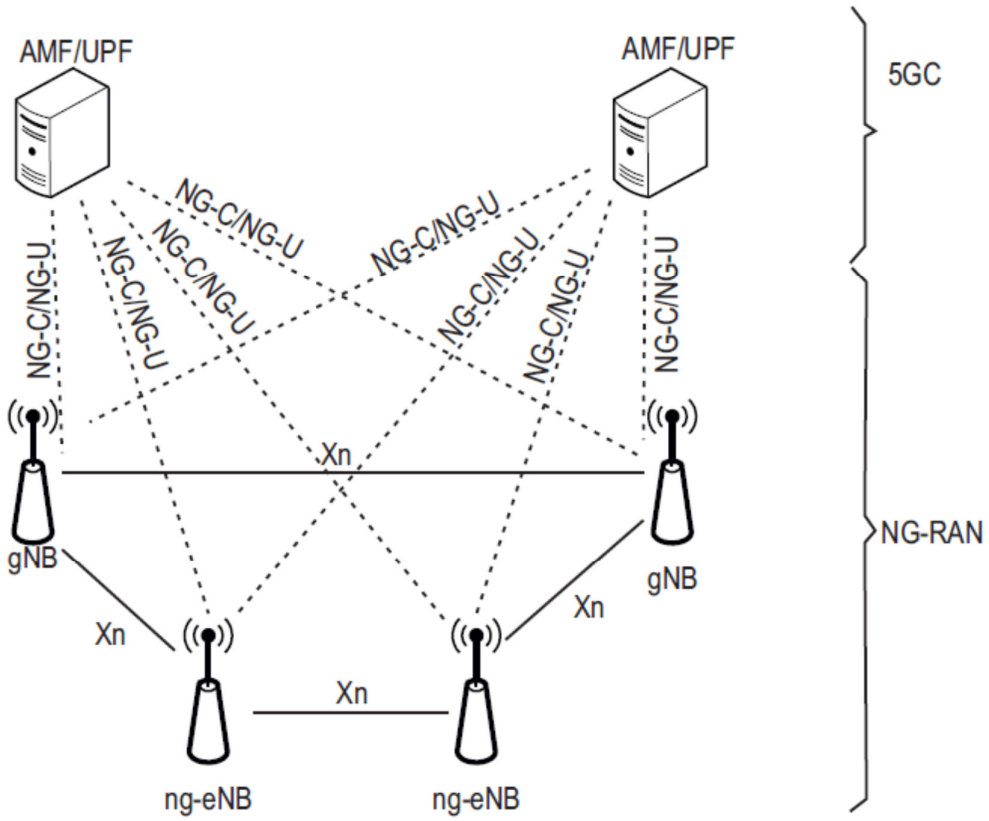

AMF/UPF
AMF/UPF
5GC
NG-C/NG-U
NG-C/NG-U
NG-C/NG-U
NG-C/NG-U
NG-C/NG-U
NG-C/NG-U
NG-C/NG-U
NG-C/NG-U
Xn
gNB
gNB
Xn
Xn
Xn
ng-eNB
ng-eNB
NG-RAN

FIG. 1

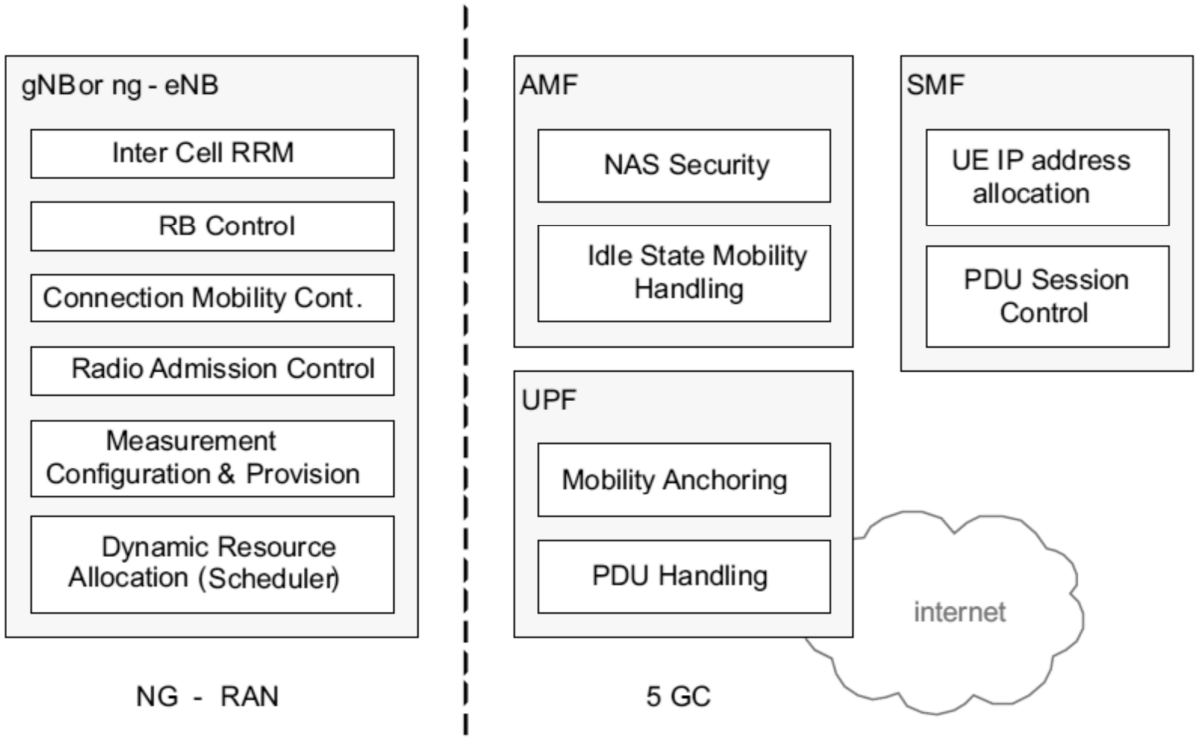

gNBor ng - eNB
Inter Cell RRM
RB Control
Connection Mobility Cont.
Radio Admission Control
Measurement Configuration & Provision
Dynamic Resource Allocation (Scheduler)
AMF
NAS Security
Idle State Mobility Handling
SMF
UE IP address allocation
PDU Session Control
UPF
Mobility Anchoring
PDU Handling
internet
NG - RAN
5 GC

FIG. 2

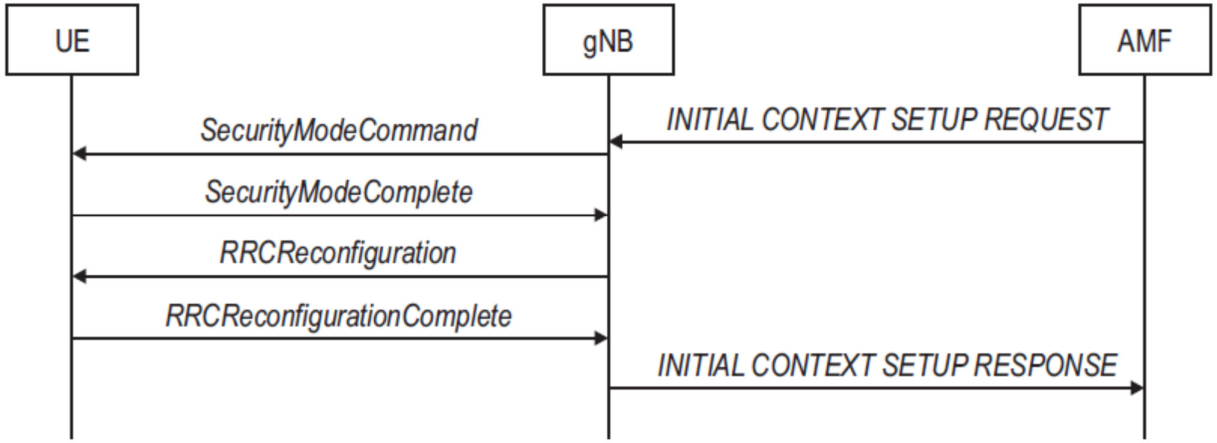

UE
gNB
AMF
SecurityModeCommand
INITIAL CONTEXT SETUP REQUEST
SecurityModeComplete
RRCReconfiguration
RRCReconfigurationComplete
INITIAL CONTEXT SETUP RESPONSE

