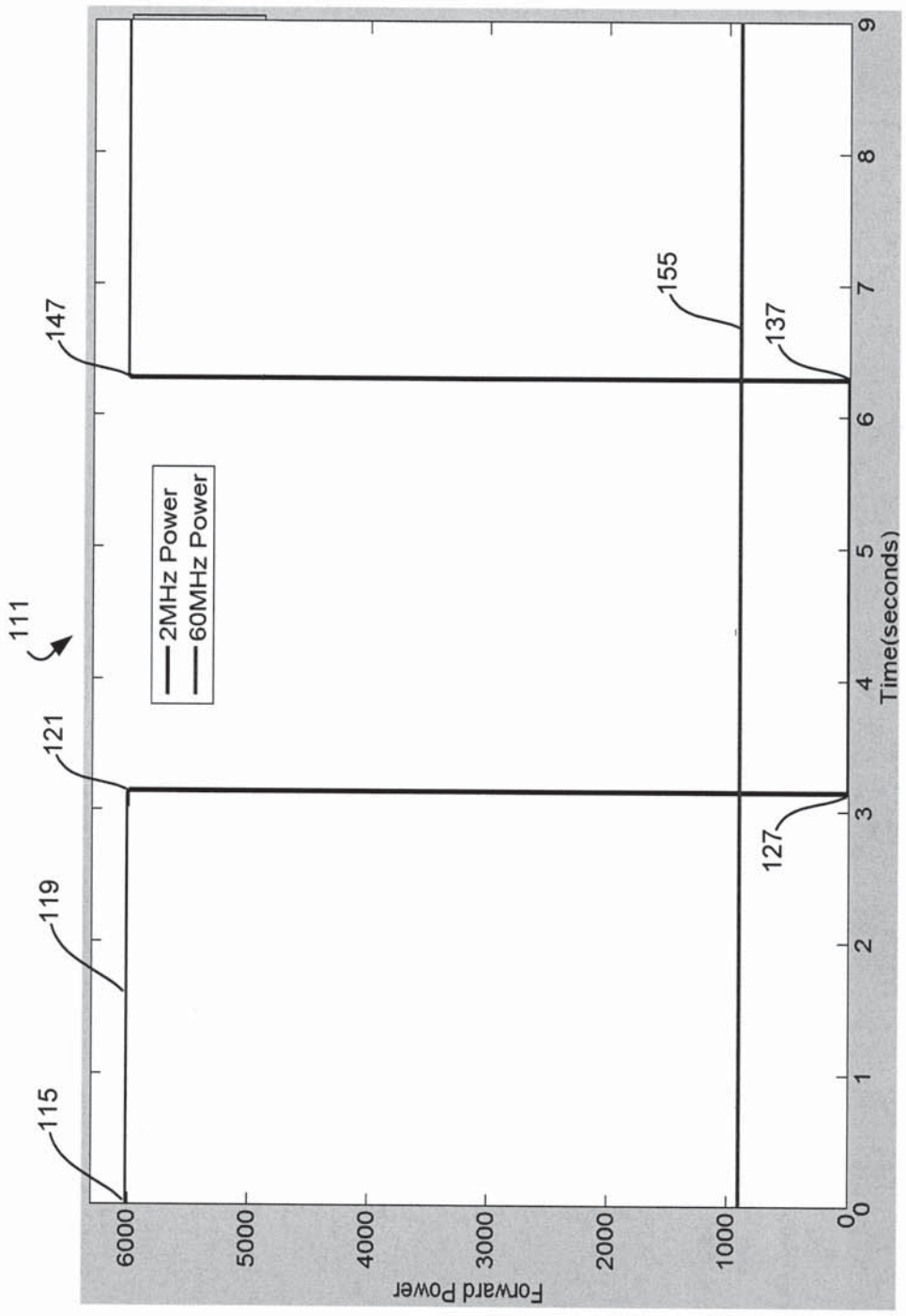

111
115
119
121
127
137
147
155
2MHz Power
60MHz Power
Forward Power
Time(seconds)
0
1000
2000
3000
4000
5000
6000
0
1
2
3
4
5
6
7
8
9

