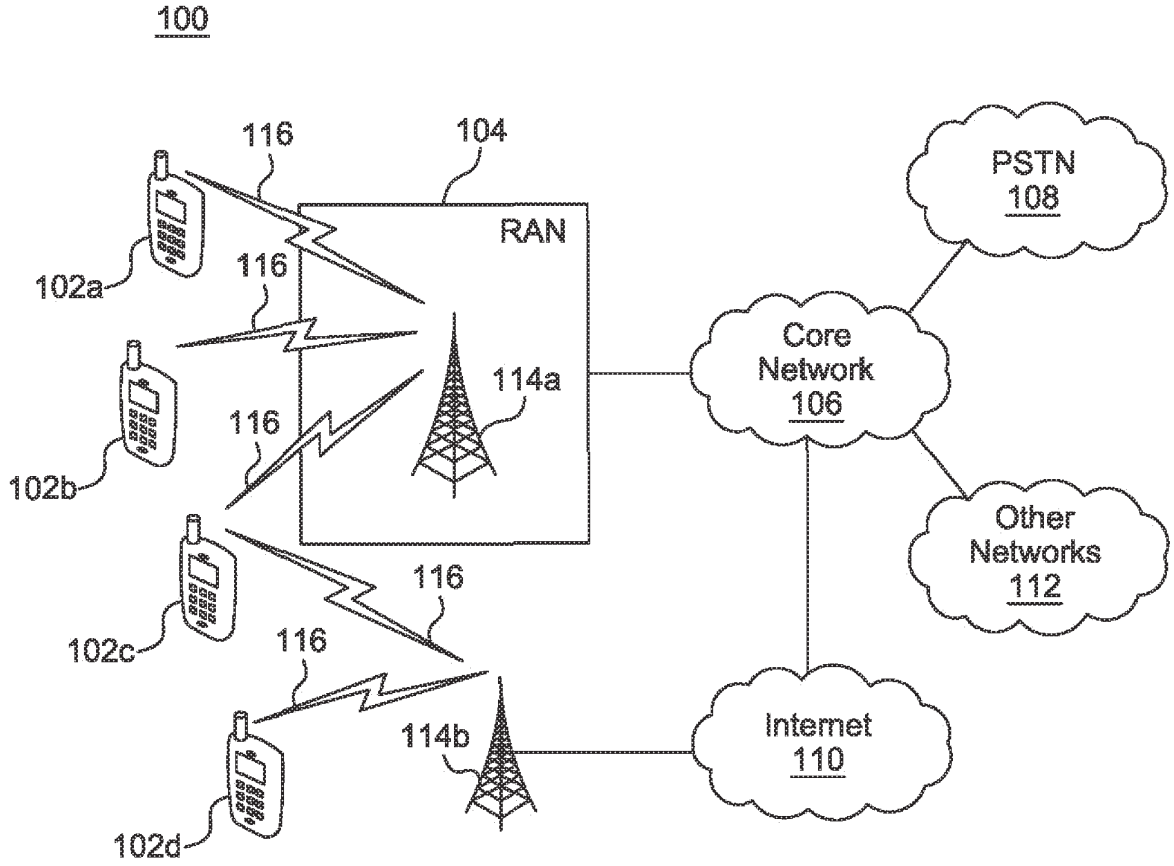
100
116
104
RAN
PSTN
108
102a
116
Core
Network
106
114a
116
102b
Other
Networks
112
116
102c
116
114b
Internet
110
102d

