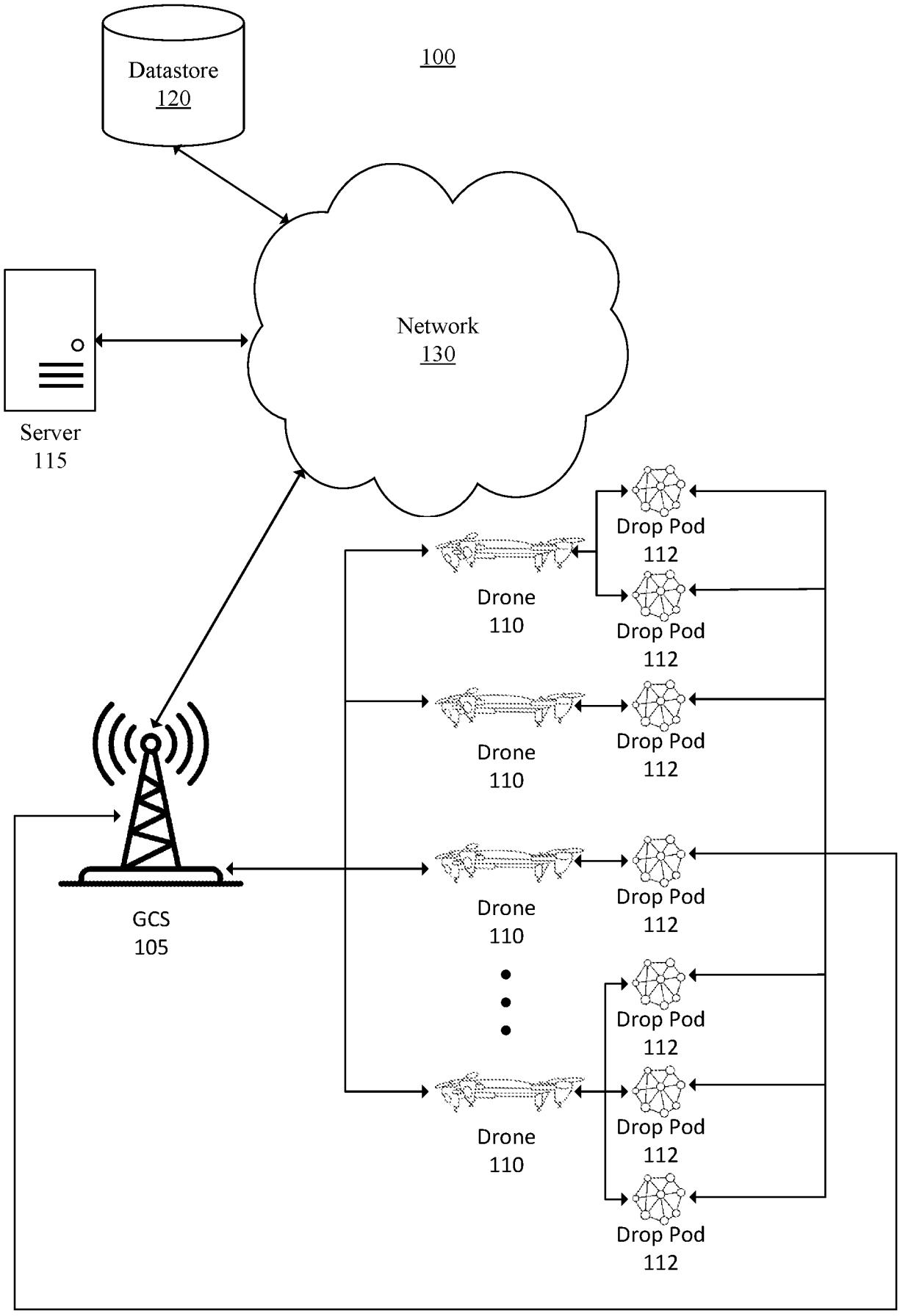

100
Datastore
120
Network
130
Server
115
GCS
105
Drone
110
Drone
110
Drone
110
Drone
110
Drop Pod
112
Drop Pod
112
Drop Pod
112
Drop Pod
112
Drop Pod
112
Drop Pod
112
Drop Pod
112

FIG. 1

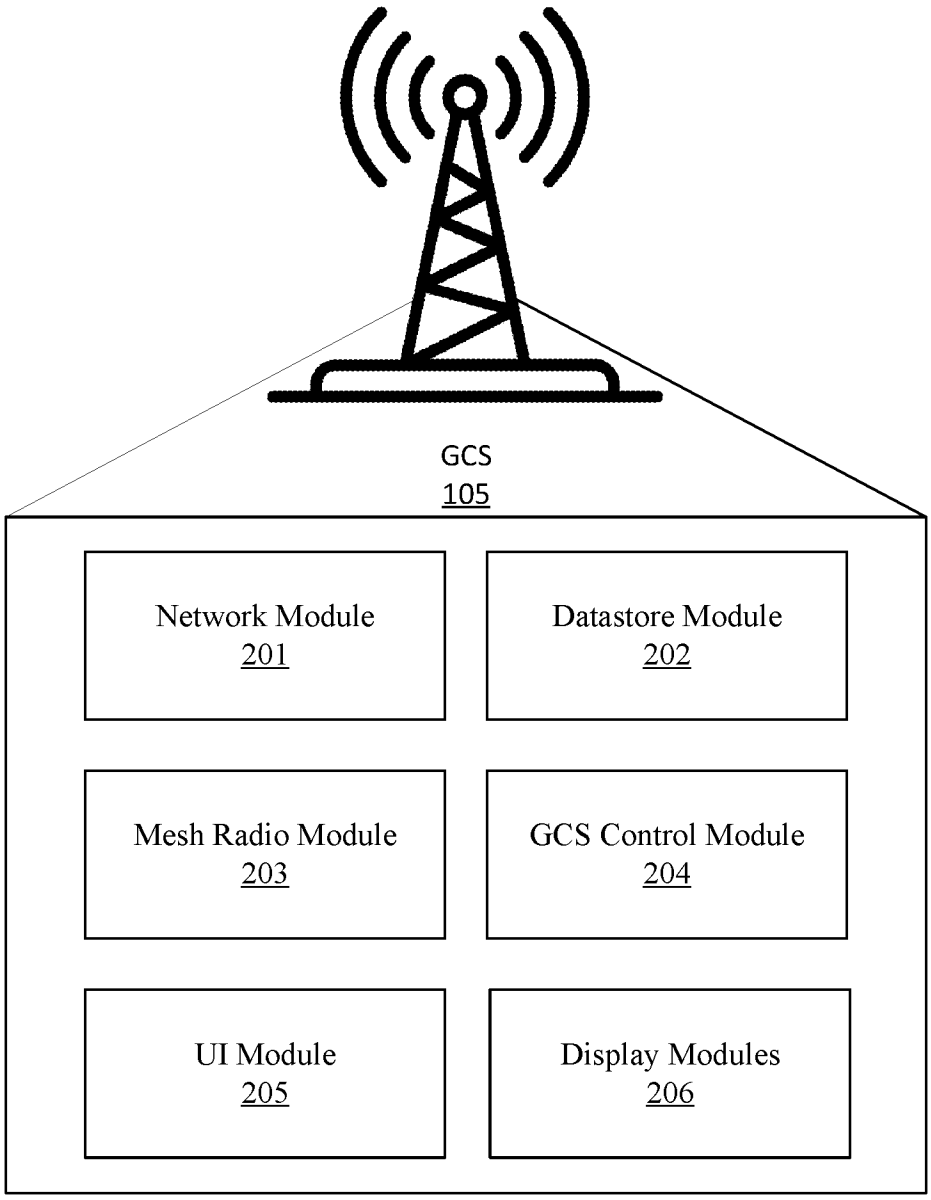

GCS
105
Network Module
201
Datastore Module
202
Mesh Radio Module
203
GCS Control Module
204
UI Module
205
Display Modules
206

