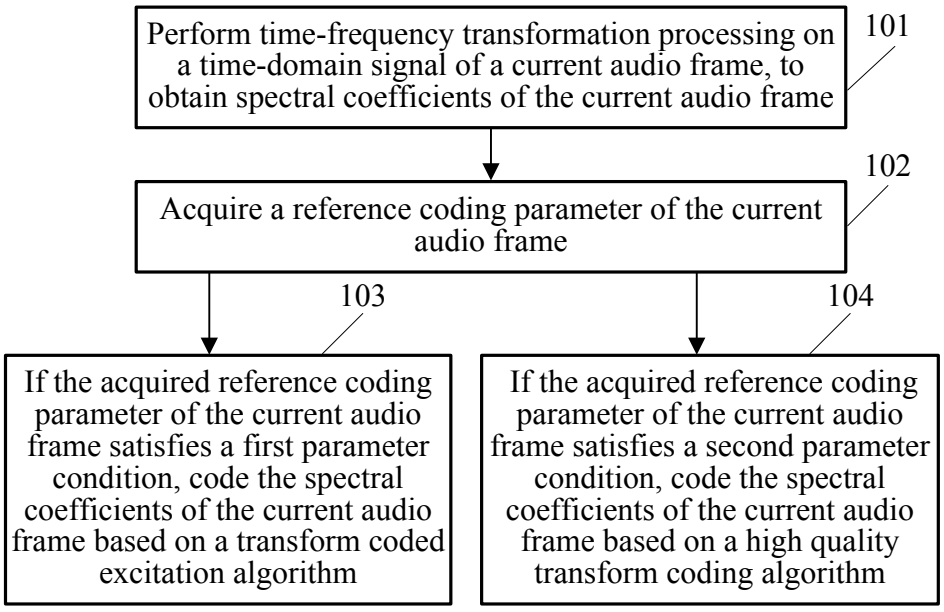

Perform time-frequency transformation processing on a time-domain signal of a current audio frame, to obtain spectral coefficients of the current audio frame
101
Acquire a reference coding parameter of the current audio frame
102
103
104
If the acquired reference coding parameter of the current audio frame satisfies a first parameter condition, code the spectral coefficients of the current audio frame based on a transform coded excitation algorithm
If the acquired reference coding parameter of the current audio frame satisfies a second parameter condition, code the spectral coefficients of the current audio frame based on a high quality transform coding algorithm

