

MEASUREMENT REPORT

ASCENDO | THE 28 SUB SQUARED ANALYSIS



OVERVIEW

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- Part 1 – Measurement Setup
- Part 2 – Frequency Response + Sensitivity
- Part 3 – Impedance + Phase Response
- Part 4 – CEA-2010-B | Maximum Peak SPL
- Part 5 – CEA-2010-B | Maximum Peak Voltage
- Part 6 – CEA-2010-B | Total Burst Distortion
- Part 7 – Summary



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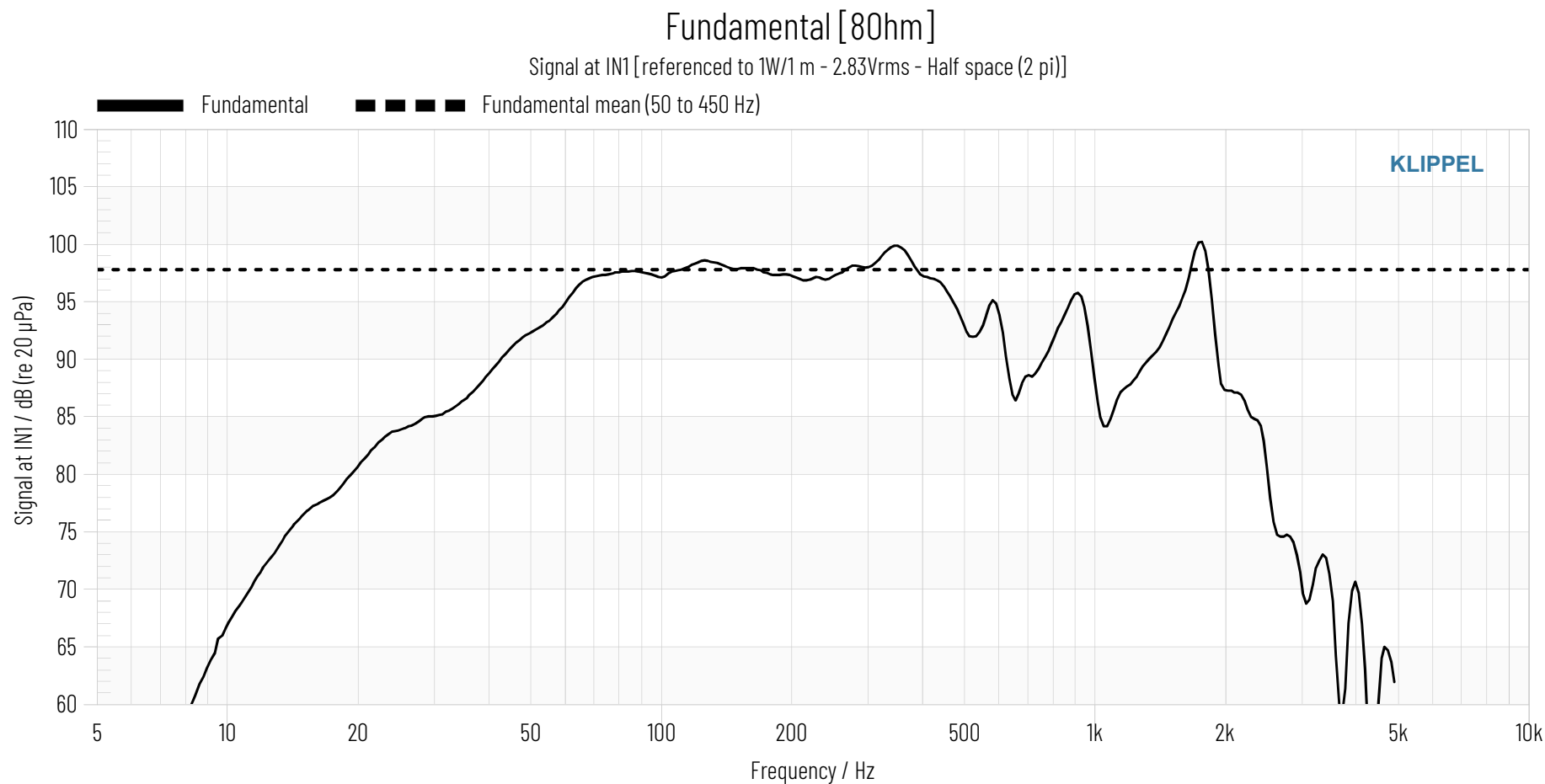
Part 1 – Measurement Setup

