

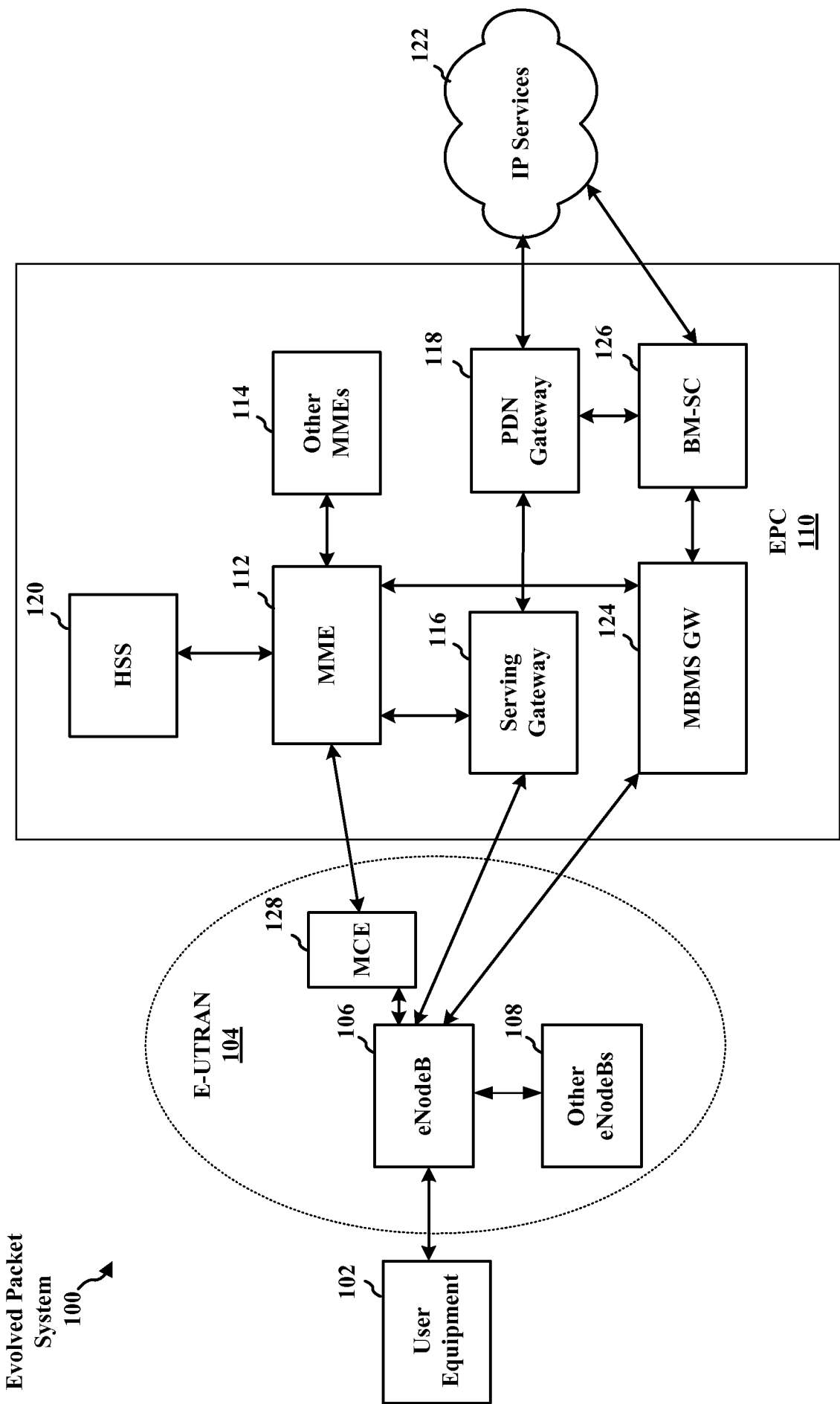


FIG. 1

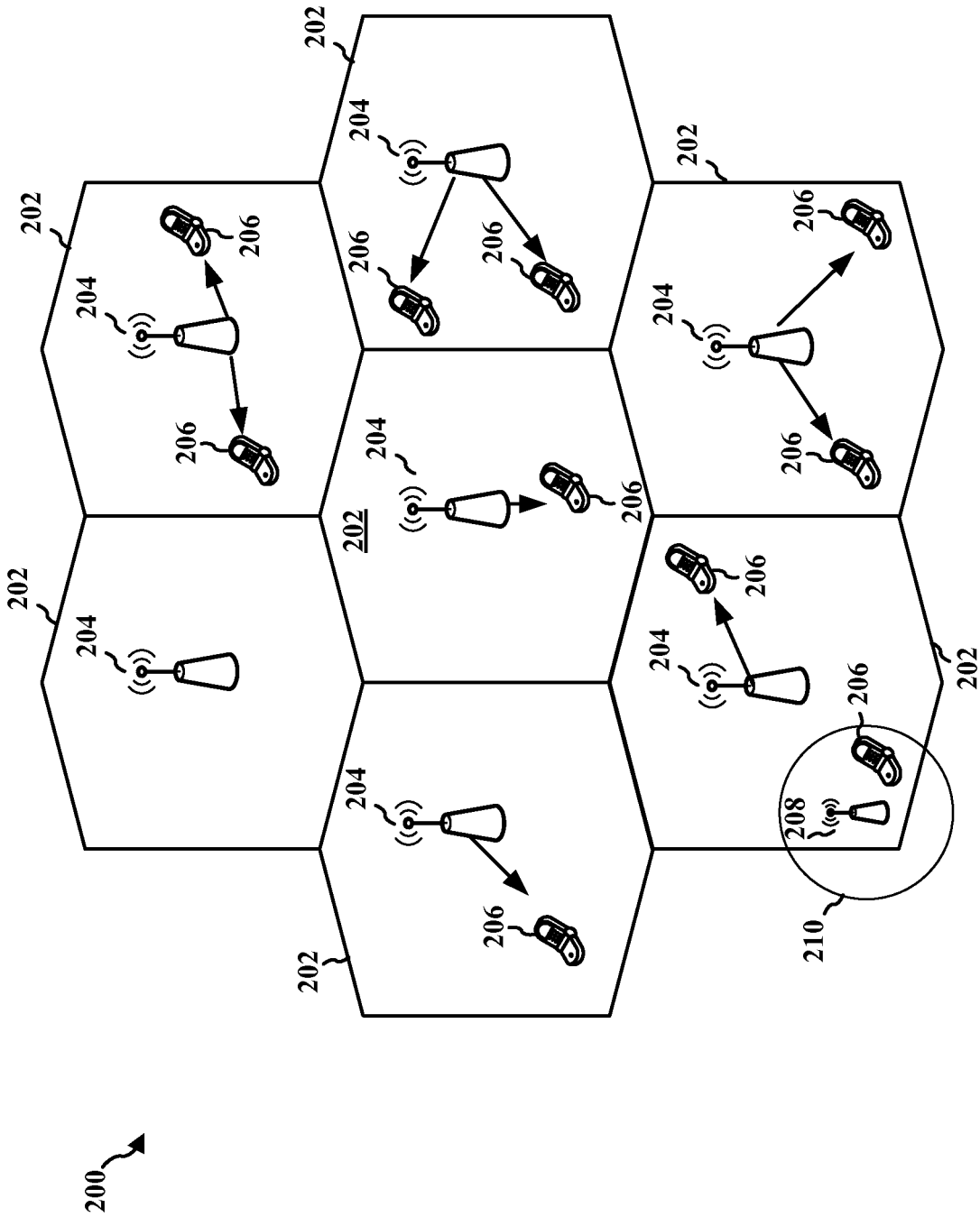


FIG. 2

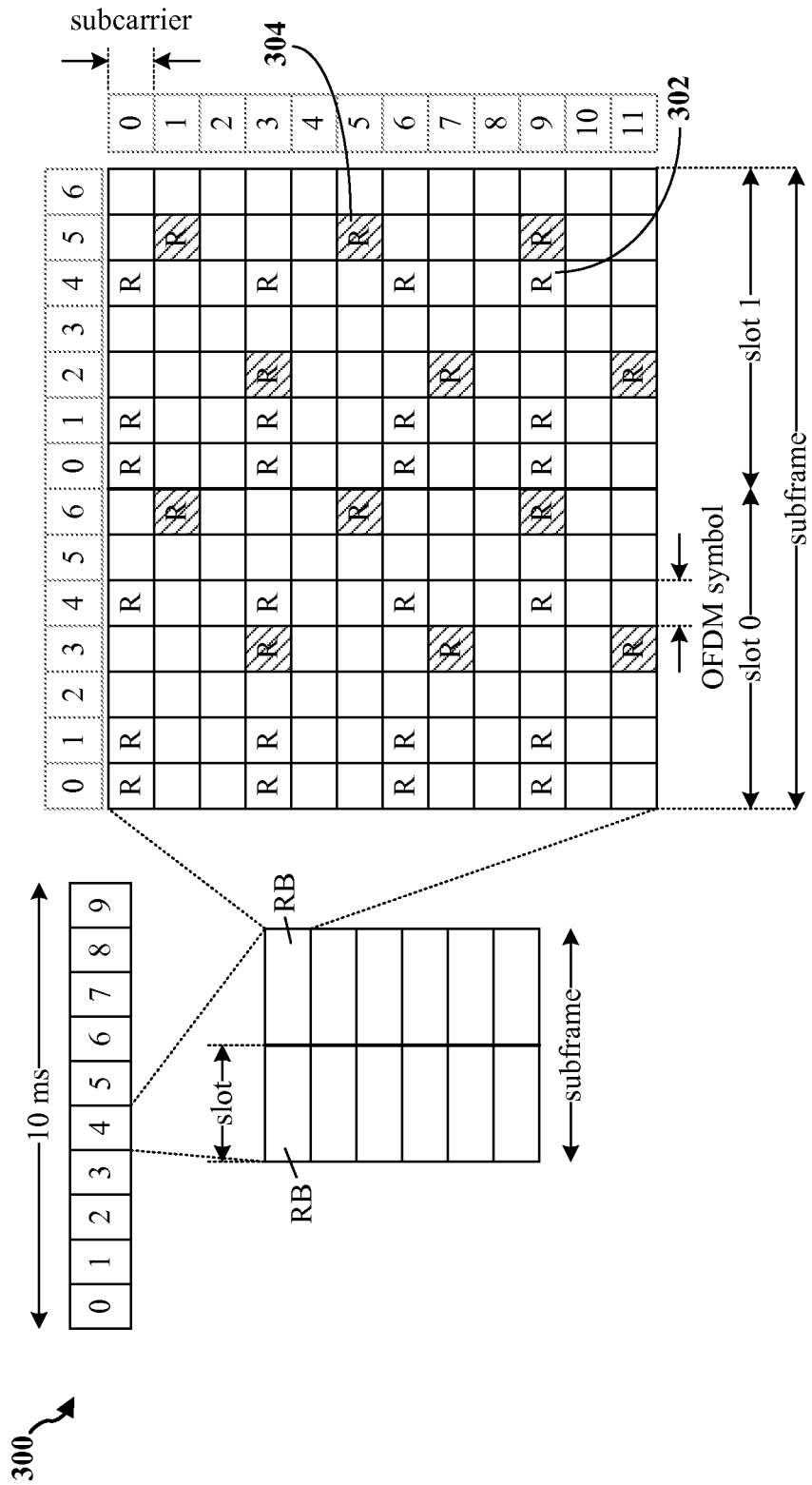


FIG. 3