FIG. 3

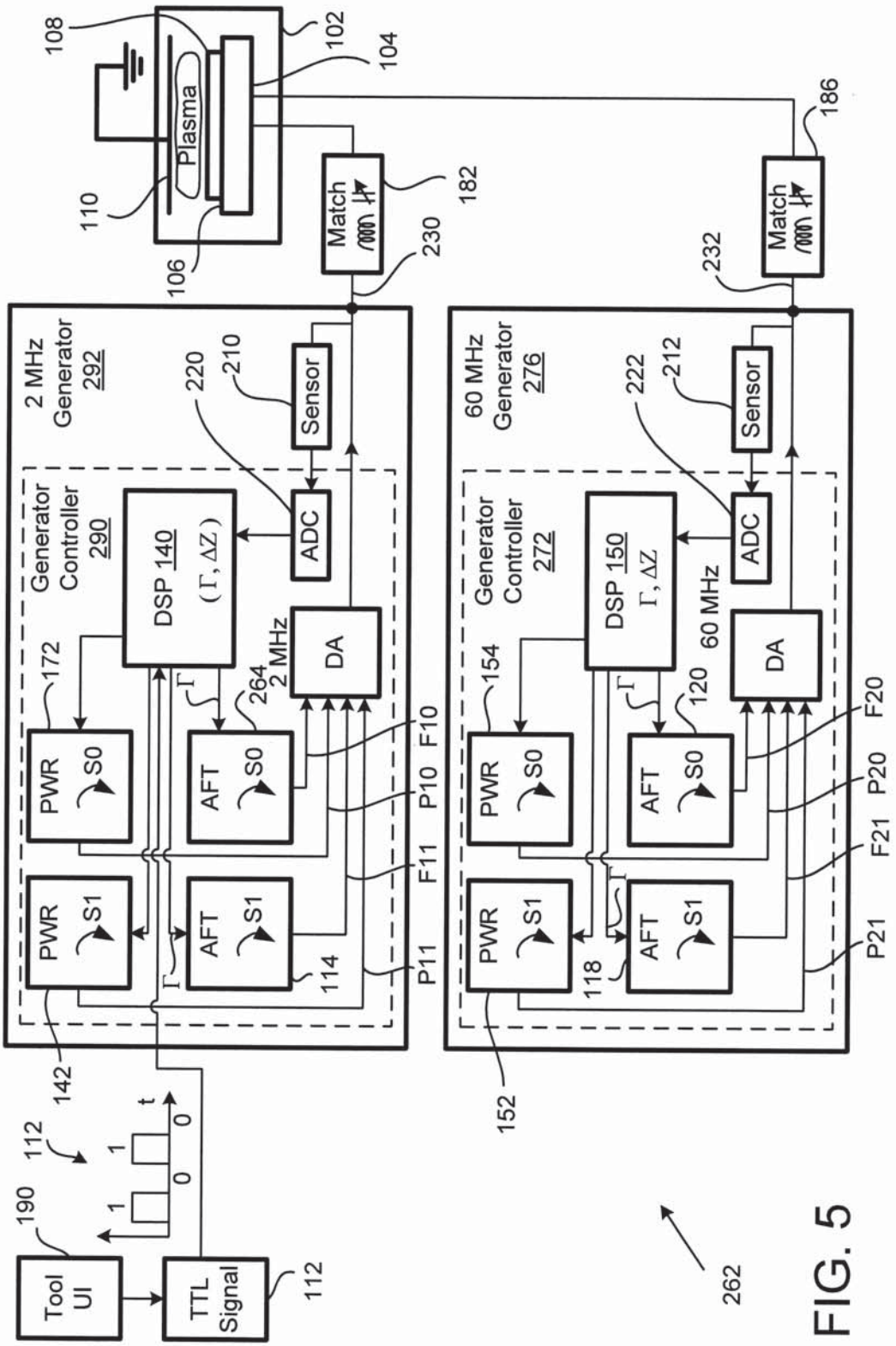

108
102
104
Plasma
110
106
Match
182
230
186
232
Match
2 MHz Generator 292
Generator Controller 290
DSP 140 (Γ, ΔZ)
ADC
Sensor
220
210
172
PWR
S0
AFT
S0
264
2 MHz
DA
F10
P10
F11
P11
PWR
S1
AFT
S1
114
142
60 MHz Generator 276
Generator Controller 272
DSP 150 Γ, ΔZ
ADC
Sensor
222
212
154
PWR
S0
AFT
S0
120
60 MHz
DA
F20
P20
F21
P21
PWR
S1
AFT
S1
118
152
112
t
1
0
1
0
190
Tool UI
TTL Signal
112
262

