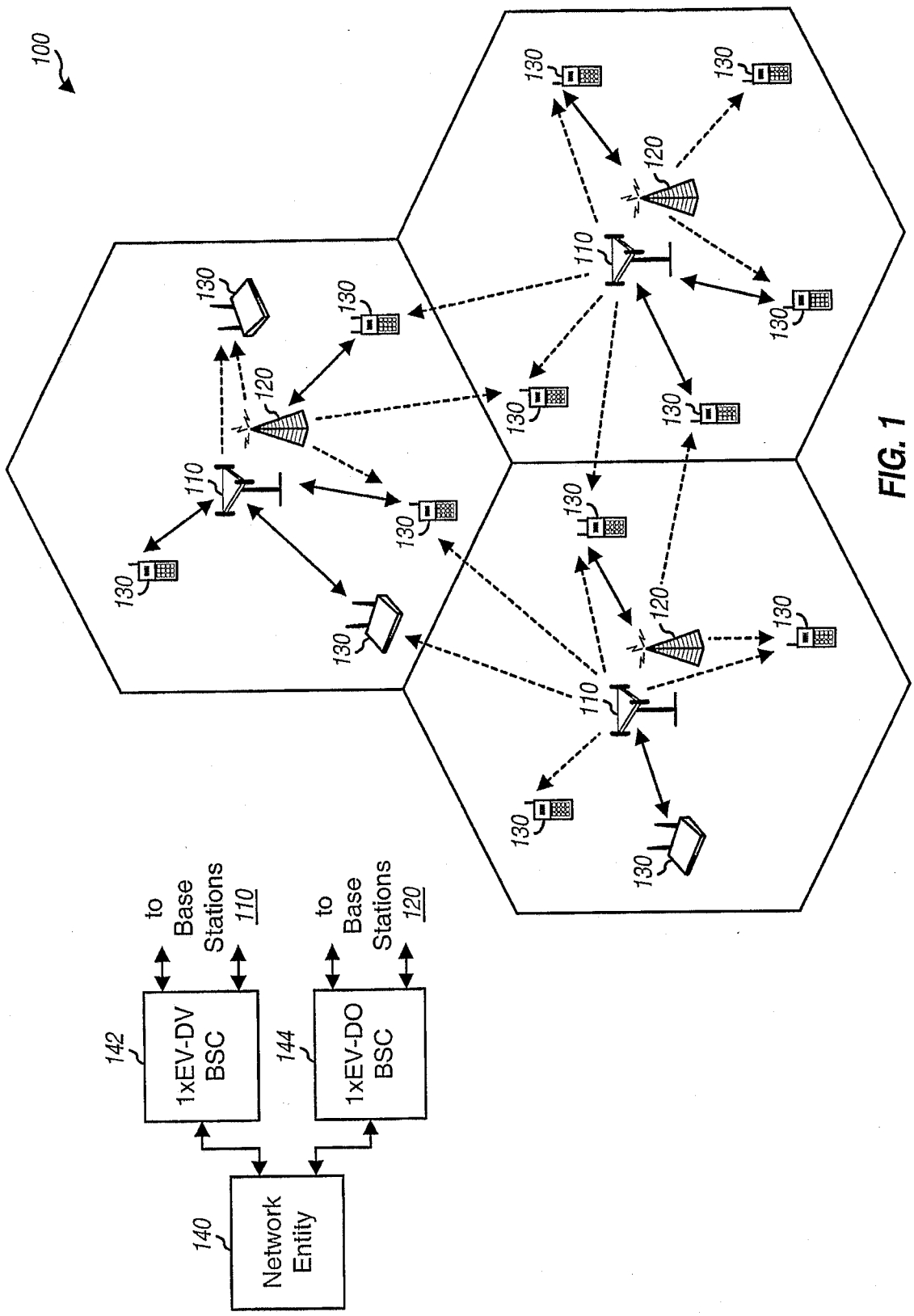

100
110
120
130
140
142
144
1xEV-DV BSC
1xEV-DO BSC
to Base Stations 110
to Base Stations 120
Network Entity

