

THE BLACK SWAN Be PRO-ACTIVE EXT

ASCENDO

Report of Black Swan Be ACTIVE EXT

Date	Author	Changes	Version
22/12/2023	GL		V1
27/05/2024	AB	Contour Ranges	V2
18/12/2024	AB	HF 3" Be Driver	V3

Summary

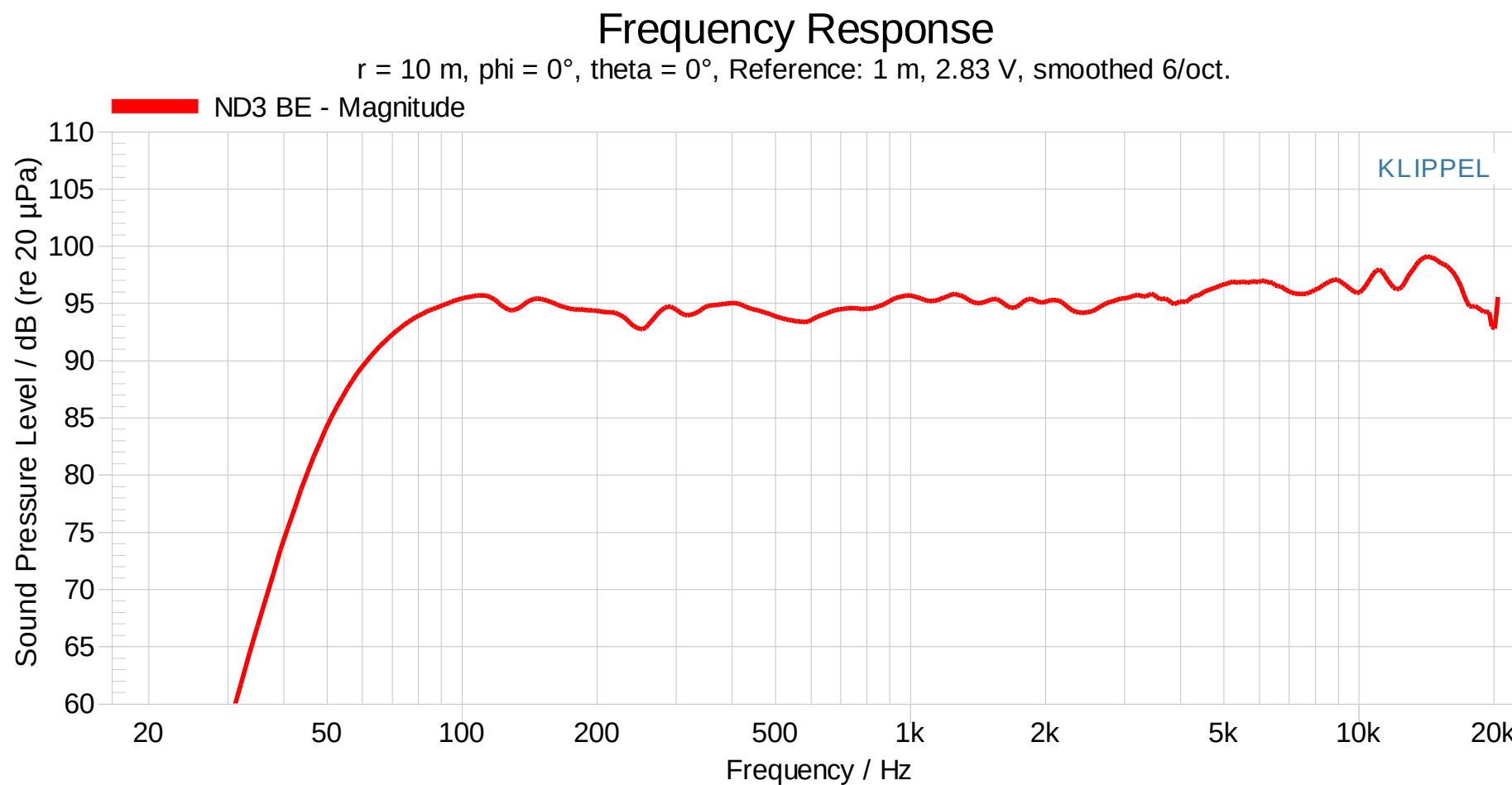
1.	Pictures of measurements	3
2.	Frequency Response	4
3.	Impedance Curve.....	5
4.	Contour Plot	6
4.1.	Horizontal	6
4.2.	Vertical.....	7
5.	CEA2034 Spinorama	8
5.1.	Directivity Index.....	9
5.2.	In-Room response	10
5.3.	Early reflections	11
5.4.	Horizontal Reflections	12
5.5.	Vertical Reflections.....	13
5.6.	Horizontal Frequency Response.....	14
5.7.	Vertical Frequency Response	15
6.	Harmonic Distortion	16
7.	MTON Max SPL – 1s Stimulus.....	17
7.1.	Results	17
7.2.	Compression Chart	18
7.3.	Multi Tone Distortion Chart	19
8.	CEA2010B.....	20
8.1.	Max Peak SPL.....	20
8.2.	Max Peak Voltage	21
8.3.	THD on Burst.....	22

