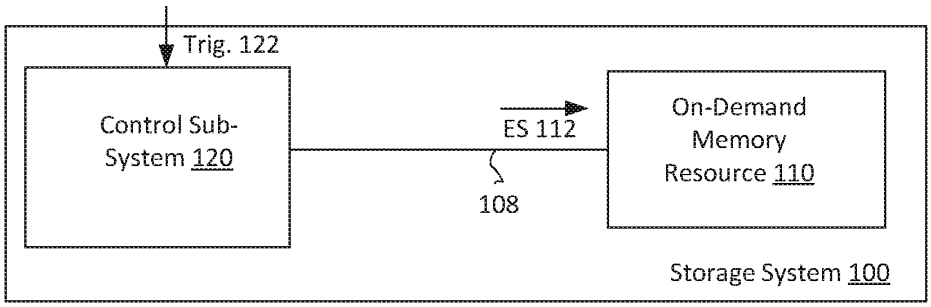

Trig. 122
Control Sub-System 120
ES 112
108
On-Demand Memory Resource 110
Storage System 100

FIG. 1

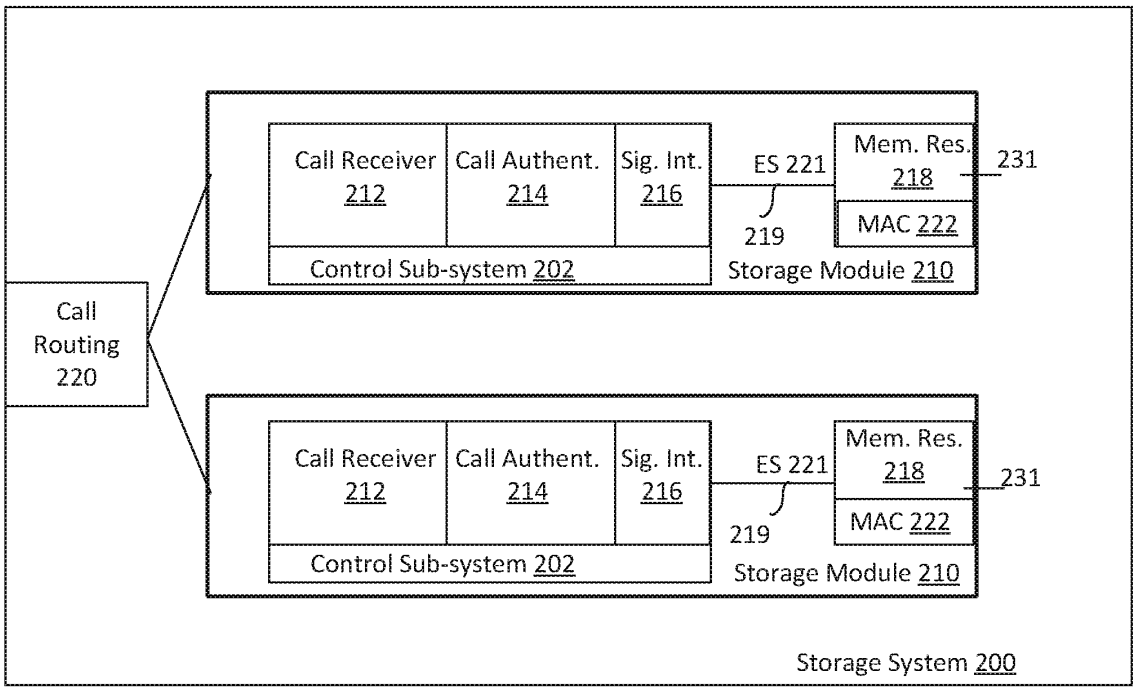

Call Routing 220
Call Receiver 212
Call Authent. 214
Sig. Int. 216
ES 221
219
Mem. Res. 218
231
MAC 222
Control Sub-system 202
Storage Module 210
Call Receiver 212
Call Authent. 214
Sig. Int. 216
ES 221
219
Mem. Res. 218
231
MAC 222
Control Sub-system 202
Storage Module 210
Storage System 200

