



ASCENDO

Report of THE 10 Passive Led Phantom

Date	Author	Changes	Version
18/11/2024	AB		V1

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1. Pictures of measurements

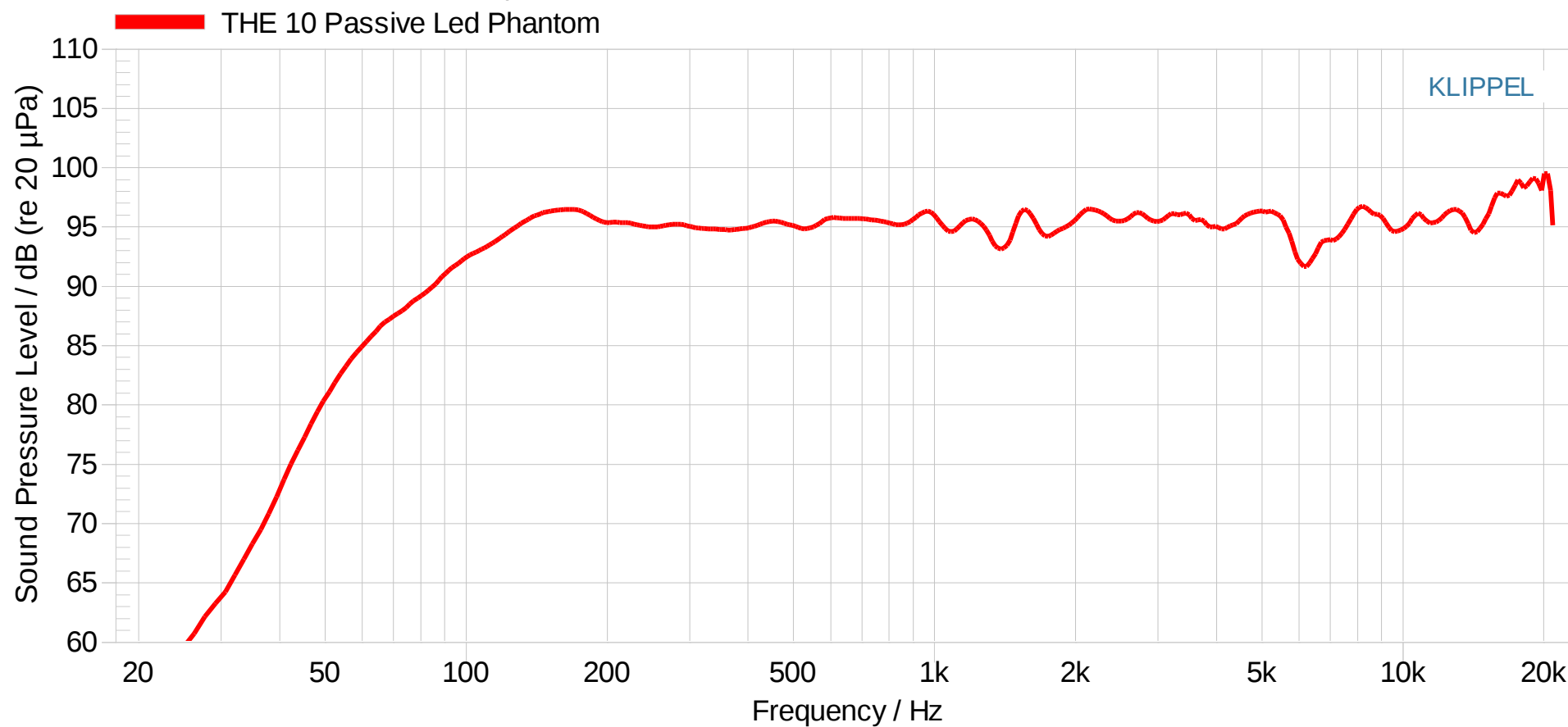


2. Frequency Response

2,83v @1m – 1/6 oct. Smoothing

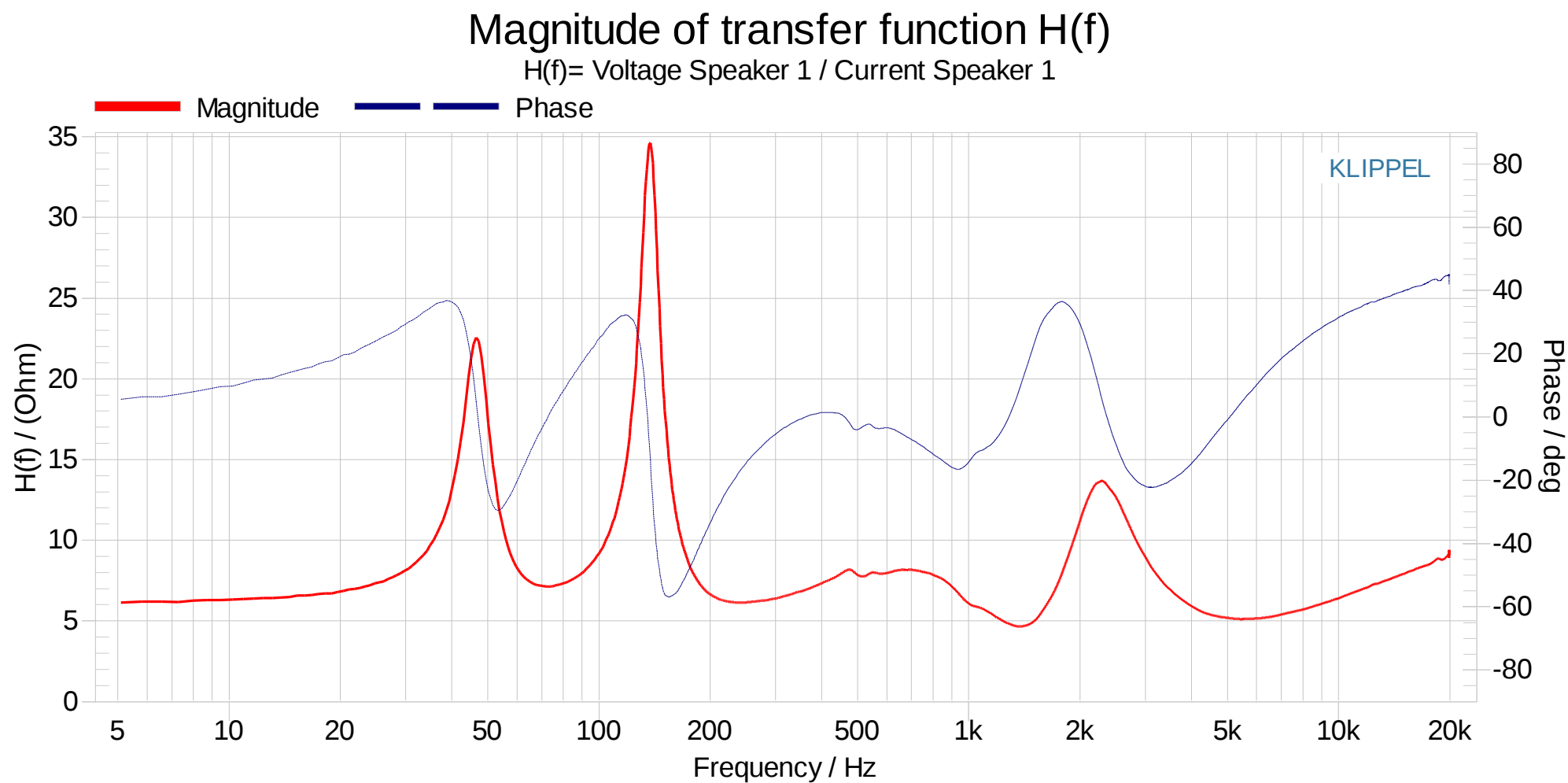
Frequency Response

$r = 10\text{ m}$, $\phi = 0^\circ$, $\theta = 0^\circ$, Reference: 1 m, 2.83 V, smoothed 6/oct.