FIG. 3

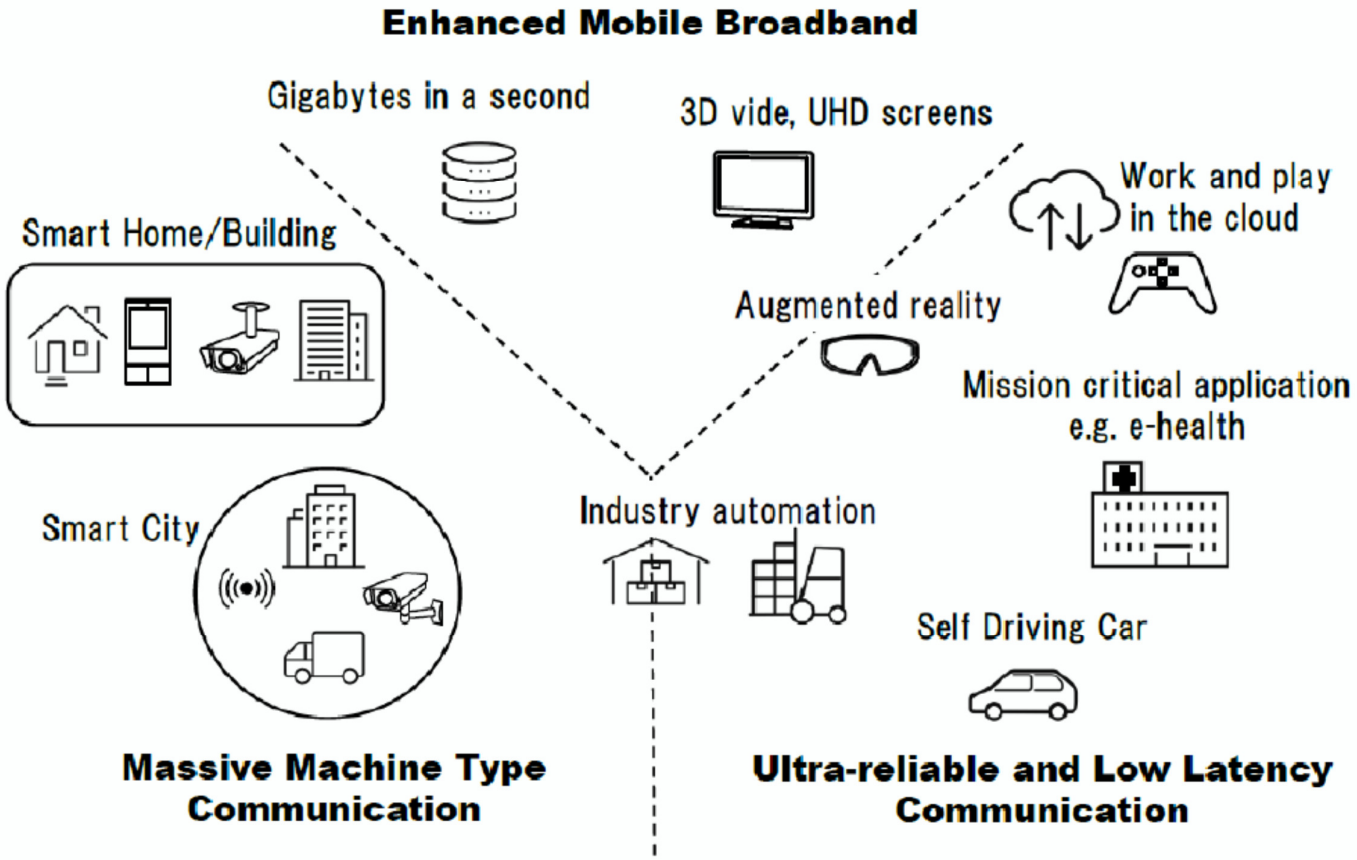

Enhanced Mobile Broadband
Gigabytes in a second
3D vide, UHD screens
Work and play in the cloud
Smart Home/Building
Augmented reality
Mission critical application e.g. e-health
Smart City
Industry automation
Self Driving Car
Massive Machine Type Communication
Ultra-reliable and Low Latency Communication

FIG. 4

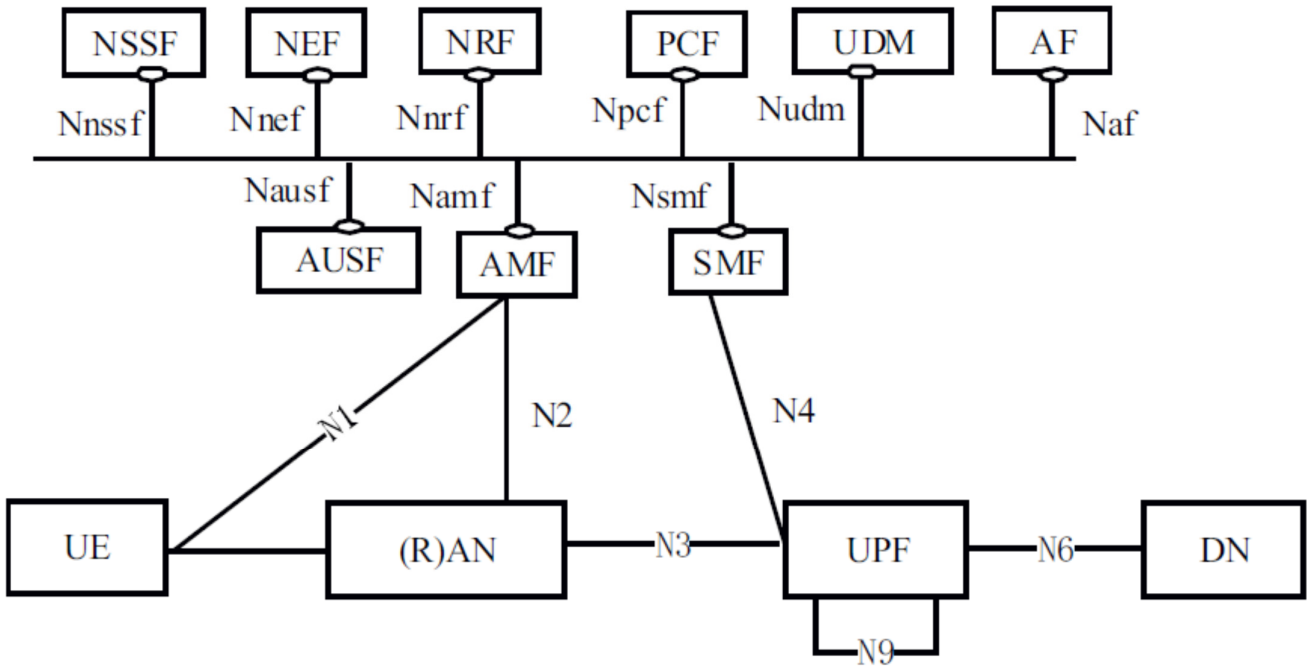

NSSF
NEF
NRF
PCF
UDM
AF
Nnssf
Nnef
Nnrf
Npcf
Nudm
Naf
Nausf
Namf
Nsmf
AUSF
AMF
SMF
N1
N2
N4
UE
(R)AN
N3
UPF
N6
DN
N9