- Measurement Location:
 - TU Dresden, Germany – Free-field Anechoic Chamber
- Measurement Date:
 - 12-08-2024 by Ben Zenker
- Device Under Test:
 - Ascendo | The 28 Sub Squared
- Measurement Equipment:
 - Analysis System: Klippel KA3
 - Amplifier: Powersoft X8 (Bridge Mode)
 - Microphone: Microtech Gefell MK255
 - Measurement Distance: 1m (Sensitivity Plot), 2m (Max SPL Plot)



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Part 2 – Frequency Response + Sensitivity

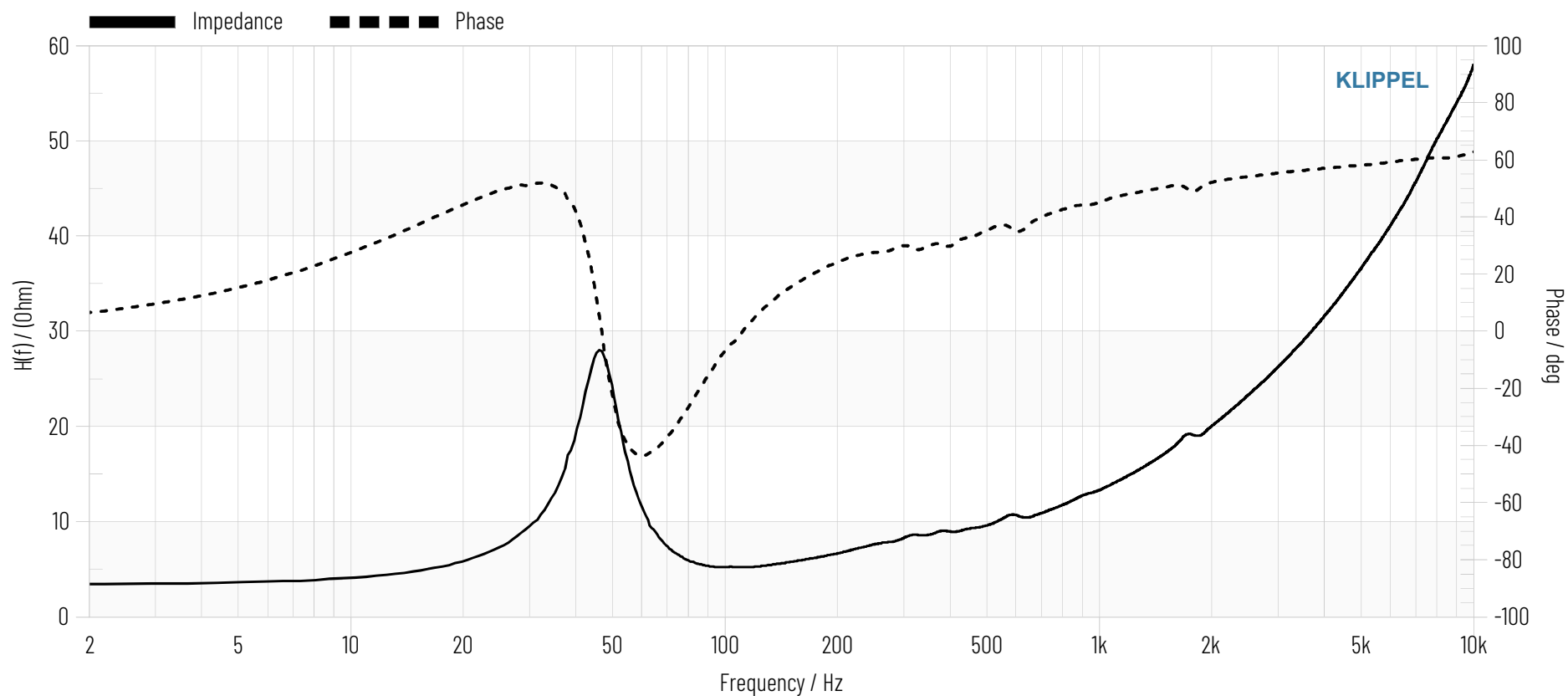


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Part 3 - Impedance + Phase Response [40hm Configuration]

