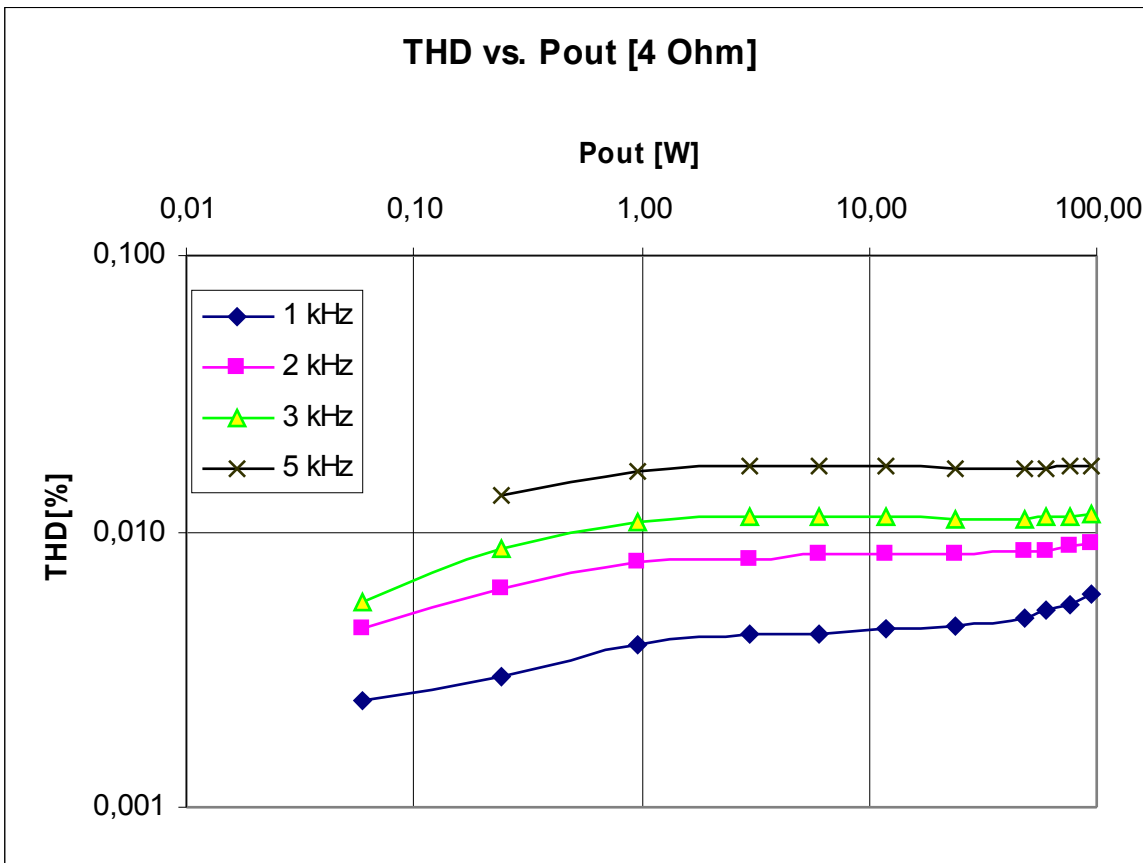
All Power levels with supply of +/-42V

# Results as diagrams:

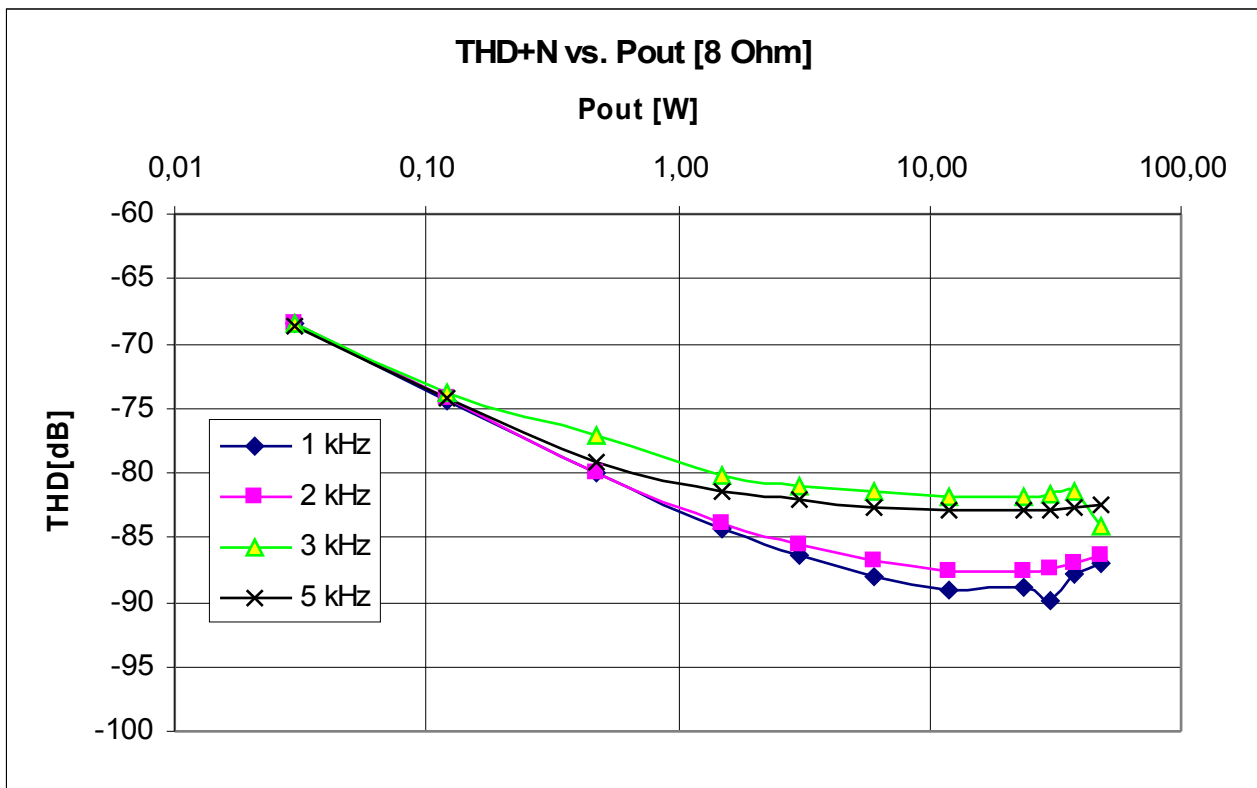
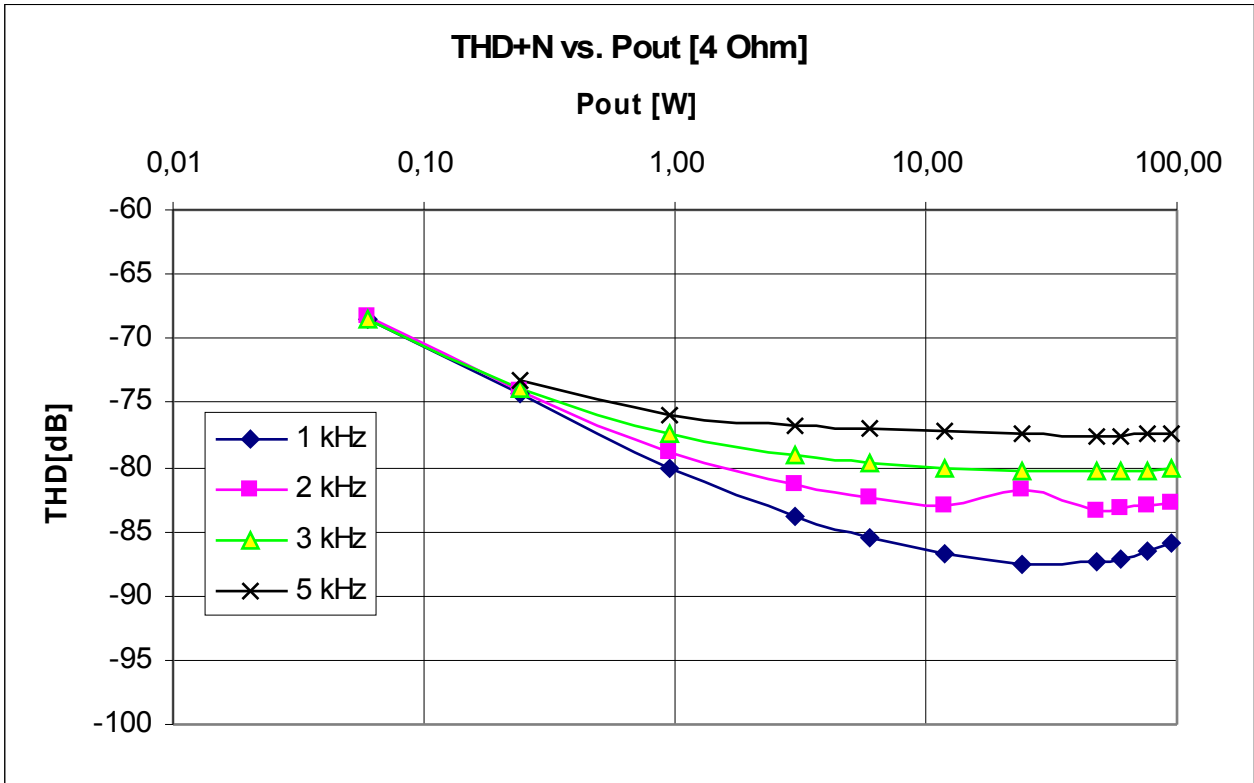
## THD for 4R/8R in [dB]