FIG. 5

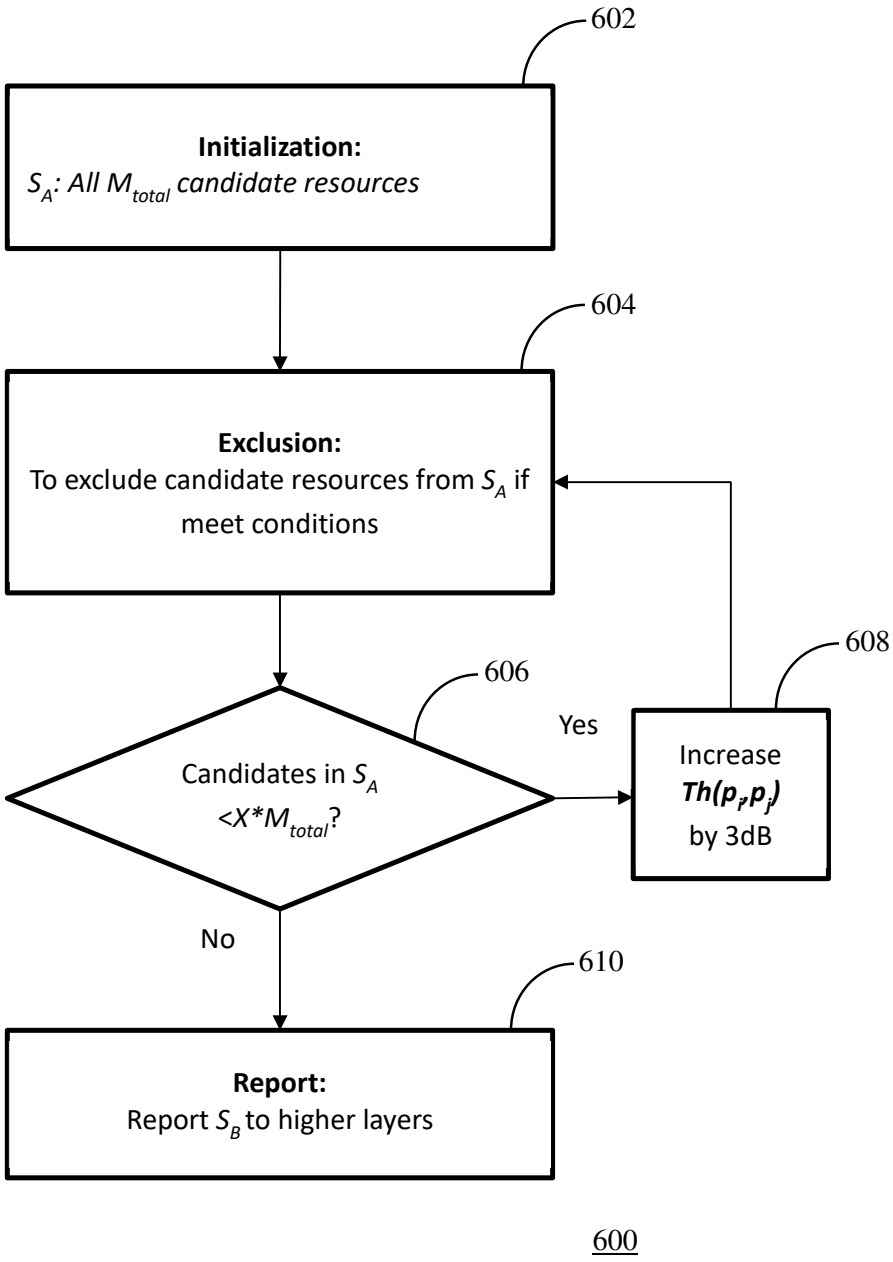

602
Initialization:
S_A: All M_{total} candidate resources
604
Exclusion:
To exclude candidate resources from S_A if meet conditions
606
Candidates in S_A <$X*M_{total}$?
Yes
608
Increase $Th(p_i,p_j)$ by 3dB
No
610
Report:
Report S_B to higher layers
600

FIG. 6

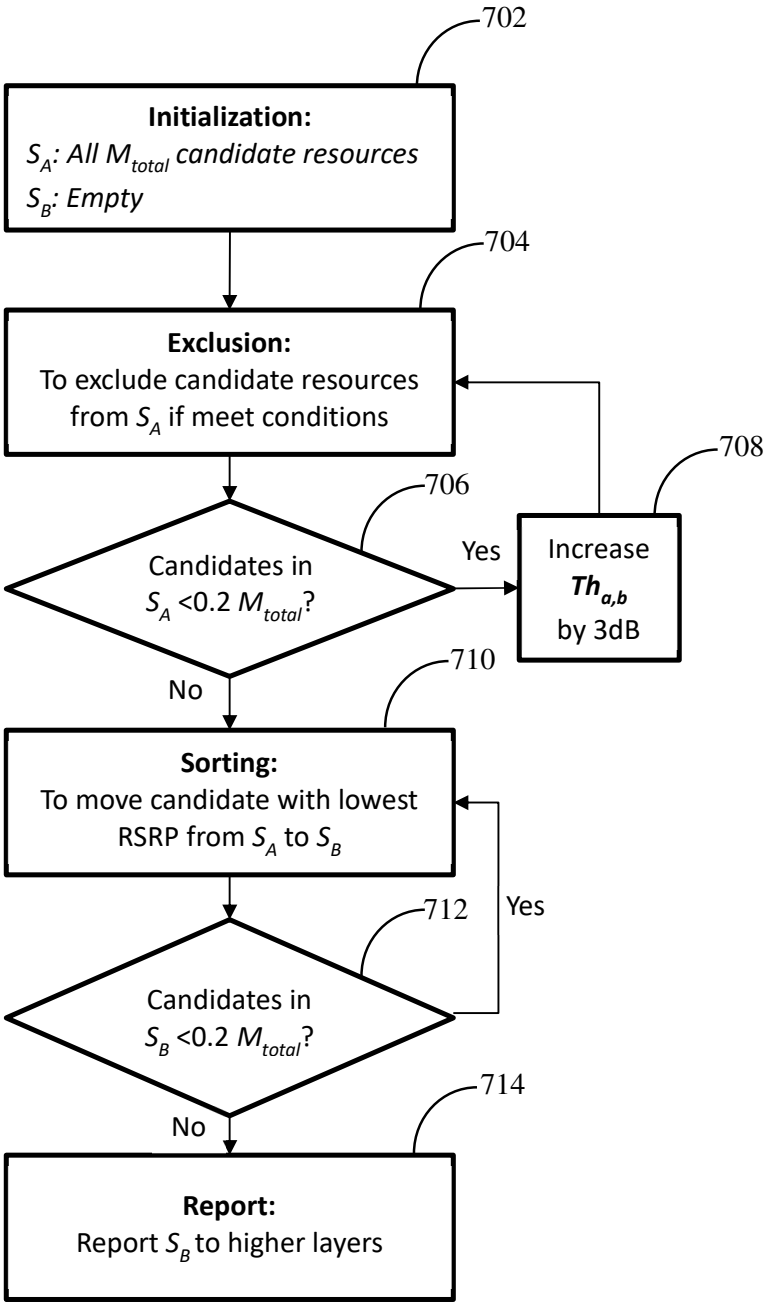

702
Initialization:
S_A: All M_{total} candidate resources
S_B: Empty
704
Exclusion:
To exclude candidate resources from S_A if meet conditions
706
Candidates in S_A <0.2 M_{total}?
Yes
708
Increase $Th_{a,b}$ by 3dB
No
710
Sorting:
To move candidate with lowest RSRP from S_A to S_B
712
Candidates in S_B <0.2 M_{total}?
Yes
No
714
Report:
Report S_B to higher layers
700