Impedance and Phase of Transfer Function $H(f)$

$H(f) = \text{Voltage Speaker 1} / \text{Current Speaker 1}$

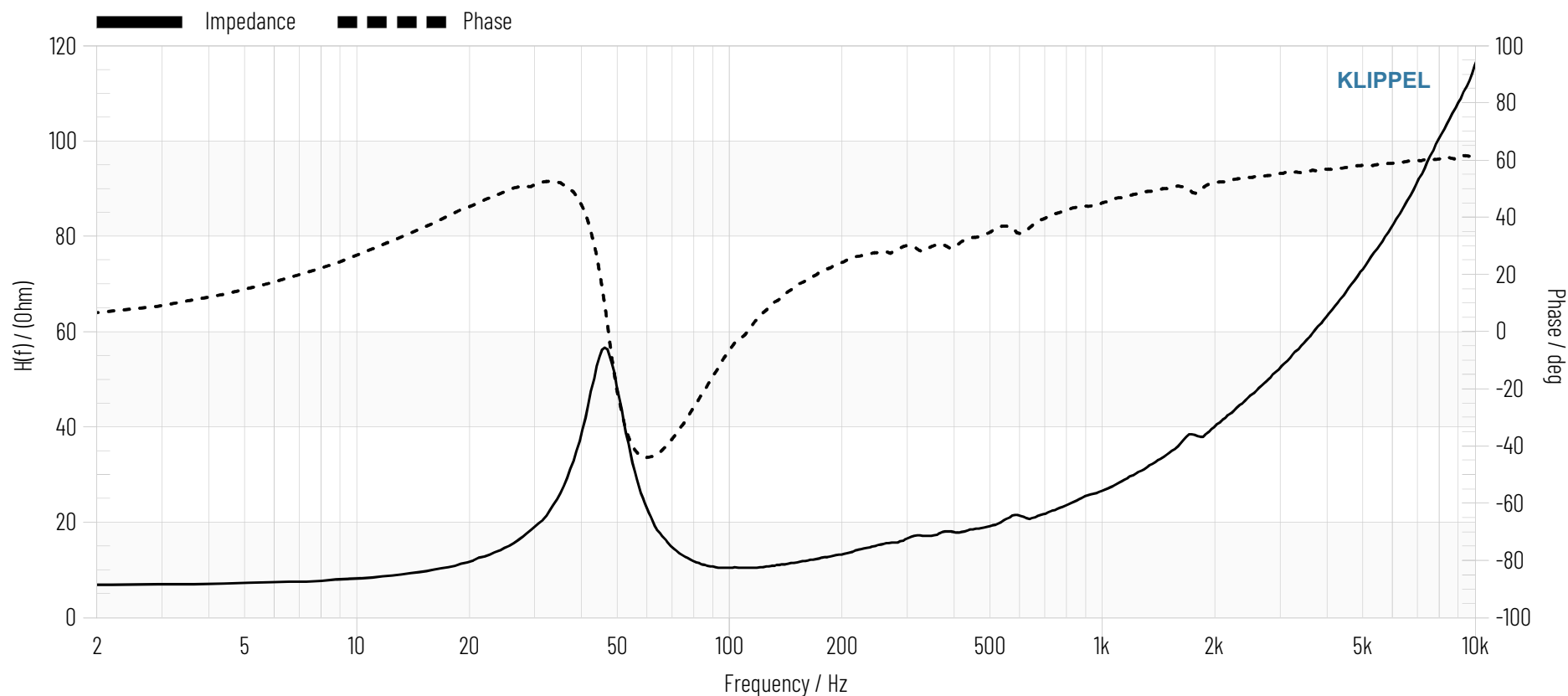


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Part 3 - Impedance + Phase Response [80hm Configuration]