FIG. 1

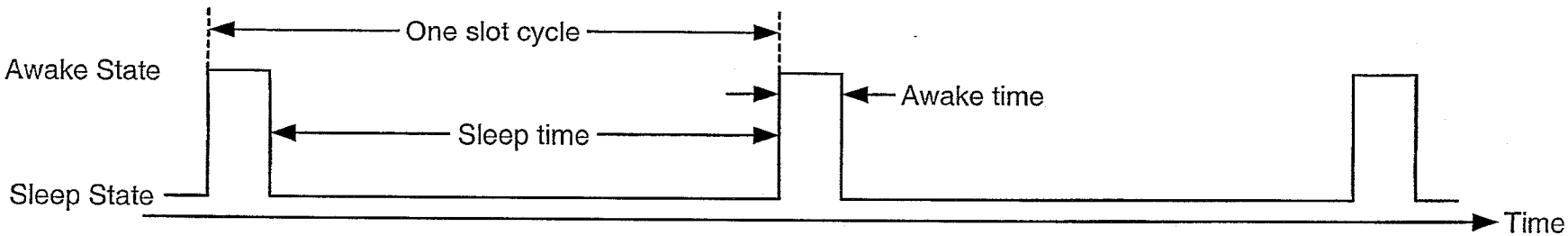

One slot cycle
Awake State
Awake time
Sleep time
Sleep State
Time

FIG. 2



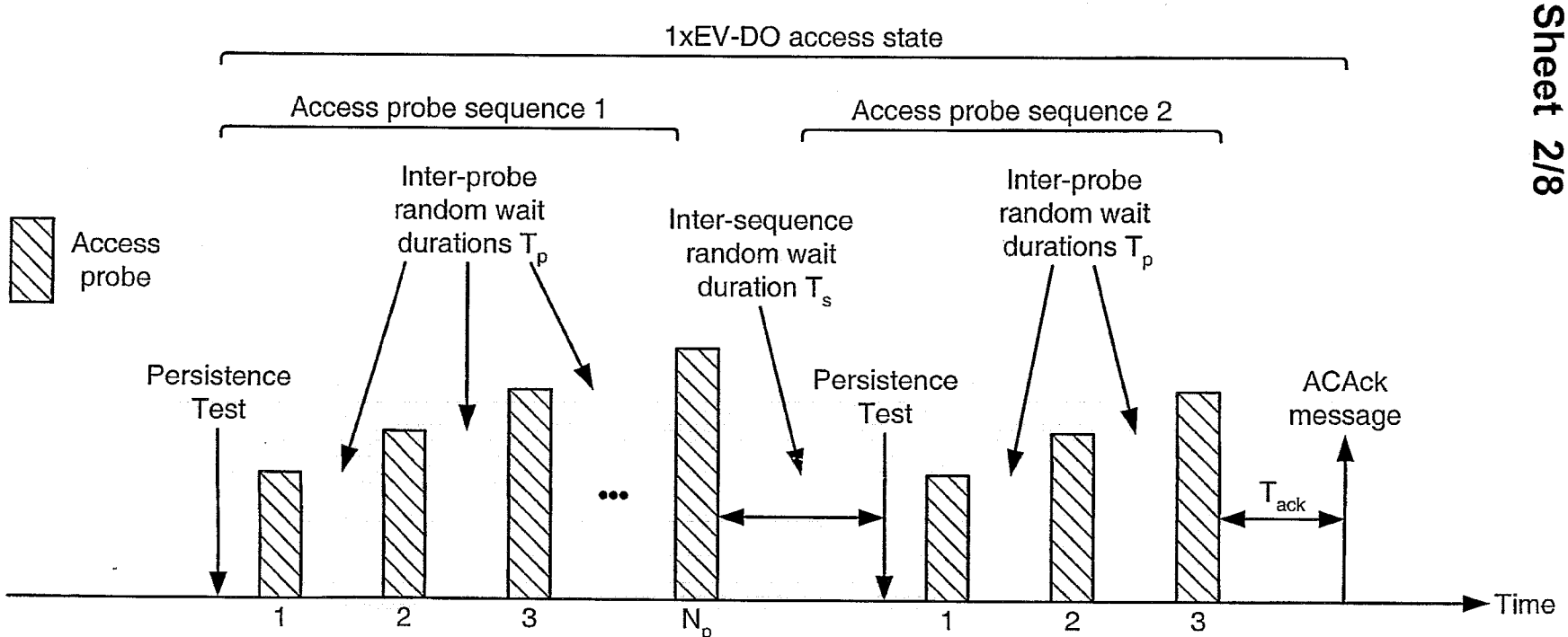

1xEV-DO access state
Access probe sequence 1
Access probe sequence 2
Inter-probe random wait durations $T_p$
Inter-sequence random wait duration $T_s$