FIG. 2A

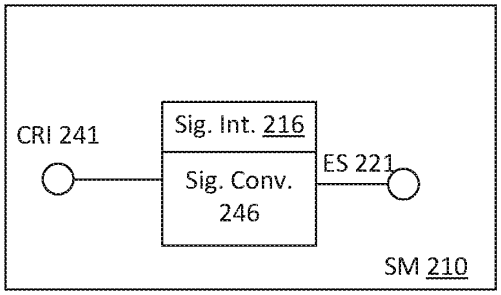


FIG. 2B

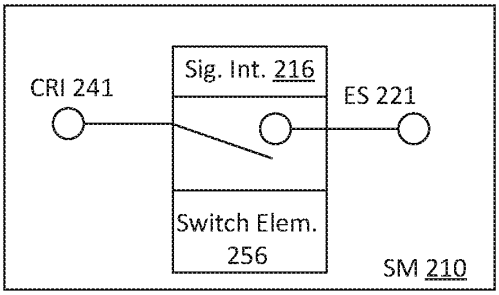


FIG. 2C

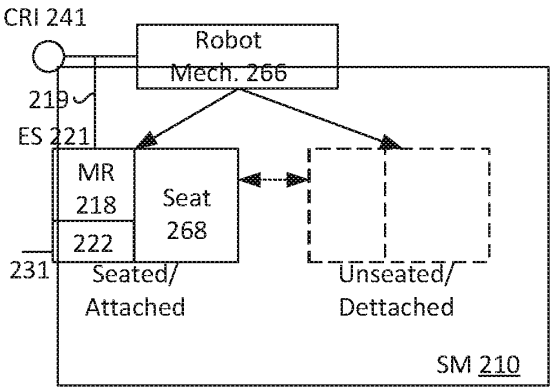


FIG. 2D

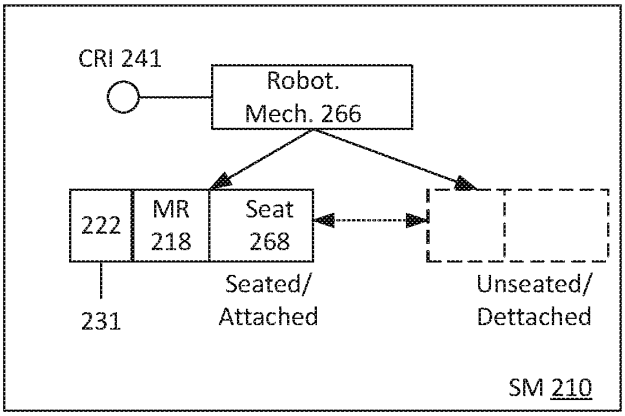


FIG. 2E

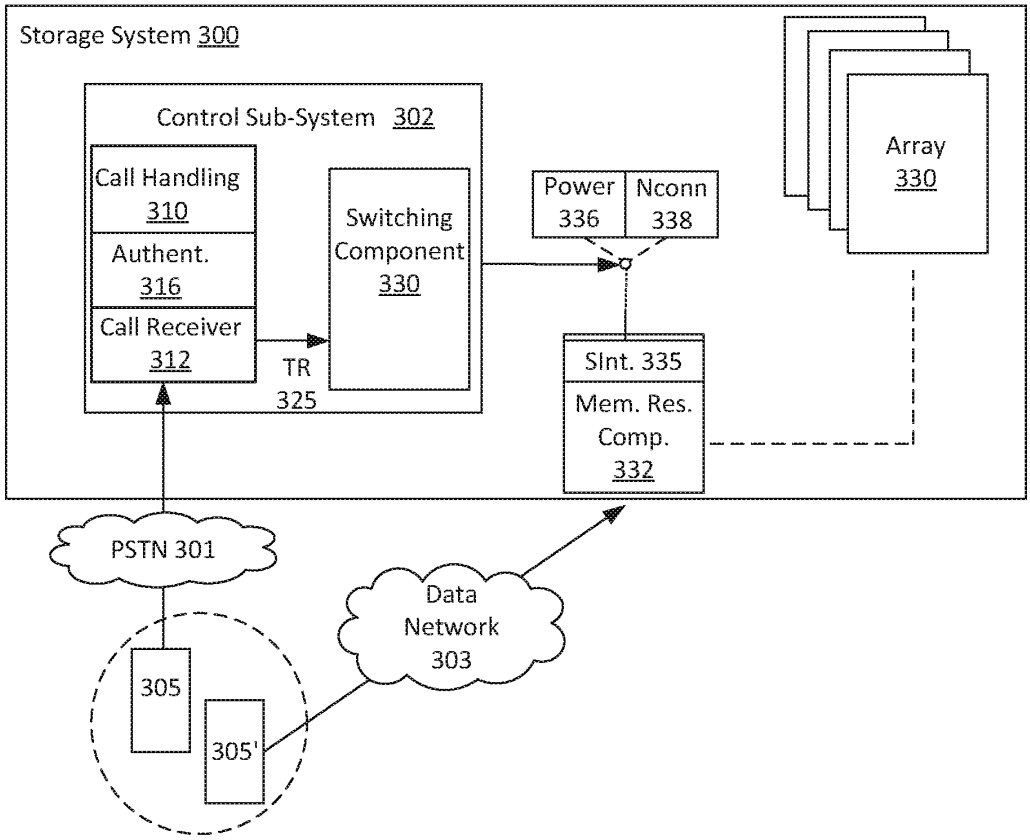

Storage System 300
Control Sub-System 302
Call Handling 310
Authent. 316
Call Receiver 312
TR 325
Switching Component 330
Power 336
Nconn 338
Array 330
SInt. 335
Mem. Res. Comp. 332
PSTN 301
Data Network 303
305
305'

FIG. 3

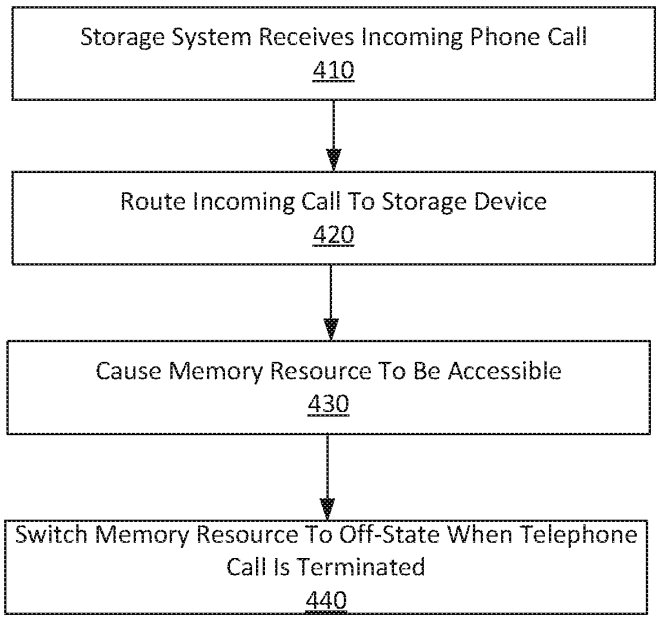

Storage System Receives Incoming Phone Call
410
Route Incoming Call To Storage Device
420
Cause Memory Resource To Be Accessible
430
Switch Memory Resource To Off-State When Telephone Call Is Terminated
440