FIG. 2A

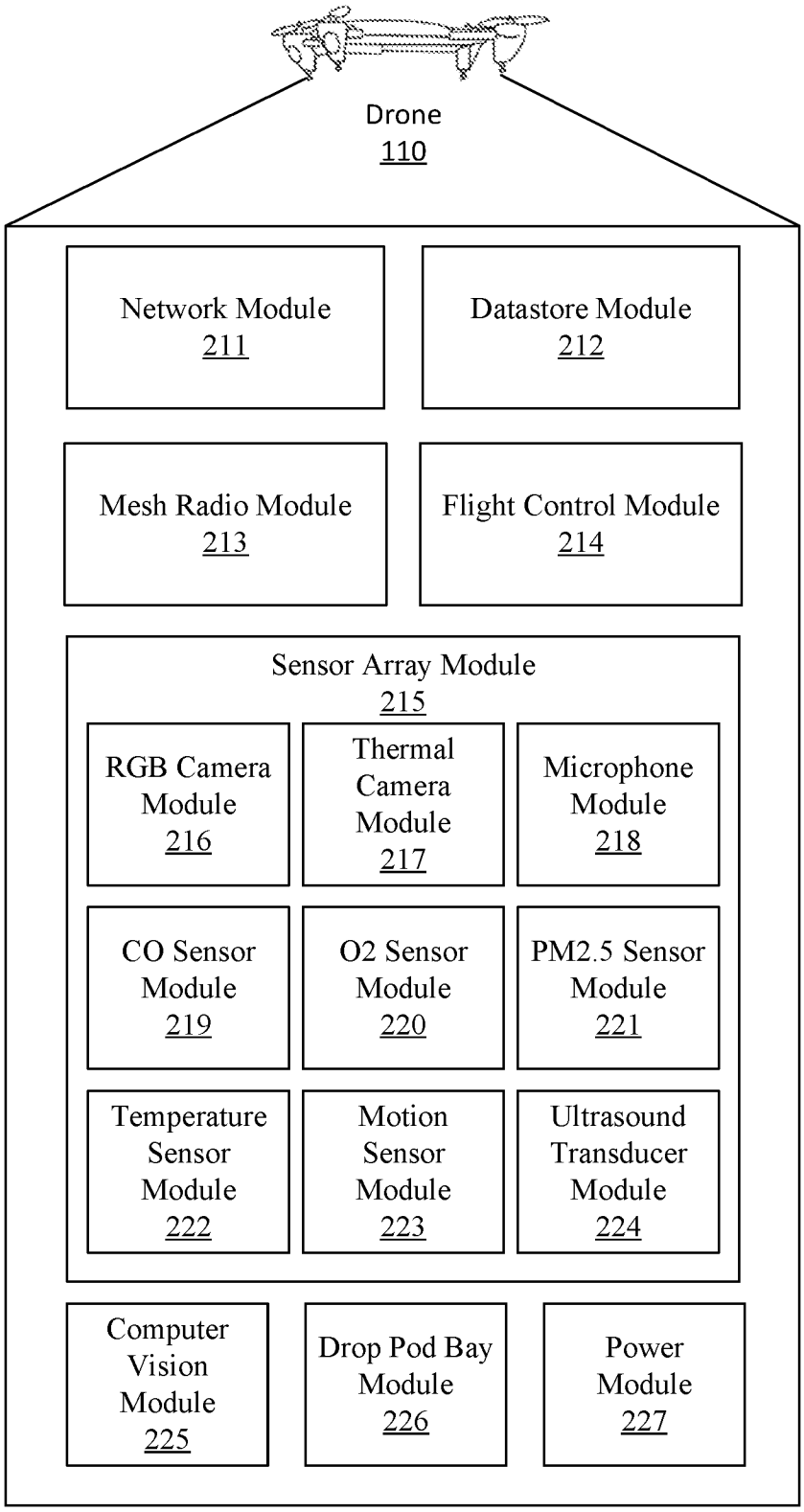

Drone
110
Network Module
211
Datastore Module
212
Mesh Radio Module
213
Flight Control Module
214
Sensor Array Module
215
RGB Camera Module
216
Thermal Camera Module
217
Microphone Module
218
CO Sensor Module
219
O2 Sensor Module
220
PM2.5 Sensor Module
221
Temperature Sensor Module
222
Motion Sensor Module
223
Ultrasound Transducer Module
224
Computer Vision Module
225
Drop Pod Bay Module
226
Power Module
227

