Supplementary Materials

Subject	Min(BB)	Max(BB)	SD(BB)	Min(REM)	Max(REM)	SD(REM)
1	-0.63	0.63	0.1539	-0.83	1.00	0.1543
2	-0.61	0.62	0.2154	-0.91	1.00	0.2152
3	-0.65	0.65	0.1621	-0.74	1.00	0.1624
4	-0.79	0.78	0.2572	-0.87	1.00	0.2585
5	-1.00	0.98	0.1718	-0.84	0.98	0.1781
6	-0.92	0.94	0.2540	-0.95	1.00	0.2546
7	-0.60	0.59	0.1694	-1.00	0.76	0.1695
8	-1.00	1.00	0.2247	-0.73	0.97	0.2253
9	-0.83	0.87	0.1652	-0.67	1.00	0.1648
10	-1.00	0.98	0.2153	-0.77	0.92	0.2154
11	-0.99	1.00	0.1866	-0.74	0.82	0.1873
12	-0.58	0.59	0.1523	-1.00	0.70	0.1526
13	-0.47	0.48	0.0949	-1.00	0.78	0.0953
14	-0.71	0.73	0.1922	-1.00	0.97	0.1922
15	-1.00	1.00	0.2233	-0.89	0.87	0.2228
16	-0.75	0.78	0.2449	-1.00	0.98	0.2449
17	-0.70	0.69	0.1495	-0.91	1.00	0.1492
18	-0.41	0.42	0.1539	-0.70	1.00	0.1535
19	-0.60	0.62	0.0376	-0.58	1.00	0.0377
20	-0.57	0.57	0.1573	-1.00	0.66	0.1576
21	-0.82	0.80	0.2052	-1.00	0.93	0.2051
22	-1.00	0.98	0.2175	-0.96	0.87	0.2177
BS-SD	0.19	0.19	0.05	0.13	0.11	0.05

Supplementary Table 1. Descriptive statistics for the broadband-alpha and alpha-removed tACS protocols. For each (included) participant, the minimum amplitude (Min), maximum amplitude (Max), and standard deviation of the amplitude (SD) are shown for the broadband-alpha tACS protocol (BB) and the alpha-removed protocol (REM). Four decimals are shown for the SD(BB) and SD(REM) to highlight the minor differences between the two columns. The lowermost row shows the between-subject standard deviations (BS-SD) for each of the columns.

IAF Left

IAF Right

BB Left

BB Right

REM Left

REM Right

Sham Left

Sham Right

Reaction time (msec)