FIG. 1A

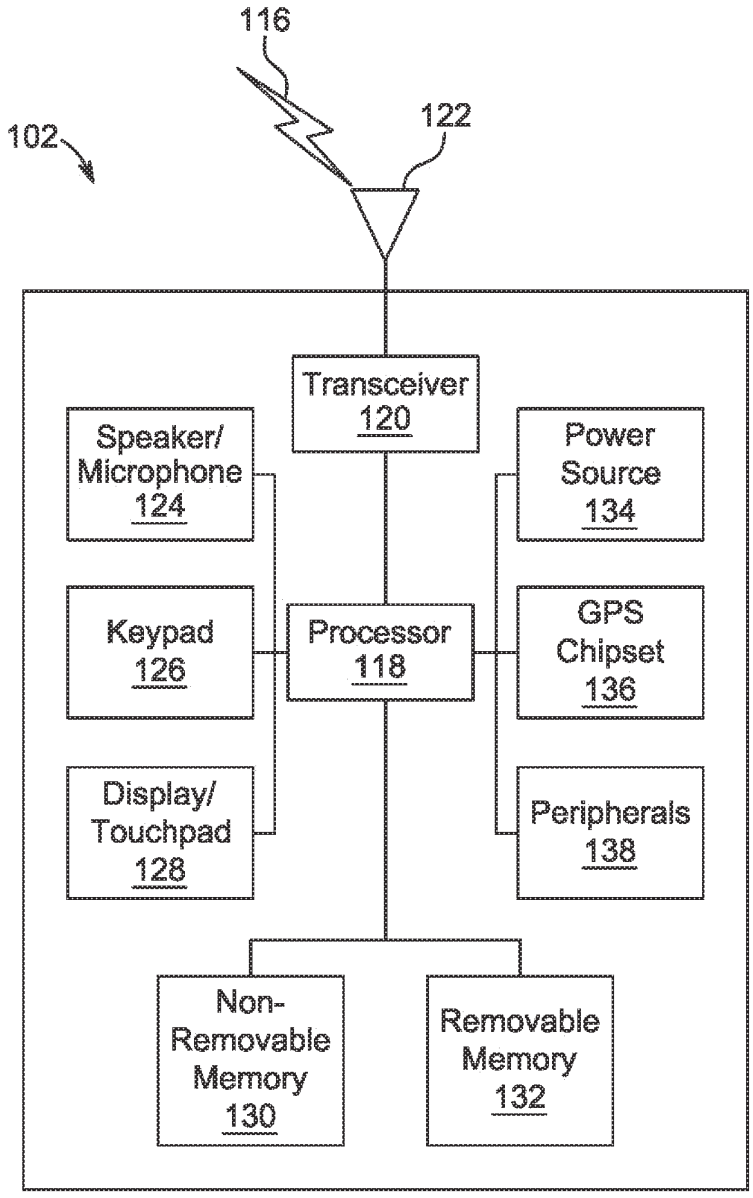
116
122
102
Transceiver
120
Speaker/
Microphone
124
Power
Source
134
Keypad
126
Processor
118
GPS
Chipset
136
Display/
Touchpad
128
Peripherals
138
Non-
Removable
Memory
130
Removable
Memory
132

FIG. 1B

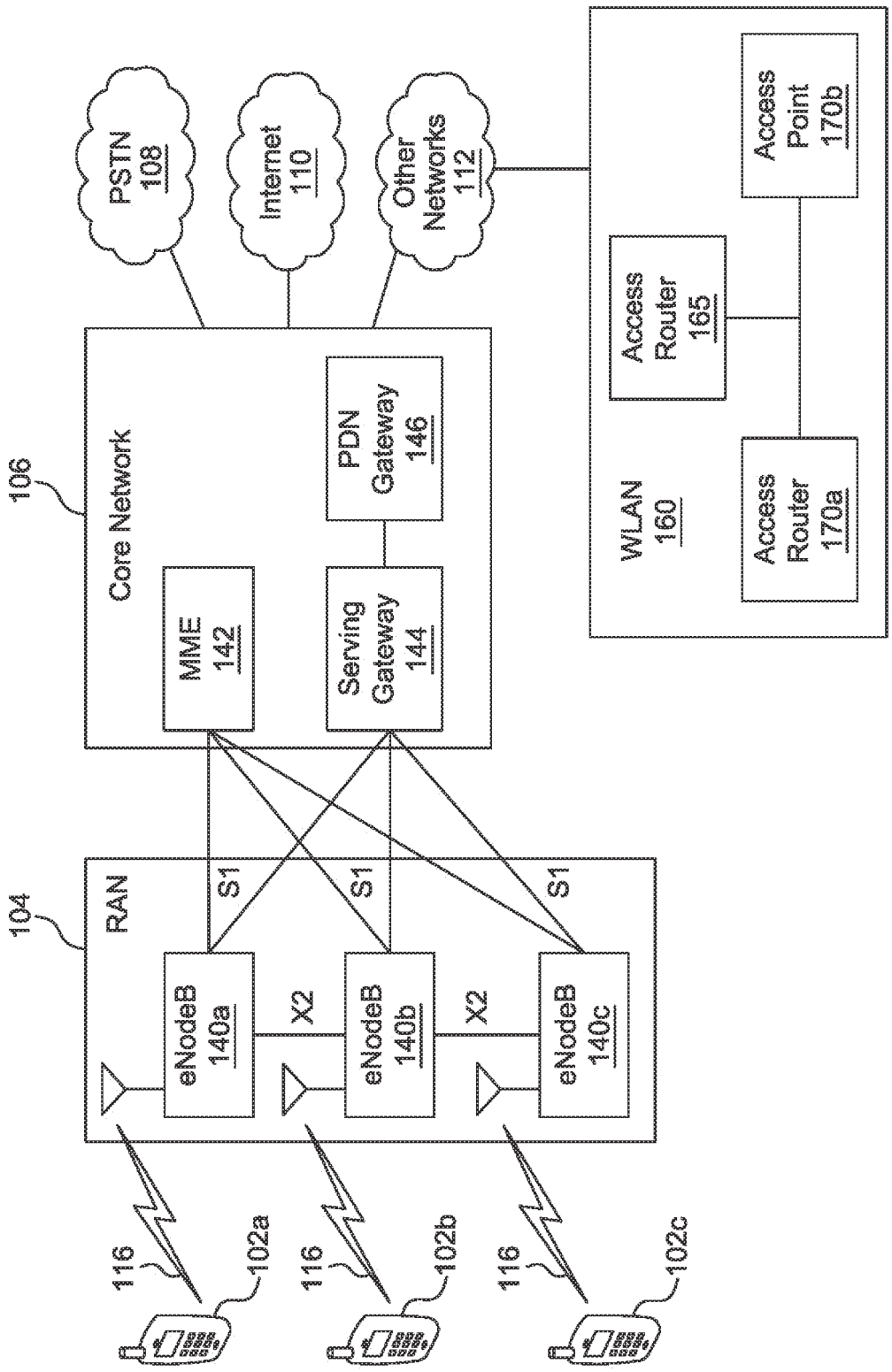
PSTN 108
Internet 110
Other Networks 112
106
Core Network
MME 142
Serving Gateway 144
PDN Gateway 146
WLAN 160
Access Router 165
Access Point 170b
Access Router 170a
104
RAN
S1
S1
S1
eNodeB 140a
eNodeB 140b
eNodeB 140c
X2
X2
116
116
116
102a
102b
102c