FIG. 2B

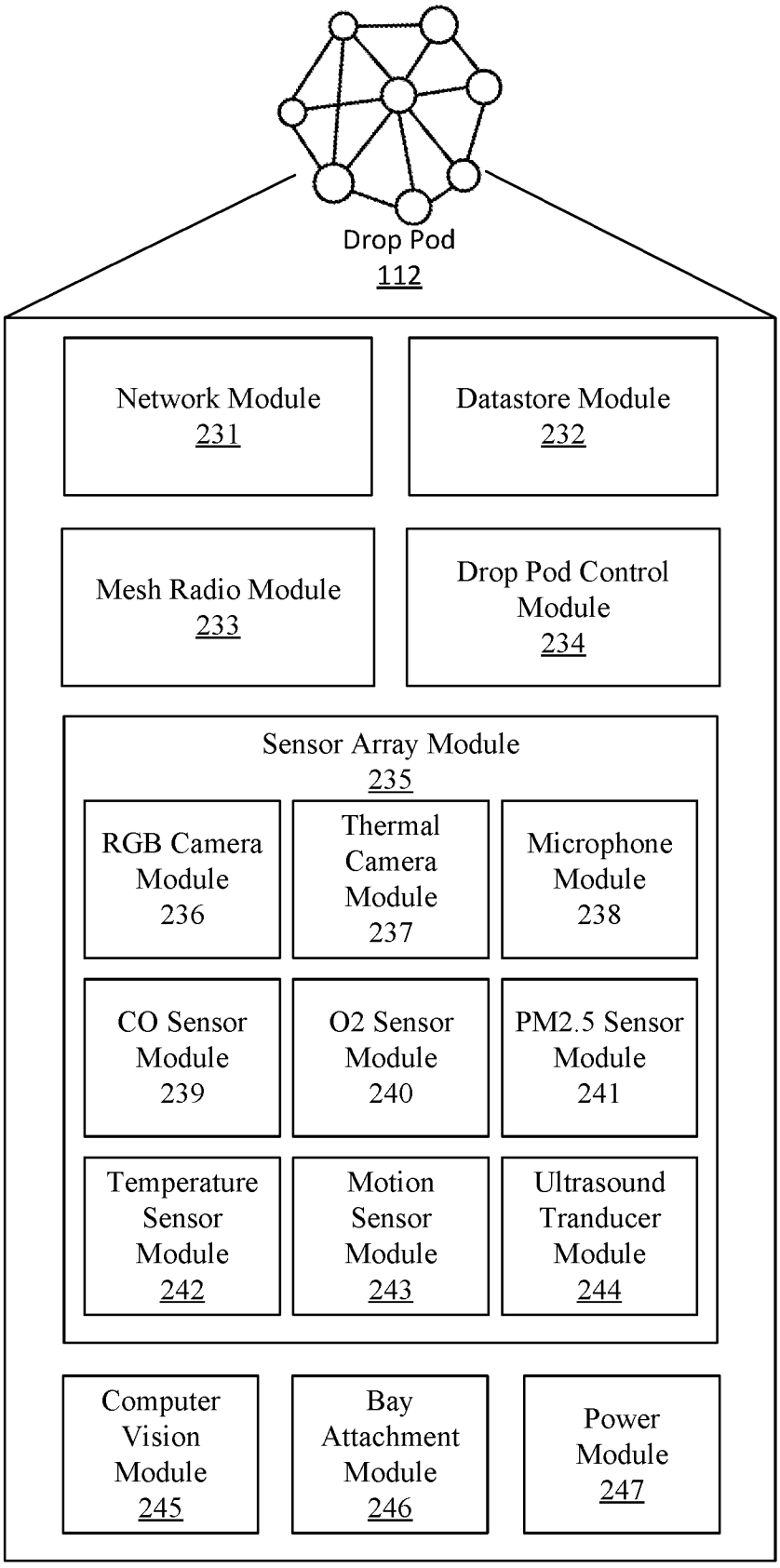

Drop Pod
112
Network Module
231
Datastore Module
232
Mesh Radio Module
233
Drop Pod Control Module
234
Sensor Array Module
235
RGB Camera Module
236
Thermal Camera Module
237
Microphone Module
238
CO Sensor Module
239
O2 Sensor Module
240
PM2.5 Sensor Module
241
Temperature Sensor Module
242
Motion Sensor Module
243
Ultrasound Tranducer Module
244
Computer Vision Module
245
Bay Attachment Module
246
Power Module
247

FIG. 2C

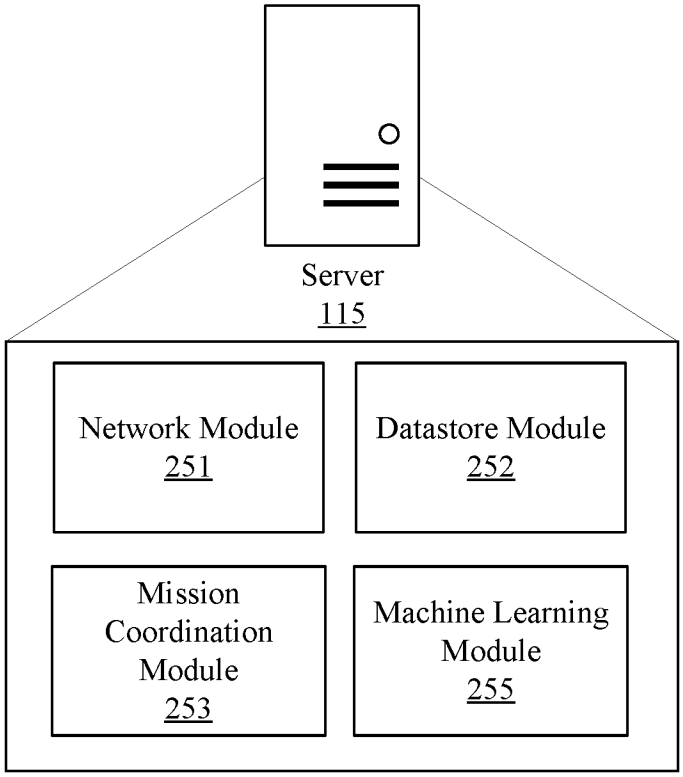

Server
115
Network Module
251
Datastore Module
252
Mission
Coordination
Module
253
Machine Learning
Module
255

