'Central to successful control is the ability to suppress actions that are no longer relevant or required. '

101

NF Task: Users look at the car and imagine driving it forward to train alpha inhibition, aiming to enhance information suppression to reduce falling risk in the physical world.

Epoching information

- Event '7' (alpha power drop, car moves backward) is set as time = 0 ms, with epochs from [-300 1000] ms.

- Event '6' (alpha power increase, car moves forward) is plotted as a black line to show its latency relative to '7' (fig 1).

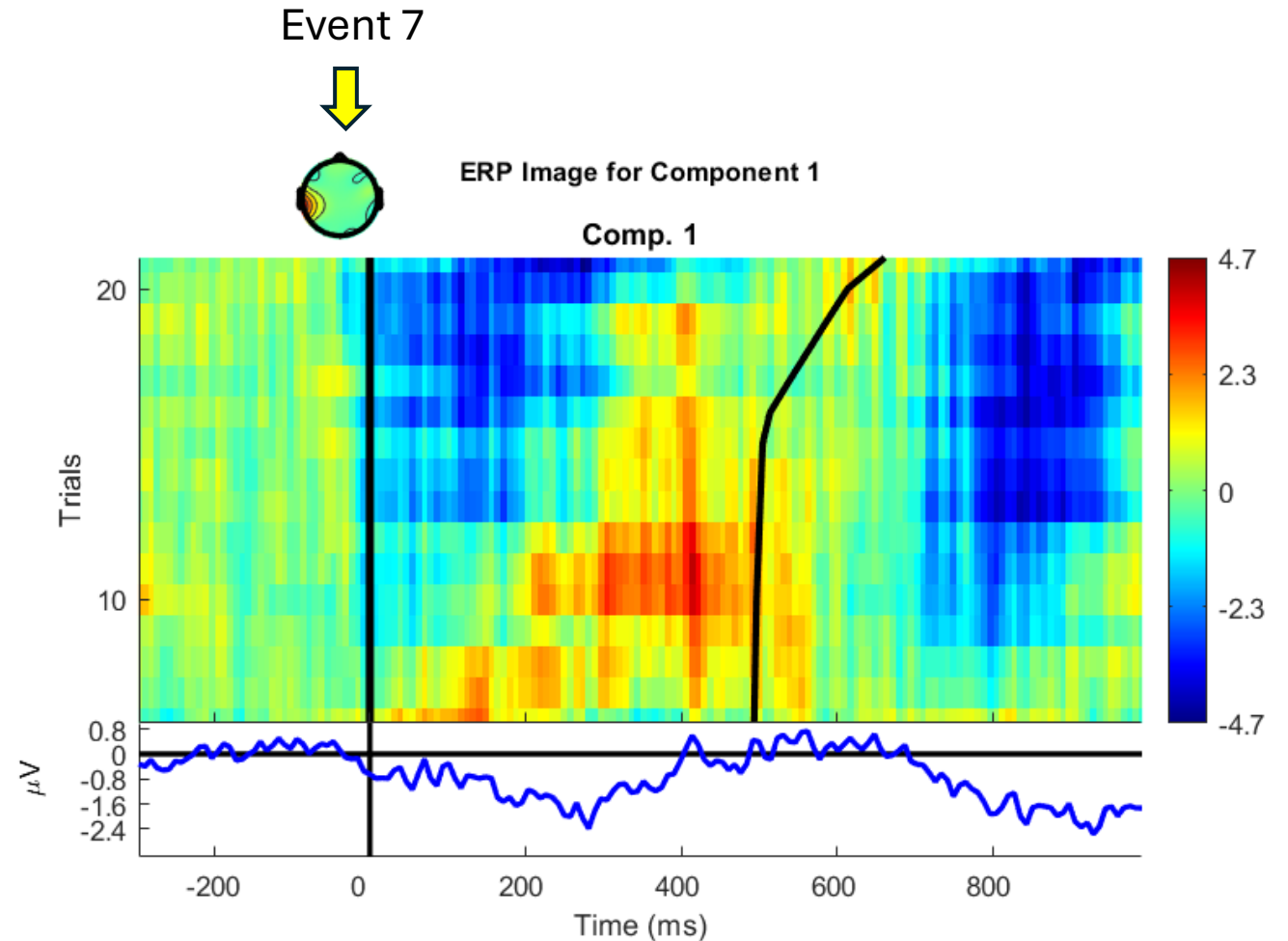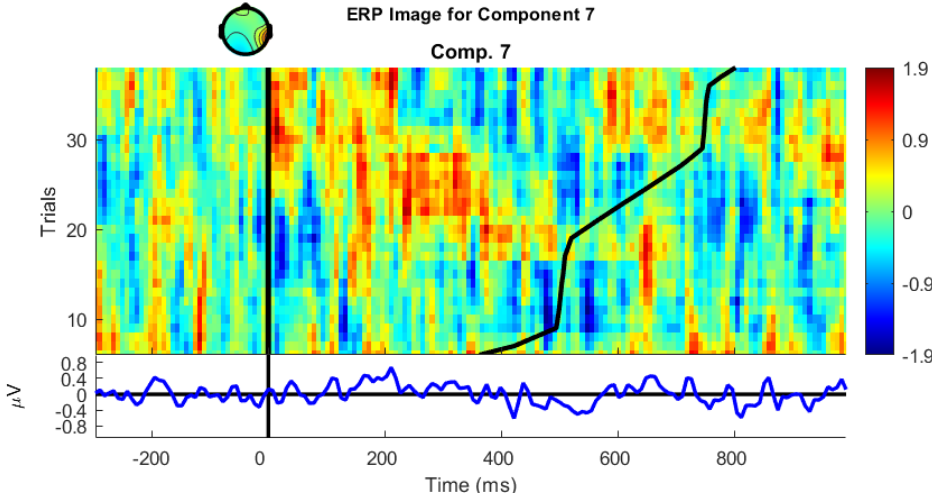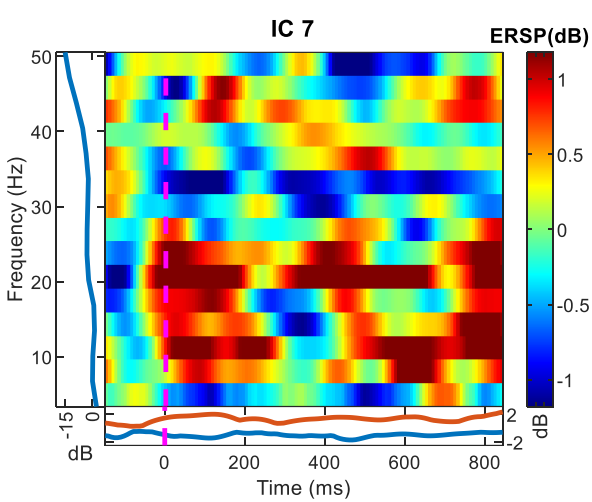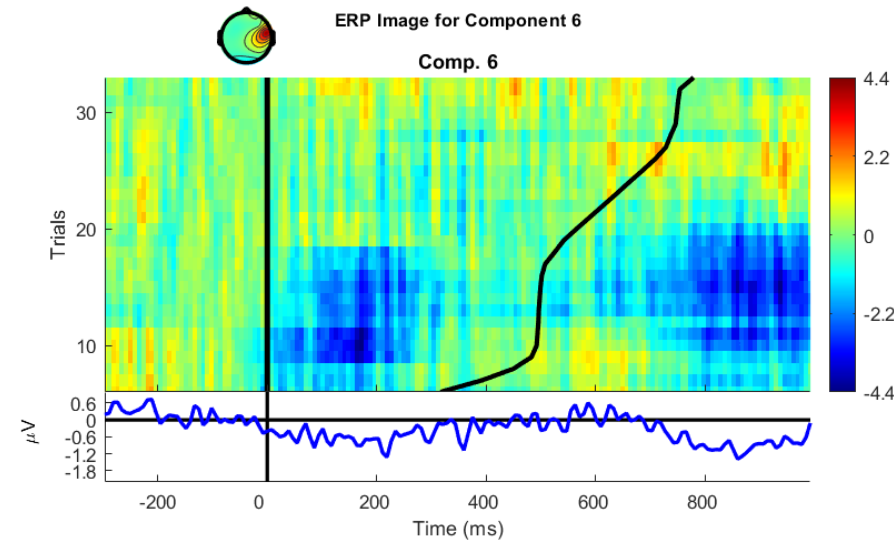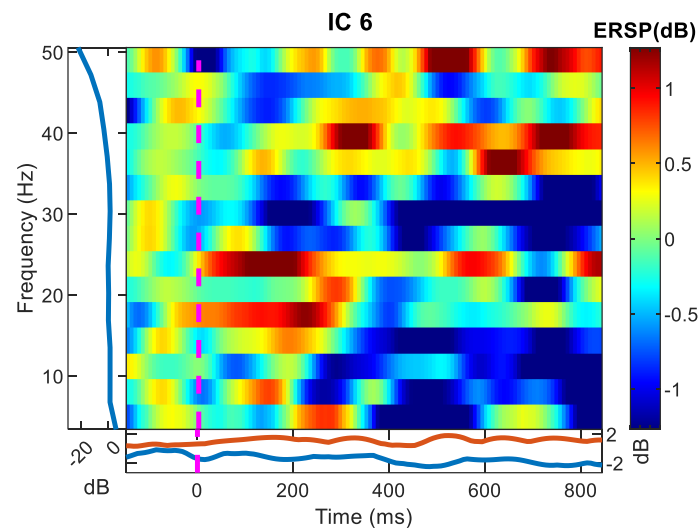- Corrects the baseline by subtracting the -290 to 0 ms mean

