

31-band EQ values for selected FR targets and over-ear headphones v2

↓ HP model / dB→	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1K	1.25K	1.6K	2K	2.5K	3.15K	4K	5K	6.3K	8K	10K	12.5K	16K	20K		
Room gains:																																	
Bruel & Kjaer OptHF RG	2.5	2.7	2.9	3	3	3	3	2.9	2.8	2.7	2.5	2.2	2	1.8	1.6	1.5	1.1	0.9	0.6	0.3	0	-0.3	-0.5	-1.1	-1.2	-1.6	-2	-2.2	-2.6	-3.1	-3.6		
-1dB/oct room gain	5	4.7	4.5	4.1	3.8	3.5	3.2	2.8	2.6	2.1	1.9	1.5	1.1	0.8	0.5	0.2	-0.8	-0.5	-0.3	-1.2	-1.5	-1.7	-2.1	-2.4	-2.7	-3	-3.4	-3.8	-4.2	-4.7	-5		
-0.9dB/oct room gain	4.5	4.3	4	3.6	3.3	3	2.7	2.5	2.2	1.7	1.5	1.3	1	0.7	0.3	0	-0.3	-0.7	-1	-1.3	-1.6	-1.8	-2	-2.5	-2.8	-3	-3.3	-3.7	-4	-4.3	-4.5		
Toole realistic room gn	0	0	0	0	0	2	1.8	1.7	1.5	1.3	1.1	1	0.7	0.5	0.3	0.2	0.1	-0.2	-0.3	-0.6	-0.6	-0.7	-0.8	-0.8	-0.9	-1	-1.3	-1.7	-2.4	-3.6	-5		
Eardrum meas.:																																	
Diffuse field (H&M)	0	0	0	0	0	0	0	0	0	0.5	0.8	1	1.2	1.5	2	3	3.5	4	5	8	11	15.5	15.5	13	10.5	10	9.5	7	4	0	-3.6		
Diffuse field (B&K)	0	0.3	0.5	0.2	0.3	0.2	0.5	0.3	0.2	0.3	0	0.4	1	1.3	2.5	2.5	4	5	4.7	5.7	10	15	17.3	15	11.6	10.7	2.3	4.2	9.2	0	-4.5		
Unknown recent DF Or	0	0	0	0	0	0	0	0	0	0	0.2	0.4	0.8	1.4	2.2	2.9	3.6	4.1	5.4	8	12	14.9	15	13.5	11.2	9.5	9.2	7.4	6	5.8	5.9		
Harman linear speaker	-0.3	-0.7	-0.5	-0.3	-0.5	-0.3	-0.7	-0.3	-0.3	0.2	0	0.3	0.8	1.2	1.8	2.3	3.1	3.6	4.7	6.9	9.5	13.7	14.6	13	11.2	9.9	7.3	4.6	0	-4.7	-2.7		
IF ear resonance at 45°	0	0.1	0.2	0.2	0.3	0.3	0.7	0.8	1	1.4	1.7	2.2	2.9	3.7	4.9	5.8	6.3	6.2	6.7	9.5	15	20.5	19.4	18	17.4	13.5	12.3	3	9	0	-4.5		
Head gain at 45°	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7	1.3	2	2.8	3.4	3.9	4.2	4.5	4.7	4.9	5.1	5.3	5.5	5.6	5.7	5.9	6	6		
Torso+neck gain at 45°	0	0	0	0	0	0	0.4	0.7	1.2	1.3	1.7	2.1	2.4	2.7	2.8	2.7	1.6	0	-1.4	-1.4	0	0	0	0	0	0	0	0	0	0	0		