FIG. 5

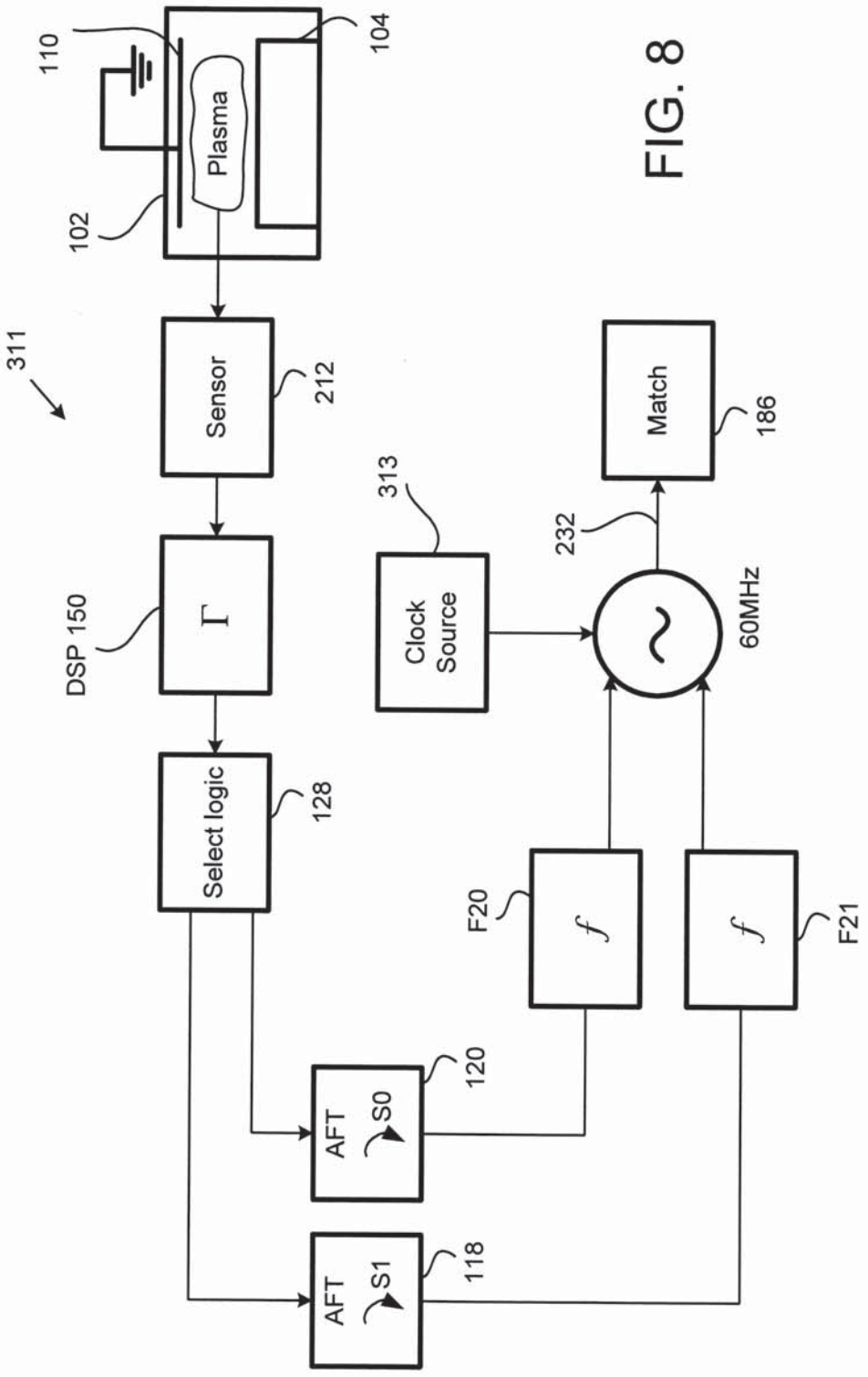

110
104
Plasma
102
311
Sensor
212
DSP 150
Γ
313
Clock Source
232
Match
186
60MHz
Select logic
128
F20
f
f
F21
AFT
S0
120
AFT
S1
118

