FIG. 1

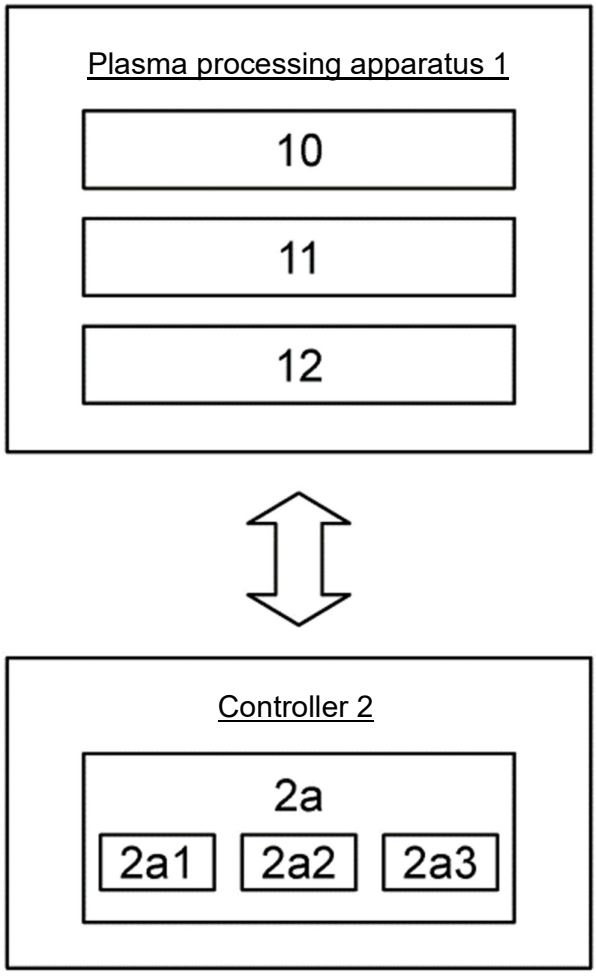

Plasma processing apparatus 1
10
11
12
Controller 2
2a
2a1
2a2
2a3

FIG. 2

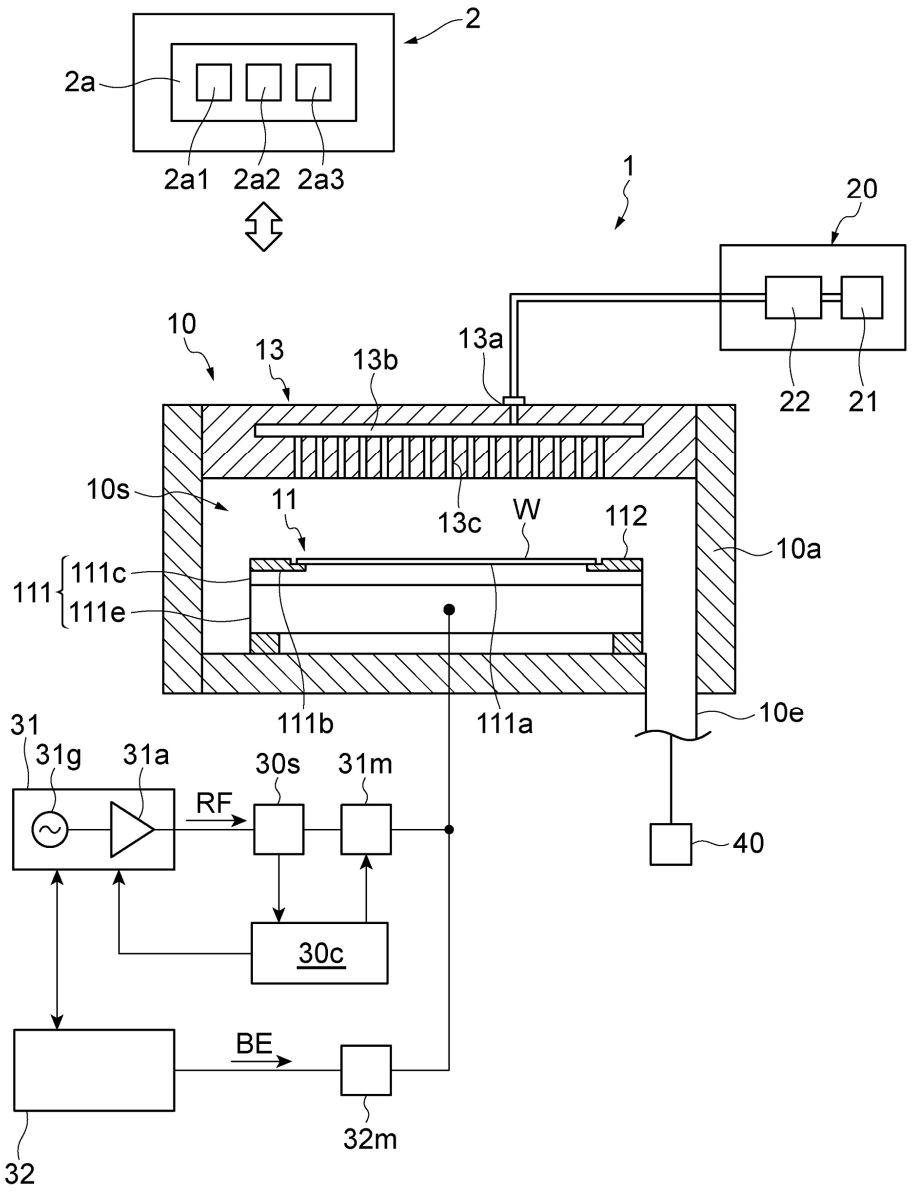

2
2a
2a1
2a2
2a3
1
20
22
21
10
13
13b
13a
10s
11
13c
W
112
10a
111
111c
111e
111b
111a
10e
31
31g
31a
30s
31m
RF
40
30c
BE
32m
32