3. Impedance Curve

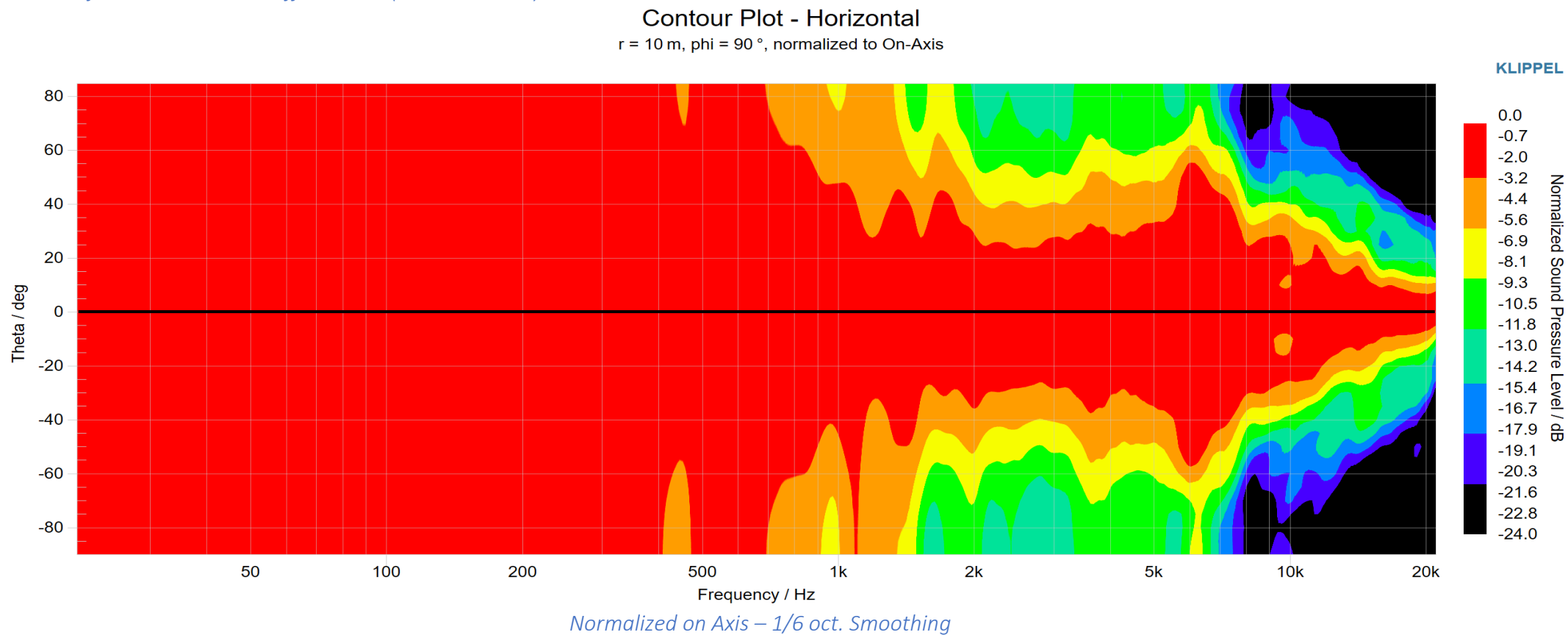
2,83v @1m – No Smoothing



4. Contour Plot

4.1. Horizontal

Referenced @10m – Baffle loaded (2π steradians)

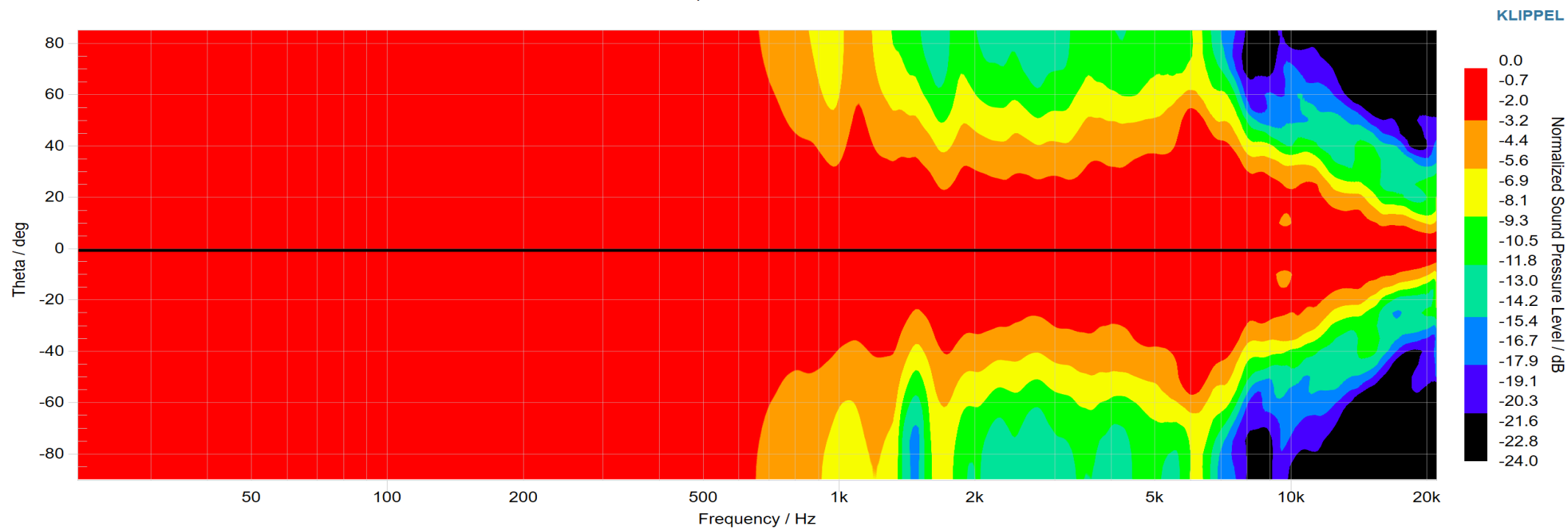


4.2. Vertical

Referenced @10m – Baffle loaded (2π steradians)