Concha gain at 45°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7	2	3.7	6.7	9.4	8.5	1.7	-7.2	-5.2	3.2	9		
Pinna flange gain at 45°	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.2	0.4	0.5	0.6	0.5	0.7	1.2	1.8	2.8	3.1	1.2	0.8	0.9	0.6	3.8	2.3	2.3		
Ear canal+drum at 45°	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	0.6	1.3	2.1	3.3	5.3	8.4	11.2	8	3	1.2	-1.1	0	5	7.5	4	0		
Head+torso at 45°	0	0	0	0	0	0	0.4	0.7	1.2	1.3	1.7	2.1	2.5	3.4	4.1	4.7	4.4	3.4	2.5	2.8	4.5	4.7	4.9	5.1	5.3	5.5	5.6	5.7	5.9	6	6		
Total ear gain at 45°	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5	1	1.8	2.7	3.8	6.1	10.3	15	14.5	12.8	11.8	8.2	2.6	-1.6	6.1	9.5	11.3		
Total resonance at 45°	0	0	0	0	0	0	0.4	0.7	1.2	1.3	1.7	2.1	2.5	3.7	4.6	5.7	6.2	6.1	6.3	8.9	14.8	19.7	19.4	17.9	17.1	13.7	8.2	4.1	12	15.5	17.3		
(FR target curves)																																	
Lin. speaker+BK	-0.4	-0.6	-0.2	0.1	-0.1	0.1	-0.3	0	-0.1	0.3	-0.1	-0.1	0.2	0.4	0.8	1.2	1.6	1.9	2.7	4.6	6.9	10.8	11.5	9.3	7.4	5.7	2.7	-0.2	-5.2	-10.4	-8.9		
Lin. speaker+1dB/oct	2.9	2.2	2.2	2	1.5	1.4	0.7	0.7	0.5	0.5	0.1	0	0.1	0.2	0.5	0.7	0.5	1.3	2.6	3.9	6.2	10.2	10.7	8.8	6.7	5.1	2.1	-1	-6	-11.2	-9.5		
Lin. speaker+0.9dB/oct	2.7	2.1	2	1.8	1.3	1.2	0.5	0.7	0.4	0.4	0	0.1	0.3	0.4	0.6	0.8	1.3	1.4	2.2	4.1	6.4	10.4	11.1	9	6.9	5.4	2.5	-0.6	-5.5	-10.5	-8.7		
Harman 2018 Or	5.6	6.1	6	5.8	5.4	4.8	4.1	3.2	2	0.9	0.1	0.1	0.6	1	1.3	1.7	1.9	2.1	2.8	4.7	7.4	9.7	10.7	10.5	8.6	6.9	4.6	1.5	-3.1	-6.2	-15		
Harman 18 bass-1	4.8	5	5	4.8	4.5	4	3.3	2.4	1.4	0.5	0.1	0.1	0.6	1	1.3	1.7	1.9	2.1	2.8	4.7	7.4	9.7	10.7	10.5	8.6	6.9	4.6	1.5	-3.1	-6.2	-15		
Harman 18 bass-2	3.8	4	4	3.75	3.4	3	2.4	1.7	1	0.35	0.1	0.1	0.6	1	1.3	1.7	1.9	2.1	2.8	4.7	7.4	9.7	10.7	10.5	8.6	6.9	4.6	1.5	-3.1	-6.2	-15		
Harman 18 bass-3	2.9	3	3	2.8	2.5	2.1	1.7	1.2	0.65	0.3	0.1	0.1	0.6	1	1.3	1.7	1.9	2.1	2.8	4.7	7.4	9.7	10.7	10.5	8.6	6.9	4.6	1.5	-3.1	-6.2	-15		