FIG. 3

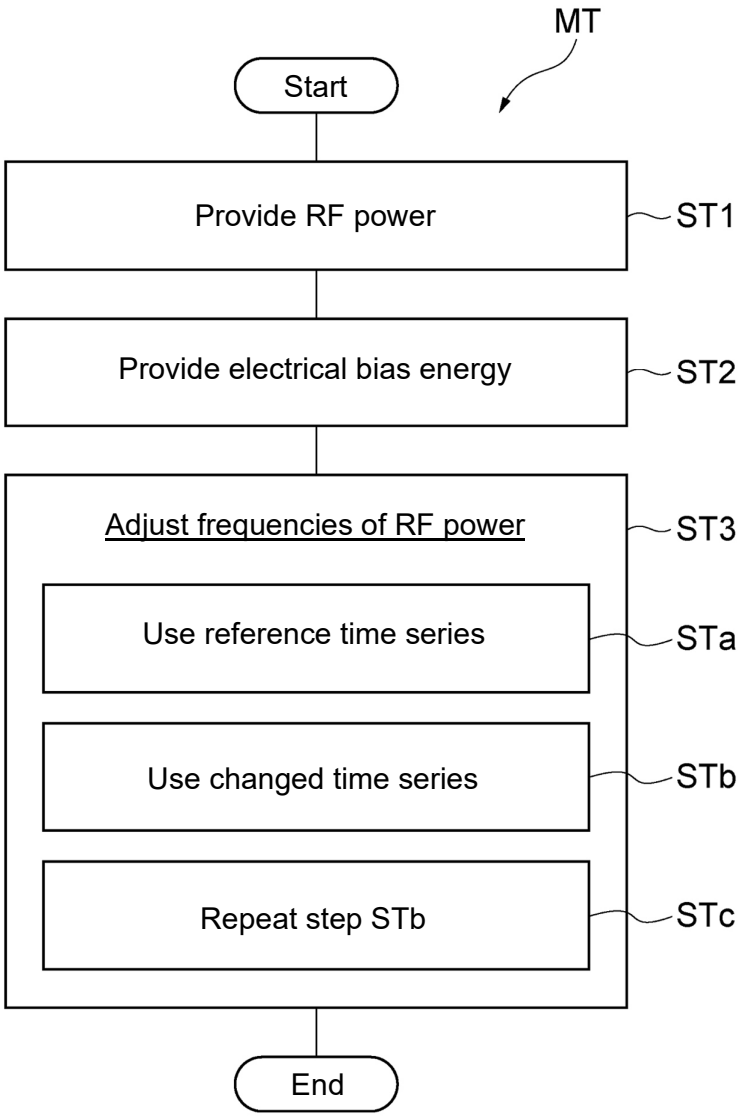

MT
Start
Provide RF power
ST1
Provide electrical bias energy
ST2
Adjust frequencies of RF power
ST3
Use reference time series
STa
Use changed time series
STb
Repeat step STb
STc
End