1. Pictures of measurements



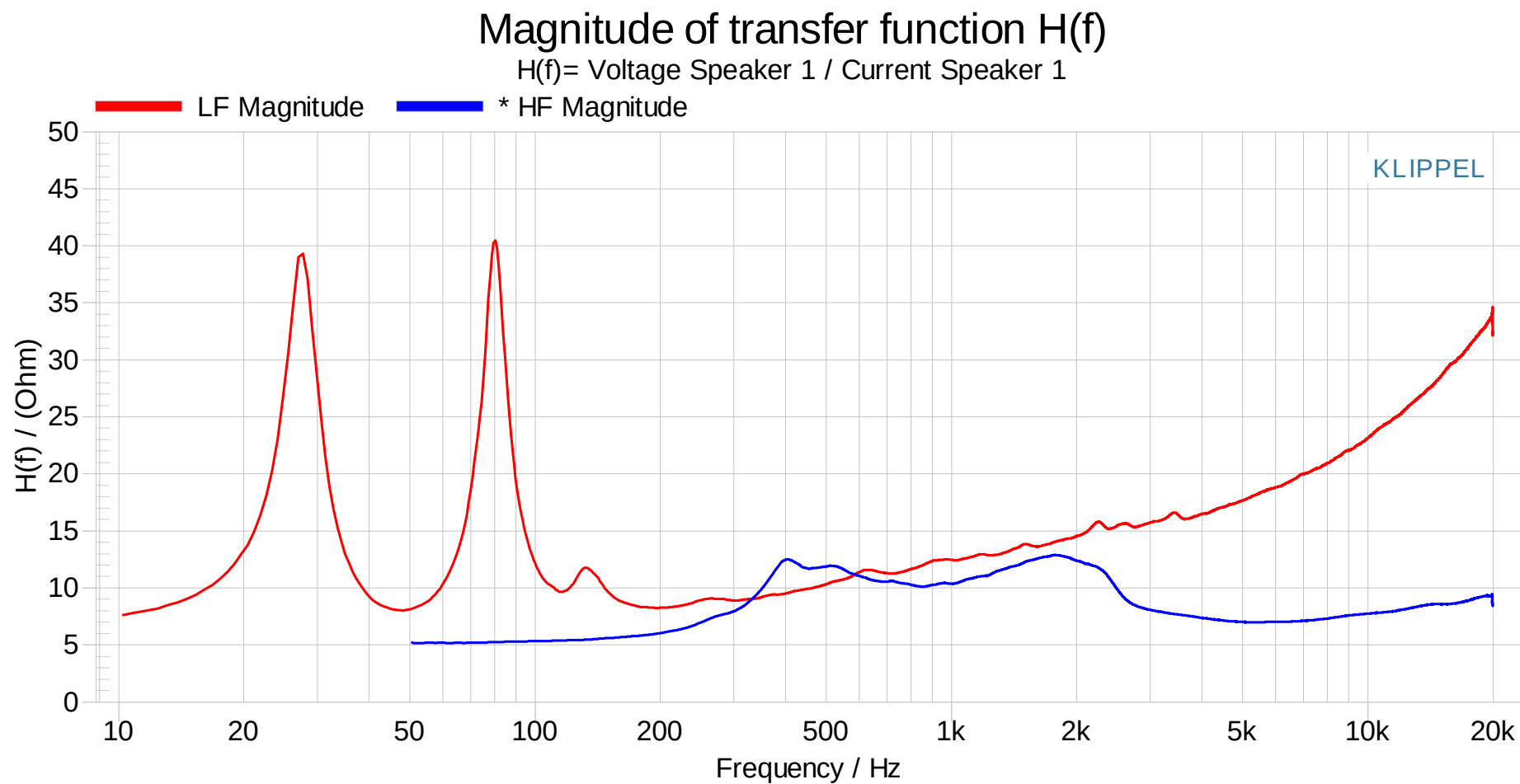
2. Frequency Response

2,83v @1m – 1/6 oct. Smoothing



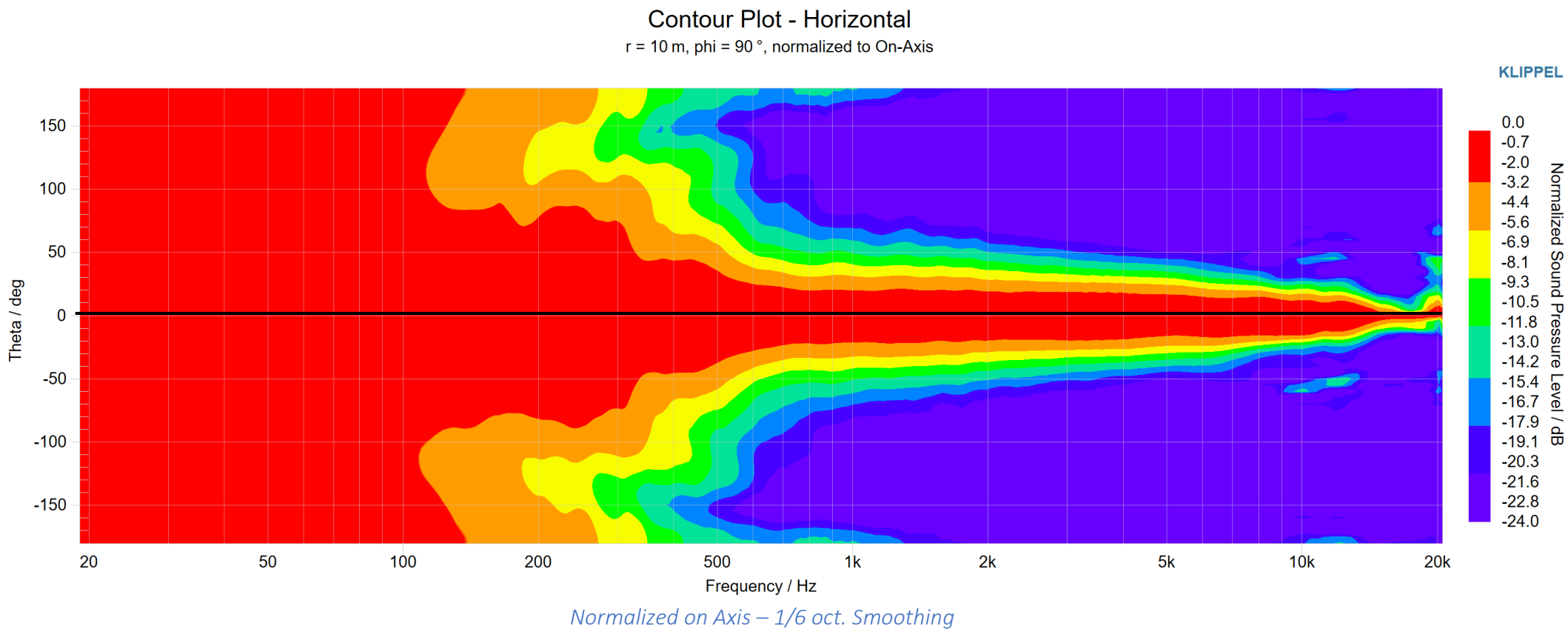
3. Impedance Curve

2,83v @1m – No Smoothing



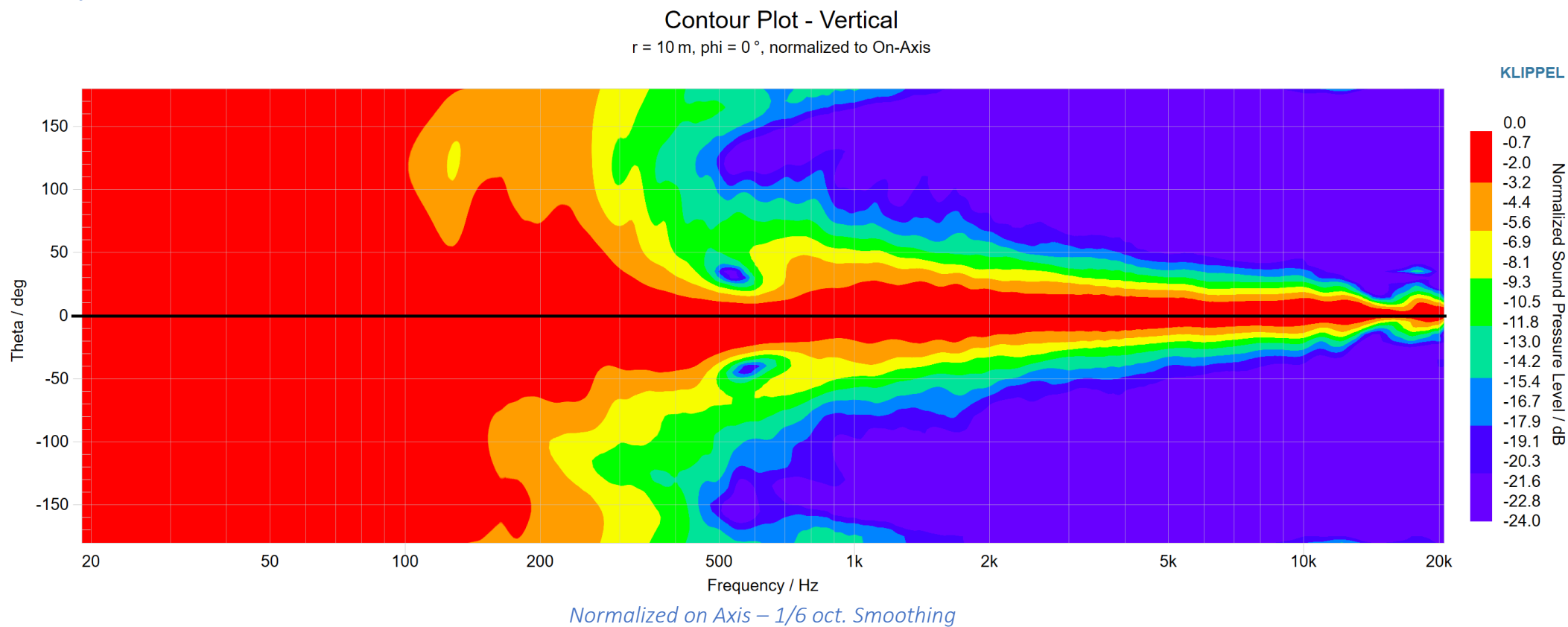
4. Contour Plot