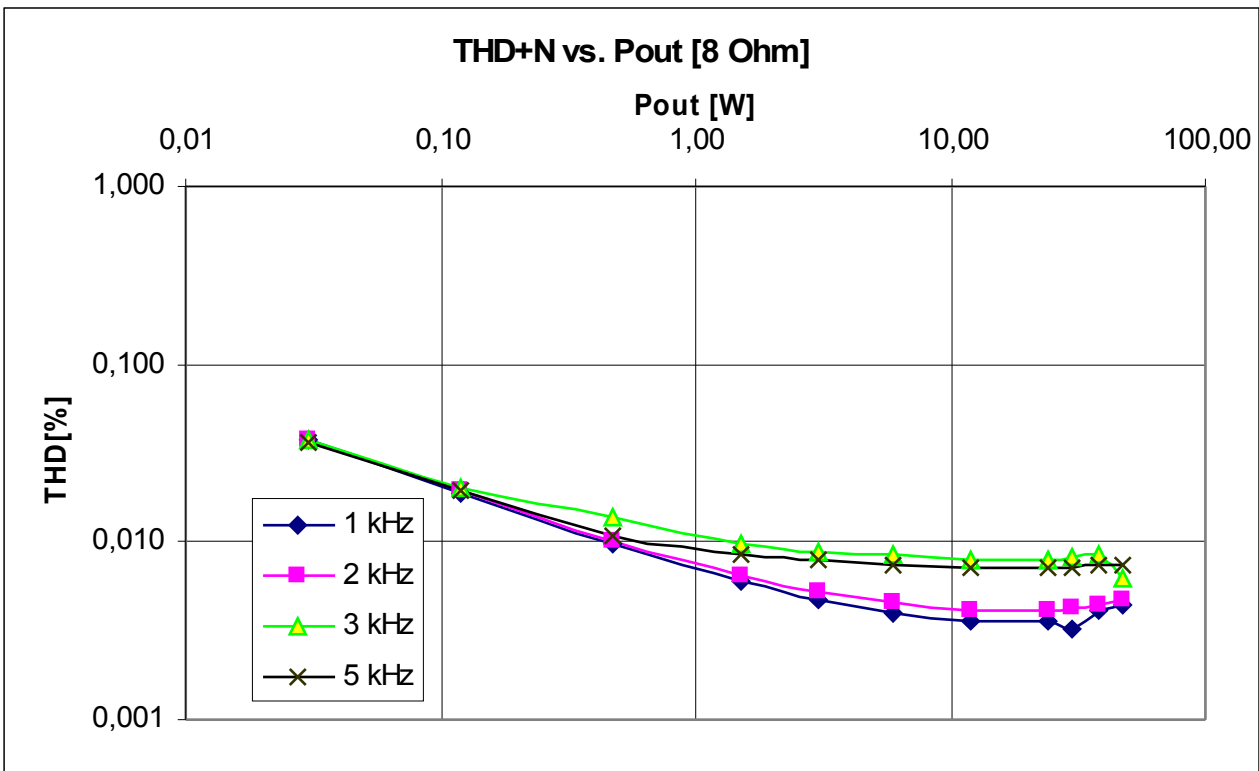