FIG. 7

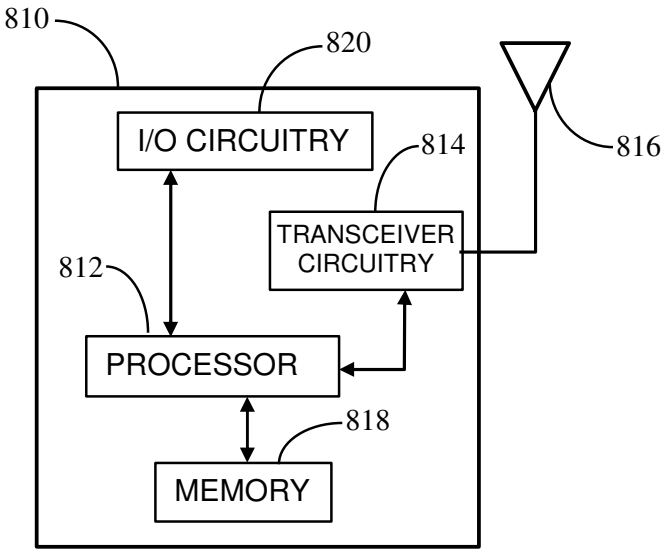

810
820
816
I/O CIRCUITRY
814
TRANSCEIVER CIRCUITRY
812
PROCESSOR
818
MEMORY

FIG. 8 800

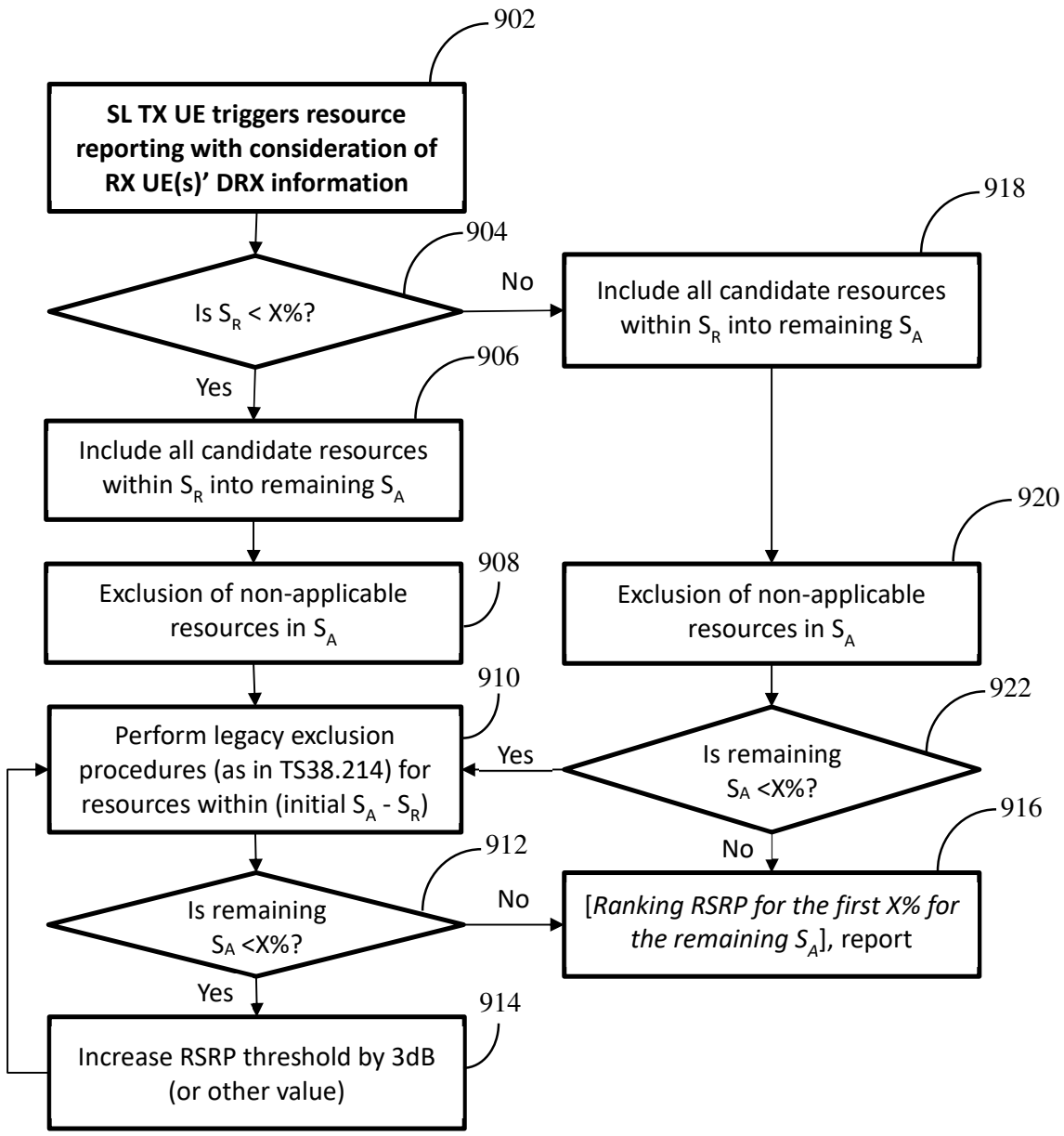

902
SL TX UE triggers resource reporting with consideration of RX UE(s)' DRX information
904
Is S_R < X%?
No
Yes
918
Include all candidate resources within S_R into remaining S_A
906
Include all candidate resources within S_R into remaining S_A
920
Exclusion of non-applicable resources in S_A
908
Exclusion of non-applicable resources in S_A
910
Perform legacy exclusion procedures (as in TS38.214) for resources within (initial S_A - S_R)
922
Is remaining S_A <X%?
Yes
No
916
[*Ranking RSRP for the first X% for the remaining S_A*], report
912
Is remaining S_A <X%?
No
Yes
914
Increase RSRP threshold by 3dB (or other value)
900