Figure 1. ERP of the 1st component for subject 104 training session 1. Event '7' is the stimulus onset when time = 0ms. Event '6' marks the car's forward movement with a black line, sorted by latency
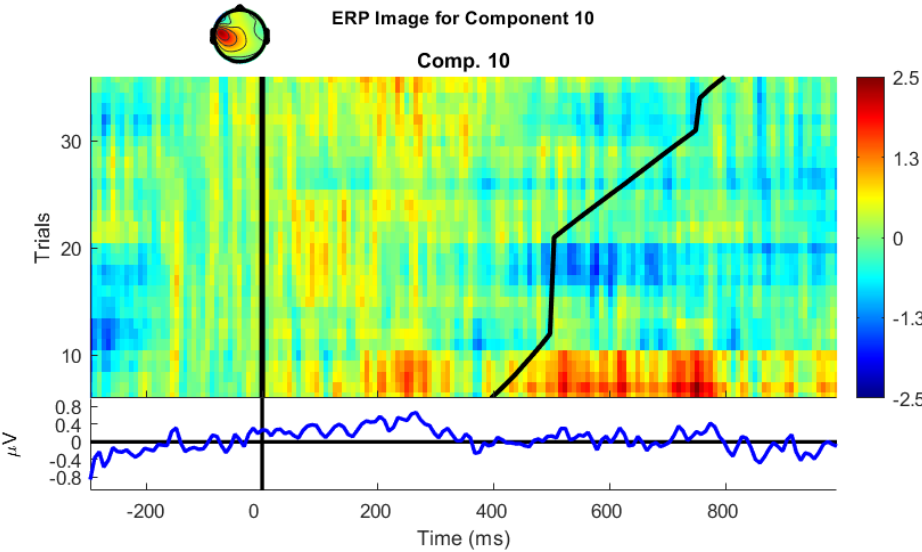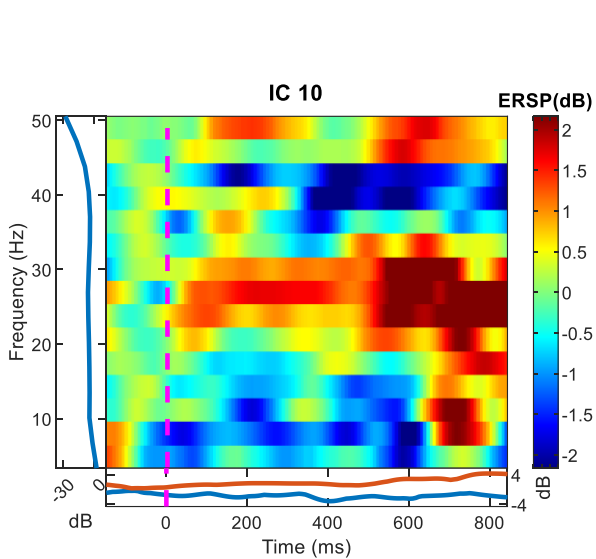
101_2