FIG. 1

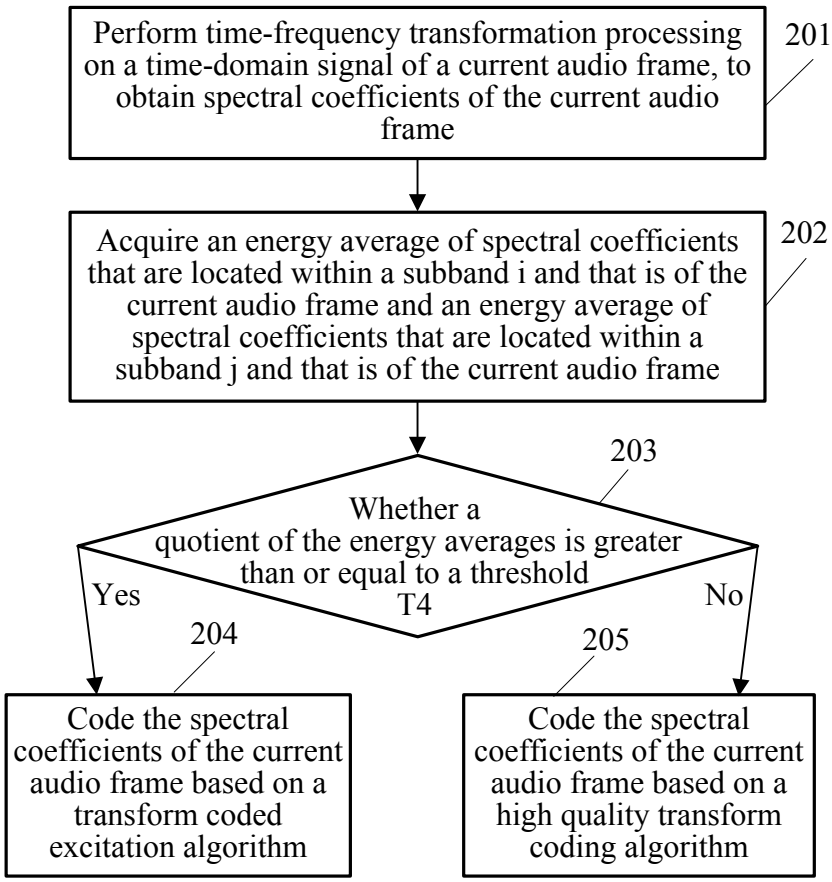

Perform time-frequency transformation processing on a time-domain signal of a current audio frame, to obtain spectral coefficients of the current audio frame
201
Acquire an energy average of spectral coefficients that are located within a subband i and that is of the current audio frame and an energy average of spectral coefficients that are located within a subband j and that is of the current audio frame
202
203
Whether a quotient of the energy averages is greater than or equal to a threshold T4
Yes
No
204
205
Code the spectral coefficients of the current audio frame based on a transform coded excitation algorithm
Code the spectral coefficients of the current audio frame based on a high quality transform coding algorithm