FIG. 4

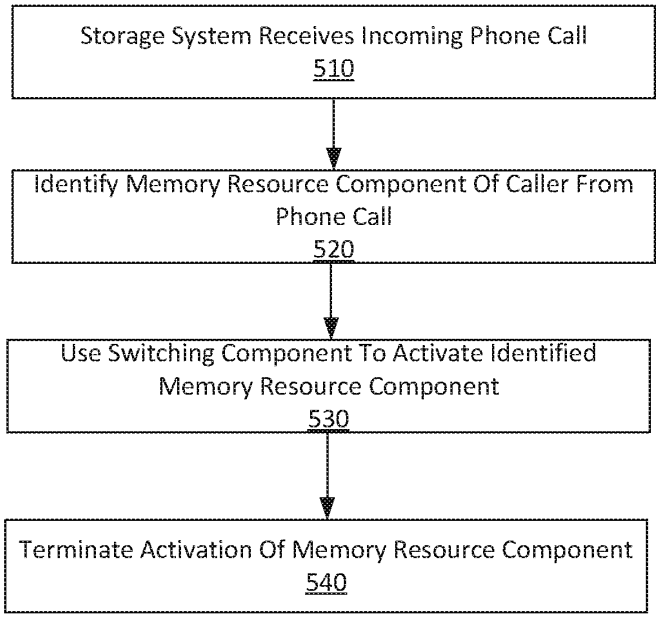

Storage System Receives Incoming Phone Call
510
Identify Memory Resource Component Of Caller From Phone Call
520
Use Switching Component To Activate Identified Memory Resource Component
530
Terminate Activation Of Memory Resource Component
540

FIG. 5

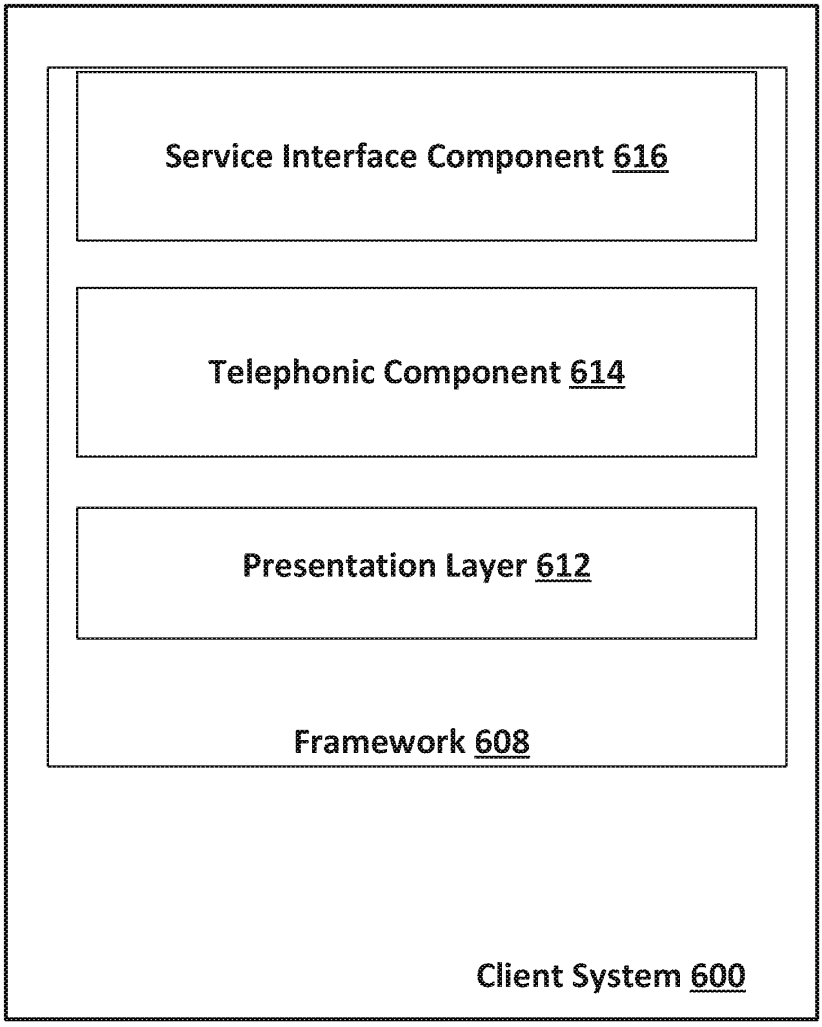

Service Interface Component 616
Telephonic Component 614
Presentation Layer 612
Framework 608
Client System 600

