



Report of THE6 PRO PASSIVE CEILING

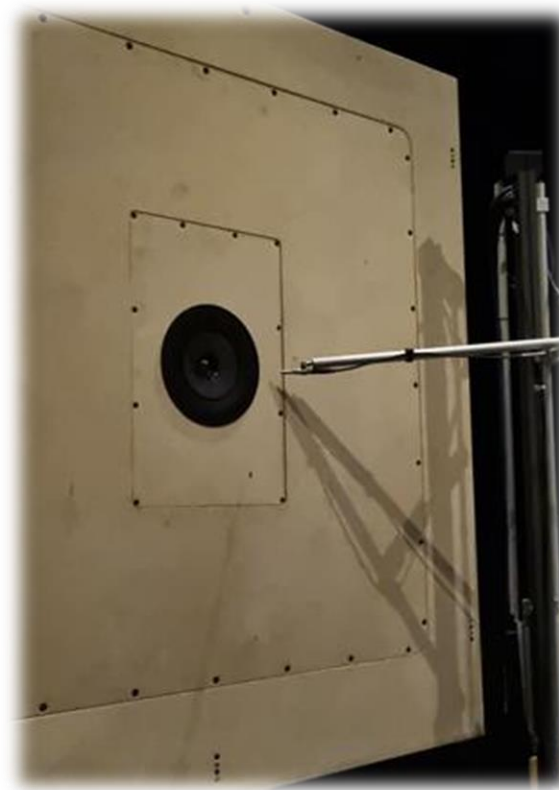
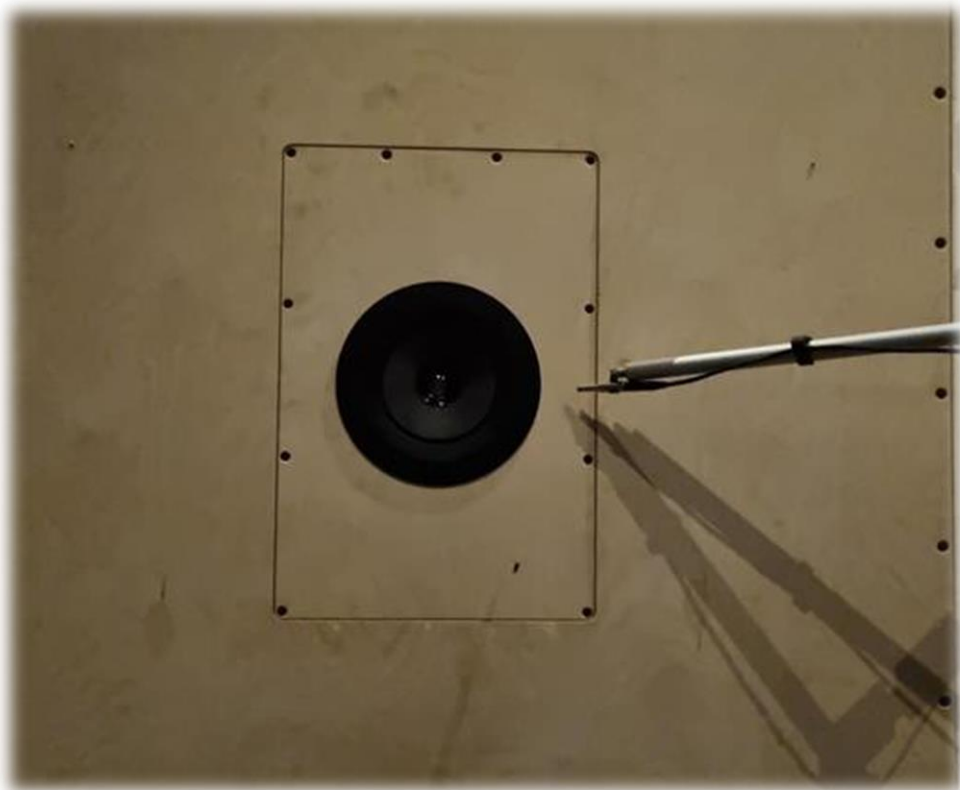
ASCENDO

Date	Author	Changes	Version
20/10/2023	GL		V1
30/10/2023	GL	Impedence Curve Added	V2

Summary

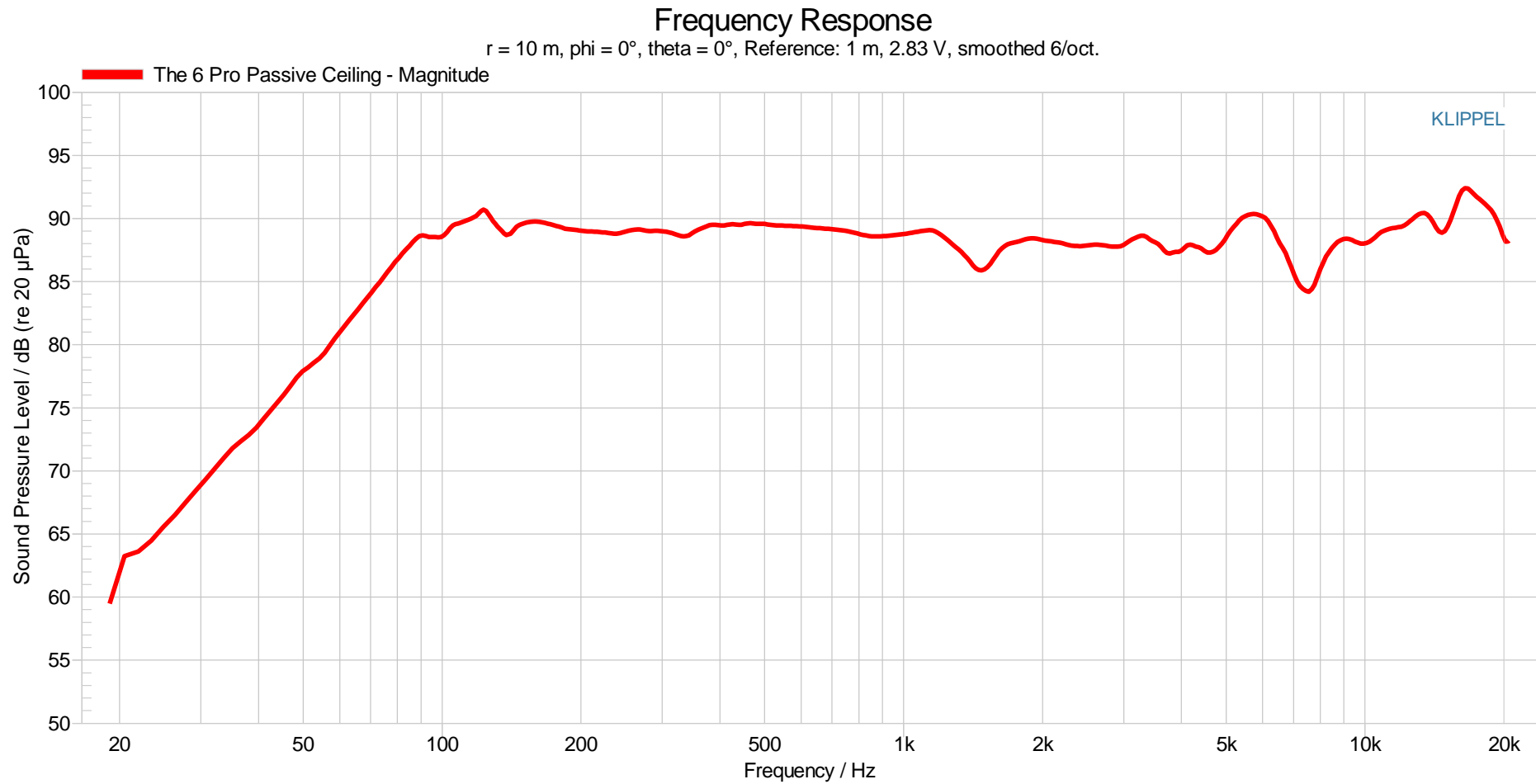
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1. Pictures of measurements