FIG. 4

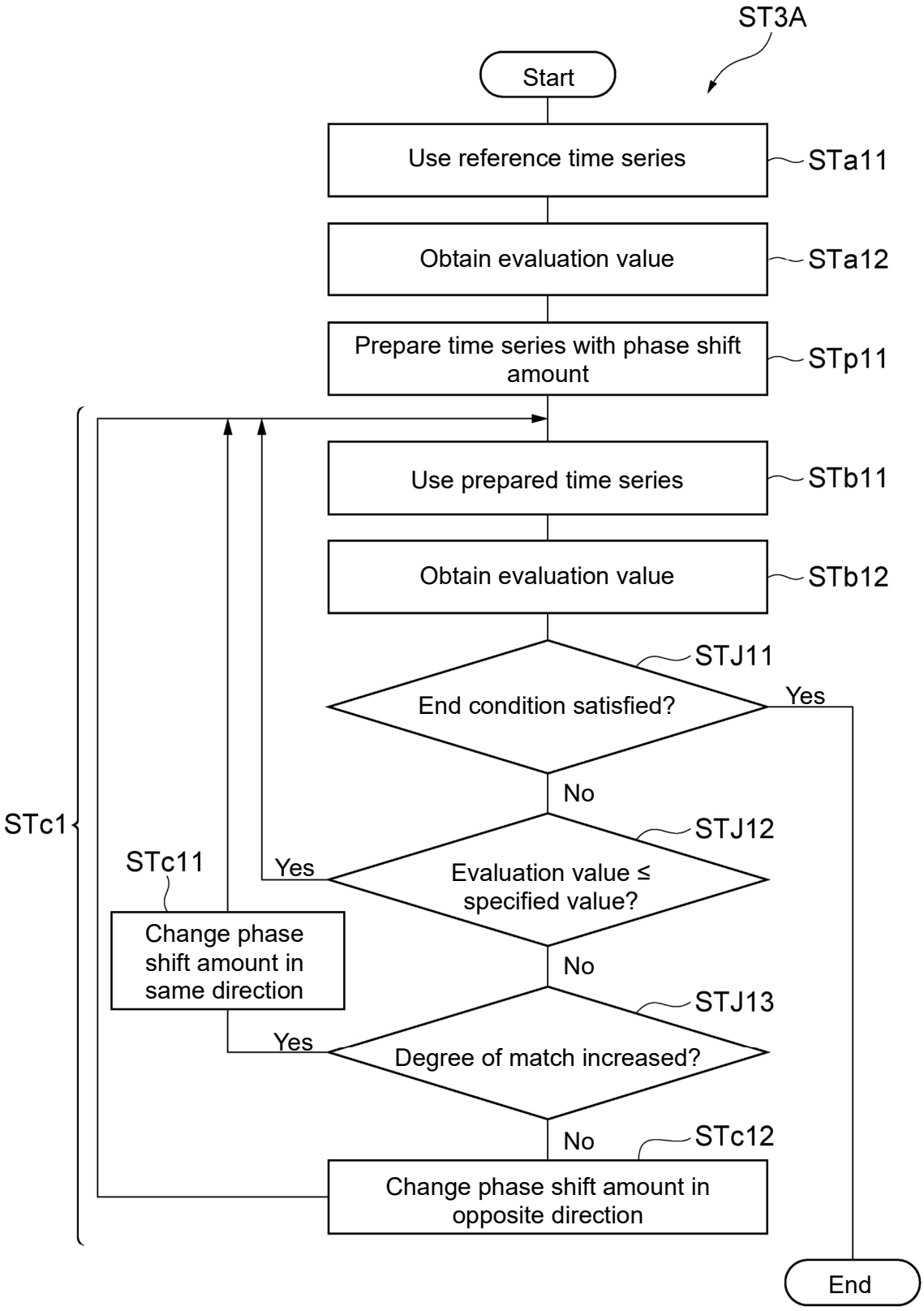

ST3A
Start
Use reference time series
STa11
Obtain evaluation value
STa12
Prepare time series with phase shift amount
STp11
Use prepared time series
STb11
Obtain evaluation value
STb12
STJ11
End condition satisfied?
Yes
No
STc1
STJ12
STc11
Yes
Evaluation value ≤ specified value?
Change phase shift amount in same direction
No
STJ13
Yes
Degree of match increased?
No
STc12
Change phase shift amount in opposite direction
End