Temporal T8		
Time(ms)	Alpha	
[-50, 100]	sync	
[400, 650]	sync	

101_3

Frontal FC6		
Time(ms)	Alpha	
[-50, 100]	desync	
[350, 600]	sync	

IC 6

ERP Image for Component 6

101_4

Frontal FC5		
Time(ms)	Alpha	
[-50, 100]	desync	
[350, 550]	sync	

IC 10

ERP Image for Component 10

Comp. 10

Frontal F4		
Time(ms)	Alpha	
[-50, 100]	desync	
[250,500]	sync	

IC 8

ERP Image for Component 8

Comp. 8

101_6

Frontal FC6		
Time(ms)	Alpha	
[-50, 100]	desync	
[350, 550]	sync	

IC 10

ERP Image for Component 10
Comp. 10

Frontal F8		
Time(ms)	Alpha	
[-50, 100]	desync	
[400, 650]	sync	

IC 7

ERP Image for Component 7
Comp. 7

101_7

Frontal FC6		
Time(ms)	Alpha	
[-50, 100]	desync	
[350, 500]	sync	

IC 14

ERP Image for Component 14

101_8
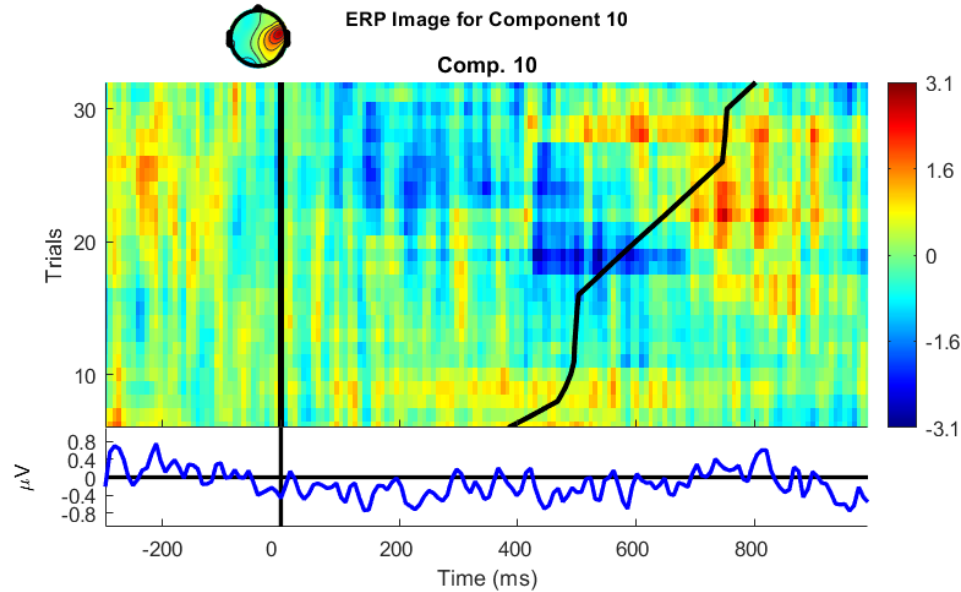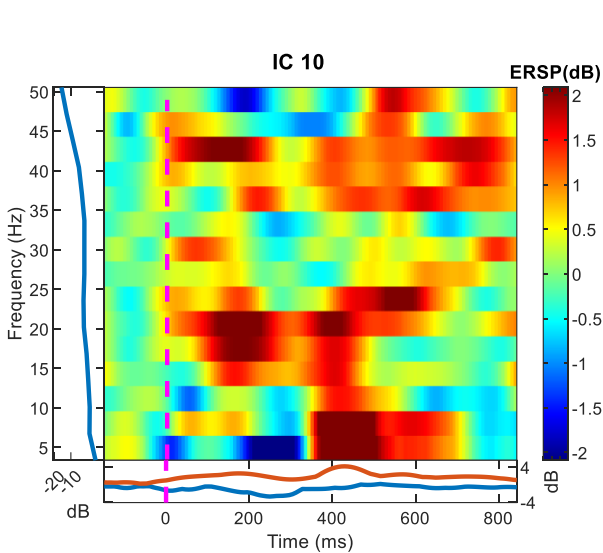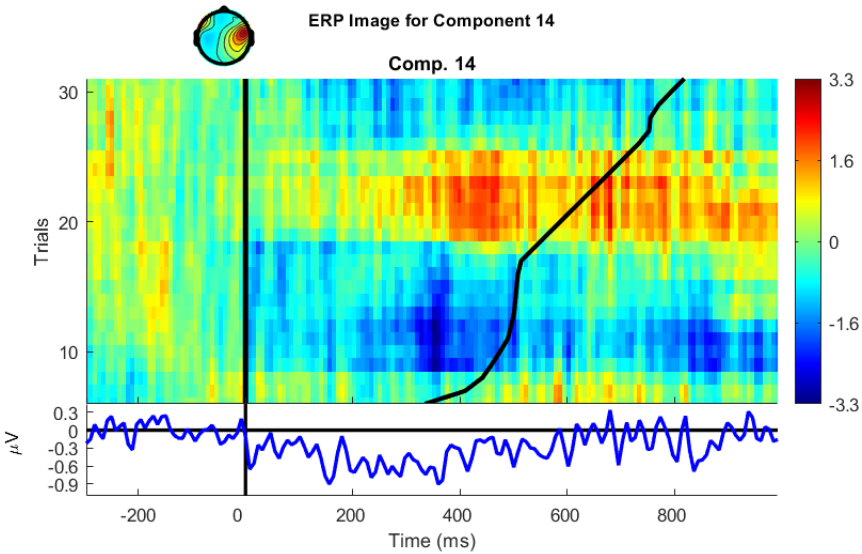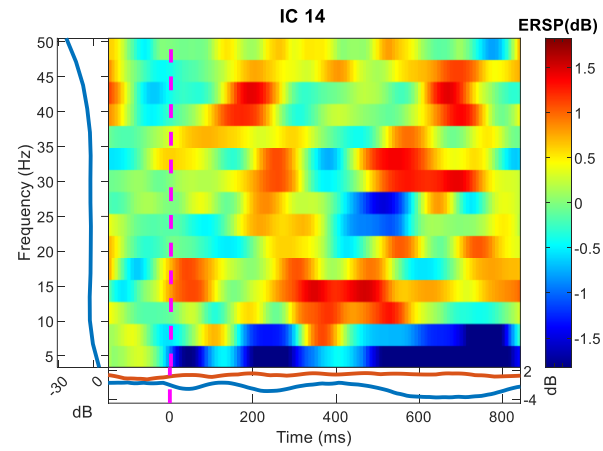
Frontal FC6		
Time(ms)	Alpha	
[-50, 100]	desync	
[400, 650]	sync	

Frontal F4		
Time(ms)	Alpha	
[-50, 200]	desync	
[400, 600]	sync	

IC 13

ERSP(dB)

ERP Image for Component 13

Comp. 13

IC 8

ERSP(dB)