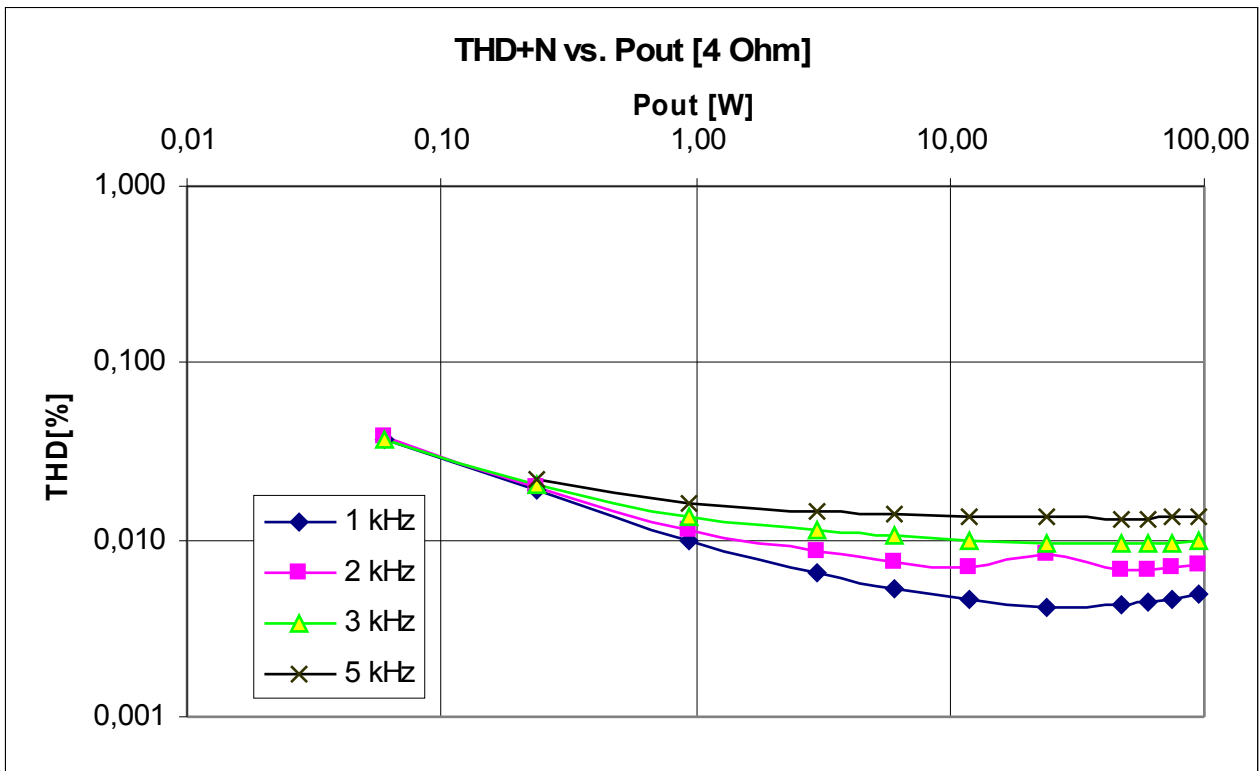
# THD for 4R/8R in [%]