FIG. 5

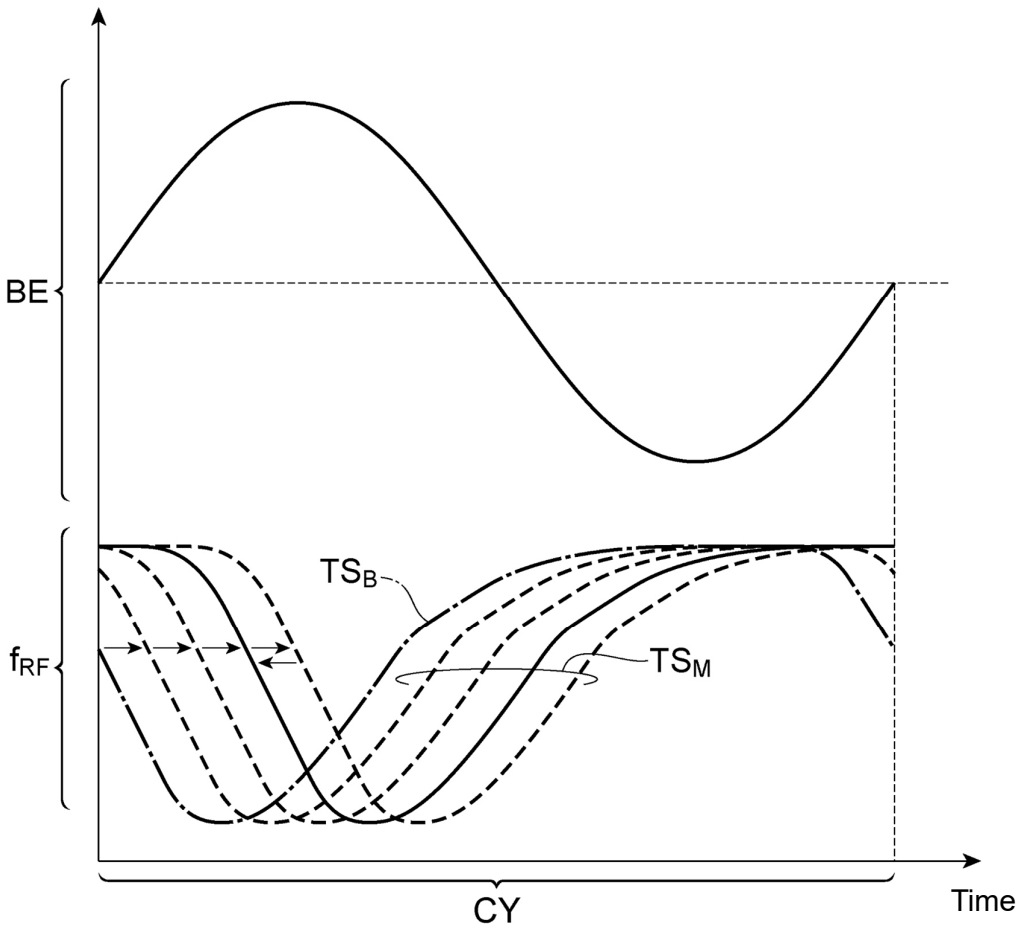


FIG. 6

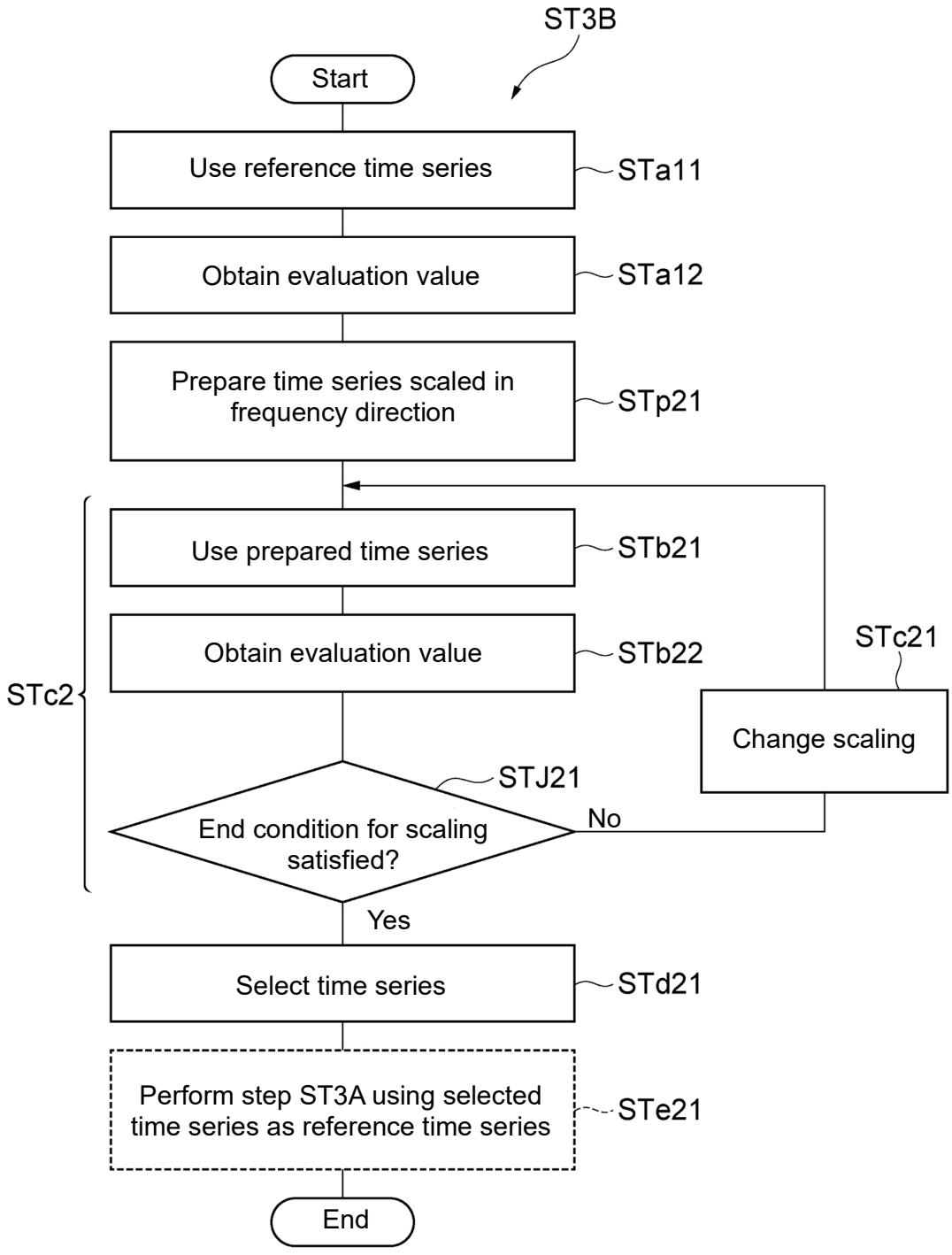

ST3B
Start
Use reference time series
STa11
Obtain evaluation value
STa12
Prepare time series scaled in frequency direction
STp21
Use prepared time series
STb21
Obtain evaluation value
STb22
STc2
STc21
Change scaling
STJ21
End condition for scaling satisfied?
No
Yes
Select time series
STd21
Perform step ST3A using selected time series as reference time series
STe21
End