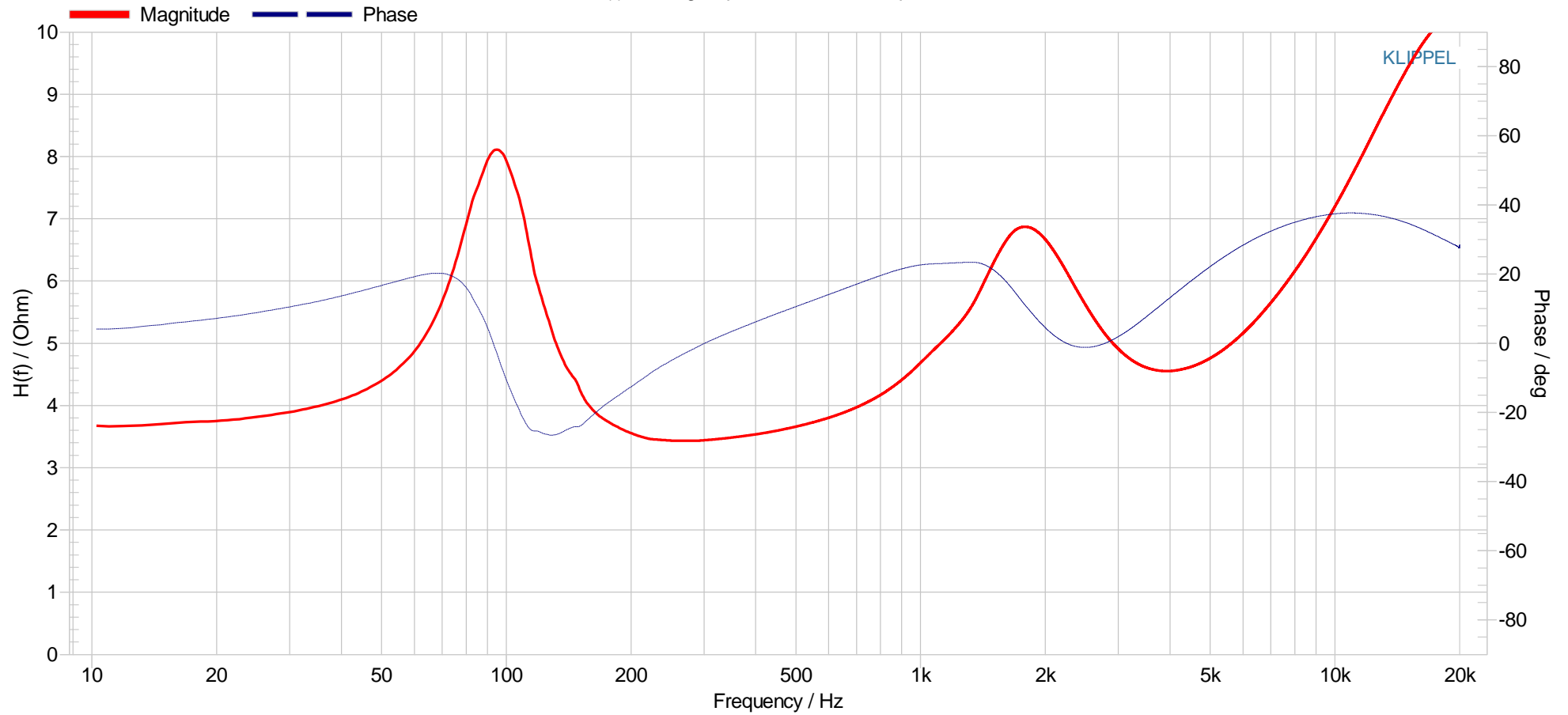
2. Frequency Response

2,83v @1m – 1/6 oct. Smoothing



3. Impedance Curve

Magnitude of transfer function $H(f)$
 $H(f) = \text{Voltage Speaker 1} / \text{Current Speaker 1}$