4.1. Horizontal *xReferenced @10*



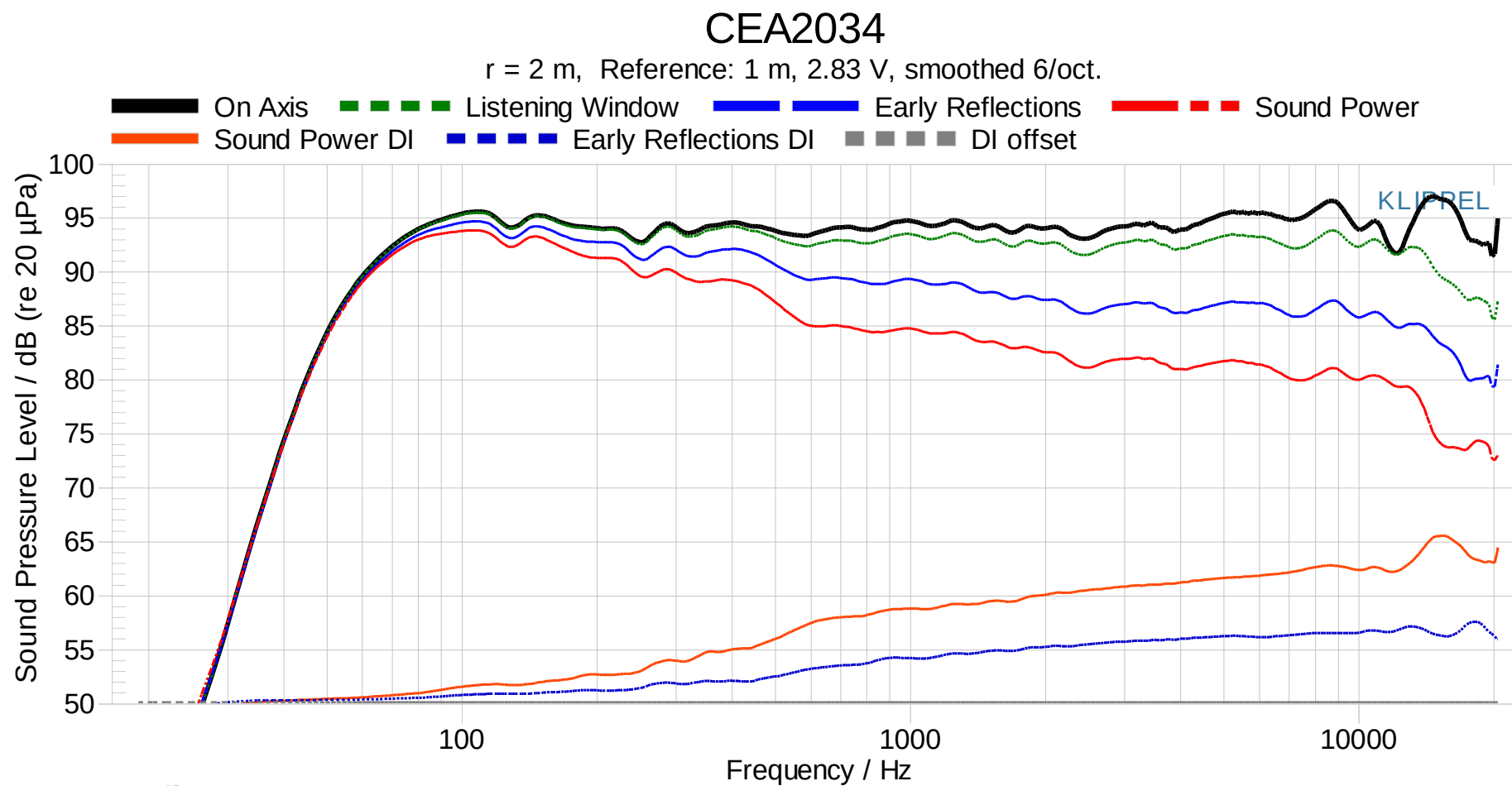
4.2. Vertical

Referenced @10m



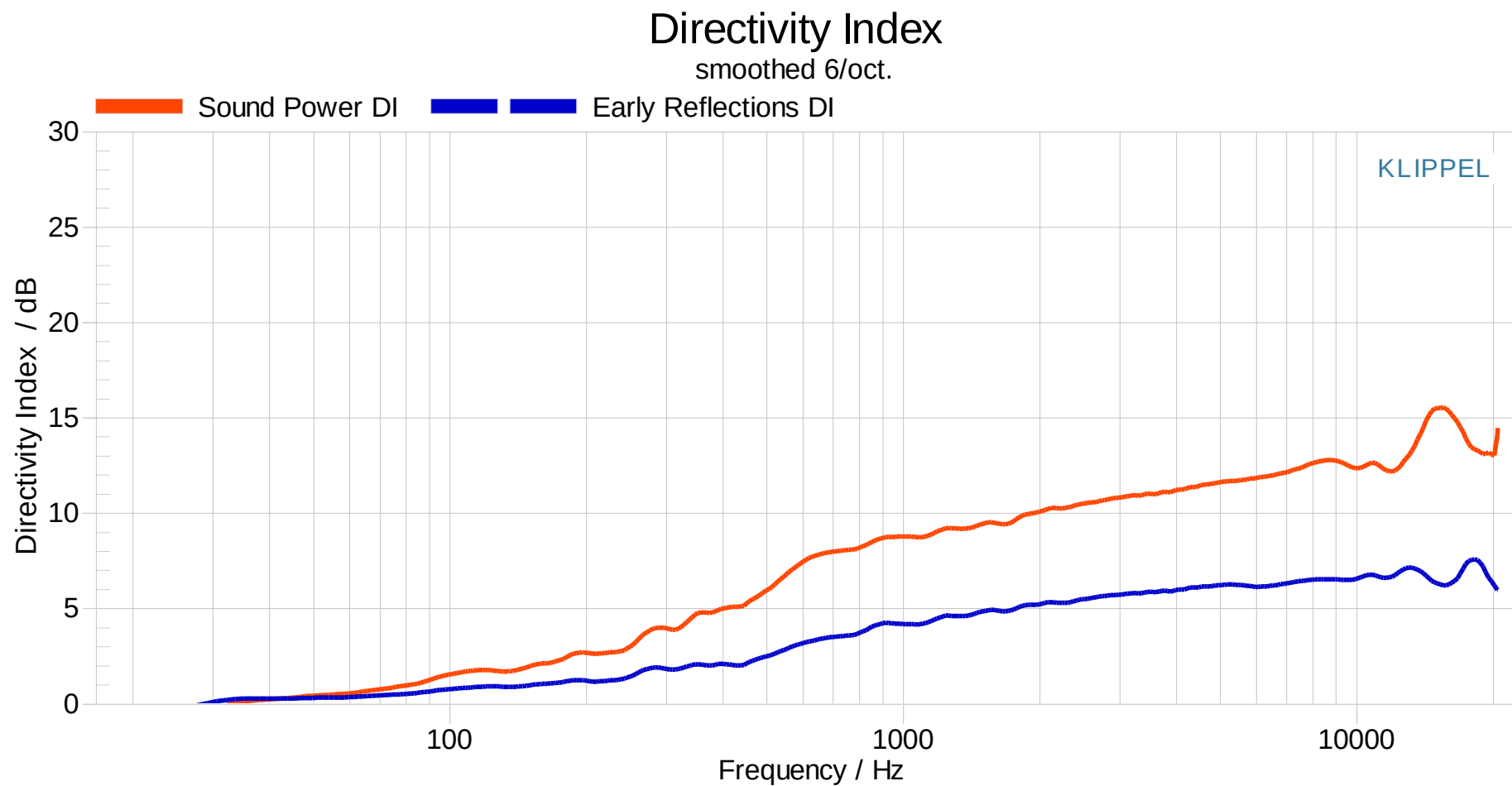
5. CEA2034 Spinorama

2,83v @1m – 1/6 oct. Smoothing



5.1. Directivity Index

1/6 oct. Smoothing

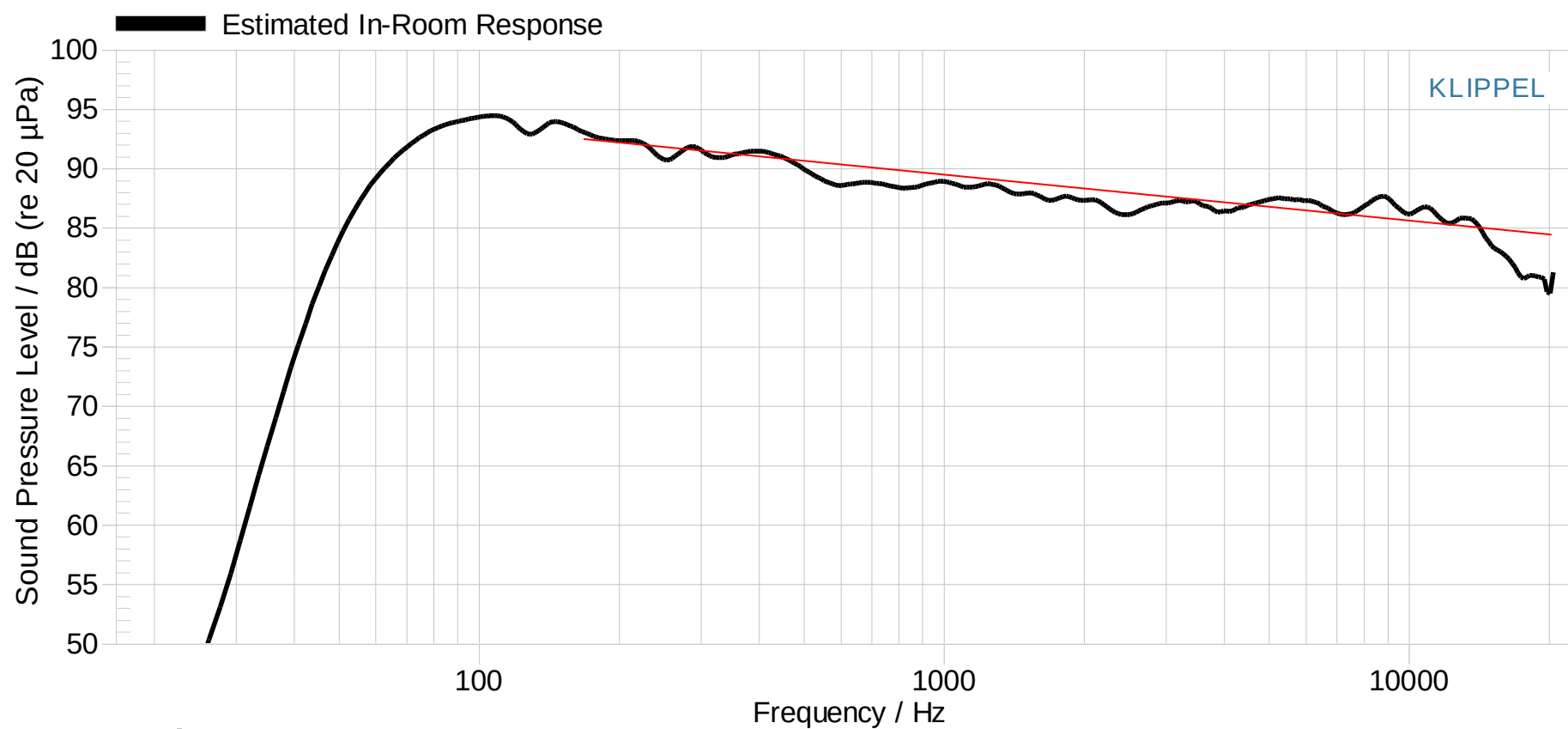