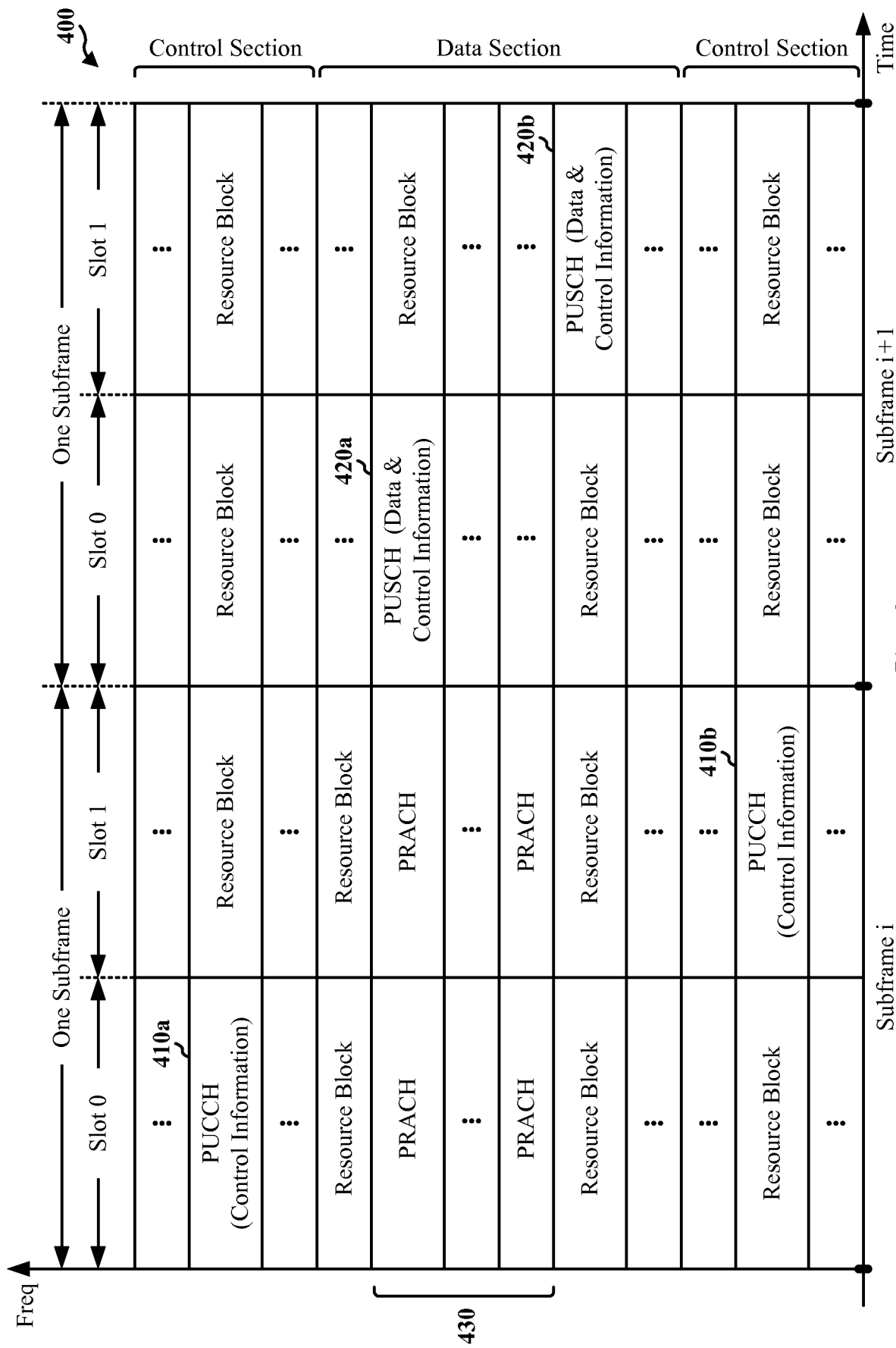


FIG. 4

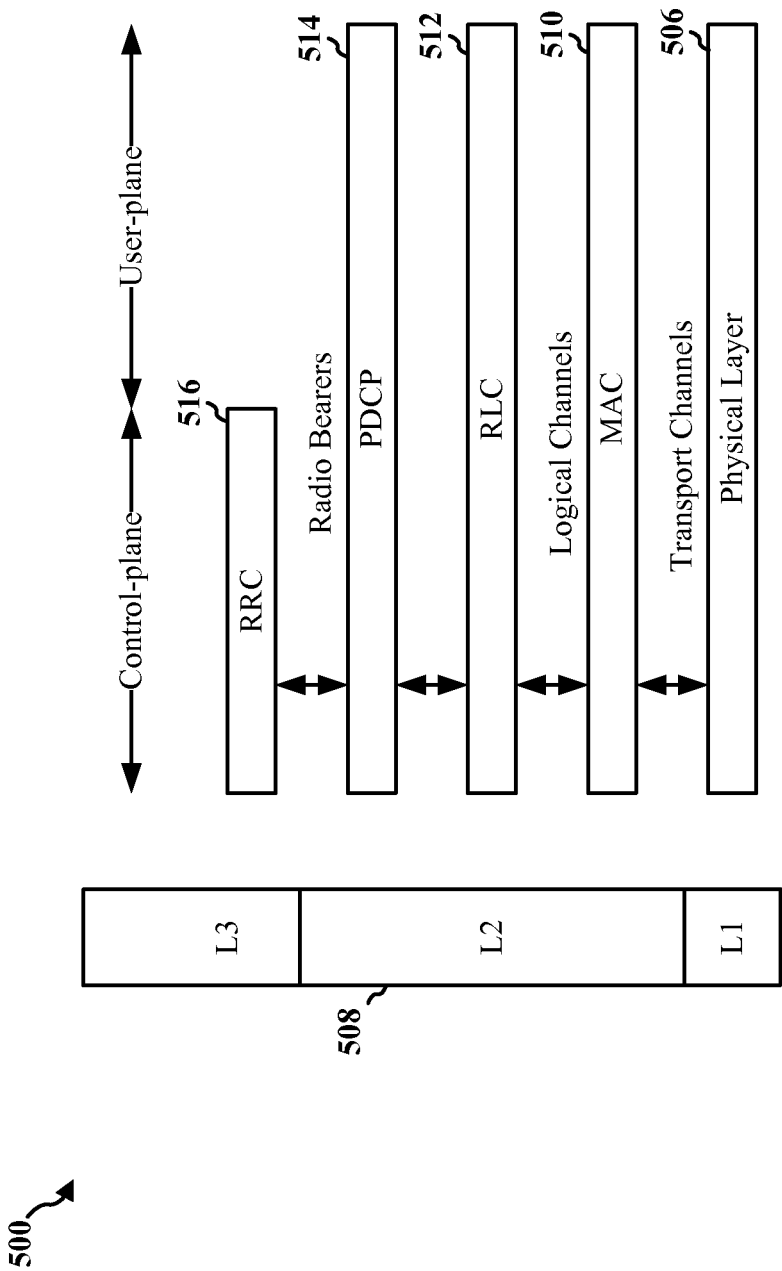


FIG. 5

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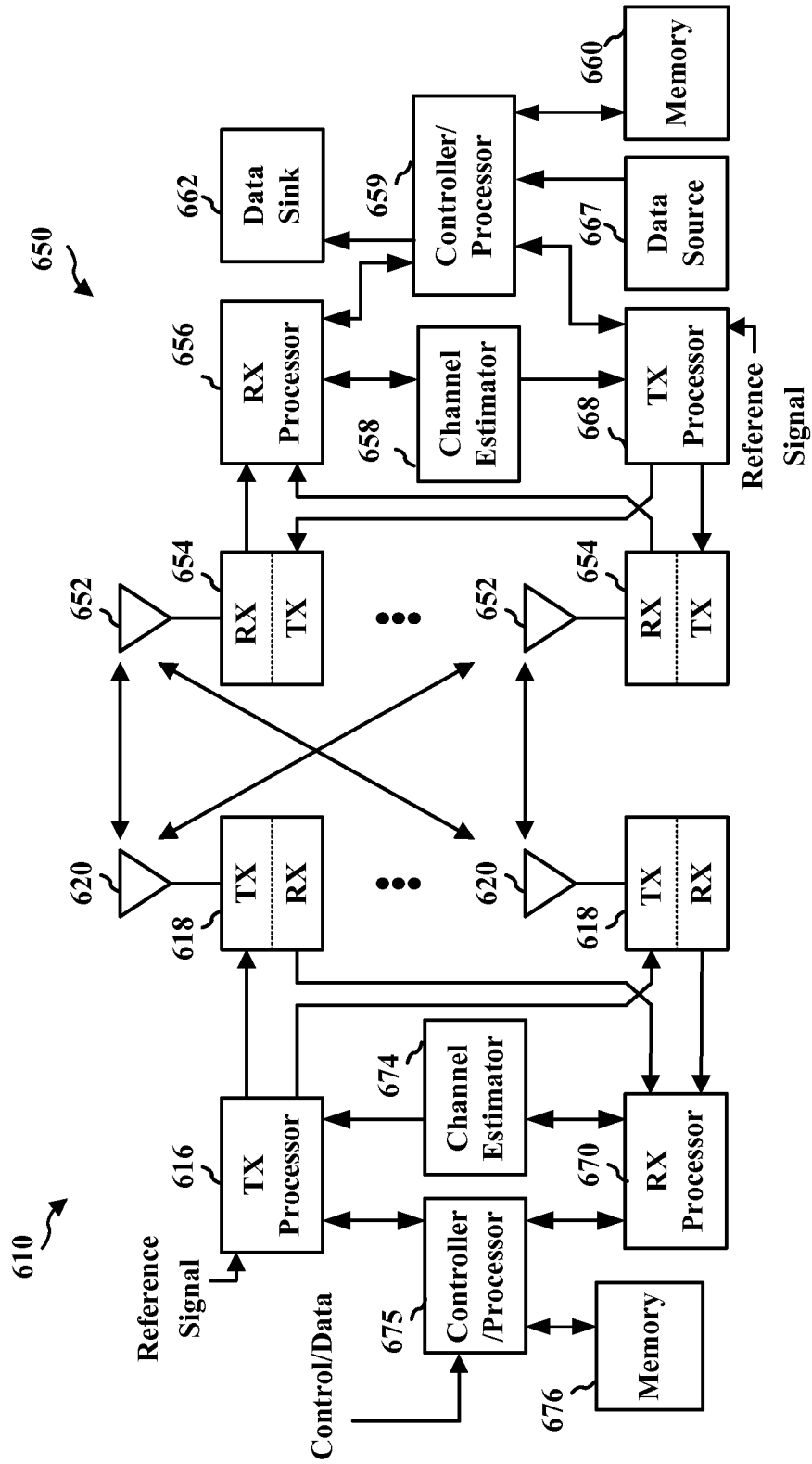