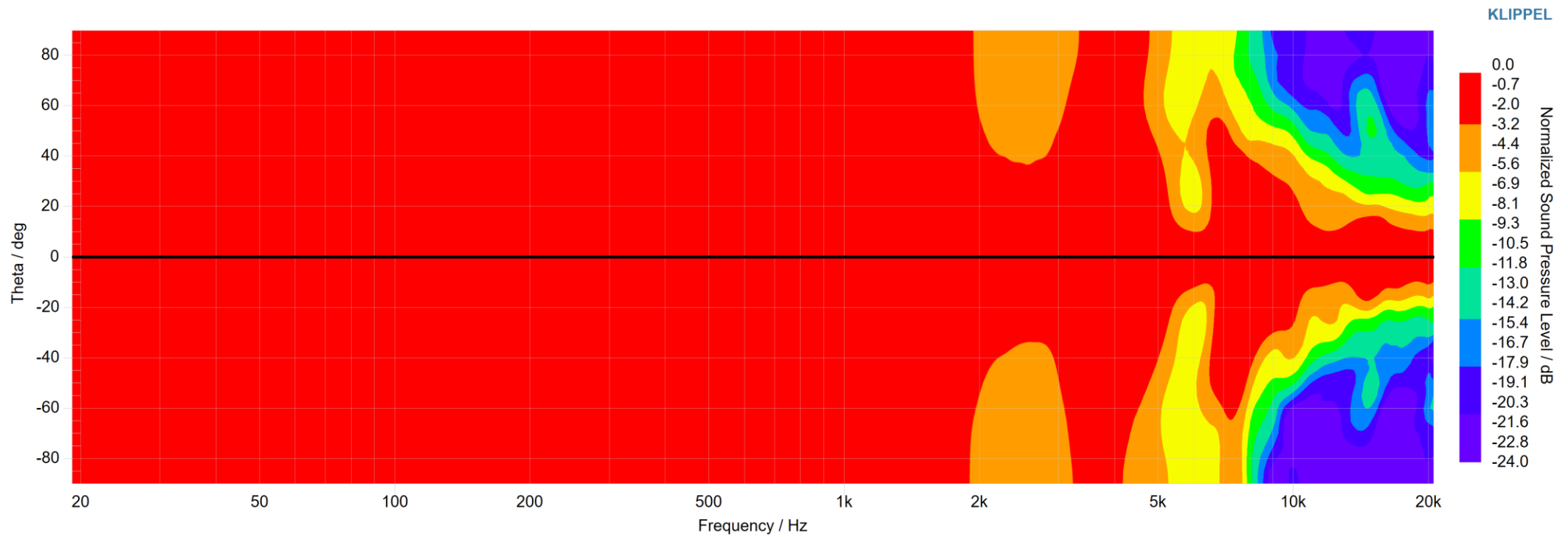
4. Contour Plot

4.1. Horizontal

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

Contour Plot - Horizontal

$r = 10$ m, $\phi = 90^\circ$, normalized to On-Axis



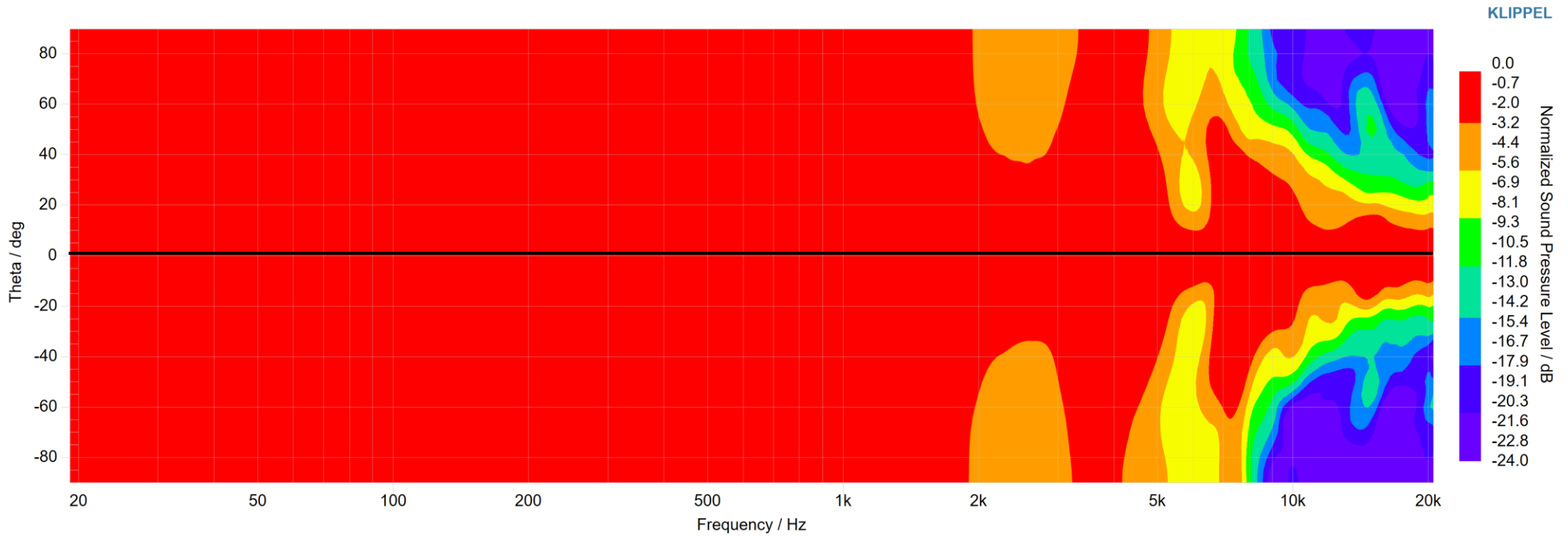
Normalized on Axis – 1/6 oct. Smoothing

4.2. Vertical

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

Contour Plot - Vertical

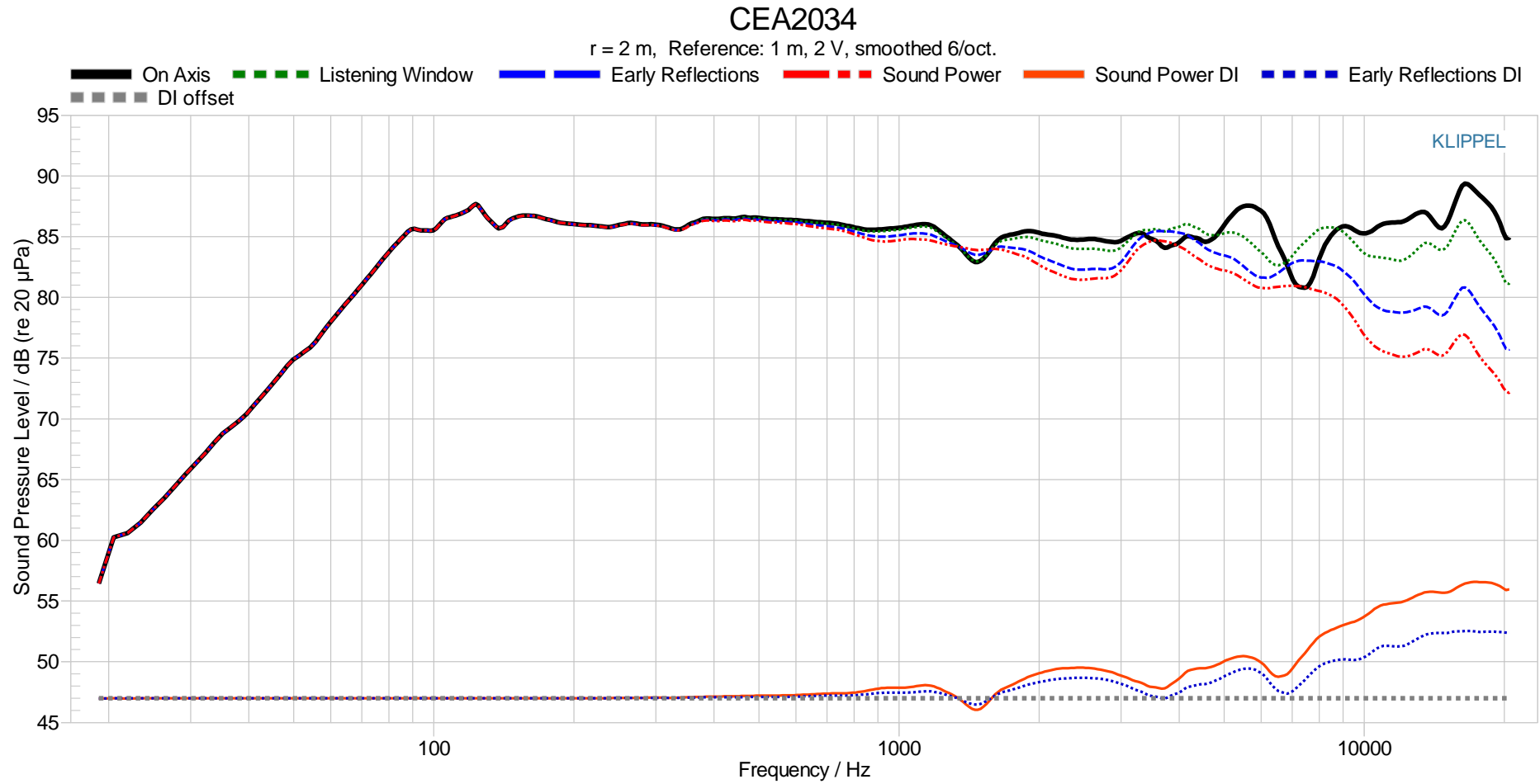
$r = 10$ m, $\phi = 0^\circ$, normalized to On-Axis