FIG. 1C

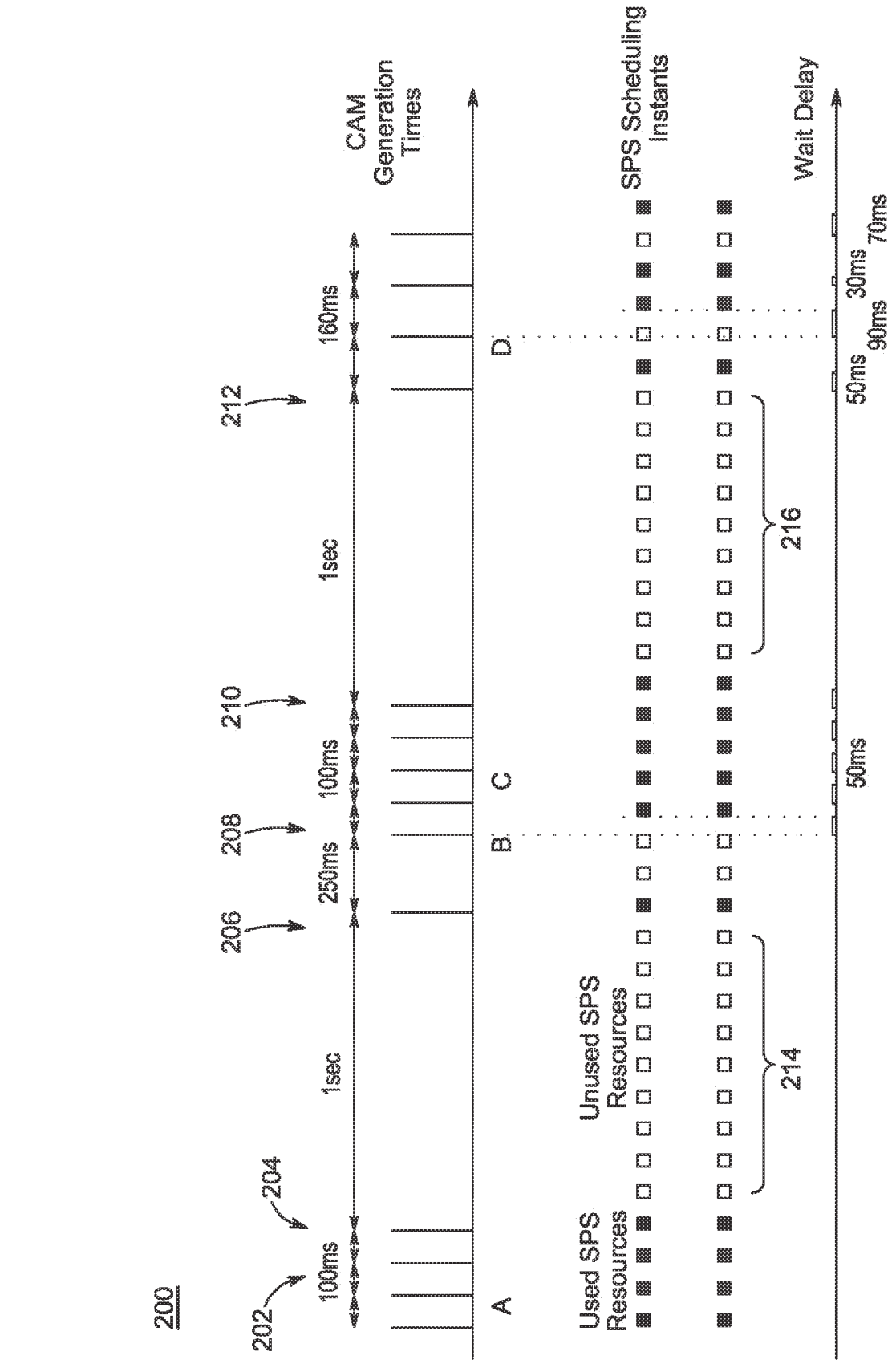
200
202
204
100ms
1sec
206
250ms
208
100ms
210
1sec
212
160ms
CAM Generation Times
A
B
C
D
Used SPS Resources
Unused SPS Resources
214
216
SPS Scheduling Instants
Wait Delay
50ms
50ms
90ms
30ms
70ms