FIG. 7

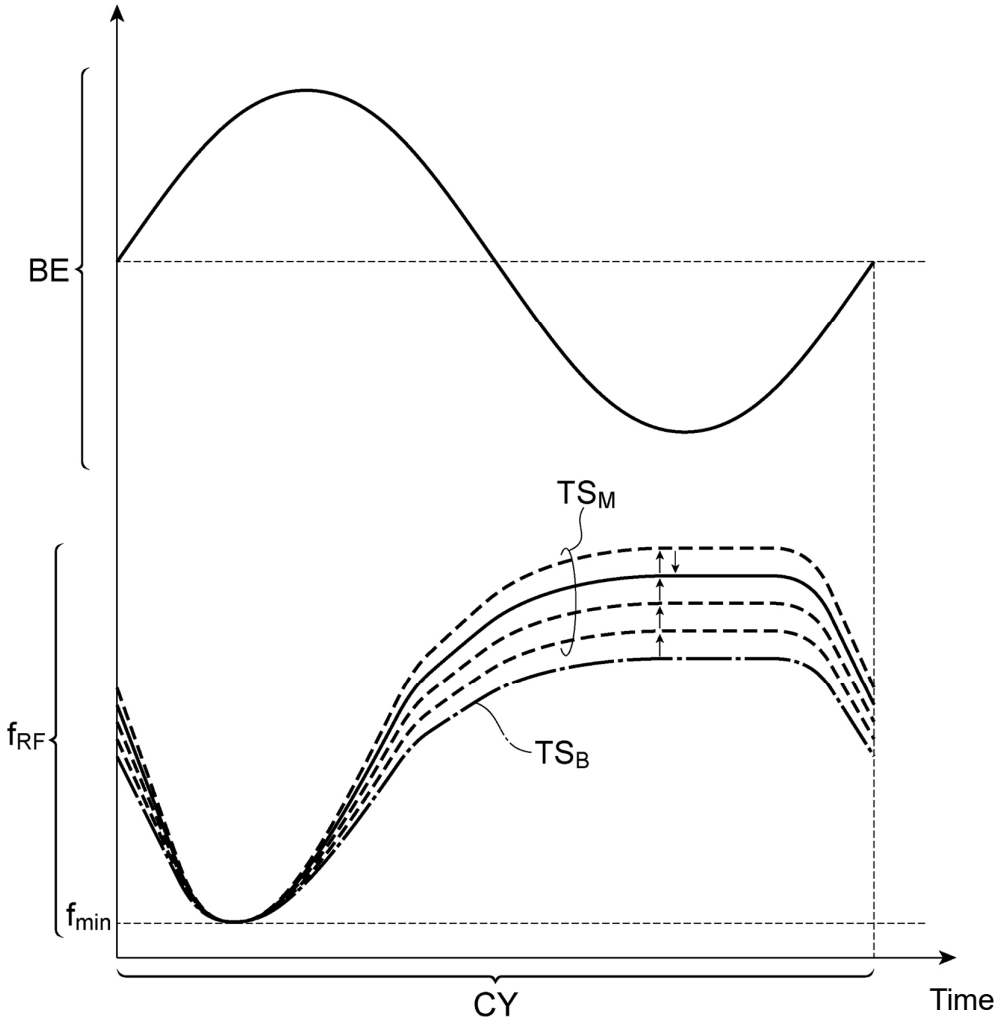


FIG. 8

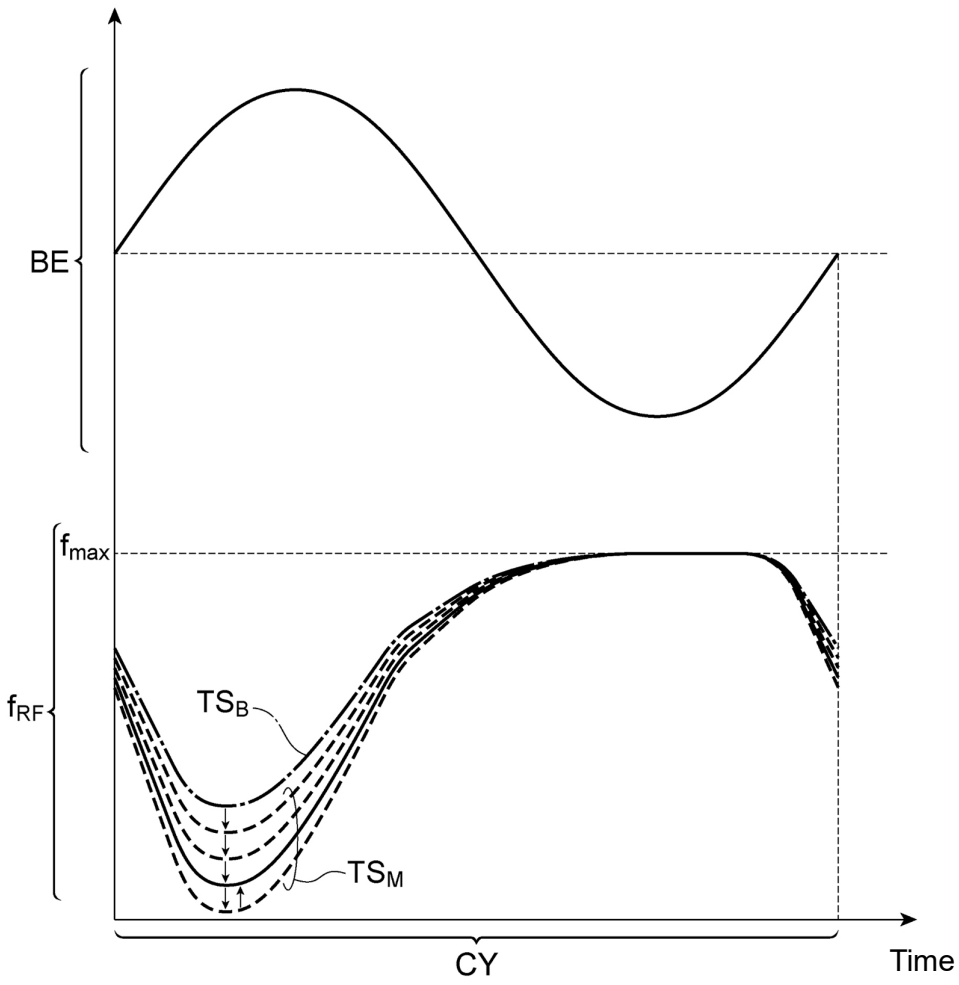


FIG. 9

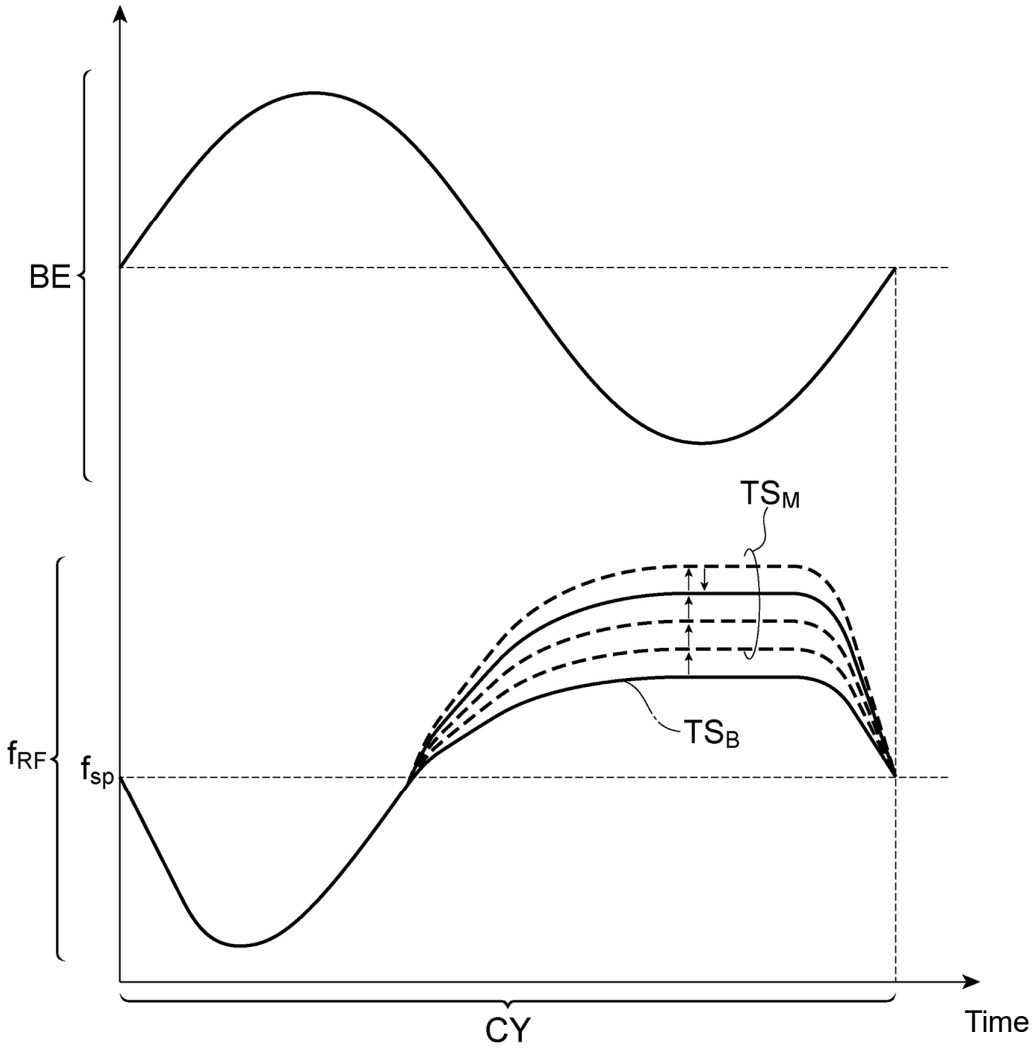


FIG. 10

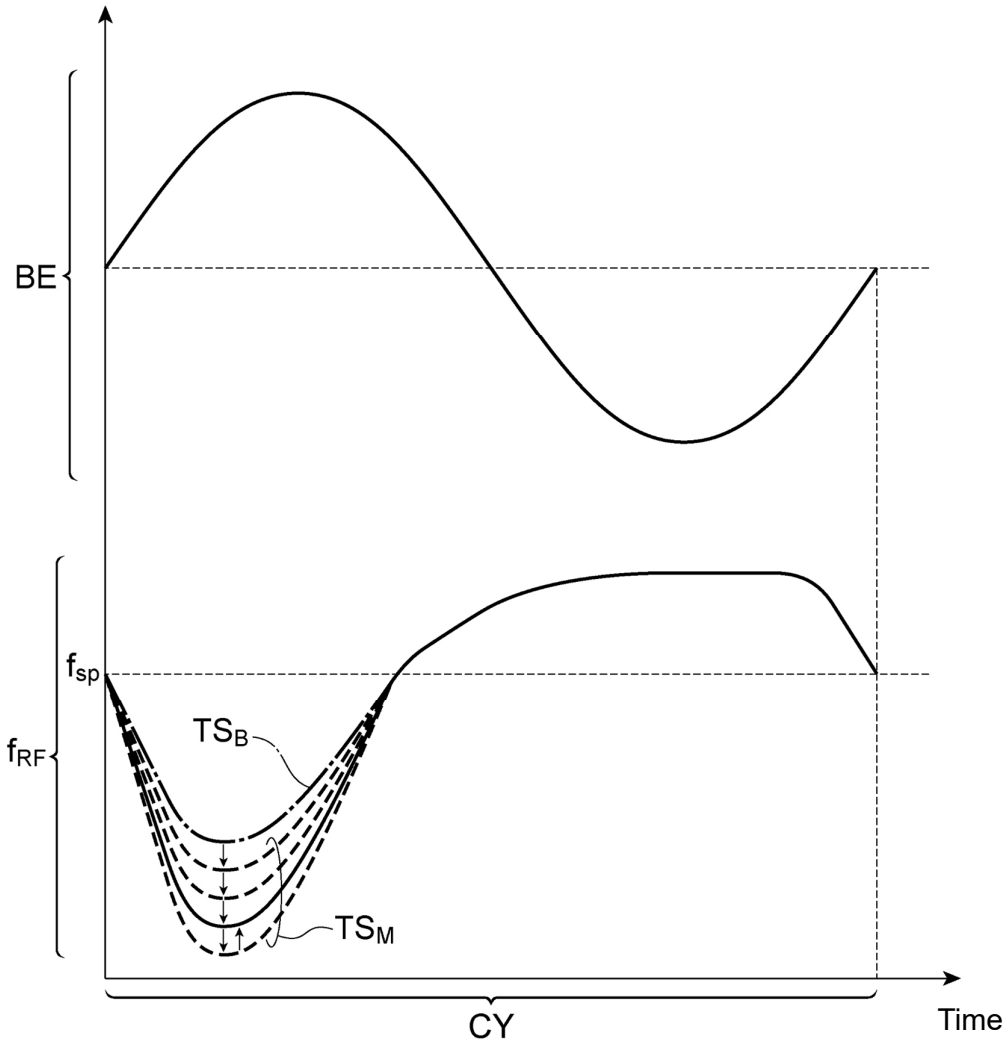


FIG. 11

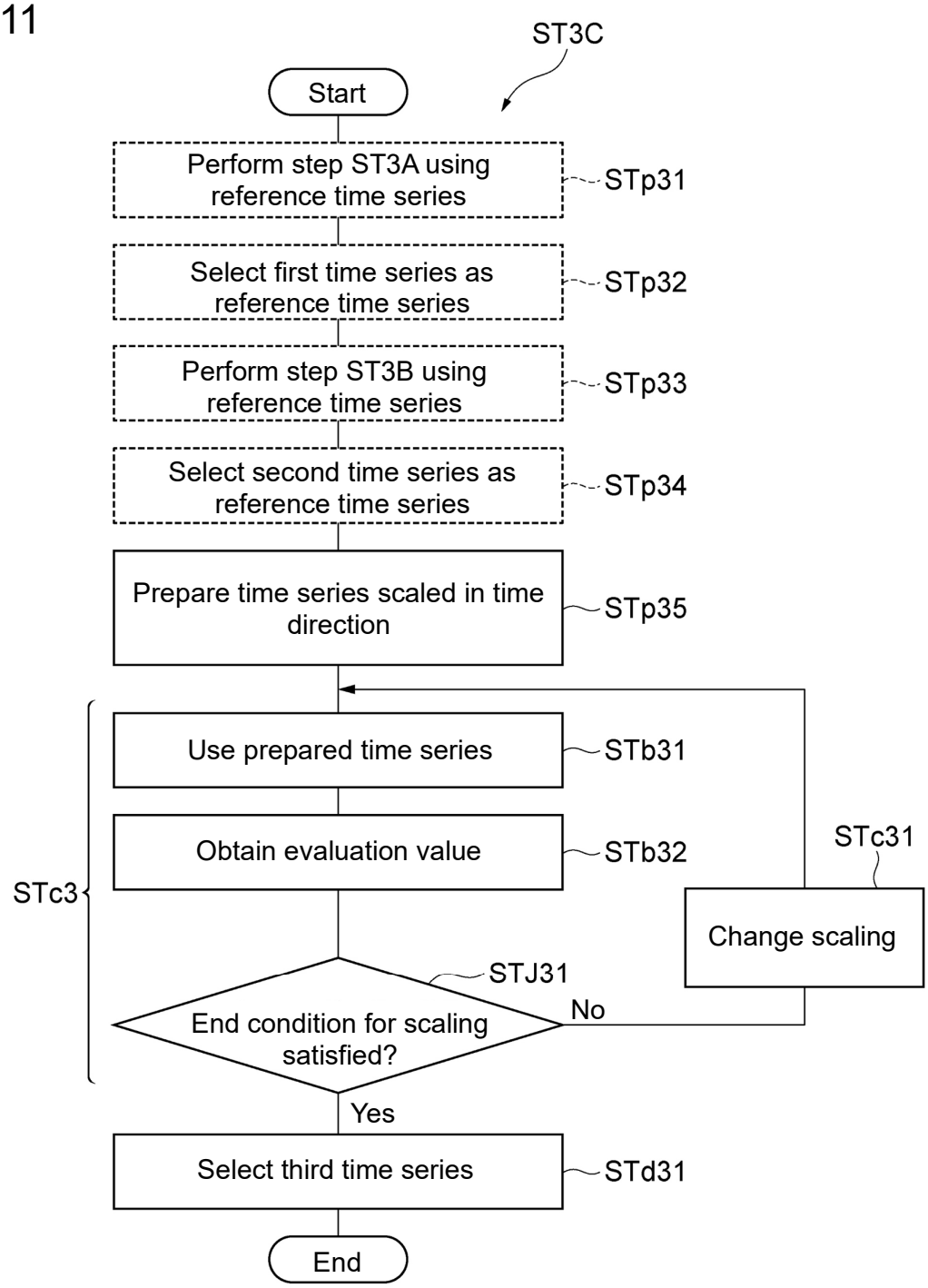

ST3C
Start
Perform step ST3A using reference time series
STp31
Select first time series as reference time series
STp32
Perform step ST3B using reference time series
STp33
Select second time series as reference time series
STp34
Prepare time series scaled in time direction
STp35
Use prepared time series
STb31
Obtain evaluation value
STb32
STc3
STc31
Change scaling
STJ31
End condition for scaling satisfied?
No
Yes
Select third time series
STd31
End