Harman 18 bass-4	1.9	2	2	1.9	1.75	1.5	1.25	0.85	0.5	0.2	0.1	0.1	0.6	1	1.3	1.7	1.9	2.1	2.8	4.7	7.4	9.7	10.7	10.5	8.6	6.9	4.6	1.5	-3.1	-6.2	-15		
Harman 18 bass-5	0.95	1	1	0.95	0.85	0.7	0.55	0.35	0.2	0.15	0.1	0.1	0.6	1	1.3	1.7	1.9	2.1	2.8	4.7	7.4	9.7	10.7	10.5	8.6	6.9	4.6	1.5	-3.1	-6.2	-15		
Harman 18 bass-6	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.6	1	1.3	1.7	1.9	2.1	2.8	4.7	7.4	9.7	10.7	10.5	8.6	6.9	4.6	1.5	-3.1	-6.2	-15		
Harman 18 linear bass	0.2	0.5	0.5	0.3	0	-0.3	-0.1	0.2	0.2	0.2	0.1	0.2	0.8	1.2	1.7	2	2.2	2.3	3.2	5.2	7.7	10	10.9	10.6	8.9	7.2	4.8	1.6	-3	-7	-22		
Harman 2013	4	3.8	3.9	4	3.7	3.6	2.6	2.2	1.2	0.6	0	0	0.7	1.1	1.3	1.4	2.1	2.6	3.3	5.2	7.6	11.3	12.2	10.2	8	6.4	3.6	0.6	-4.3	-8.8	-25		
Etymotic target Cr	0	0	0	0	0	0	0	0	0	0	0.2	0.3	0.5	0.9	1.1	1.8	2.6	3.4	4	6.3	9.2	12.8	12.3	9.4	7.9	4.7	3.8	1.3	-1.2	-3.2	-5.7		
Optimum HiFi Or	-0.1	-0.1	0.3	0.2	0	-0.2	-0.1	0	0.1	0.1	-0.2	-0.2	0.2	0.5	0.8	1	1.5	1.6	2.4	4.2	6.8	9	9.9	9.4	7.5	5.5	3	-0.3	-3.5	-7.2	-10.5		
Crinacle IEF target	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1.5	3.7	3.2	5.5	7.7	8.8	8.5	6.6	5	5.3	-0.4	-4.9	-8.3	-18.4		
Avg of 24 neutral HPs	-1.8	-0.6	0.1	0.6	1	1.1	1.4	1.6	1.4	0.7	0.2	-0.1	-0.3	-0.3	-0.2	0.1	0.7	1.4	2.1	3.4	5.1	7.8	9.1	7.3	6.3	4.2	3.6	-3	-3.8	-5.1	-9.2		
(Headphones)																																	
Abyss Diana Phi Cr	-4.9	-4.3	-4.2	-4.2	-3.7	-3.8	-4	-4.1	-4.2	-4.2	-4.1	-4	-3.7	-4.1	-3.7	-3	-1.4	0	-1.5	2.6	3.9	5.7	3.5	2.1	0.9	-0.7	-2.2	-6.5	-6.6	-9.3	-5.8		
AKG K361 Or	1.6	2.2	2.5	2.8	1.8	-0.3	-0.4	0	0.2	0.5	-1.9	-3.3	-3.9	-3.6	-2.8	-2.1	-0.8	0	1.8	3.7	5.4	6.1	6.6	-0.4	0.2	1.5	-1.1	-3.7	-7.4	-11.1	-13.8		
AKG K371 Or	5.7	5.9	5.3	4.9	3.2	0.9	1	0.9	0.6	-0.3	-0.8	-1.8	-1.8	-1.8	-1.5	-1.1	-0.6	0	0.7	2.3	4.2	7.3	7.3	2	4.2	4.3	3	-3.3	-6.2	-15	-16.5		
AKG K553 Or	7.8	7	5.4	4.3	4.8	4	5.1	6.4	5	3.2	2.5	2.4	1.9	0.8	-0.1	-0.8	-0.6	0	2.1	4.2	4.9	8.8	8.4	3.9	5.8	3.7	2.7	-1.5	-1.8	-7.9	-14.6		
