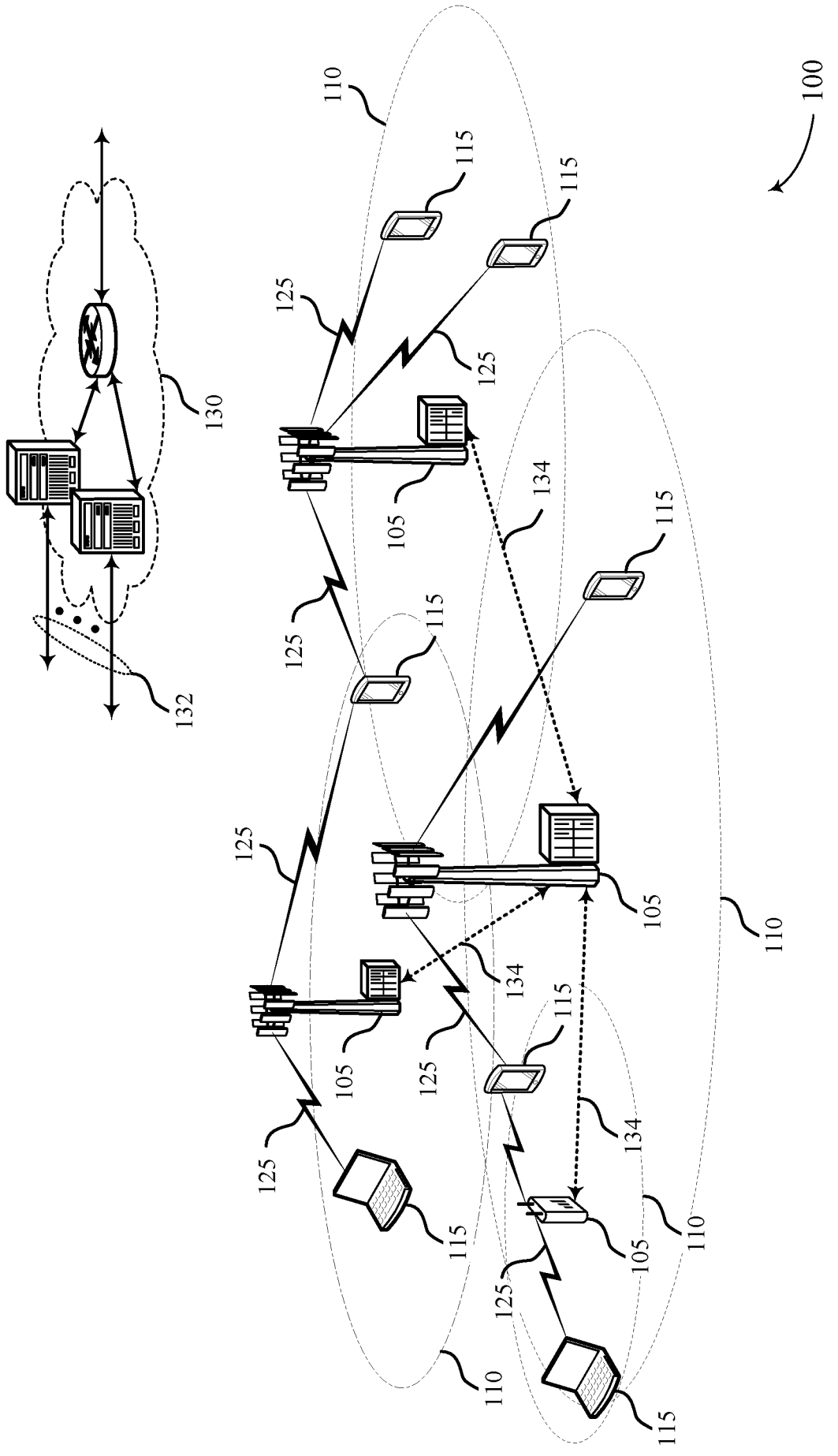


FIG. 1

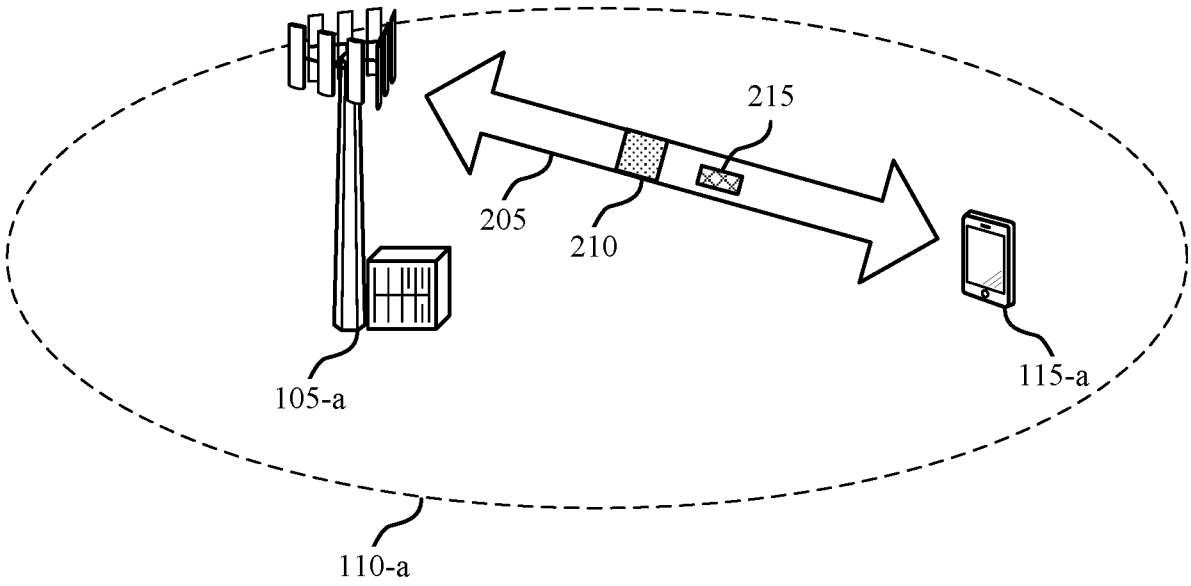


FIG. 2

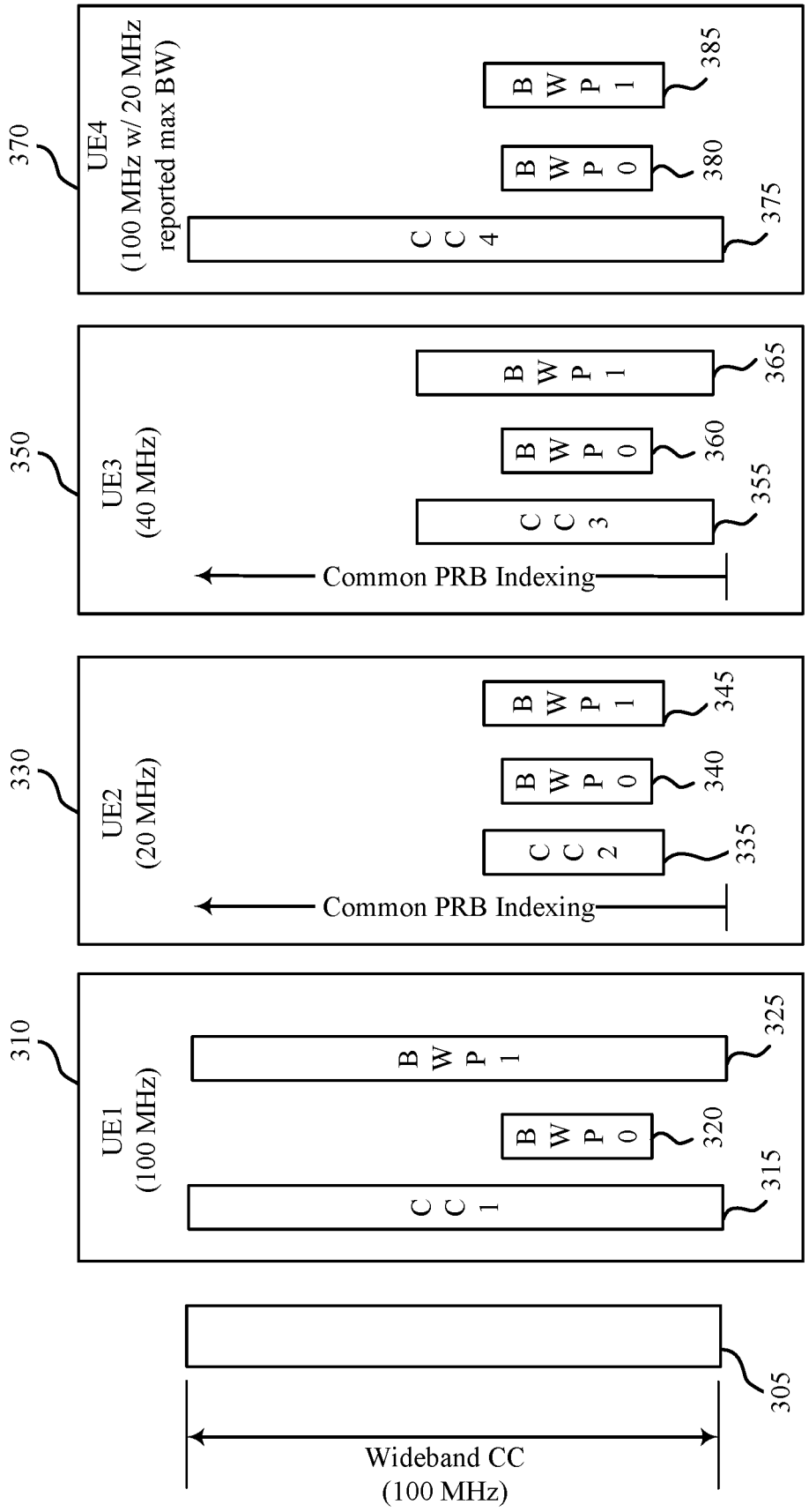

Wideband CC
(100 MHz)
305
UE1
(100 MHz)
310
CC 1
315
BWP 0
320
BWP 1
325
UE2
(20 MHz)
330
CC 2
335
BWP 0
340
BWP 1
345
Common PRB Indexing
UE3
(40 MHz)
350
CC 3
355
BWP 0
360
BWP 1
365
Common PRB Indexing
UE4
(100 MHz w/ 20 MHz
reported max BW)
370
CC 4
375
BWP 0
380
BWP 1
385
300