ERP Image for Component 8

Comp. 8

101_9
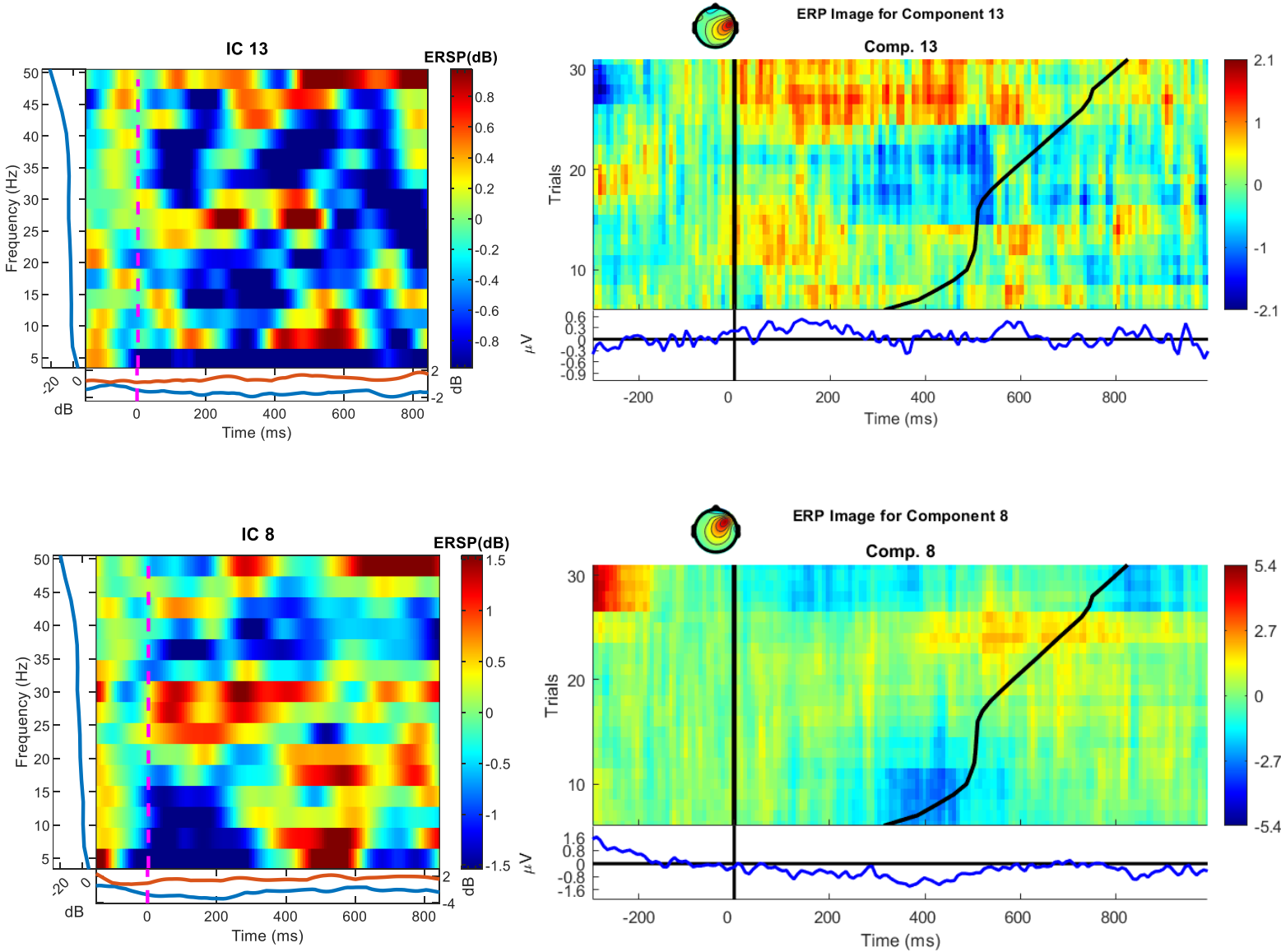
Occipital O1

Time(ms)	Alpha	
[-50, 100]	desync	
[350, 550]	sync	

Frontal F4

Time(ms)	Alpha	
[-50, 100]	sync	
[400, 600]	sync	

101_11
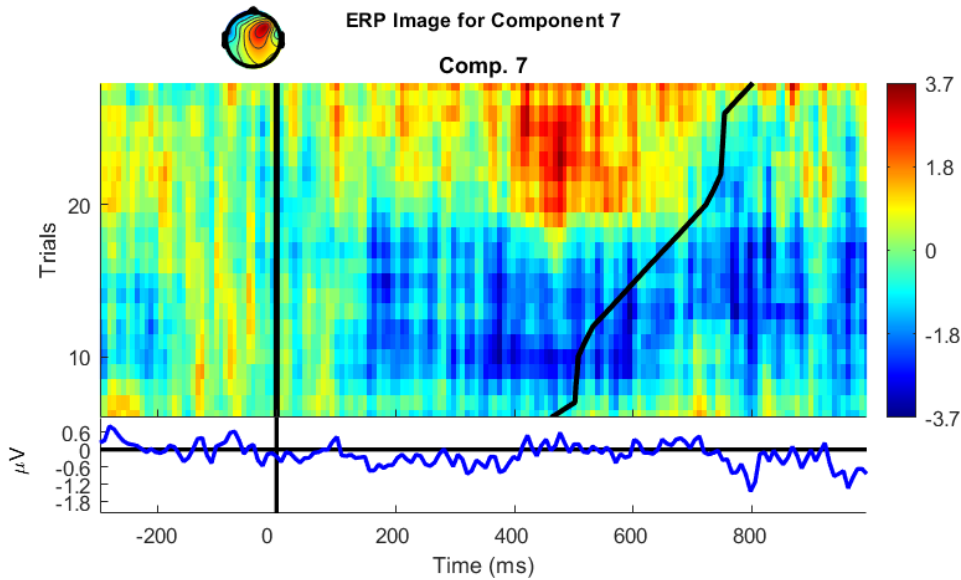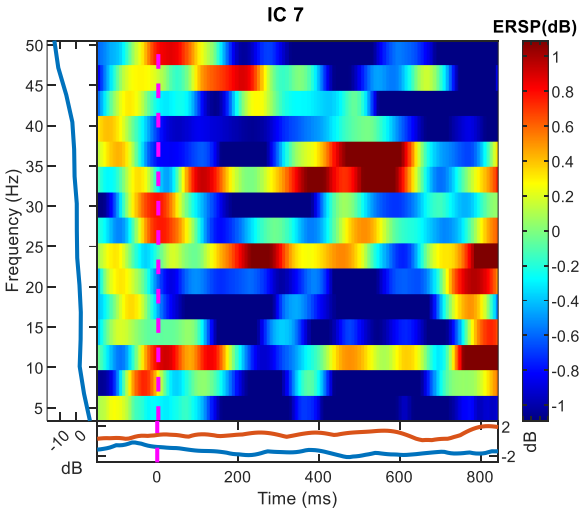
Frontal FC5		
Time(ms)	Alpha	
[-50, 400]	desync	
[400, 600]	sync	
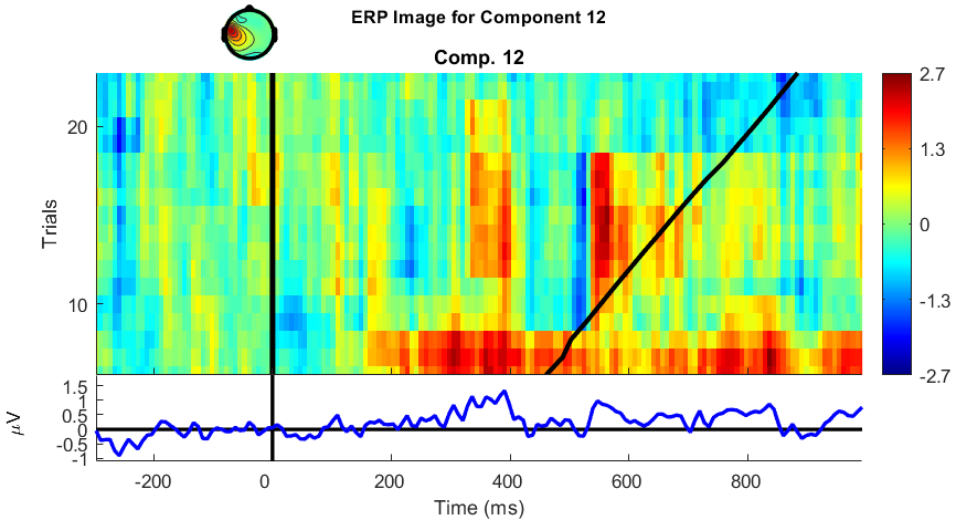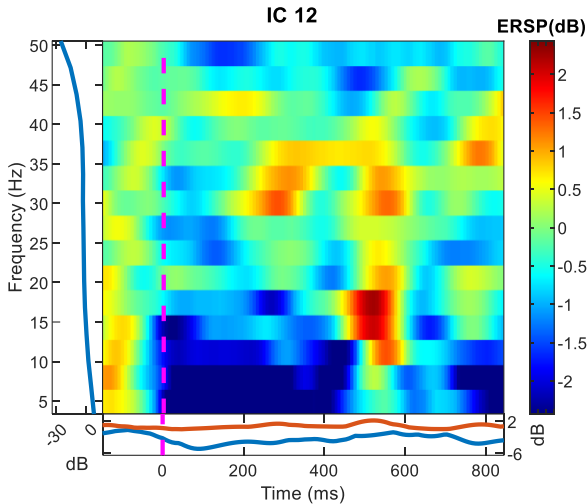
IC 12

ERSP(dB)

ERP Image for Component 12

Comp. 12

101_12

Frontal FC6		
Time(ms)	Alpha	
[-50, 100]	desync	
[400, 600]	sync	

IC 7

ERP Image for Component 7

101_13
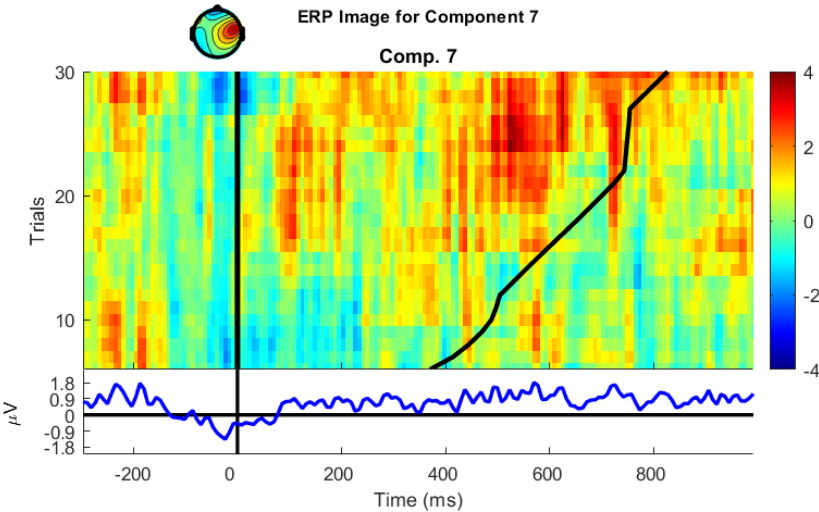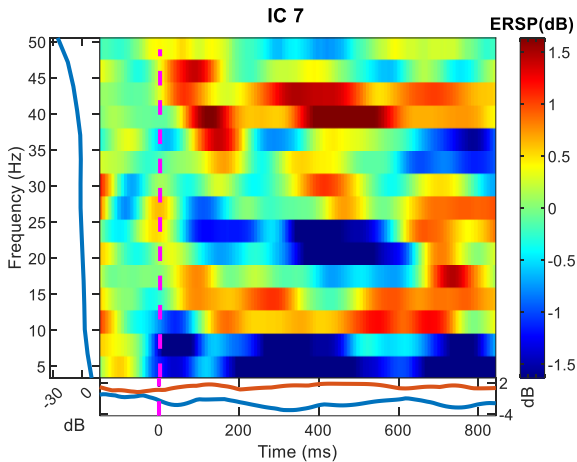
Frontal FC6		
Time(ms)	Alpha	
[-50, 100]	desync	
[250, 400]	sync	