FIG. 6

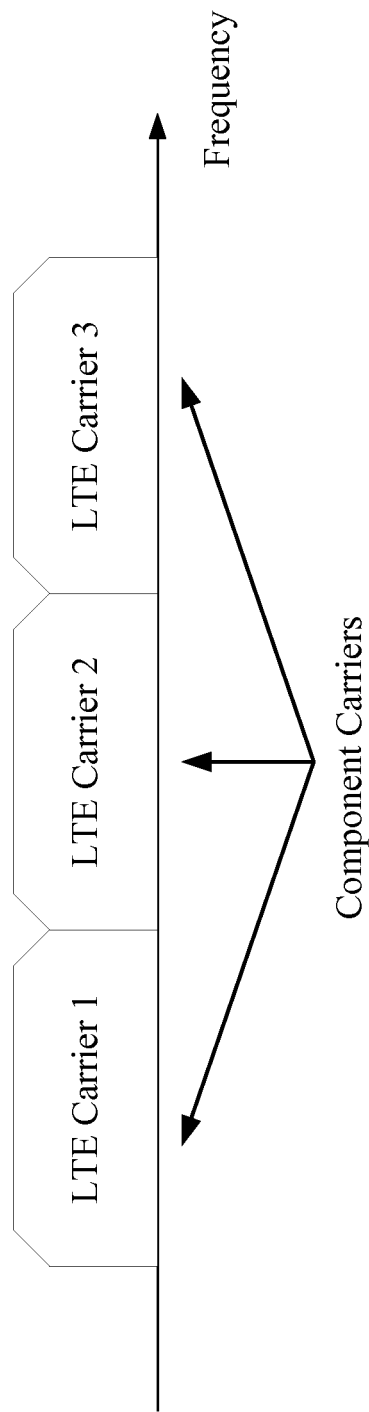


FIG. 7A

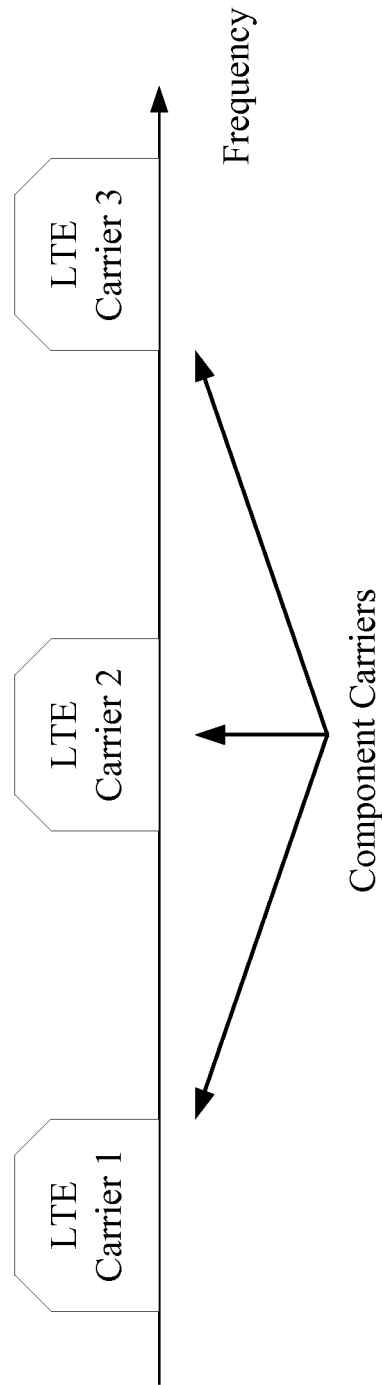


FIG. 7B