FIG. 2D

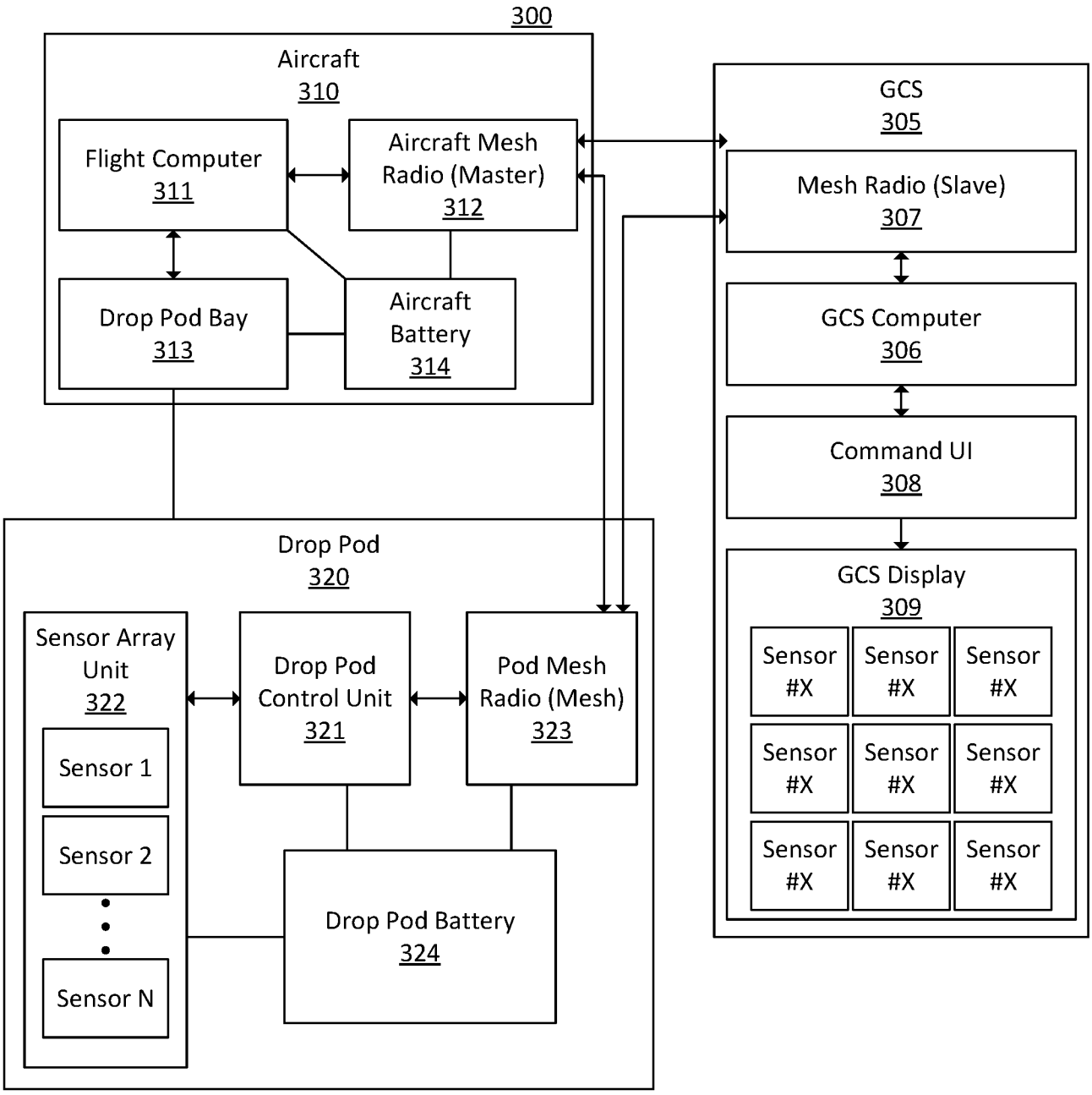

300
Aircraft
310
Flight Computer
311
Aircraft Mesh
Radio (Master)
312
Drop Pod Bay
313
Aircraft
Battery
314
GCS
305
Mesh Radio (Slave)
307
GCS Computer
306
Command UI
308
GCS Display
309
Sensor
#X
Drop Pod
320
Sensor Array
Unit
322
Sensor 1
Sensor 2
Sensor N
Drop Pod
Control Unit
321
Pod Mesh
Radio (Mesh)
323
Drop Pod Battery
324

FIG. 3A

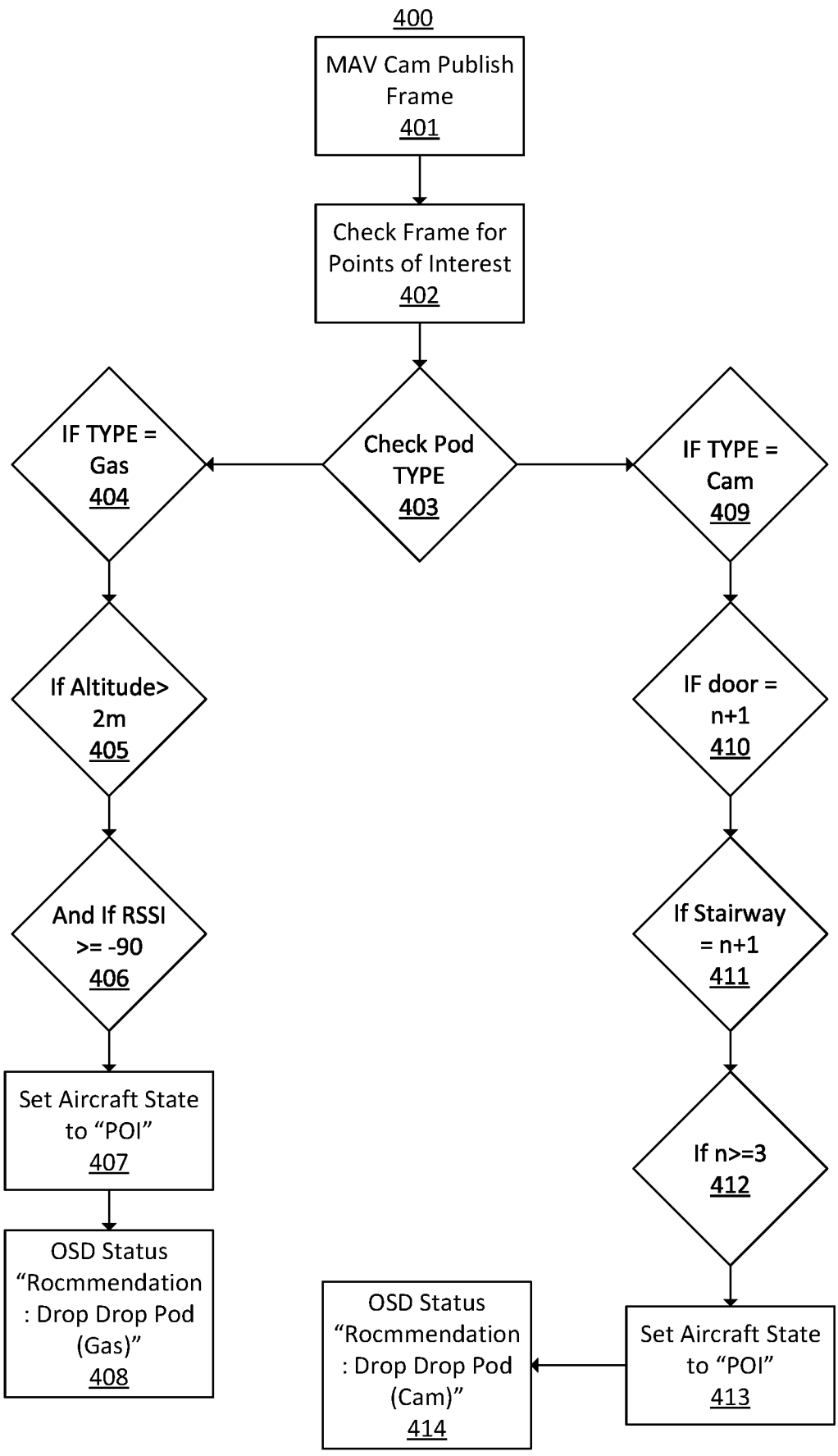

400
MAV Cam Publish Frame
401
Check Frame for Points of Interest
402
Check Pod TYPE
403
IF TYPE = Gas
404
If Altitude> 2m
405
And If RSSI >= -90
406
Set Aircraft State to "POI"
407
OSD Status "Rocmmendation : Drop Drop Pod (Gas)"
408
IF TYPE = Cam
409
IF door = n+1
410
If Stairway = n+1
411
If n>=3
412
Set Aircraft State to "POI"
413
OSD Status "Rocmmendation : Drop Drop Pod (Cam)"
414