Inter-probe random wait durations $T_p$
Access probe
Persistence Test
Persistence Test
ACAck message
$T_{ack}$
1
2
3
$N_p$
1
2
3
Time

FIG. 3

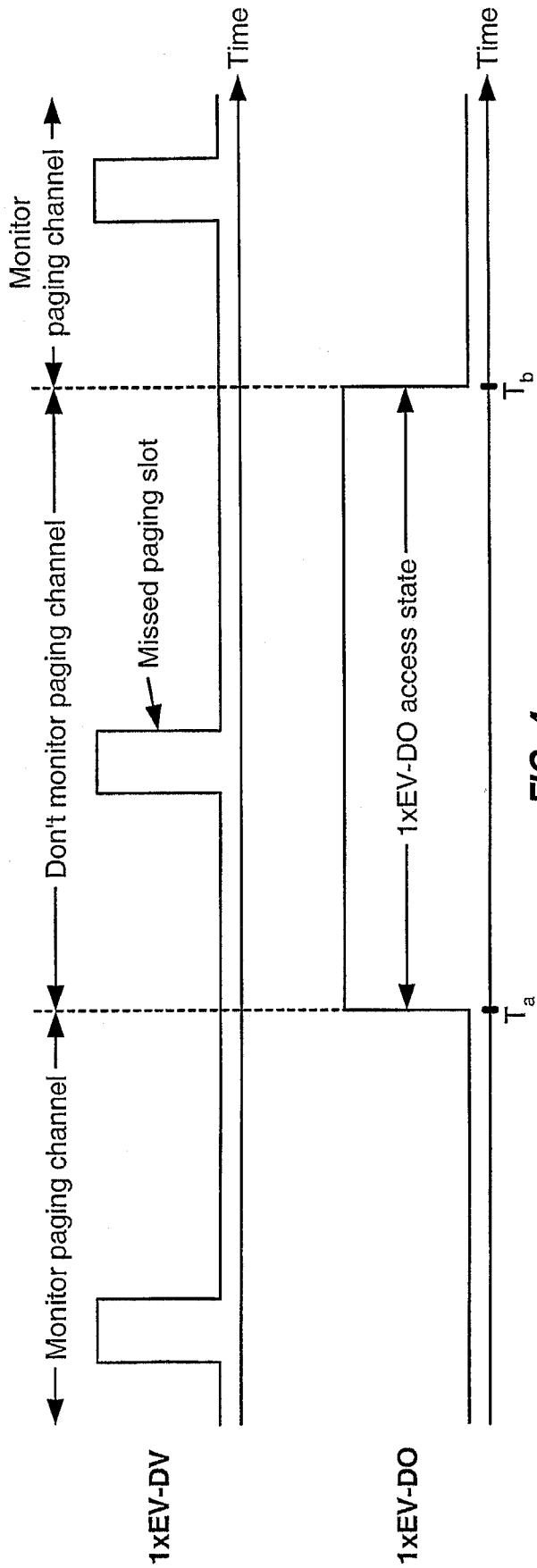

1xEV-DV
1xEV-DO
Time
Time
Monitor paging channel
Don't monitor paging channel
Missed paging slot
1xEV-DO access state
Monitor paging channel
$T_a$
$T_b$