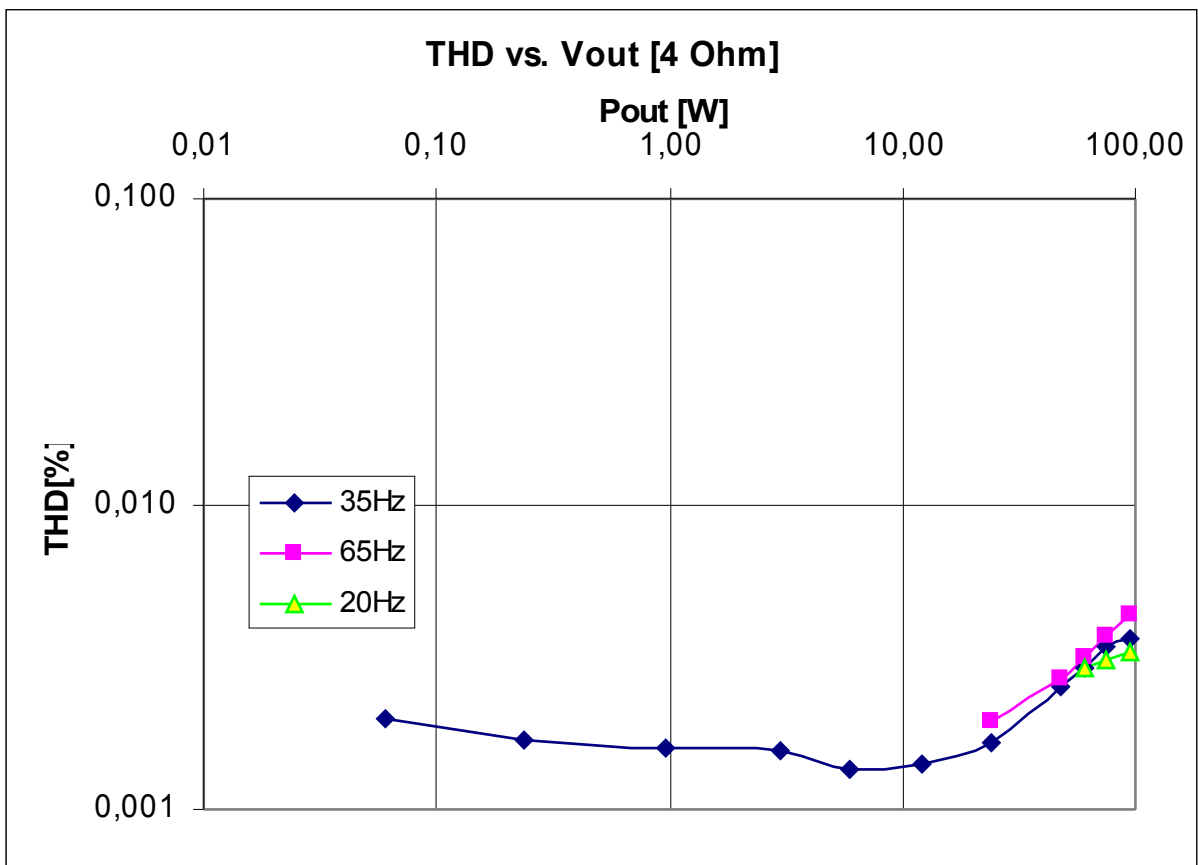
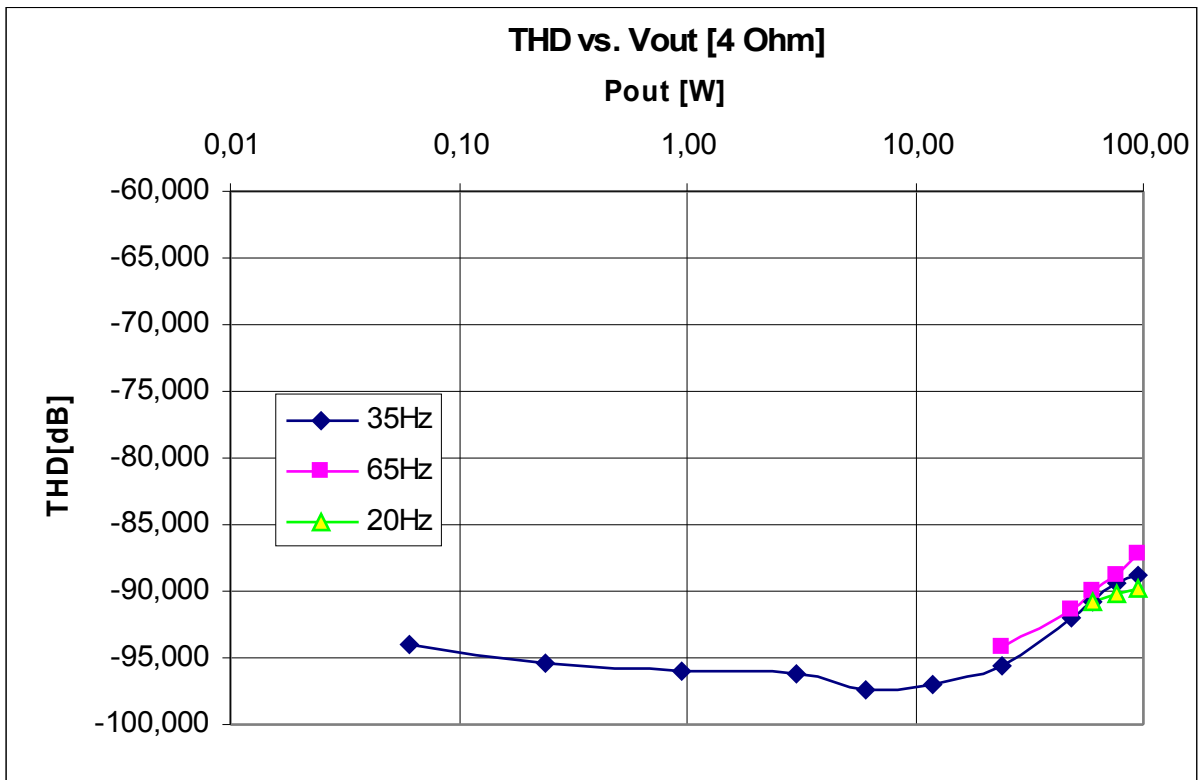
# THD+N for 4R/8R in [dB]



### THD+N for 4R/8R in [%]



# THD for 4R at low frequencies



# Noise

## Setup:

- Amplifier Input shorted
- Amplifier output multiplied by 40dB
- Amplifier max. Output voltage: 21Vrms = 28,66 dBu
- An analyzer samplerate of 44.1kHz limits bandwidth to 22kHz

## Result:

<b>Measurement</b>	<b>Result Analyzer (ref. 0dBFS = 220mVrms @ Amplifier output)</b>	<b>SNR Referenced to 21Vrms @ Amplifier output</b>	<b>Absolute Noise</b>
	<b>[dBFS]</b>	<b>[dB]</b>	<b>[dBu]</b>
Analyzer Input shorted, non-weighted, BW=22kHz	-70	109,6	-81
Amplifier Output non-weighted, BW=22kHz	-61,6	101,2	-72,5
Amplifier Output A-weighted, BW=22kHz	-67,3	106,9	-78,2
Amplifier Output non-weighted, BW=48kHz	-55,3	94,9	-66,2