FIG. 6

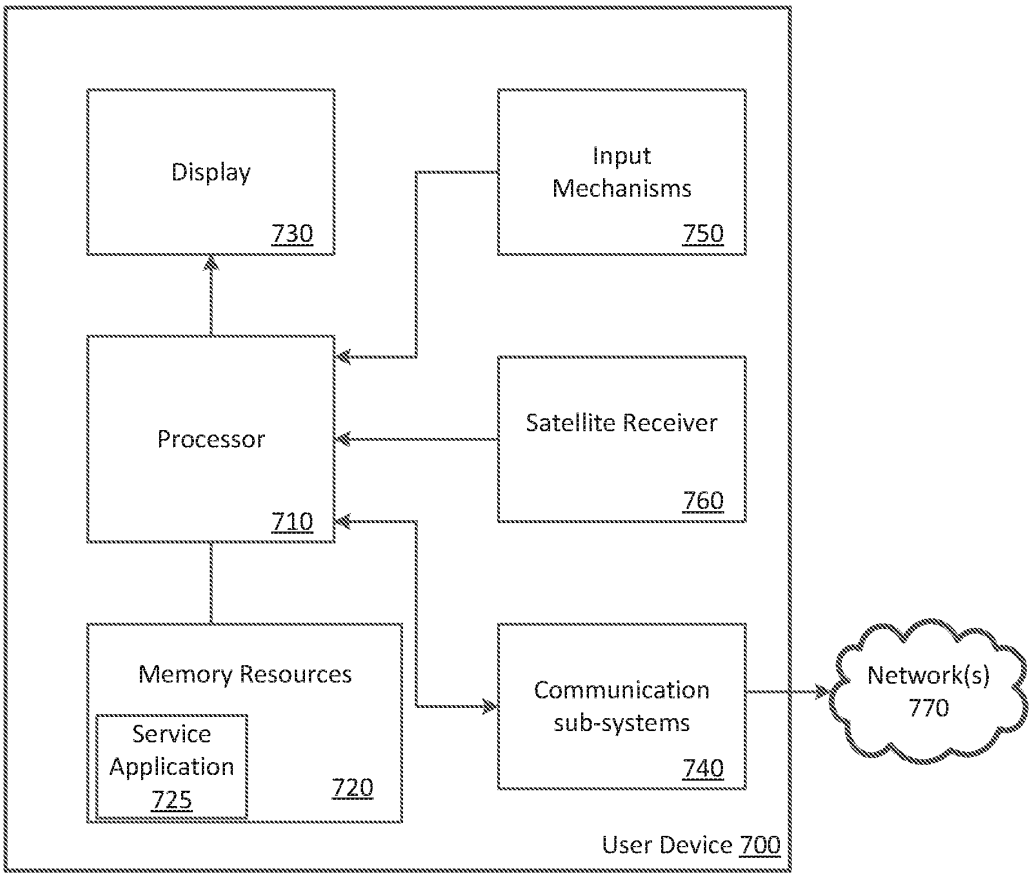

Display
730
Input
Mechanisms
750
Processor
710
Satellite Receiver
760
Memory Resources
Service
Application
725
720
Communication
sub-systems
740
Network(s)
770
User Device 700

FIG. 7

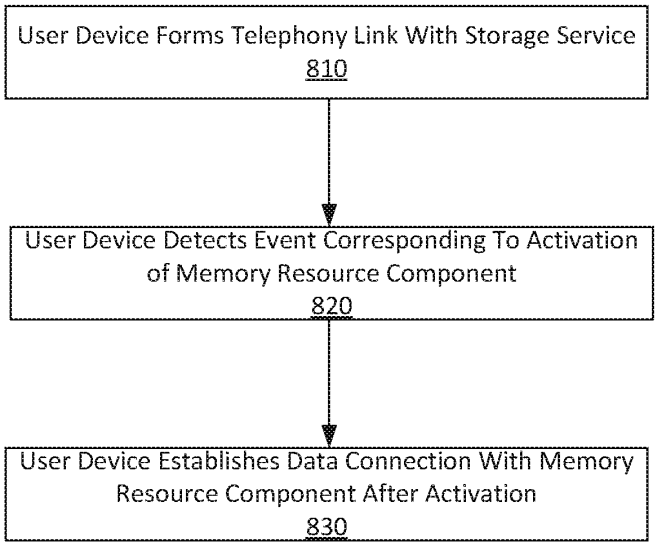

User Device Forms Telephony Link With Storage Service
810
User Device Detects Event Corresponding To Activation of Memory Resource Component
820
User Device Establishes Data Connection With Memory Resource Component After Activation
830