FIG. 4

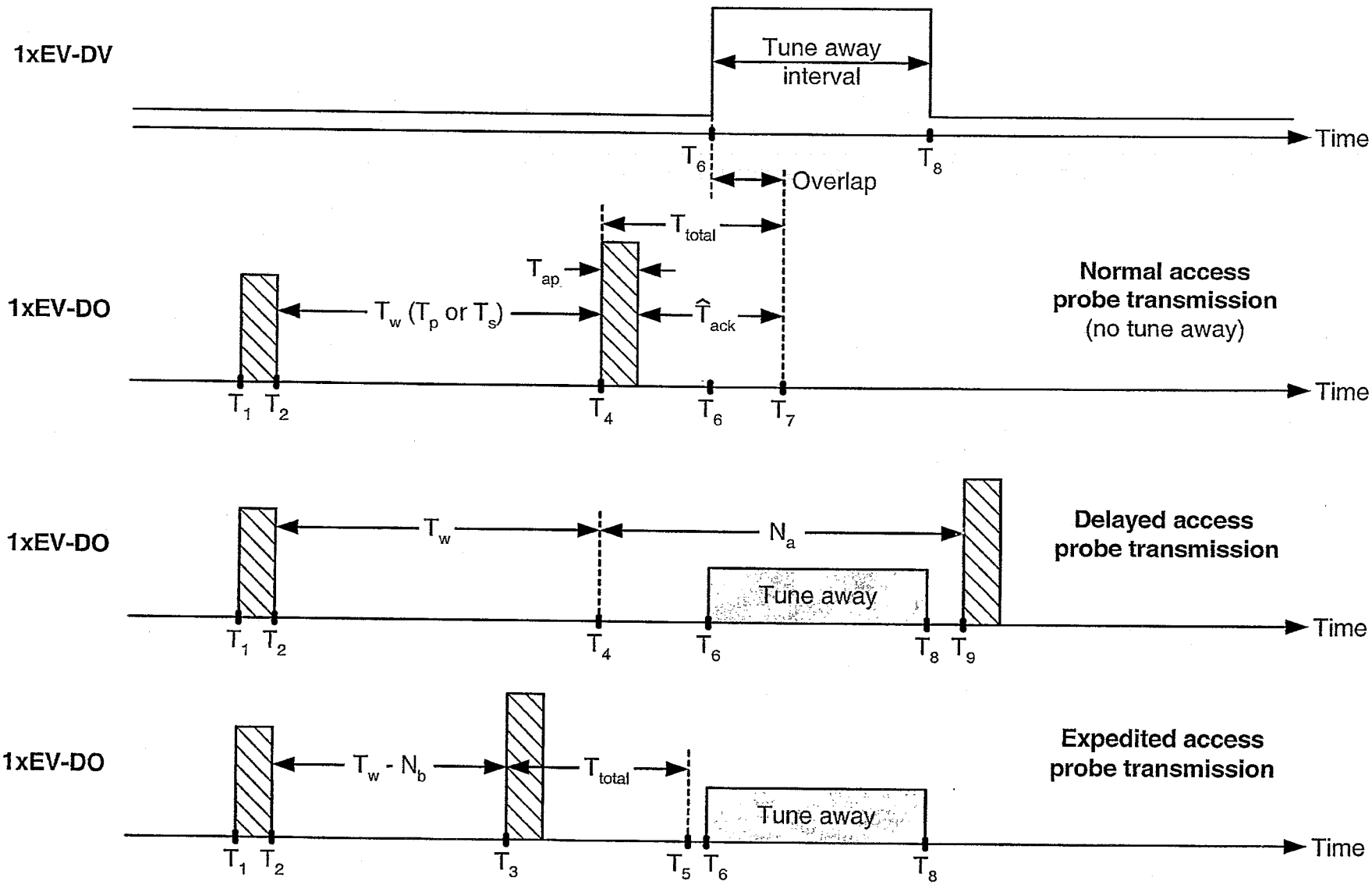



*FIG. 5*

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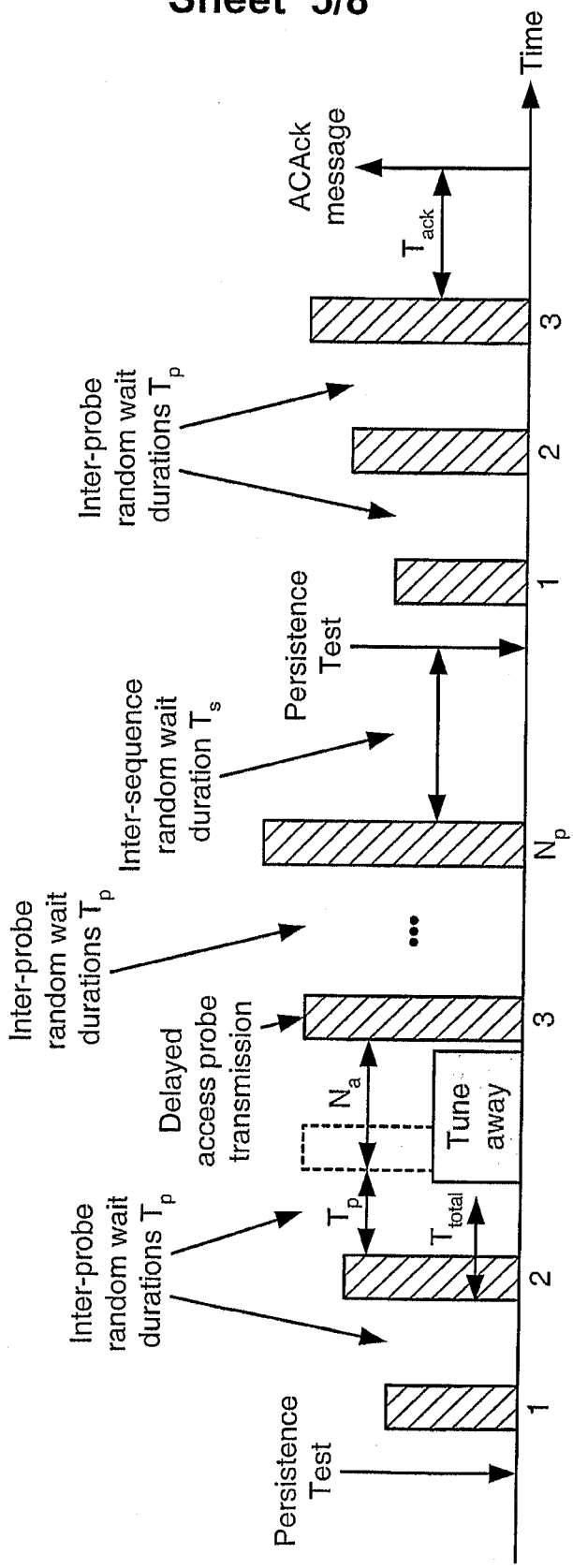

Time
ACAck message
$T_{ack}$
3
2
1
$N_p$
Inter-probe random wait durations $T_p$
Inter-sequence random wait duration $T_s$
Persistence Test
Inter-probe random wait durations $T_p$
Delayed access probe transmission
$N_a$
Tune away
$T_p$
$T_{total}$
Inter-probe random wait durations $T_p$
Persistence Test