101_15
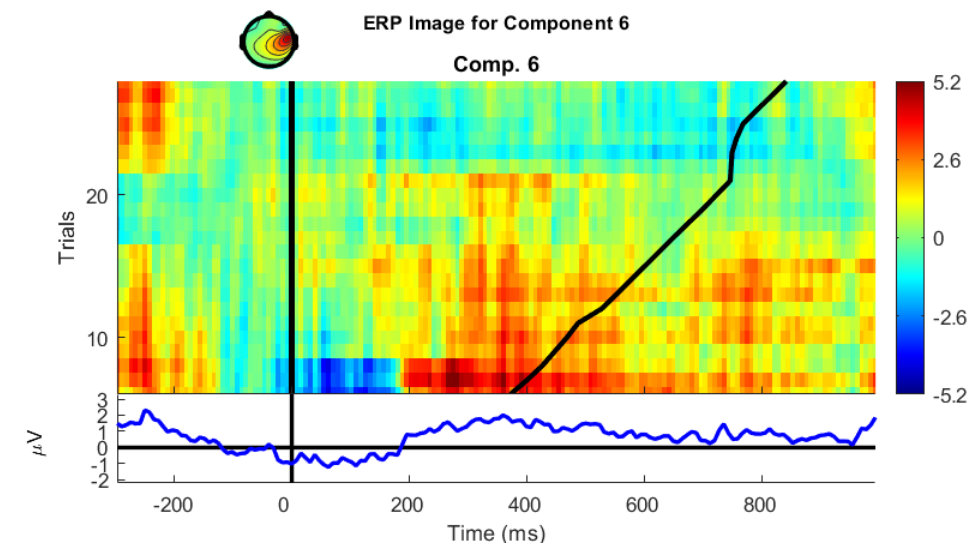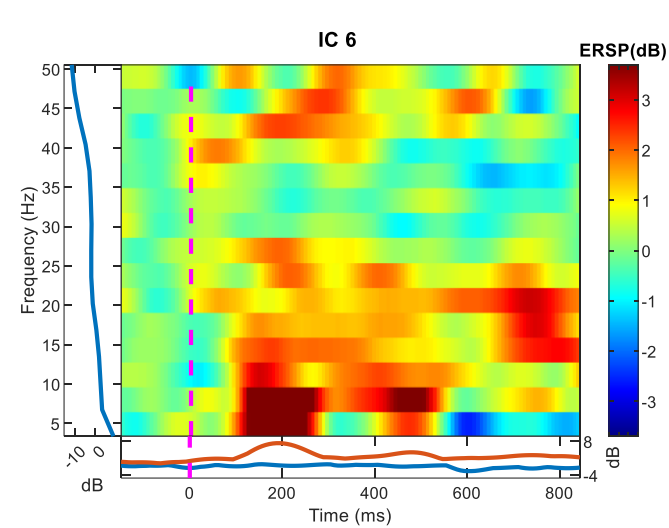
Frontal F4

Time(ms)	Alpha	
[-100, 100]	desync	
[300, 600]	sync	

Frontal F3

Time(ms)	Alpha	
[-50, 100]	sync	
[400, 650]	sync	

101_18
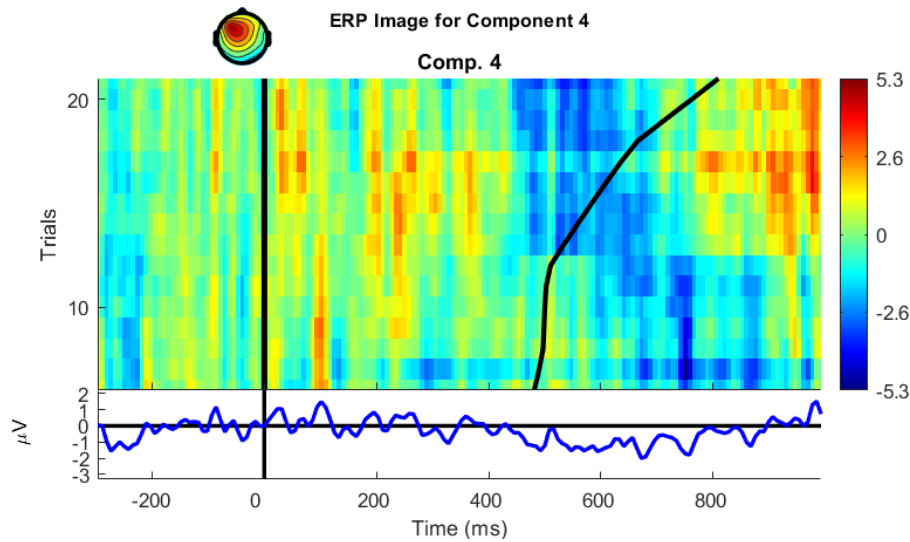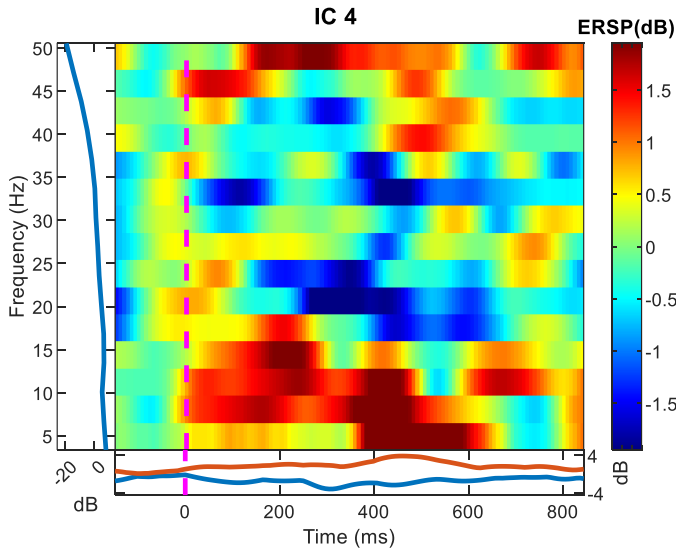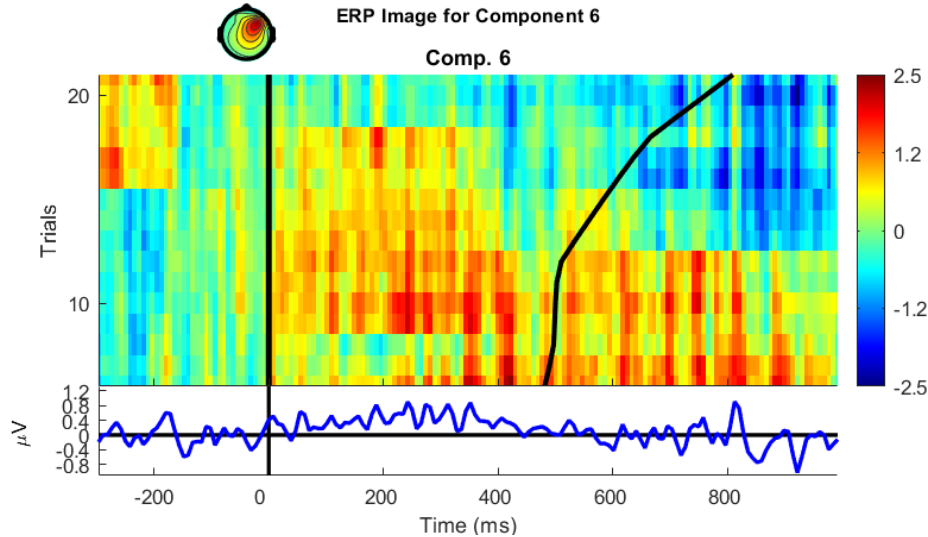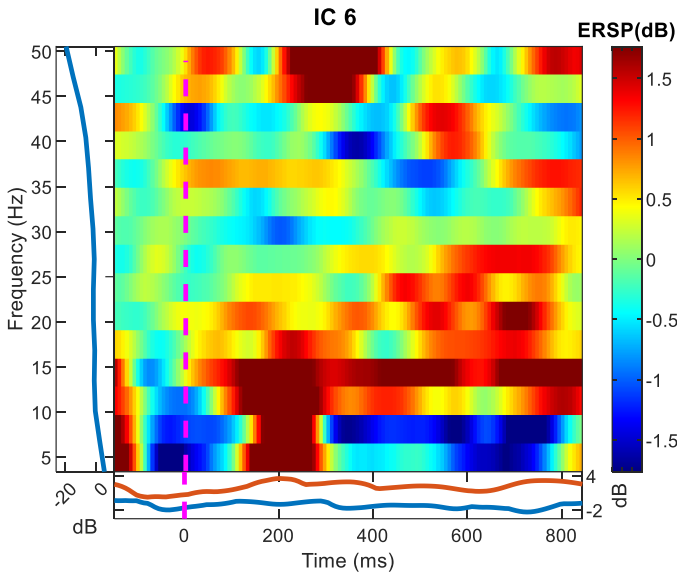
Frontal F4		
Time(ms)	Alpha	
[-50, 100]	sync	
[350, 550]	sync	