5.2. In-Room response

1/6 oct. Smoothing

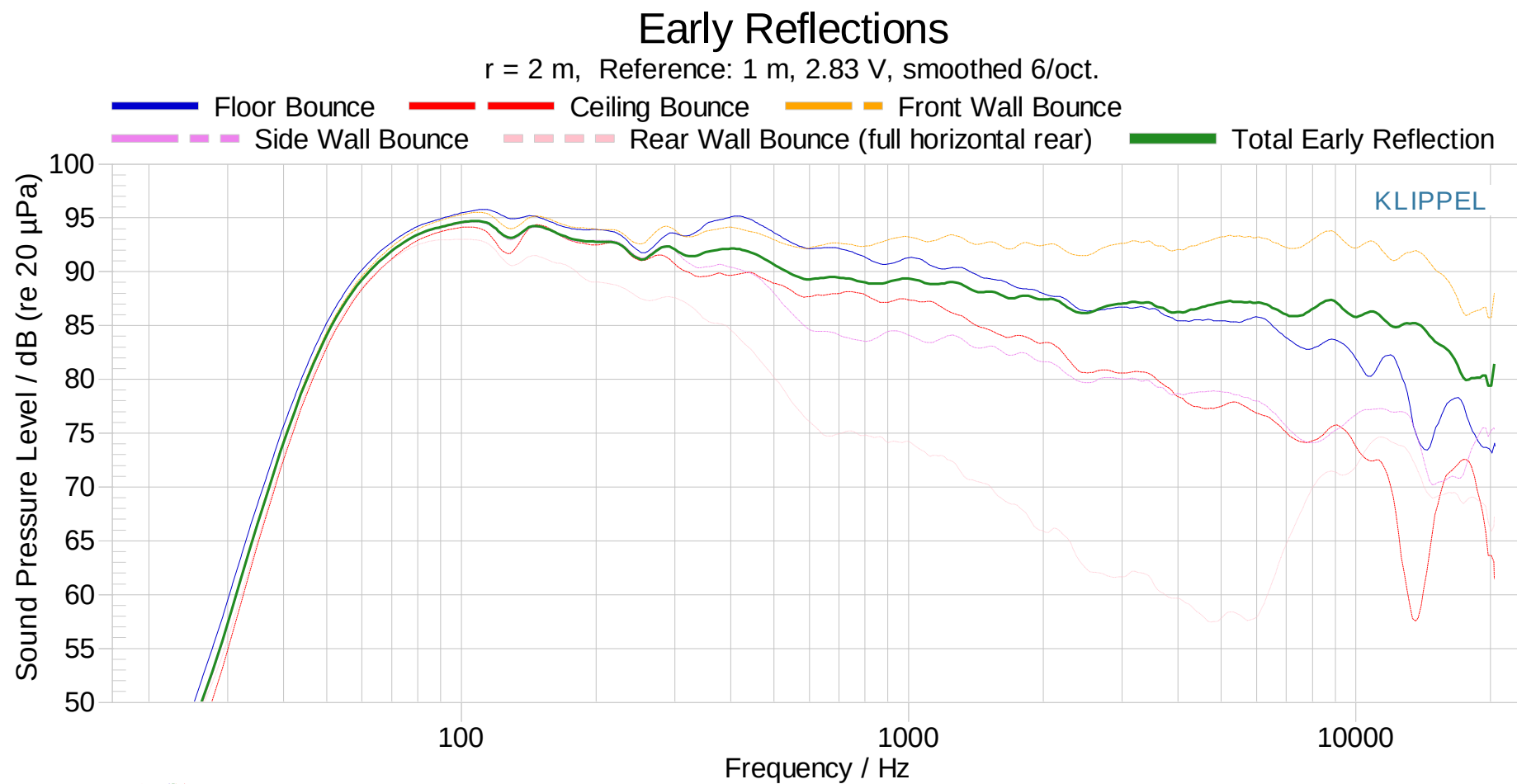
Estimated In-Room Response

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



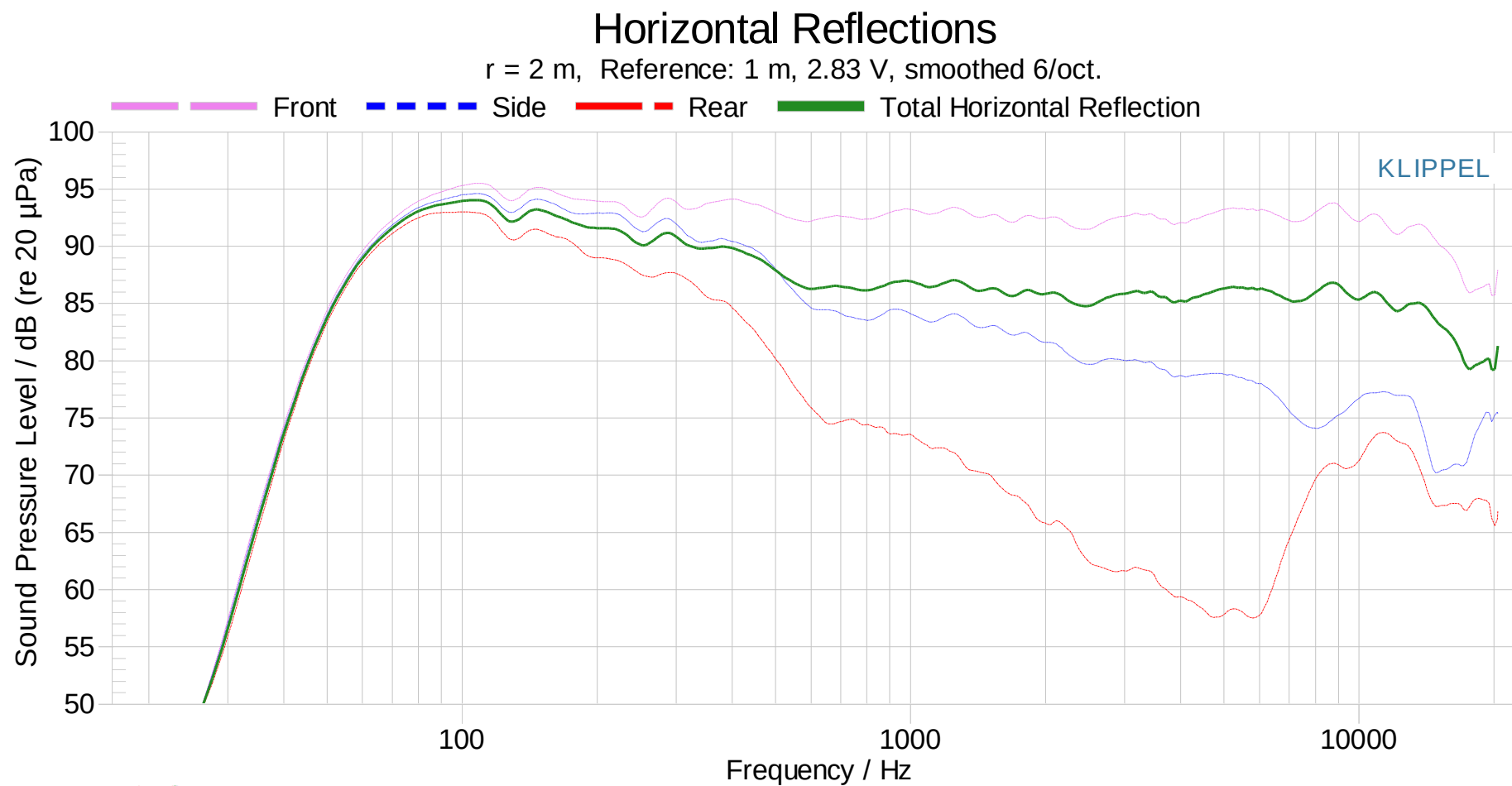
5.3. Early reflections

1/6 oct. Smoothing



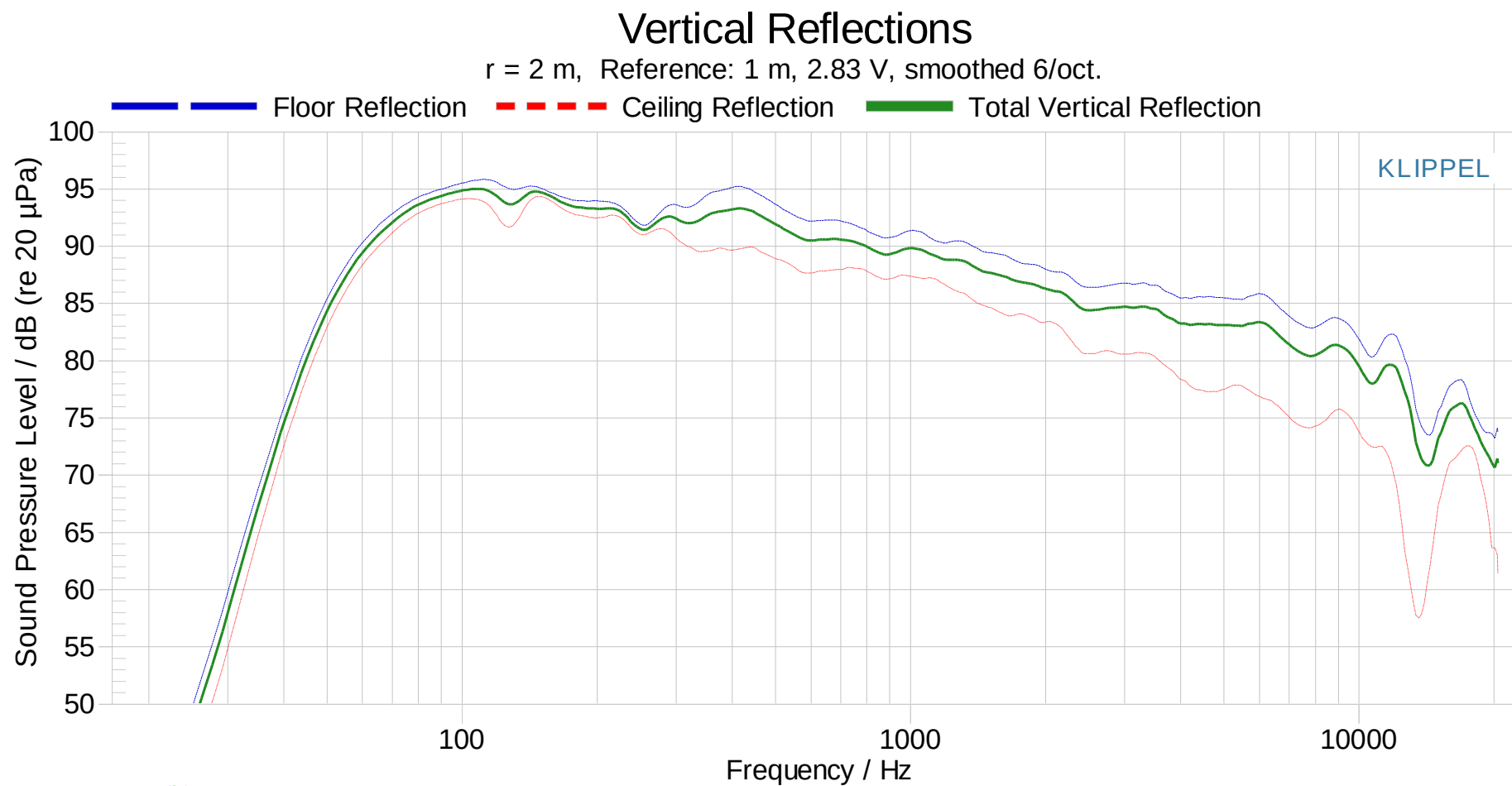