Contour Plot - Vertical

$r = 10\text{ m}$, $\phi = 0^\circ$, normalized to On-Axis



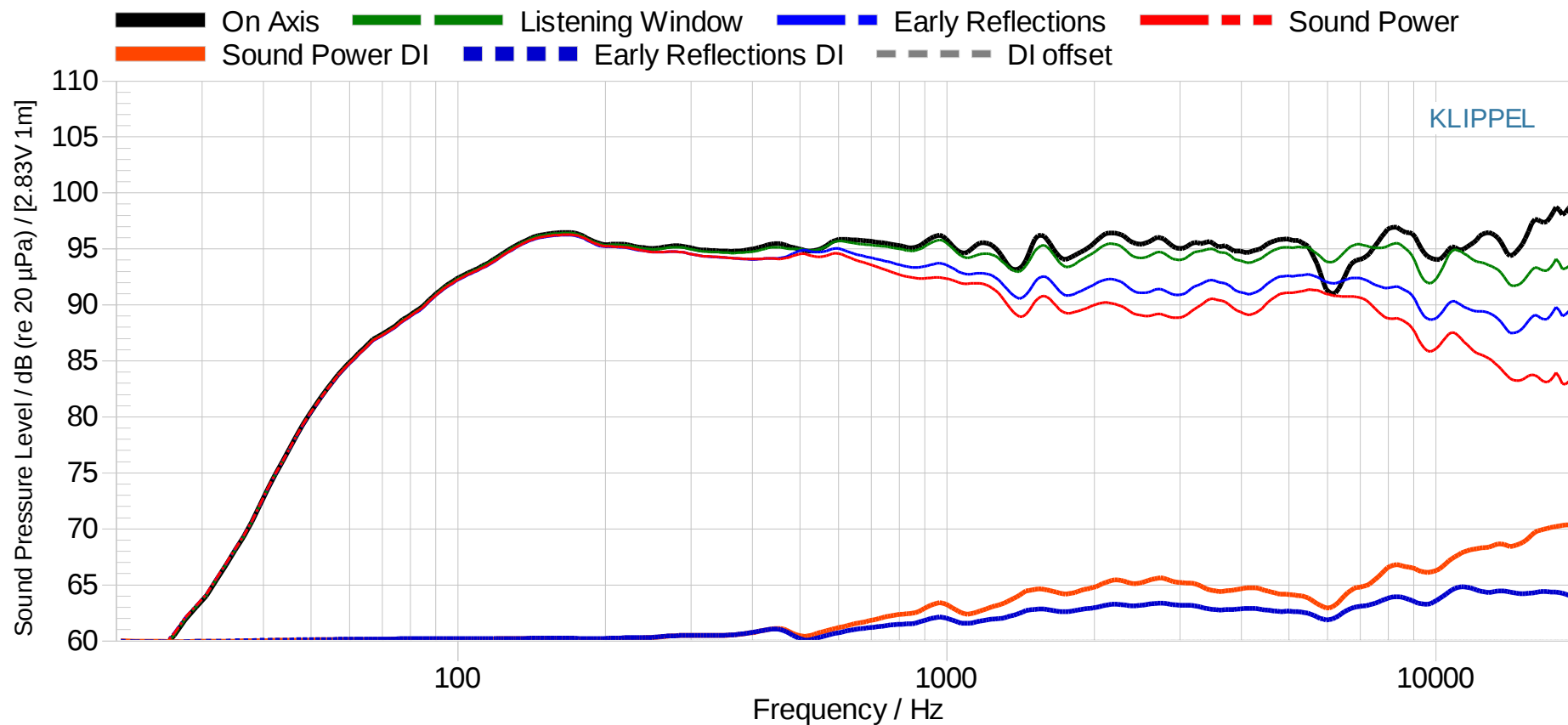
Normalized on Axis – 1/6 oct. Smoothing

5. CEA2034 Spinorama

2,83v @1m – 1/6 oct. Smoothing

CEA2034

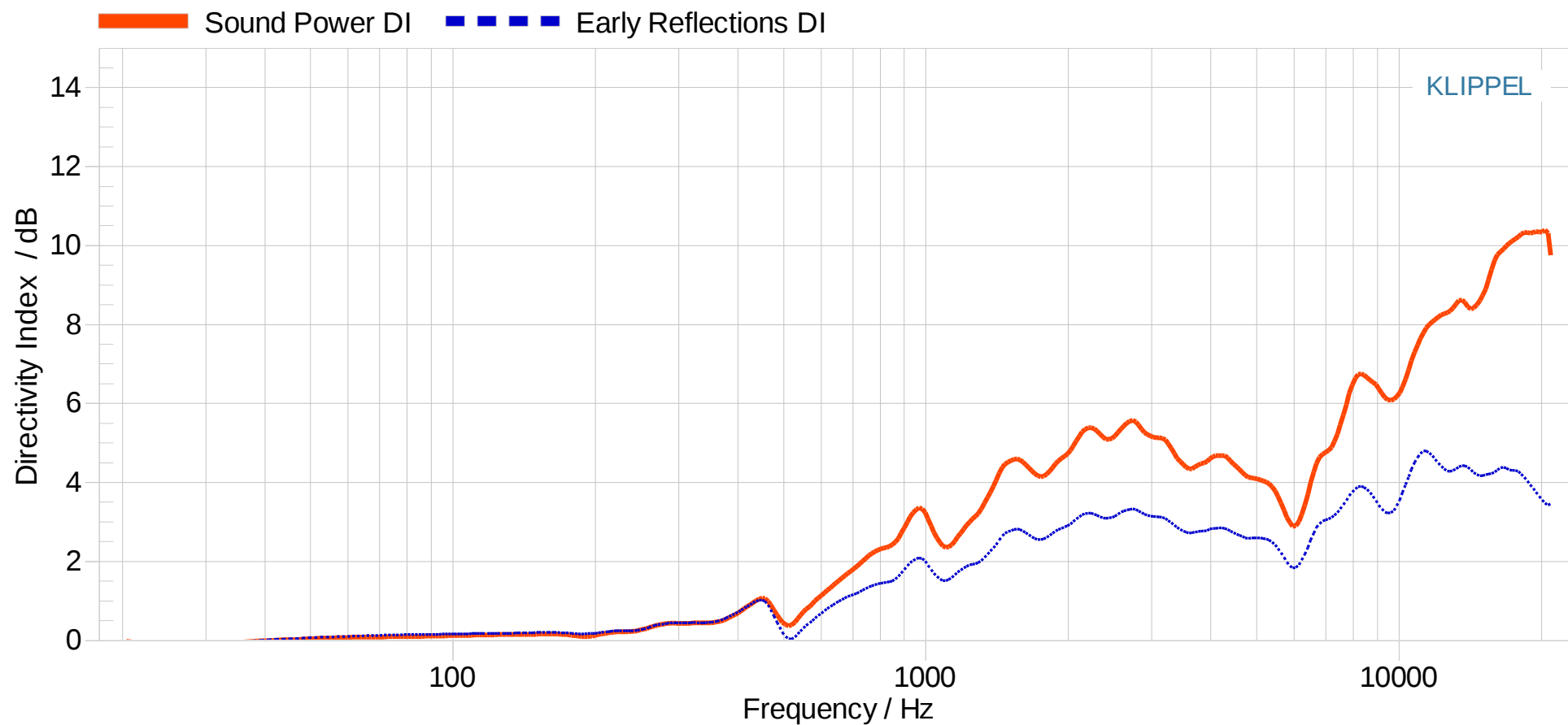
r = 2 m, Reference: 1 m, 2.83V, smoothed 6/oct.



5.1. Directivity Index

1/6 oct. Smoothing

Directivity Index smoothed 6/oct.

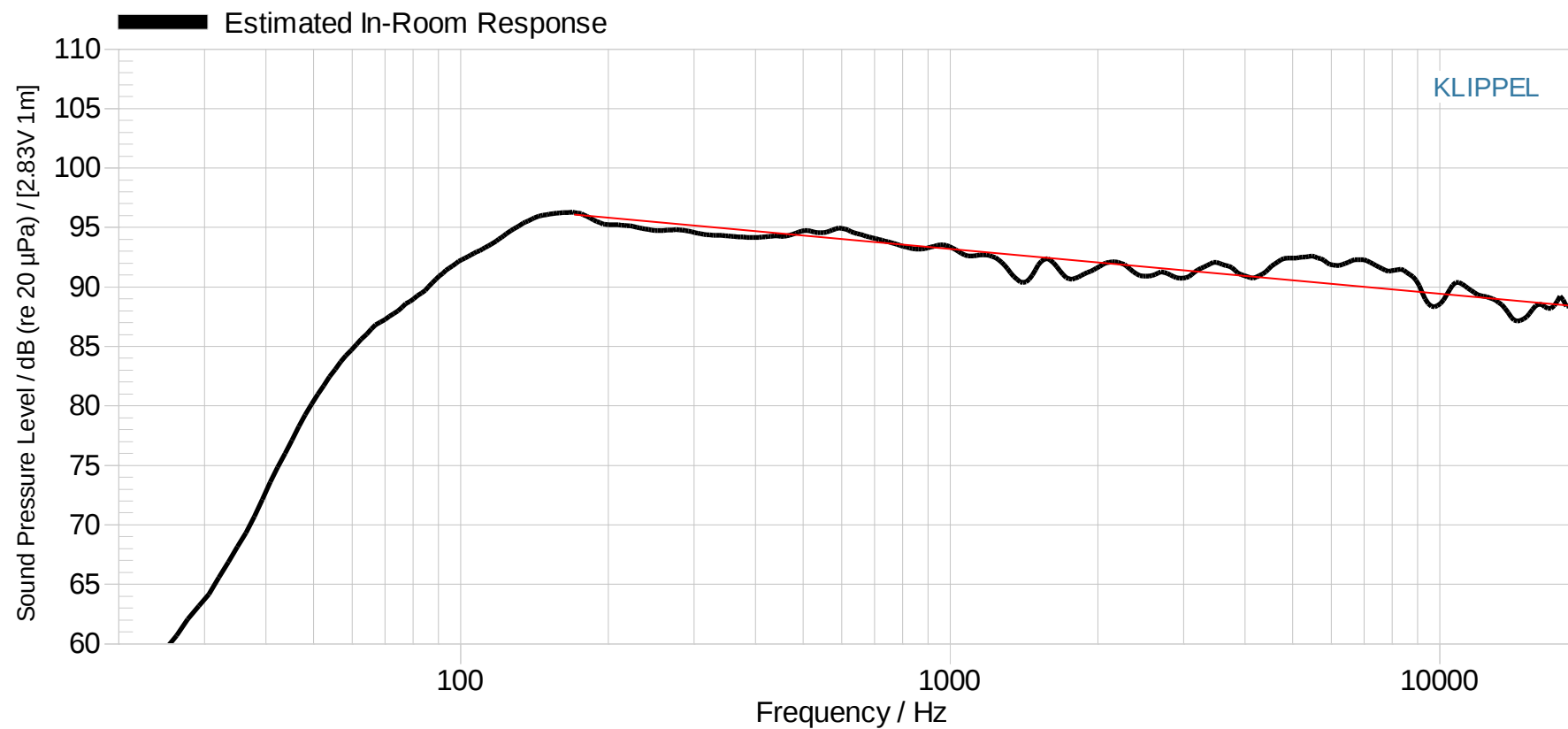


5.2. In-Room response

1/6 oct. Smoothing

Estimated In-Room Response

$r = 2$ m, Reference: 1 m, 2.83V, smoothed 6/oct.