FIG. 2

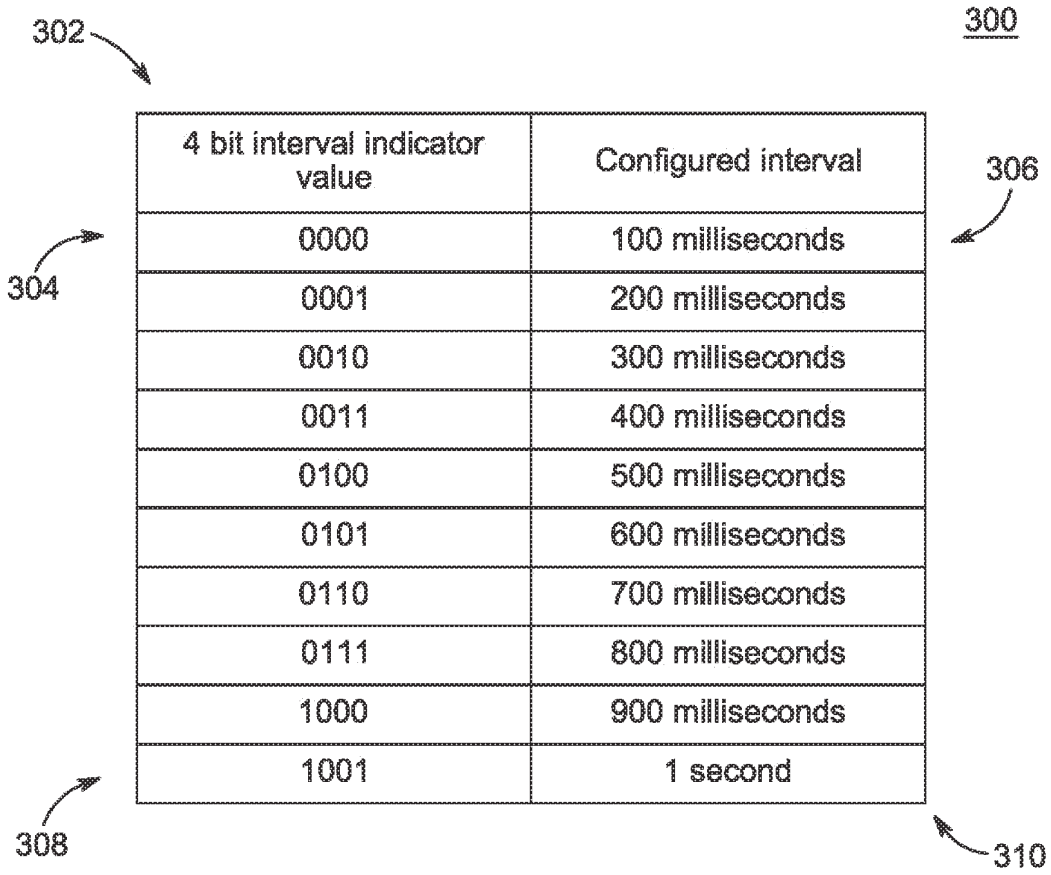
302
300
4 bit interval indicator value
Configured interval
306
304
0000
100 milliseconds
0001
200 milliseconds
0010
300 milliseconds
0011
400 milliseconds
0100
500 milliseconds
0101
600 milliseconds
0110
700 milliseconds
0111
800 milliseconds
1000
900 milliseconds
1001
1 second
308
310

