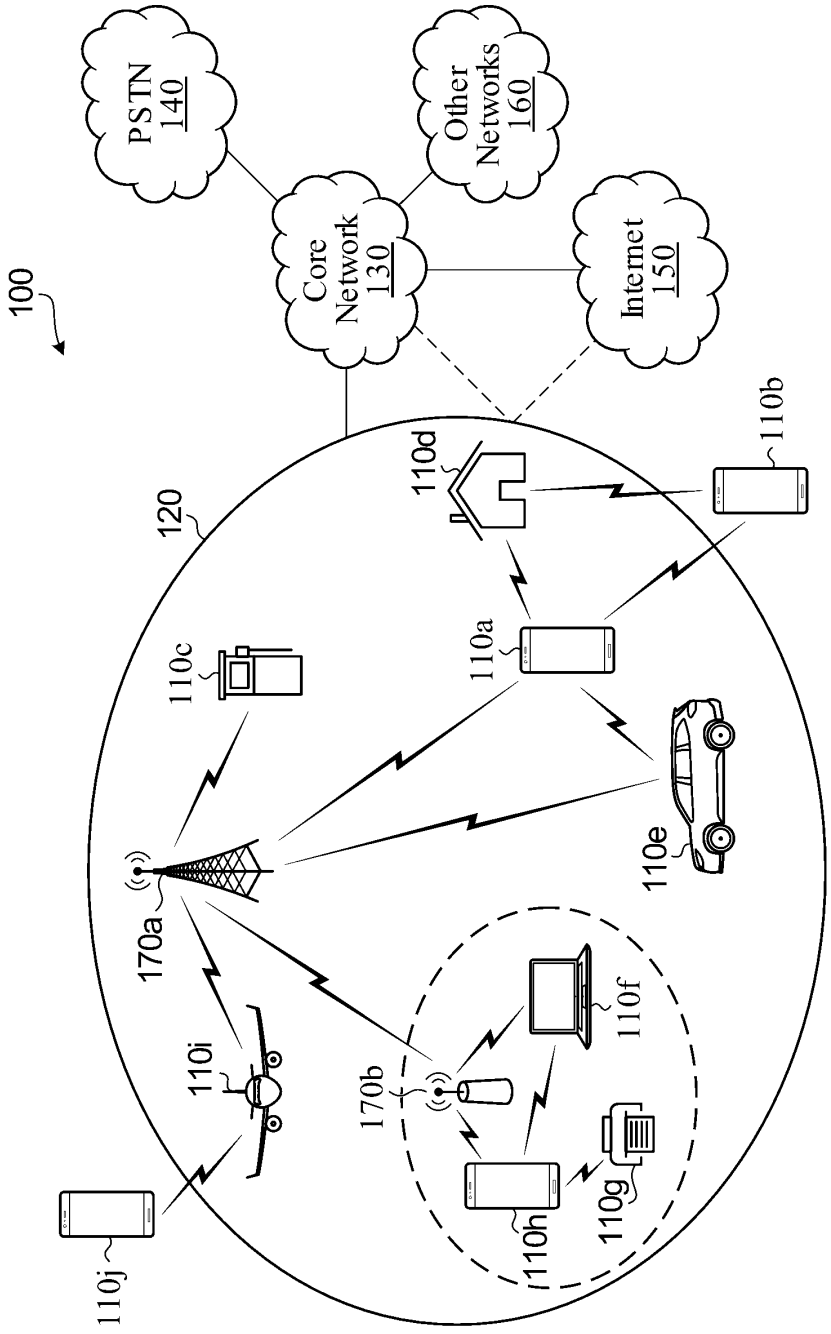

100
PSTN 140
Other Networks 160
Core Network 130
Internet 150
120
110b
110d
110a
110c
110e
170a
110f
110i
170b
110g
110h
110j