FIG. 2

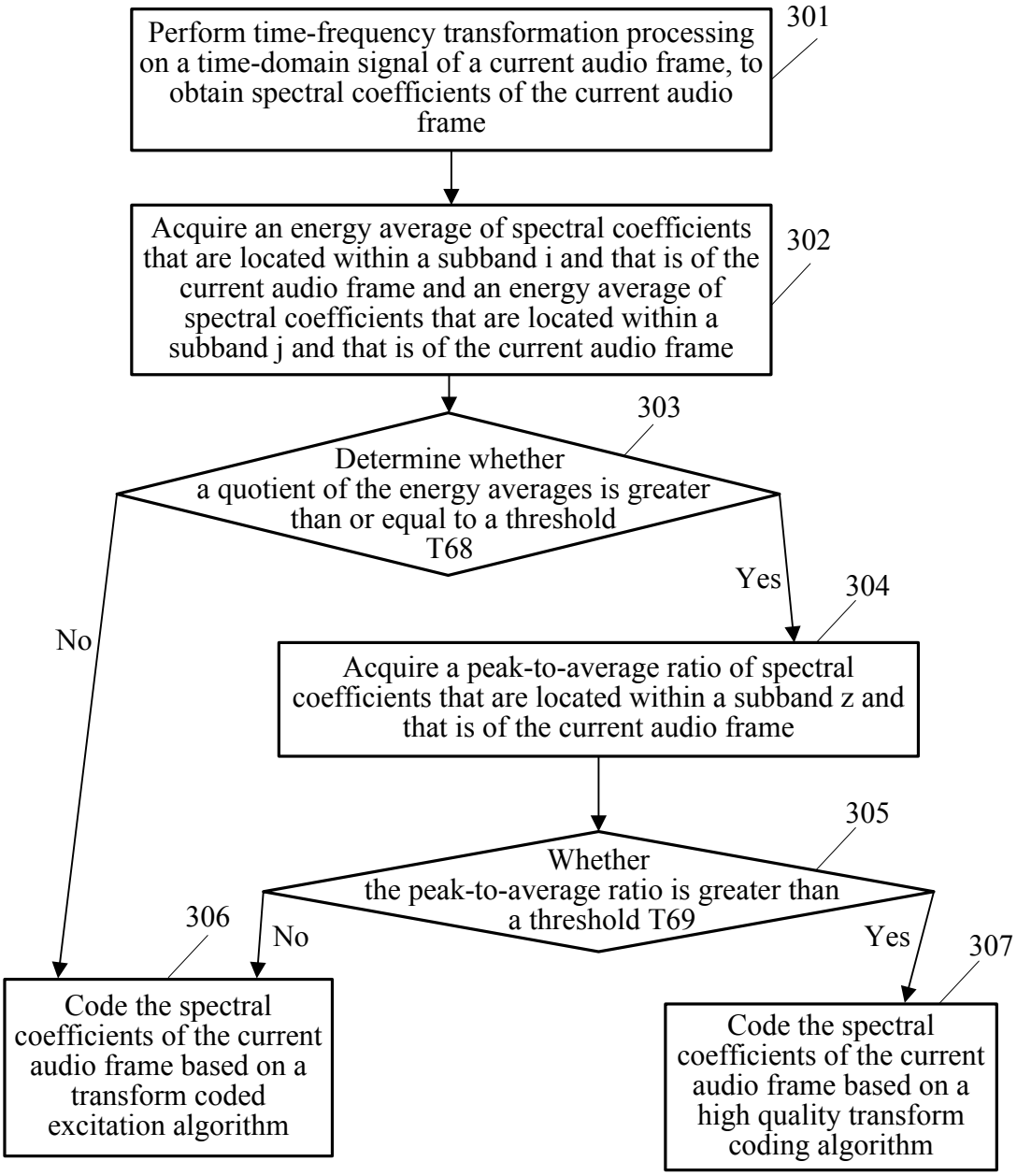

Perform time-frequency transformation processing on a time-domain signal of a current audio frame, to obtain spectral coefficients of the current audio frame
301
Acquire an energy average of spectral coefficients that are located within a subband i and that is of the current audio frame and an energy average of spectral coefficients that are located within a subband j and that is of the current audio frame
302
303
Determine whether a quotient of the energy averages is greater than or equal to a threshold T68
Yes
No
304
Acquire a peak-to-average ratio of spectral coefficients that are located within a subband z and that is of the current audio frame
305
Whether the peak-to-average ratio is greater than a threshold T69
No
Yes
306
307
Code the spectral coefficients of the current audio frame based on a transform coded excitation algorithm
Code the spectral coefficients of the current audio frame based on a high quality transform coding algorithm