FIG. 12

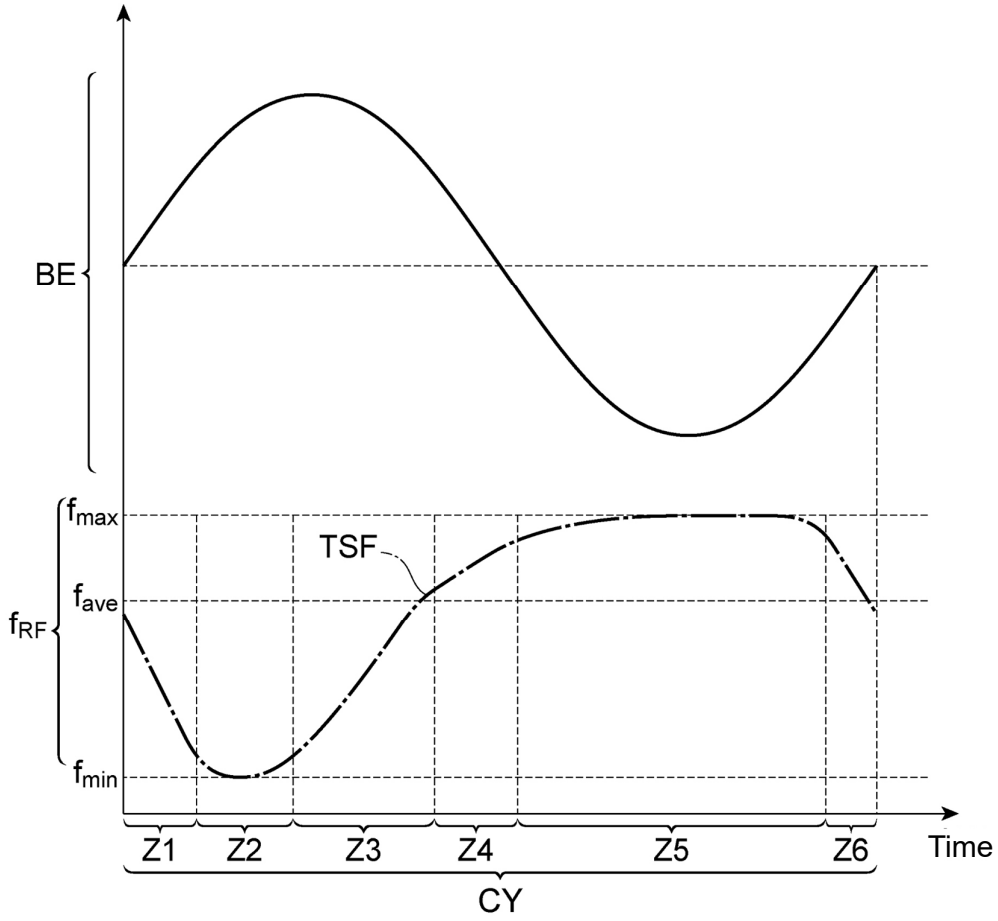


FIG. 13

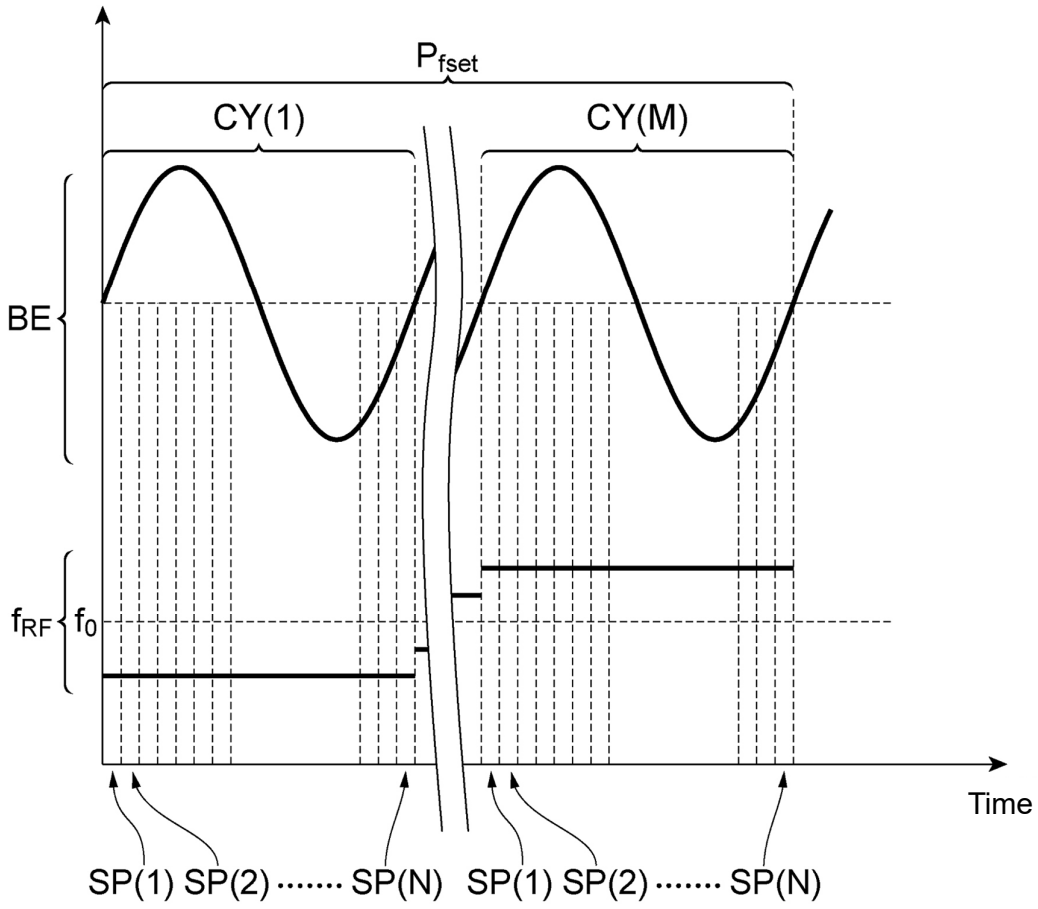


FIG. 14