FIG. 9

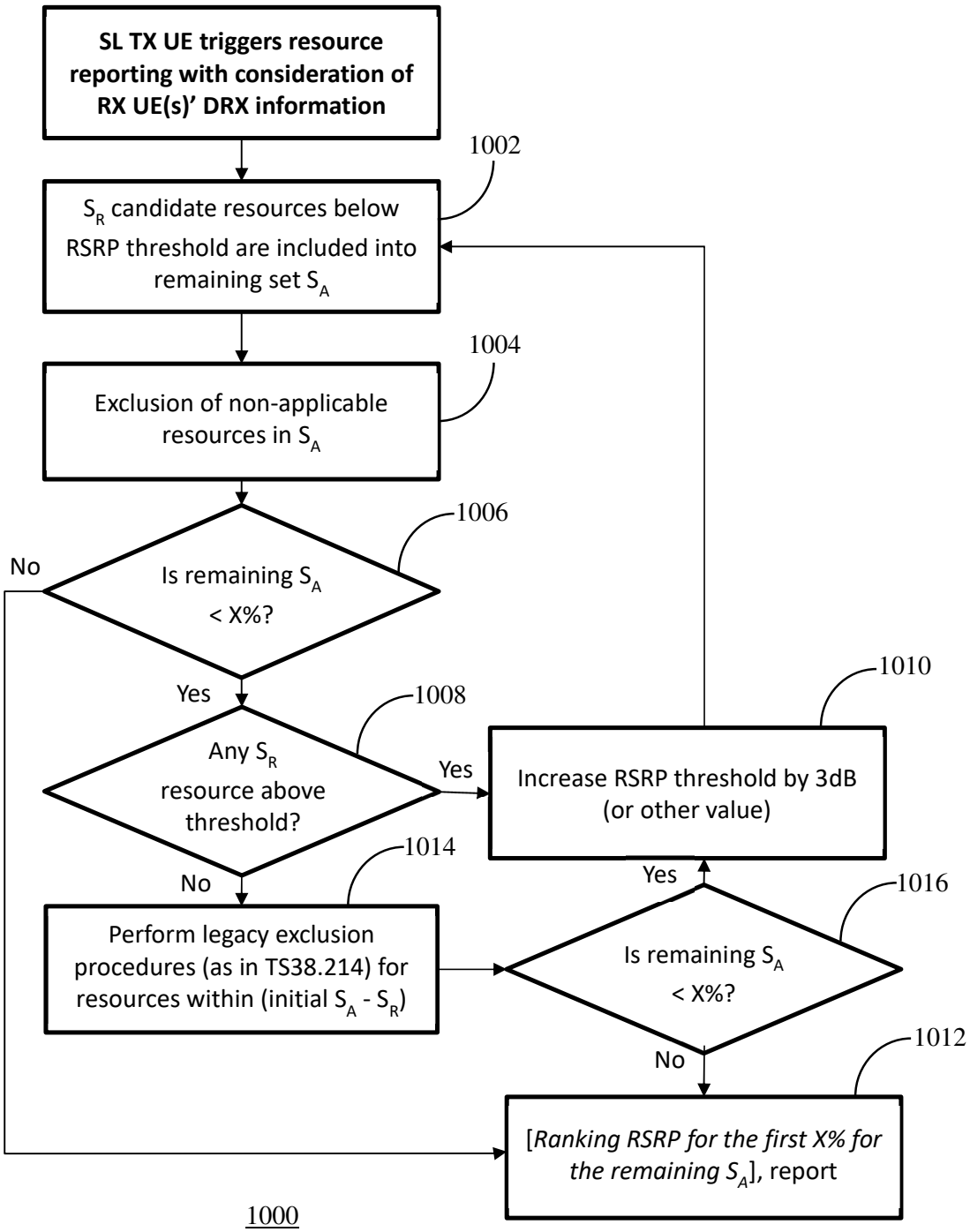

SL TX UE triggers resource reporting with consideration of RX UE(s)' DRX information
1002
S_R candidate resources below RSRP threshold are included into remaining set S_A
1004
Exclusion of non-applicable resources in S_A
1006
Is remaining S_A < X%?
No
Yes
1008
Any S_R resource above threshold?
Yes
1010
Increase RSRP threshold by 3dB (or other value)
No
1014
Perform legacy exclusion procedures (as in TS38.214) for resources within (initial S_A - S_R)
Yes
1016
Is remaining S_A < X%?
No
1012
[*Ranking RSRP for the first X% for the remaining S_A*], report
1000

FIG. 10

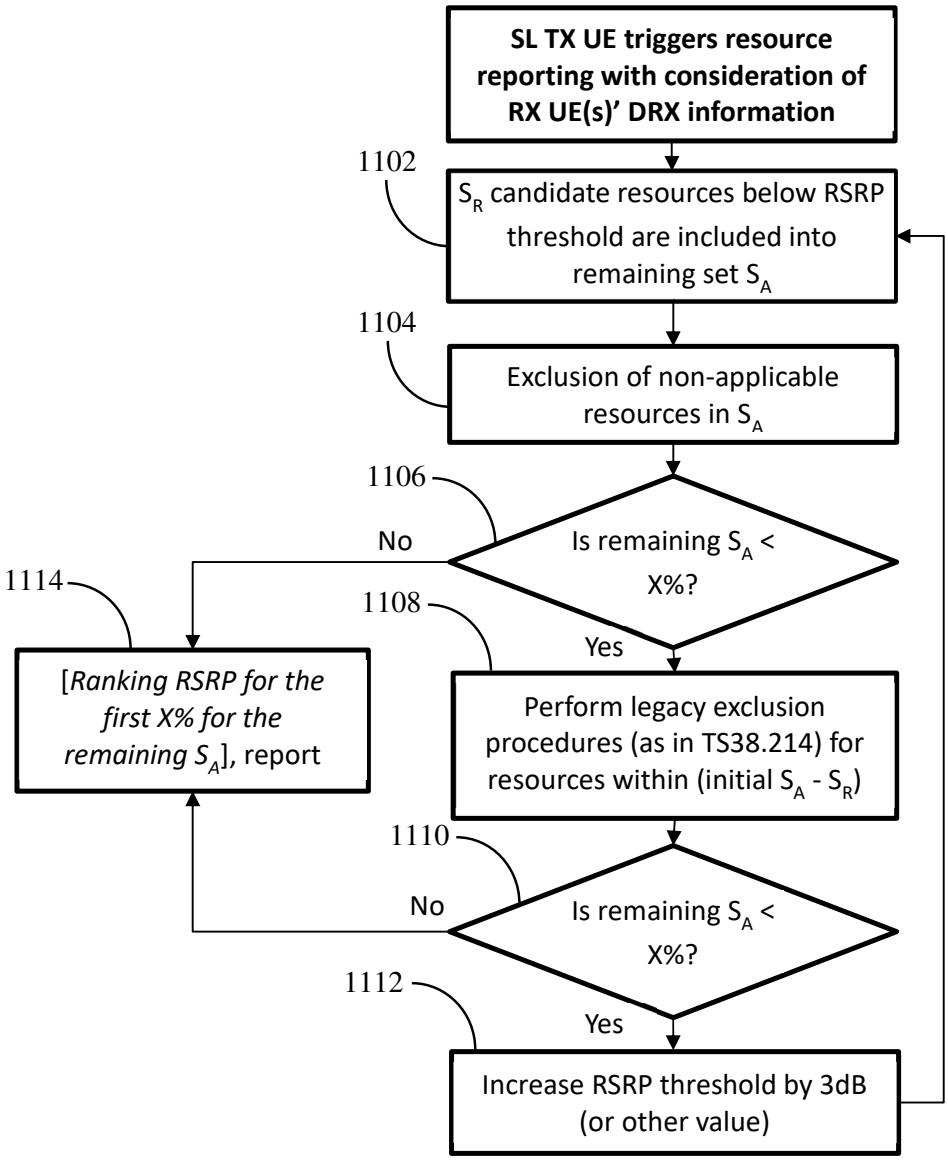

SL TX UE triggers resource reporting with consideration of RX UE(s)' DRX information
1102
S_R candidate resources below RSRP threshold are included into remaining set S_A
1104
Exclusion of non-applicable resources in S_A
1106
Is remaining S_A < X%?
No
Yes
1114
[*Ranking RSRP for the first X% for the remaining S_A*], report
1108
Perform legacy exclusion procedures (as in TS38.214) for resources within (initial S_A - S_R)
1110
Is remaining S_A < X%?
No
Yes
1112
Increase RSRP threshold by 3dB (or other value)
1100