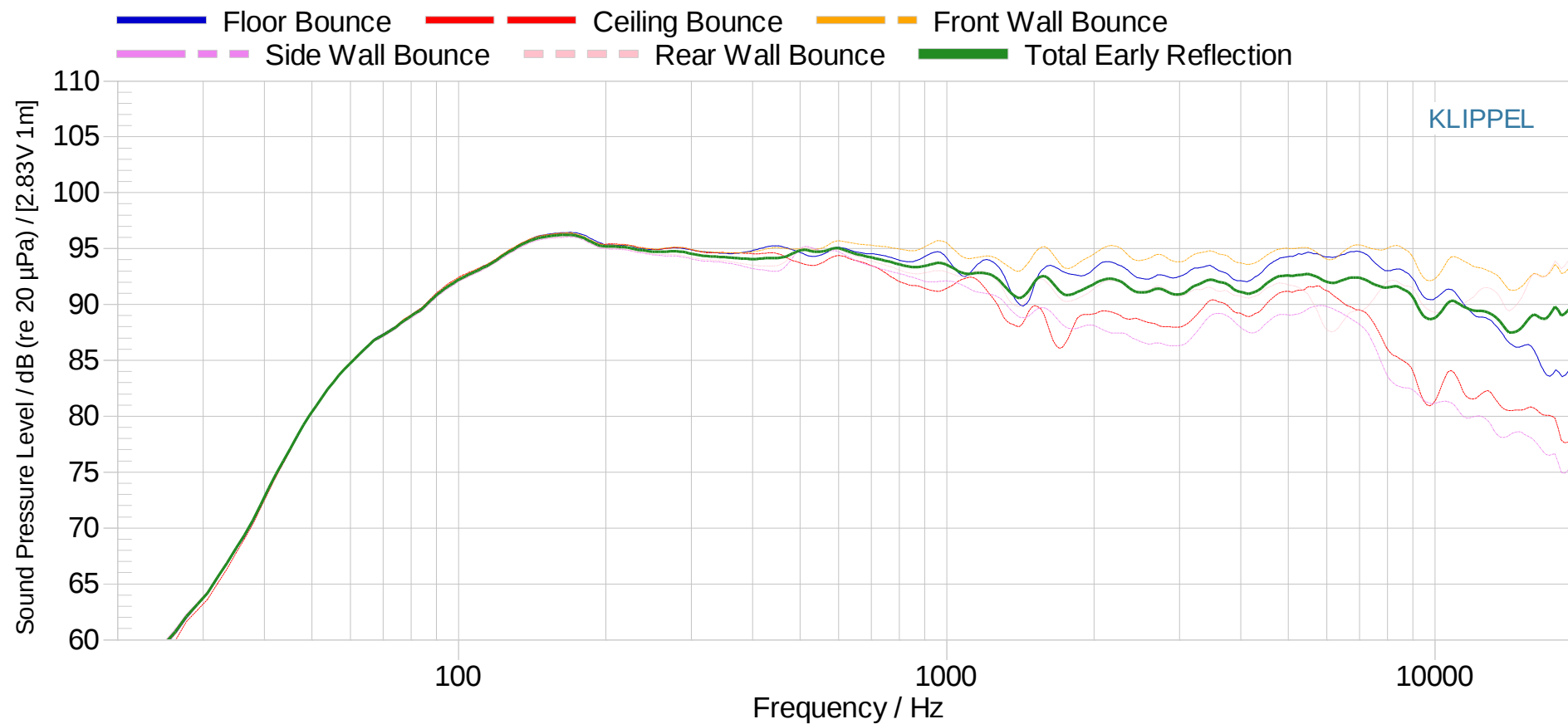


5.3. Early reflections

1/6 oct. Smoothing

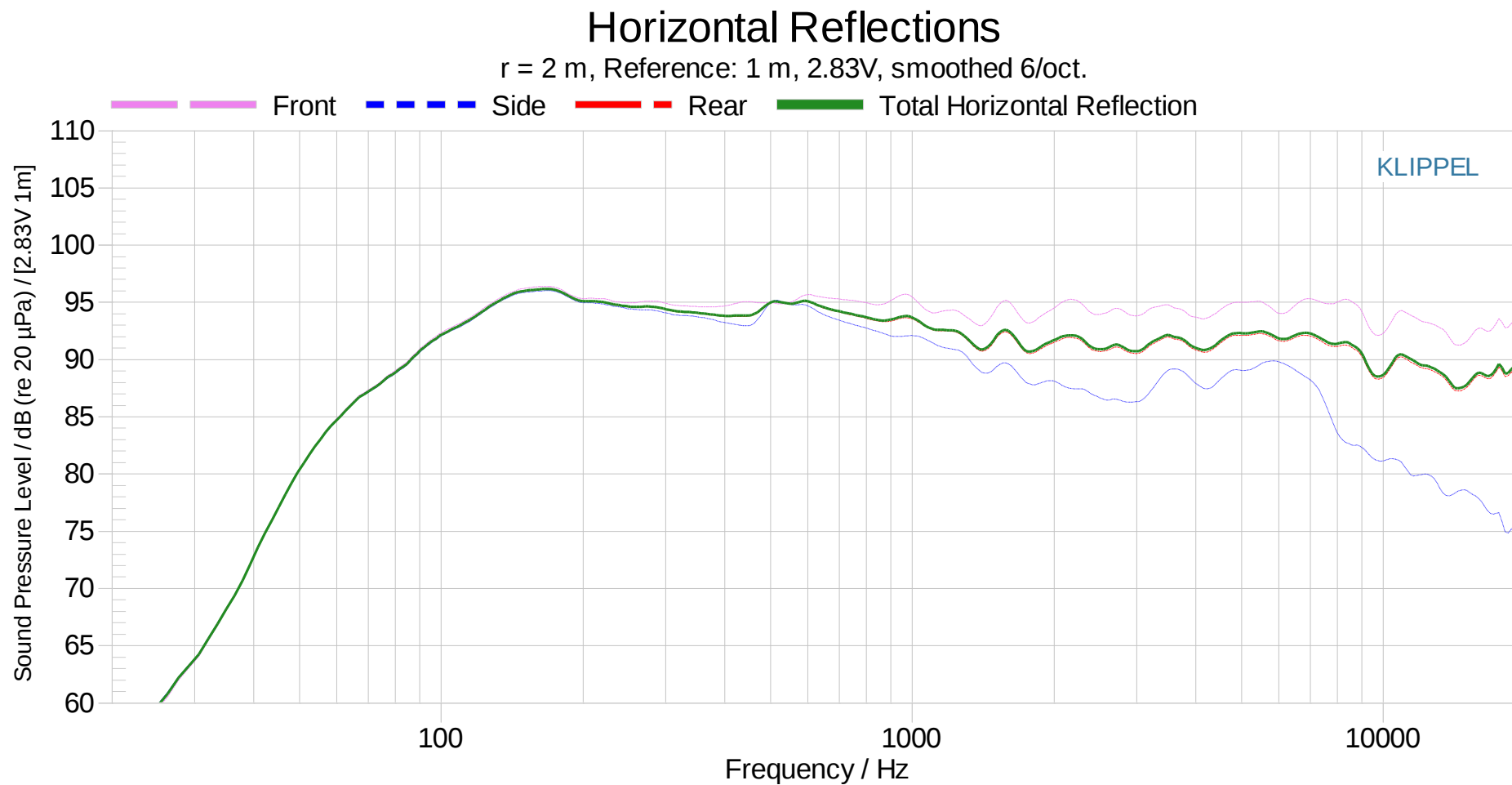
Early Reflections

$r = 2$ m, Reference: 1 m, 2.83V, smoothed 6/oct.