FIG. 8

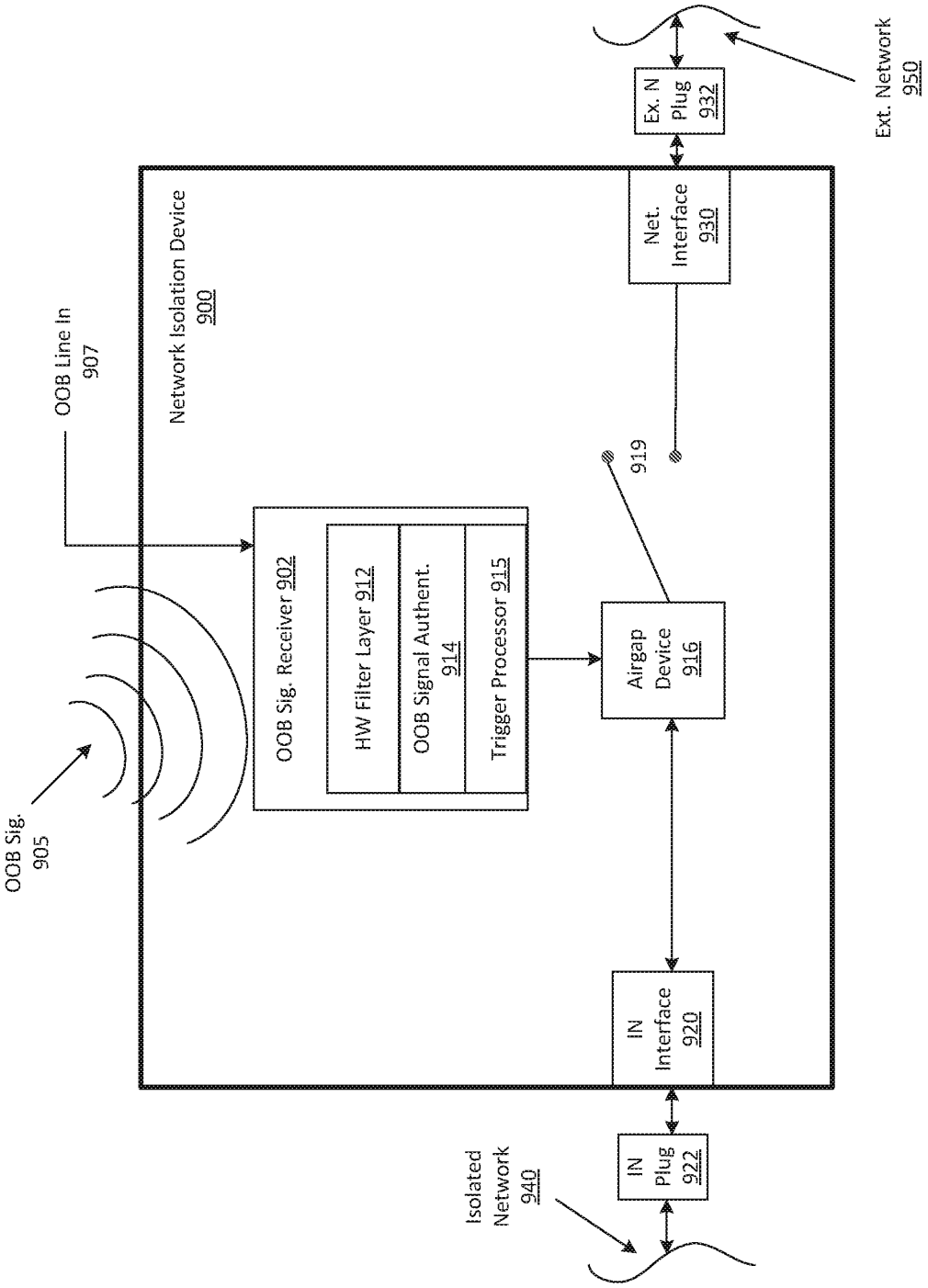

OOB Sig.
905
OOB Line In
907
Network Isolation Device
900
OOB Sig. Receiver 902
HW Filter Layer 912
OOB Signal Authent.
914
Trigger Processor 915
919
Airgap
Device
916
Net.
Interface
930
Ex. N
Plug
932
Ext. Network
950
IN
Interface
920
IN
Plug
922
Isolated
Network
940

FIG. 9

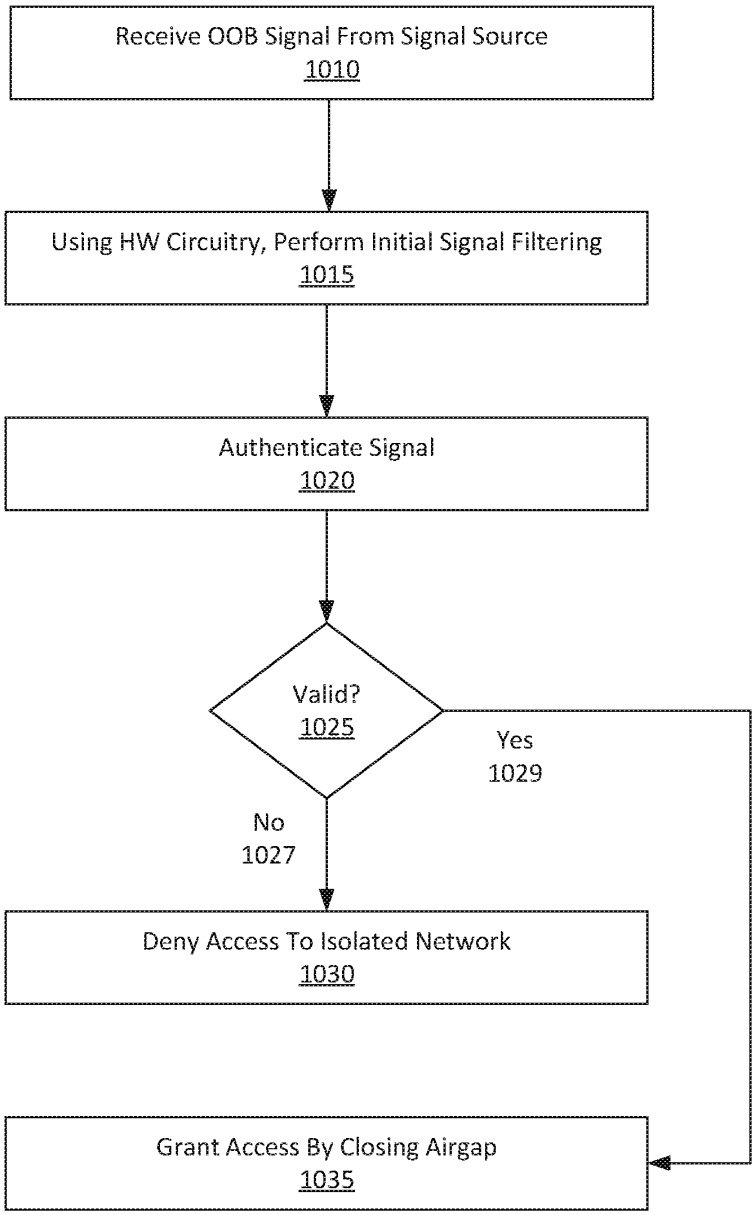

Receive OOB Signal From Signal Source
1010
Using HW Circuitry, Perform Initial Signal Filtering
1015
Authenticate Signal
1020
Valid?
1025
Yes
1029
No
1027
Deny Access To Isolated Network
1030
Grant Access By Closing Airgap
1035