FIG. 8

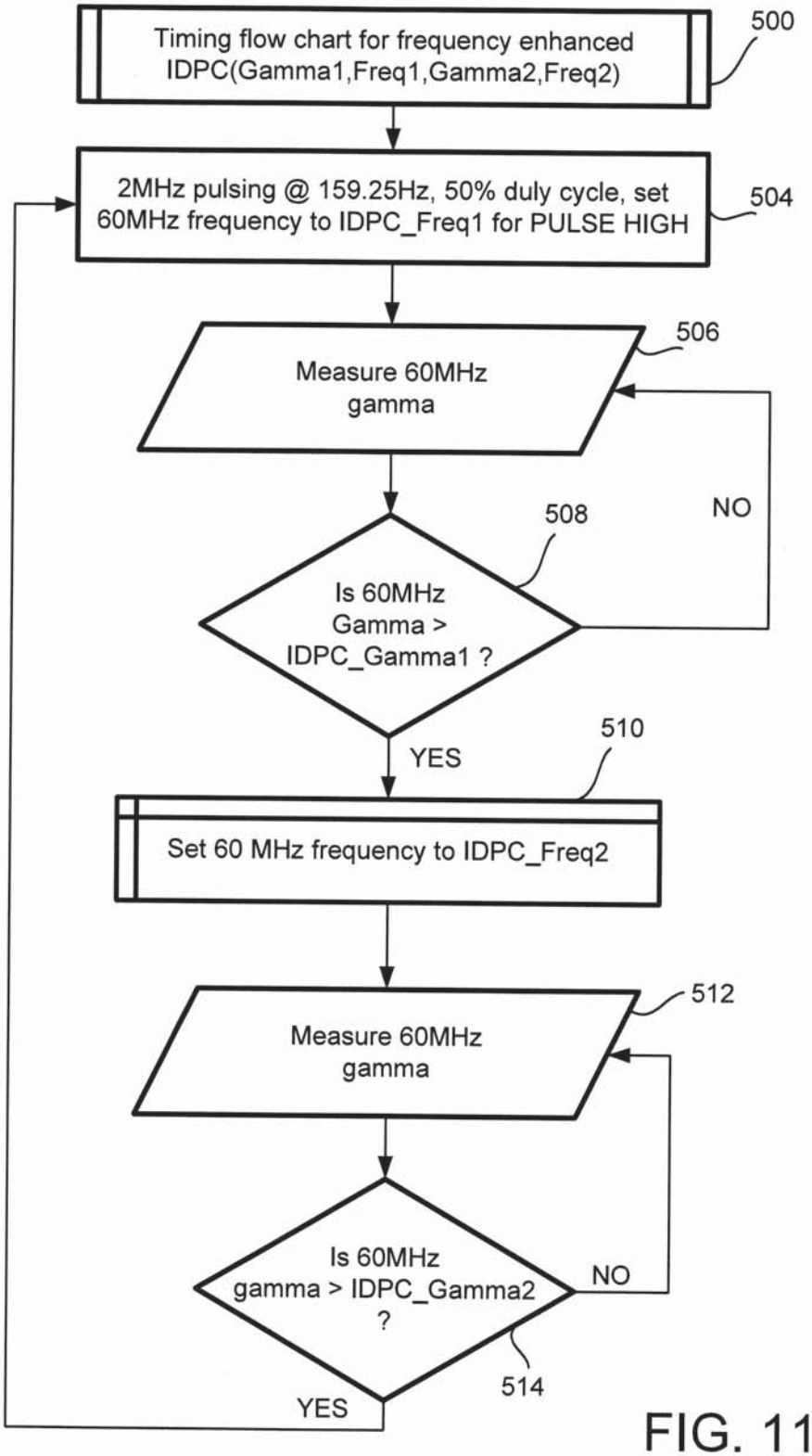

Timing flow chart for frequency enhanced IDPC(Gamma1,Freq1,Gamma2,Freq2)
500
2MHz pulsing @ 159.25Hz, 50% duly cycle, set 60MHz frequency to IDPC_Freq1 for PULSE HIGH
504
Measure 60MHz gamma
506
Is 60MHz Gamma > IDPC_Gamma1 ?
508
NO
YES
Set 60 MHz frequency to IDPC_Freq2
510
Measure 60MHz gamma
512
Is 60MHz gamma > IDPC_Gamma2 ?
514
NO
YES