FIG. 3

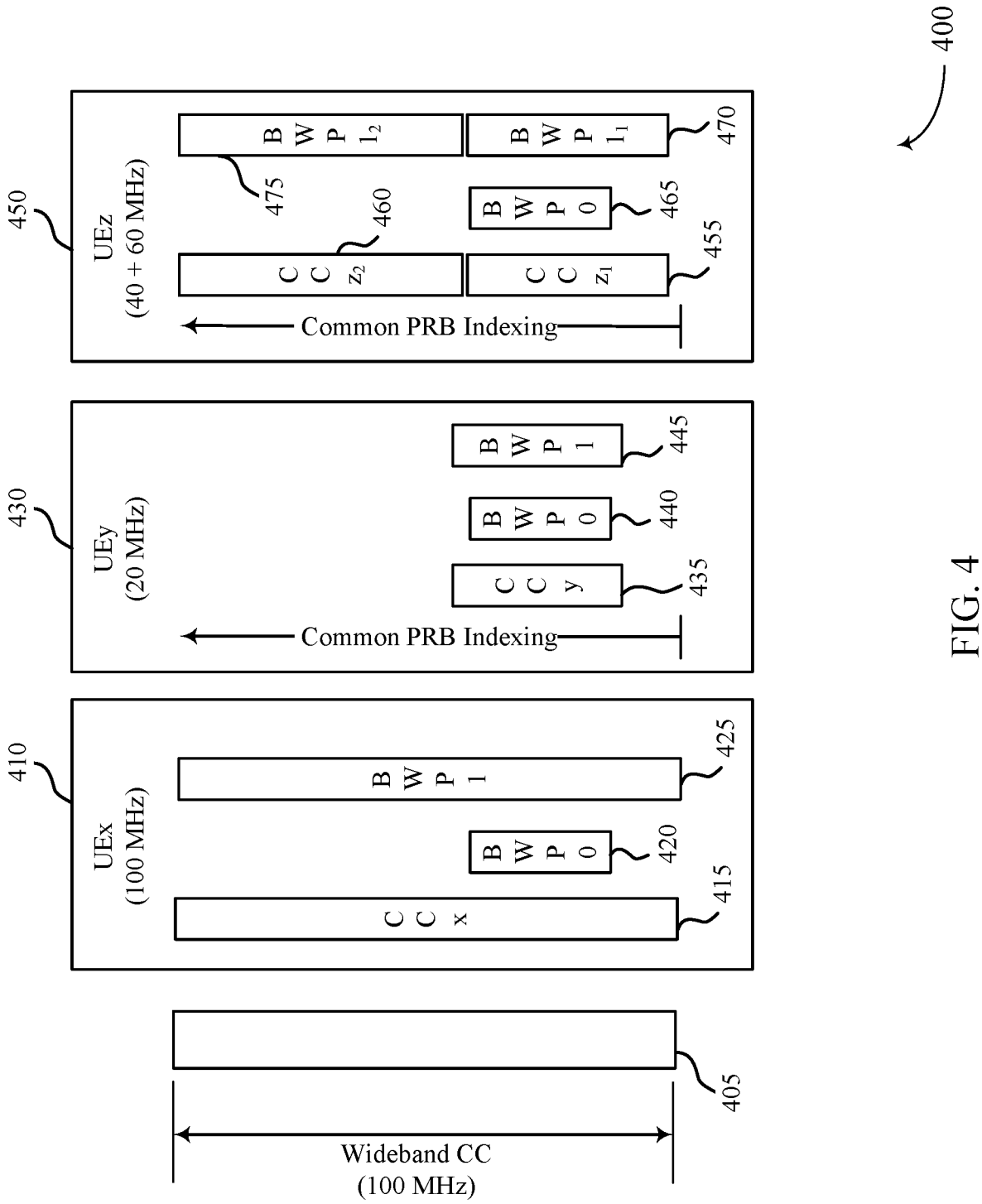

400
405
Wideband CC
(100 MHz)
410
UEx
(100 MHz)
415
CC x
420
BWP 0
425
BWP 1
430
UEy
(20 MHz)
435
CC y
440
BWP 0
445
BWP 1
Common PRB Indexing
450
UEz
(40 + 60 MHz)
455
CC z1
460
CC z2
465
BWP 0
470
BWP l1
475
BWP l2
Common PRB Indexing

FIG. 4

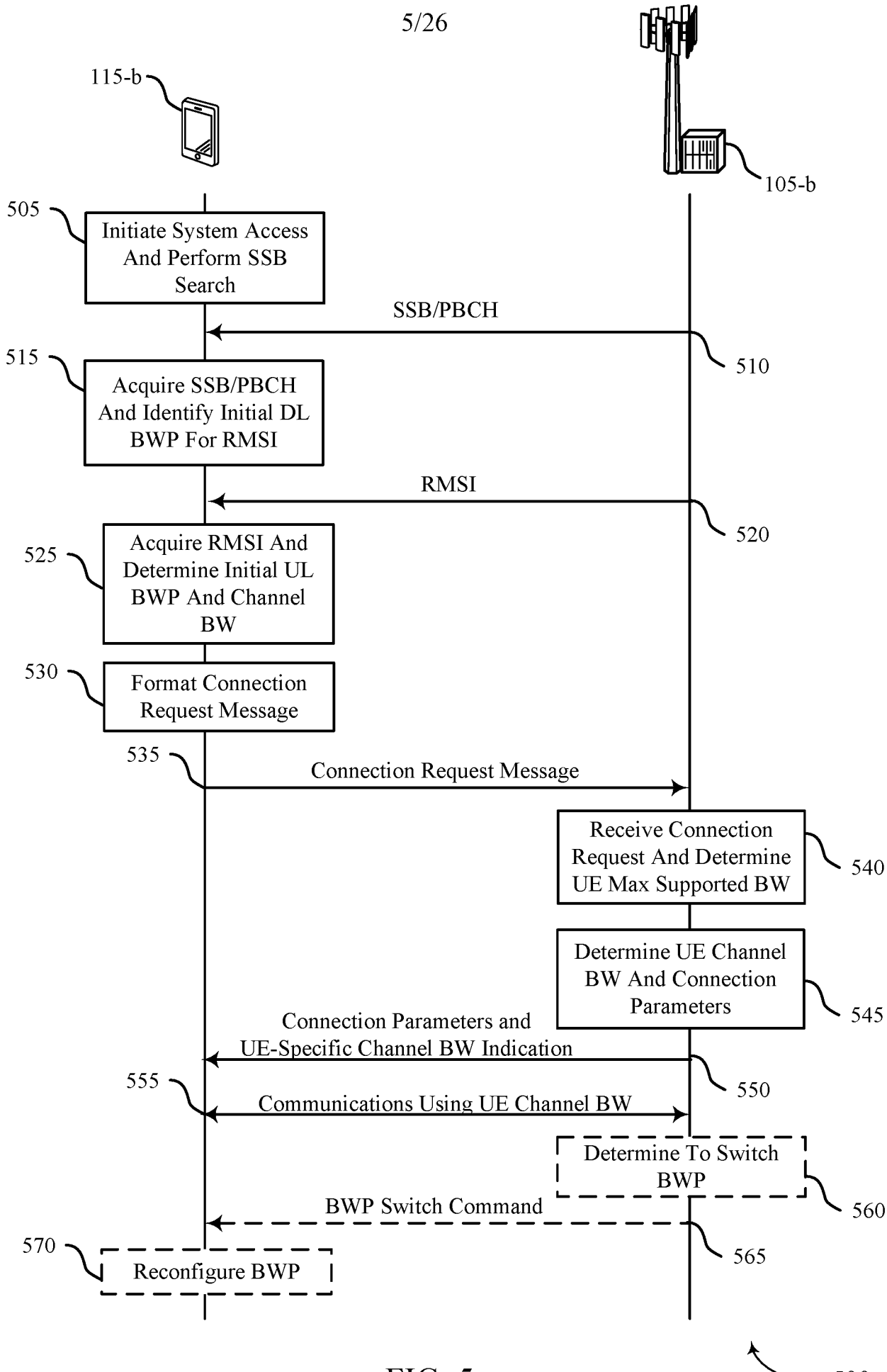

115-b
105-b
505
Initiate System Access And Perform SSB Search
SSB/PBCH
510
515
Acquire SSB/PBCH And Identify Initial DL BWP For RMSI
RMSI
520
525
Acquire RMSI And Determine Initial UL BWP And Channel BW
530
Format Connection Request Message
535
Connection Request Message
Receive Connection Request And Determine UE Max Supported BW
540
Determine UE Channel BW And Connection Parameters
545
Connection Parameters and UE-Specific Channel BW Indication
550
555
Communications Using UE Channel BW
Determine To Switch BWP
560
BWP Switch Command
565
570
Reconfigure BWP
500

FIG. 5

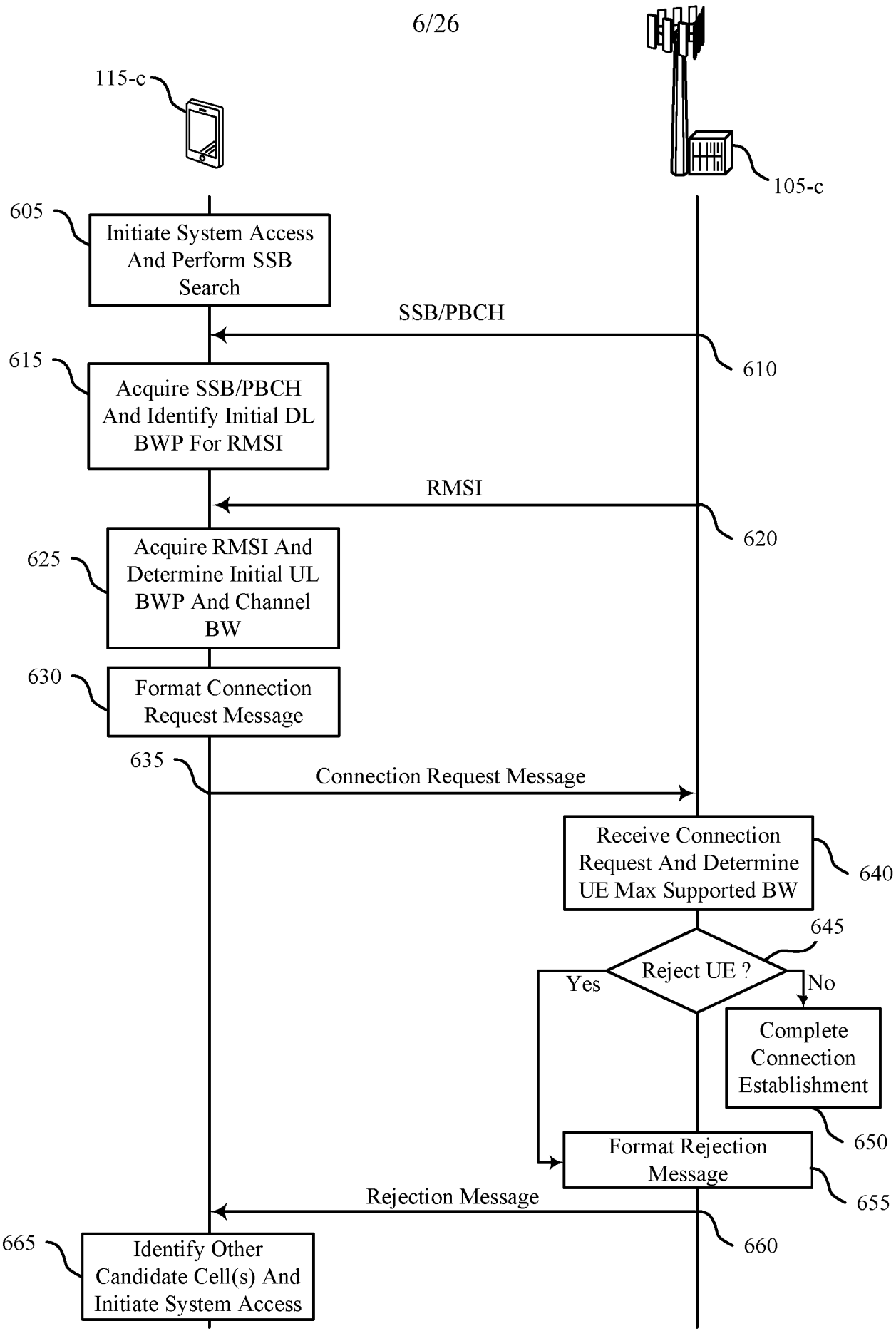

115-c
105-c
605
Initiate System Access And Perform SSB Search
SSB/PBCH
610
615
Acquire SSB/PBCH And Identify Initial DL BWP For RMSI
RMSI
620
625
Acquire RMSI And Determine Initial UL BWP And Channel BW
630
Format Connection Request Message
635
Connection Request Message
Receive Connection Request And Determine UE Max Supported BW
640
645
Reject UE ?
Yes
No
Complete Connection Establishment
650
Format Rejection Message
655
Rejection Message
660
665
Identify Other Candidate Cell(s) And Initiate System Access