FIG. 4A

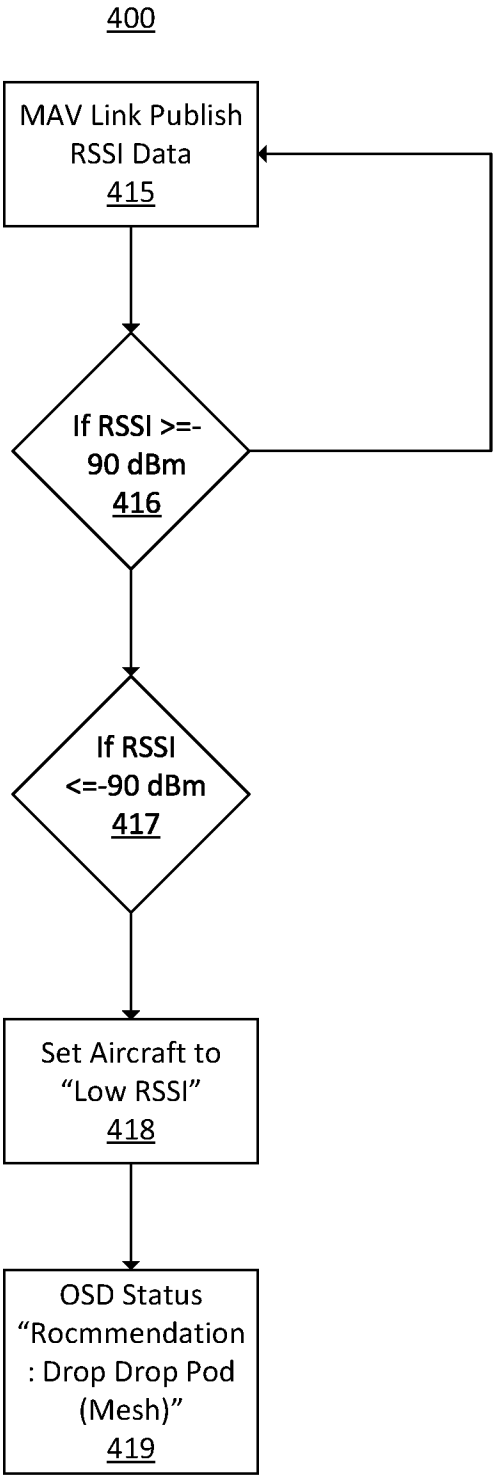

400
MAV Link Publish RSSI Data 415
If RSSI >=-90 dBm 416
If RSSI <=-90 dBm 417
Set Aircraft to "Low RSSI" 418
OSD Status "Rocmmendation : Drop Drop Pod (Mesh)" 419

FIG. 4B

500

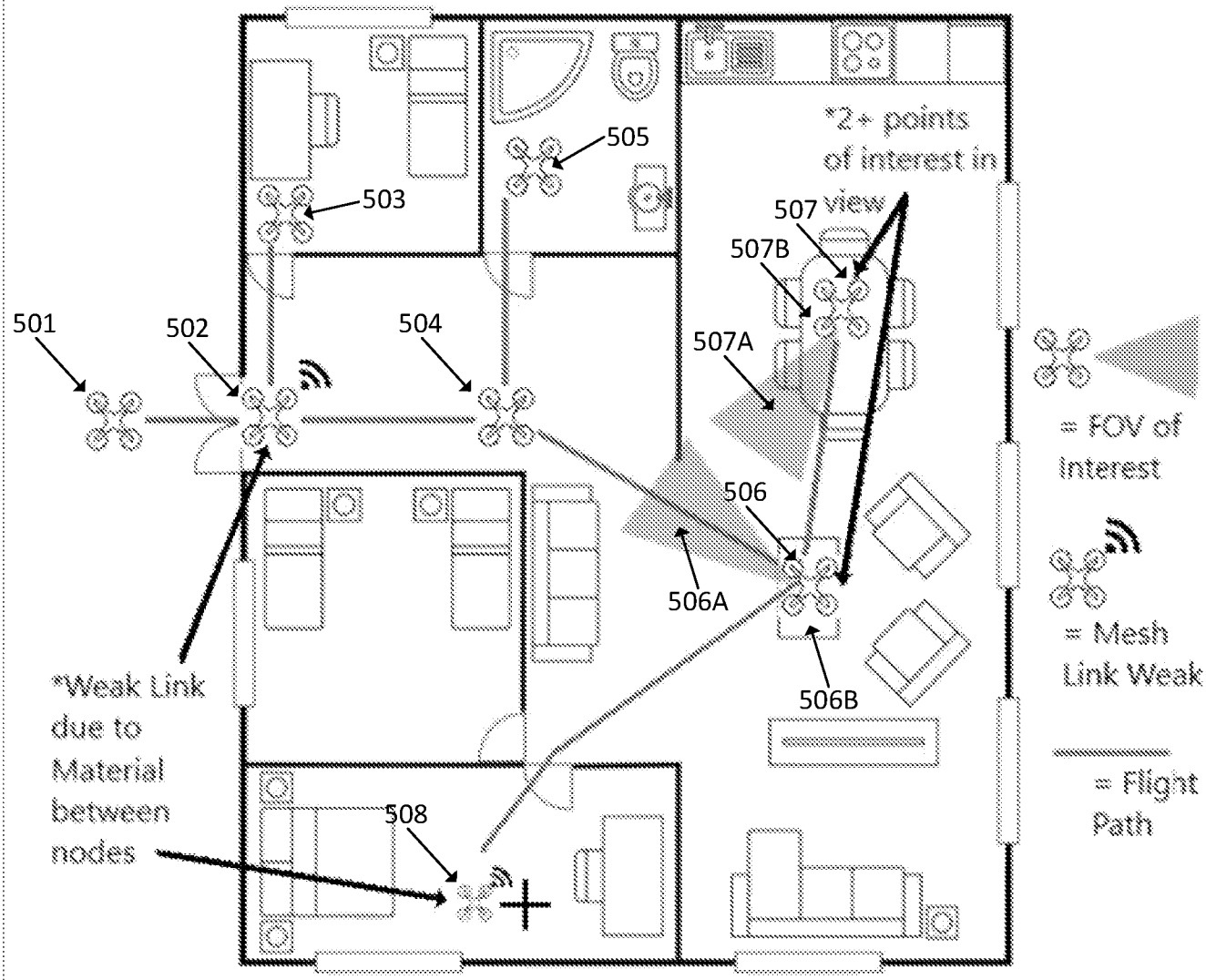

*2+ points of interest in view
505
503
507
507B
501
502
504
507A
= FOV of Interest
506
506A
= Mesh Link Weak
*Weak Link due to Material between nodes
506B
508
= Flight Path