FIG. 3

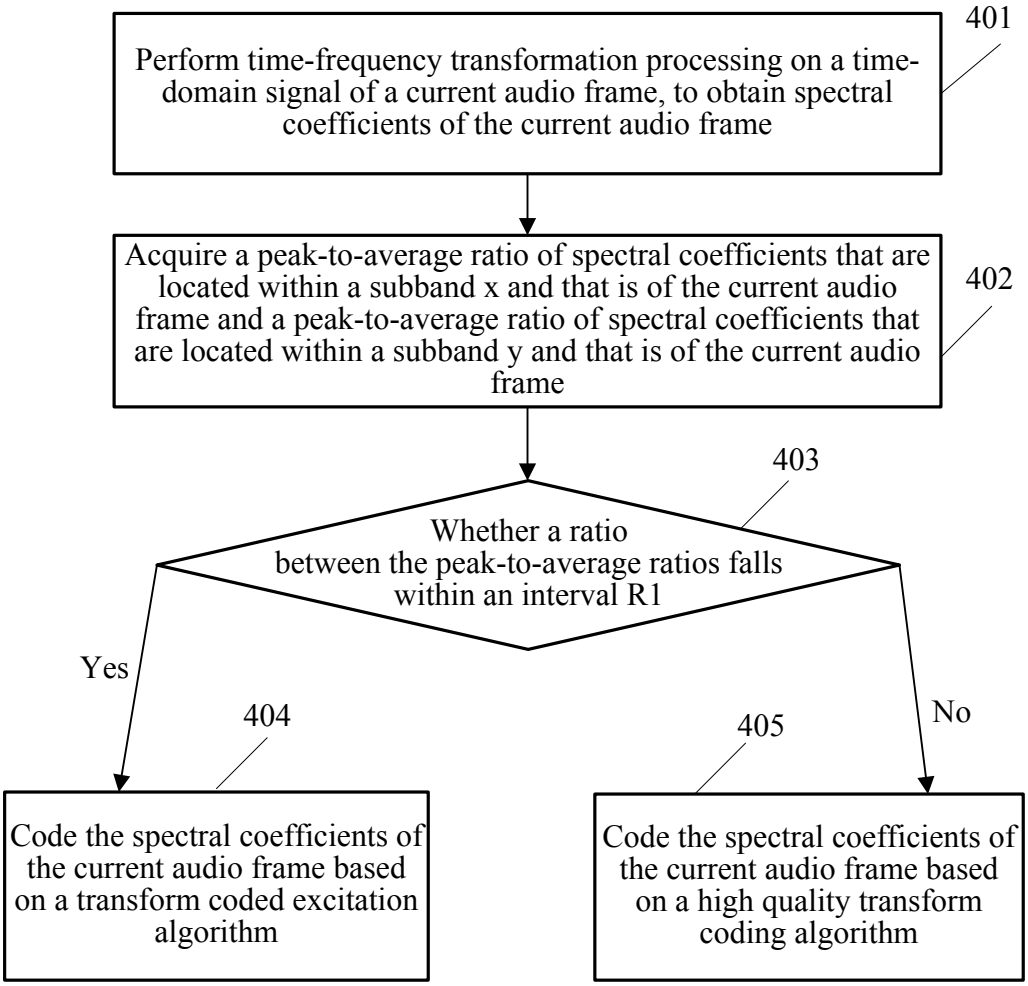

401
Perform time-frequency transformation processing on a time-domain signal of a current audio frame, to obtain spectral coefficients of the current audio frame
402
Acquire a peak-to-average ratio of spectral coefficients that are located within a subband x and that is of the current audio frame and a peak-to-average ratio of spectral coefficients that are located within a subband y and that is of the current audio frame
403
Whether a ratio between the peak-to-average ratios falls within an interval R1
Yes
No
404
Code the spectral coefficients of the current audio frame based on a transform coded excitation algorithm
405
Code the spectral coefficients of the current audio frame based on a high quality transform coding algorithm