5.4. Horizontal Reflections

1/6 oct. Smoothing

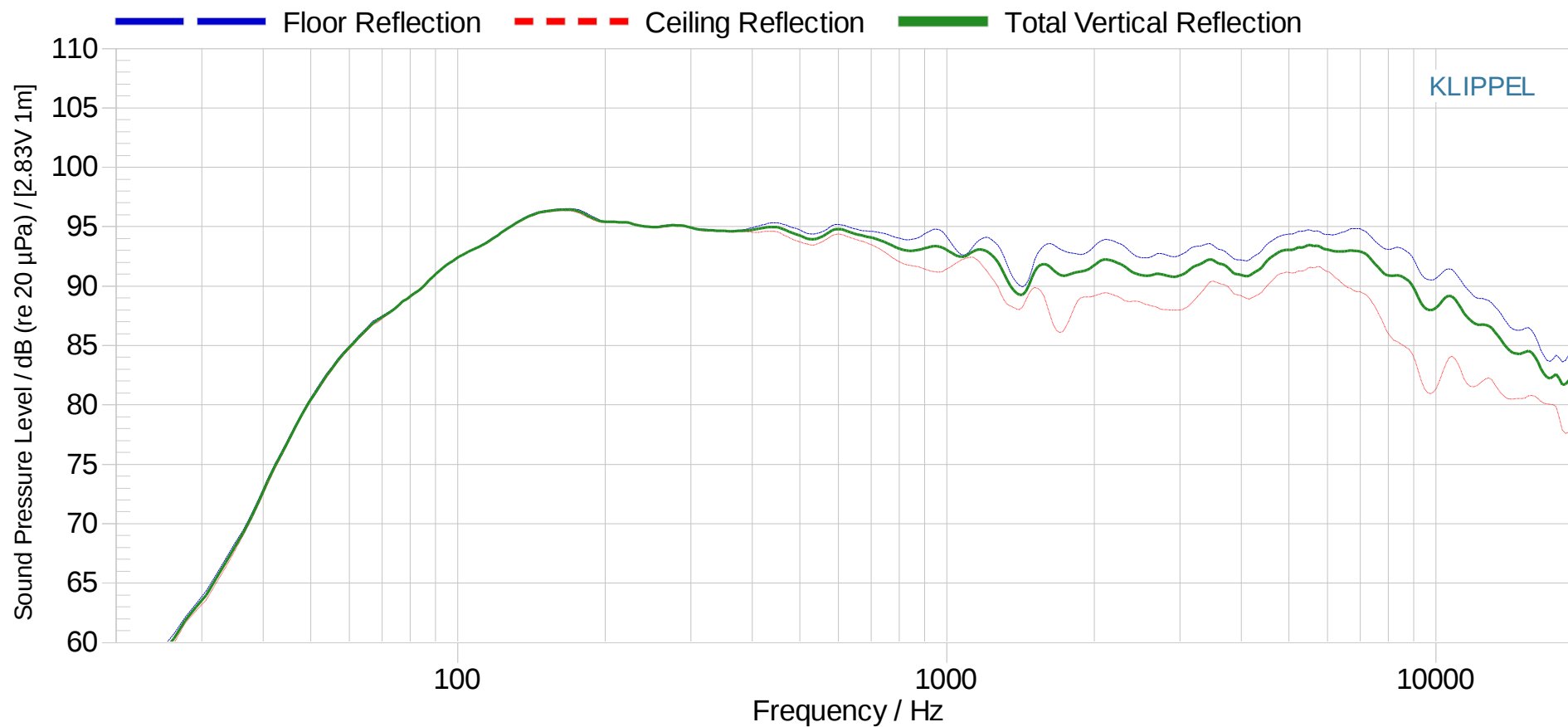


5.5. Vertical Reflections

1/6 oct. Smoothing

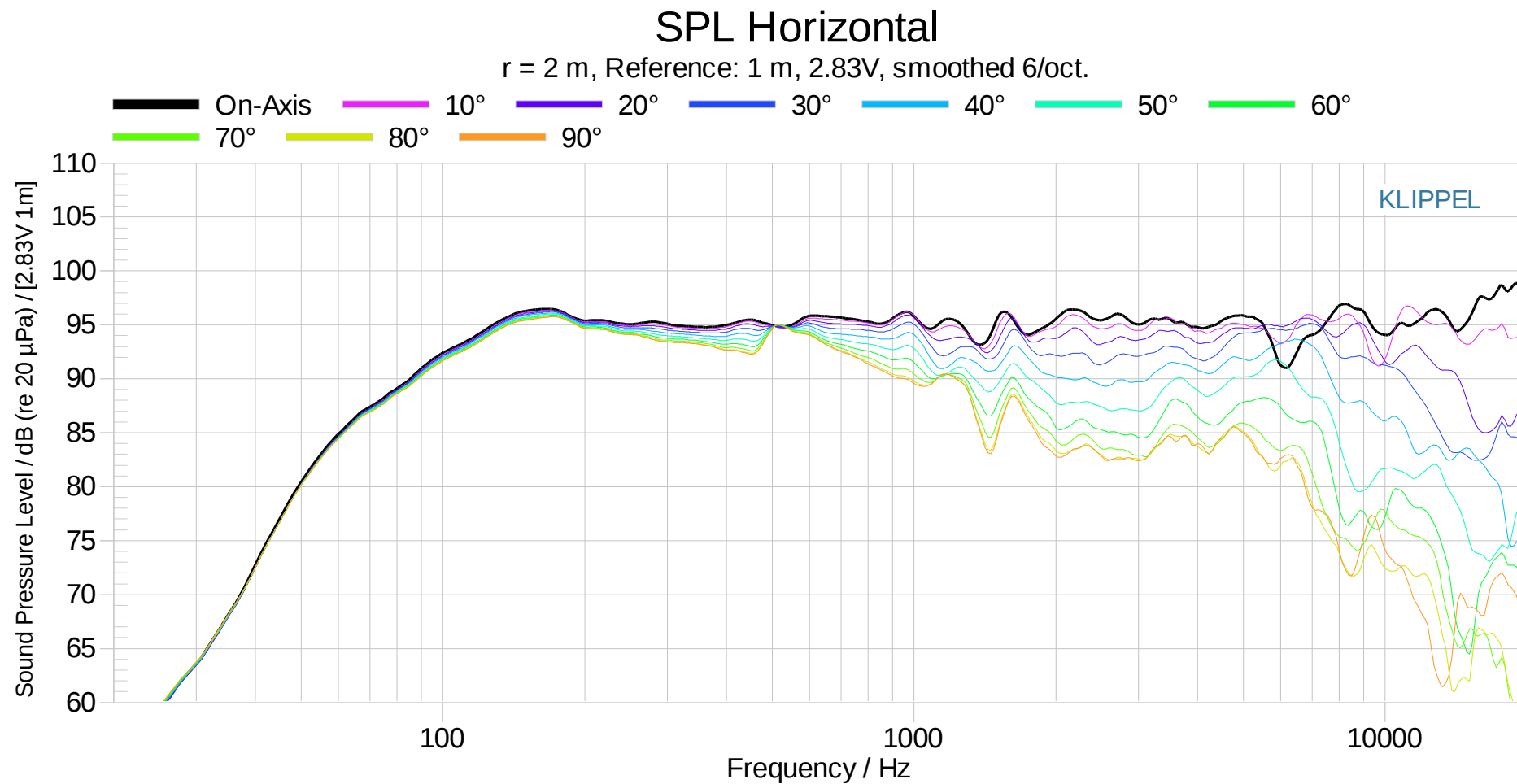
Vertical Reflections

$r = 2$ m, Reference: 1 m, 2.83V, smoothed 6/oct.