FIG. 3A

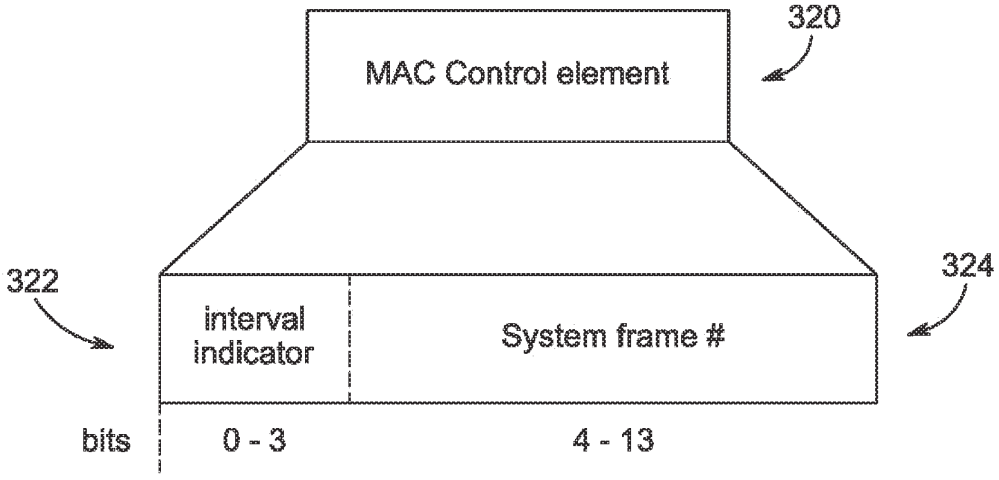
320
MAC Control element
322
324
interval indicator
System frame #
bits
0 - 3
4 - 13

FIG. 3B

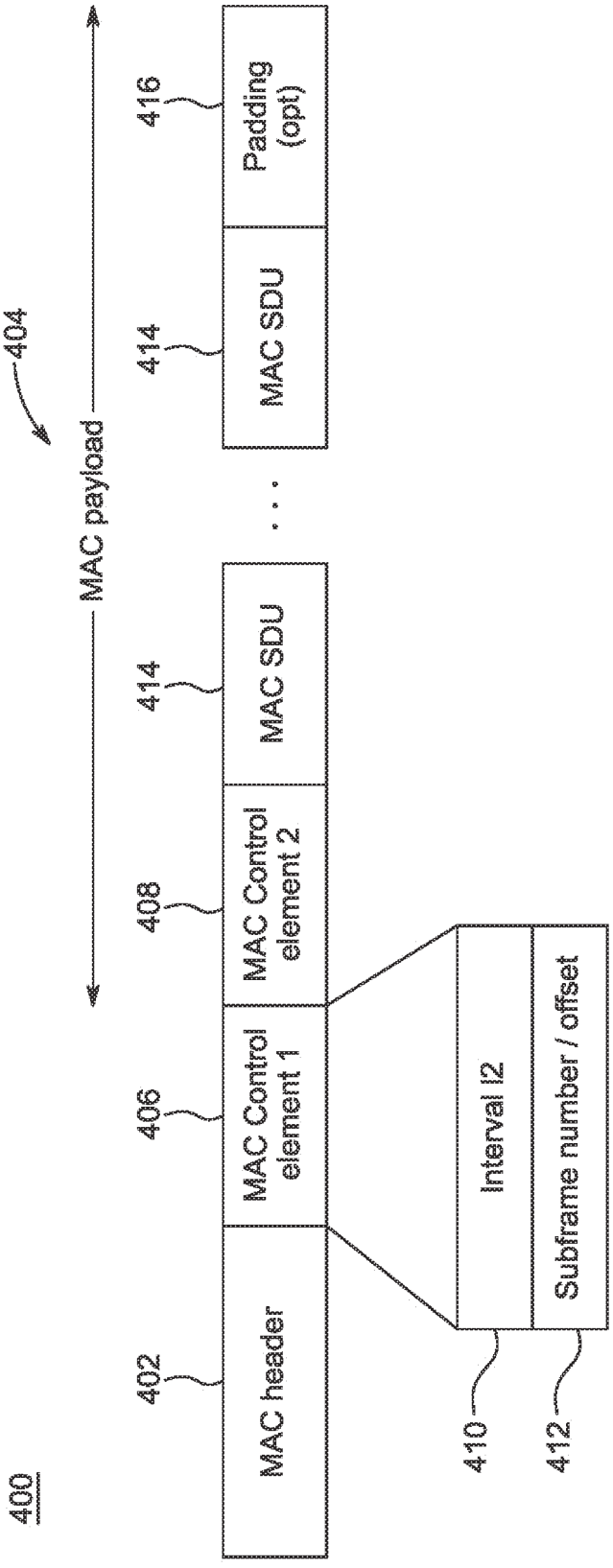
400
402
MAC header
406
MAC Control element 1
408
MAC Control element 2
414
MAC SDU
. . .
414
MAC SDU
416
Padding (opt)
404
MAC payload
410
Interval I2
412
Subframe number / offset