FIG. 4

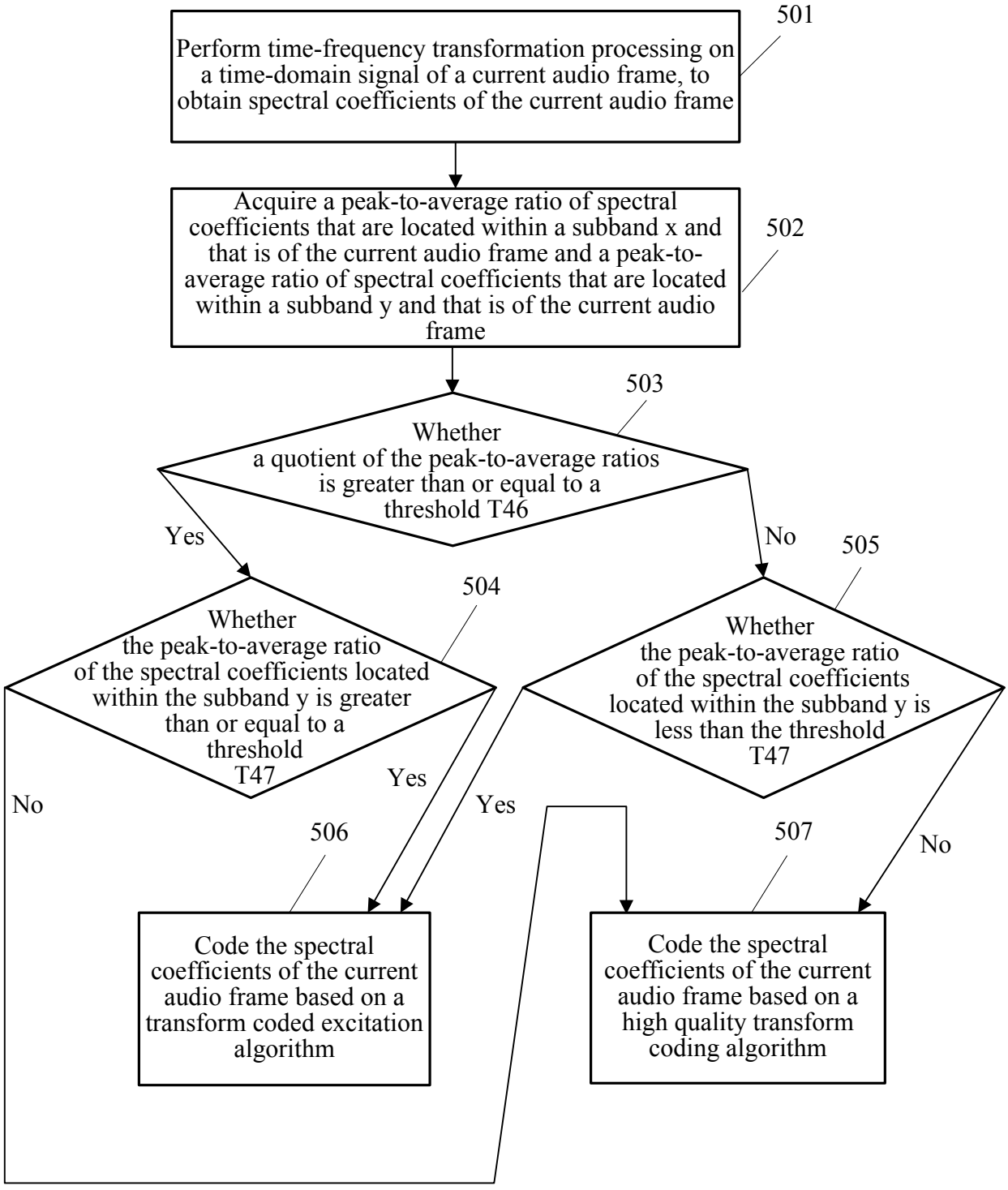

501
Perform time-frequency transformation processing on a time-domain signal of a current audio frame, to obtain spectral coefficients of the current audio frame
502
Acquire a peak-to-average ratio of spectral coefficients that are located within a subband x and that is of the current audio frame and a peak-to-average ratio of spectral coefficients that are located within a subband y and that is of the current audio frame
503
Whether a quotient of the peak-to-average ratios is greater than or equal to a threshold T46
Yes
No
504
Whether the peak-to-average ratio of the spectral coefficients located within the subband y is greater than or equal to a threshold T47
505
Whether the peak-to-average ratio of the spectral coefficients located within the subband y is less than the threshold T47
Yes
No
Yes
No
506
Code the spectral coefficients of the current audio frame based on a transform coded excitation algorithm
507
Code the spectral coefficients of the current audio frame based on a high quality transform coding algorithm