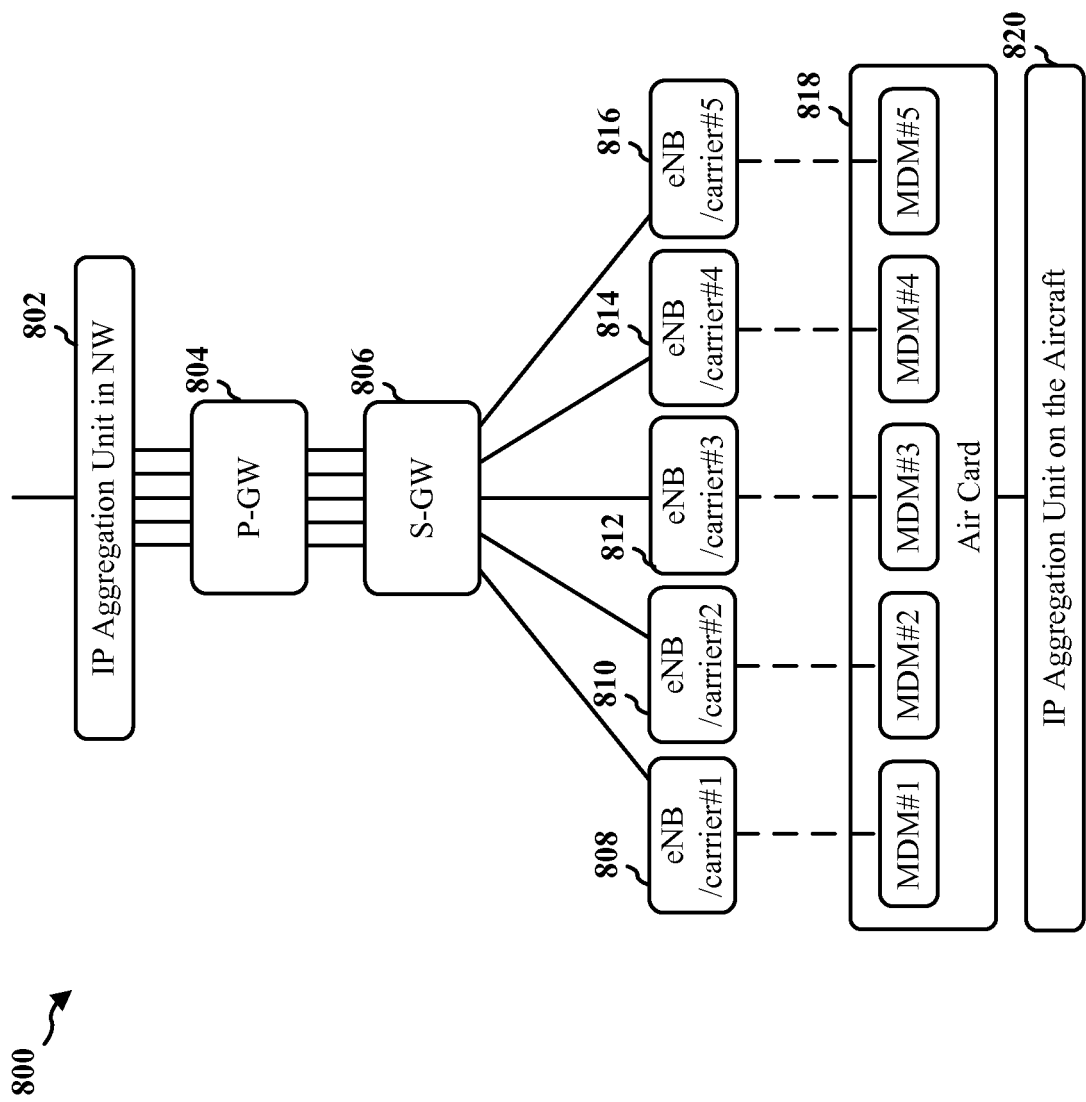


FIG. 8

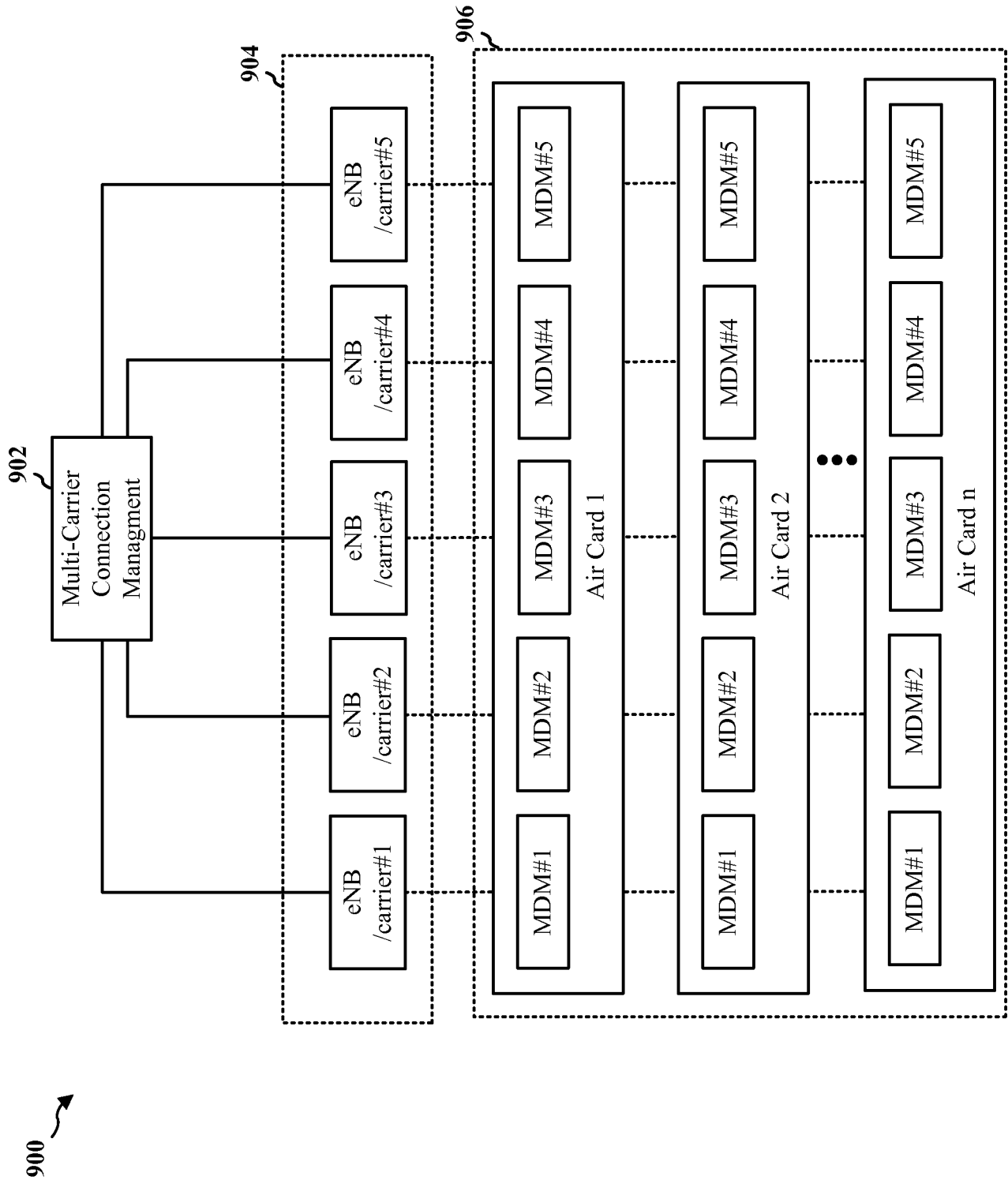
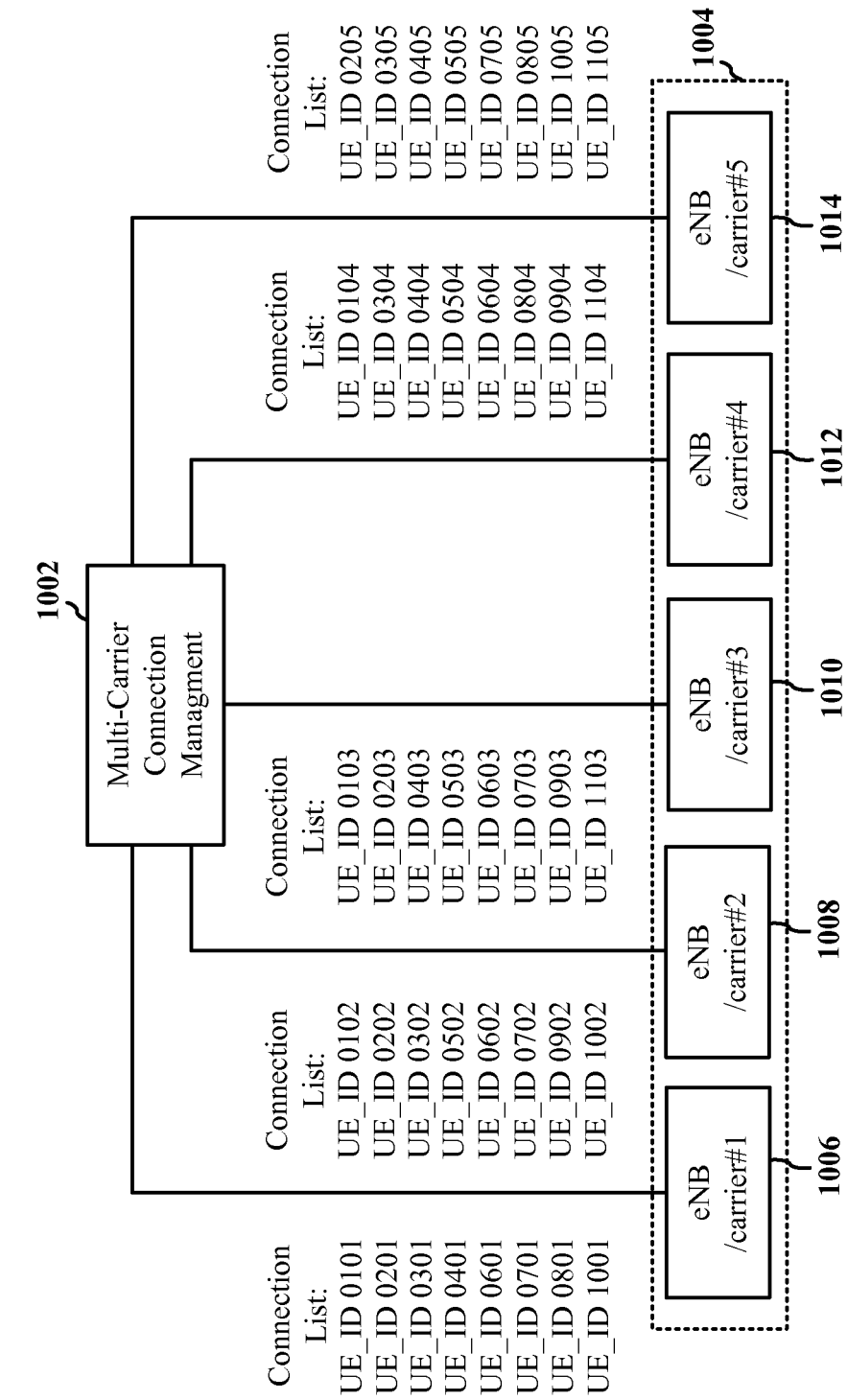