FIG. 5

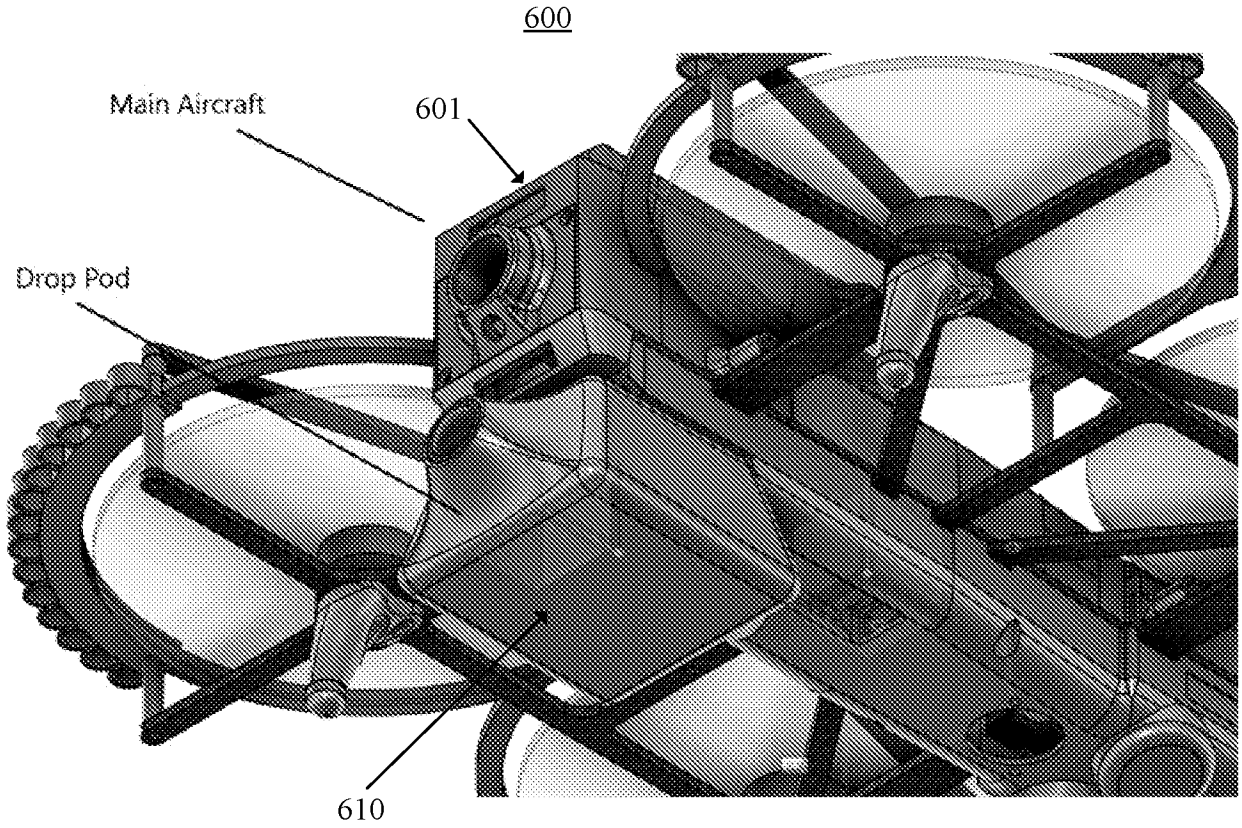

600
Main Aircraft
601
Drop Pod
610

FIG. 6A

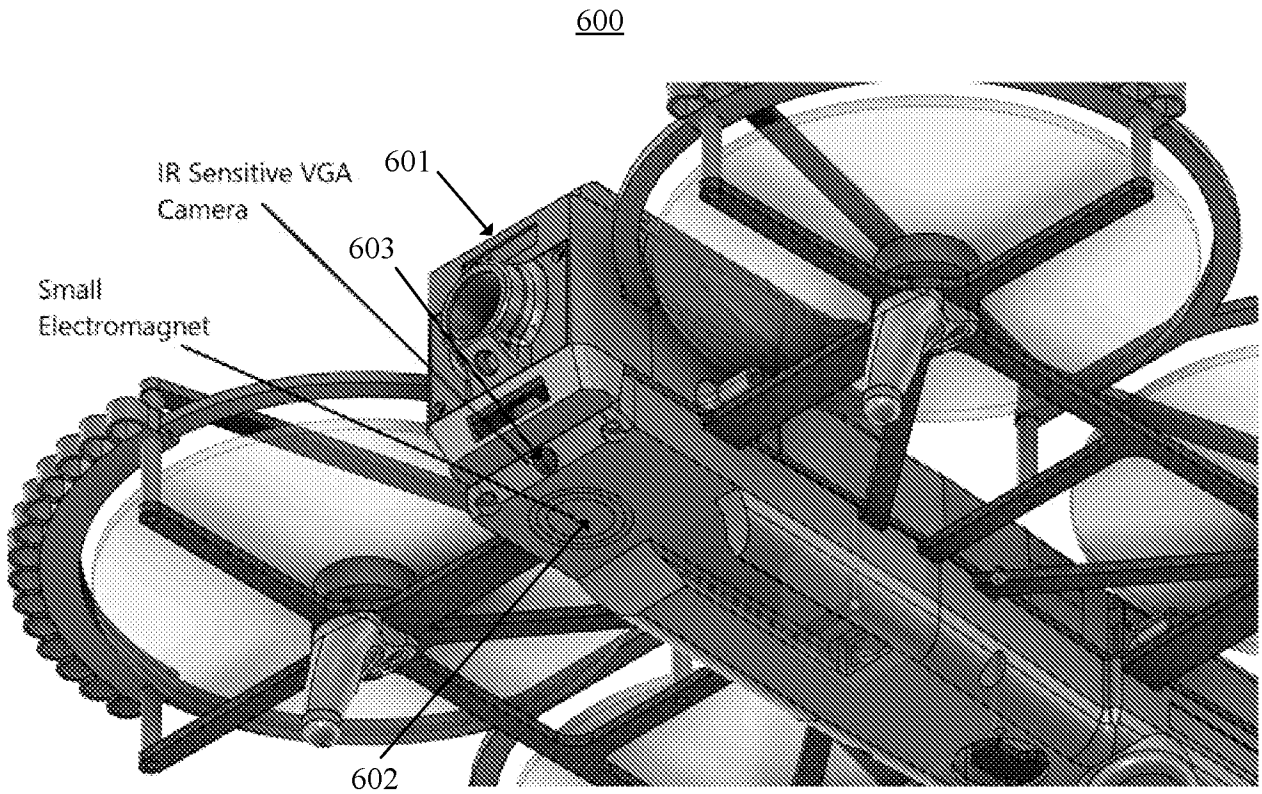

600
IR Sensitive VGA Camera
601
603
Small Electromagnet
602

FIG. 6B

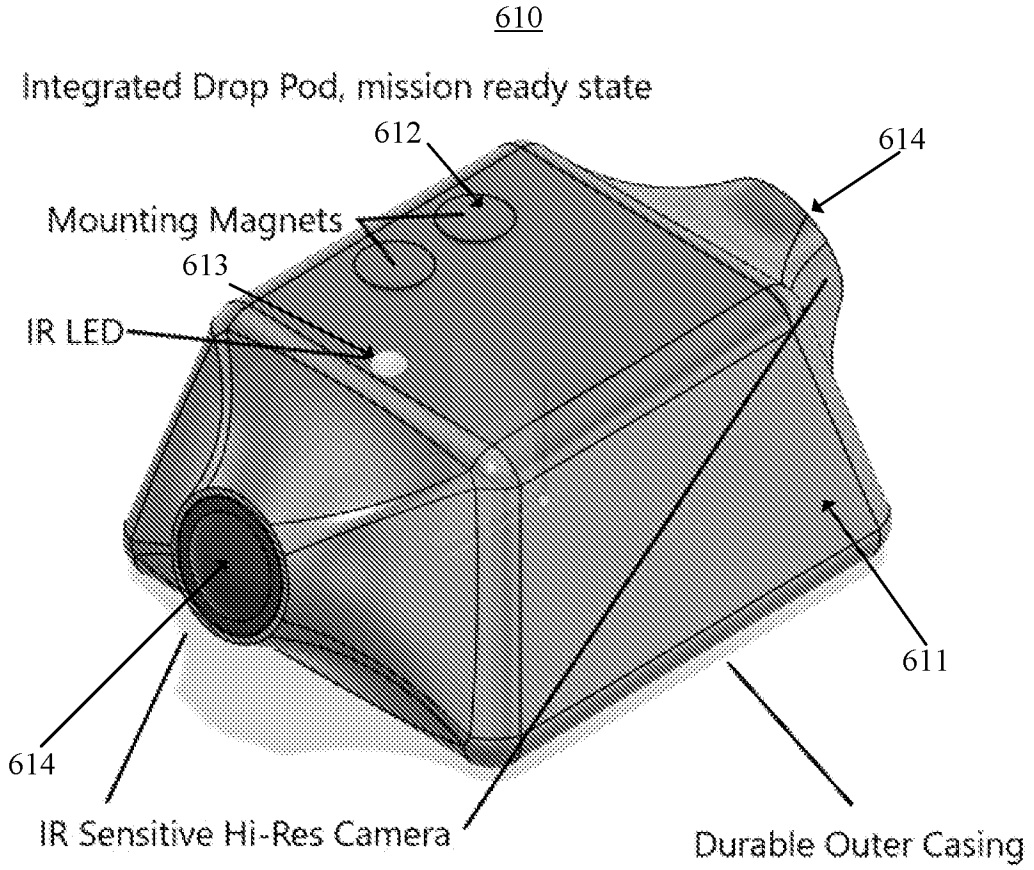


FIG. 6C

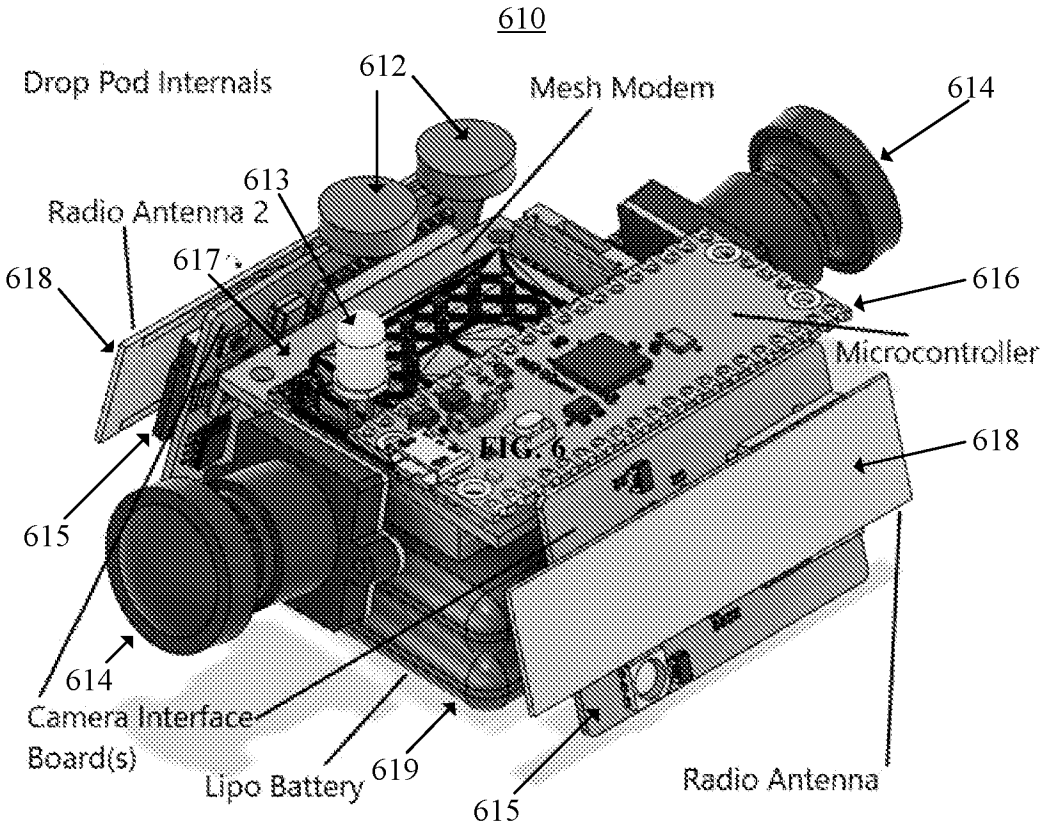


FIG. 6

FIG. 6BD

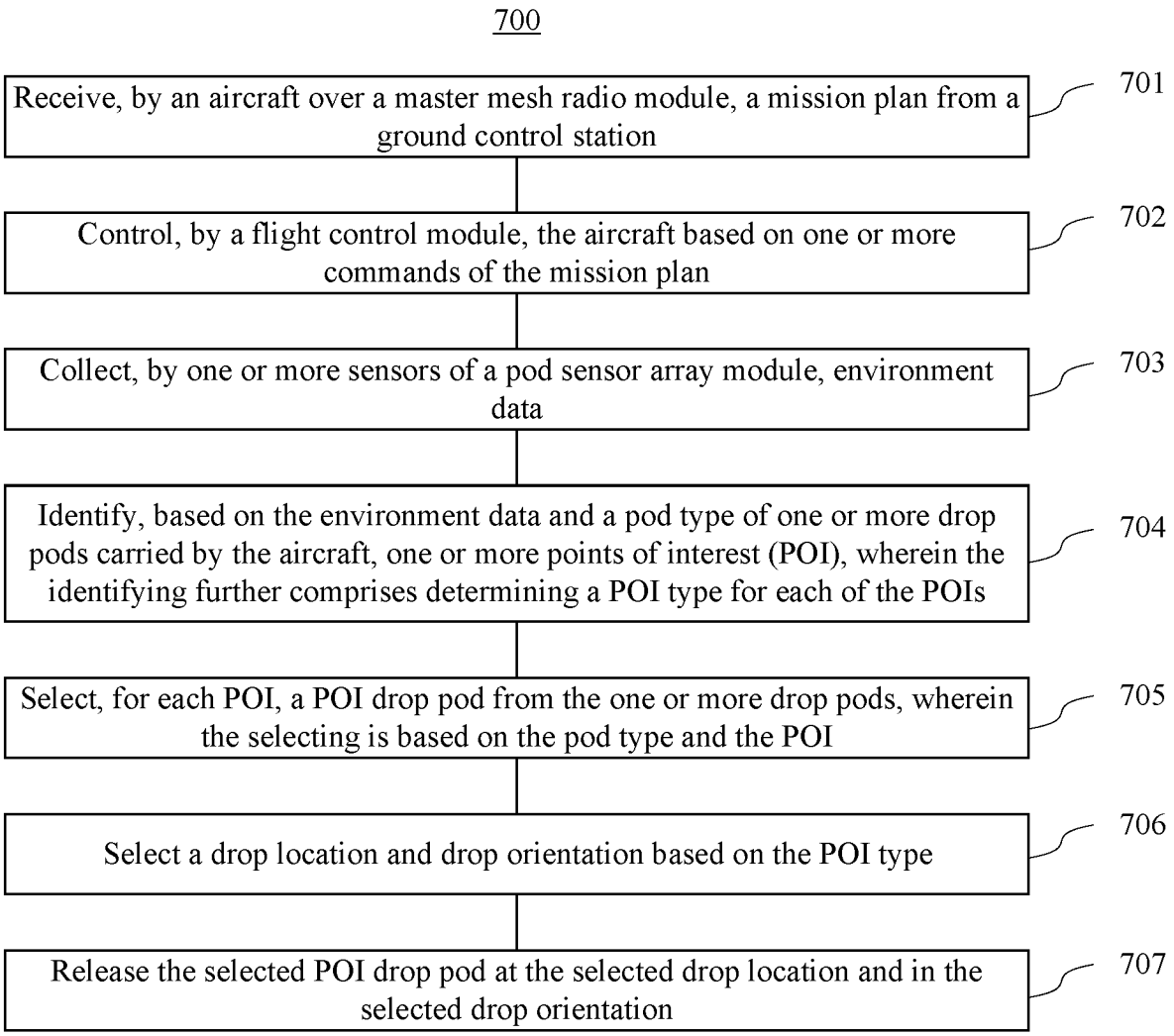

700
Receive, by an aircraft over a master mesh radio module, a mission plan from a ground control station
701
Control, by a flight control module, the aircraft based on one or more commands of the mission plan
702
Collect, by one or more sensors of a pod sensor array module, environment data