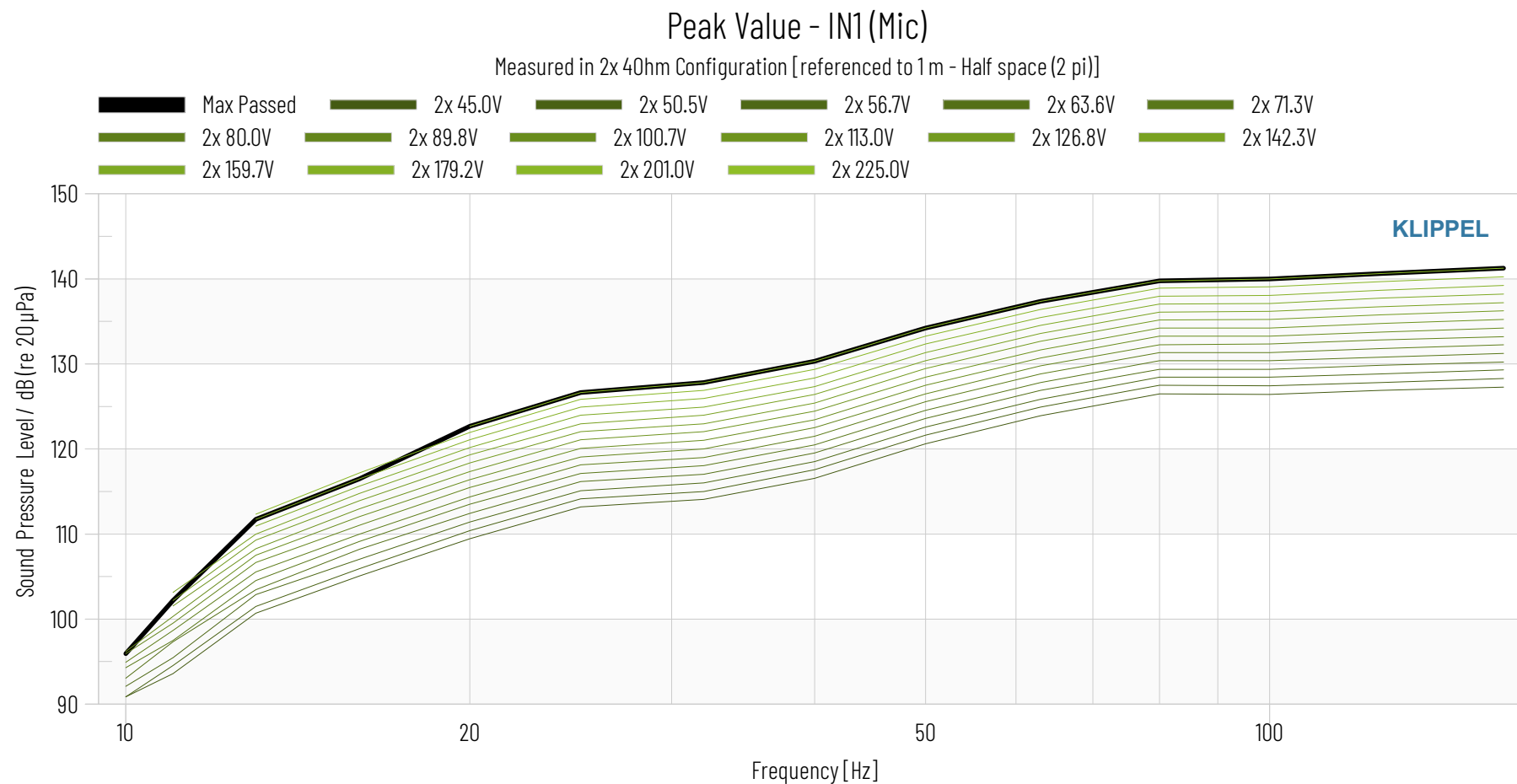
Impedance and Phase of Transfer Function $H(f)$

$H(f)$ = Voltage Speaker 1 / Current Speaker 1



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Part 4 – CEA-2010-B | Maximum Peak SPL