101_19
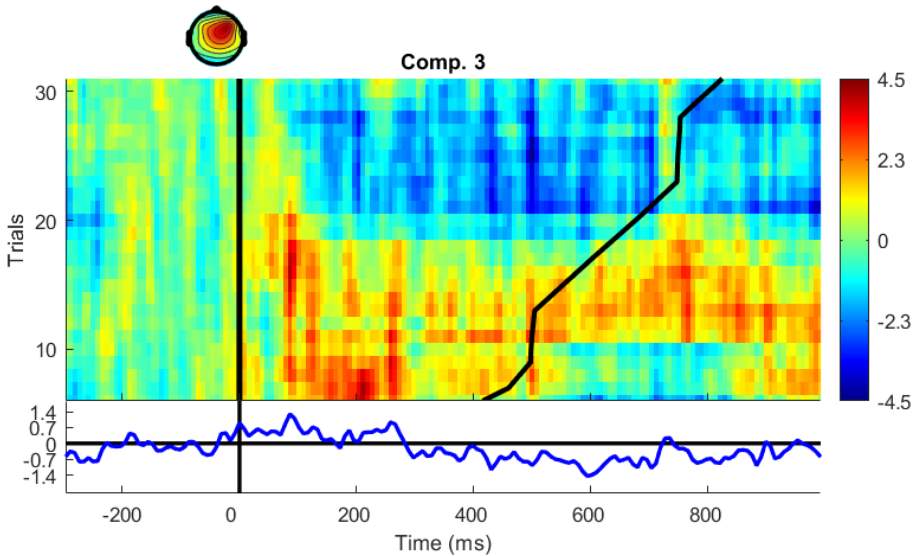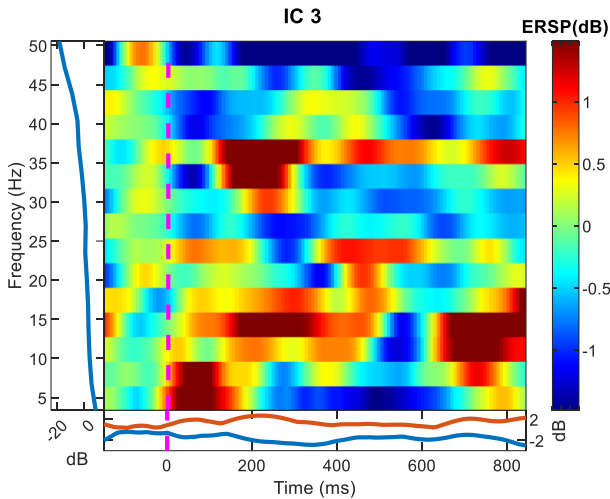
Frontal FC5

Time(ms)	Alpha	
[-50, 100]	sync	
[400, 600]	sync	

Frontal F8

Time(ms)	Alpha	
[-50, 100]	desync	
[350, 550]	sync	

101_21
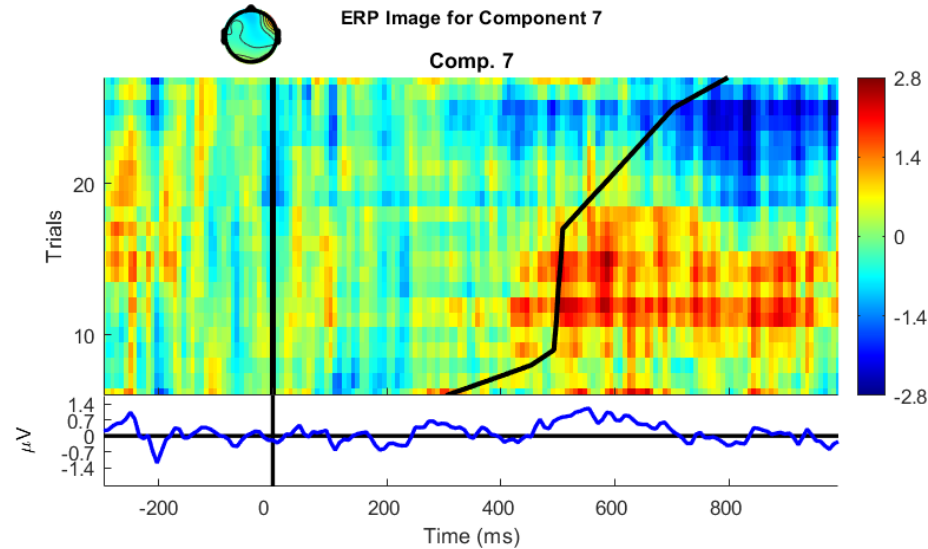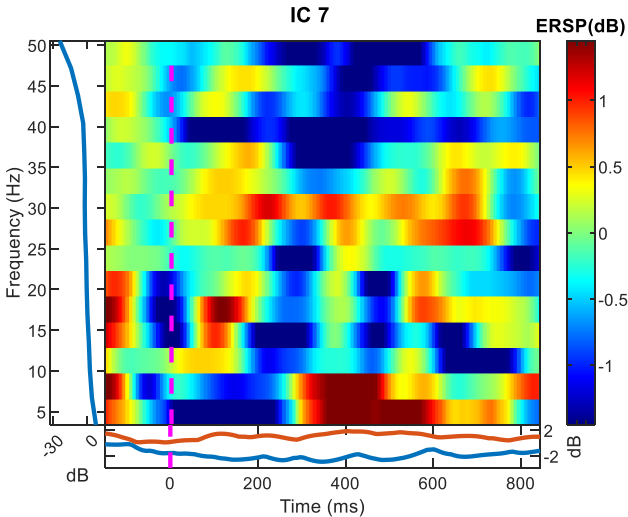
Frontal FC5		
Time(ms)	Alpha	
[-50, 100]	desync	
[300, 550]	sync	