AKG K601 Or	-9	-7.5	-6	-5	-5	-5	-2.5	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	2	6	10	13.5	11.5	10.5	5	6	7	-9	-7	-3	-10		
AKG K612 Or	-5.8	-4.8	-3.6	-2.8	-2.8	-3.2	-2	-1.3	-1	-0.9	-0.8	-0.8	-1	-0.9	-1.1	-1.3	-0.7	0	0.7	5.1	8.7	11.2	10.7	8.4	5.1	7.4	5.2	-5.5	-1.5	-6.8	-13		
AKG K701 Rt	-6	-4	-4	-3	-2.5	-2	-2	-1.5	-1	-1	-1	-1	-1	-1	-1	-2	-1.5	0	1.5	4	9	13	11.5	7.5	6.5	9.5	10	-1	1	-10	-7		
AKG K712 Or	1	2	2.8	3.4	3.9	4.2	4.3	4.3	3.9	3.9	4.4	4.6	4.6	4.5	4.1	3.1	1.8	0	-2.1	2.1	7.3	8.2	6.6	9.1	10.3	8.7	6.8	-5.2	1.8	-3.4	-11.1		
AKG Q701 Rt	-5	-4	-3	-2	-1.5	-1	-1	-0.5	0	0	0	0	0	0	0	-0.5	-1	-0.5	0	1	4	9	12	9.5	7	6.5	10	9	-3	3	-11	-7	
Audeze LCD-1 Or	-5.1	-4.8	-4.4	-4.2	-4	-2.8	-2.1	-2.3	-2.3	-2.3	-2.1	-1.9	-1.6	-1.2	-1	-1.2	-1.2	0	-0.9	-2.1	-0.8	4.9	8.5	5.7	0.7	-3.9	-1.5	-5.4	-6.8	-2.5	-10.6		
Audeze LCD-2 Class Rt	-5	-4.8	-3.8	-2.9	-2.8	-2.9	-3	-3	-2.9	-2.8	-2.8	-2.7	-2.4	-2.2	-2.5	-0.8	1.2	0	0.8	0.2	2.2	4.5	1.7	-5	-2.2	1.5	0.1	-13	-4.4	-7.9	-10.1		
Audeze LCD-2 Or	-3.3	-2.8	-1.8	-1.8	-2.1	-1.9	-1.8	-1.7	-1.7	-1.7	-1.6	-1.7	-2.1	-1.8	-1	-0.4	0	0	-0.3	1.5	1.5	2.6	4	-0.6	-1.8	2.8	-1.8	-2.2	-4.9	-11.1	-5.1		
Audeze LCD-X IF	-4.7	-4.3	-2.6	-1.3	-1.2	-1.2	-1.3	-1.2	-1.1	-0.9																							

Bose QC25 Or	-1.6	1.1	3	3.7	3.3	2.5	1.9	1.4	0.9	0.4	-0.1	-0.8	-1.4	-1.9	-1.8	-1.6	-0.3	0	2.9	3.7	64	8.5	0.5	10.1	3.6	8.5	-4	-5.2	-1.7	-11.8	-18.5	
Bose QC35 II active Cr2	5.7	5.6	6	6.6	6.5	6.4	6	5.1	4.5	3.9	3.3	3	2.5	1.6	1.7	1.6	1	0	0.3	3.1	6.6	10.2	11.4	12.3	10.4	12	5.1	-4	0.4	-16.4	-13.2	
Bose QC35 II passive Cr2	-3.8	-2.1	-1.8	-0.6	-2.2	-1.6	1.7	4.1	5.9	3.7	-0.3	-3.6	-5.9	-6.1	-4.9	-2.8	-0.4	0	-1.7	-4.6	-3.1	1.7	3.3	6.3	4.5	4.4	-7.7	-9.1	-5.7	-19.3	-13.7	
Creative Aur Live 2 IF	4.7	5.4	5.8	6	6	5.7	4.8	4.9	4.4	3.8	3.6	2.9	1.7	-0.7	-0.3	0.2	0.8	0	-1.2	-2.8	-2.4	0.3	1.9	2.7	-1.4	-3	-2.3	2.1	-12.1	-8.5	-9.2	