5.4. Horizontal Reflections

1/6 oct. Smoothing



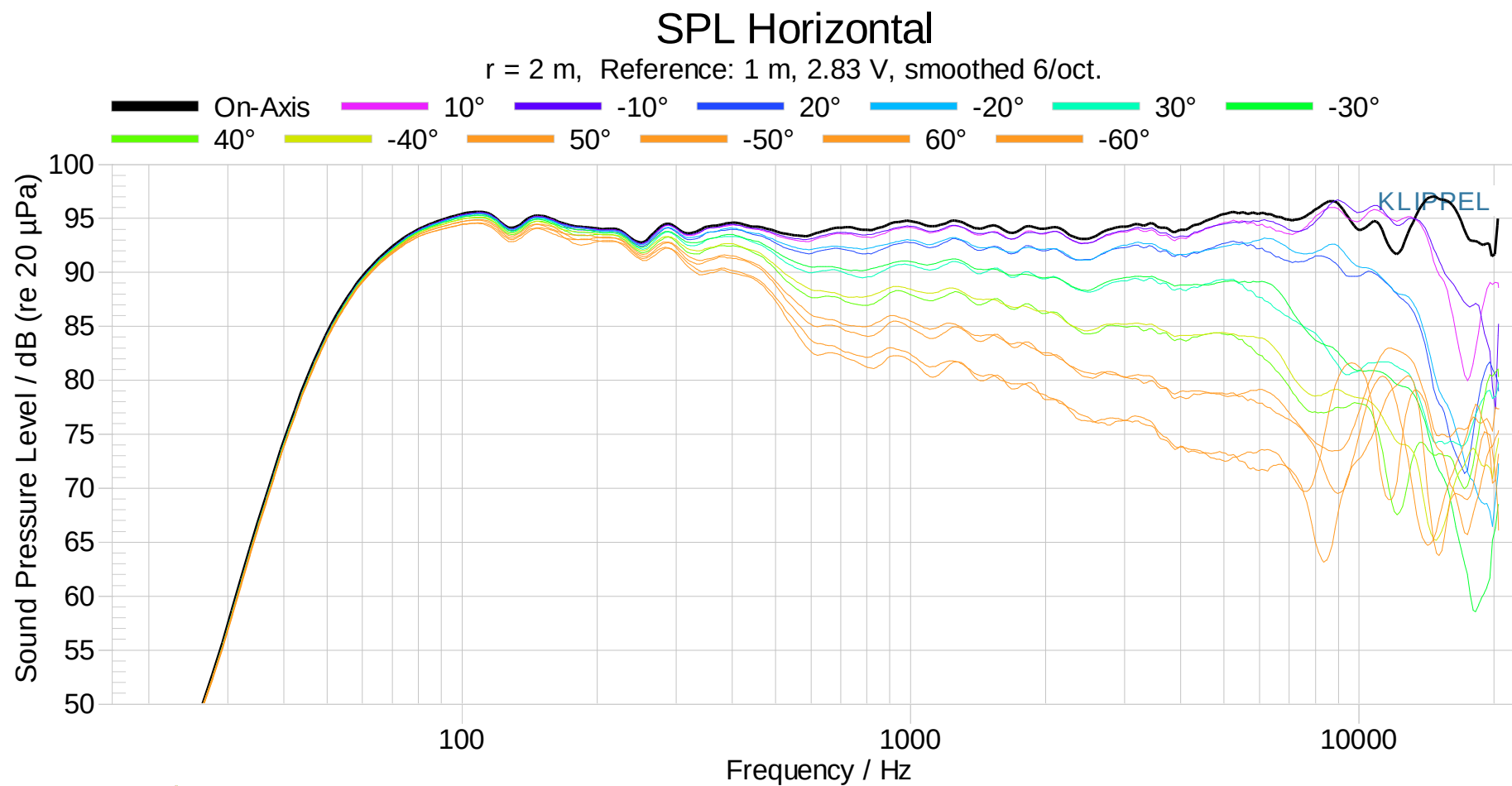
5.5. Vertical Reflections

1/6 oct. Smoothing



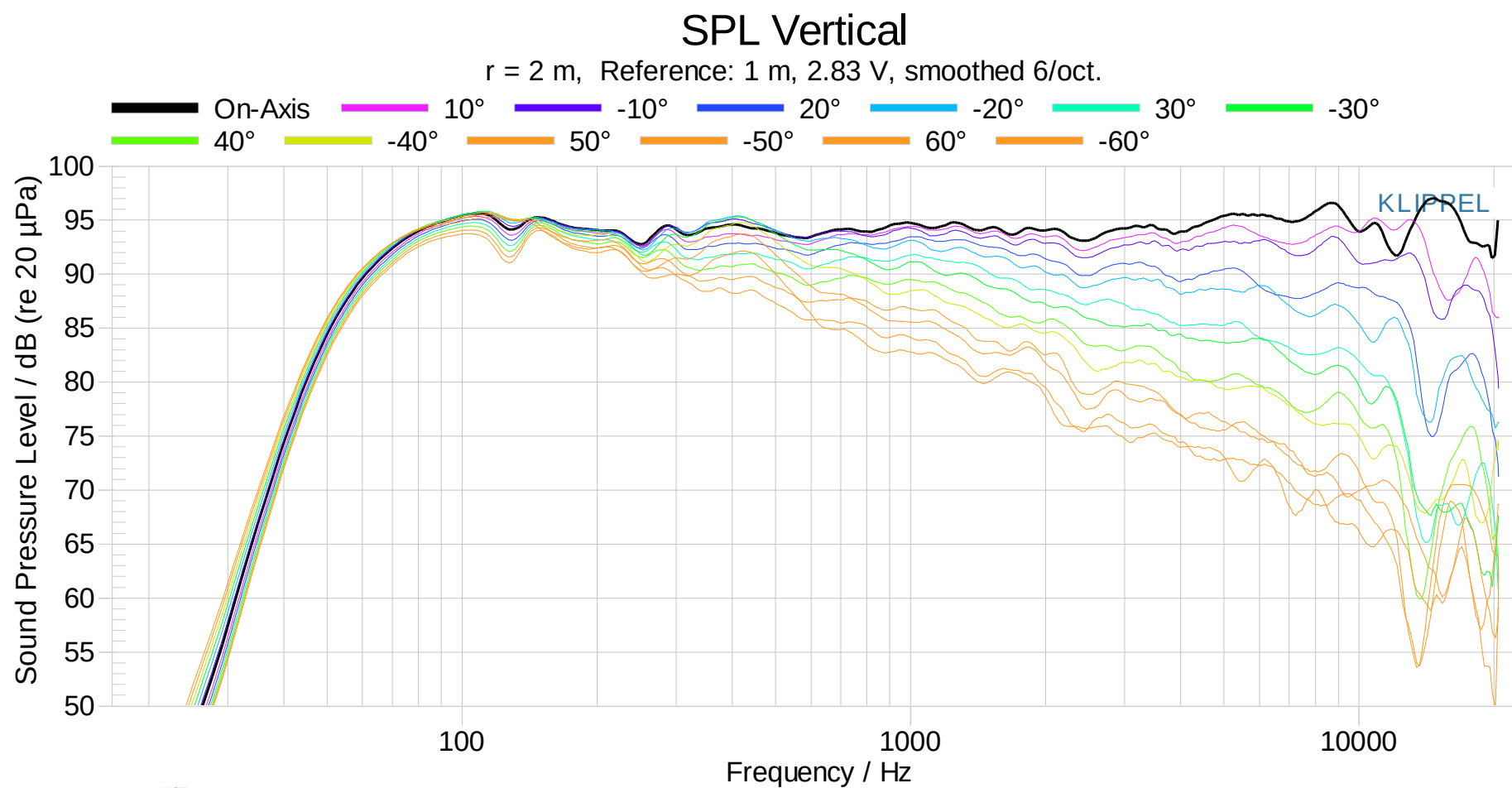
5.6. Horizontal Frequency Response

1/6 oct. Smoothing



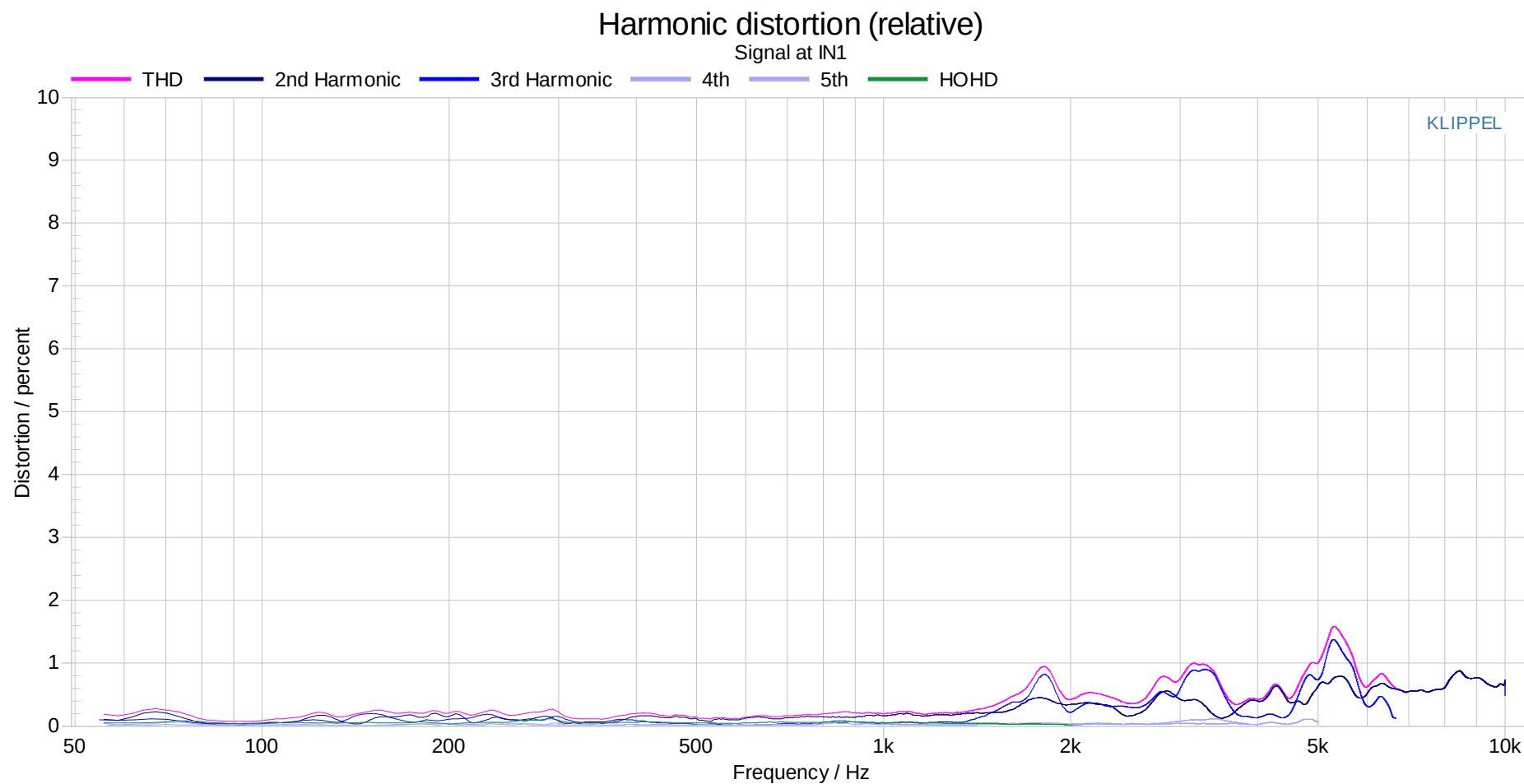
5.7. Vertical Frequency Response

1/6 oct. Smoothing



6. Harmonic Distortion

1/6 oct. Smoothing – +7dBu Stimulus



7. MTON Max SPL – 1s Stimulus

7.1. Results

Information	
Information	Compression limit reached.
Information	Multi-tone distortion limit reached.