FIG. 1

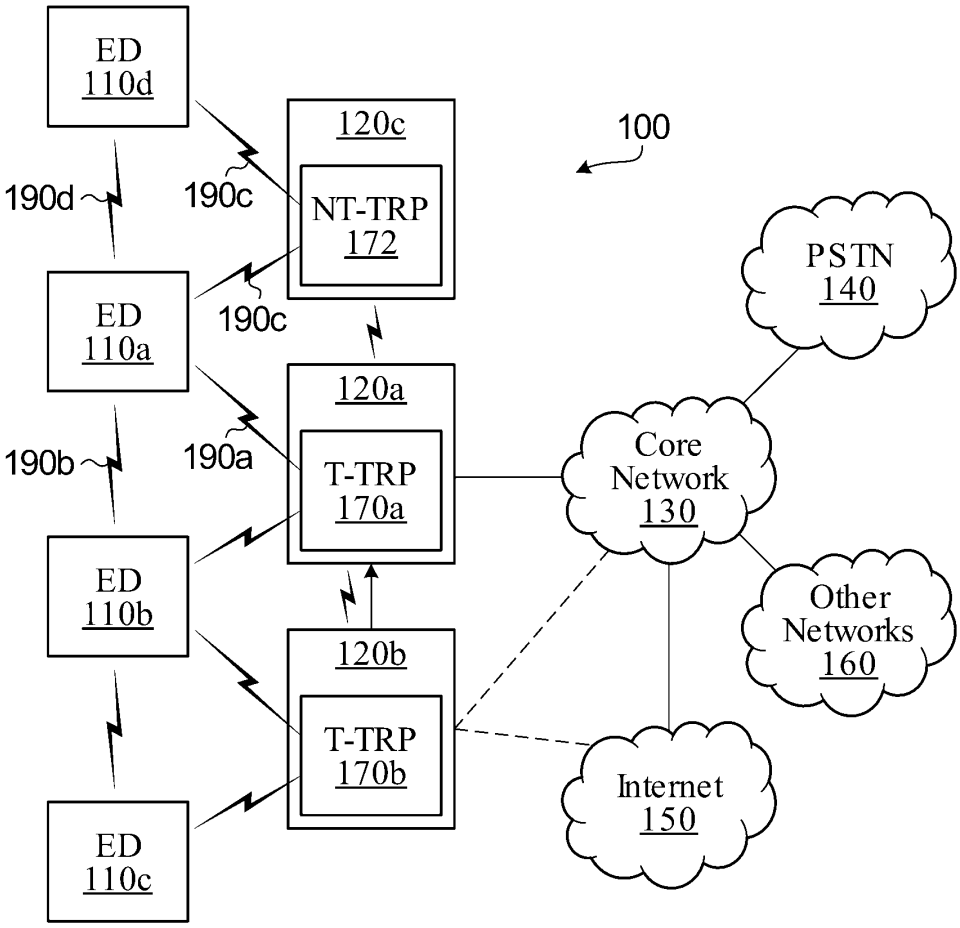

ED
110d
190d
ED
110a
190b
ED
110b
ED
110c
190c
190c
190a
120c
NT-TRP
172
120a
T-TRP
170a
120b
T-TRP
170b
100
PSTN
140
Core
Network
130
Other
Networks
160
Internet
150