FIG. 9



† There are 11 flights in the cell in this example
*UE_ID XYZW represents the MDM of flight #XY over carrier #ZW

FIG. 10

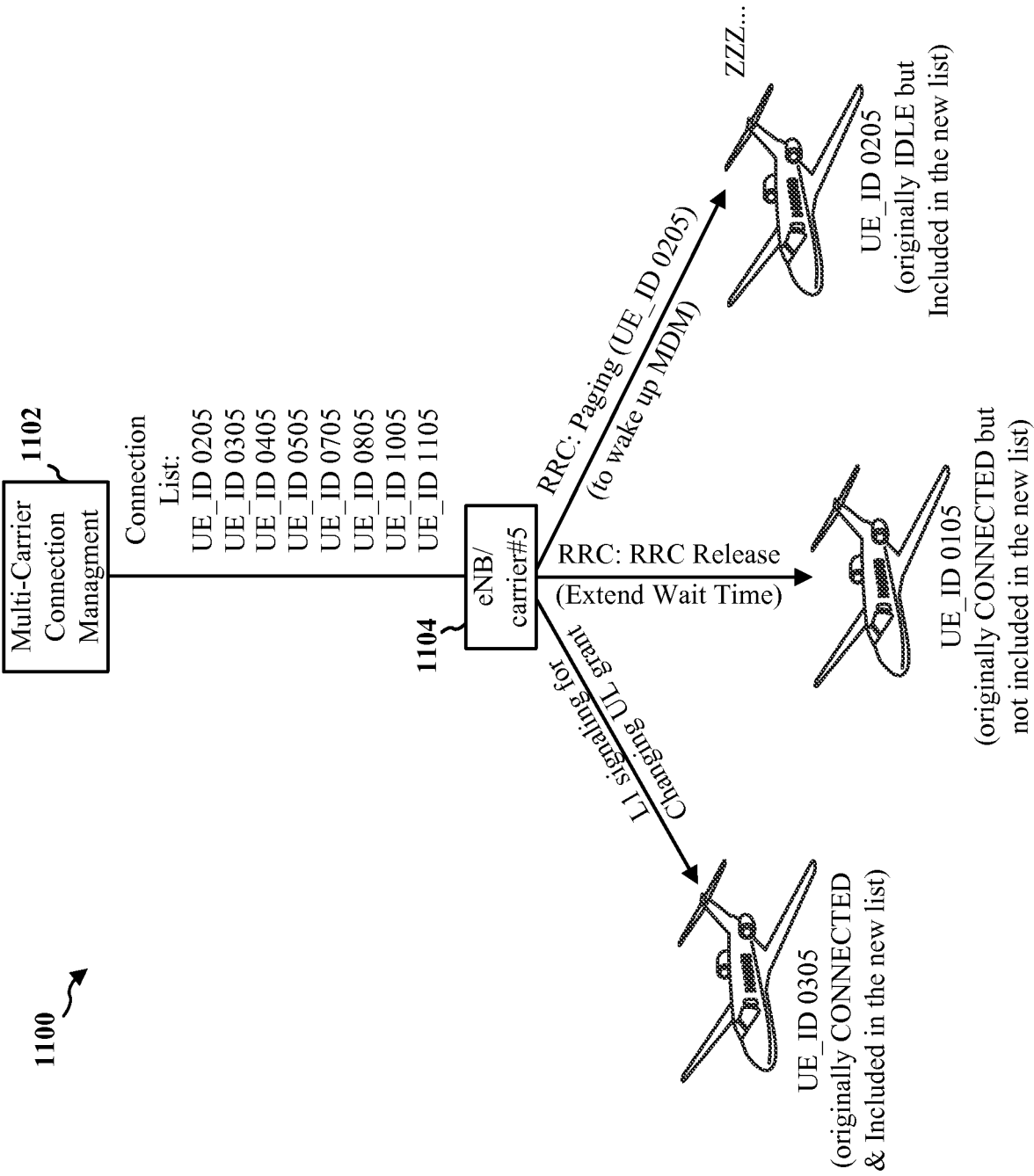


FIG. 11

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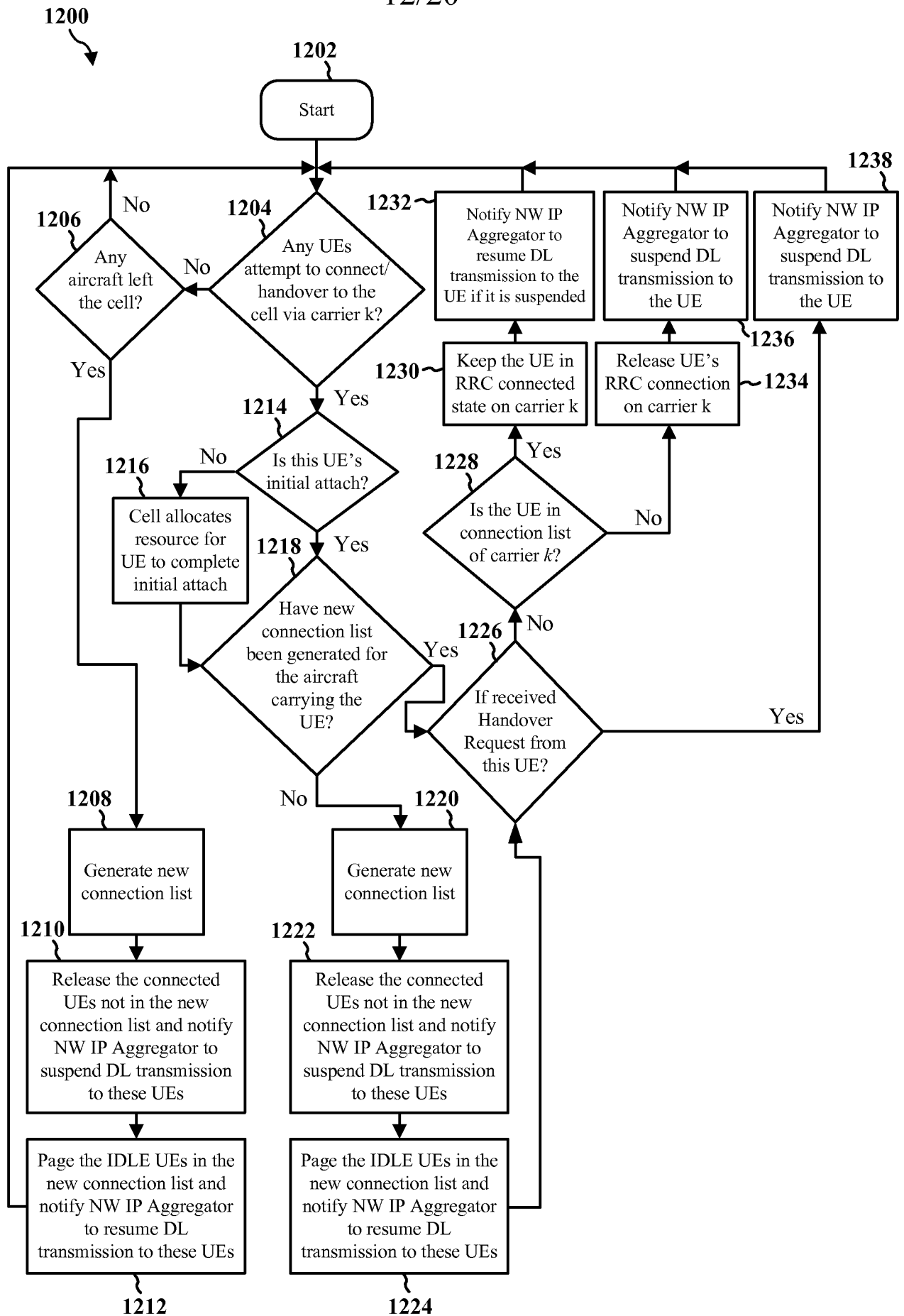