FIG. 4

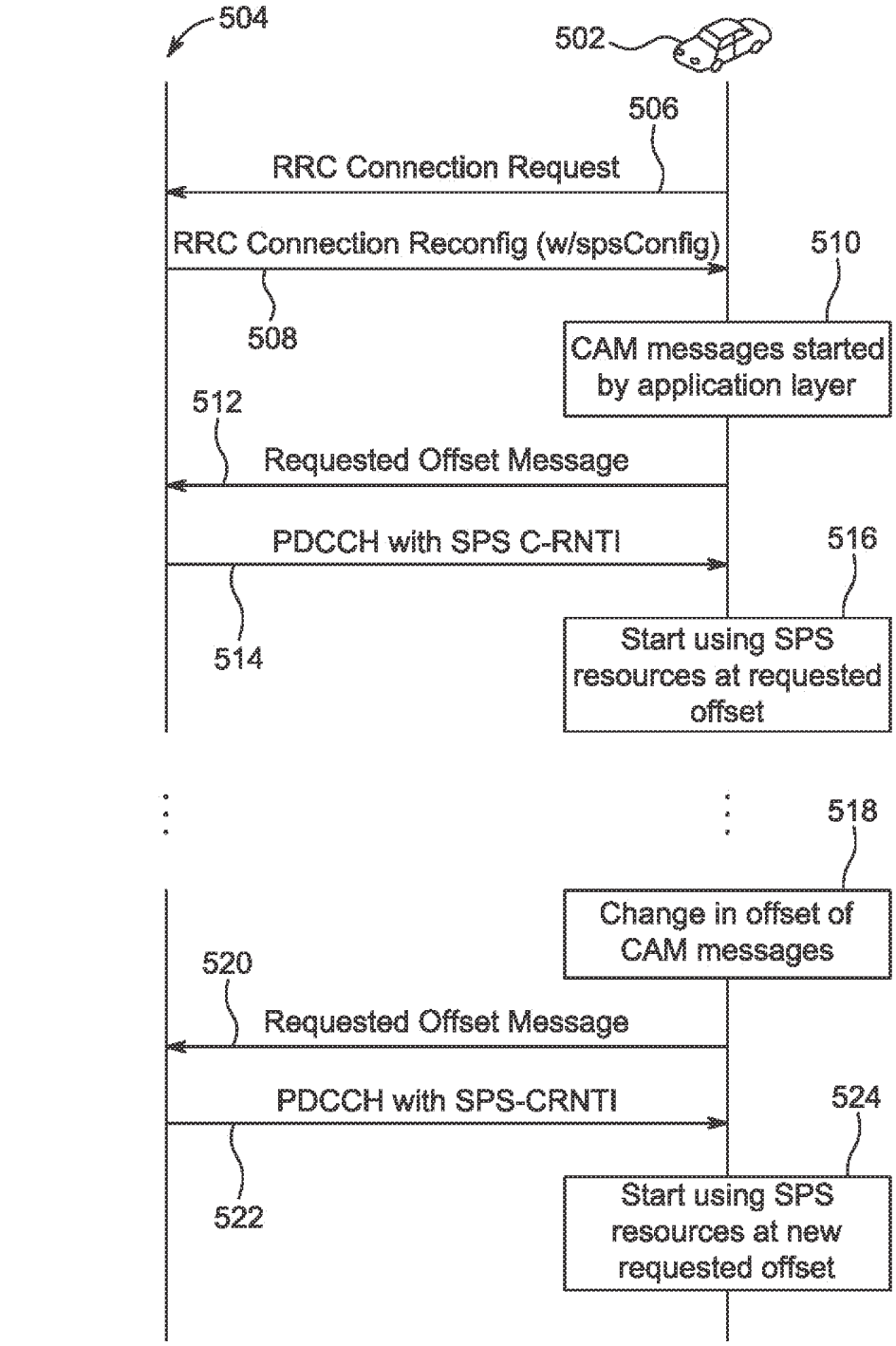
500
504
502
506
RRC Connection Request
RRC Connection Reconfig (w/spsConfig)
510
508
CAM messages started by application layer
512
Requested Offset Message
PDCCH with SPS C-RNTI
516
514
Start using SPS resources at requested offset
518
Change in offset of CAM messages
520
Requested Offset Message
PDCCH with SPS-CRNTI
524
522
Start using SPS resources at new requested offset