FIG. 11

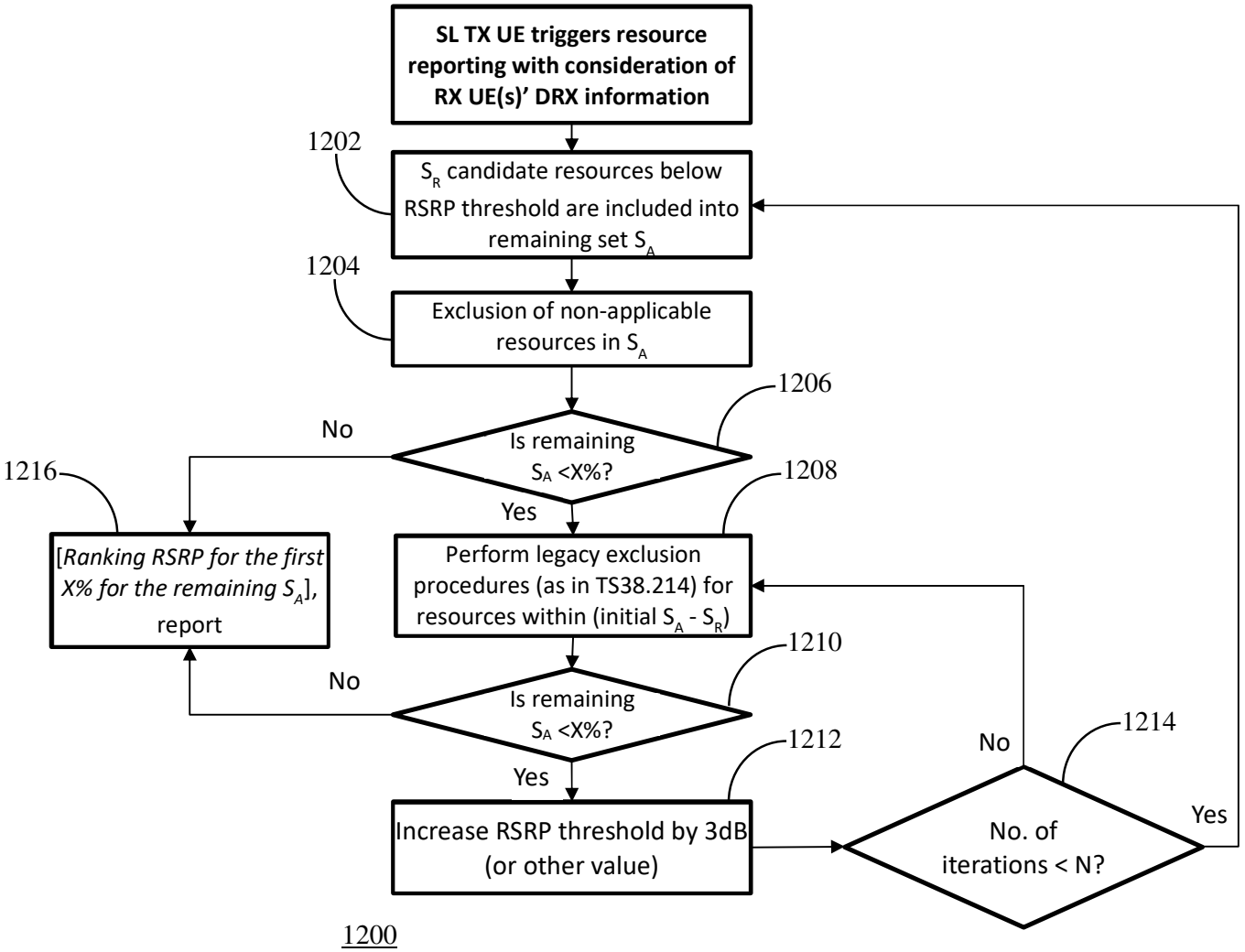

SL TX UE triggers resource reporting with consideration of RX UE(s)' DRX information
1202
S_R candidate resources below RSRP threshold are included into remaining set S_A
1204
Exclusion of non-applicable resources in S_A
1206
Is remaining S_A <X%?
No
Yes
1216
[*Ranking RSRP for the first X% for the remaining S_A*], report
1208
Perform legacy exclusion procedures (as in TS38.214) for resources within (initial S_A - S_R)
1210
Is remaining S_A <X%?
No
Yes
1212
Increase RSRP threshold by 3dB (or other value)
1214
No. of iterations < N?
No
Yes
1200

FIG. 12

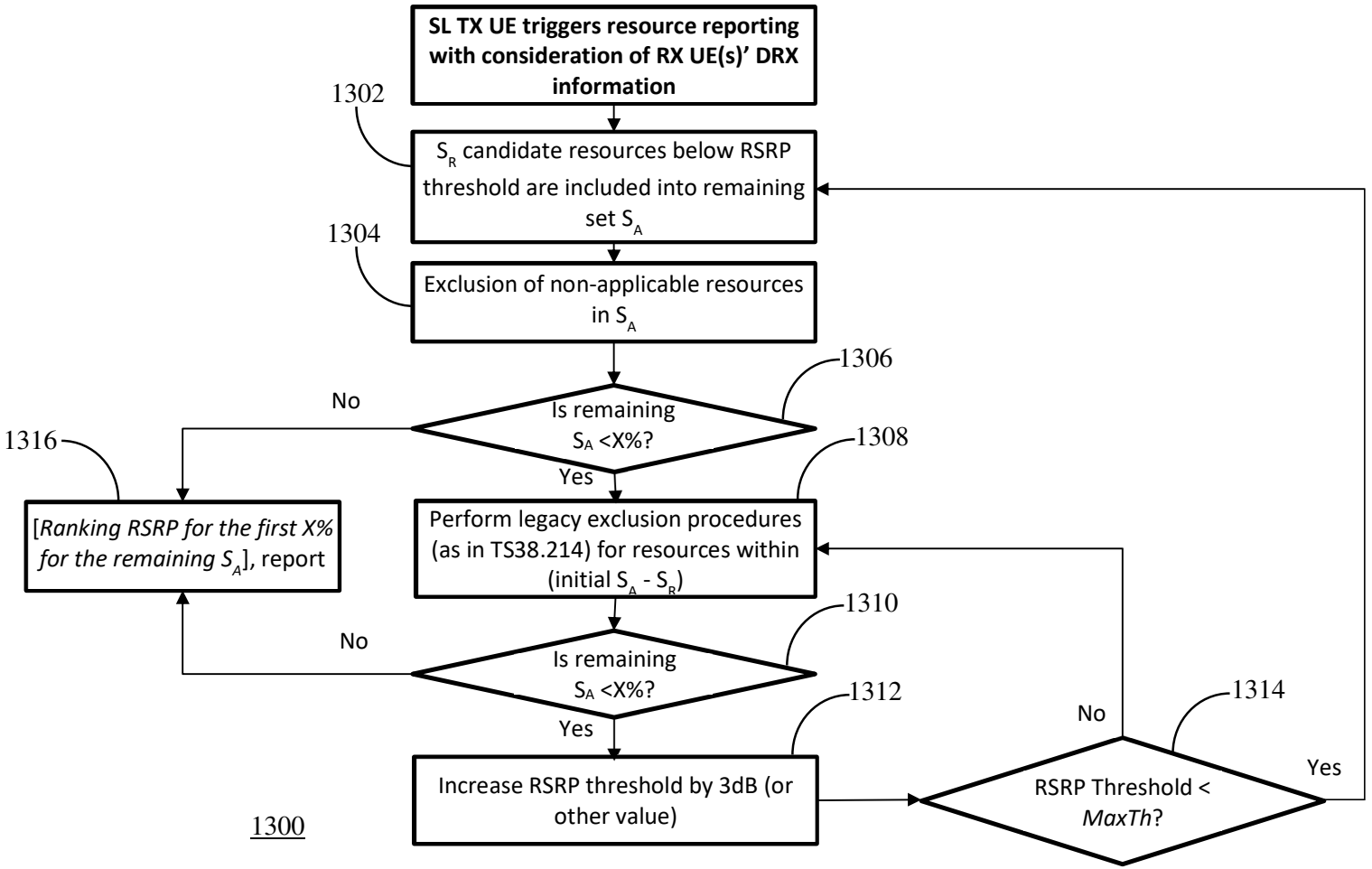

SL TX UE triggers resource reporting with consideration of RX UE(s)' DRX information
1302
S_R candidate resources below RSRP threshold are included into remaining set S_A
1304
Exclusion of non-applicable resources in S_A
1306
Is remaining S_A <X%?
No
Yes
1316
[*Ranking RSRP for the first X% for the remaining S_A*], report
1308
Perform legacy exclusion procedures (as in TS38.214) for resources within (initial S_A - S_R)
1310
Is remaining S_A <X%?
No
Yes
1312
Increase RSRP threshold by 3dB (or other value)
1314
RSRP Threshold < *MaxTh*?
No
Yes
1300