FIG. 5

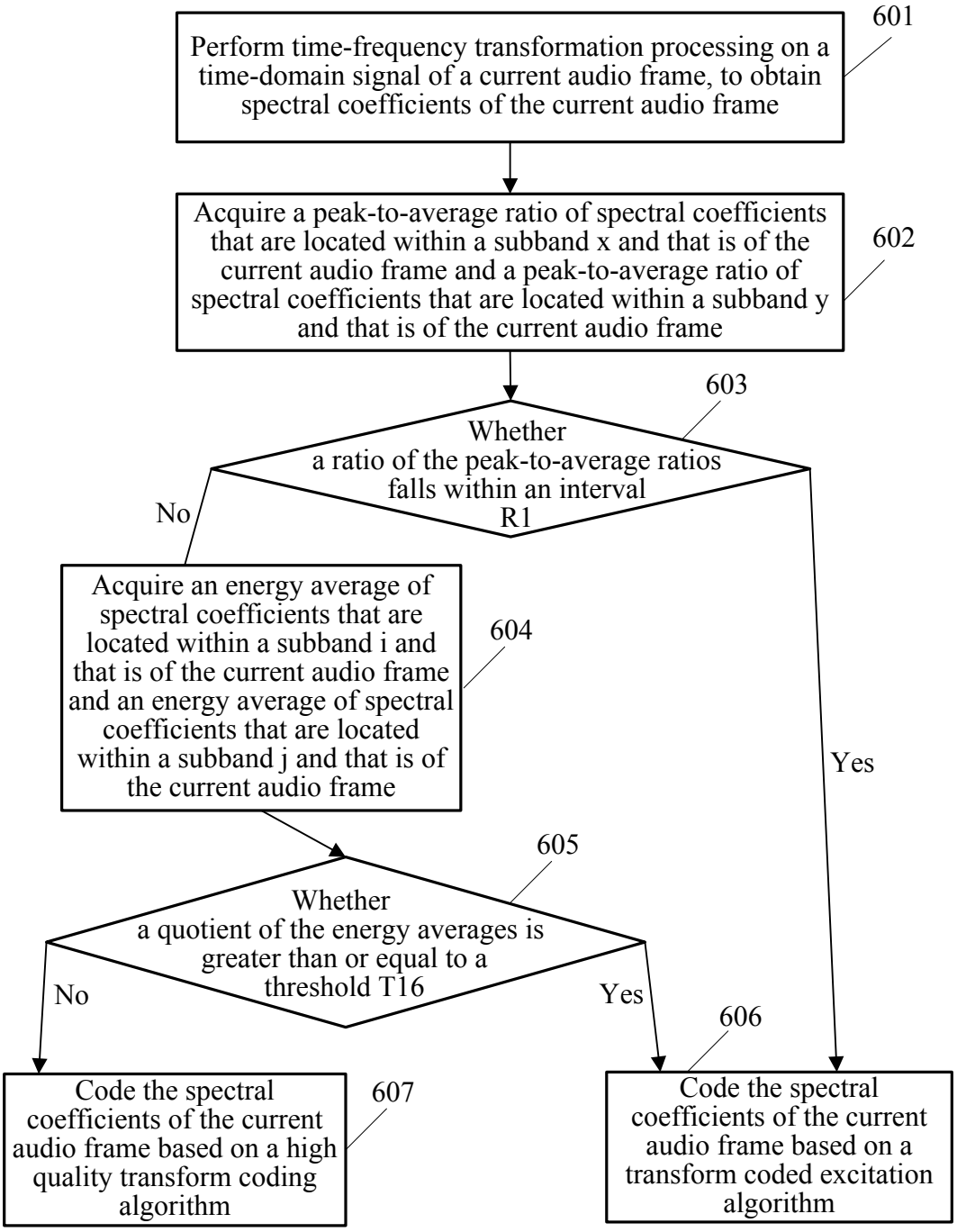

Perform time-frequency transformation processing on a time-domain signal of a current audio frame, to obtain spectral coefficients of the current audio frame
601
Acquire a peak-to-average ratio of spectral coefficients that are located within a subband x and that is of the current audio frame and a peak-to-average ratio of spectral coefficients that are located within a subband y and that is of the current audio frame
602
Whether a ratio of the peak-to-average ratios falls within an interval R1
603
No
Yes
Acquire an energy average of spectral coefficients that are located within a subband i and that is of the current audio frame and an energy average of spectral coefficients that are located within a subband j and that is of the current audio frame
604
Whether a quotient of the energy averages is greater than or equal to a threshold T16
605
No
Yes
Code the spectral coefficients of the current audio frame based on a high quality transform coding algorithm
607
Code the spectral coefficients of the current audio frame based on a transform coded excitation algorithm
606

