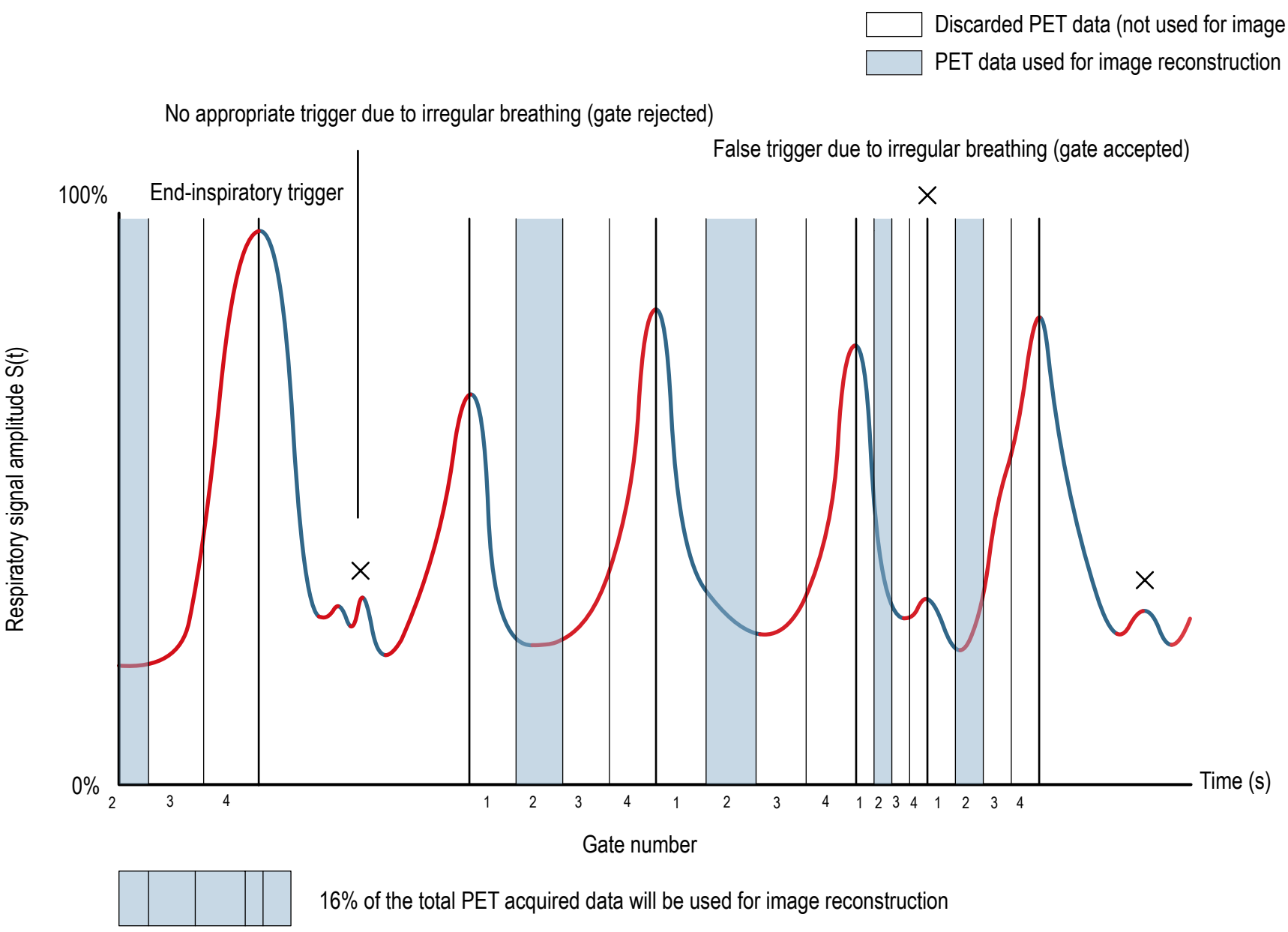
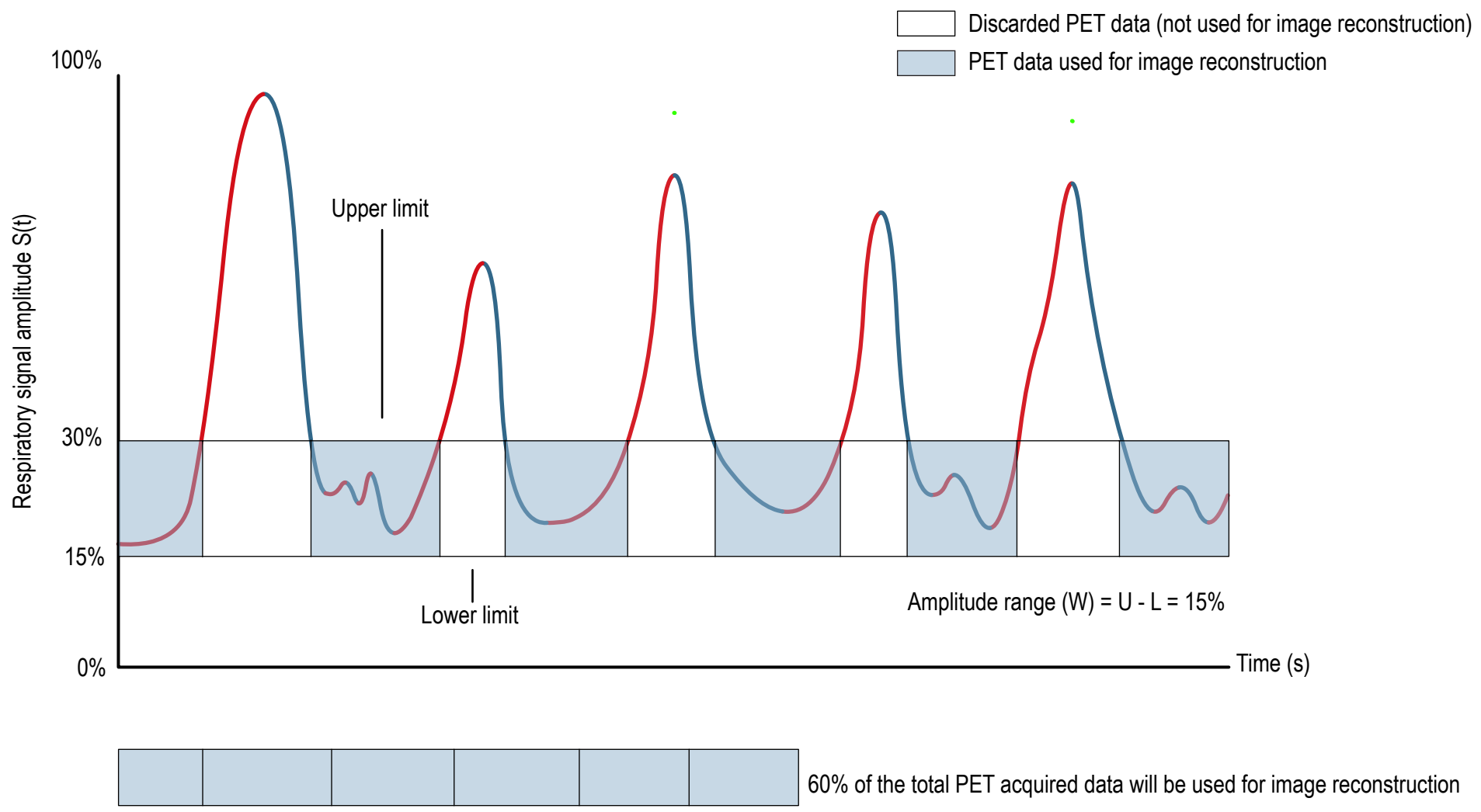
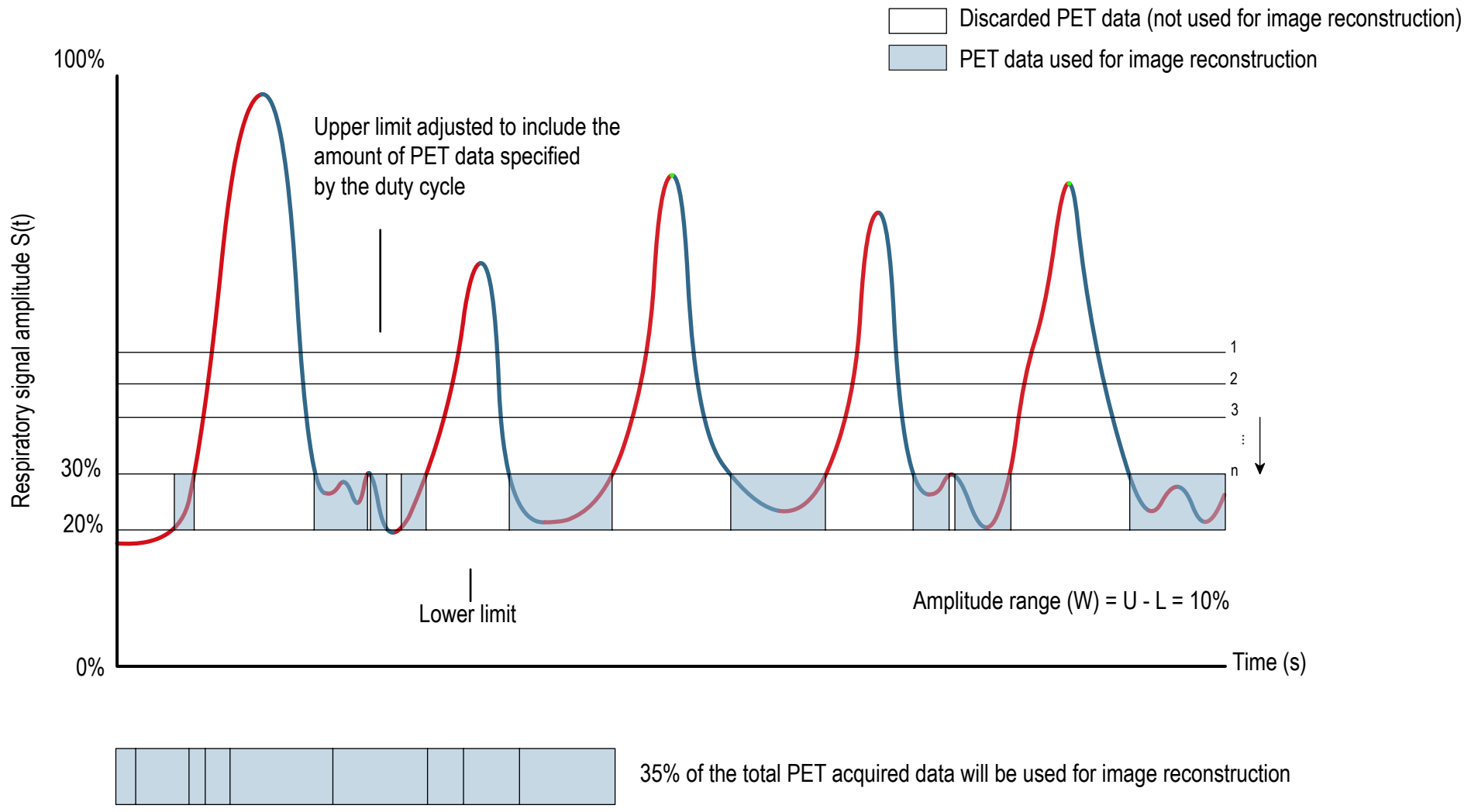
a


Discarded PET data (not used for image reconstruction)
PET data used for image reconstruction
No appropriate trigger due to irregular breathing (gate rejected)
False trigger due to irregular breathing (gate accepted)
End-inspiratory trigger
100%
0%
Respiratory signal amplitude S(t)
Time (s)
2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4
Gate number
16% of the total PET acquired data will be used for image reconstruction

b


Discarded PET data (not used for image reconstruction)
PET data used for image reconstruction
100%
30%
15%
0%
Respiratory signal amplitude S(t)
Upper limit
Lower limit
Amplitude range (W) = U - L = 15%
Time (s)
60% of the total PET acquired data will be used for image reconstruction

c


Discarded PET data (not used for image reconstruction)
PET data used for image reconstruction
100%
30%
20%
0%
Respiratory signal amplitude S(t)
Upper limit adjusted to include the amount of PET data specified by the duty cycle
1
2
3
n
Lower limit
Amplitude range (W) = U - L = 10%
Time (s)
35% of the total PET acquired data will be used for image reconstruction