FIG. 2

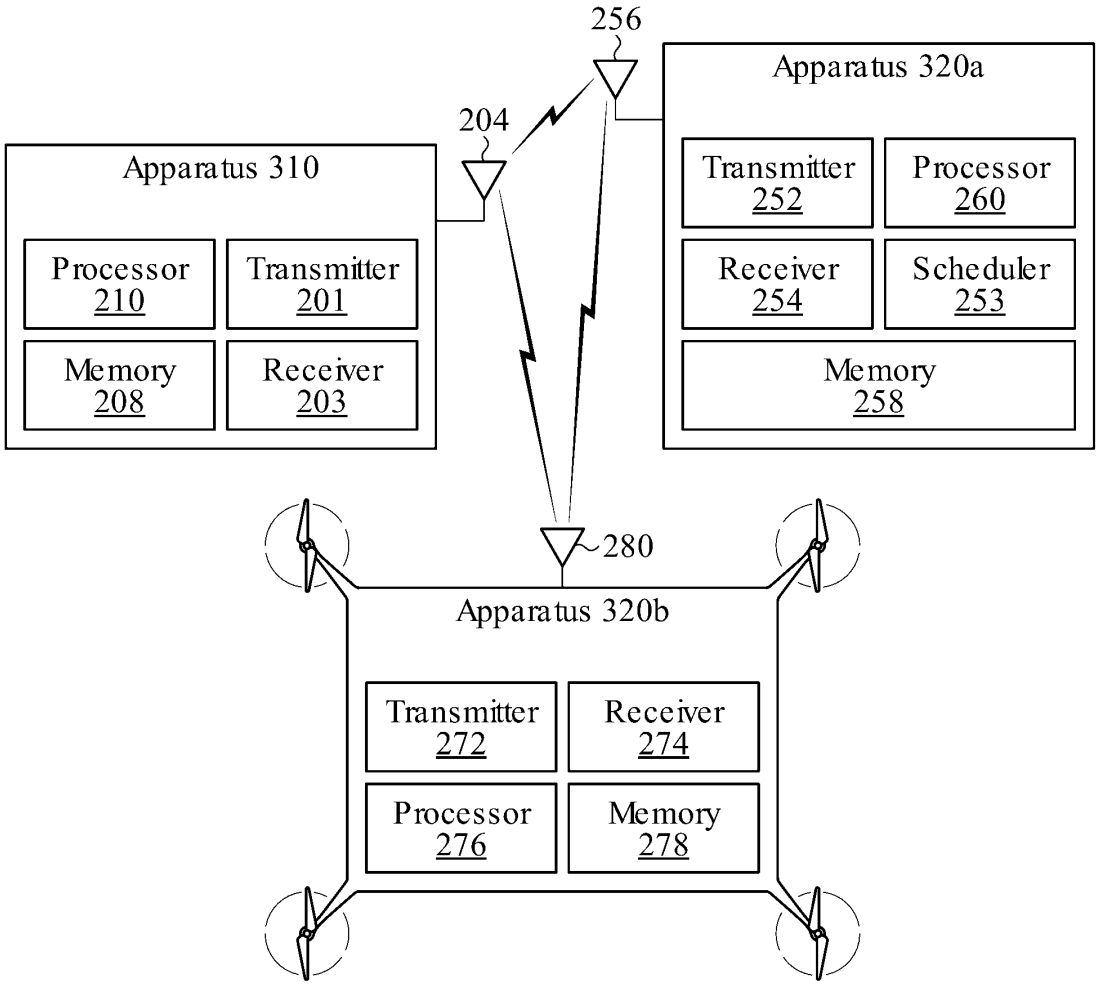

256
Apparatus 320a
204
Apparatus 310
Transmitter 252
Processor 260
Processor 210
Transmitter 201
Receiver 254
Scheduler 253
Memory 208
Receiver 203
Memory 258
280
Apparatus 320b
Transmitter 272
Receiver 274
Processor 276
Memory 278

FIG. 3

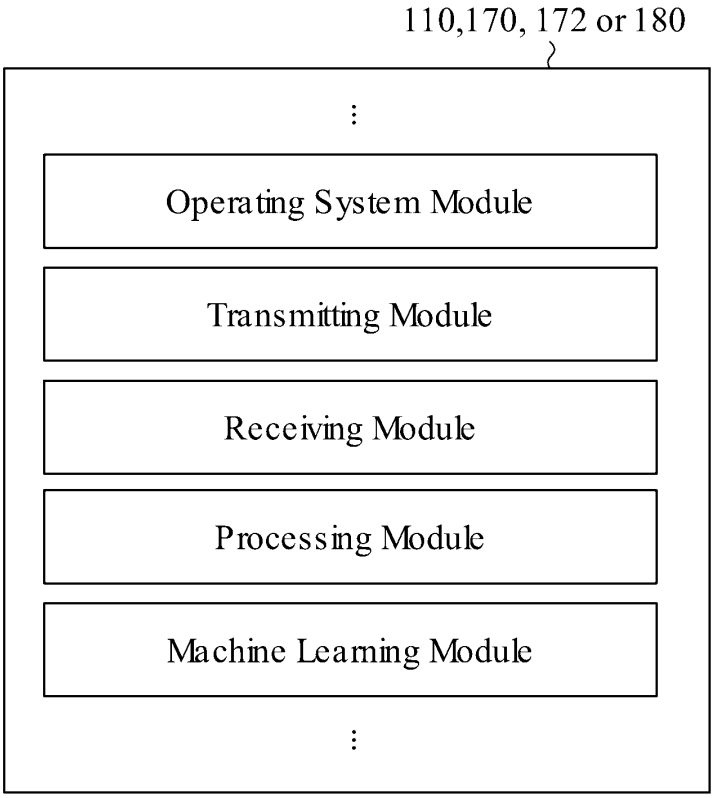

110,170, 172 or 180
Operating System Module
Transmitting Module
Receiving Module
Processing Module
Machine Learning Module