FIG. 6

600

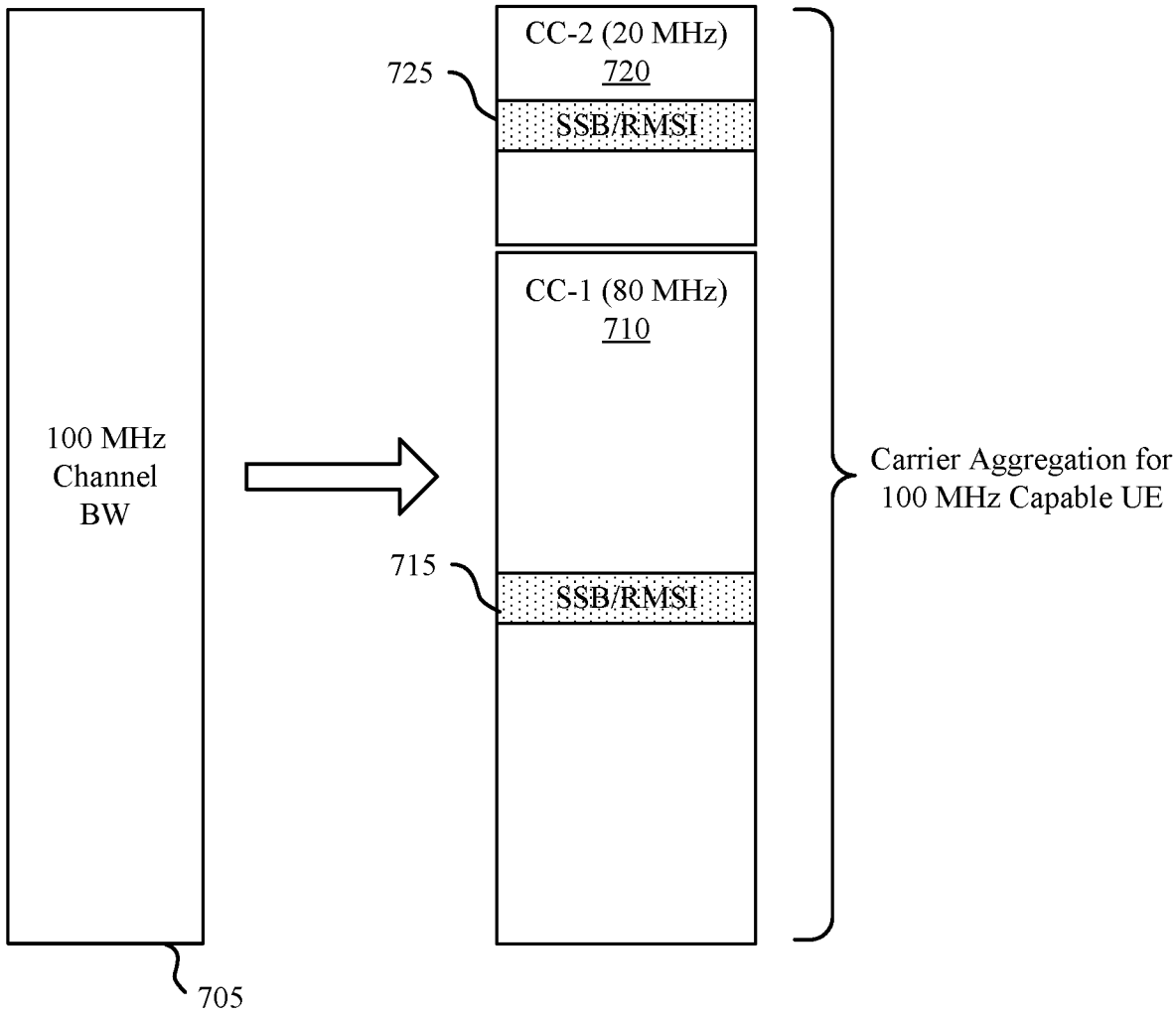

100 MHz
Channel
BW
705
725
CC-2 (20 MHz)
720
SSB/RMSI
CC-1 (80 MHz)
710
715
SSB/RMSI
Carrier Aggregation for
100 MHz Capable UE
700

FIG. 7

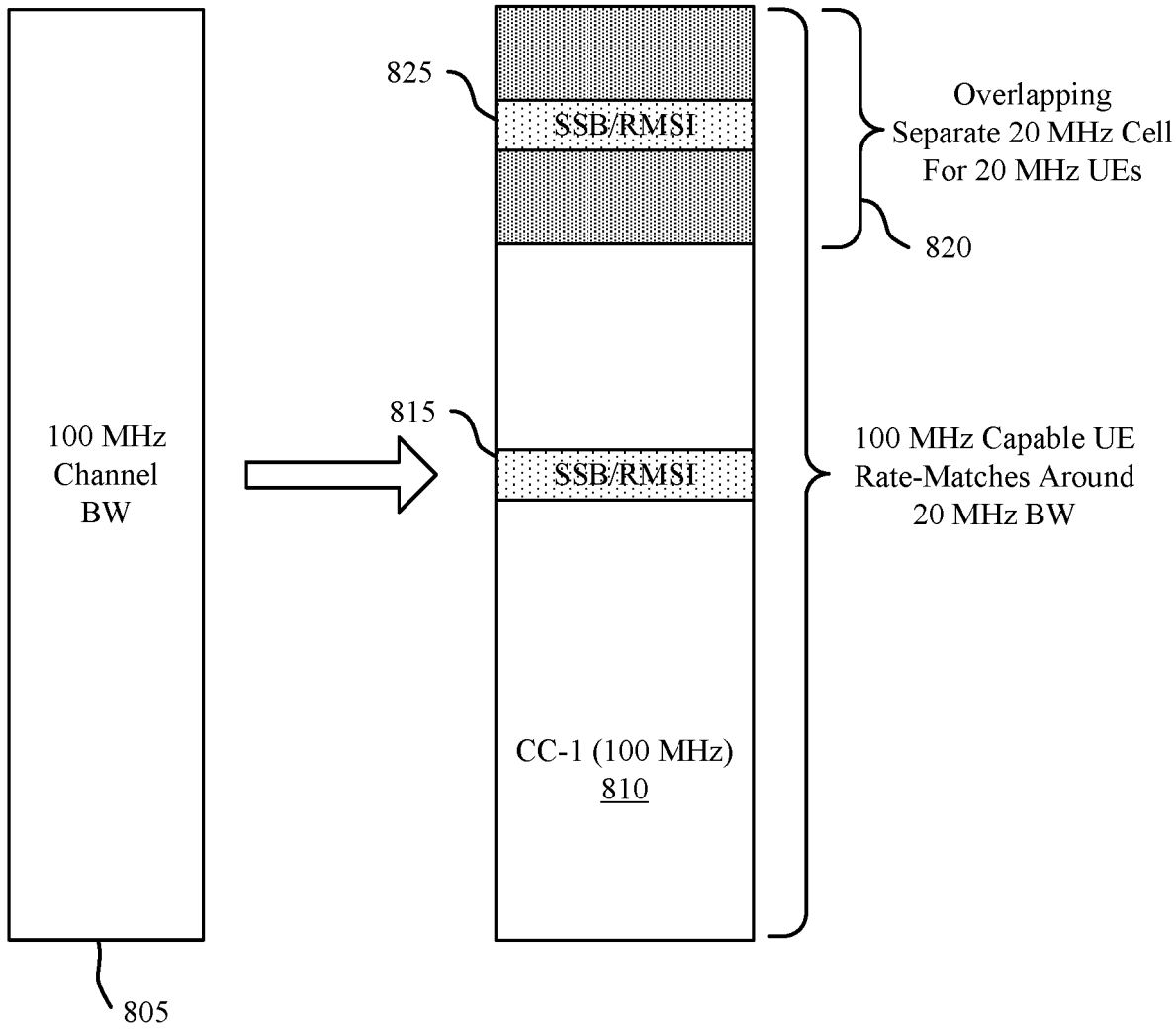

100 MHz
Channel
BW
805
825
SSB/RMSI
815
SSB/RMSI
CC-1 (100 MHz)
810
Overlapping
Separate 20 MHz Cell
For 20 MHz UEs
820
100 MHz Capable UE
Rate-Matches Around
20 MHz BW
800

FIG. 8

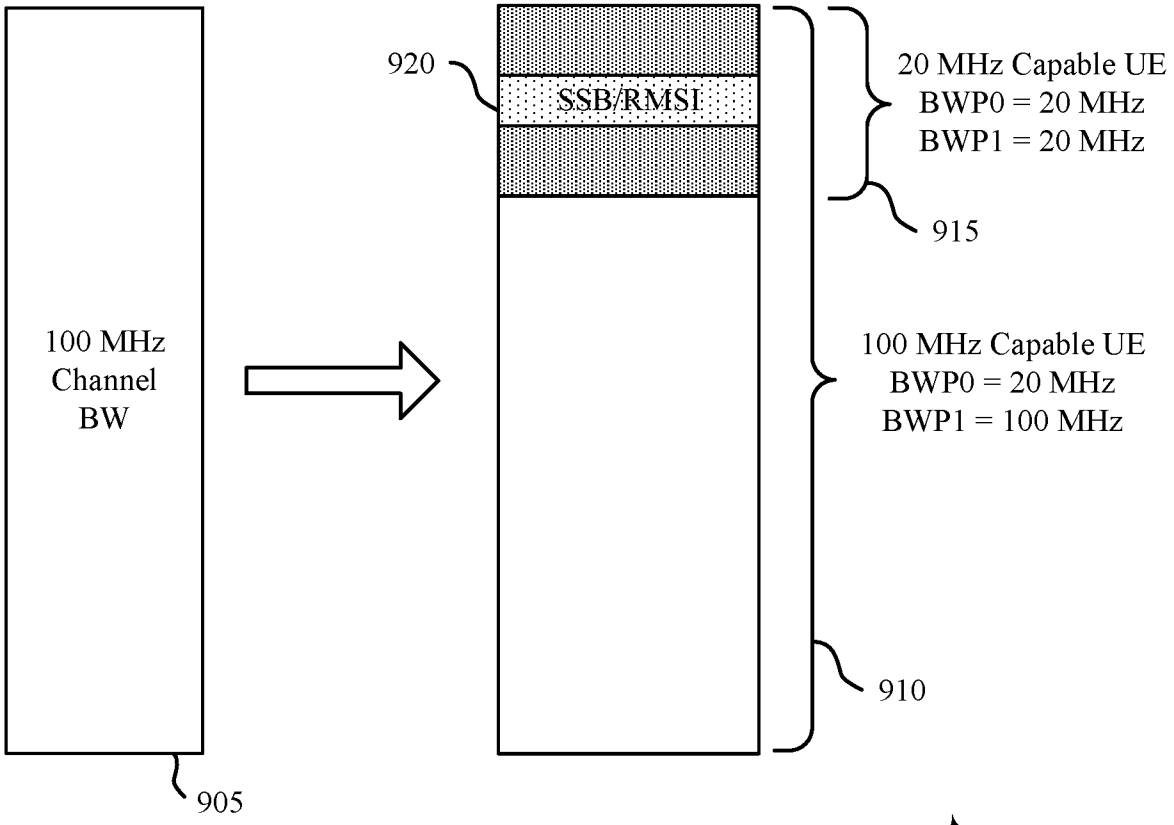

100 MHz
Channel
BW
905
920
SSB/RMSI
915
910
20 MHz Capable UE
BWP0 = 20 MHz
BWP1 = 20 MHz
100 MHz Capable UE
BWP0 = 20 MHz
BWP1 = 100 MHz
900

FIG. 9A

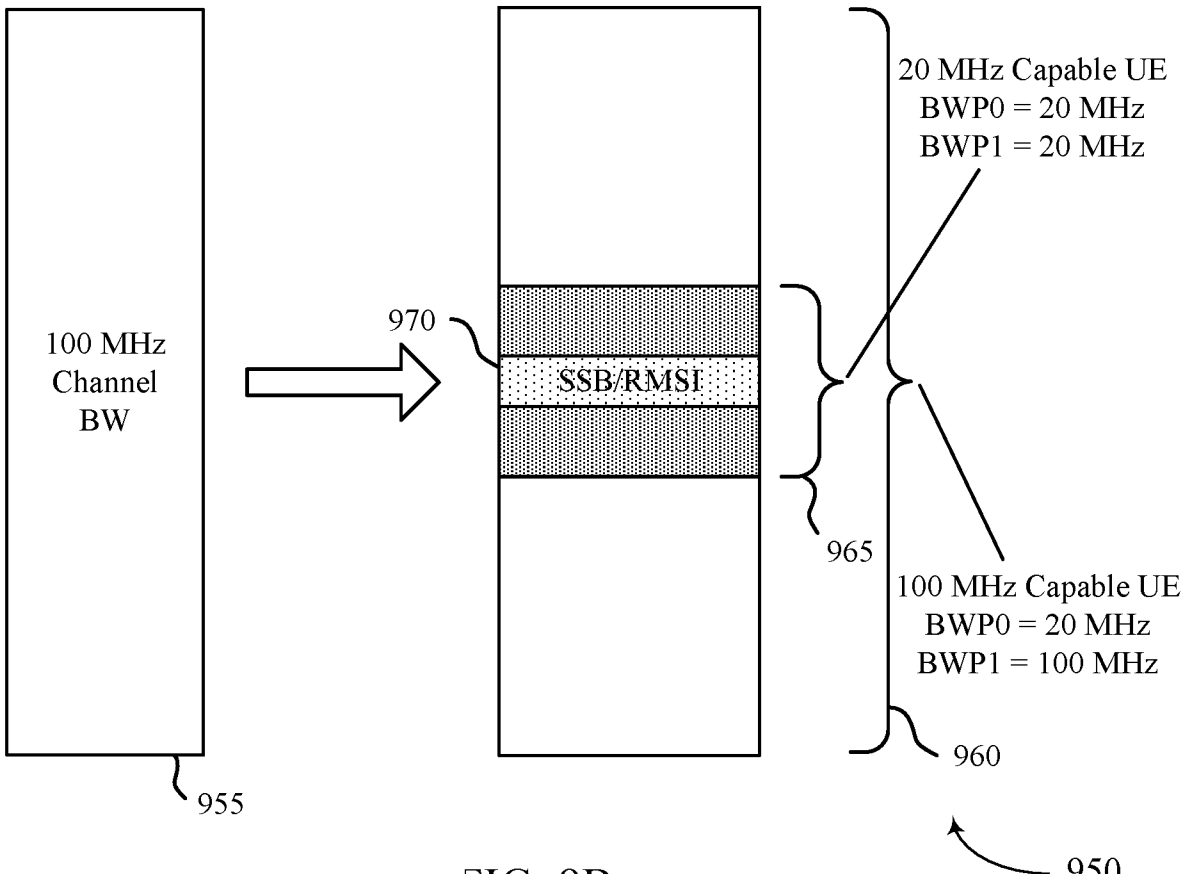

100 MHz
Channel
BW
955
970
SSB/RMSI
965
960
20 MHz Capable UE
BWP0 = 20 MHz
BWP1 = 20 MHz
100 MHz Capable UE
BWP0 = 20 MHz
BWP1 = 100 MHz
950