DCA Aeon 1 Closed Or	0.9	1	1.2	1.3	1.3	0.3	0.6	0	-1.3	-2.8	-1.5	-1	-0.7	-0.7	0.4	0.9	1.2	0	1.4	2.3	2.4	4.3	6.7	6.3	1.7	2.3	3.7	-2.5	-2.8	-14	-9	
DCA Aeon 2 Closed Or	5.1	5.4	5.6	5.4	5.2	4.6	4.4	5.4	4.7	1.9	0	1.2	1.9	2.2	1.5	0.8	0.6	0	1.4	0.7	1.7	3.3	4.2	3.1	5.6	7.1	4.4	-8.6	-0.4	-0.1	-2.9	
DCA Aeon 2 Open Cr2	4.9	5.2	5.2	5.1	4.9	4.7	5.6	6.1	6.1	5.5	4.7	3.9	3.2	2.3	2.6	1.1	0.7	0	-0.4	1.6	4.6	7.4	6	2.5	7.2	7.7	4.6	-8.5	-1.2	1.5	-2.7	
DCA Aeon 2 Noire Or	3	3.2	3.4	4.4	4.3	4.3	5.4	6	4.5	0.8	-0.9	0.3	0.7	1	0.8	0.3	0.1	0	1.8	4.1	6.2	7.6	10.3	9	9.6	9.2	8.5	1.9	1.7	6.3	-2.3	
D+Fos Purpleheart Or	-4.2	-1.1	0.3	0.9	0.8	0.4	0	-0.4	-0.7	-1.1	-1.5	-1.6	-1.9	-2.4	-3.1	-2.8	-1.7	0	0.6	2.6	4.4	6.3	1.3	2.2	6.9	0.9	-2.2	-0.3	2.5	-7.6	-13.3	
Drop-THX Panda Cr2	1	1.2	1.3	1	1.4	1.4	2.2	3.7	3.9	3.4	2.4	1.4	0.6	0	1	1.7	1.3	0	0.3	-0.8	-0.8	2.2	5.1	5.2	3	6.4	1.4	-11.1	-4.7	-16.5	-16	
Focal Clear Or	-4	-3.3	-2.7	-2.2	-1.9	-1.6	-1.5	-1.5	-1.7	-2	-2.3	-2.6	-2.7	-2.8	-2.7	-2.3	-1.3	0	2.1	2.8	3.2	5.1	7.4	2.5	1.9	0.9	-4.4	-10.2	-2	-5.6	-13.4	
Focal Clear Re	-5.1	-3	-0.9	1.2	2.2	3.3	4.1	4.9	5.1	5.1	4.8	4.4	3.8	3.2	2.5	1.5	0.6	0	-1	-1.7	-0.2	1.7	5	7.1	9.7	10.8	1.1	-1.4	3.5	-6.9	-4.6	
Focal Clear Mg Re (est)	-5.5	-3.8	-2.8	-2.1	-1.5	-1.1	-0.9	-1	11.5	-1.4	-1.7	-1.9	-2.3	-2.4	-2.5	-2.1	-1.2	0	2.3	1.9	1.8	4	6.2	2.1	0.5	1.5	-12.2	1.5	-6.9	-1.2	-16.9	
Focal Elear IF	-3	-2	-1.5	-1	-0.5	0	0	0	0	-0.5	-1	-1.2	-1.5	-2	-1.5	-1.2	-0.5	0	1	3	5	6	8	2	-2	-4	-7	-2	-6	-9	-7	
Focal Elear Or	-3.2	-2.3	-1.8	-1.3	-0.9	-0.7	-0.4	-0.4	-0.5	-0.7	-0.9	-1.1	-1.3	-1.4	-1.3	-1	-0.6	0	1.2	2.6	2	4.4	5.7	-0.1	0	1.4	-6.9	-9.8	-8.9	-8.9	-11.1	
Focal Elear Rt	-7.5	-6.2	-4.8	-3.3	-2.2	-1.2	-0.6	-0.5	-0.4	-0.6	-1.1	-1.6	-1.8	-2	-1.8	-1.5	-0.8	0	1.3	3.1	4.8	7.2	7.9	-2.4	-4	0.2	2.7	-6.4	-4.2	-6.9	-3	