703
Identify, based on the environment data and a pod type of one or more drop pods carried by the aircraft, one or more points of interest (POI), wherein the identifying further comprises determining a POI type for each of the POIs
704
Select, for each POI, a POI drop pod from the one or more drop pods, wherein the selecting is based on the pod type and the POI
705
Select a drop location and drop orientation based on the POI type
706
Release the selected POI drop pod at the selected drop location and in the selected drop orientation
707

FIG. 7

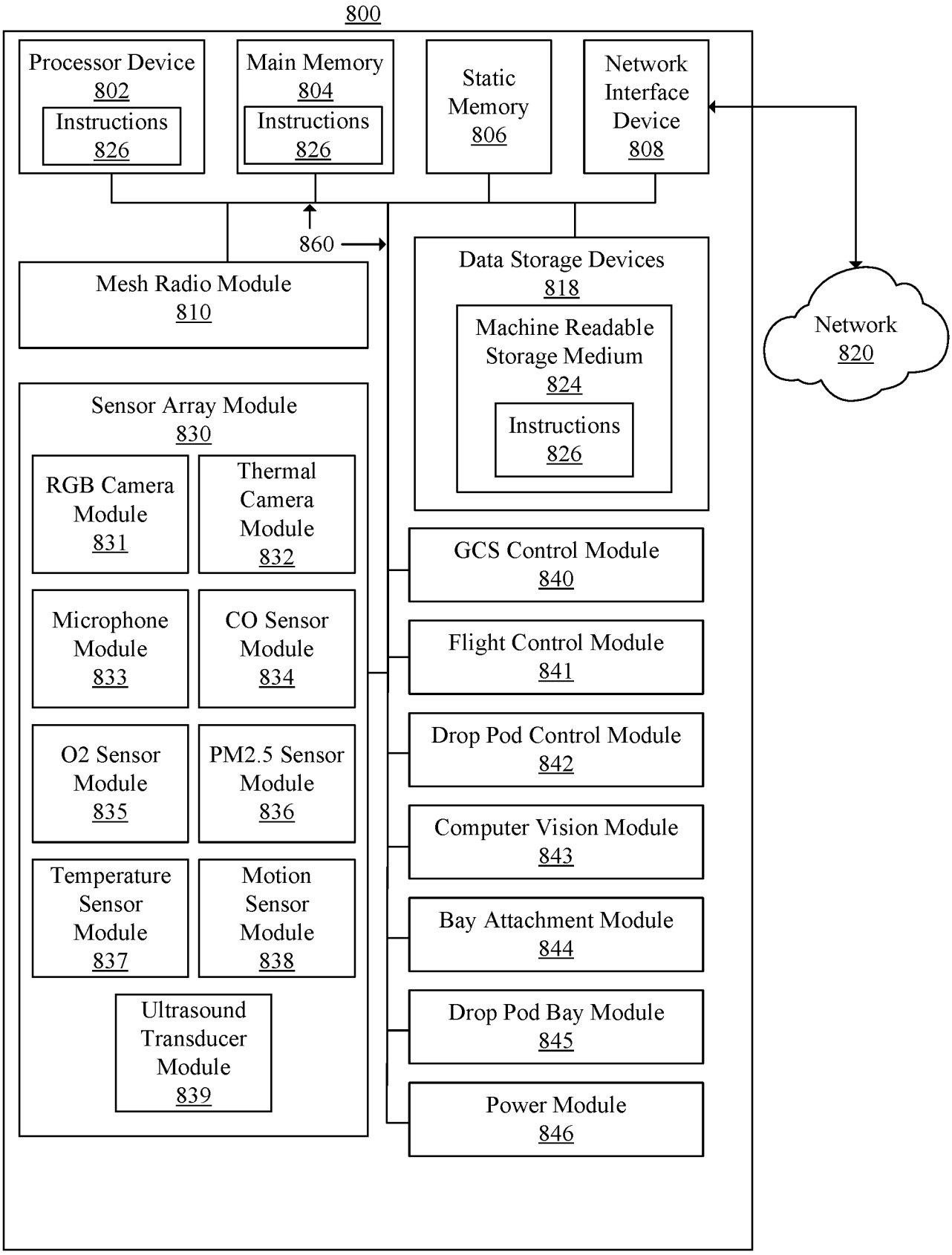

800
Processor Device
802
Instructions
826
Main Memory
804
Instructions
826
Static Memory
806
Network Interface Device
808
860
Mesh Radio Module
810
Data Storage Devices
818
Machine Readable Storage Medium
824
Instructions
826
Network
820
Sensor Array Module
830
RGB Camera Module
831
Thermal Camera Module
832
Microphone Module
833
CO Sensor Module
834
O2 Sensor Module
835
PM2.5 Sensor Module
836
Temperature Sensor Module
837
Motion Sensor Module
838
Ultrasound Transducer Module
839
GCS Control Module
840
Flight Control Module
841
Drop Pod Control Module
842
Computer Vision Module
843
Bay Attachment Module
844
Drop Pod Bay Module
845
Power Module
846

FIG. 8