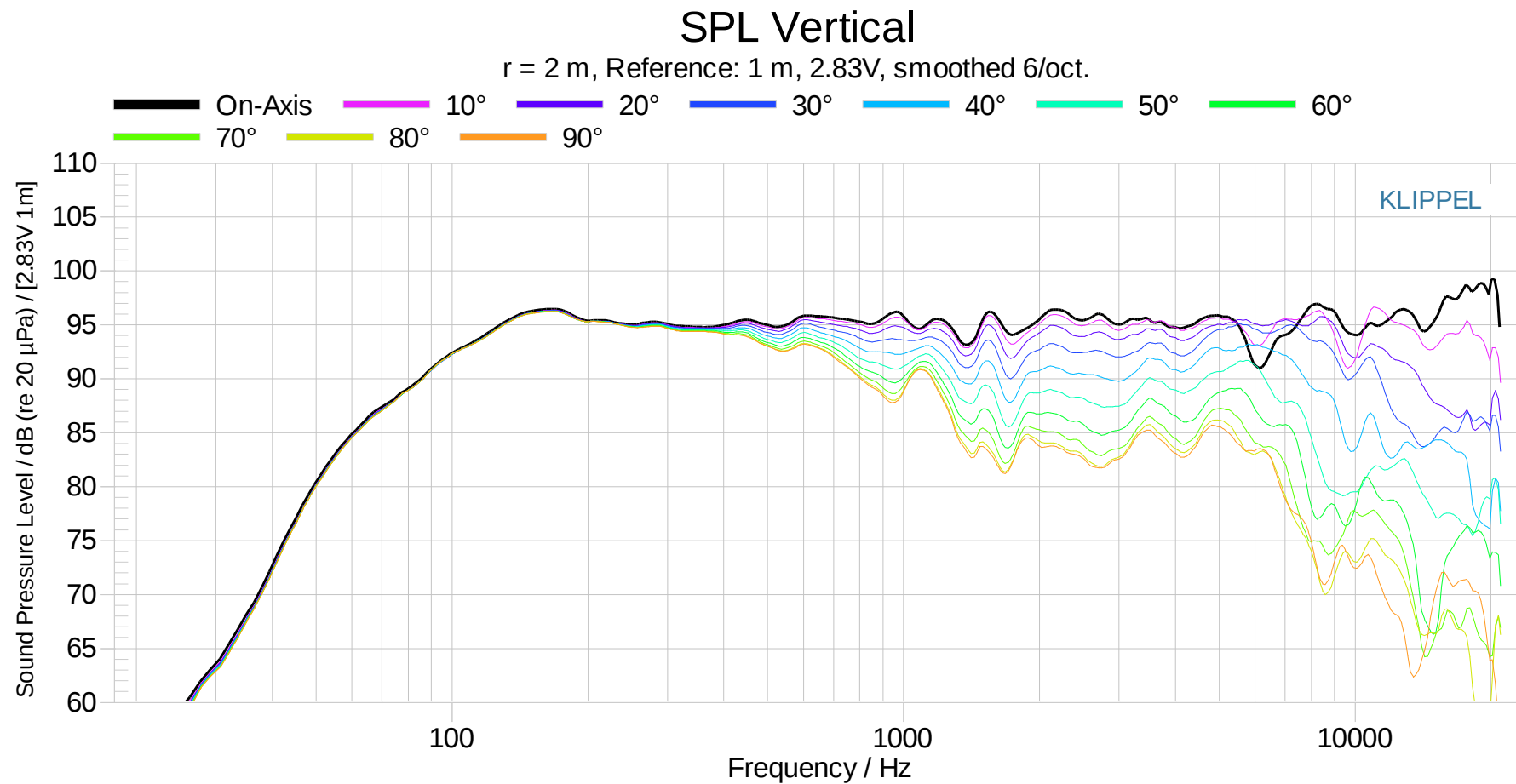
5.6. Horizontal Frequency Response

1/6 oct. Smoothing



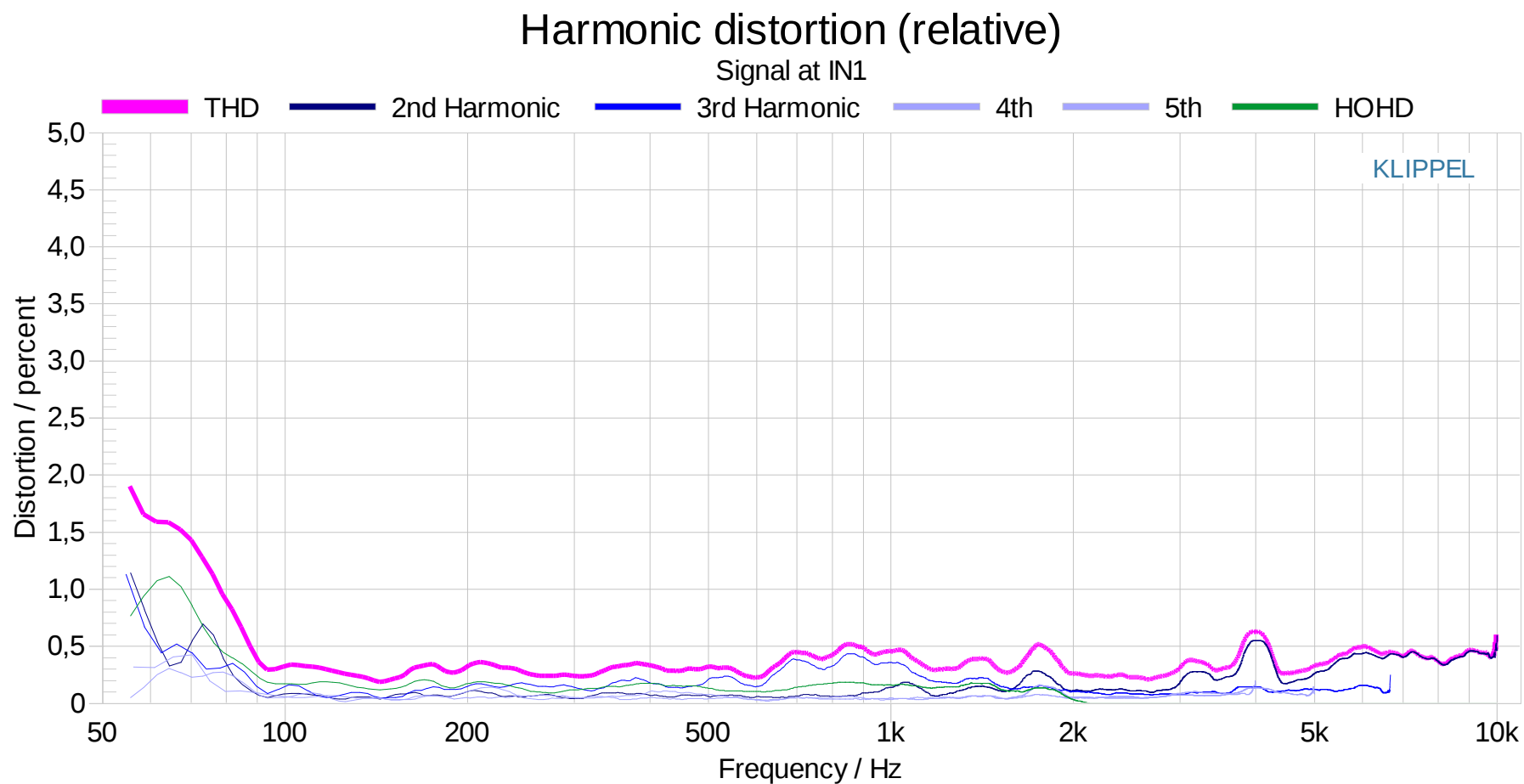
5.7. Vertical Frequency Response

1/6 oct. Smoothing



6. Harmonic Distortion

1/6 oct. Smoothing – 0 dBu Stimulus



7. MTON Max SPL – 1s Stimulus

7.1. Results

Results of last passed measurement

Parameter	Value	Unit	Description
$U_{\max}$	1.55	V	Root mean square of stimulus.
$SPL_{\max}$	120.51	dB	Sum level of fundamentals in microphone signal.
Eff. Freq. Range	84 - 20652	Hz	Effective frequency range (freq. response > SPL value - 10 dB).
$C_{\max}$	2.82	dB	Max compression in the frequency range 80 - 19494 Hz.
$RMD_{\max}$	3.44 (148.6)	dB (%)	Maximum spectral multi-tone distortion ratio of microphone signal.
TMDR	-15.69 (16.4)	dB (%)	Total multi-tone distortion ratio of microphone signal.