Focal Elegia Or	-0.1	0	-0.1	-0.7	-0.8	-0.9	1.2	1.5	-2.8	-3.6	-3.3	-2.1	-1.2	-1.1	-0.8	-0.9	-0.5	0	0.5	3.1	2.7	5.5	4	-6.8	-3.1	0.1	0.1	-8.9	-2.9	-10.6	-8.5	
Focal-Drop Elex Or	-4	-2.9	-2.5	-1.9	-1.5	-1.2	-1	-1	-1.2	-1.5	-1.8	-2.1	-2.4	-2.5	-2.4	-2.1	-1.2	0	1.5	2.4	2.4	4	6.2	3.8	2.1	0.9	-1.9	-8.8	-7.1	-9.4	-9.6	
Focal-Drop Elex Re	-5	-3.5	-2.9	-2.2	-1.8	-1.4	-1.3	-1.1	-1.4	-1.6	-1.9	-2.1	-2.3	-2.4	-2.4	-2	-1.3	0	1.3	2.5	3.2	4.6	6.6	1.5	-0.1	0.1	2.2	-12.2	-6.6	-8.7	-14.4	
Focal Radiance Re	1.3	0.7	1.3	0.2	-2	-2.1	0.1	1.5	2.6	1.2	-1.8	-3.3	-3.5	-3	-2.7	-1.6	-0.6	0	0.2	2.5	3.3	2.8	1.1	2.4	1.6	-7.5	-9	-11.9	-5.4	4.5	-13.5	
Focal Utopia Or	-5.5	-4.9	-4.4	-3.9	-3.5	-3.2	-2.9	-2.7	-2.7	-2.6	-2.7	-2.8	-2.9	-3	-2.9	-2.4	-1.4	0	1.6	1	0.2	5.8	6.2	5.9	4.1	3.4	-2.6	-5.3	-7.9	-5.2	-5.7	
Focal Utopia Re	-3.4	-2.2	-1.5	-0.9	-0.7	-0.4	-0.4	-0.2	-0.4	-0.7	-1.1	-1.4	-1.7	-2.1	-2	-1.9	-1.1	0	1.6	0.4	0.8	4.8	5.7	5.1	-0.2	-1.7	-2.1	-13.2	-8.7	-6.2	-14	
Fostex Purpleheart Or	-4.2	-1.1	0.3	0.9	0.8	0.4	0	-0.4	-0.7	-1.1	-1.5	-1.6	-1.9	-2.4	-3.1	-2.8	-1.7	0	0.6	2.6	4.4	6.3	1.3	2.2	6.9	0.9	-2.2	-0.3	2.5	-7.6	-13.3	
Grado SR60e Or	-12	-9.7	-7	-4.2	-2.2	-0.6	0.1	0	-0.6	-1.2	-1.6	-2.1	-2.6	-1.1	-1.4	-1.2	-0.6	0	0.9	5.1	15.4	12.8	10.2	10.8	8.9	6.5	5.5	-2	-4.8	-2	-14.9	
Grado SR225e Rt	-9.7	-7.7	-5.3	-3.2	-1.6	-0.5	-0.2	-0.3	-0.6	-1.2	-1.7	-2	-1.7	-1.8	-1.5	-1.1	-0.6	0	1.1	3.9	12	13.7	11.4	6.3	7.4	5.8	9	10.5	3.8	-11	-22.9	
Hifiman Ananda Rt	-3.5	-2.8	-2	-1.4	-0.9	-0.6	-0.7	-1	-1	-1	-1.1	-1.2	-2.2	-1.2	-0.5	-0.5	-1.2	0	-1.4	-1.7	1.9	8	9.6	6.2	3.3	3.8	6.4	-7.9	-1.2	-4.4	-2.1	
Hifiman Arya Or	-0.8	-0.8	-0.8	-0.8	-0.8	-0.7	-0.6	-0.6	-0.4	-0.2	-0.8	-1	0.5	-0.9	1.2	-0.5	-8	0	0.1	-1.3	1.3	7.3	8.8	4.3	10	7.7	5.5	-3.1	2.3	-11.5	-10.1	
HiFiman-Drop HE4XX IF	-2.4	-1.3	-0.4	-0.2	-0.1	0.6	0.5	0.3	0.1	-0.1	0.1	-0.2	0.1	0.3	-0.1	0.4	-0.1	0	-0.5	-0.4	0.9	6.4	11.4	7.9	5.1	5.6	4.2	2.8	-2.7	-10.7	-5	