FIG. 9B

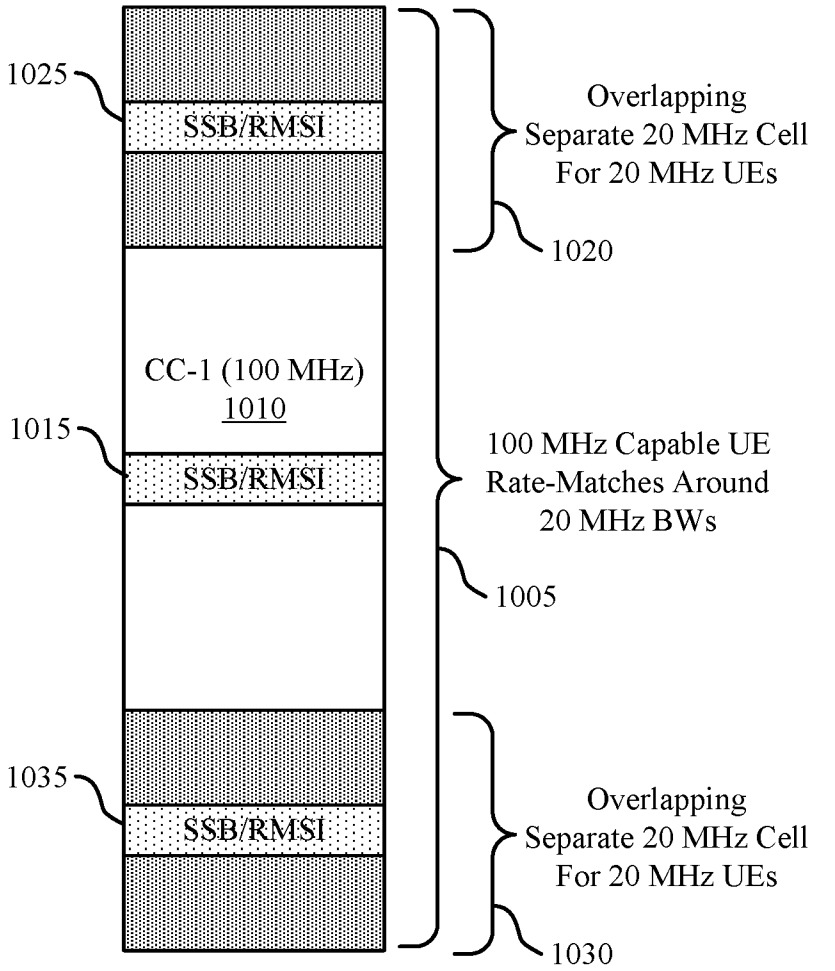

1025
SSB/RMSI
Overlapping
Separate 20 MHz Cell
For 20 MHz UEs
1020
CC-1 (100 MHz)
1010
1015
SSB/RMSI
100 MHz Capable UE
Rate-Matches Around
20 MHz BWs
1005
1035
SSB/RMSI
Overlapping
Separate 20 MHz Cell
For 20 MHz UEs
1030
1000

FIG. 10

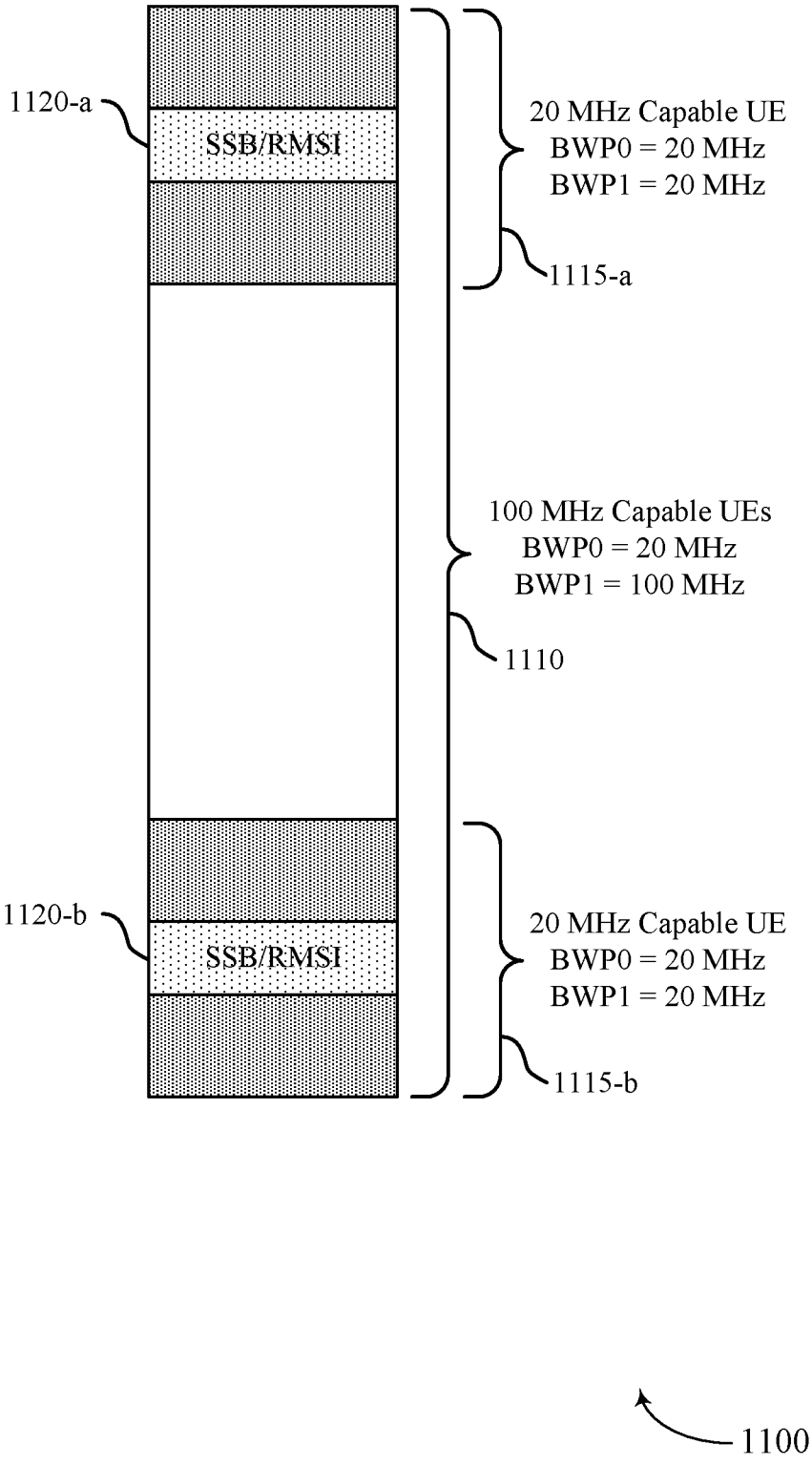

1120-a
SSB/RMSI
20 MHz Capable UE
BWP0 = 20 MHz
BWP1 = 20 MHz
1115-a
100 MHz Capable UEs
BWP0 = 20 MHz
BWP1 = 100 MHz
1110
1120-b
SSB/RMSI
20 MHz Capable UE
BWP0 = 20 MHz
BWP1 = 20 MHz
1115-b
1100

FIG. 11

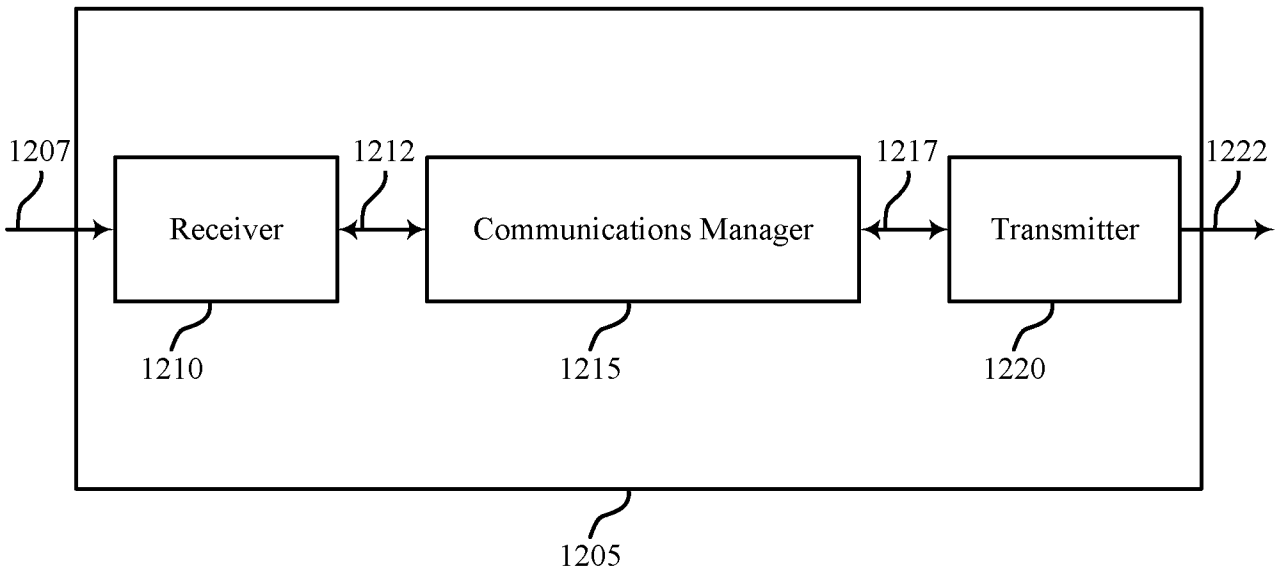

1207
1212
1217
1222
Receiver
Communications Manager
Transmitter
1210
1215
1220
1205
1200

FIG. 12

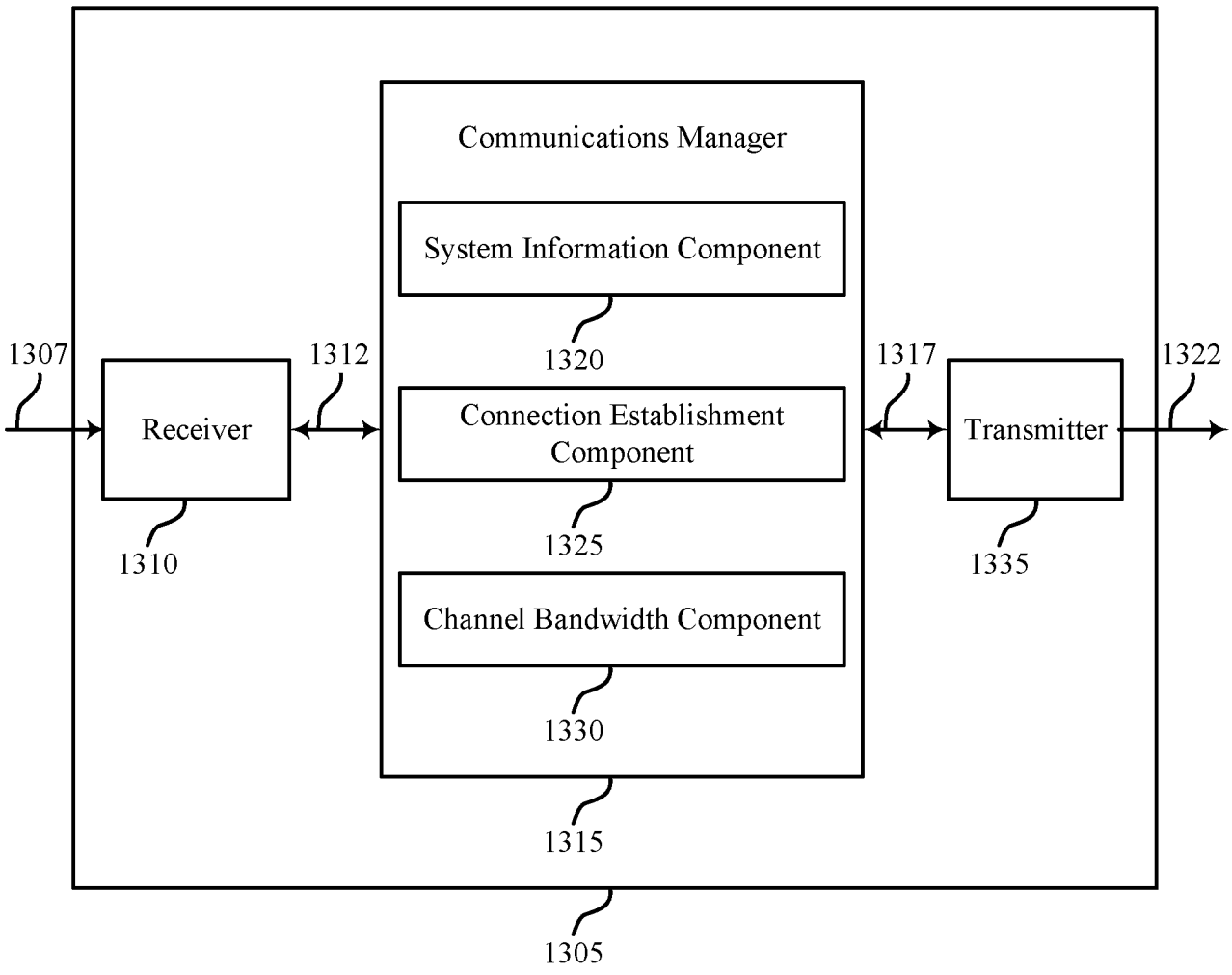

Communications Manager
System Information Component
1320
1307
1312
1317
1322
Receiver
Connection Establishment Component
Transmitter
1325
1310
1335
Channel Bandwidth Component
1330
1315
1305
1300