Normalized on Axis – 1/6 oct. Smoothing

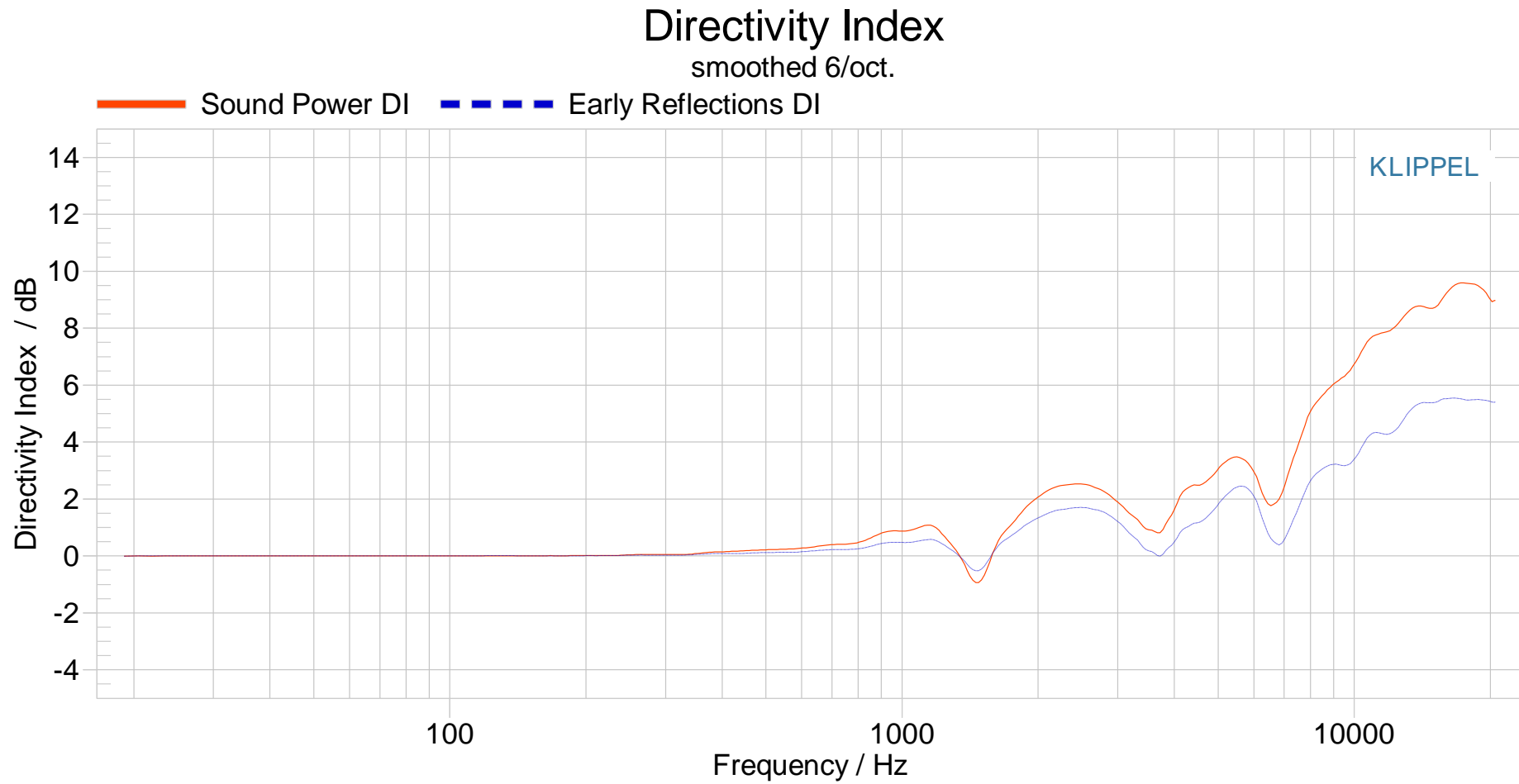
5. CEA2034 Spinorama

2,83v @1m – 1/6 oct. Smoothing



5.1. Directivity Index

1/6 oct. Smoothing

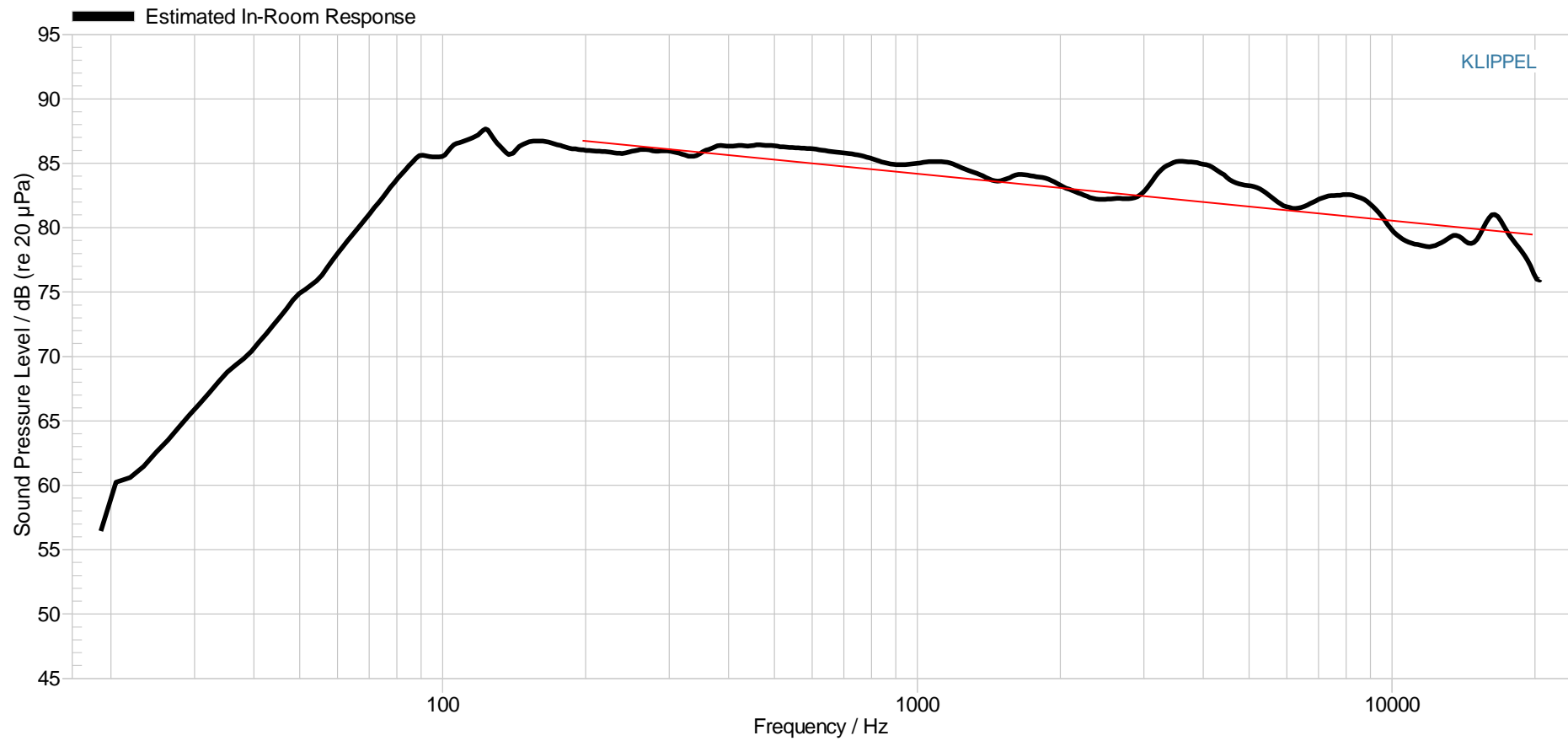


5.2. In-Room response

1/6 oct. Smoothing

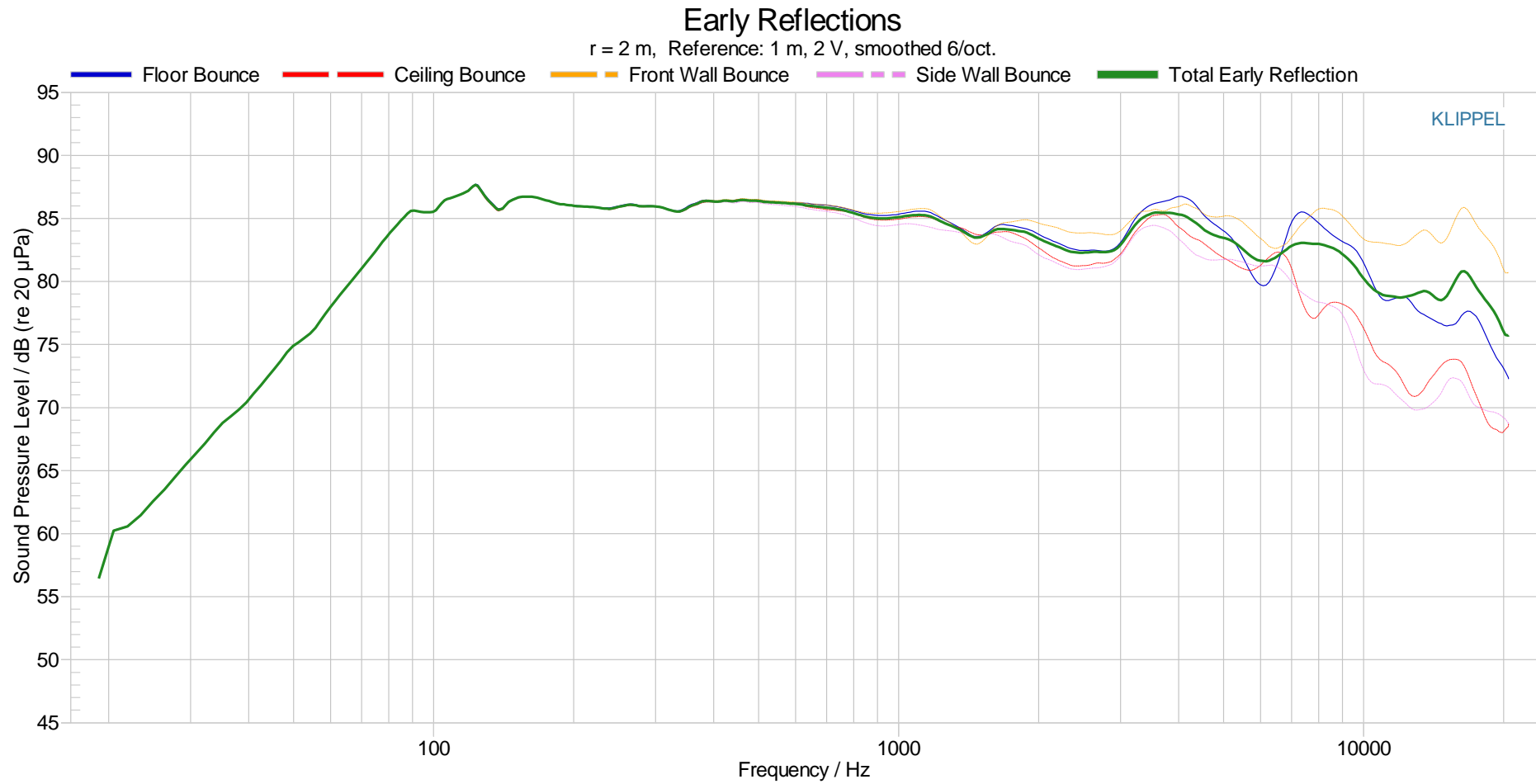
Estimated In-Room Response

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



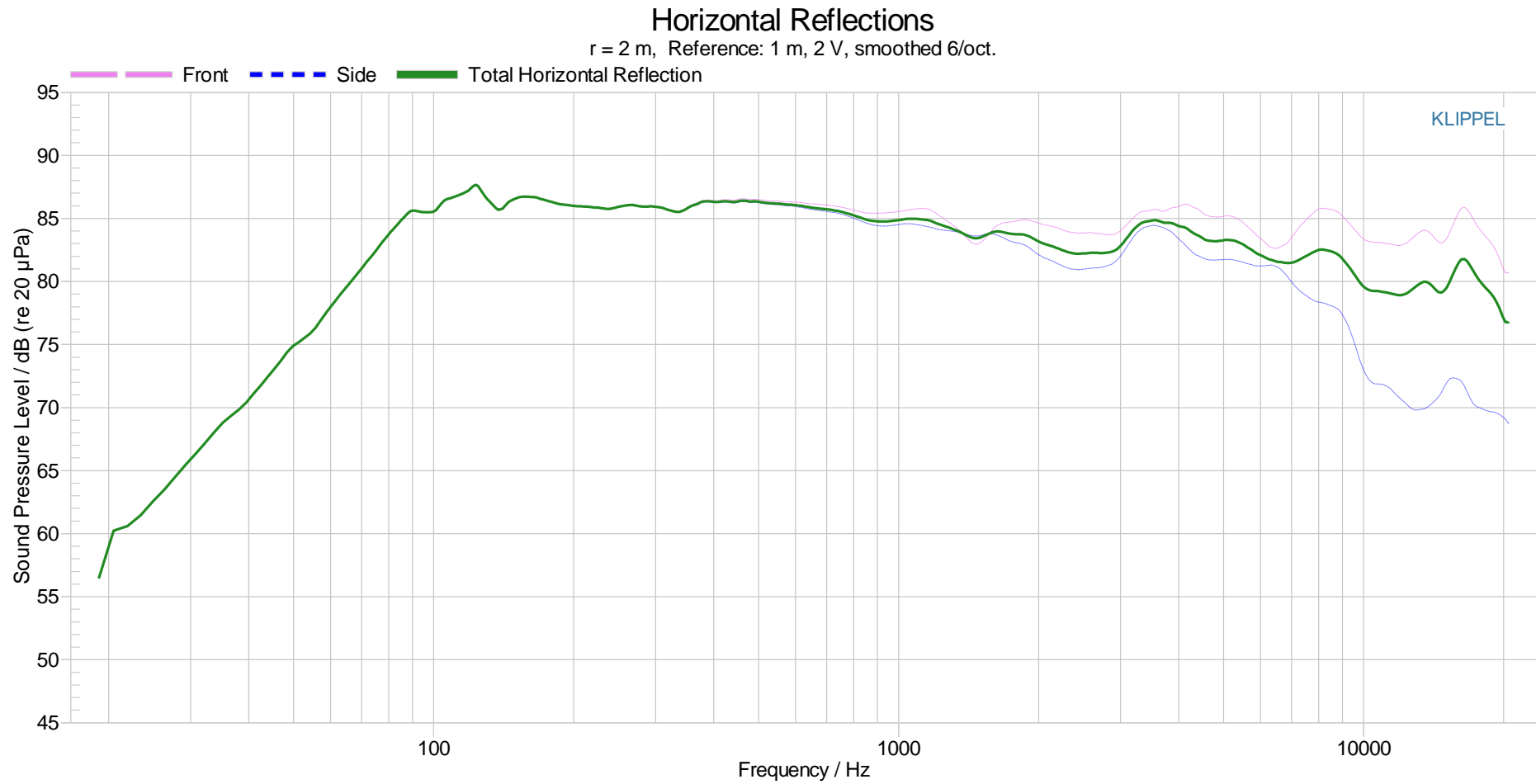