FIG. 10

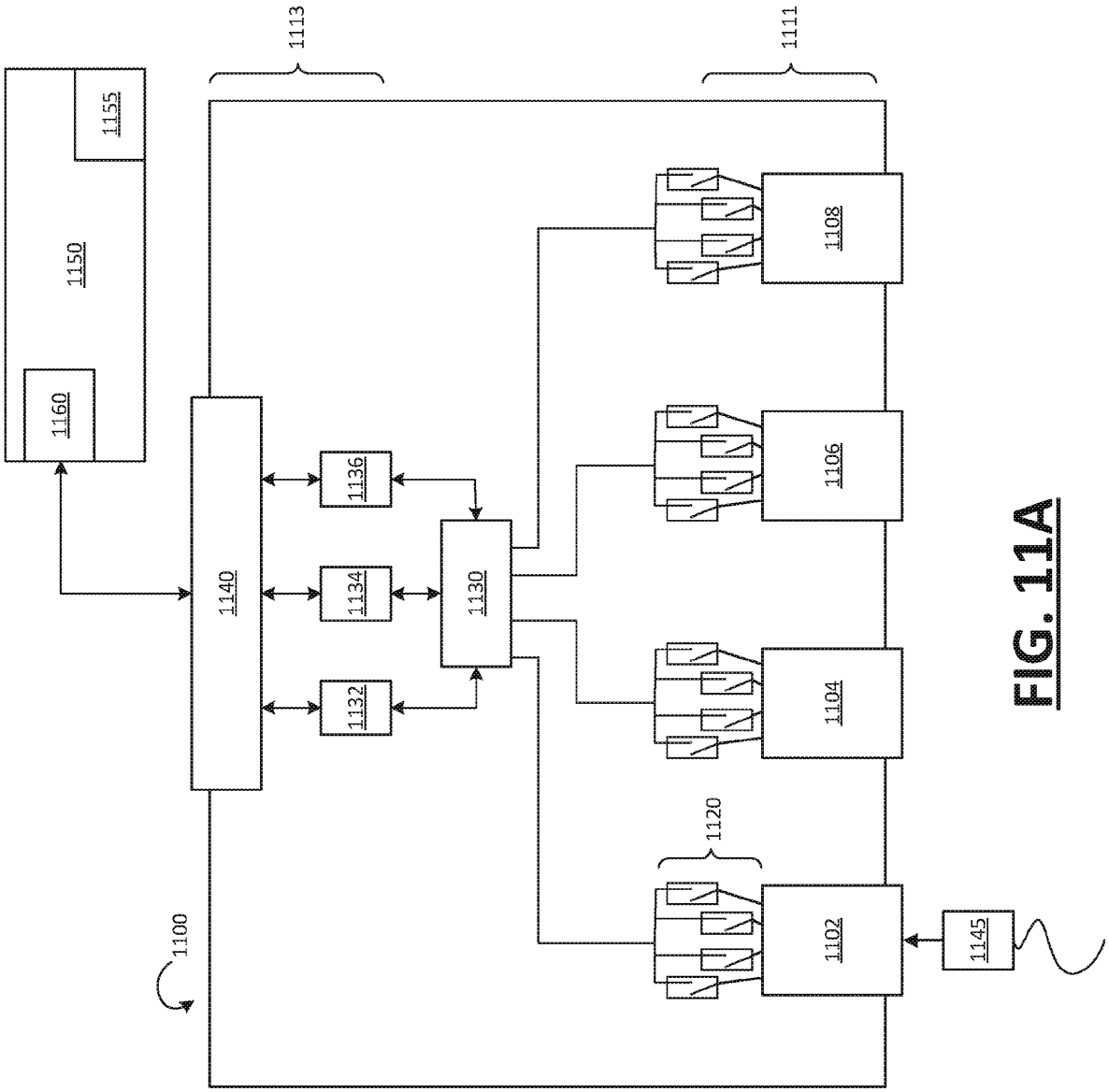

1113
1111
1155
1150
1160
1140
1136
1134
1132
1130
1108
1106
1104
1120
1102
1145
1100