FIG. 13

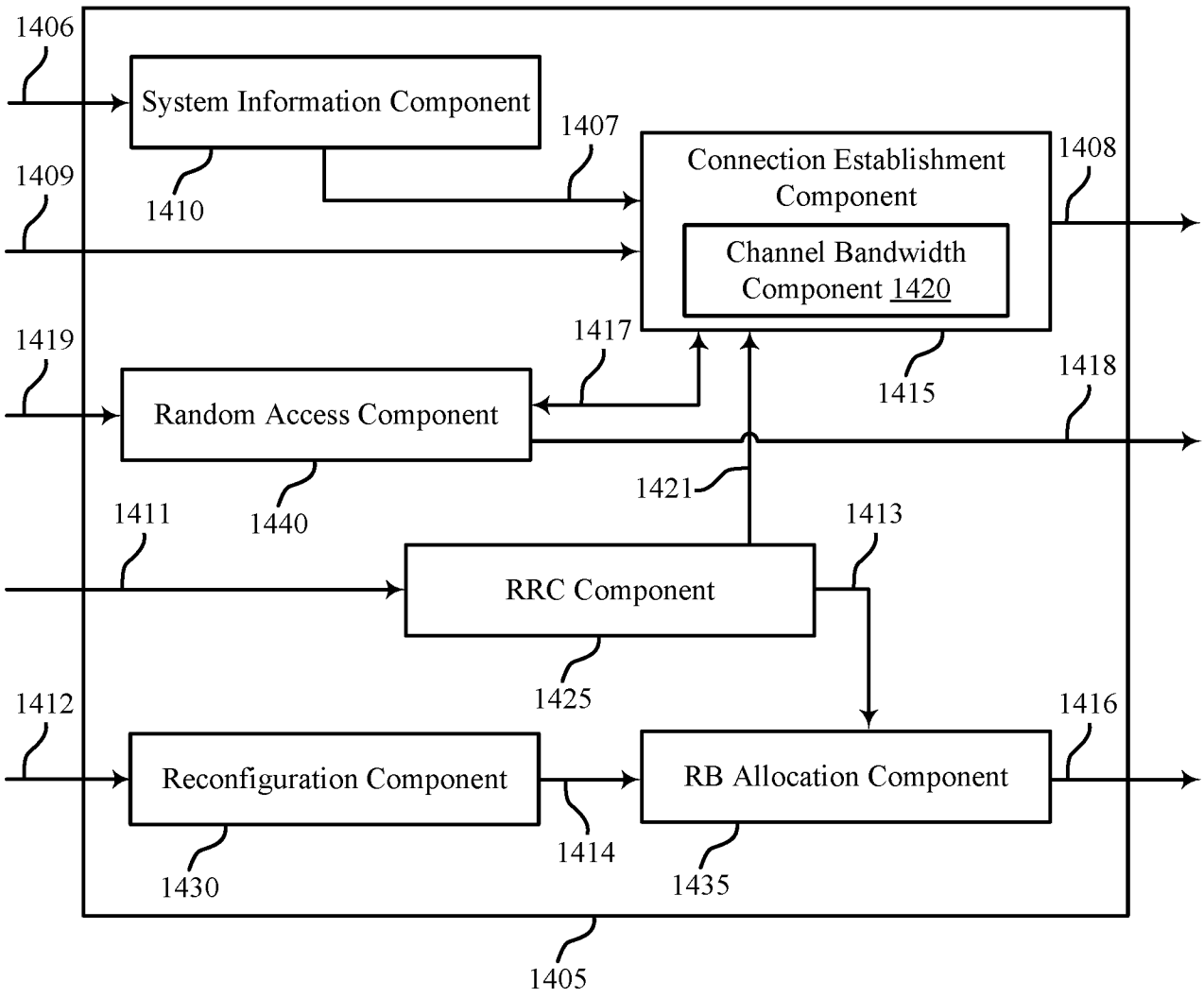

1406
System Information Component
1407
1408
1409
1410
Connection Establishment Component
Channel Bandwidth Component 1420
1419
1417
1415
1418
Random Access Component
1421
1411
1440
1413
RRC Component
1425
1412
1416
Reconfiguration Component
RB Allocation Component
1414
1430
1435
1405
1400

FIG. 14

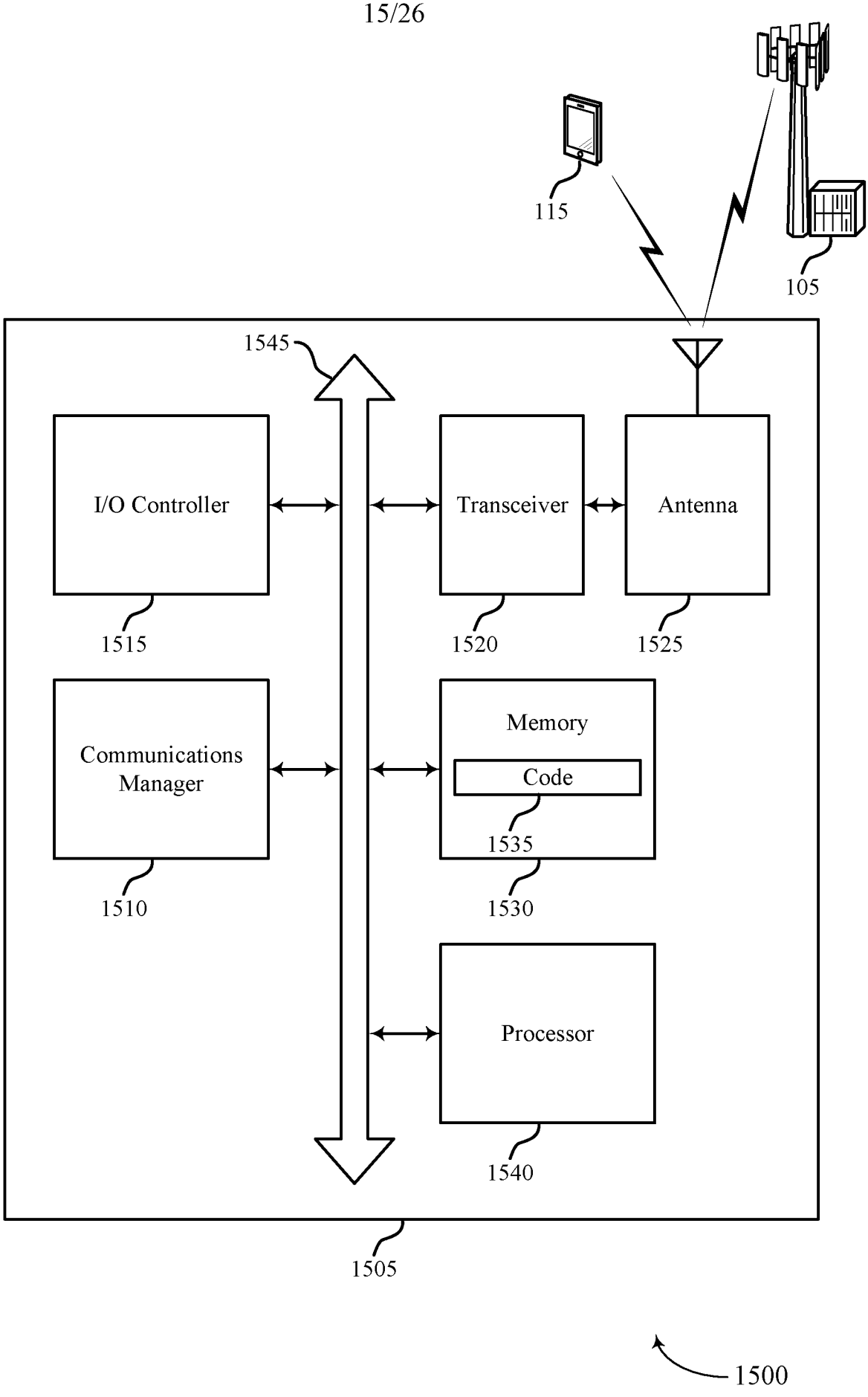

115
105
1545
I/O Controller
Transceiver
Antenna
1515
1520
1525
Communications Manager
Memory
Code
1535
1510
1530
Processor
1540
1505
1500