Temporal T7		
Time(ms)	Alpha	
[-50, 100]	desync	
[400, 600]	sync	

101_22
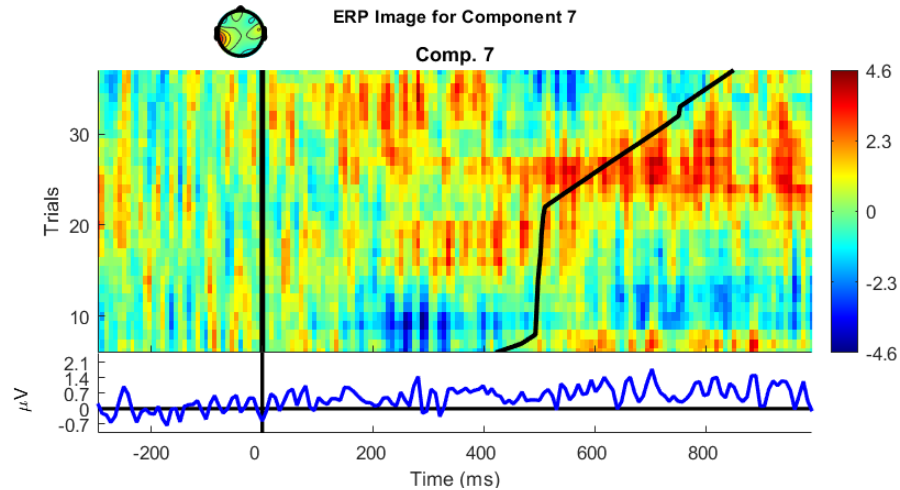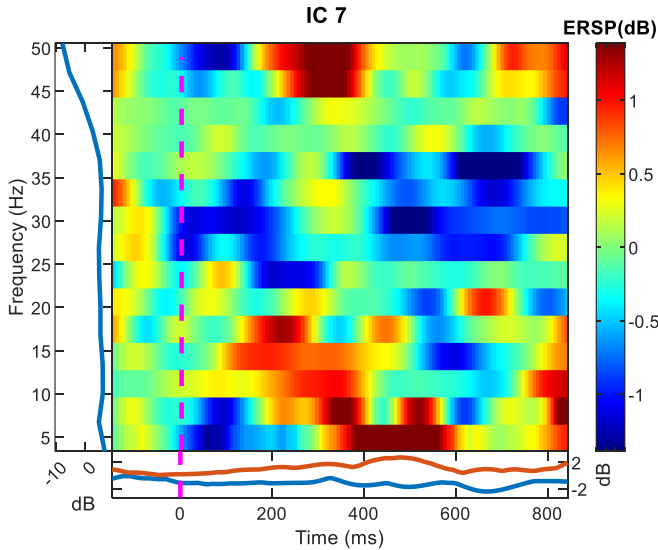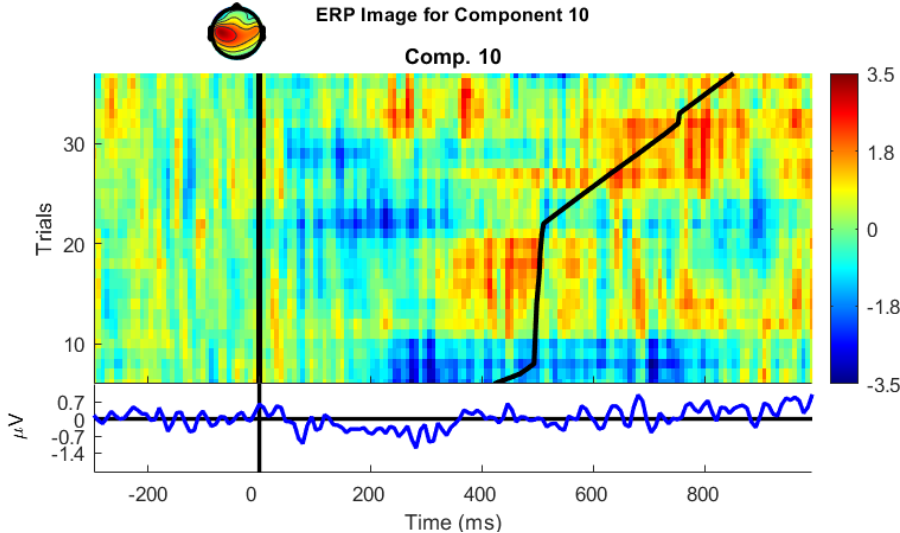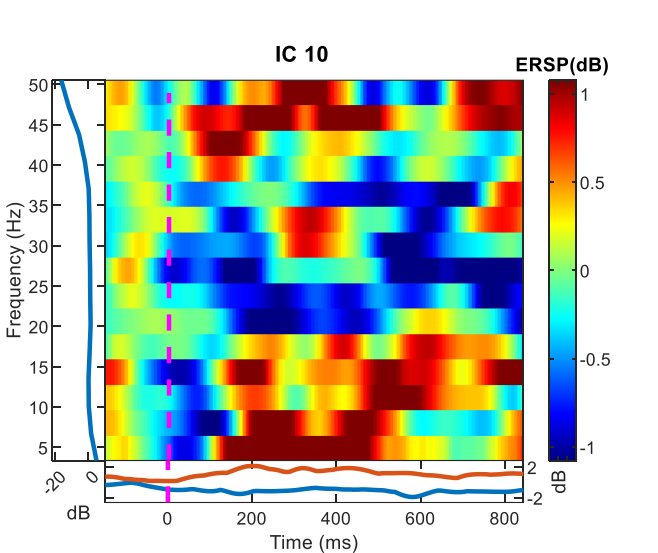
Frontal F4		
Time(ms)	Alpha	
[-50, 150]	desync	
[400, 650]	sync	

IC 6

ERSP(dB)

ERP Image for Component 6

Comp. 6

101_23
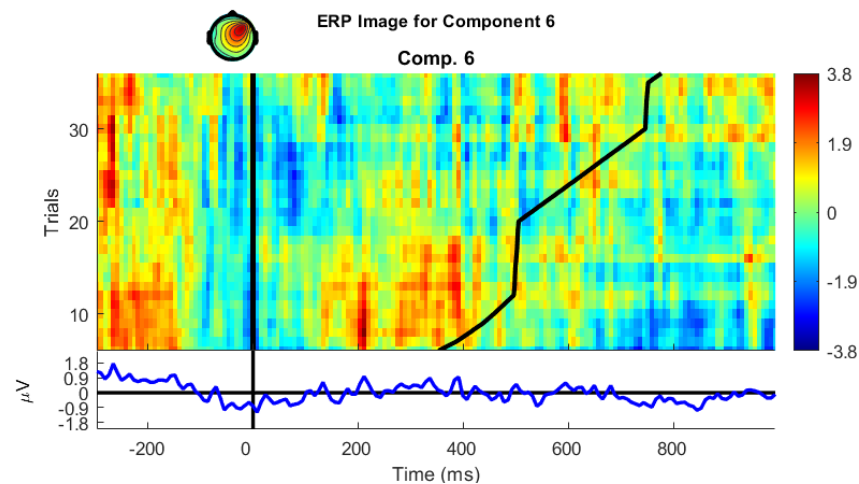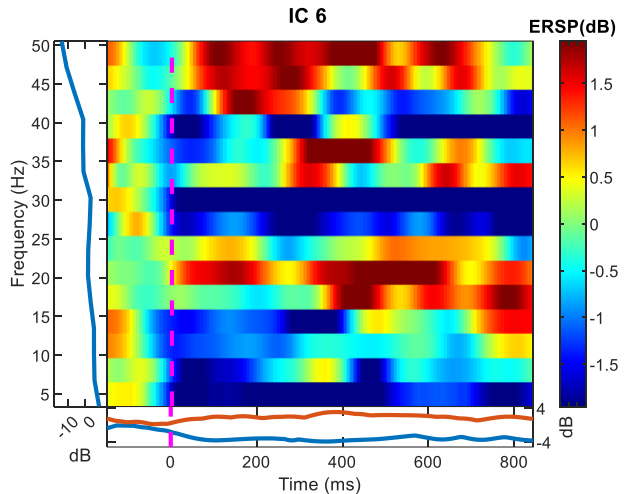
Frontal F3		
Time(ms)	Alpha	
[-50, 150]	desync	
[350, 650]	sync	