5.3. Early reflections

1/6 oct. Smoothing



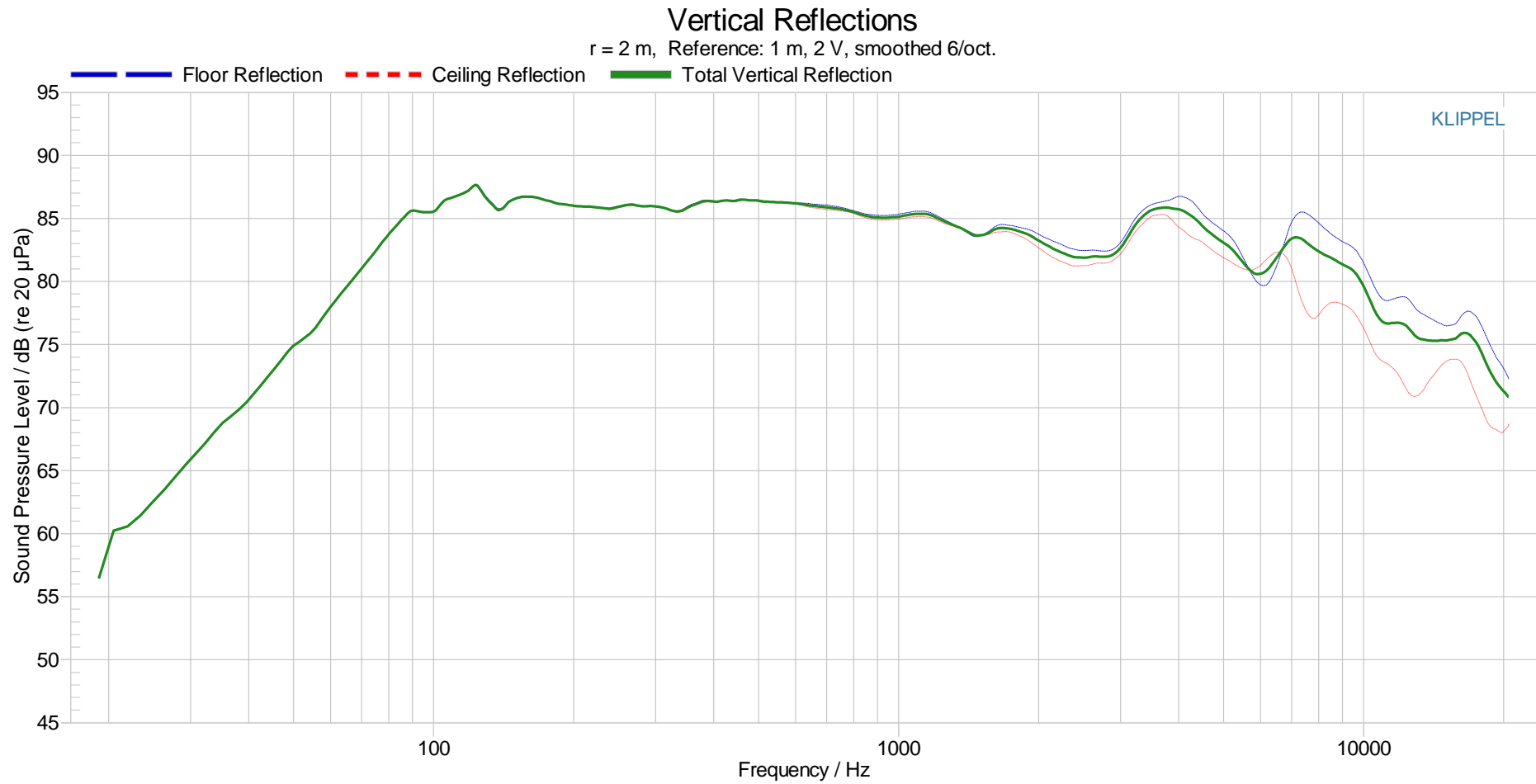
5.4. Horizontal Reflections

1/6 oct. Smoothing



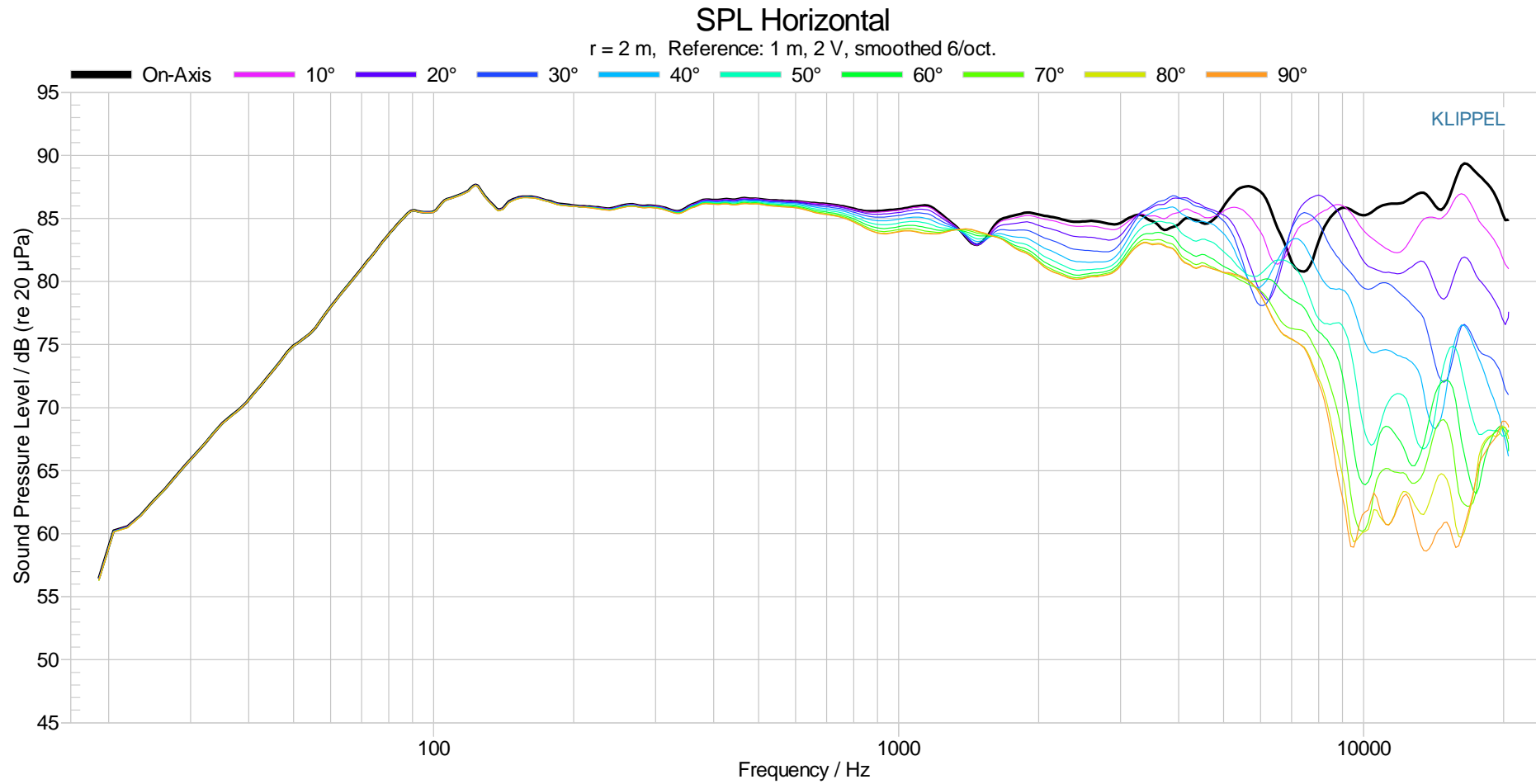
5.5. Vertical Reflections

1/6 oct. Smoothing



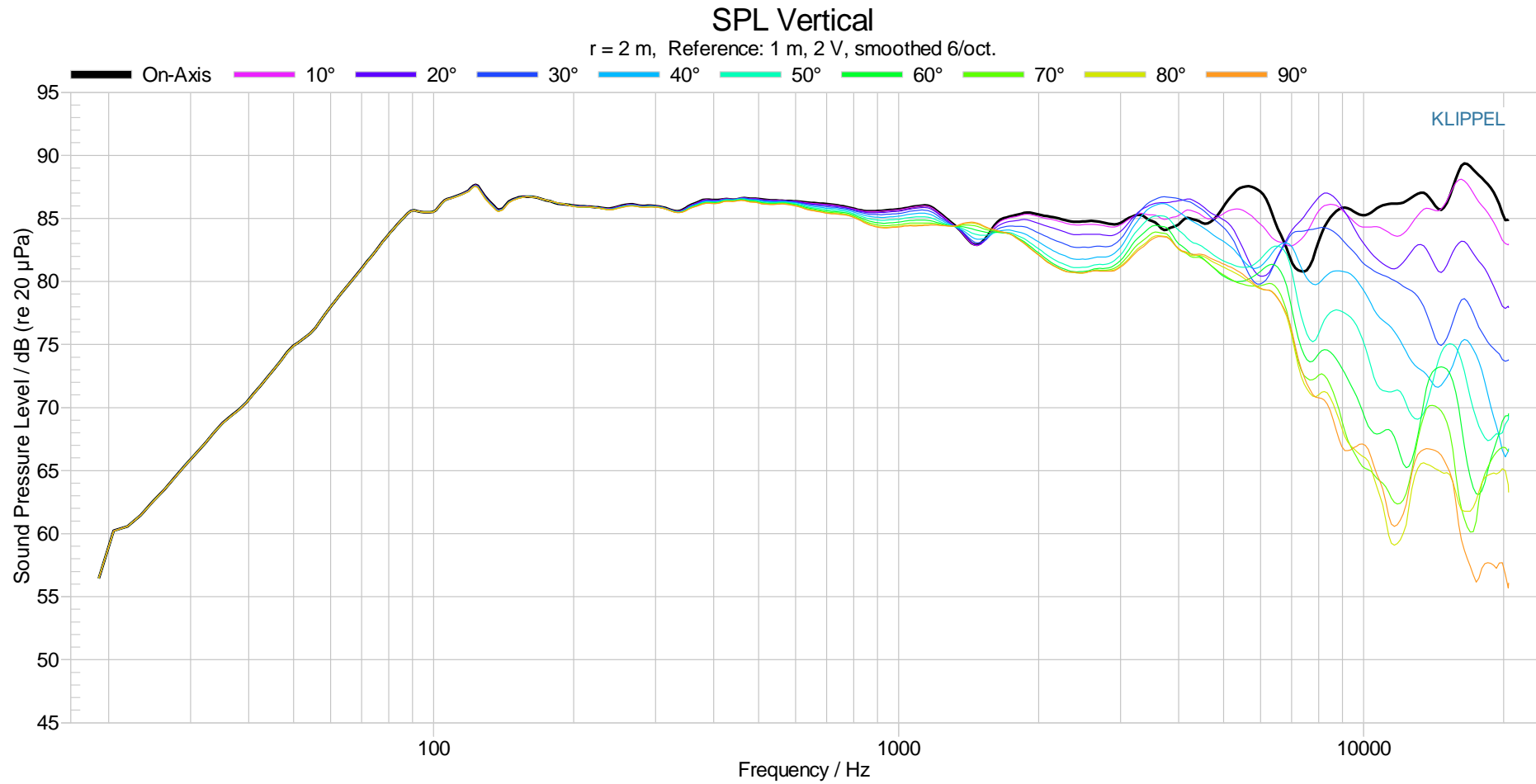
5.6. Horizontal Frequency Response

1/6 oct. Smoothing



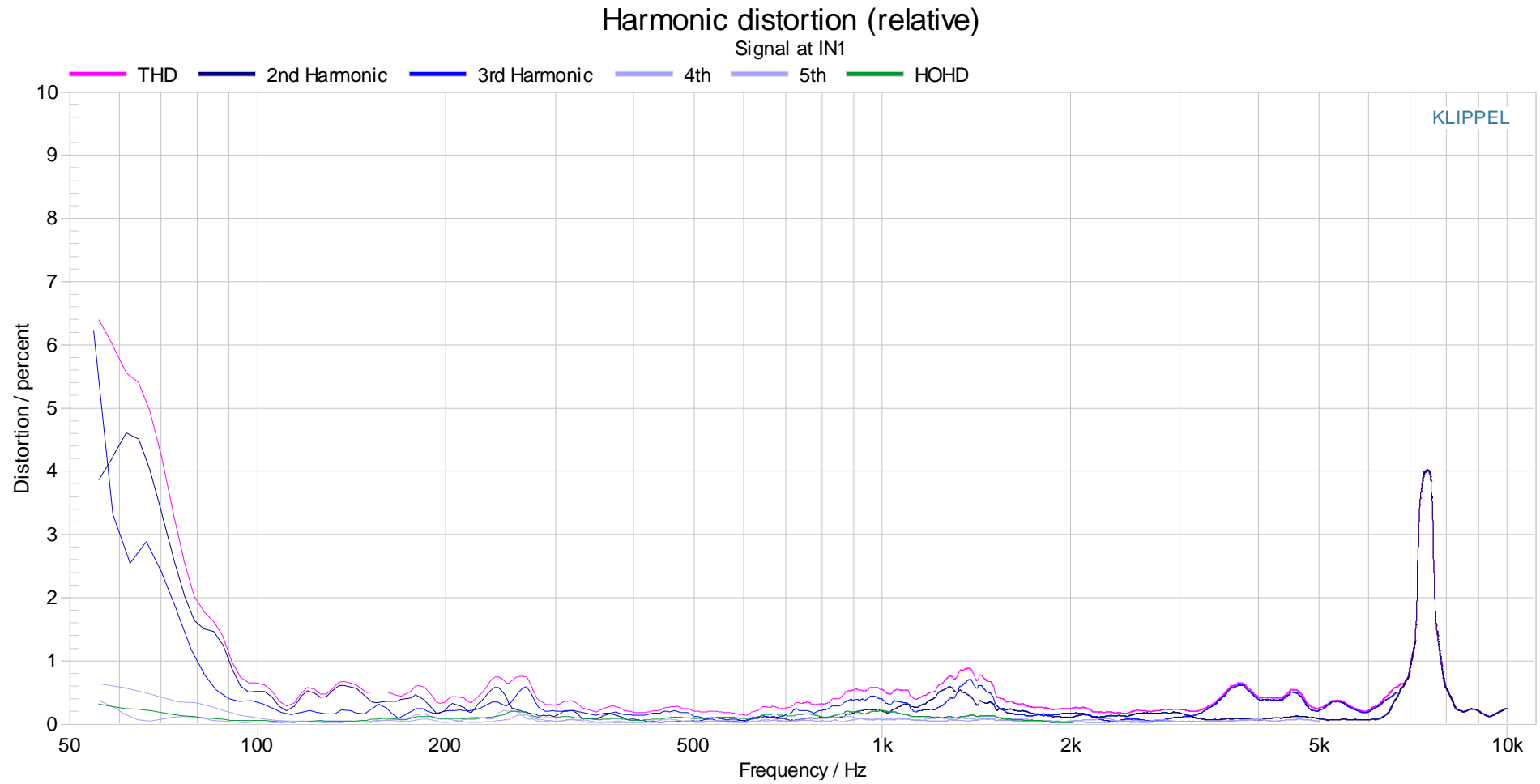
5.7. Vertical Frequency Response