FIG. 12

1300 ↗

Example of UL Multi-Carrier Allocation
(DL carrier is determined by UL accordingly)

(subband, beam)	(carrier)	(1, 1)	(1, 2)	(1, 3)	(1, 4)	(2, 1)	(2, 2)	(2, 3)	(2, 4)
	1	1	2	3	4	6	7	8	10
	2	1	2	3	5	6	7	9	10
	3	1	2	4	5	6	7	9	11
	4	1	3	4	5	6	8	9	11
	5	2	3	4	5	7	8	10	11



Example:
N = 11, k = 3, r = 7

Assumption: N flights in the cell; $40 = N \times k + r$, where $r < N$

Allocation Algorithm:

1. List the flight in priority. The highest r priority flights get (k + 1) units each; the remaining (N - r) flights get k units each

2. Sequentially fill in the flight number x times to the columns of the table above (x = k or k+1)

3. In case a flight has fewer than x working MDMs, the spared resource can be redistributed to other flights if possible

4. Read the mth row for the flights connected to carrier m

5. Update the priority* after the current allocation

*priority can be set based on the filtered value of received allocations

FIG. 13

1400 ↗

Example of UL Multi-Carrier Allocation
(DL carrier is determined by UL accordingly)

(carrier)		(1,1)		(1,2)		(1,3)		(1,4)		(2,1)		(2,2)		(2,3)		(2,4)	
(subband, beam)		1	<u>3</u>	6	<u>8</u>	11	<u>13</u>	16	<u>18</u>	21	<u>23</u>	26	<u>28</u>	31	<u>36</u>	41	<u>46</u>
1		1	<u>4</u>	6	<u>9</u>	11	<u>14</u>	16	<u>19</u>	21	<u>24</u>	26	<u>29</u>	32	<u>37</u>	42	<u>47</u>
2		2	<u>4</u>	7	<u>9</u>	12	<u>14</u>	17	<u>19</u>	22	<u>24</u>	27	<u>29</u>	33	<u>38</u>	43	<u>48</u>
3		2	<u>5</u>	7	<u>10</u>	12	<u>15</u>	17	<u>20</u>	22	<u>25</u>	27	<u>30</u>	34	<u>39</u>	44	<u>49</u>
4		3	<u>5</u>	8	<u>10</u>	13	<u>15</u>	18	<u>20</u>	23	<u>25</u>	28	<u>30</u>	35	<u>40</u>	45	<u>50</u>

Assumption: N flights in the cell; $80 = N \times k + r$, where $r < N$

Allocation Algorithm:

1. List the flight in priority. The highest r priority flights get (k + 1) units each; the remaining (N - r) flights get k units each
2. Sequentially fill in the flight number x times to the columns of the table above (x = k or k+1)
3. In case a flight has fewer than x working MDMs, the spared resource can be redistributed to other flights if possible
4. Read the mth row for the flights connected to carrier m
5. Update the priority* after the current allocation

Example:
N = 50, k = 1, r = 30
To serve > 40 flights, UL resource is divided into 2 interlaces
Entries in Black → subframe interlace 0
Entries in Blue / Underlined → subframe interlace 1
*priority can be set based on the filtered value of received allocation