FIG. 4

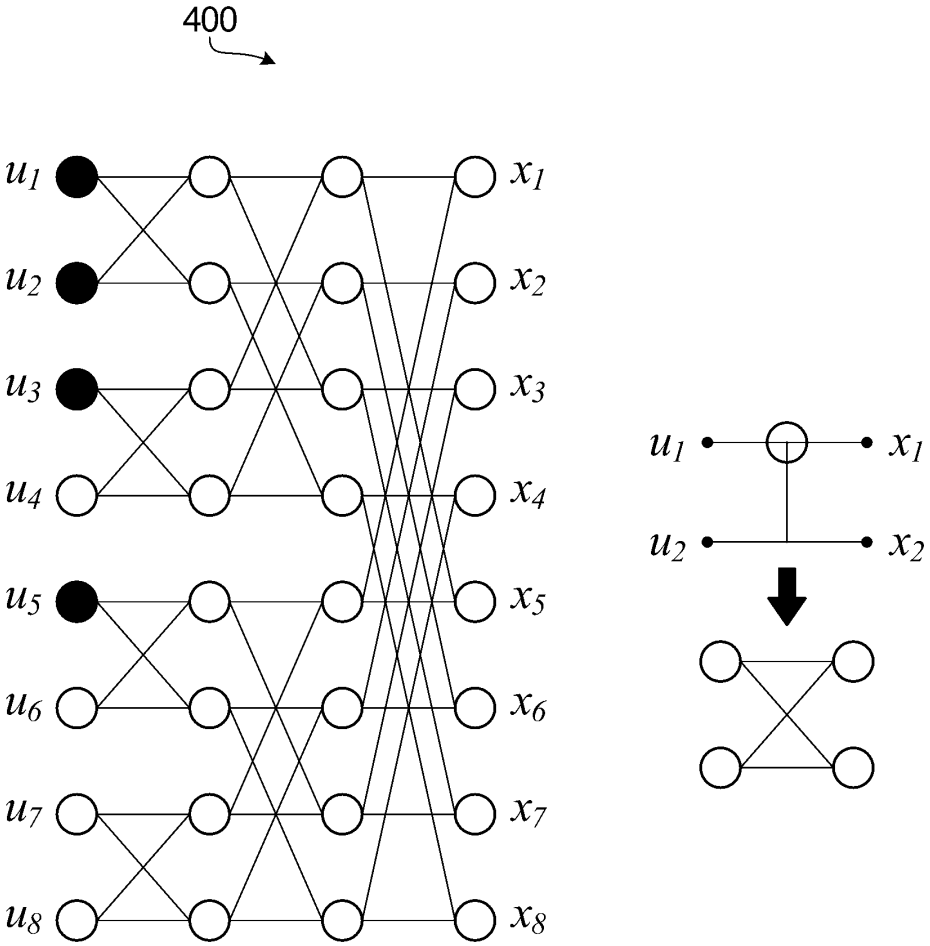


FIG. 5

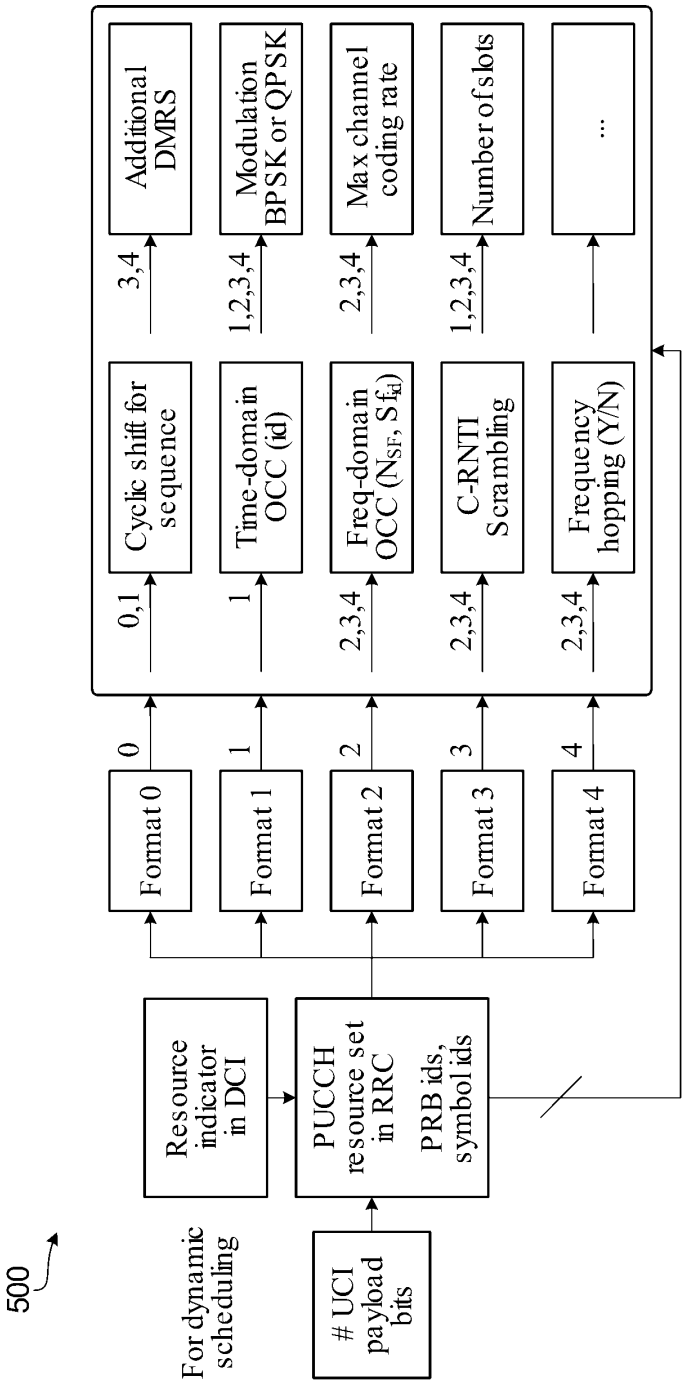

500
UCI payload bits
For dynamic scheduling
Resource indicator in DCI
PUCCH resource set in RRC
PRB ids, symbol ids
Format 0
Format 1
Format 2
Format 3
Format 4
0
1
2
3
4
0,1
1
2,3,4
2,3,4
2,3,4
Cyclic shift for sequence
Time-domain OCC (id)
Freq-domain OCC (N_{SF}, Sf_{id})
C-RNTI Scrambling
Frequency hopping (Y/N)