1/6 oct. Smoothing



6. Harmonic Distortion

1/6 oct. Smoothing – +7dBu Stimulus



7. MTON Max SPL – 1s Stimulus

7.1. Results

Results of last passed measurement

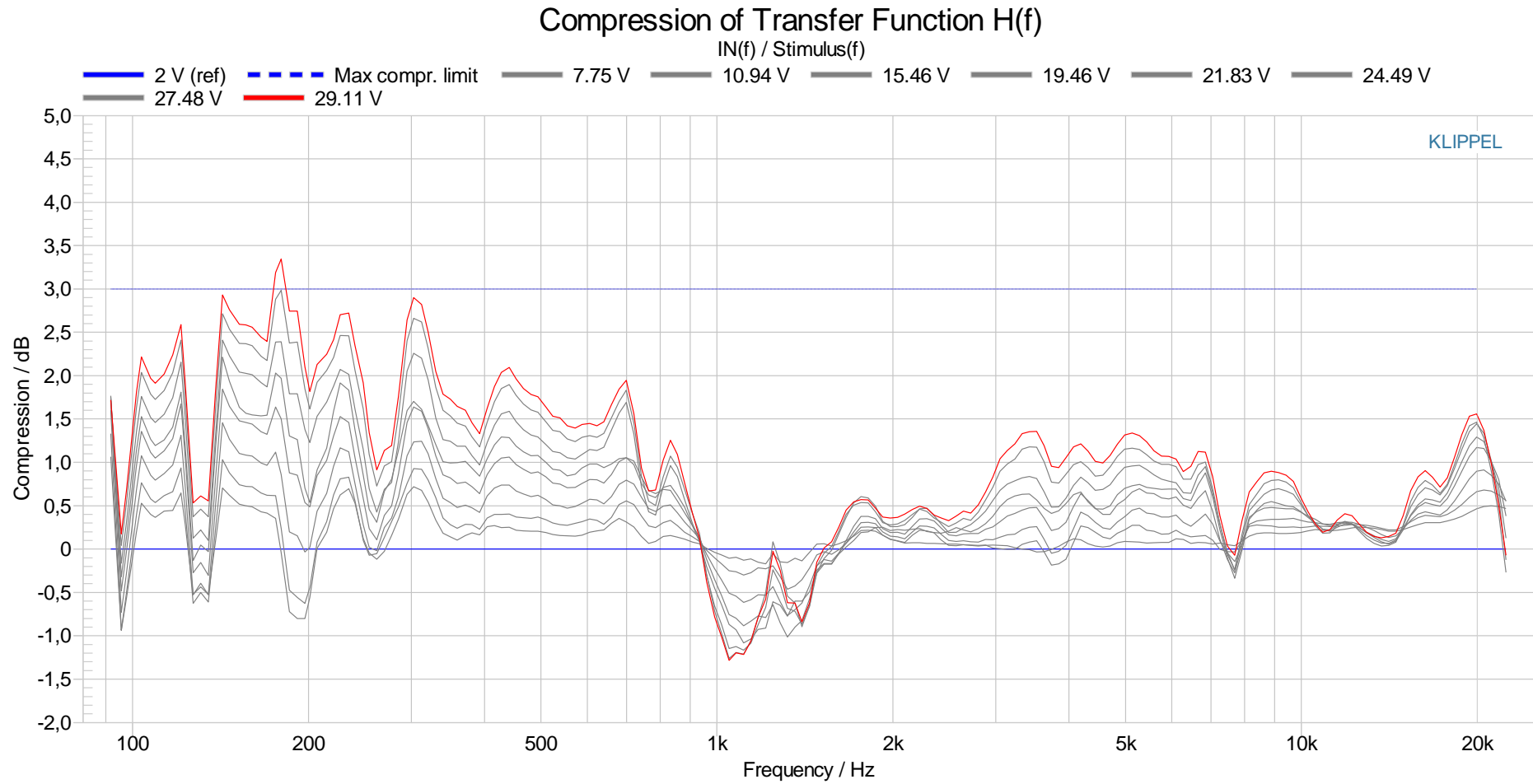
Parameter	Value	Unit	Description
U_{\max}	27.48	V	Root mean square of stimulus.
SPL_{\max}	103.68	dB	Sum level of fundamentals in microphone signal.
C_{\max}	2.98	dB	Max compression in the frequency range 92 - 19945 Hz.
RMD_{\max}	-21.78 (8.1)	dB (%)	Maximum multi-tone distortion of microphone signal relative to mean value.
TMDR	-20.69 (9.2)	dB (%)	Total multi-tone distortion ratio of microphone signal.

Stimulus properties

Parameter	Value	Unit	Description
f_{\min}	91.8	Hz	Lowest multi-tone frequency line
f_{\max}	22386.72	Hz	Highest multi-tone frequency line
t	0.51	s	Signal duration
K	3.02	-	Kurtosis
C	12.63	dB	Crest factor