FIG. 15

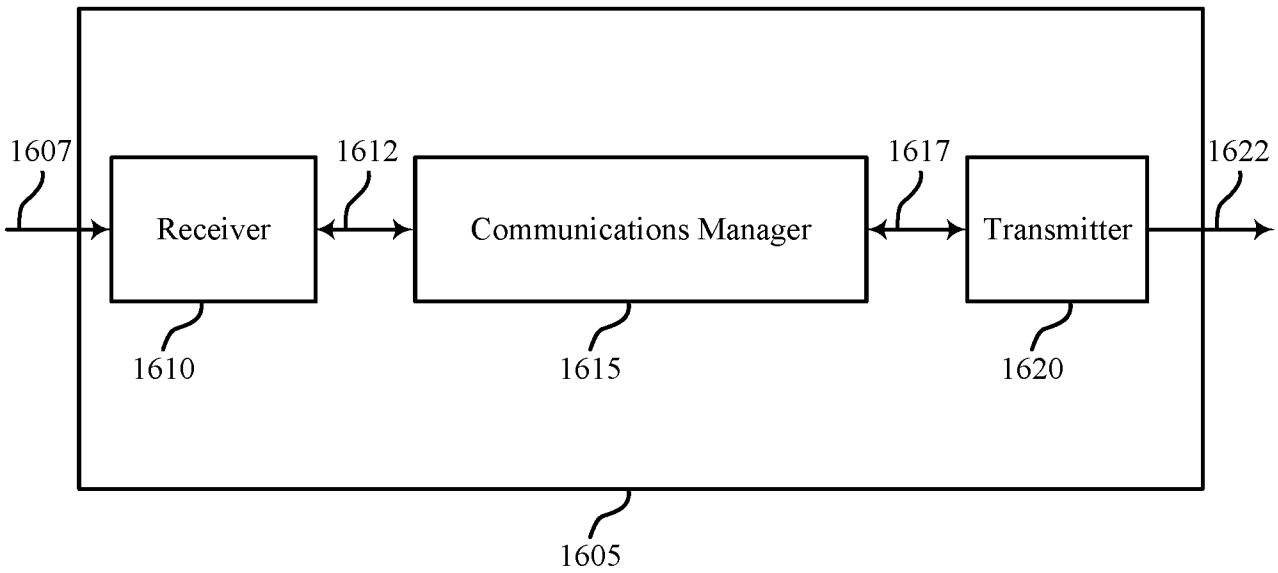

1607
Receiver
1612
Communications Manager
1617
Transmitter
1622
1610
1615
1620
1605
1600

FIG. 16

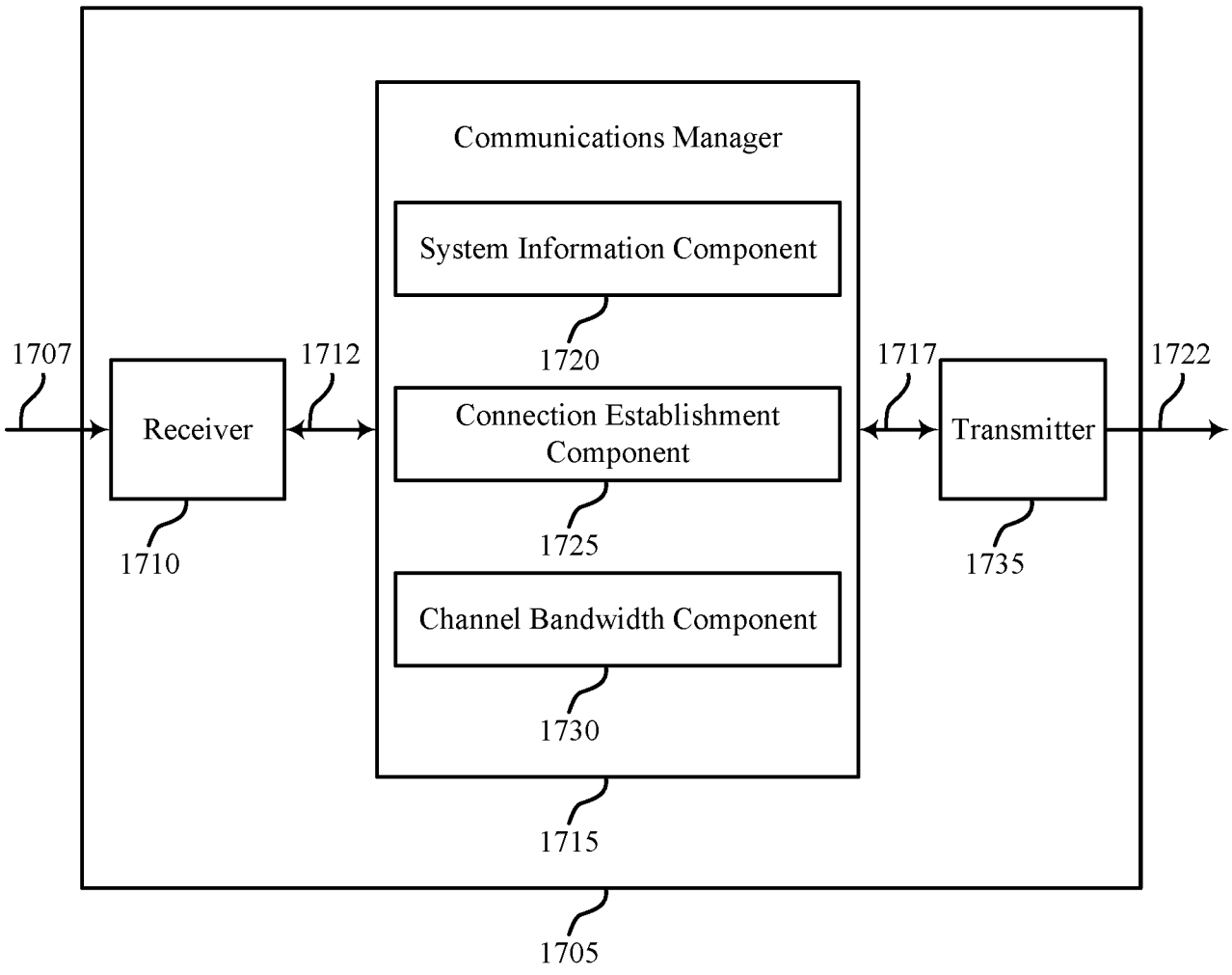

Communications Manager
System Information Component
1720
1707
1712
1717
1722
Receiver
Connection Establishment Component
Transmitter
1725
1710
1735
Channel Bandwidth Component
1730
1715
1705
1700

FIG. 17

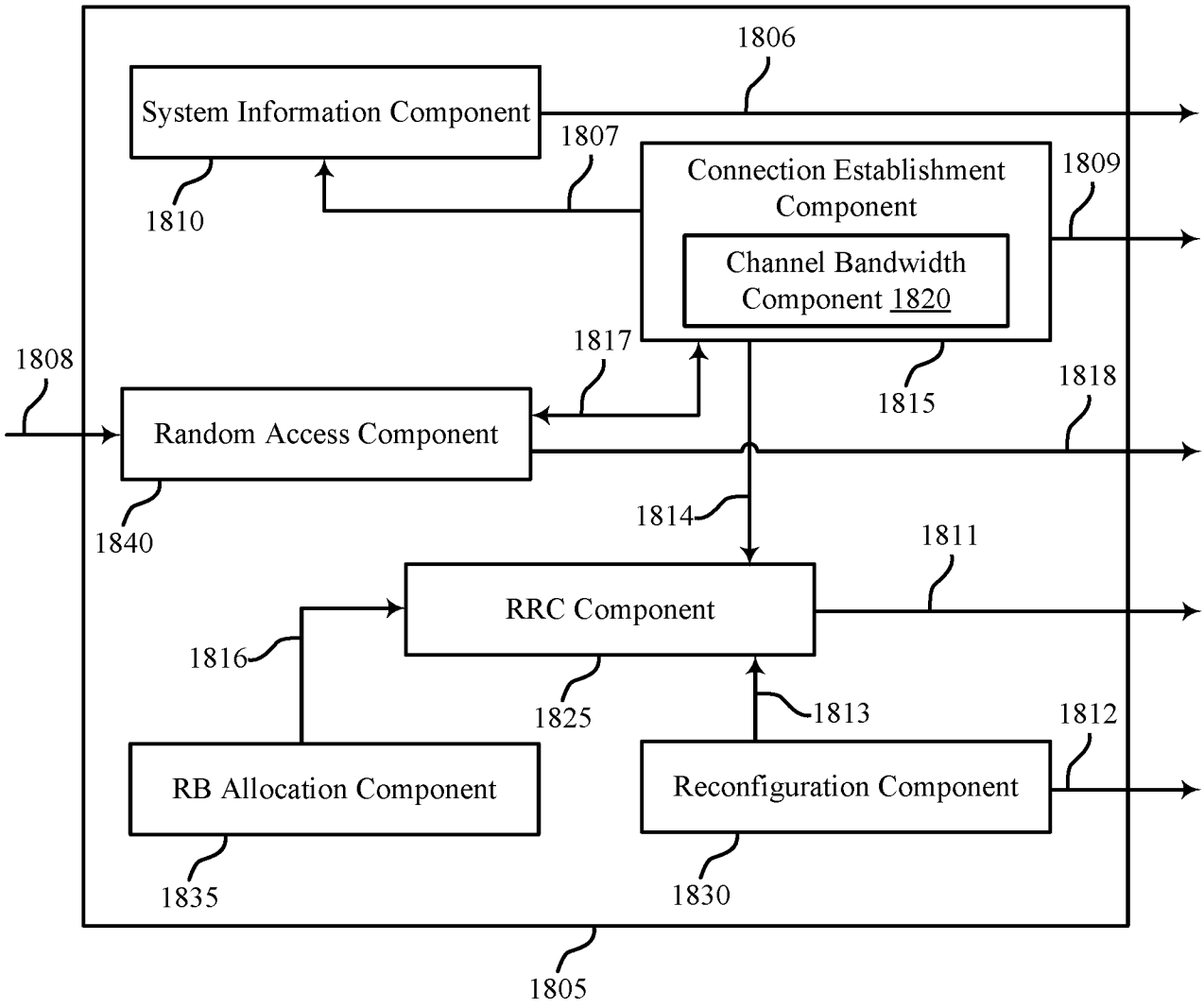

1806
System Information Component
1807
1809
1810
Connection Establishment Component
Channel Bandwidth Component 1820
1808
1817
1815
1818
Random Access Component
1840
1814
1811
RRC Component
1816
1825
1813
1812
RB Allocation Component
Reconfiguration Component
1835
1830
1805
1800

FIG. 18

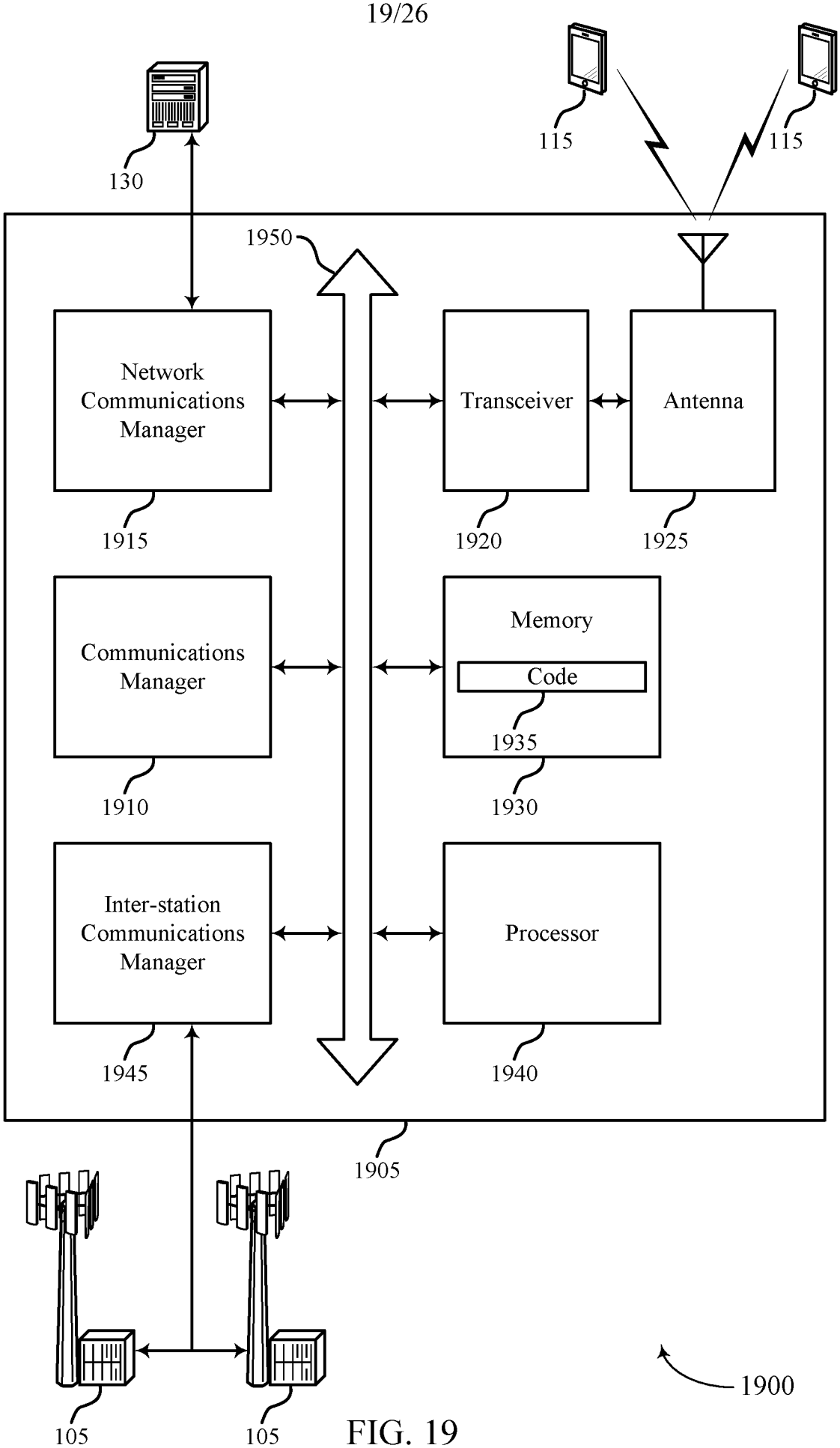

130
115
115
1950
Network Communications Manager
Transceiver
Antenna
1915
1920
1925
Communications Manager
Memory
Code
1935
1910
1930
Inter-station Communications Manager
Processor
1945
1940
1905
105
105
1900