Hifiman-Drop HE4XX Or	-11.4	-8.7	-6.6	-4.2	-2.6	-1.4	-0.8	-1	-1.5	-1.6	-1.9	-2	-2.2	-1.9	-2.5	-2.6	-1.3	0	0.3	-1.4	-0.5	7.6	10.8	7.3	1.9	6.1	7.1	-4.2	-10.1	1.8	-11.1	
Hifiman Sundara IF	-3.3	-2.6	-2.1	-2	-2	-1.4	-1.3	-1.5	-1.8	-1.9	-1.7	-1.5	-1.2	-0.9	-1.3	-0.8	0.2	0	-0.7	-0.9	0.3	4.8	11.4	8.9	7.1	-0.2	0.1	-6.3	1.7	-10.7	-9.2	
Hifiman Sundara Or	-3.3	-2.3	-1.9	-1.6	-1.6	-1.4	-1.4	-1.4	-1.6	-1.8	-1.8	-1.6	-1.5	-1.5	-1.5	-0.5	0.3	0	-0.9	-1.2	-0.3	5.6	10.4	10.2	8.1	0.8	2.5	-5	0.3	-3.5	-17.2	
Hifiman Sundara Rt	-4.4	-3.1	-1.8	-1.1	-0.6	-0.3	-0.4	-0.5	-0.6	-0.8	-0.8	-0.7	-0.5	-0.2	-0.9	0.3	1.1	0	0.5	1.1	2.2	6.1	10.1	8.5	8.4	3.9	6.7	-1.8	0	-4.7	-9.8	
Hifiman Sundara 2020 Rs	-5.1	-4.1	-3.3	-2.3	-1.8	-1.4	-1.7	-1.9	-2.1	-2.1	-1.9	-1.8	-1.8	-1.4	-2.4	-1.1	-0.3	0	0.9	0.6	3.6	4.5	6	6.3	5.4	2.3	-0.1	-2.1	-3.6	-6.6	-12.1	
Koss Porta Pro Rt	-6.9	-4.7	-2.2	0.1	2	3.4	4.3	4.6	4.5	3.8	2.9	1.8	1.2	0.4	-0.1	-0.2	-0.3	0	1.4	4.2	7.2	9.3	8.7	-0.7	5.3	-1.5	0.6	0	-8.9	-15.3	-23.8	
Koss KSC75 Cr2	-22.8	-19.3	-15.9	-12.1	-8.6	-5.4	-2.2	0.5	2.1	2.3	1.6	0.7	0.1	-0.4	-0.7	-0.4	-0.5	0	0.4	3.5	7.1	10.6	11	9.6	9.7	6.3	7	1	-0.7	-7.7	-5.8	
Koss KSC75 Rt	-15.5	-12.9	-9.9	-7	-4.4	-1.8	0.3	1.3	1.7	1.3	0.5	0	-0.3	-0.7	-0.8	-0.7	-0.5	0	1.1	3.9	8.1	12.1	12	2.4	11.1	1.8	5.7	1.5	-3.8	-7.1	-9.5	
Meze 99 Classics Or	9.7	10.4	10.9	11.2	11.3	11.2	10.5	9.3	9.4	9.6	9.3	7.5	2.6	-0.2	1.7	2.8	2.1	0	2	5.7	8	8.3	7.3	2.7	13.9	11	8.2	-6	6.8	-4.3	-14.1	
Meze Empyrean Or	2.8	2.8	3	3.1	3	3	3.1	3.2	3.2	3.3	3	2.4	2	2.1	1	1.2	1.4	0	-0.8	-1.3	-0.1	3.8	7.1	8.4	6.2	3.4	0.5	-5.7	-4.7	1.1	-10.5	
Monoprice M1060 Or	-1.8	-1.7	-1.2	-0.9	-0.4	0	-0.1	-0.1	-0.1	0	0.1	-0.1	-1.4	-1.8	-0.7	0.7	1.1	0	1.8	4.1	7.3	9.2	10.2	8.1	4.3	2	-5.7	-1.4	-4.9	-1.5	-1.5	
NAD Viso HP50 Or	4.2	4.4	4.4	4.2	3.7	2.7	1.8	4.5	3.8	3.3	2.9	2.5	1.5	1.1	0.7	0.4	0	0	1.3	2.9	4.8	6.6	8	7.9	9.4	7.5	7.7	-5.5	-5.7	-16.1	-13.6	