FIG. 5

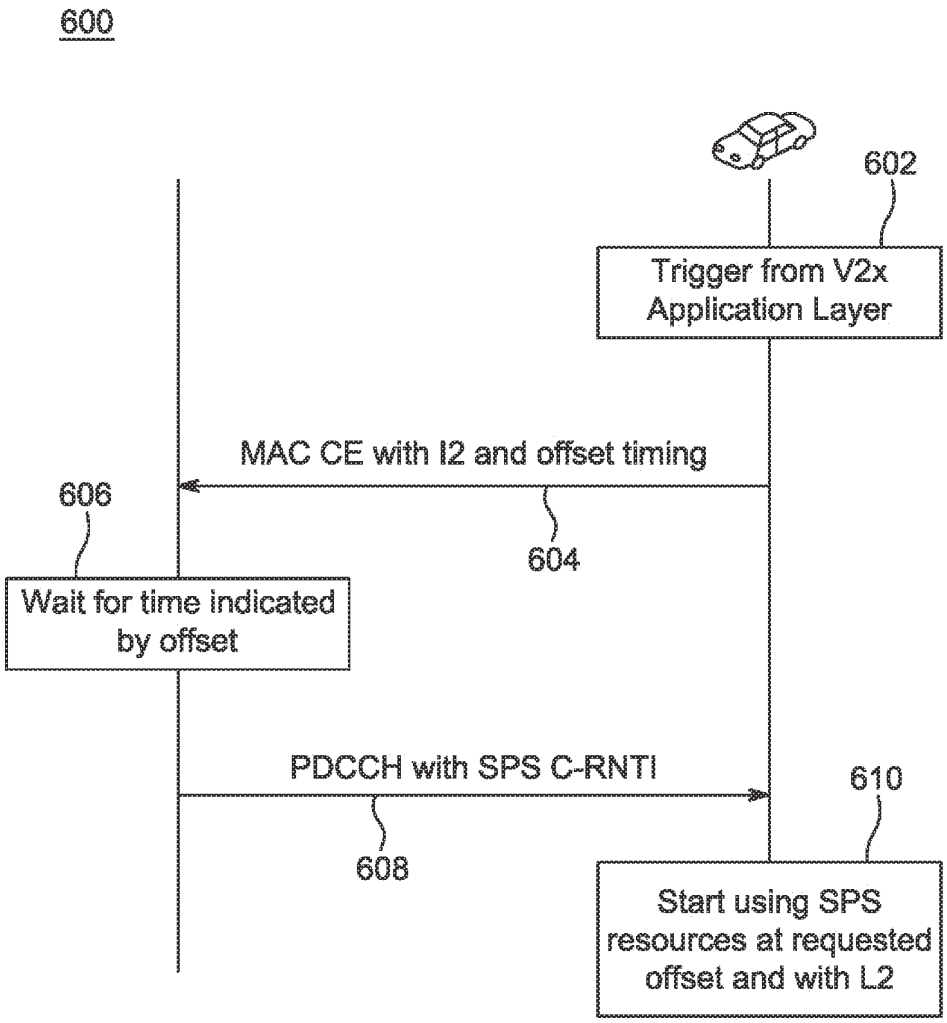
600
602
Trigger from V2x Application Layer
MAC CE with I2 and offset timing
606
604
Wait for time indicated by offset
PDCCH with SPS C-RNTI
610
608
Start using SPS resources at requested offset and with L2