FIG. 6

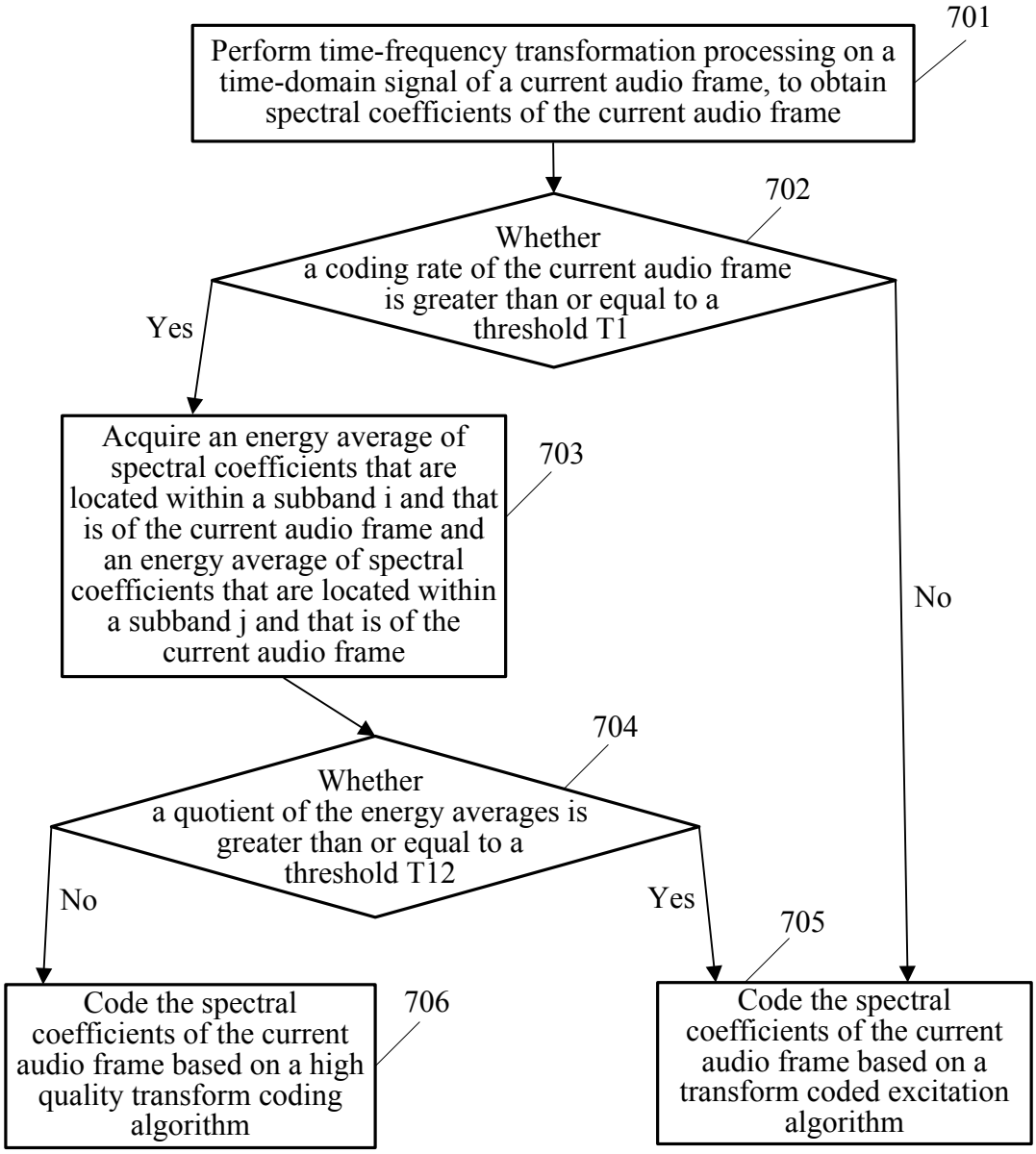

701
Perform time-frequency transformation processing on a time-domain signal of a current audio frame, to obtain spectral coefficients of the current audio frame
702
Whether a coding rate of the current audio frame is greater than or equal to a threshold T1
Yes
No
703
Acquire an energy average of spectral coefficients that are located within a subband i and that is of the current audio frame and an energy average of spectral coefficients that are located within a subband j and that is of the current audio frame
704
Whether a quotient of the energy averages is greater than or equal to a threshold T12
No
Yes
705
706
Code the spectral coefficients of the current audio frame based on a high quality transform coding algorithm
Code the spectral coefficients of the current audio frame based on a transform coded excitation algorithm