FIG. 11

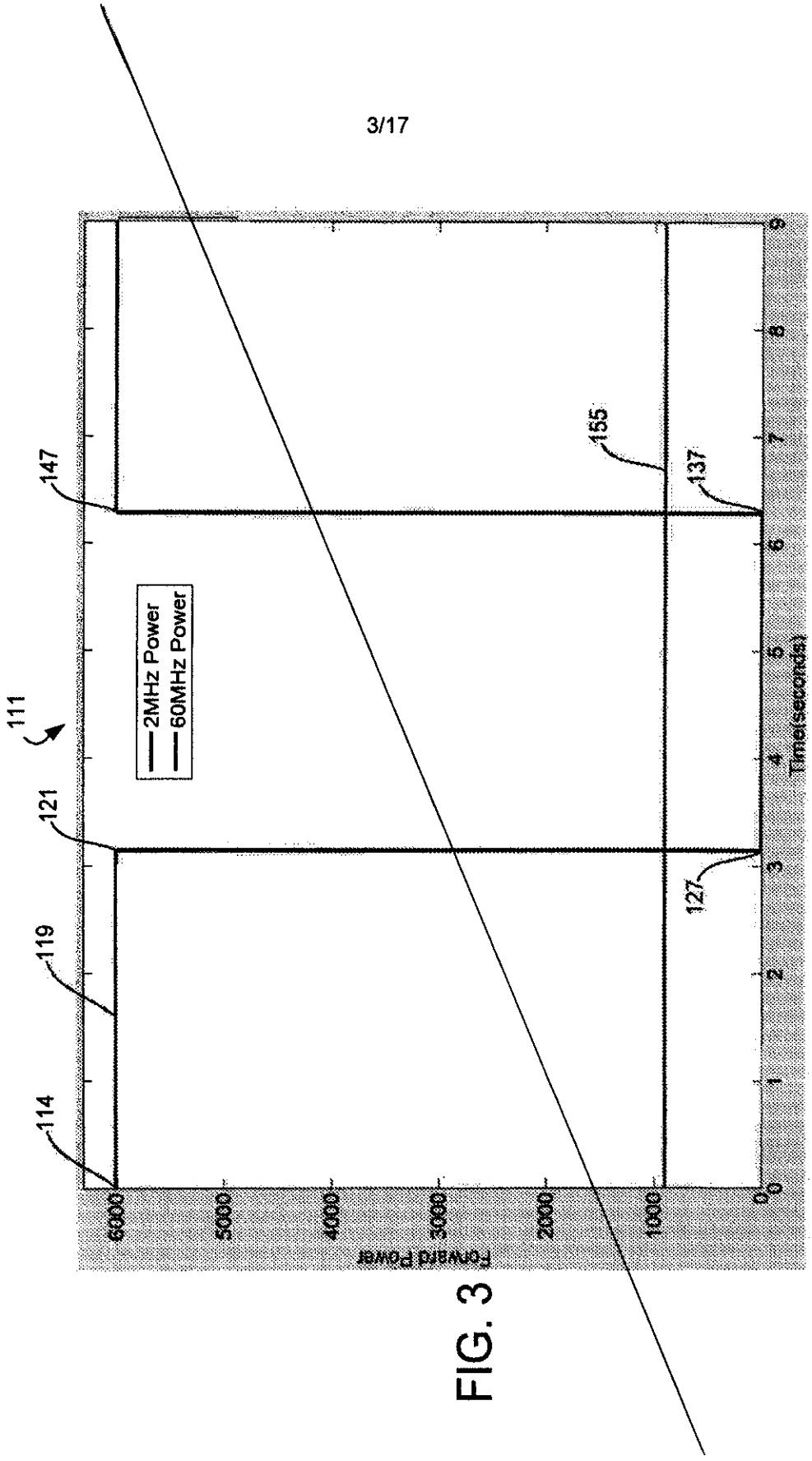

111
114
119
121
147
155
137
127
2MHz Power
60MHz Power
Forward Power
Time(seconds)
0
1000
2000
3000
4000
5000
6000
0
1
2
3
4
5
6
7
8
9