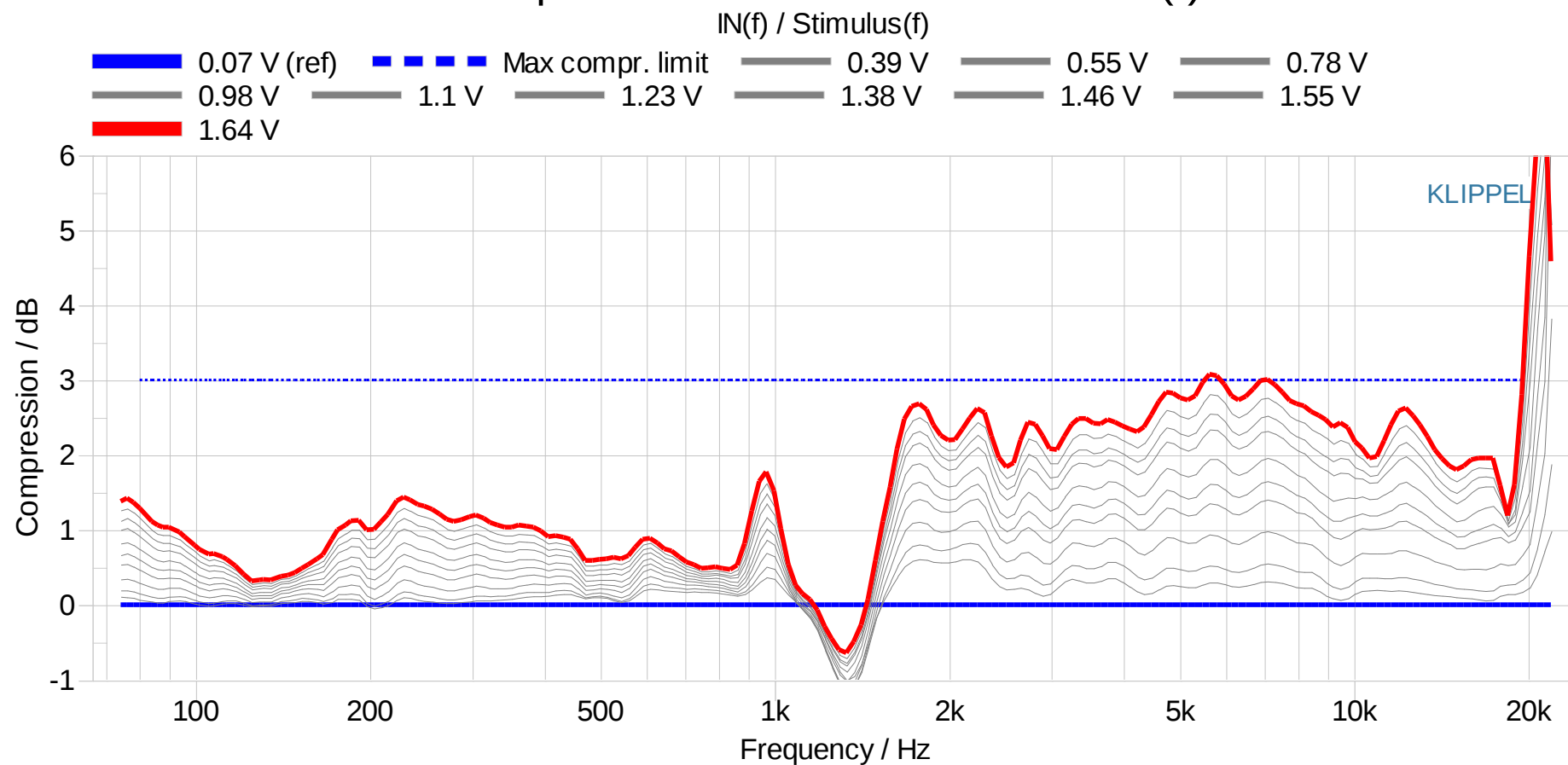
Stimulus properties

Parameter	Value	Unit	Description
$f_{\min}$	74.22	Hz	Lowest multi-tone frequency line
$f_{\max}$	21880.86	Hz	Highest multi-tone frequency line
t	0.51	s	Signal duration
K	2.95	-	Kurtosis
C	12.59	dB	Crest factor