FIG. 11A

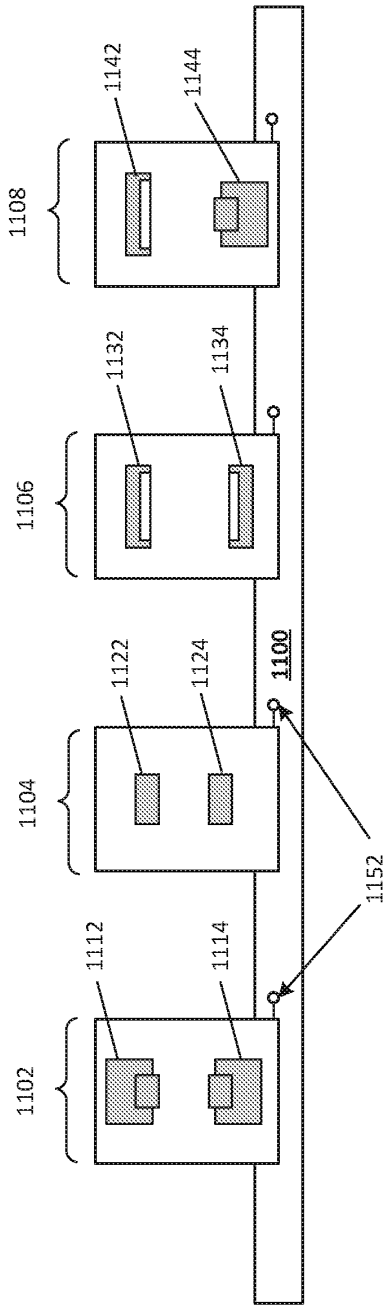

1142
1144
1108
1132
1134
1106
1122
1124
1100
1104
1152
1112
1114
1102

FIG. 11B

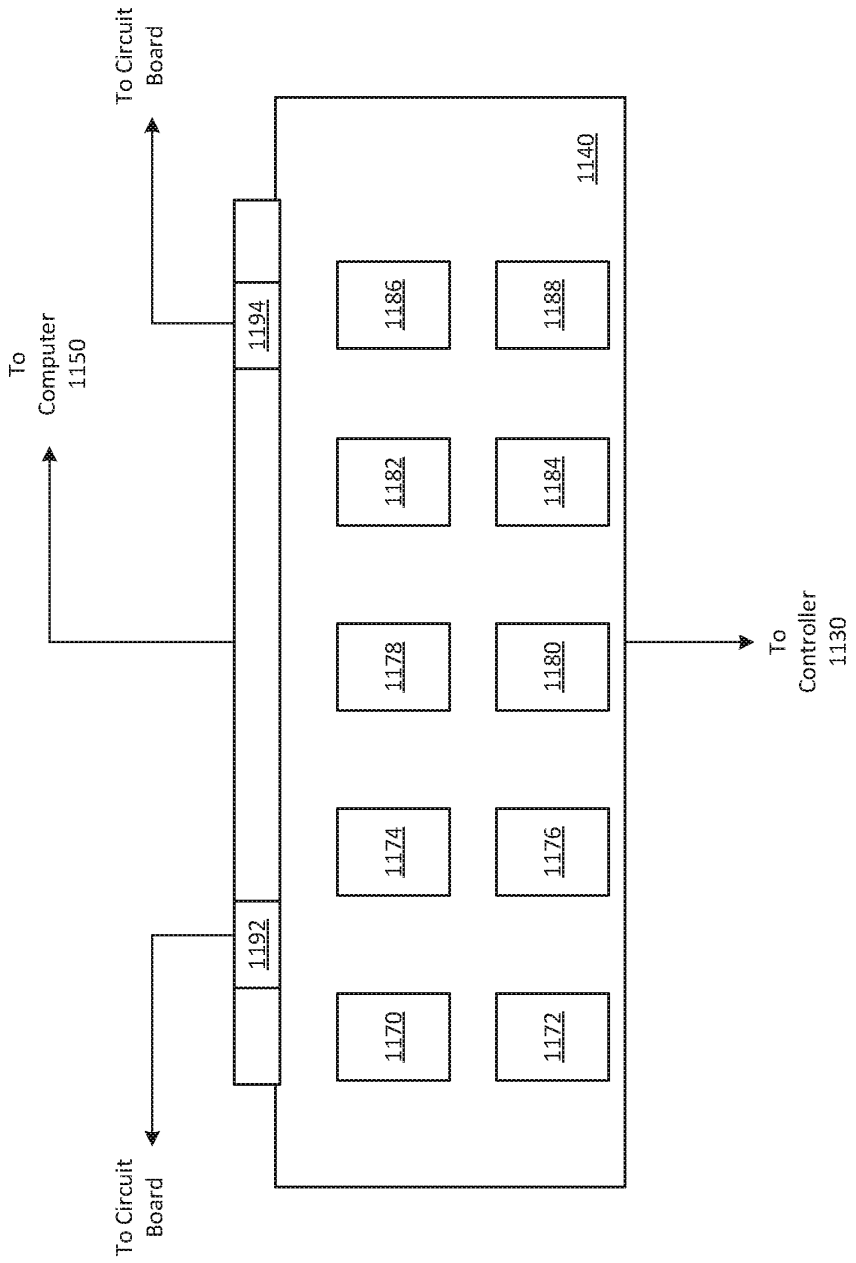

To Circuit Board
To Computer 1150
1194
1140
1186
1188
1182
1184
1178
1180
1174
1176
1170
1172
1192
To Controller 1130
To Circuit Board