Results of last passed measurement

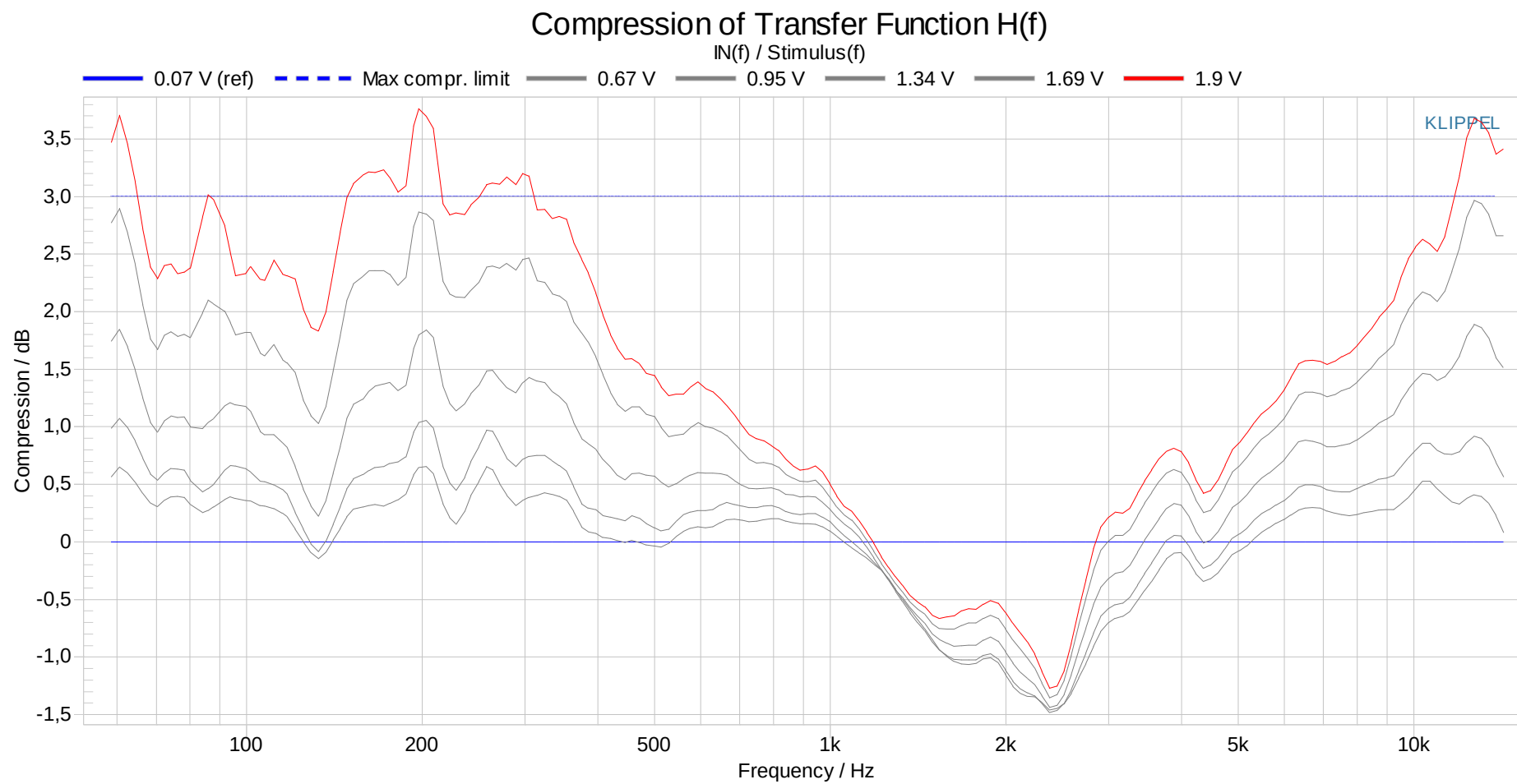
Parameter	Value	Unit	Description
$U_{\max}$	1.69	V	Root mean square of stimulus.
$SPL_{\max}$	124.6	dB	Sum level of fundamentals in microphone signal.
Eff. Freq. Range	59 - 14234	Hz	Effective frequency range (freq. response > SPL value - 10 dB).
$C_{\max}$	2.97	dB	Max compression in the frequency range 59 - 13828 Hz.
$RMD_{\max}$	-15.92 (16)	dB (%)	Maximum multi-tone distortion of microphone signal relative to mean value.
TMDR	-11.52 (26.6)	dB (%)	Total multi-tone distortion ratio of microphone signal.

Stimulus properties

Parameter	Value	Unit	Description
$f_{\min}$	58.59	Hz	Lowest multi-tone frequency line
$f_{\max}$	14234.38	Hz	Highest multi-tone frequency line
t	0.51	s	Signal duration
K	3	-	Kurtosis
C	12.28	dB	Crest factor