7.2. Compression Chart

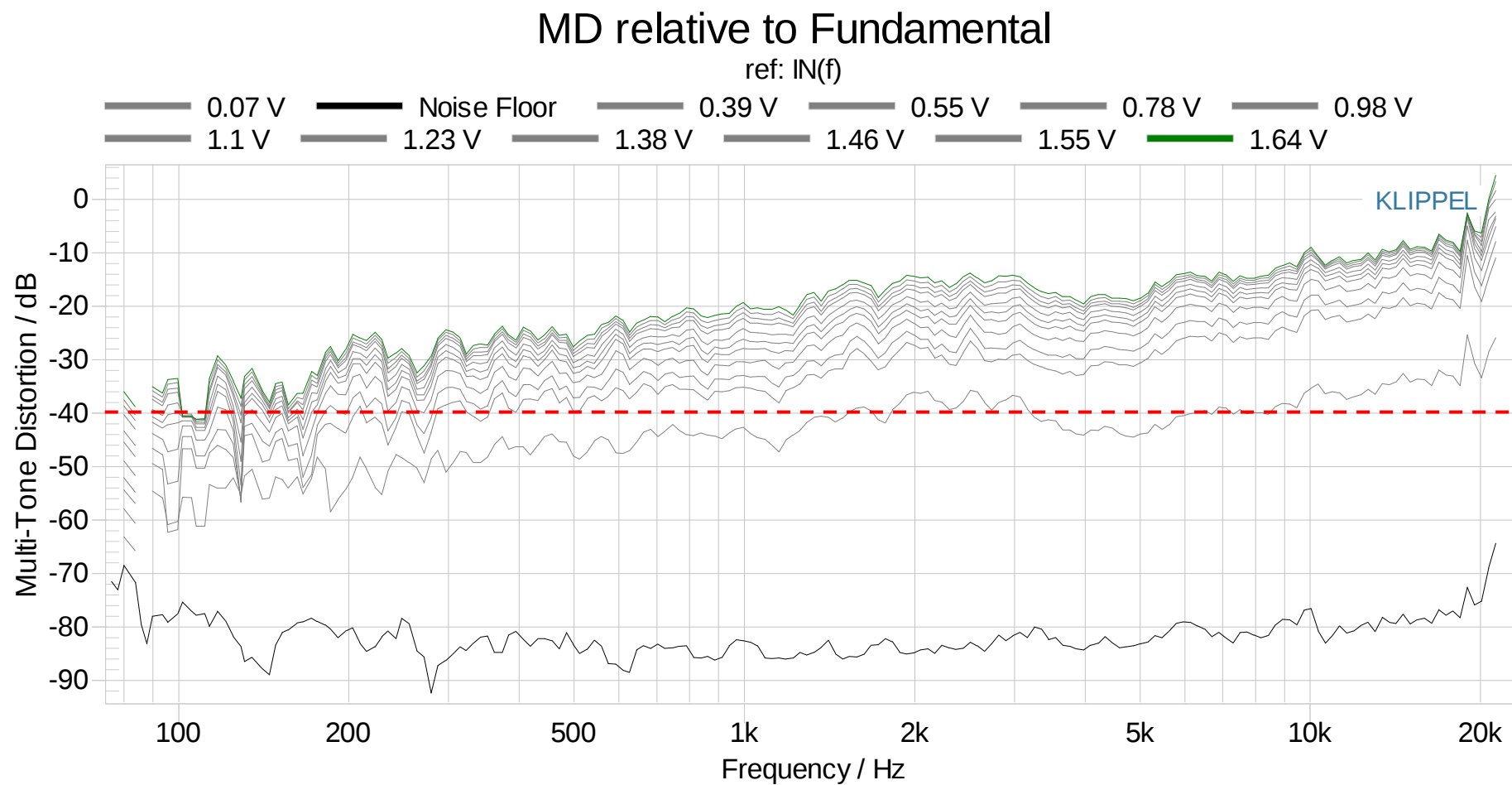
-32dB Voltage Values – 1/6 Smoothing

Compression of Transfer Function $H(f)$



7.3. Multi Tone Distortion Chart

-32dB Voltage Values – No Smoothing

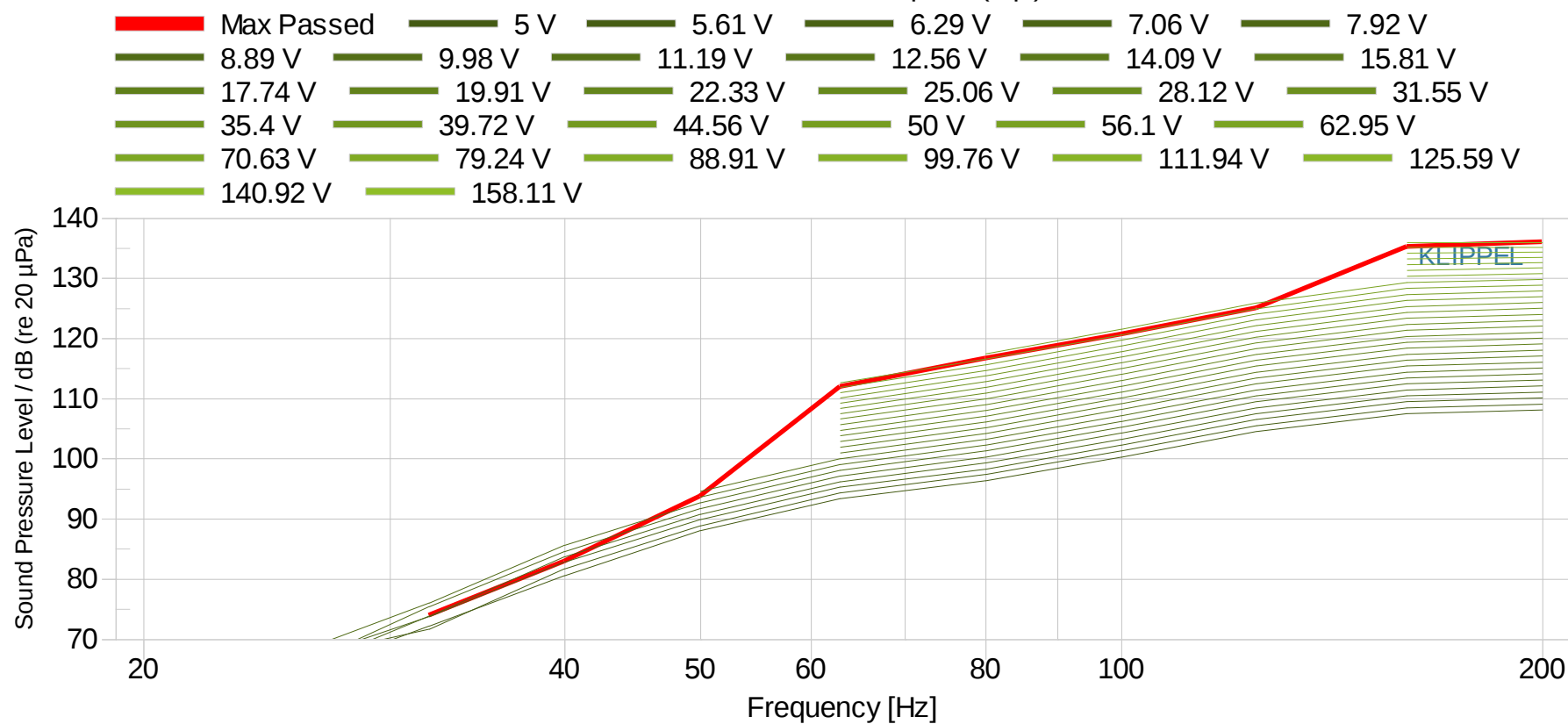


8. CEA2010B

8.1. Max Peak SPL

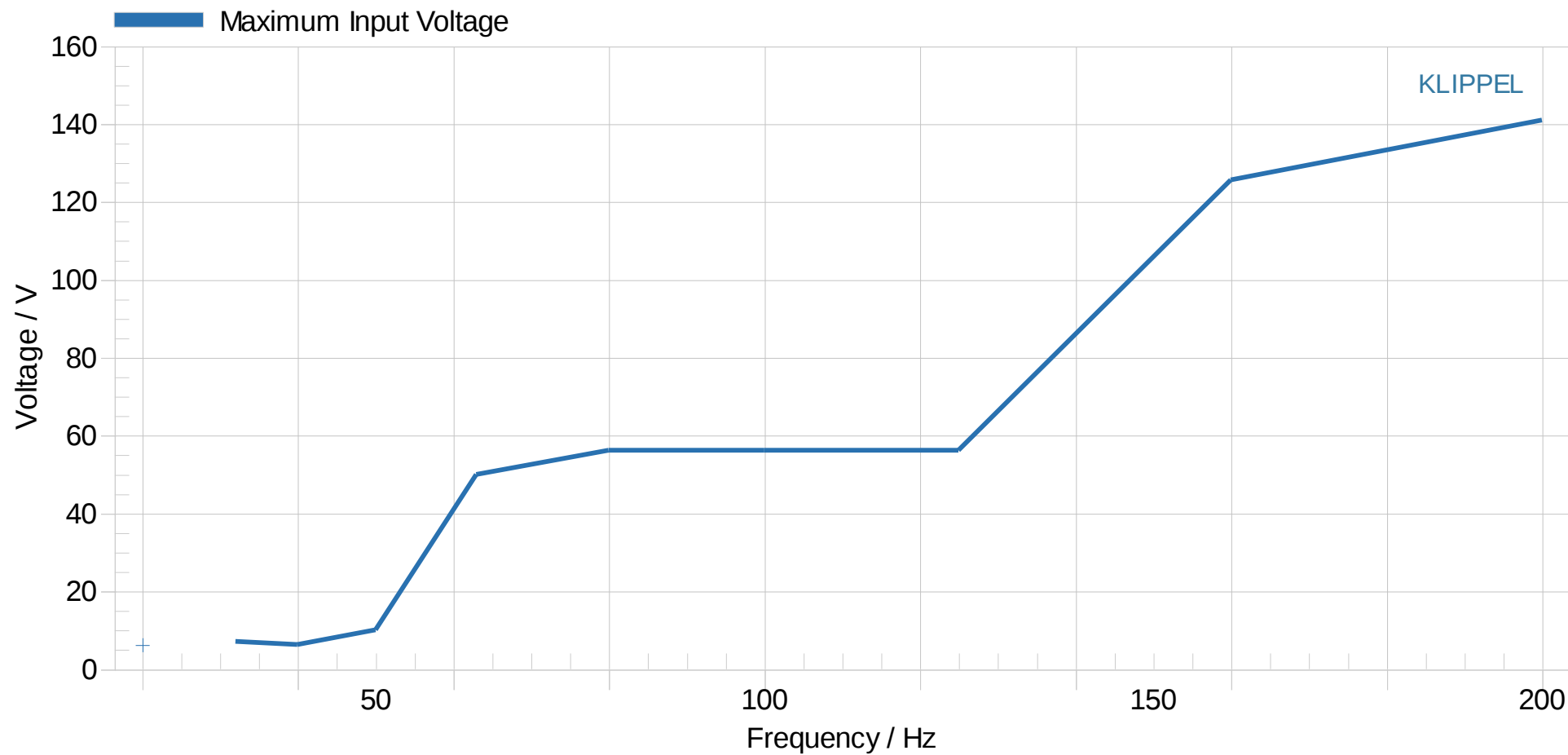
Peak Value - IN2 (Mic)

referenced to 1 m - Half space (2 pi)



8.2. Max Peak Voltage

Maximum passed Input Voltage vs. Frequency Profile



8.3. THD on Burst

Total Burst Distortion - IN2 (Mic)