Neumann NDH 20 Or	8.4	8.9	9.3	9.2	8.8	7.8	5.9	4.6	4.7	4.1	3.1	2.4	1.6	1.1	1.3	1.4	1	0	-1.4	-1.5	0	3.1	8.2	11.1	8.2	5	7.5	-3.9	-6.2	-8.4	-7.4	
Oppo PM-3 Rt	3	2.4	1.8	1.2	0.9	1.4	2.2	2.6	2.7	2.3	1.4	0.1	-1.2	-1.5	-0.2	1.4	1.1	0	2.7	4.9	7.3	11.5	11.3	7.3	4.2	4.3	11.4	4.5	-4.5	-12.5	-13.1	
Oppo PM-3 Or	2.1	1.6	1.1	0.7	-1	0.3	1.2	3.1	3	1.9	0	-2.2	-3.8	-3.6	-1.7	-0.2	0.1	0	1.3	3.3	5.9	9	9.9	7.8	4.9	6.9	5.3	-12.9	-2.4	14.3	-17.6	
Philips SHP9500 Or	-10	-8.1	-6	-4.1	-2.6	-1.5	-1.1	-0.5	-0.5	-0.6	-0.2	-1.4	-1.7	-1.6	-1.5	-1.3	-0.6	0	0.8	1.5	2.2	4.7	8.3	9.5	10.8	12.4	-0.9	-0.2	1.6	-4.9	-16.6	
Philips Fid. X2HR Or	-5	-3.1	-1	0.9	2.3	2.8	2.7	1.9	1	-0.5	-1.1	-0.1	-0.6	-0.9	-0.6	-0.3	0.5	0	-1	3.8	2.5	5.4	5.9	0.1	10.2	5.8	-0.3	-3.5	-6.2	-11.7	-13.7	
RAAL SR1a Re	-10	-9	-6.5	-5	-4	-3	-2.4	-1.4	-1.4	-1.6	-0.7	-1	-0.5	-0.8	-0.7	-0.5	-0.3	0	3	7	10	9	8.5	5.2	9	7	1	-7	-7	-6	-22	
Sendy Aiva Cr	-6.7	-6	-5.2	-4.2	-3.5	-3	-3.2	-3.3	-3.3	-3.4	-3.3	-3.1	-2.7	-2	-2	-1.7	0	0	-0.5	-6.3	-2.5	3.5	5.5	-0.3	-2.5	-1.2	-6.1	-3.8	-4.5	-5.5	-12	
Senn-Drop PC38X HdFi	-5	-3.5	-2.5	-1.5	-0.7	-0.1	-0.6	-0.6	-0.7	-2	-2.2	-2.5	-2.5	-2.7</																		

ZMF Eikon lambskin Cr2	0.3	0.6	0.1	0.7	-0.9	1.3	2.3	2.8	2.1	1.1	0.4	0	-0.2	-0.2	-0.9	-0.1	0.4	0	-0.4	-4.6	-3	2.7	2.4	6.8	7.8	-1.3	-4.6	-2.6	-8.1	-8.6	-14.1	
ZMF Vérité p-lamb Cr2	-5.8	-4.5	-3.6	-2.9	-2.5	-2.2	-1.5	-1.4	-1.4	-1.5	-1.4	-1.2	-0.9	-0.4	-0.3	-0.8	0	0	-0.9	1.1	3.8	6	-3	2.5	6.9	4.9	-7.1	-3.3	-6.5	-15	-5.4	
ZMF Vérité Cl a-lamb Cr2	-0.9	0	0.5	0.9	0.4	1.1	2.2	2.9	2.5	0.5	-1	-0.9	-0.4	-0.1	-0.2	-0.6	0	0	-0.9	-0.9	1.2	5.3	-2.6	4	7.2	2.2	-1.2	-8.2	-10.4	-11.8	-13	
Source abbreviations:																																
H&M = Hammershøi & Møller, B&K = Brüel & Kjær, Or = Oratory1990, IF = InnerFidelity, Rt = Rtings, Cr = Crinacle's 1st meas. rig, Cr2 = Crinacle's 2nd meas. rig, Re = Resolve Reviews, HdFi = Head-Fi																																