FIG. 19

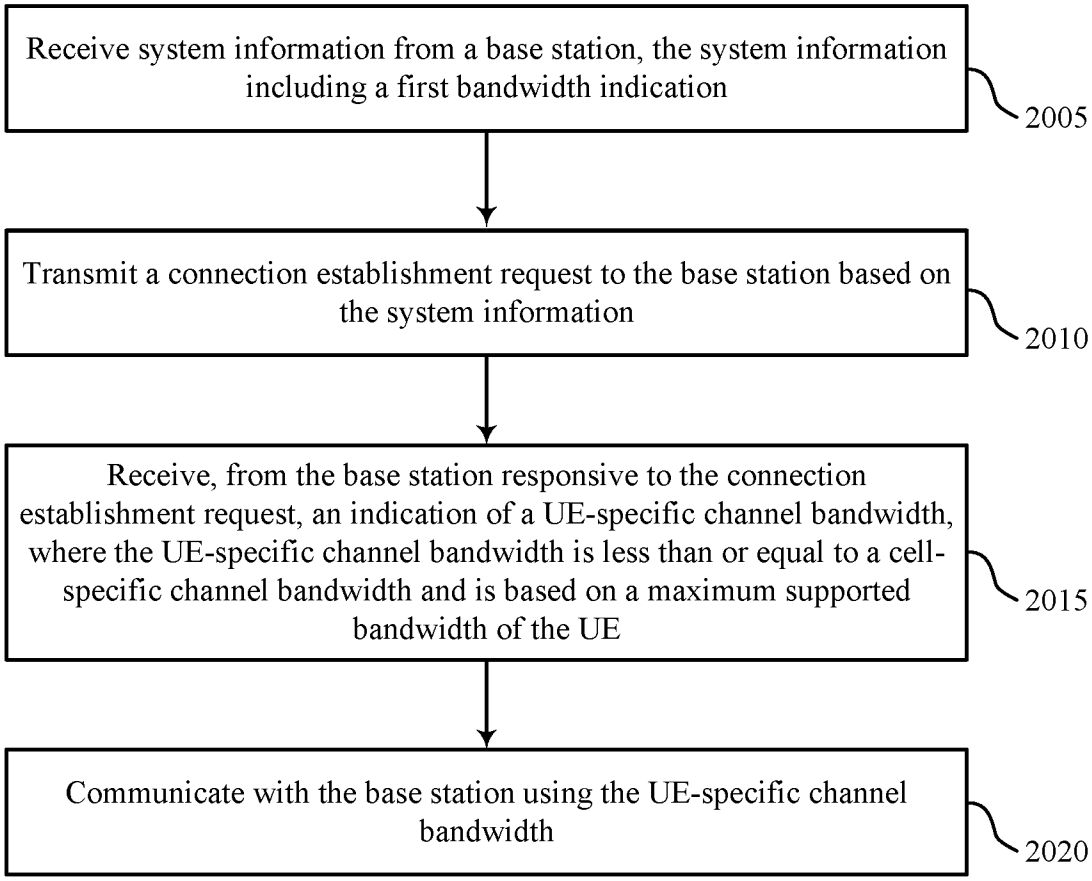

Receive system information from a base station, the system information including a first bandwidth indication
2005
Transmit a connection establishment request to the base station based on the system information
2010
Receive, from the base station responsive to the connection establishment request, an indication of a UE-specific channel bandwidth, where the UE-specific channel bandwidth is less than or equal to a cell-specific channel bandwidth and is based on a maximum supported bandwidth of the UE
2015
Communicate with the base station using the UE-specific channel bandwidth
2020
2000

FIG. 20

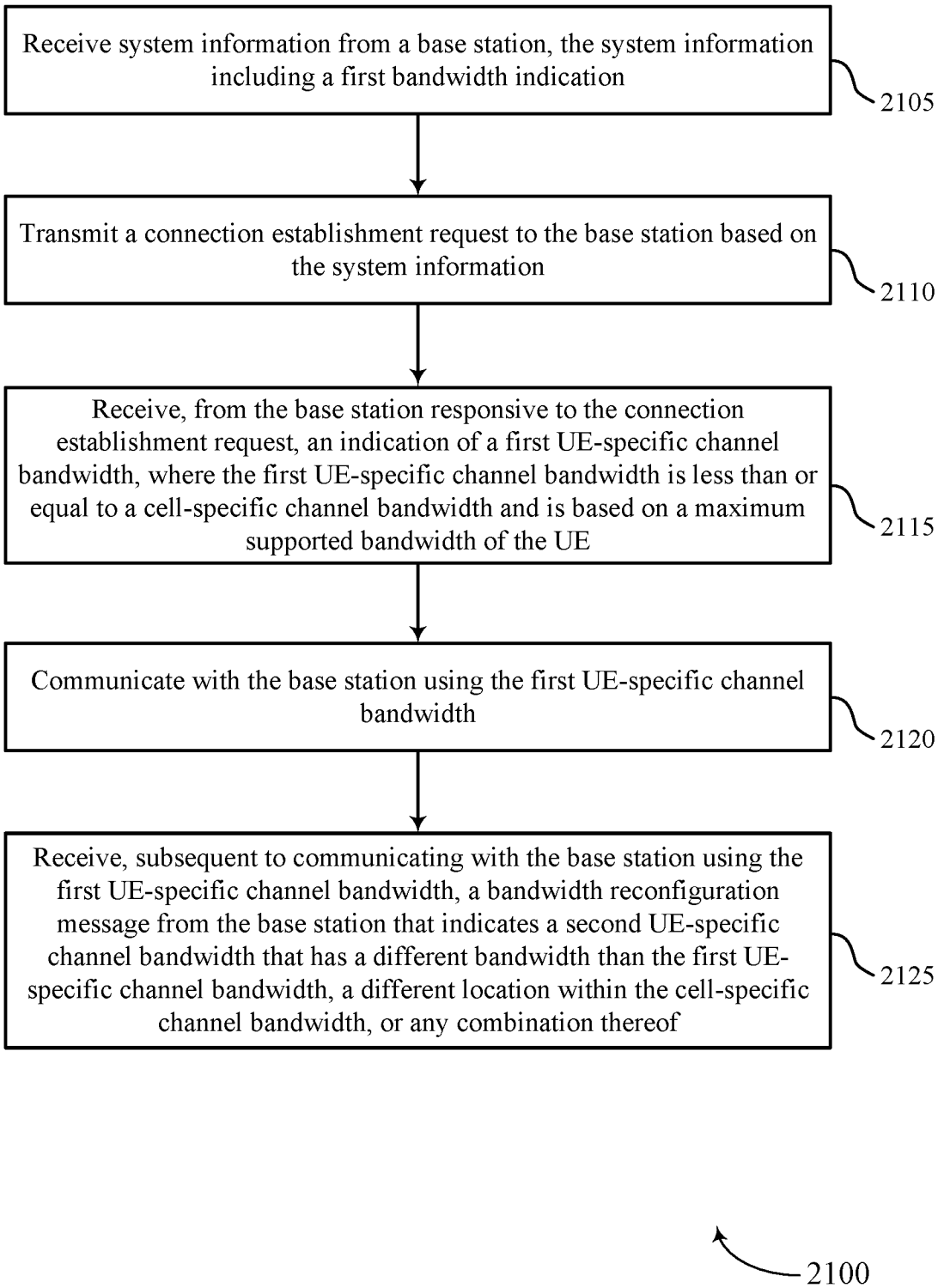

Receive system information from a base station, the system information including a first bandwidth indication
2105
Transmit a connection establishment request to the base station based on the system information
2110
Receive, from the base station responsive to the connection establishment request, an indication of a first UE-specific channel bandwidth, where the first UE-specific channel bandwidth is less than or equal to a cell-specific channel bandwidth and is based on a maximum supported bandwidth of the UE
2115
Communicate with the base station using the first UE-specific channel bandwidth
2120
Receive, subsequent to communicating with the base station using the first UE-specific channel bandwidth, a bandwidth reconfiguration message from the base station that indicates a second UE-specific channel bandwidth that has a different bandwidth than the first UE-specific channel bandwidth, a different location within the cell-specific channel bandwidth, or any combination thereof
2125
2100

FIG. 21

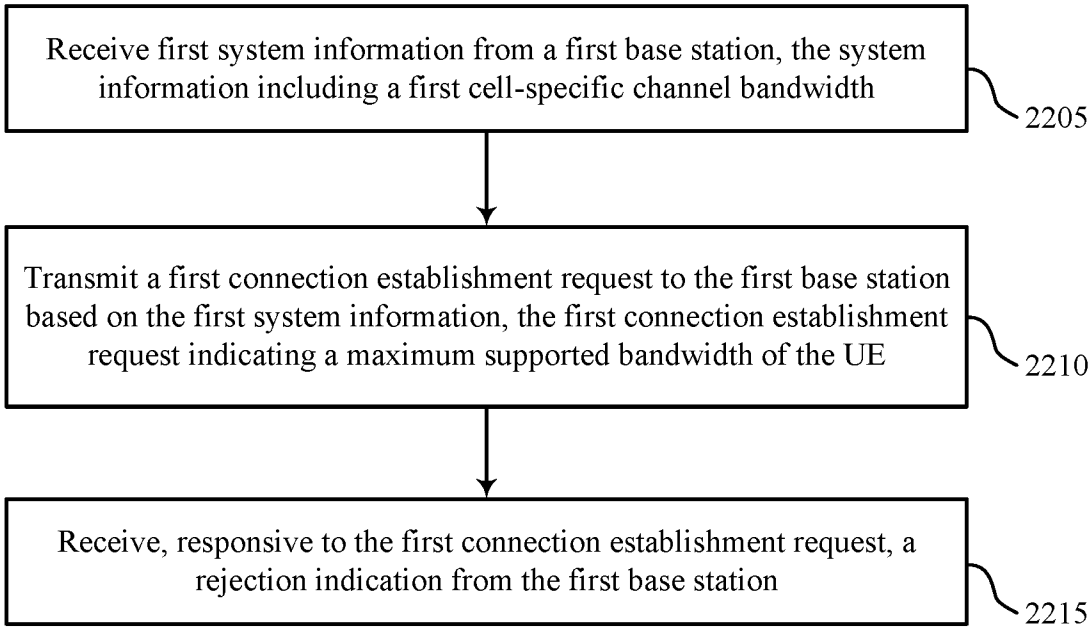

Receive first system information from a first base station, the system information including a first cell-specific channel bandwidth
2205
Transmit a first connection establishment request to the first base station based on the first system information, the first connection establishment request indicating a maximum supported bandwidth of the UE
2210
Receive, responsive to the first connection establishment request, a rejection indication from the first base station
2215
2200

FIG. 22

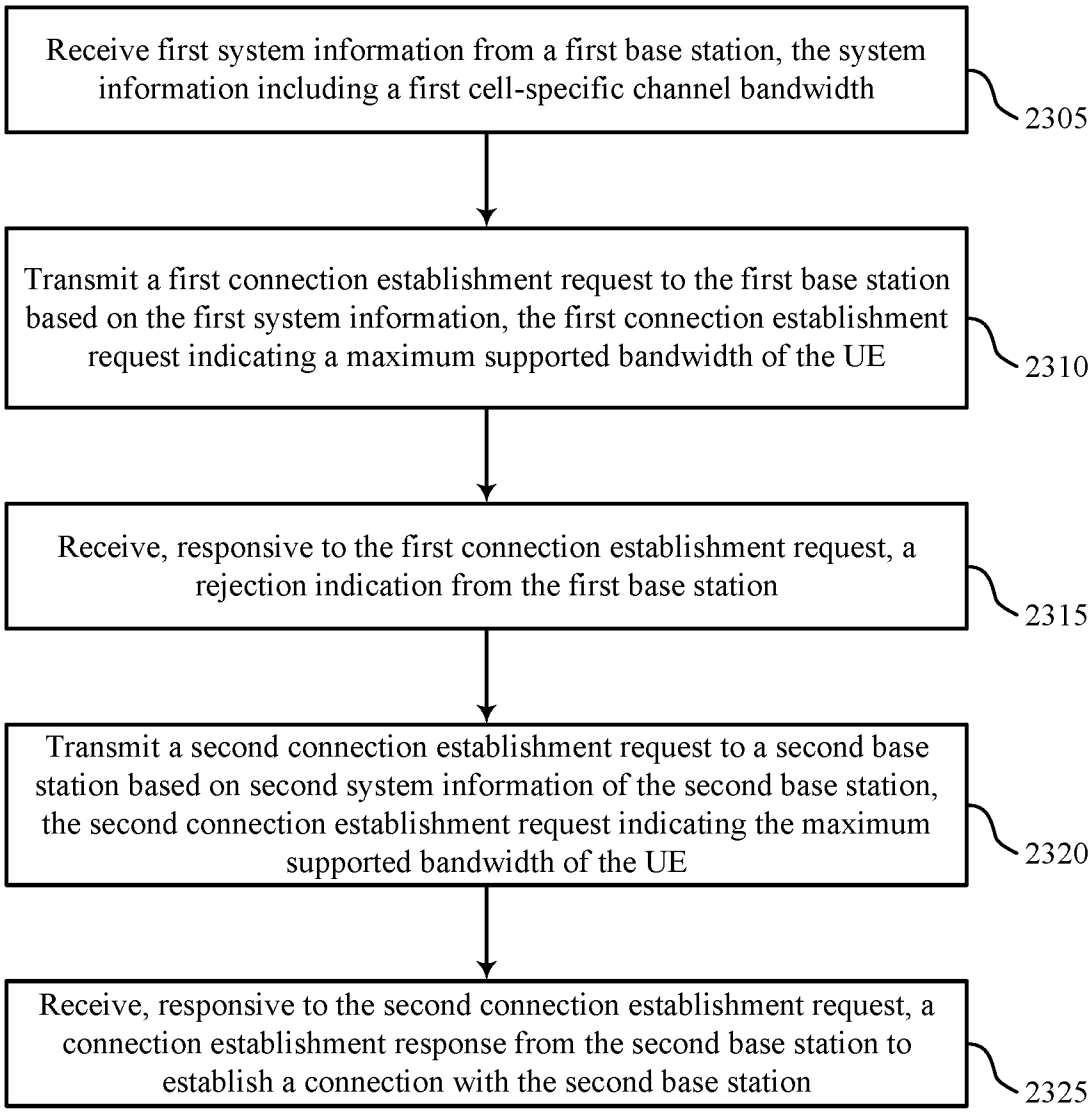

Receive first system information from a first base station, the system information including a first cell-specific channel bandwidth
2305
Transmit a first connection establishment request to the first base station based on the first system information, the first connection establishment request indicating a maximum supported bandwidth of the UE
2310
Receive, responsive to the first connection establishment request, a rejection indication from the first base station
2315
Transmit a second connection establishment request to a second base station based on second system information of the second base station, the second connection establishment request indicating the maximum supported bandwidth of the UE
2320
Receive, responsive to the second connection establishment request, a connection establishment response from the second base station to establish a connection with the second base station
2325
2300