FIG. 14

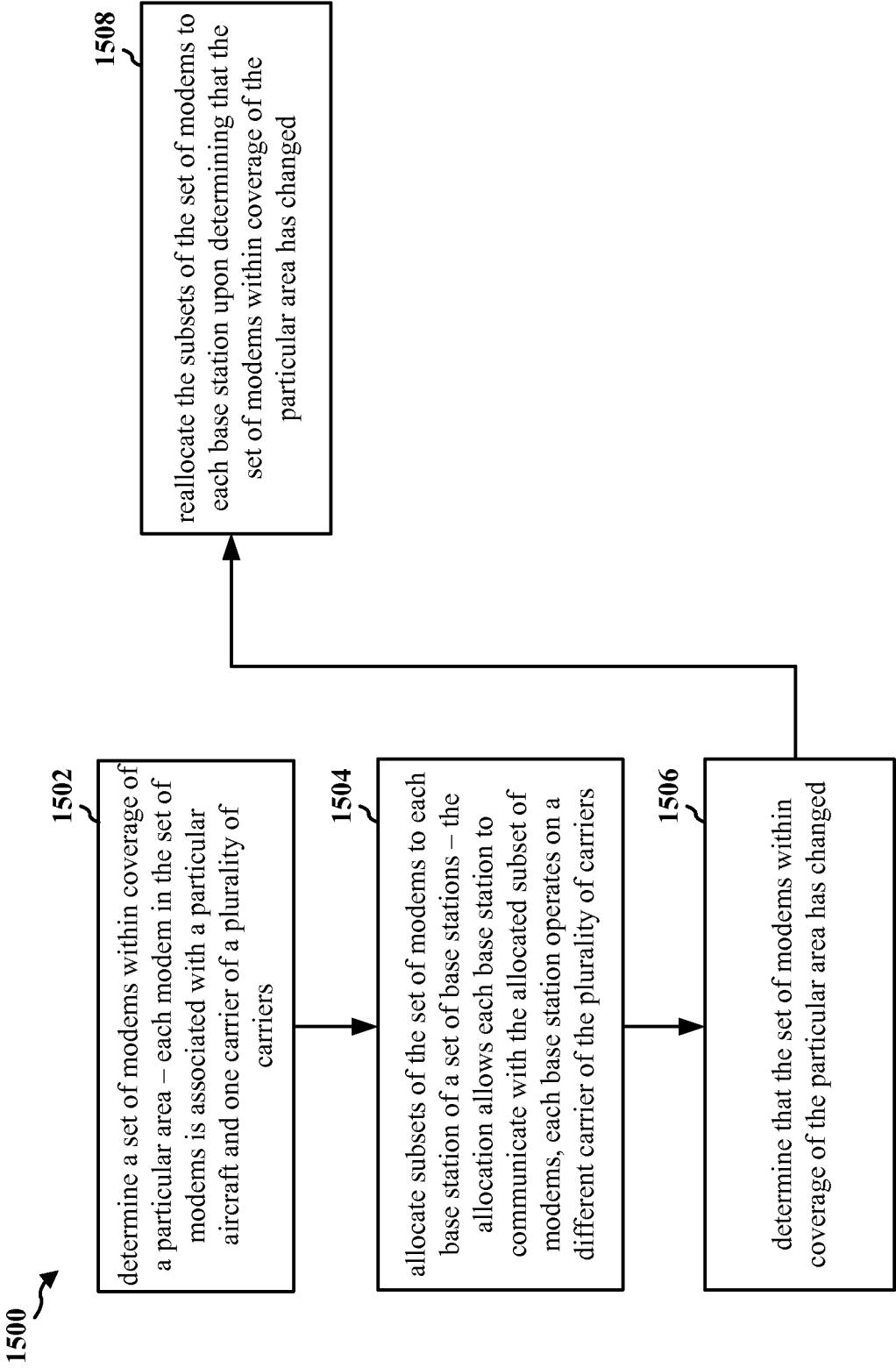


FIG. 15

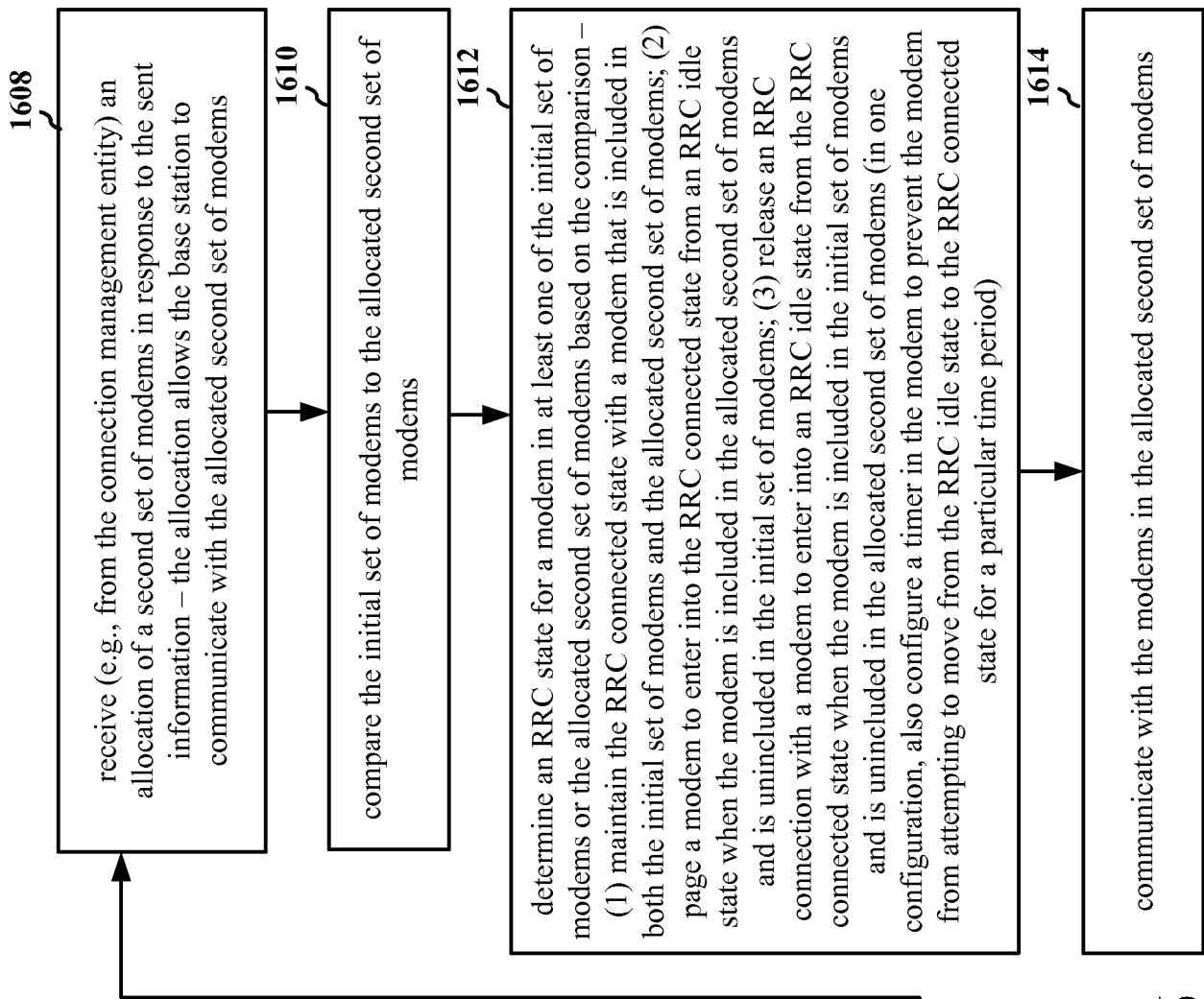


FIG. 16

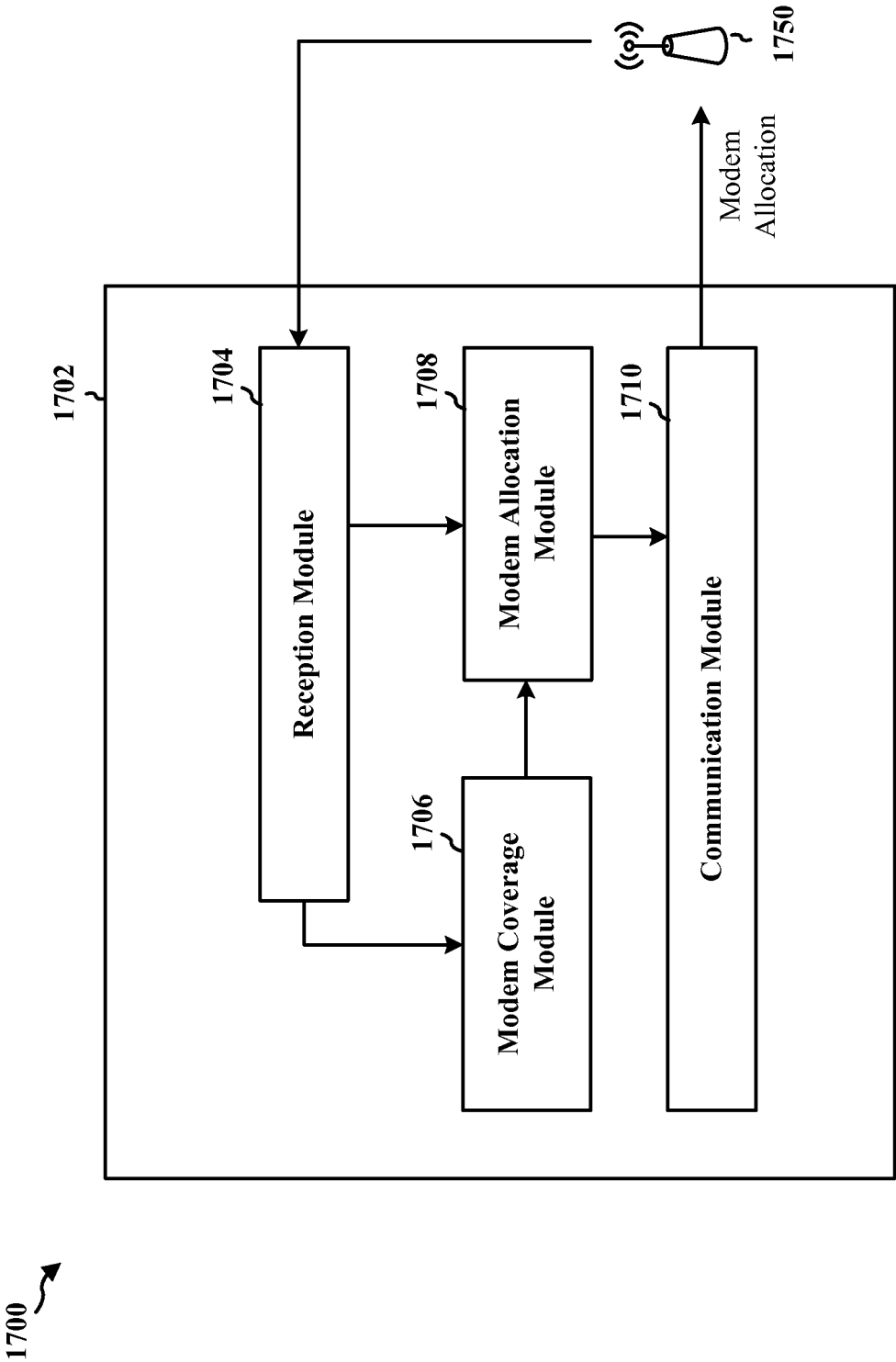