3,4
1,2,3,4
2,3,4
1,2,3,4
Additional DMRS
Modulation BPSK or QPSK
Max channel coding rate
Number of slots
...

FIG. 6

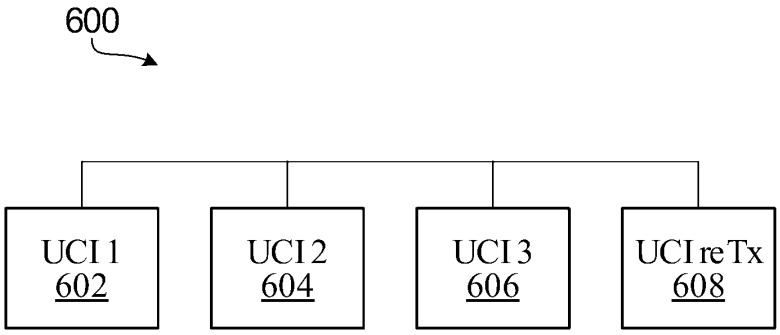


FIG. 7

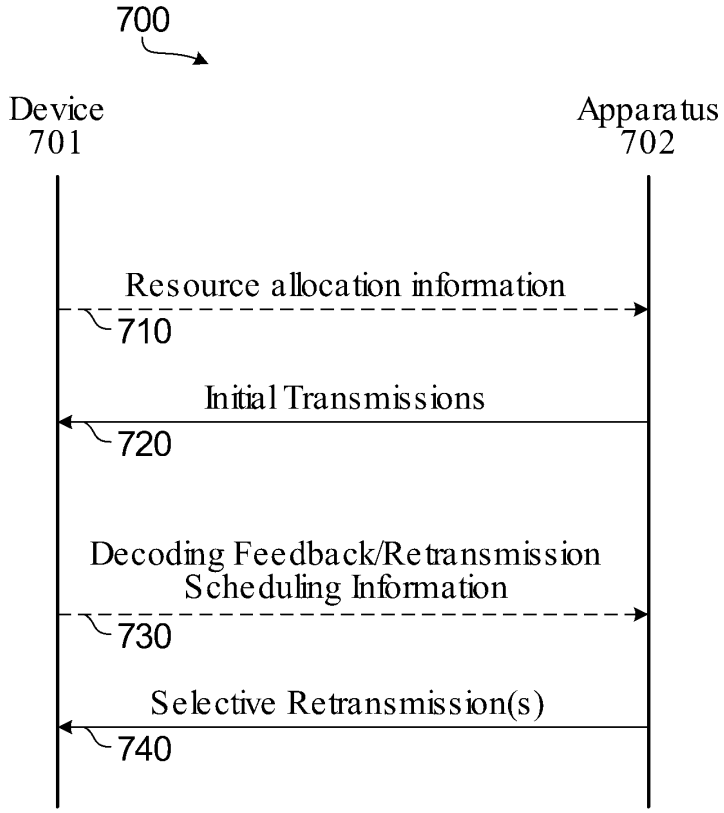

700
Device
701
Apparatus
702
Resource allocation information
710
Initial Transmissions
720
Decoding Feedback/Retransmission
Scheduling Information
730
Selective Retransmission(s)
740

FIG. 8