Cue validity
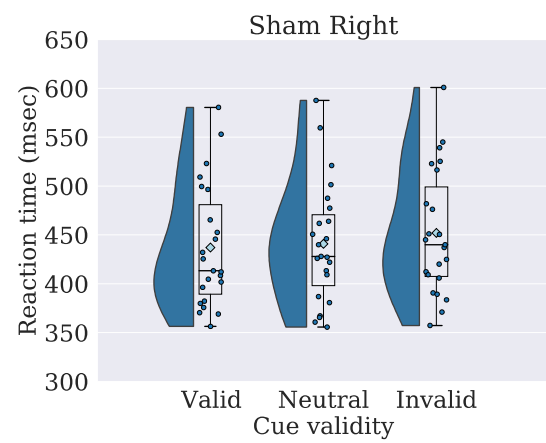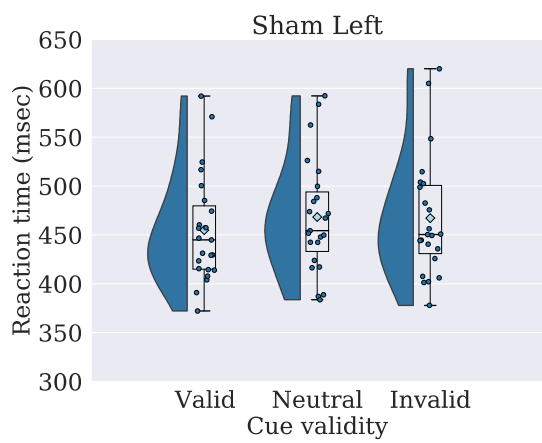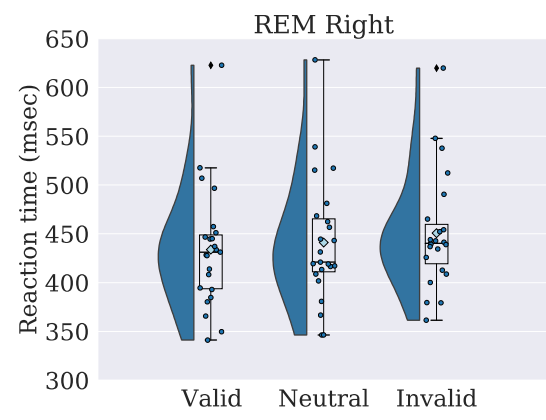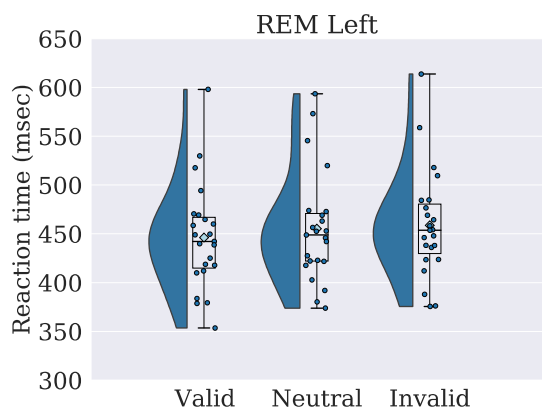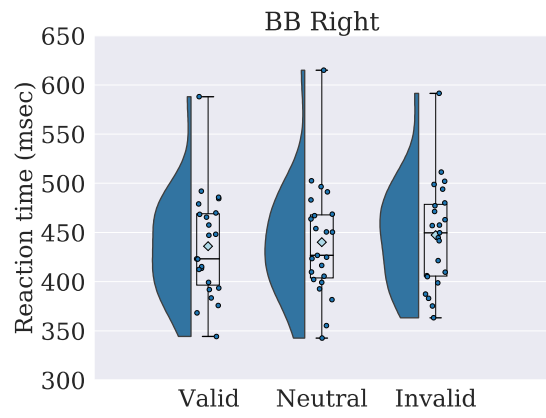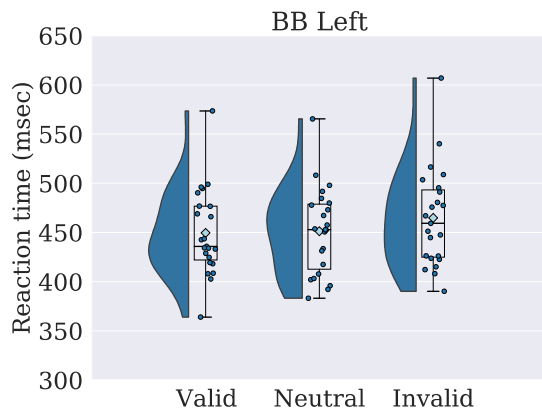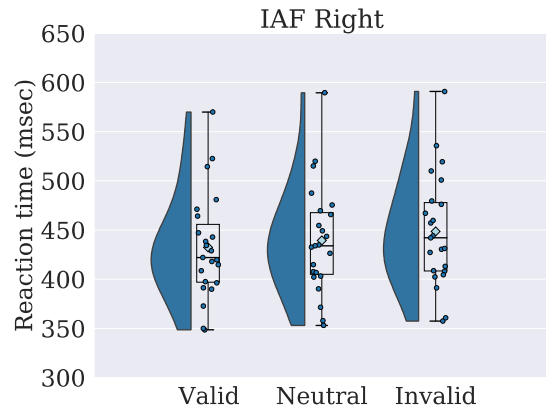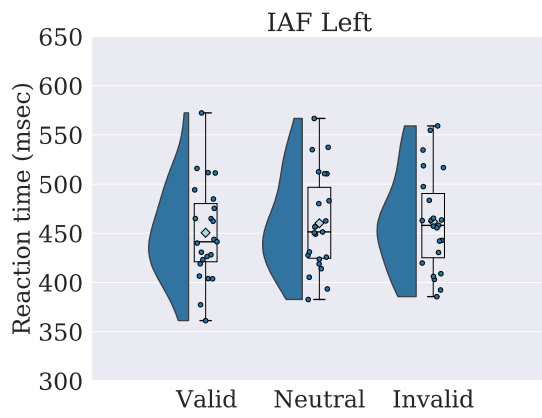
Supplementary Figure 1. Raw reaction time data in trials without distractors for the individual alpha frequency ('IAF'), broadband-alpha ('BB'), alpha-removed ('REM'), and sham tACS conditions (subplot rows), for each hemifield (subplot columns) and cue validity (x-axes). Each dot represents data from a single subject. Mean reaction times are indicated with diamonds. Data distributions are visualized using boxplots and probability distributions. Note that the seemingly deviating data points in the broadband-alpha tACS condition (upper row of subplots, all from the same participant) were no outliers statistically, and none of our conclusions changed when excluding that participant.