FIG. 3

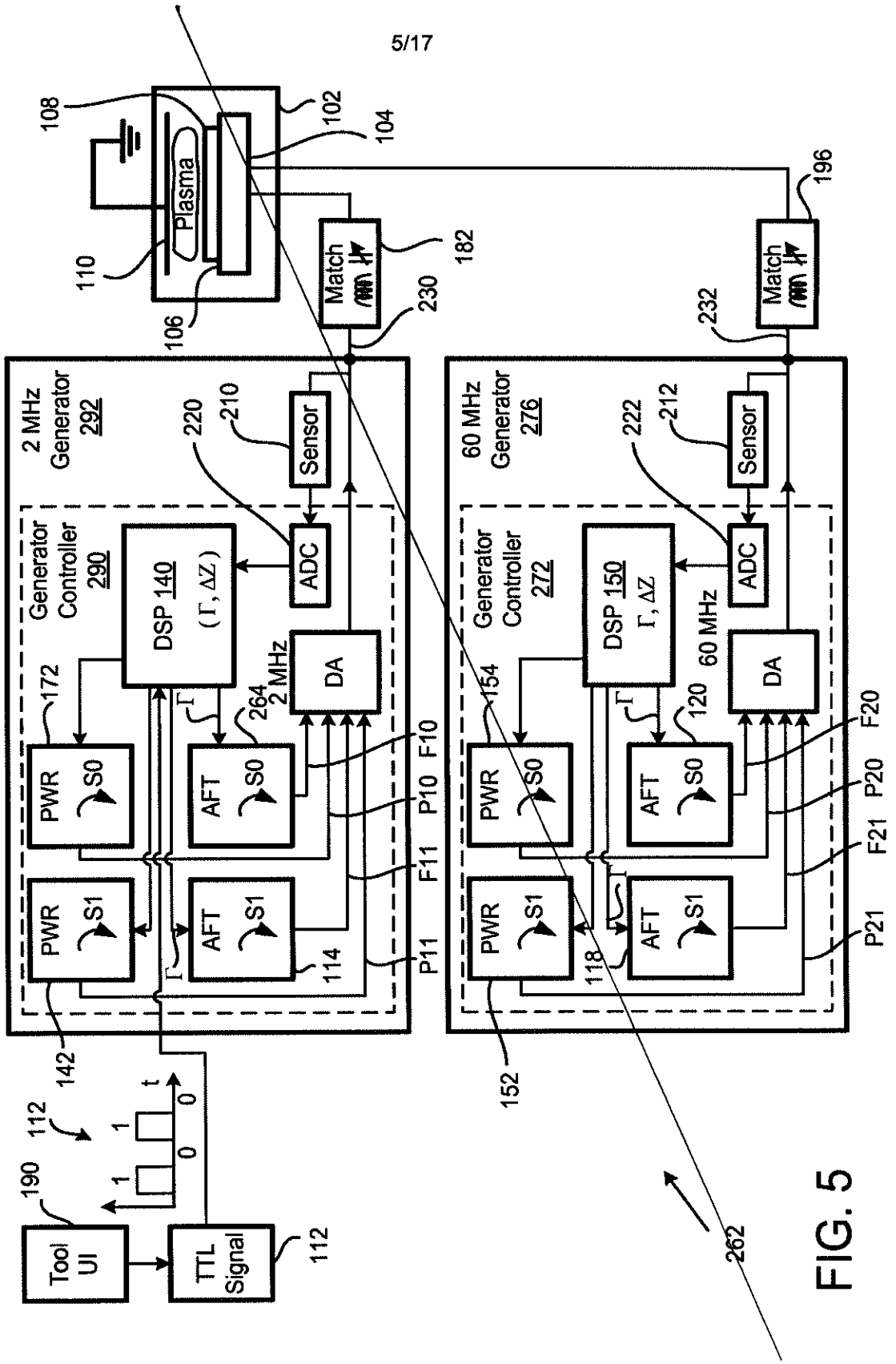

108
102
104
Plasma
110
106
Match
182
230
196
232
2 MHz Generator 292
60 MHz Generator 276
Generator Controller 290
Generator Controller 272
DSP 140 (Γ, ΔZ)
DSP 150 Γ, ΔZ
ADC
Sensor
220
210
222
212
DA
2 MHz
60 MHz
PWR
AFT
S0
S1
172
264
154
120
F10
P10
F11
P11
F20
P20
F21
P21
114
118
142
152
112
190
Tool UI
TTL Signal
262