FIG. 6

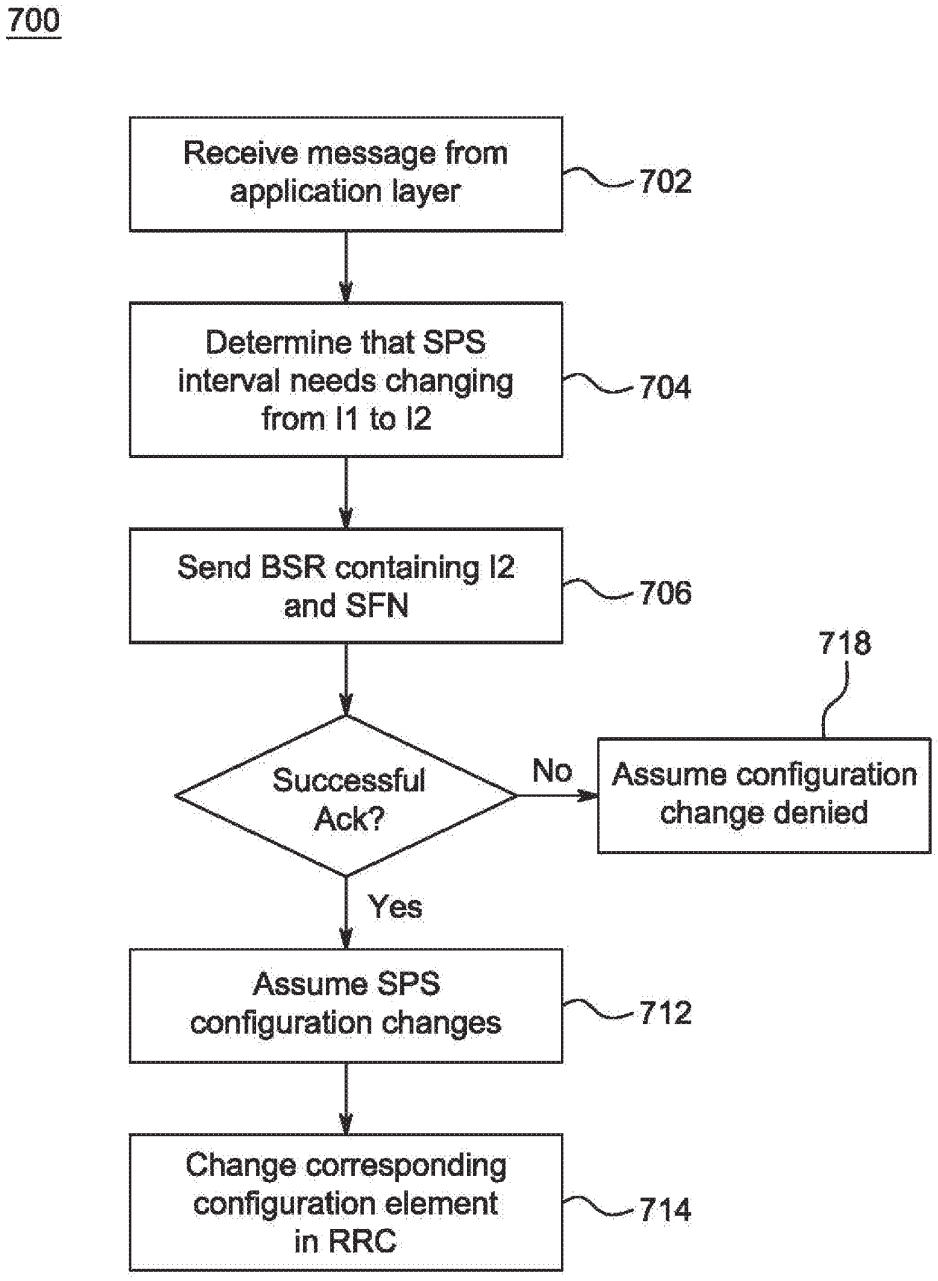
700
Receive message from application layer
702
Determine that SPS interval needs changing from I1 to I2
704
Send BSR containing I2 and SFN
706
718
Successful Ack?
No
Assume configuration change denied
Yes
Assume SPS configuration changes
712
Change corresponding configuration element in RRC
714

FIG. 7

800

802

804

Exemplary Trigger Events				
Acceleration Control	Dangerous Goods	Latitude	Public Vehicle Type	Street Name
Ambient Air Temperature	Dimension	Light Bar In Use	Reference Position	Temperature
Autonomous Mode	Direction	Line Ref	Road Segment ID	Traffic Light Priority
System Capabilities	Distance	Long Acceleration	Route Ref	Turn Advice
Cause Code	Distance To Stop Line	Longitude	Schedule Deviation	Turn Direction
Confidence	Door Open	Occupancy	Simple System State	Under 18 Driver
Crash Status	Elevation	Pos Confidence Ellipse	Siren In Use	Vehicle Speed
Curvature	Emergency Response Type	Position Confidence	Speed	Vehicle Type
Curvature Change	Exterior Lights	Priority	Station Length	Wiper System Event
Data Reference	Heading	Point Line Description	Station Width	Yaw Rate

FIG. 8