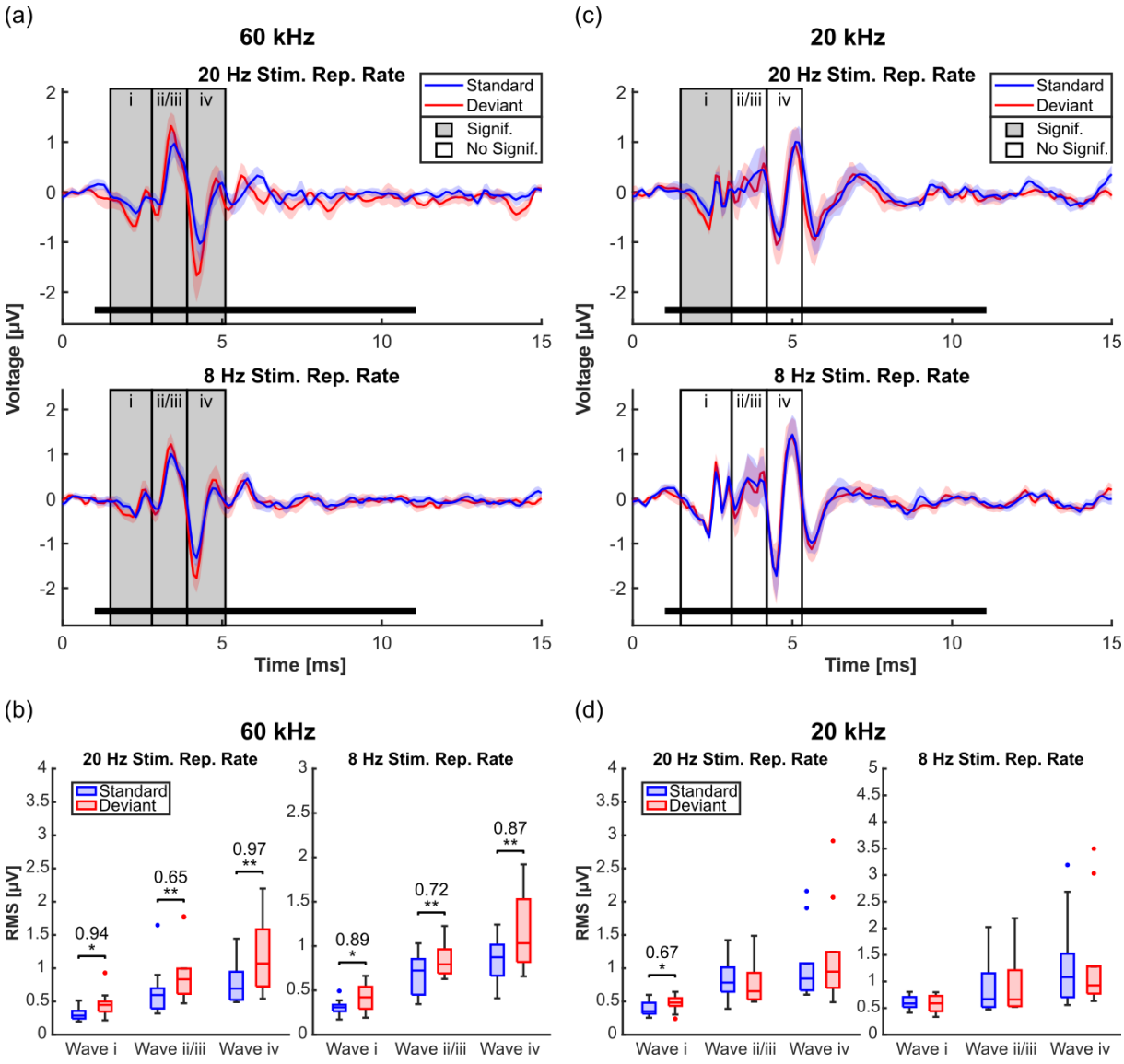
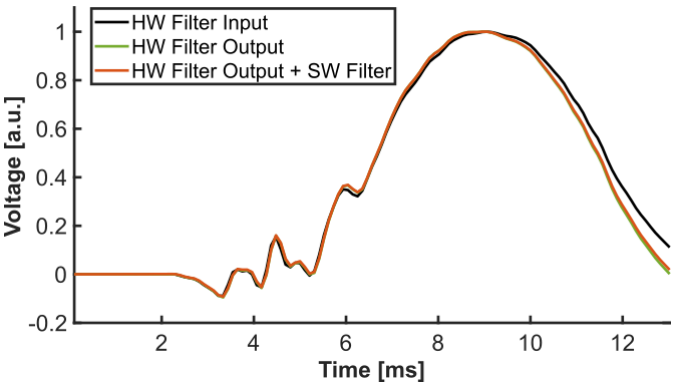
Supplementary material



Supplementary Figure 1 Influence of the sound presentation rate on deviance detection in narrowband filtered ABRs. (a) Grand averages of narrowband (300-3000 Hz) filtered ABRs to a 60 kHz pure tone stimulus, presented as standard and deviant, respectively (n = 10 animals). The sound presentation rate was either 20 Hz (upper panel) or 8 Hz (lower panel). The boxes depict the time windows taken for RMS calculation, containing wave i, wave ii/iii and wave iv, respectively. If the comparison of response strength between deviant and standard provided a significant difference, the respective time window is shaded in grew, otherwise it is transparent. The shaded area around the graphs depicts the standard error of the mean and stimulus duration is indicated by a black bar at the

bottom left. **(b)** Boxplots of the RMS values calculated for each of the 10 individual-responses within the time windows for wave i, wave ii/iii and wave iv, respectively. The sound presentation rate was either 20 Hz (left) or 8 Hz (right). Asterisks indicate significant differences between groups and as a measure of effect size, Cohen's D is plotted as a number above the asterisks every time significance was reached. **(c, d)** As in (a, b) but the stimulus was a 20 kHz pure tone.



Supplementary Figure 2 Influence of data filtering on the onset latencies of the recorded responses. Artificially generated stimulus used as input signal for the hardware (HW) filter, together with the unprocessed as well as the software (SW) filtered (Butterworth, 4th order, 10-3000 Hz) output of the hardware filter. The input signal is composed of a grand average ABR (to a 20 kHz deviant; Figure 2c, lower panel) and a slow sine wave (duration of 10 ms), simulating the IC response. The onset of the slow wave is 2 ms delayed in relation to the fast wave onset. The data demonstrate that neither hardware nor software filtering affects the onset latency of the slow wave.