FIG. 13

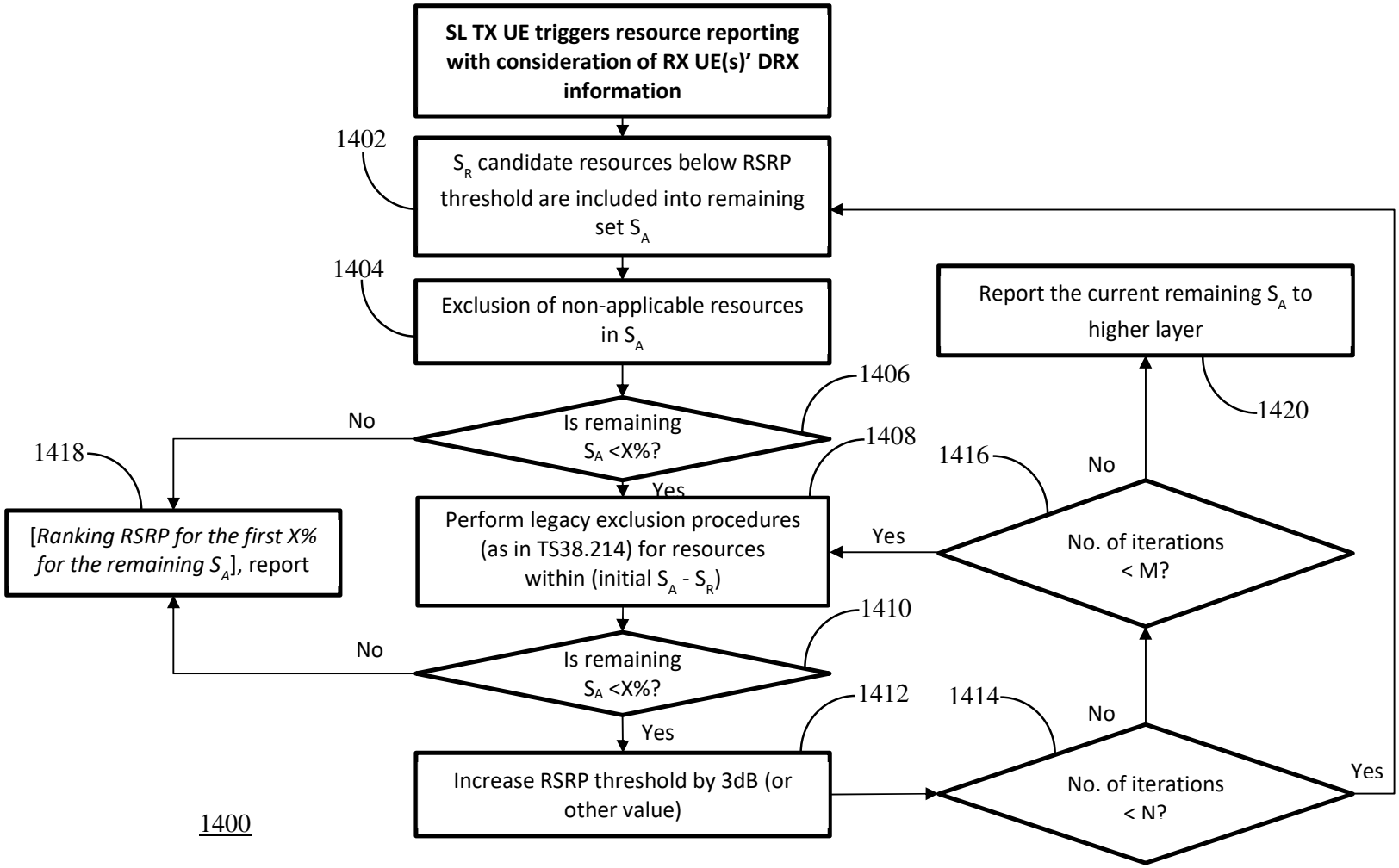

SL TX UE triggers resource reporting with consideration of RX UE(s)' DRX information
1402
S_R candidate resources below RSRP threshold are included into remaining set S_A
1404
Exclusion of non-applicable resources in S_A
1406
Is remaining S_A <X%?
No
1418
[*Ranking RSRP for the first X% for the remaining S_A*], report
Yes
1408
Perform legacy exclusion procedures (as in TS38.214) for resources within (initial S_A - S_R)
1410
Is remaining S_A <X%?
No
Yes
1412
Increase RSRP threshold by 3dB (or other value)
1414
No. of iterations < N?
No
Yes
1416
No. of iterations < M?
No
Yes
1420
Report the current remaining S_A to higher layer
1400

FIG. 14

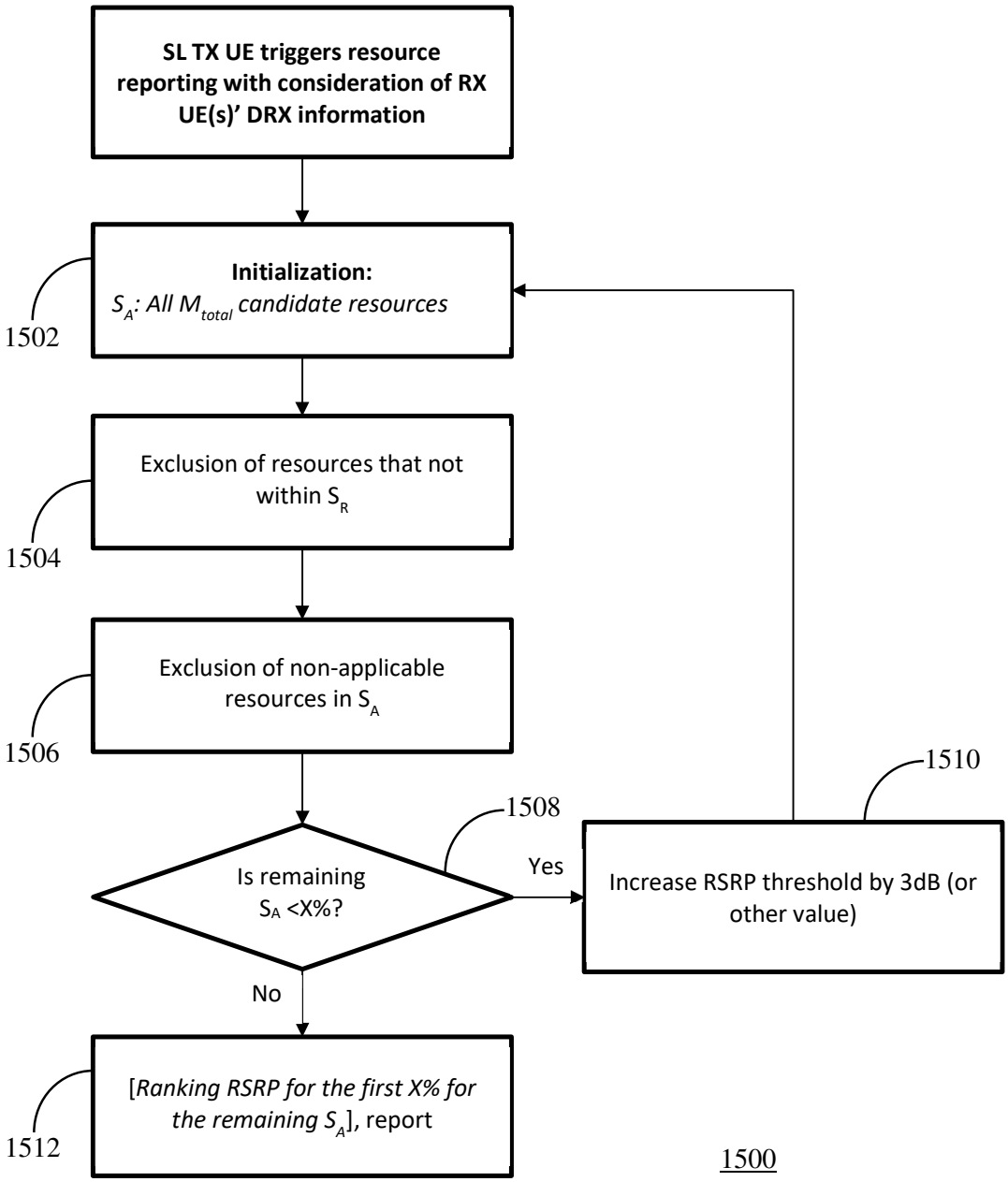

SL TX UE triggers resource reporting with consideration of RX UE(s)' DRX information
Initialization:
S_A: All M_{total} candidate resources
1502
Exclusion of resources that not within S_R
1504
Exclusion of non-applicable resources in S_A
1506
1508
Is remaining S_A <X%?
Yes
No
1510
Increase RSRP threshold by 3dB (or other value)
[Ranking RSRP for the first X% for the remaining S_A], report
1512
1500