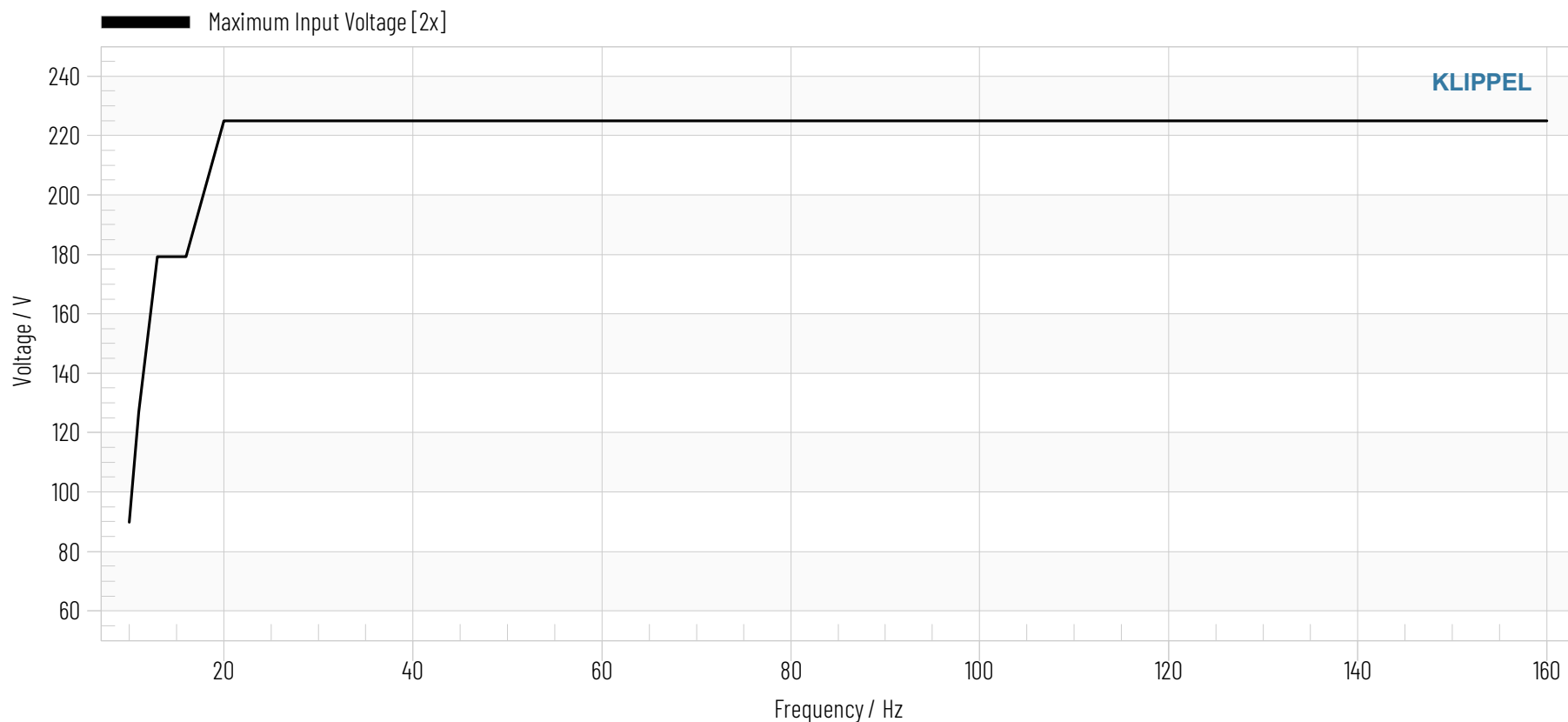


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Part 5 – CEA-2010-B | Maximum Peak Voltage

Maximum passed Input Voltage vs. Frequency Profile

Measured in 40hm Configuration [Voltage applied 2x to the Speaker]