FIG. 11C

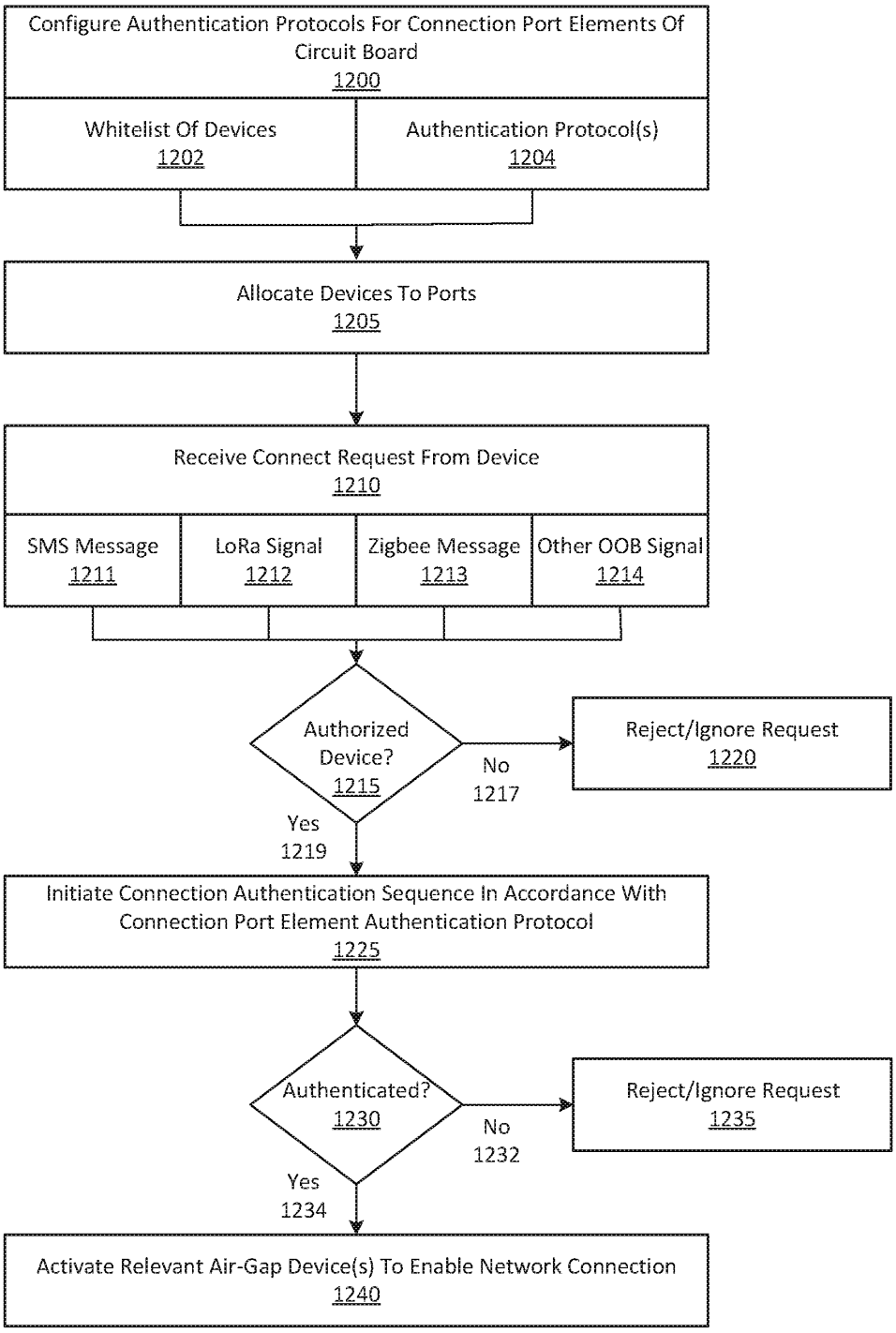

Configure Authentication Protocols For Connection Port Elements Of Circuit Board
1200
Whitelist Of Devices
1202
Authentication Protocol(s)
1204
Allocate Devices To Ports
1205
Receive Connect Request From Device
1210
SMS Message
1211
LoRa Signal
1212
Zigbee Message
1213
Other OOB Signal
1214
Authorized Device?
1215
No
1217
Reject/Ignore Request
1220
Yes
1219
Initiate Connection Authentication Sequence In Accordance With Connection Port Element Authentication Protocol
1225
Authenticated?
1230
No
1232
Reject/Ignore Request
1235
Yes
1234
Activate Relevant Air-Gap Device(s) To Enable Network Connection
1240

FIG. 12

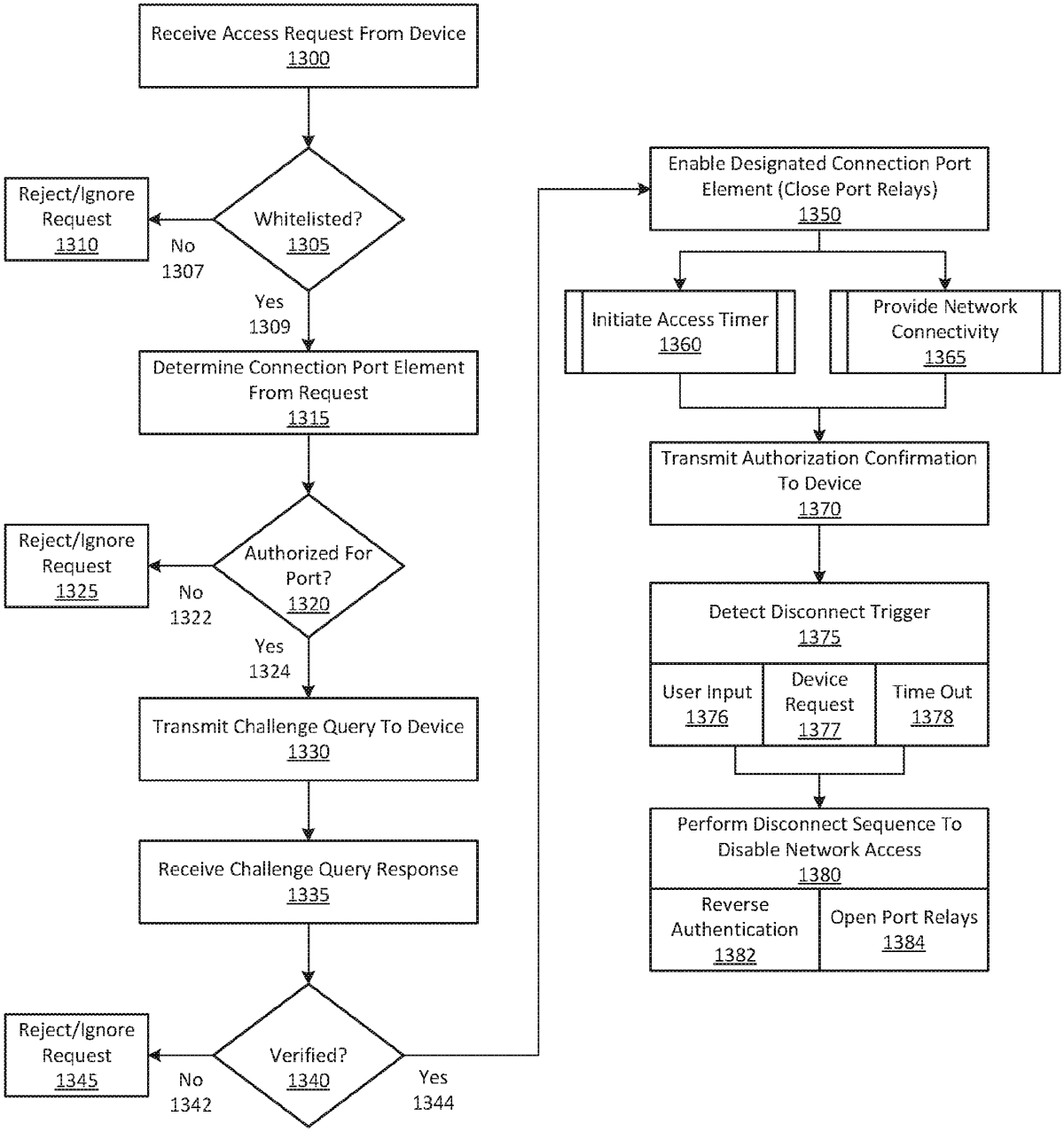

Receive Access Request From Device
1300
Whitelisted?
1305
Reject/Ignore Request
1310
No
1307
Yes
1309
Determine Connection Port Element From Request
1315
Authorized For Port?
1320
Reject/Ignore Request
1325
No
1322
Yes
1324
Transmit Challenge Query To Device
1330
Receive Challenge Query Response
1335
Verified?
1340
Reject/Ignore Request
1345
No
1342
Yes
1344
Enable Designated Connection Port Element (Close Port Relays)
1350
Initiate Access Timer
1360
Provide Network Connectivity
1365
Transmit Authorization Confirmation To Device
1370
Detect Disconnect Trigger
1375
User Input
1376
Device Request
1377
Time Out
1378
Perform Disconnect Sequence To Disable Network Access
1380
Reverse Authentication
1382
Open Port Relays
1384

FIG. 13