FIG. 15

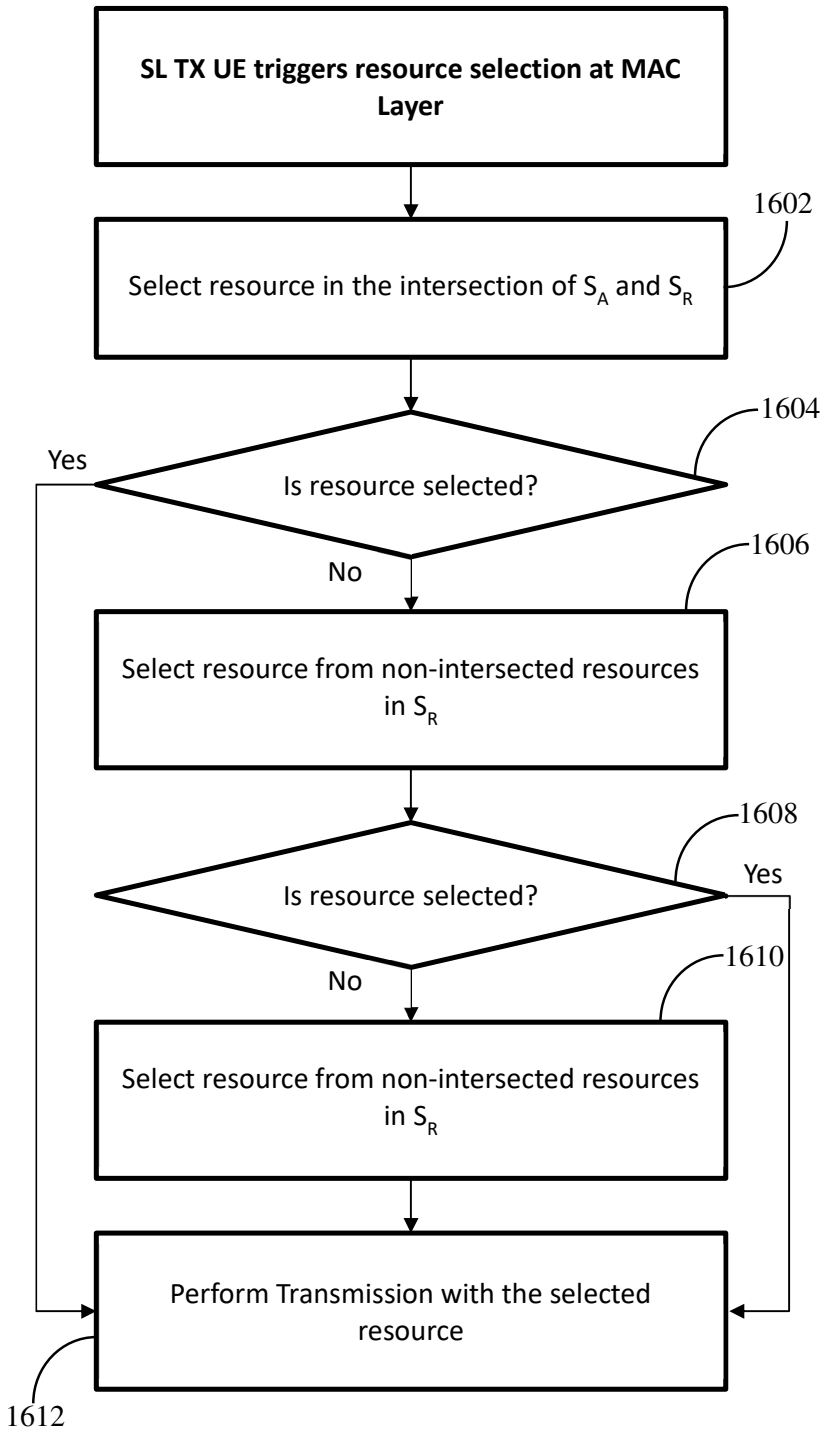

SL TX UE triggers resource selection at MAC Layer
1602
Select resource in the intersection of S_A and S_R
1604
Is resource selected?
Yes
No
1606
Select resource from non-intersected resources in S_R
1608
Is resource selected?
Yes
No
1610
Select resource from non-intersected resources in S_R
Perform Transmission with the selected resource
1612
1600

FIG. 16

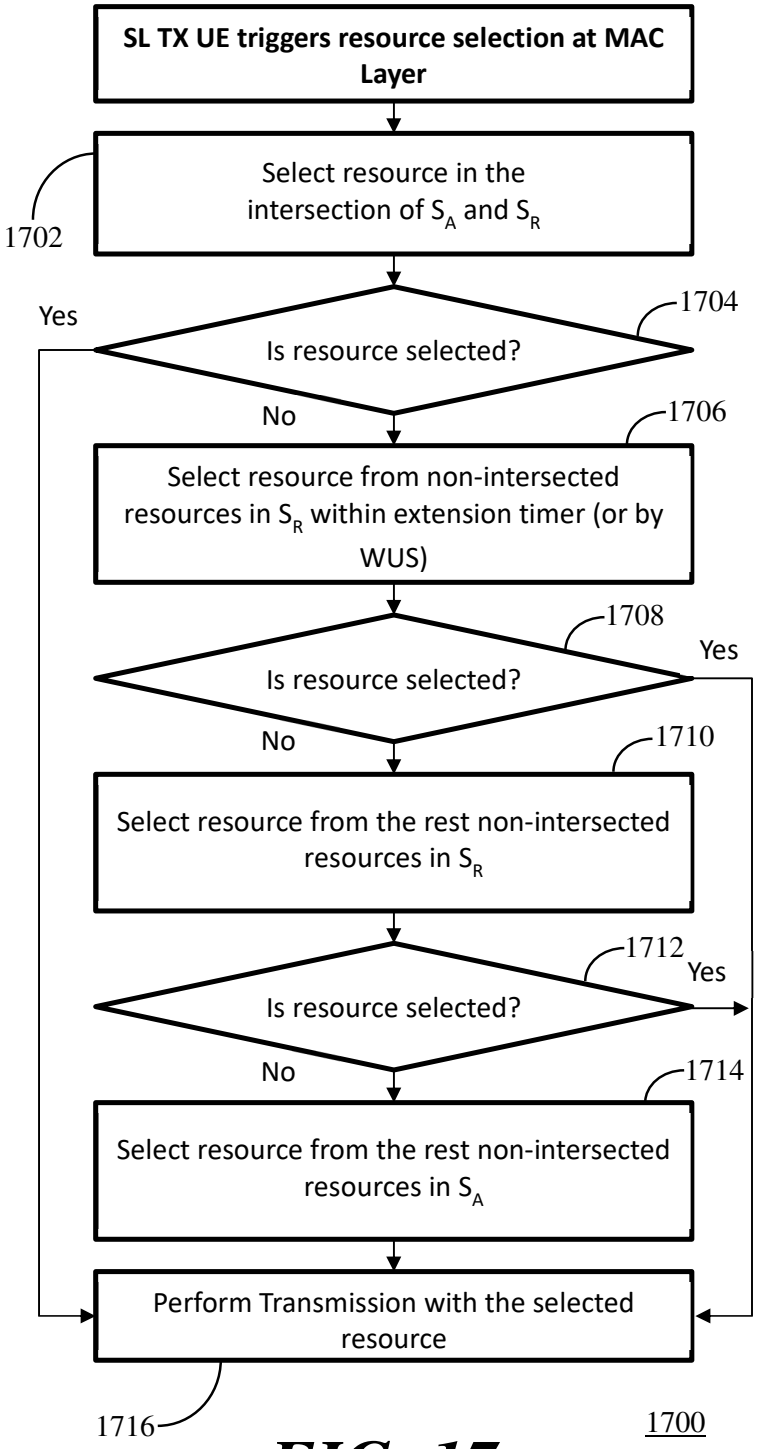

SL TX UE triggers resource selection at MAC Layer
Select resource in the intersection of S_A and S_R
1702
Is resource selected?
1704
Yes
No
Select resource from non-intersected resources in S_R within extension timer (or by WUS)
1706
Is resource selected?
1708
Yes
No
Select resource from the rest non-intersected resources in S_R
1710
Is resource selected?
1712
Yes
No
Select resource from the rest non-intersected resources in S_A
1714
Perform Transmission with the selected resource
1716
1700

FIG. 17