FIG. 17

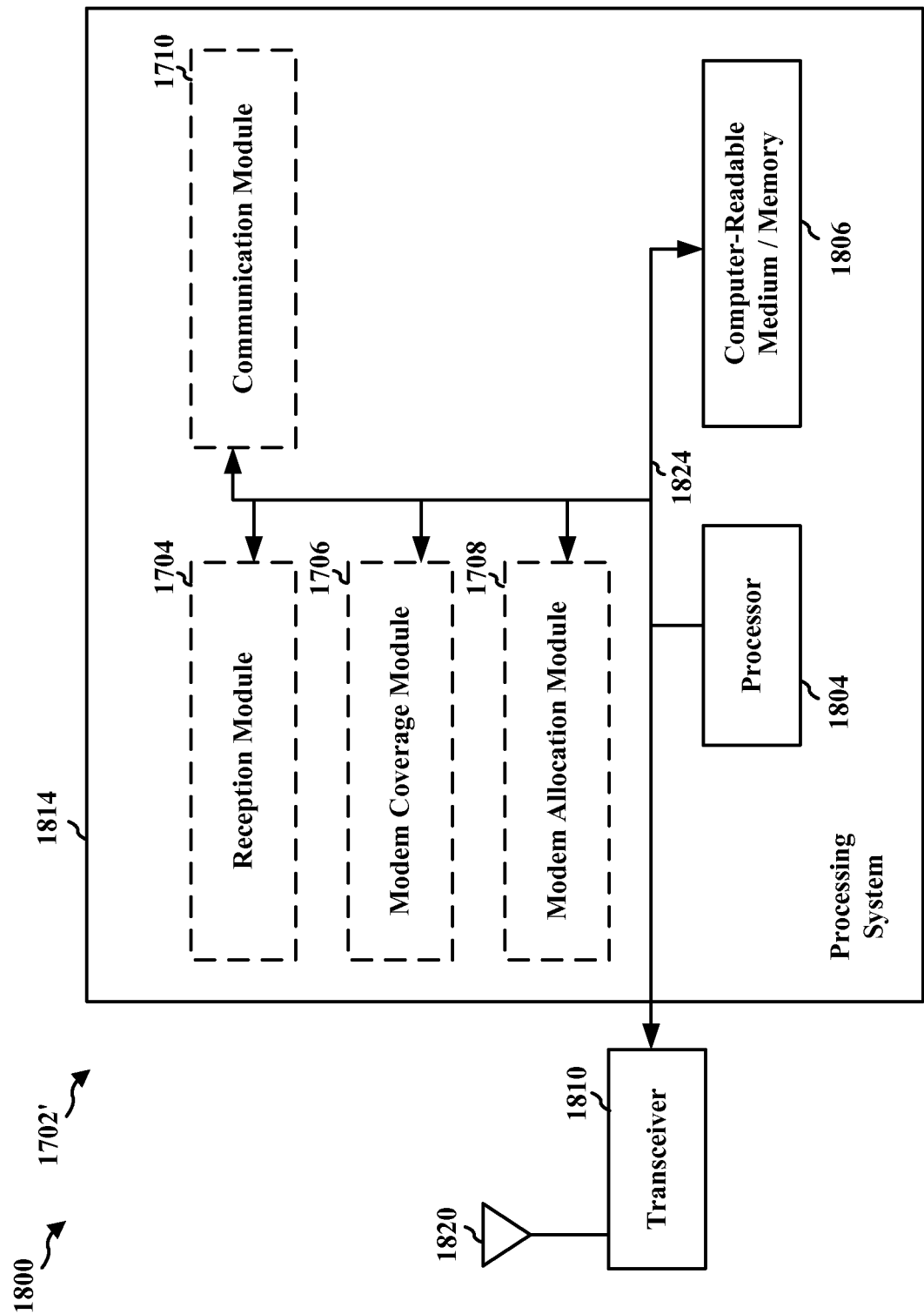


FIG. 18

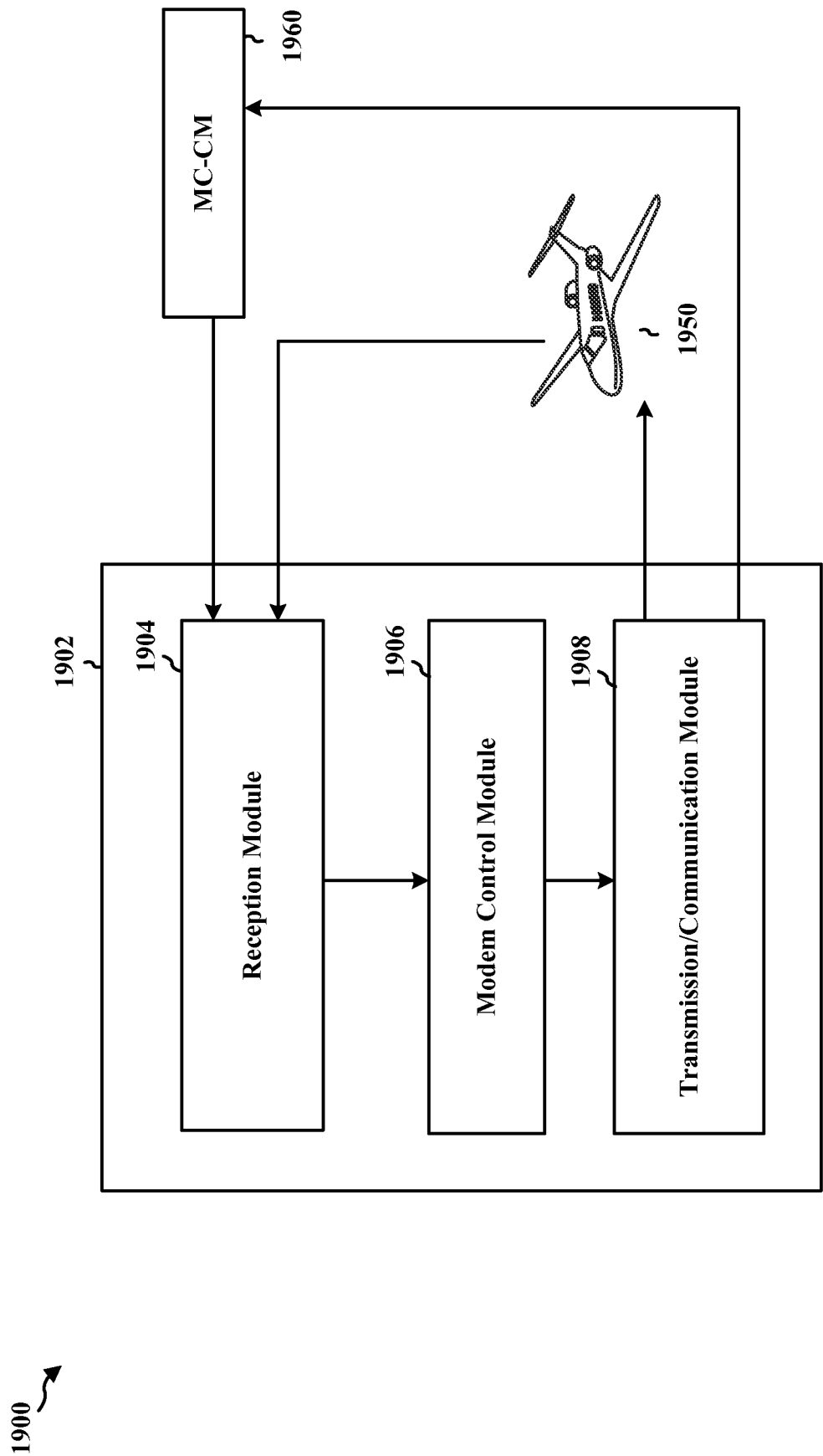


FIG. 19

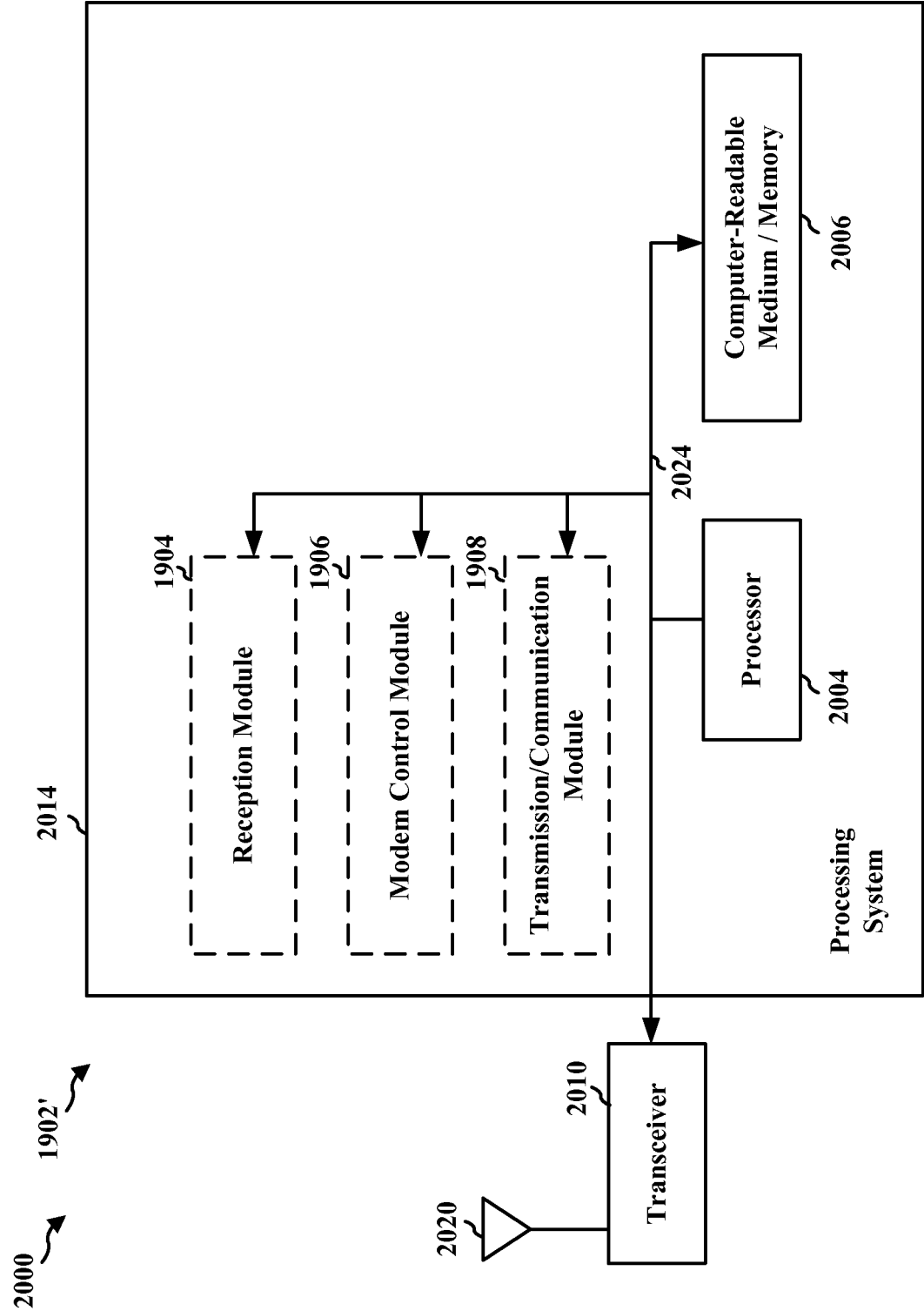


FIG. 20