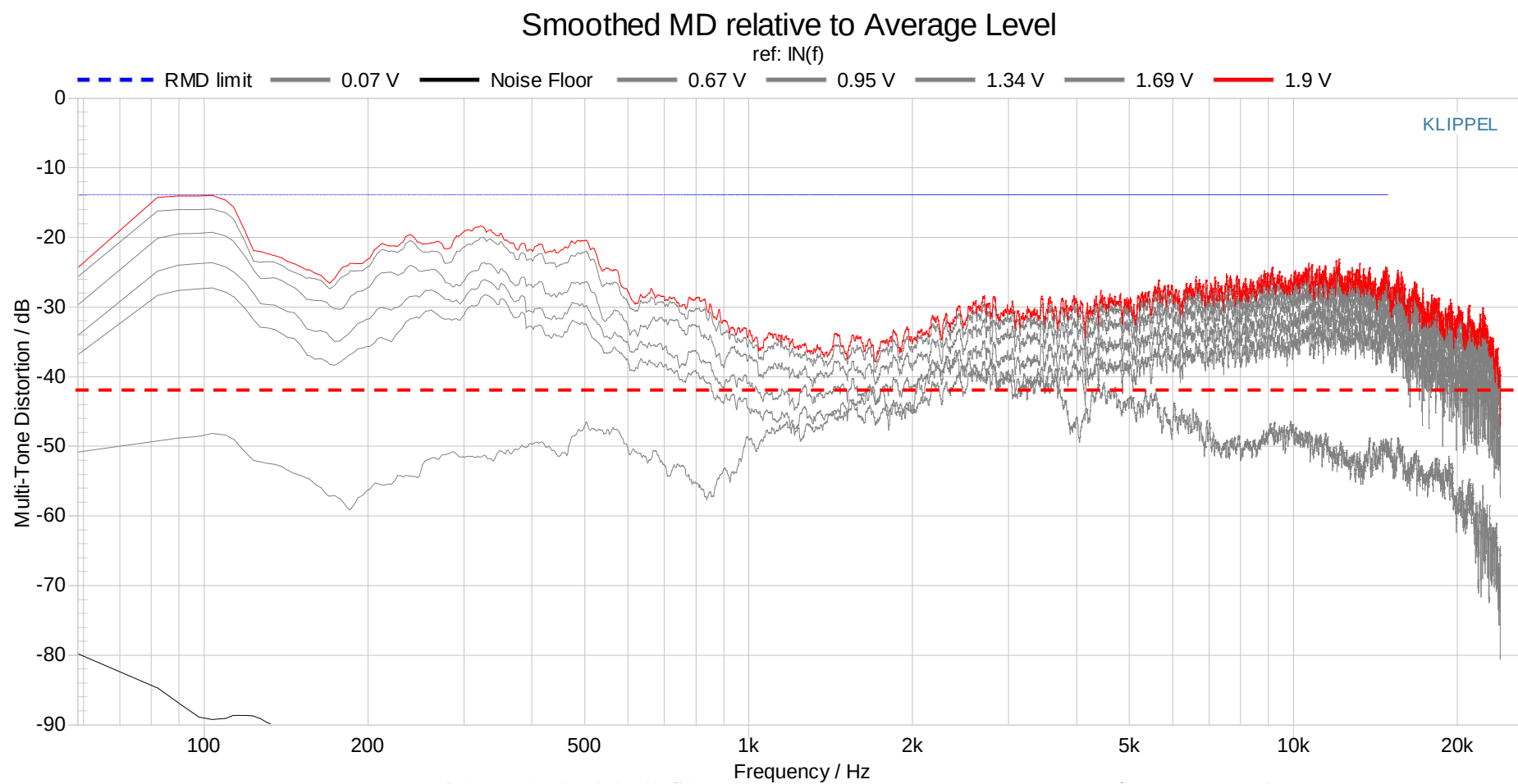
7.2. Compression Chart

-32dB Voltage Values – 1/6 Smoothing



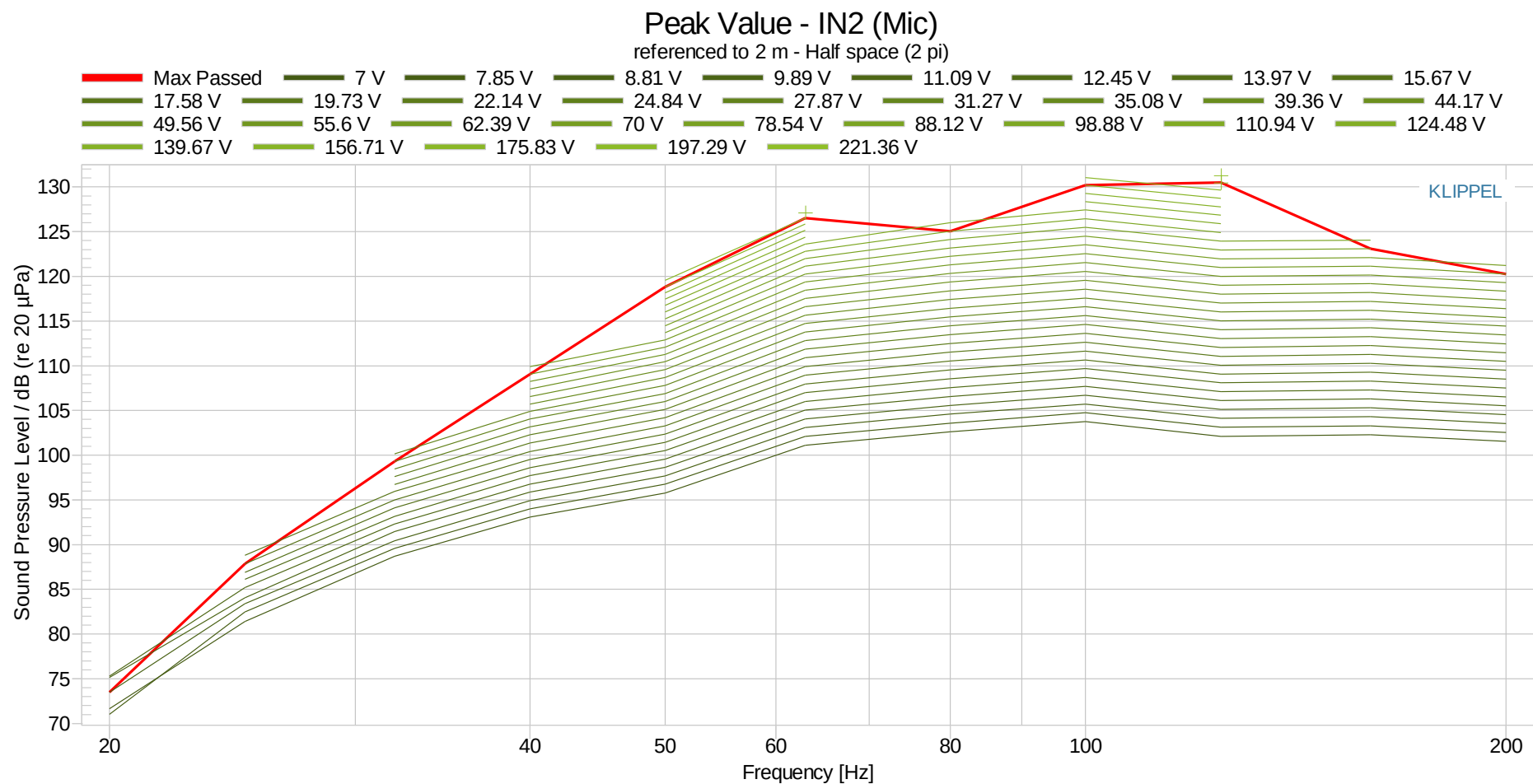
7.3. Multi Tone Distortion Chart

-32dB Voltage Values – No Smoothing

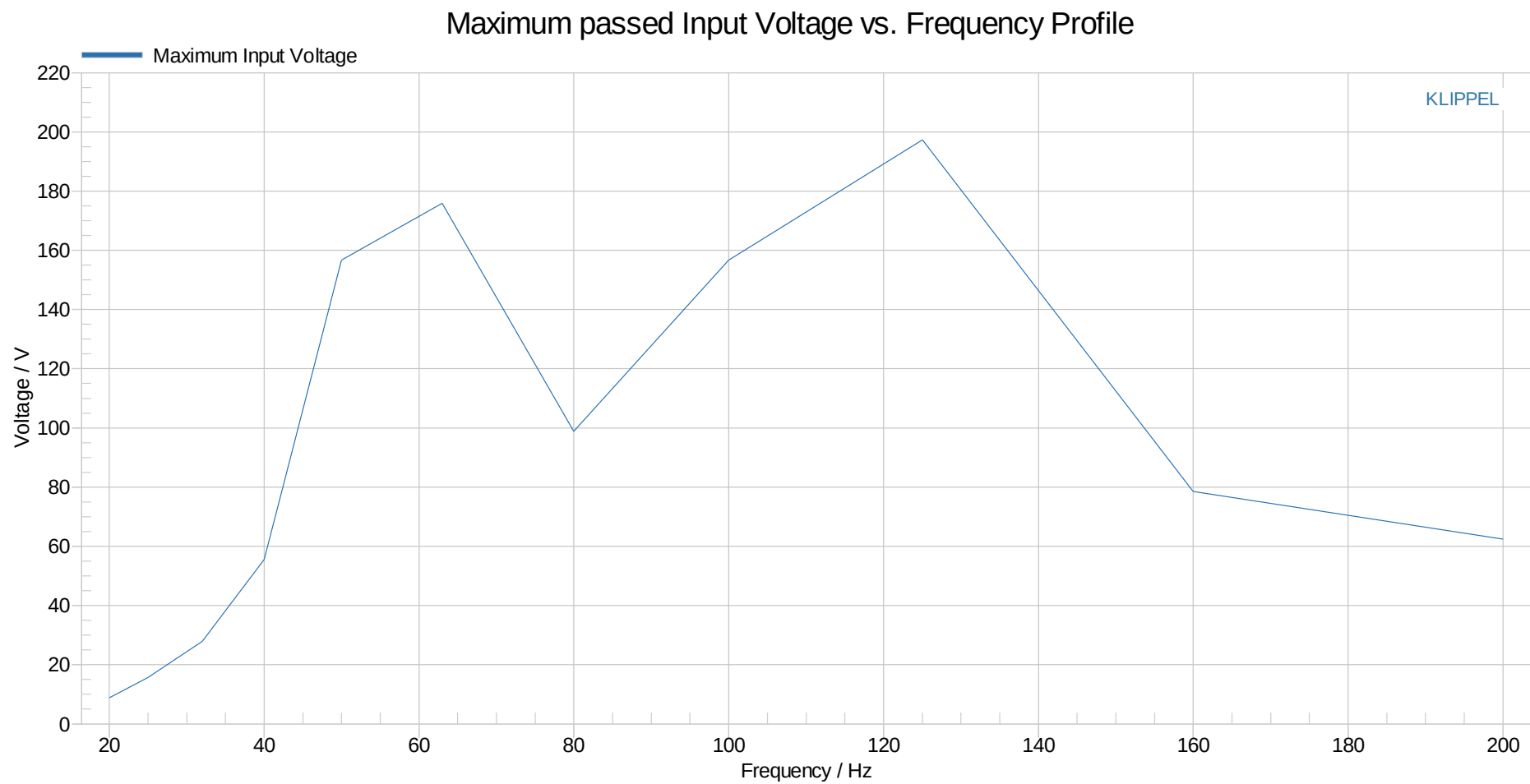


8. CEA2010B

8.1. Max Peak SPL



8.2. Max Peak Voltage



8.3. THD on Burst