FIG. 23

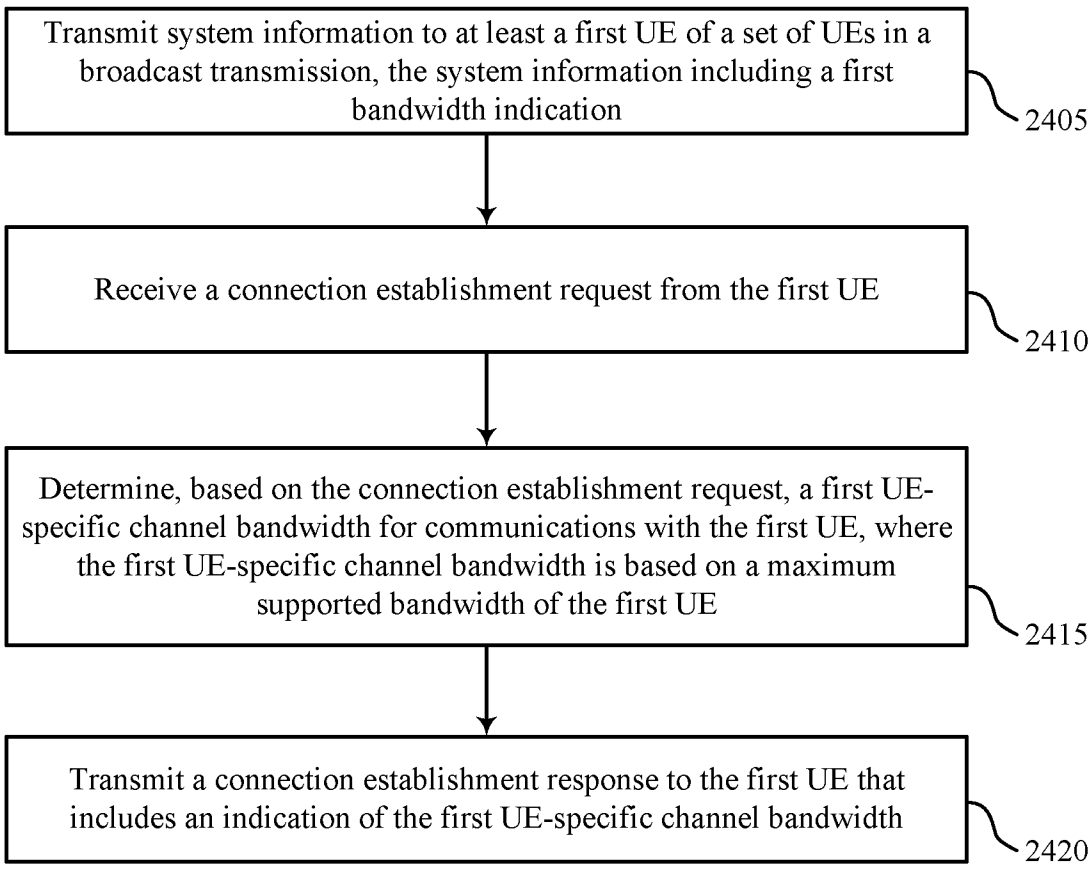

Transmit system information to at least a first UE of a set of UEs in a broadcast transmission, the system information including a first bandwidth indication
2405
Receive a connection establishment request from the first UE
2410
Determine, based on the connection establishment request, a first UE-specific channel bandwidth for communications with the first UE, where the first UE-specific channel bandwidth is based on a maximum supported bandwidth of the first UE
2415
Transmit a connection establishment response to the first UE that includes an indication of the first UE-specific channel bandwidth
2420
2400

FIG. 24

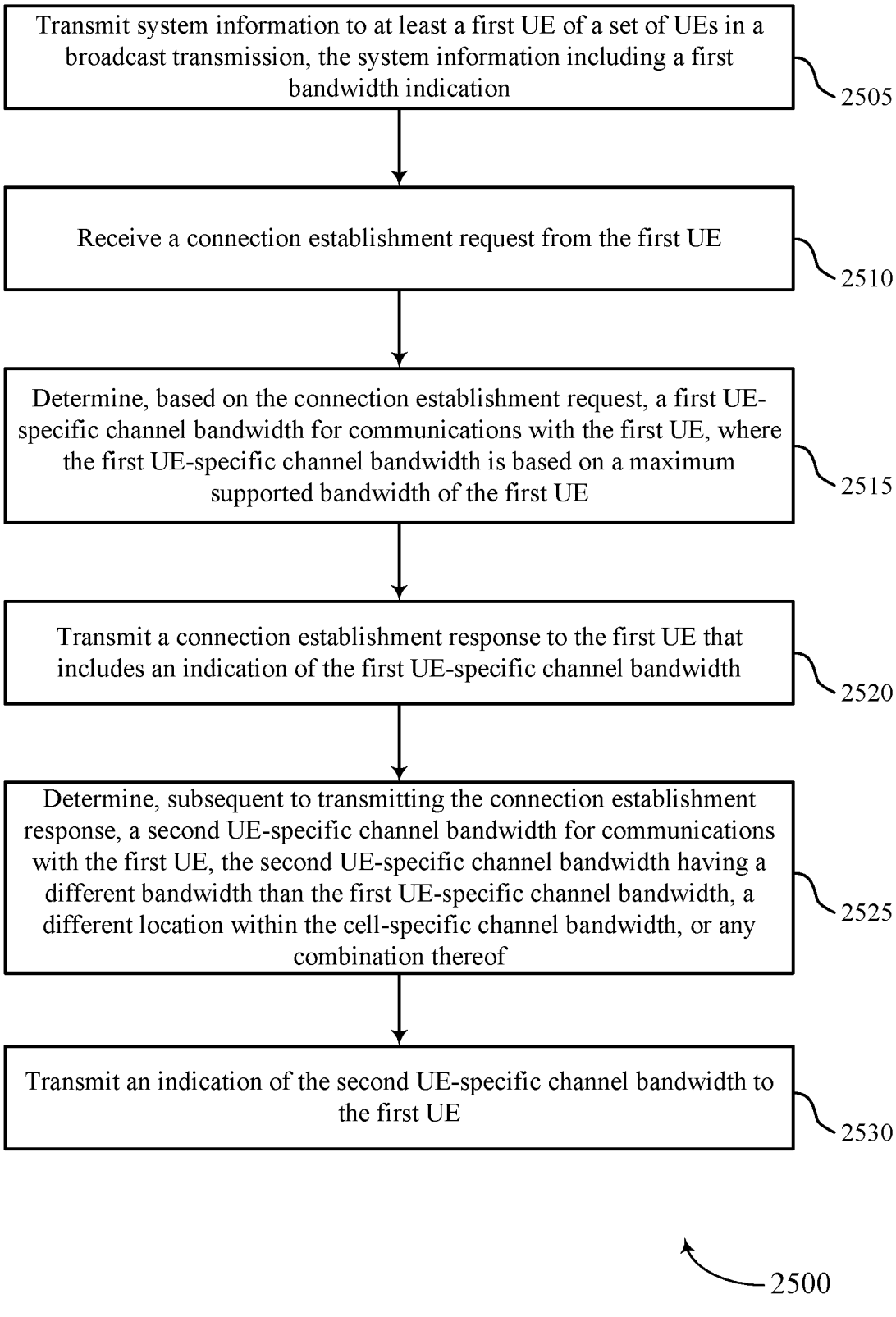

Transmit system information to at least a first UE of a set of UEs in a broadcast transmission, the system information including a first bandwidth indication
2505
Receive a connection establishment request from the first UE
2510
Determine, based on the connection establishment request, a first UE-specific channel bandwidth for communications with the first UE, where the first UE-specific channel bandwidth is based on a maximum supported bandwidth of the first UE
2515
Transmit a connection establishment response to the first UE that includes an indication of the first UE-specific channel bandwidth
2520
Determine, subsequent to transmitting the connection establishment response, a second UE-specific channel bandwidth for communications with the first UE, the second UE-specific channel bandwidth having a different bandwidth than the first UE-specific channel bandwidth, a different location within the cell-specific channel bandwidth, or any combination thereof
2525
Transmit an indication of the second UE-specific channel bandwidth to the first UE
2530
2500

FIG. 25

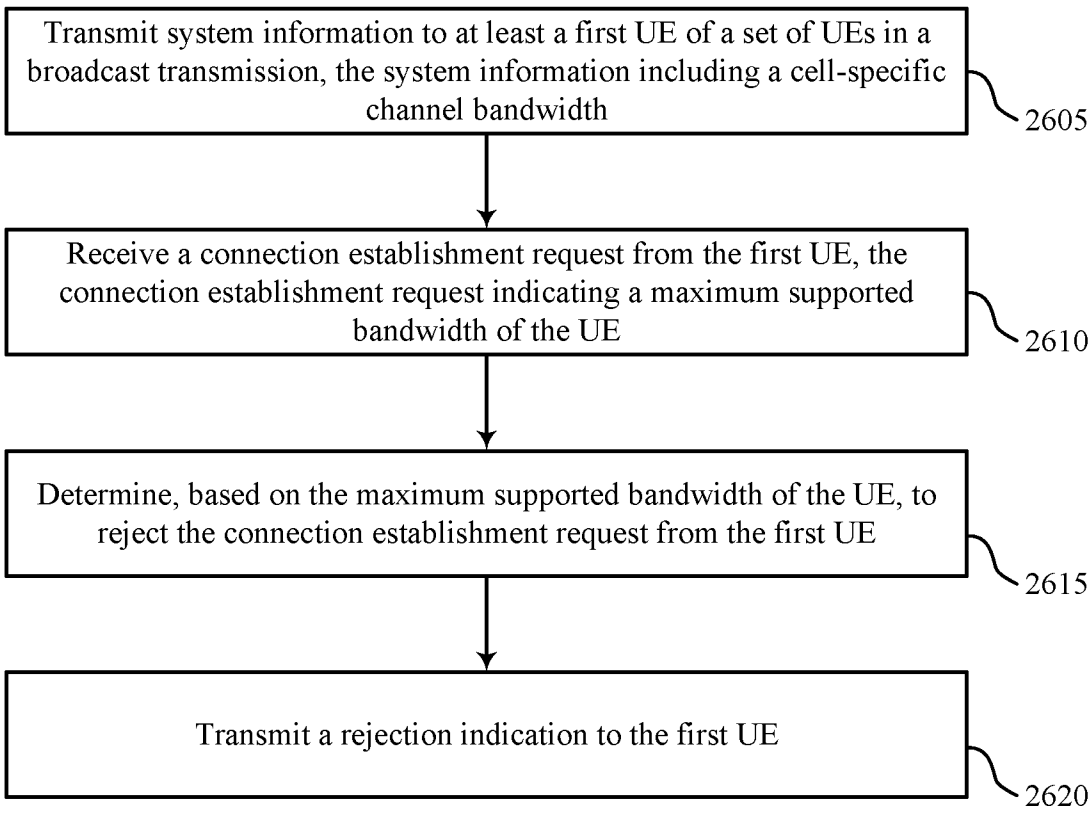

Transmit system information to at least a first UE of a set of UEs in a broadcast transmission, the system information including a cell-specific channel bandwidth
2605
Receive a connection establishment request from the first UE, the connection establishment request indicating a maximum supported bandwidth of the UE
2610
Determine, based on the maximum supported bandwidth of the UE, to reject the connection establishment request from the first UE
2615
Transmit a rejection indication to the first UE
2620
2600

FIG. 26