FIG. 5

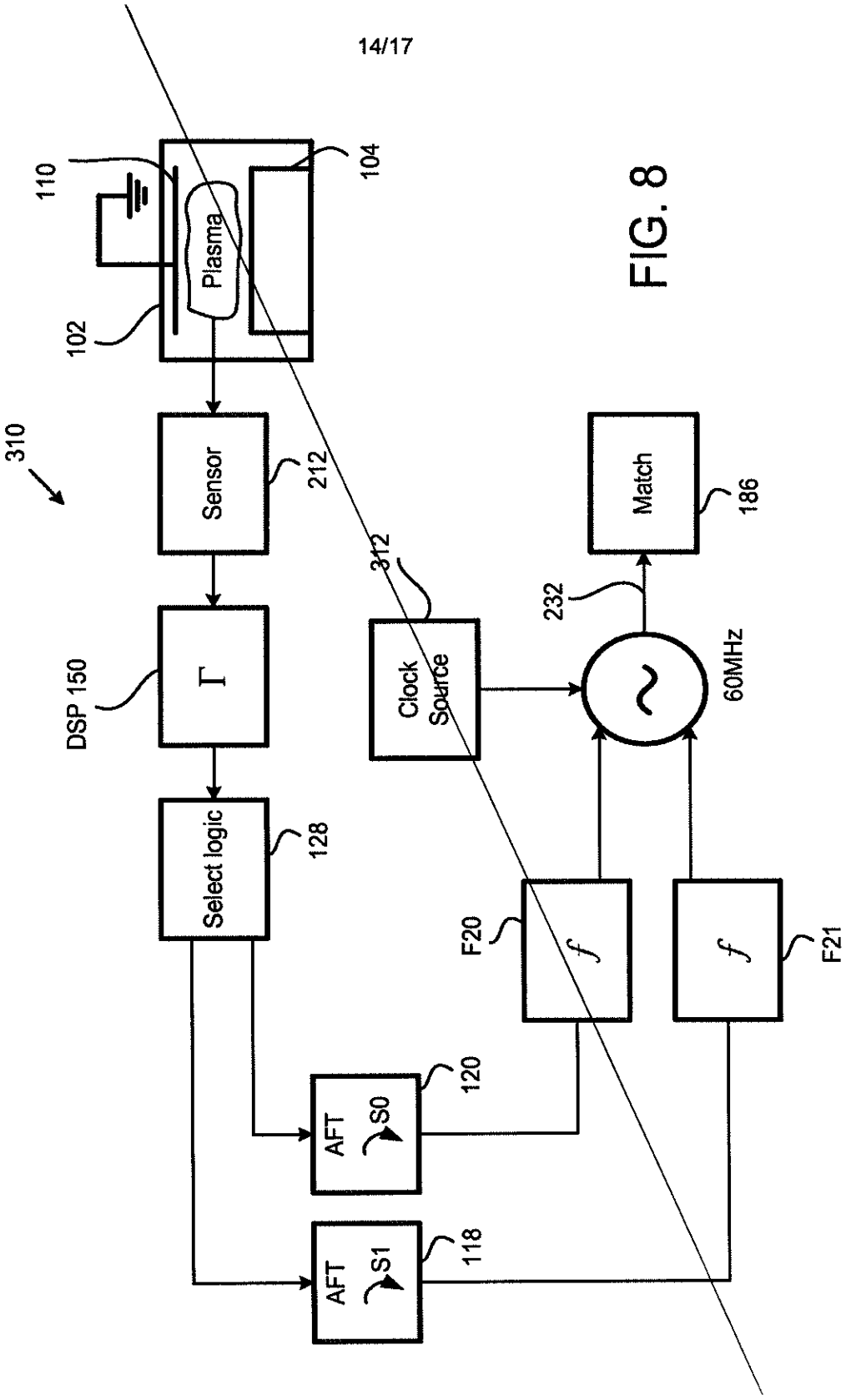

310
110
102
Plasma
104
Sensor
212
DSP 150
Γ
Select logic
128
312
Clock Source
232
Match
186
60MHz
F20
f
F21
f
AFT
S0
120
AFT
S1
118