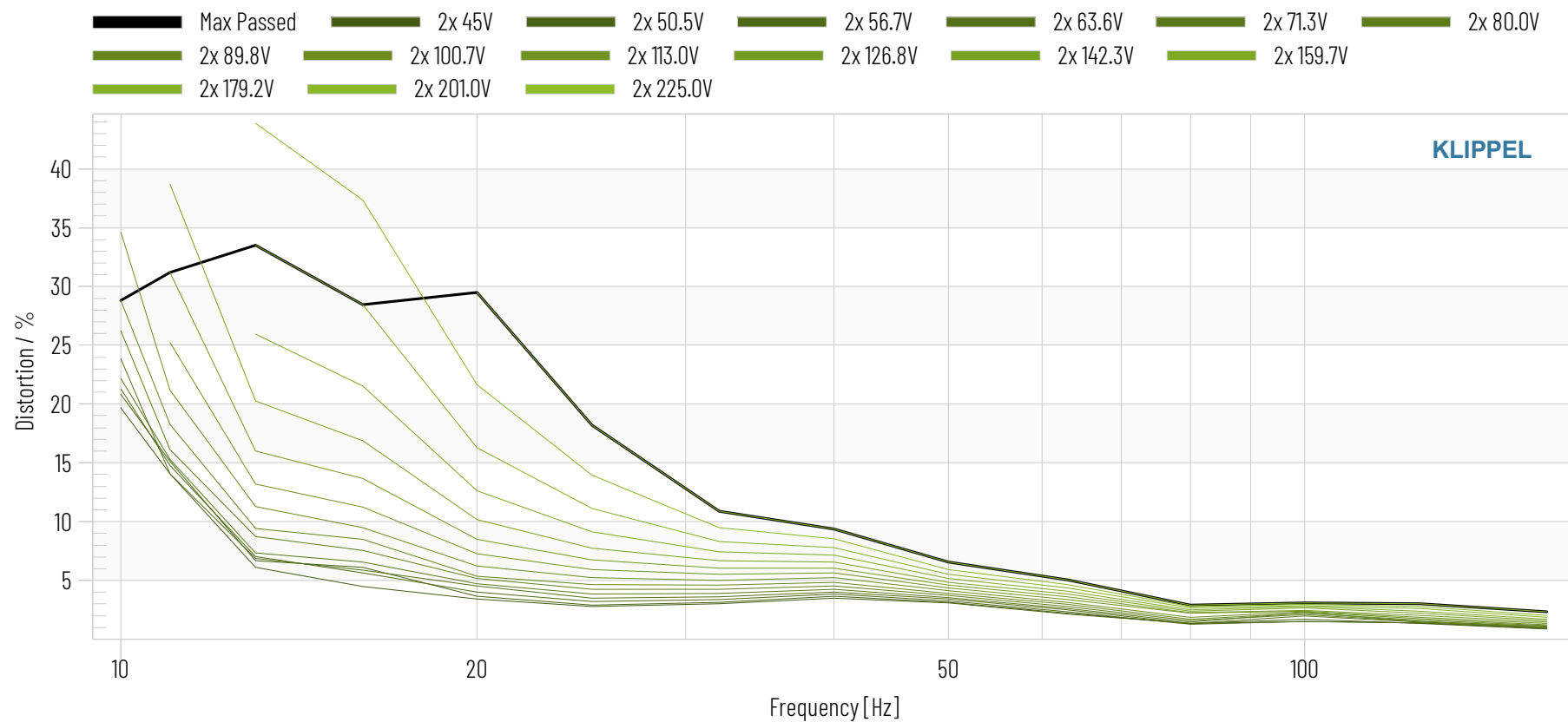


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Part 6 – CEA-2010-B | Total Burst Distortion

Total Burst Distortion - IN1 (Mic)

Measured in 2x 40hm Configuration



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Part 7 – SUMMARY

SPL (Peak / half space 2 pi) CEA-2010-B	Measurement Data 140 dB @ 80 Hz 128 dB @ 32 Hz 123 dB @ 20 Hz 96 dB @ 10 Hz
Maximum Peak Power Burst Measurement	31.6 kW [2x 40hm Configuration]
Effective Frequency Range IEC 60268-21	Measurement Data (without ext. DSP) 38 Hz – 640 Hz / -10 dB (60 Hz - 470 Hz / -3 dB)
Efficiency CEA-2010-B	91.8 dB / 1W/m (4 pi) 97.8 dB / 1W/m (2 pi)



END

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