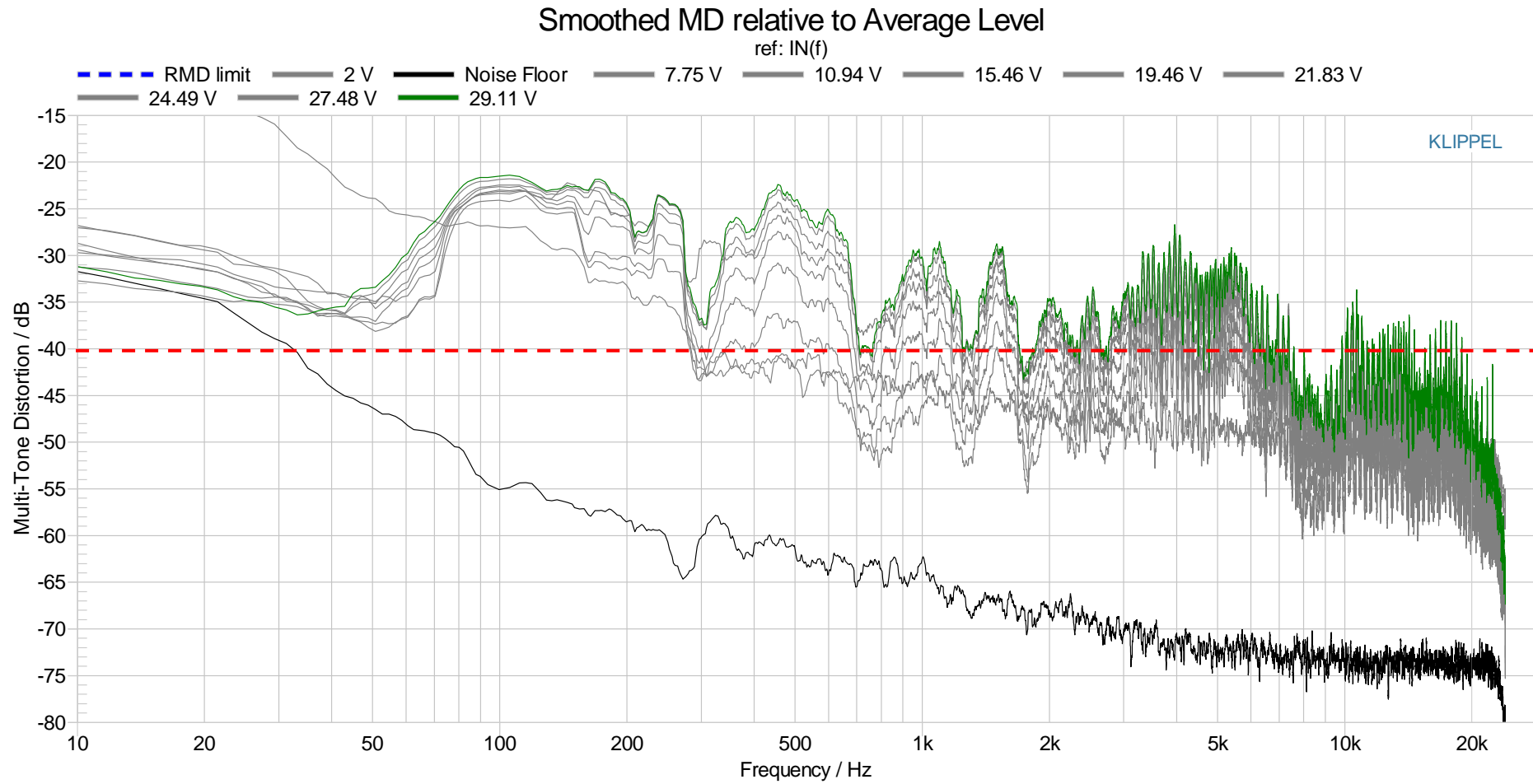
7.2. Compression Chart

-32dB Voltage Values – 1/6 Smoothing



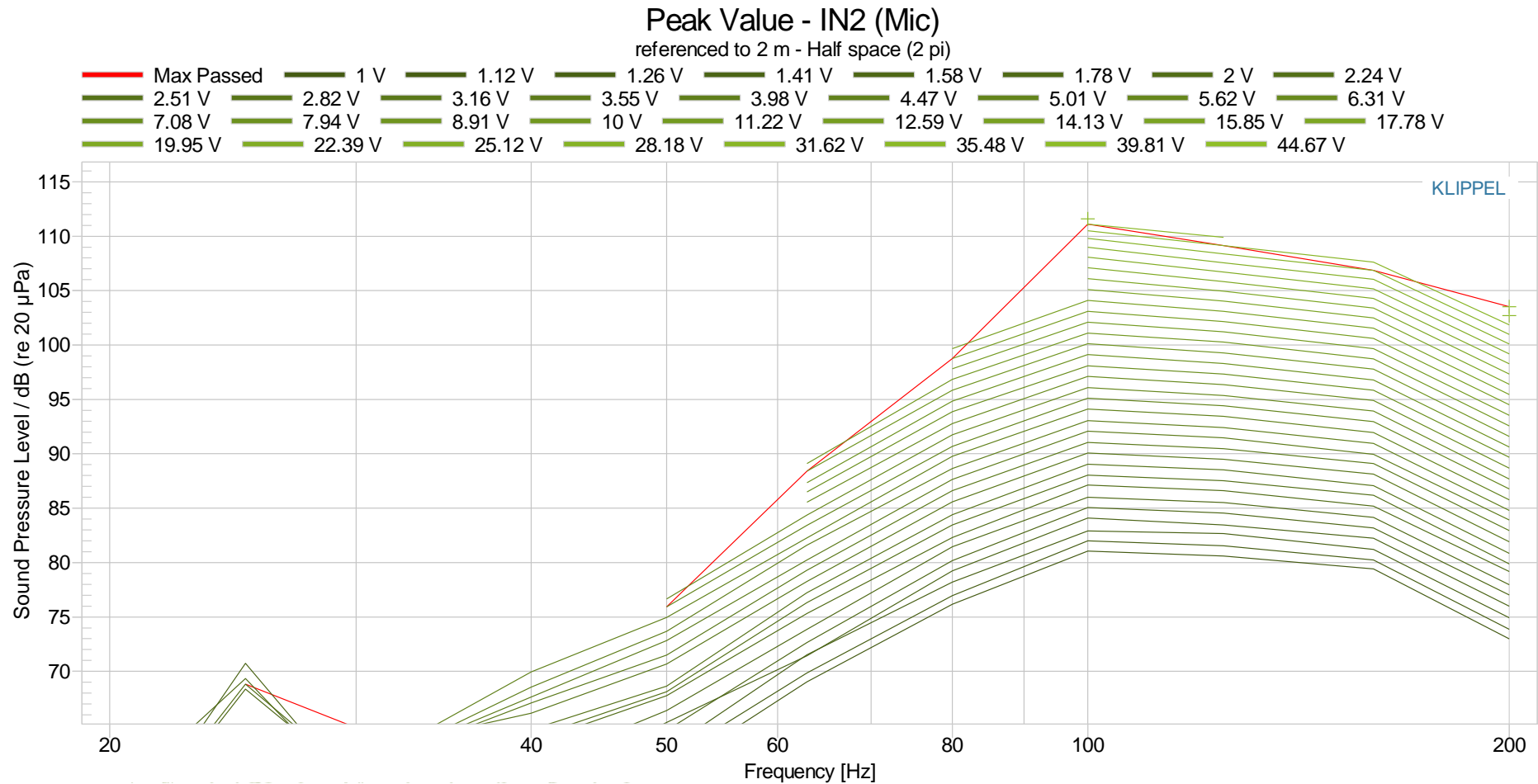
7.3. Multi Tone Distortion Chart

-32dB Voltage Values – No Smoothing



8. CEA2010B

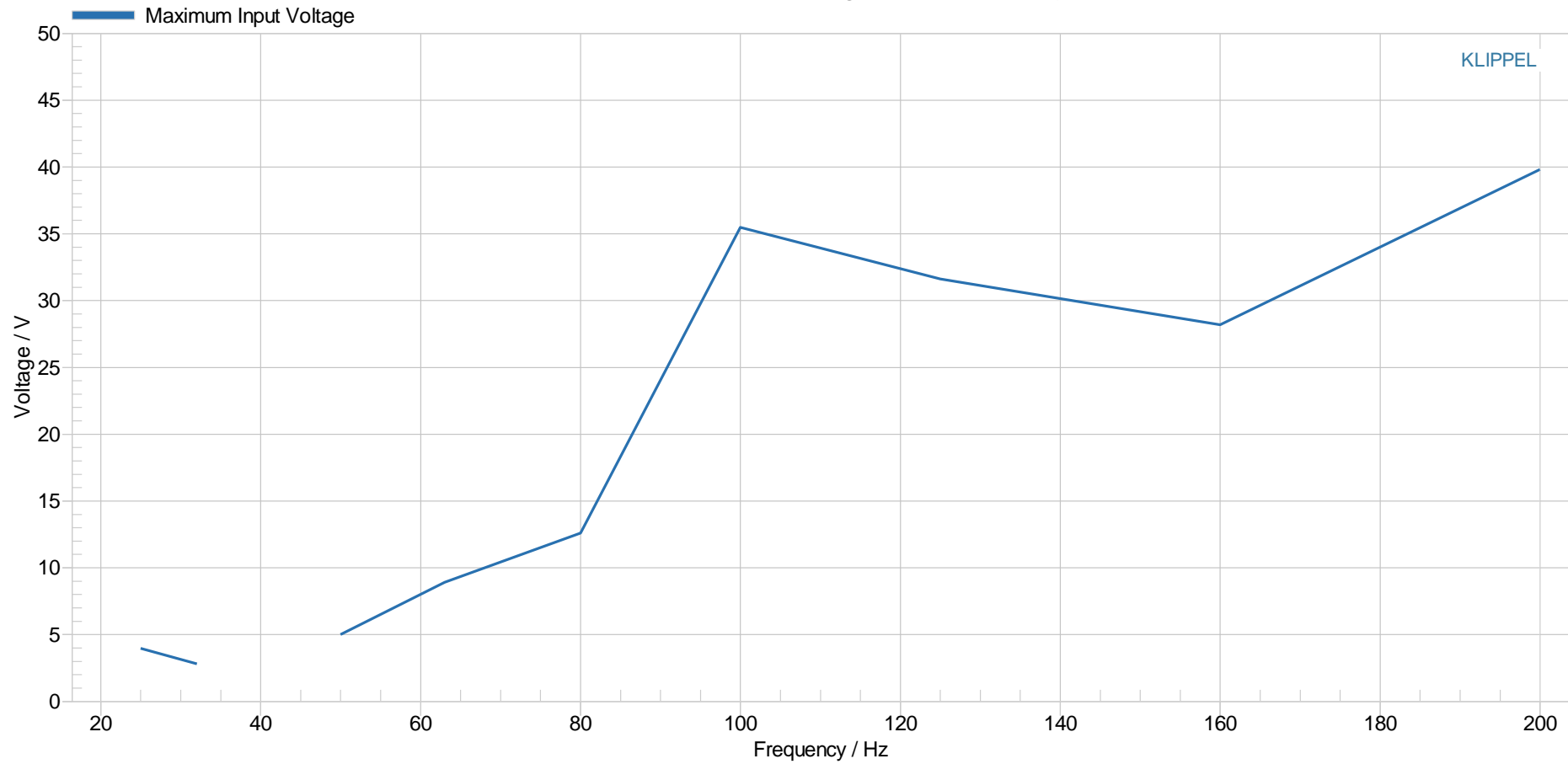
8.1. Max Peak SPL



x

8.2. Max Peak Voltage

Maximum passed Input Voltage vs. Frequency Profile



8.3. THD on Burst