FIG. 8

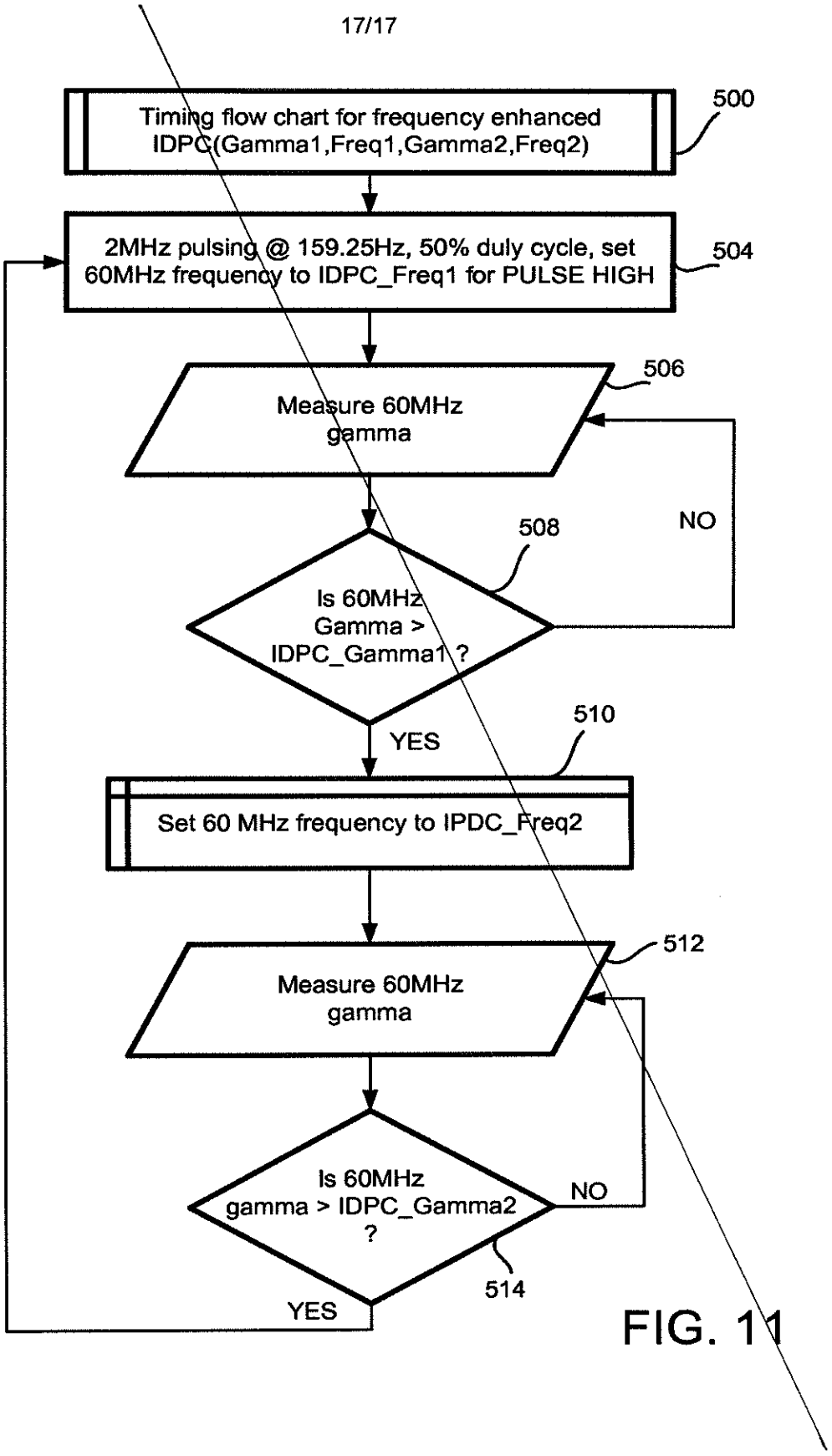

Timing flow chart for frequency enhanced IDPC(Gamma1,Freq1,Gamma2,Freq2)
500
2MHz pulsing @ 159.25Hz, 50% duly cycle, set 60MHz frequency to IDPC_Freq1 for PULSE HIGH
504
Measure 60MHz gamma
506
NO
Is 60MHz Gamma > IDPC_Gamma1 ?
508
YES
510
Set 60 MHz frequency to IPDC_Freq2
Measure 60MHz gamma
512
Is 60MHz gamma > IDPC_Gamma2 ?
NO
514
YES

FIG. 11