Frontal F8		
Time(ms)	Alpha	
[-50, 100]	desync	
[400, 650]	sync	

101_24
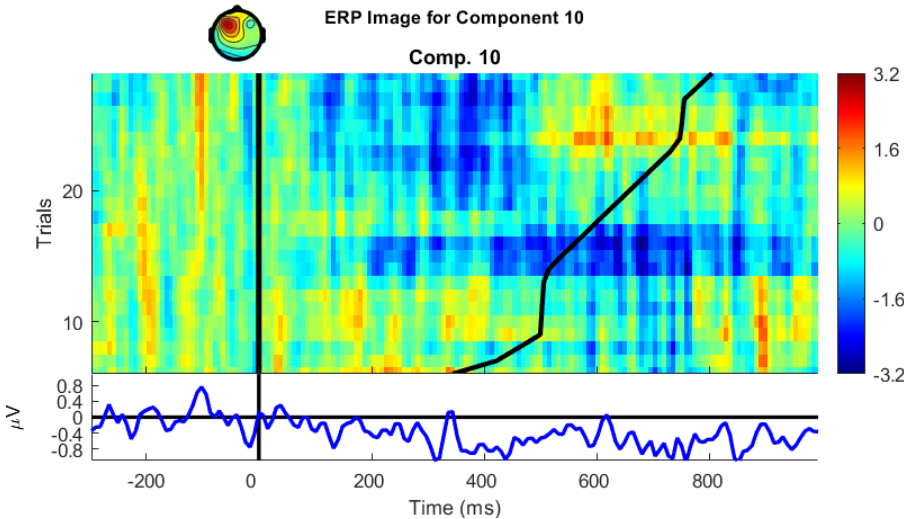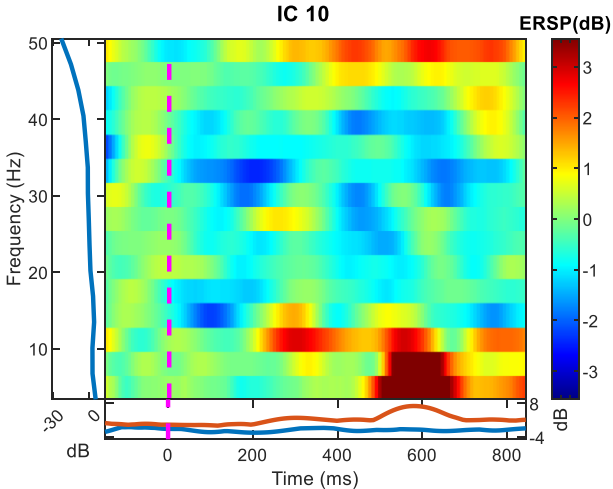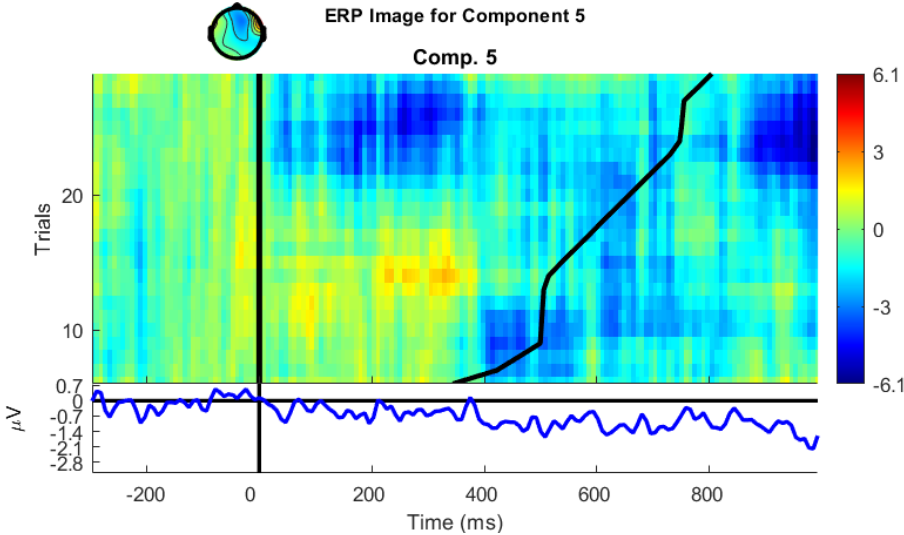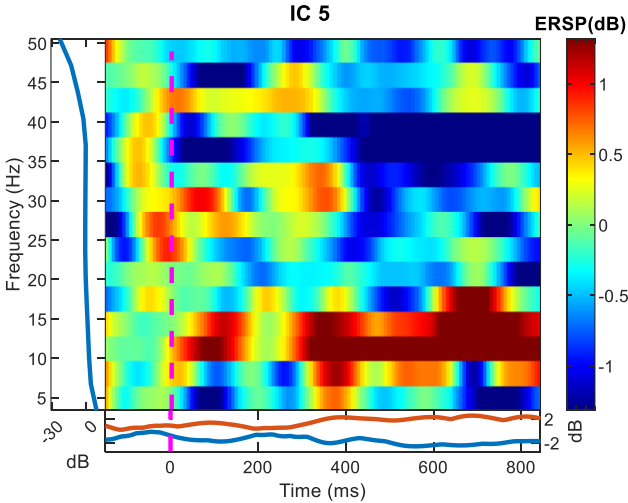
Temporal T8		
Time(ms)	Alpha	
[-50, 50]	desync	
[350, 600]	sync	
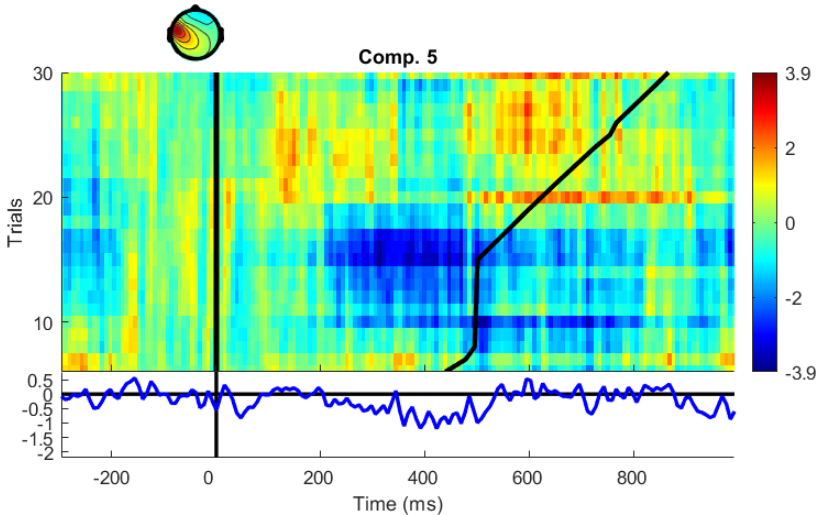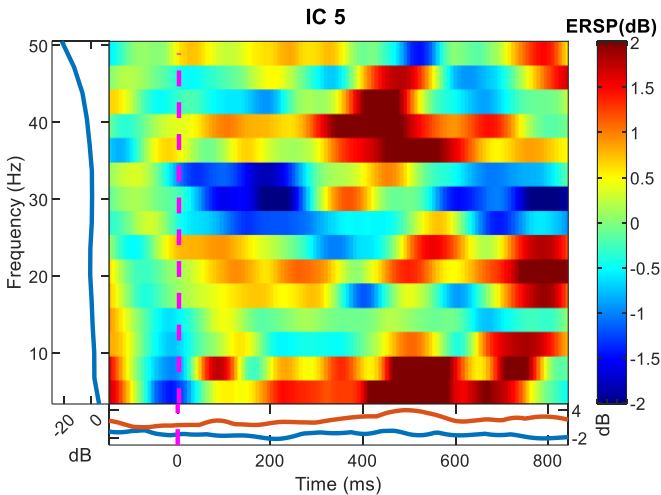
===== All Regions Summary =====
Region: Left-Frontal
Components processed: 9
==p-value (Early vs Middle): 0.03278 (decrease)==
==p-value (Middle vs Later): 0.0056422339 (increase)==
p-value (Early vs Later): 0.91239541 (decrease)

Region: Right-Frontal
Components processed: 17
p-value (Early vs Middle): 0.58628 (increase)
p-value (Middle vs Later): 0.77783055 (decrease)
p-value (Early vs Later): 0.58839355 (increase)

Region: Left-Temporal
Components processed: NA
p-value (Early vs Middle): NA
p-value (Middle vs Later): NA
p-value (Early vs Later): NA

Region: Right-Temporal
Components processed: NA
p-value (Early vs Middle): NA
p-value (Middle vs Later): NA
p-value (Early vs Later): NA

Region: Left-Occipital
Components processed: NA
p-value (Early vs Middle): NA
p-value (Middle vs Later): NA
p-value (Early vs Later): NA

Region: Right-Occipital
Components processed: 0
p-value (Early vs Middle): NA
p-value (Middle vs Later): NA
p-value (Early vs Later): NA

Region: Left-Parietal
Components processed: 0
p-value (Early vs Middle): NA
p-value (Middle vs Later): NA
p-value (Early vs Later): NA

Region: Right-Parietal
Components processed: 0
p-value (Early vs Middle): NA
p-value (Middle vs Later): NA
p-value (Early vs Later): NA