FIG. 7

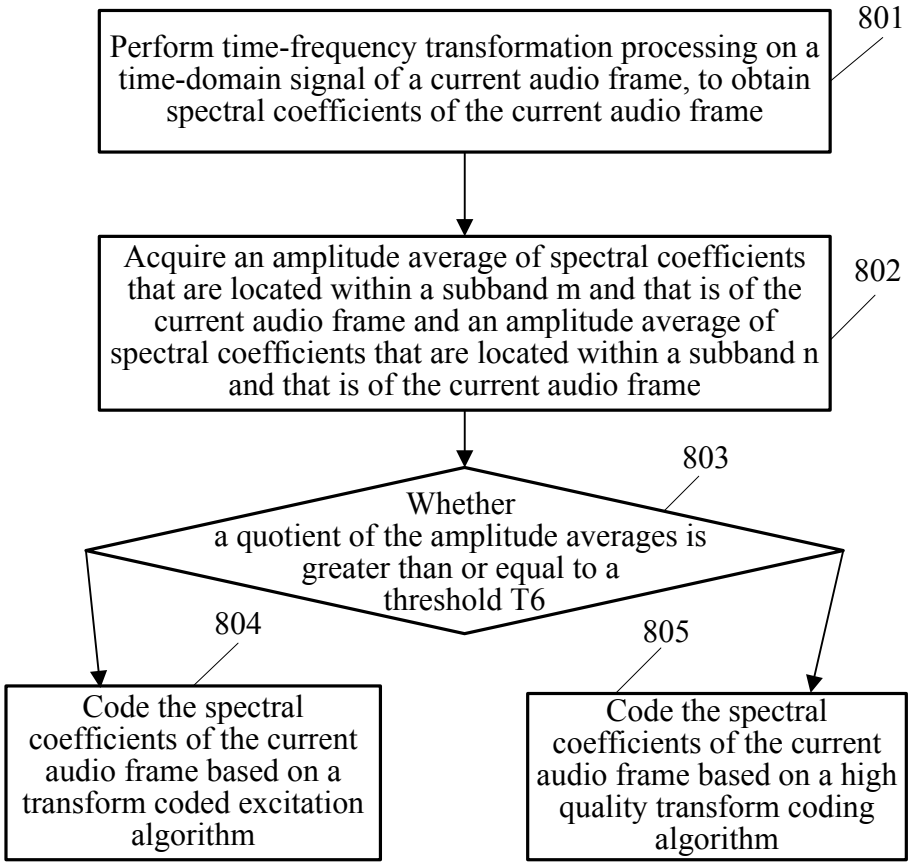

Perform time-frequency transformation processing on a time-domain signal of a current audio frame, to obtain spectral coefficients of the current audio frame
801
Acquire an amplitude average of spectral coefficients that are located within a subband m and that is of the current audio frame and an amplitude average of spectral coefficients that are located within a subband n and that is of the current audio frame
802
Whether a quotient of the amplitude averages is greater than or equal to a threshold T6
803
Code the spectral coefficients of the current audio frame based on a transform coded excitation algorithm
804
Code the spectral coefficients of the current audio frame based on a high quality transform coding algorithm
805

FIG. 8

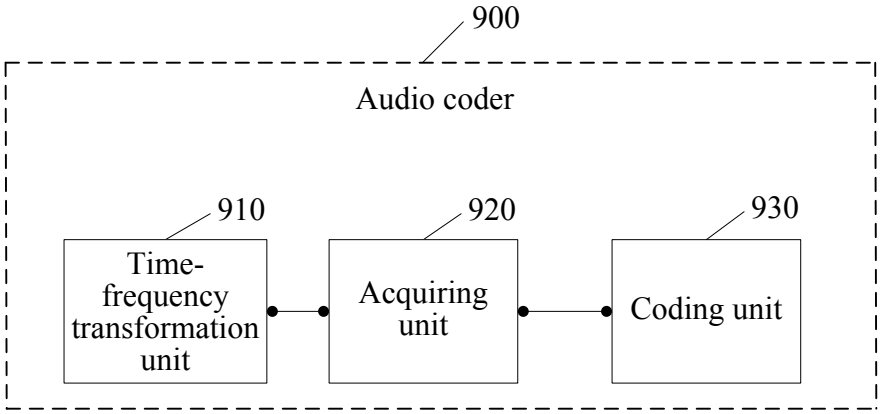

900
Audio coder
910
Time-frequency transformation unit
920
Acquiring unit
930
Coding unit

FIG. 9

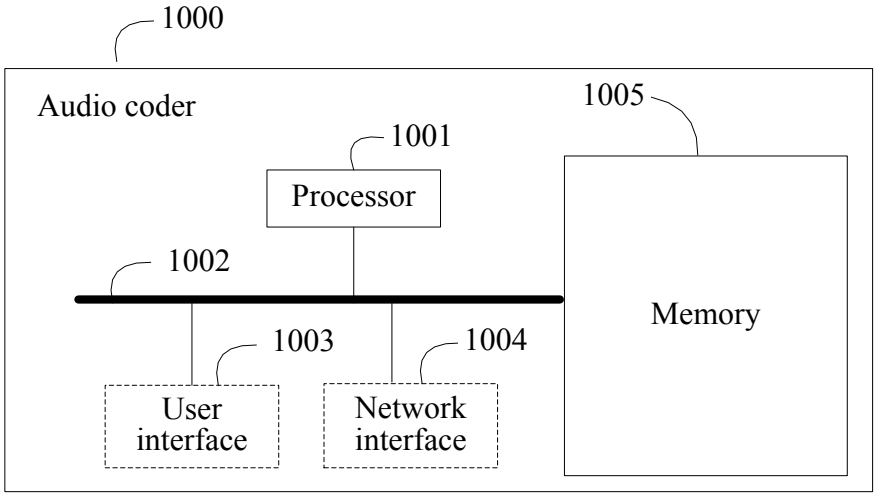

1000
Audio coder
1005
1001
Processor
1002
Memory
1003
1004
User interface
Network interface

FIG. 10