FIG. 6

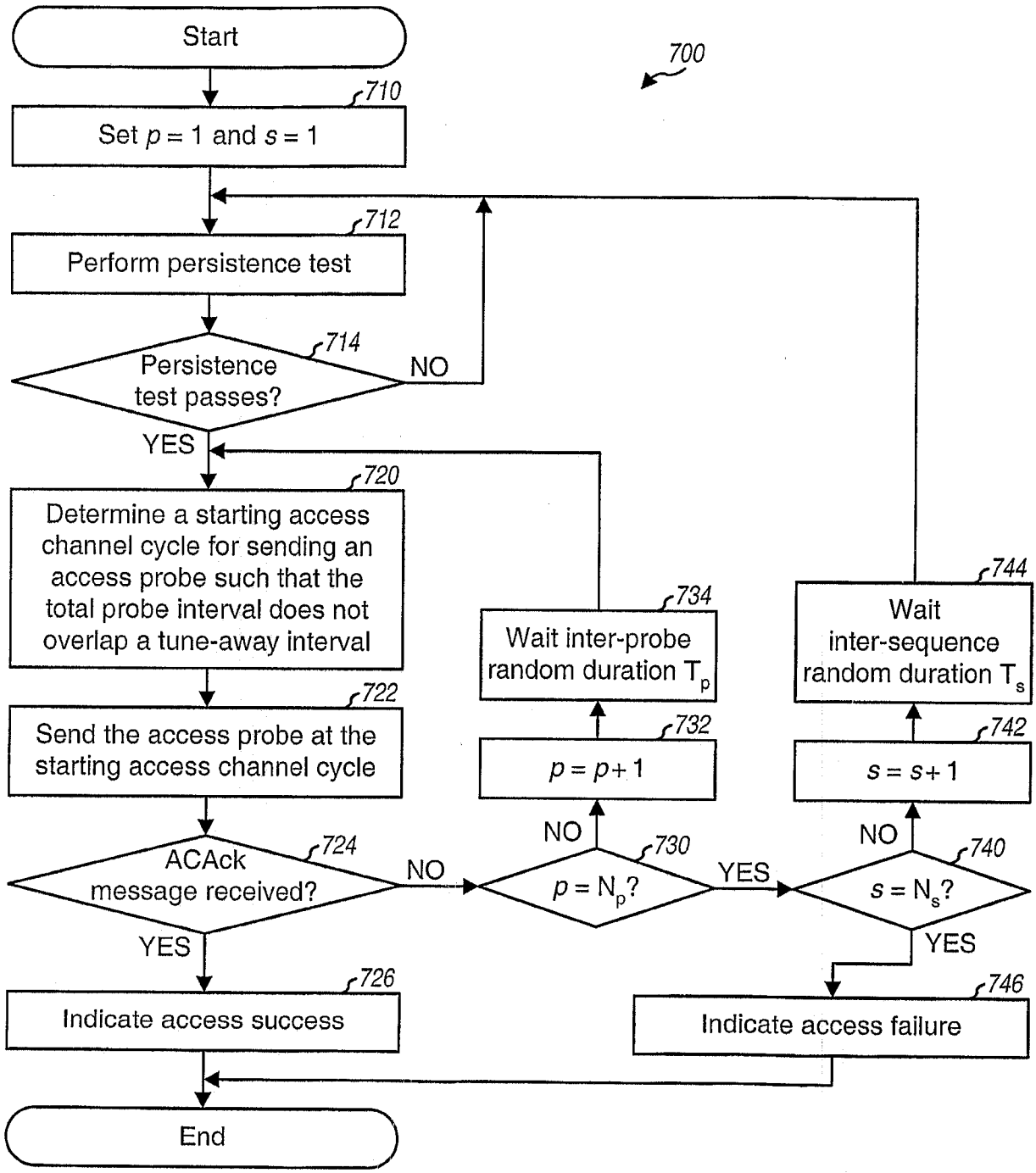

Start
700
710
Set p = 1 and s = 1
712
Perform persistence test
714
Persistence test passes?
NO
YES
720
Determine a starting access channel cycle for sending an access probe such that the total probe interval does not overlap a tune-away interval
722
Send the access probe at the starting access channel cycle
724
ACAck message received?
NO
YES
726
Indicate access success
End
734
Wait inter-probe random duration T_p
732
p = p+1
NO
730
p = N_p?
YES
744
Wait inter-sequence random duration T_s
742
s = s+1
NO
740
s = N_s?
YES
746
Indicate access failure

FIG. 7

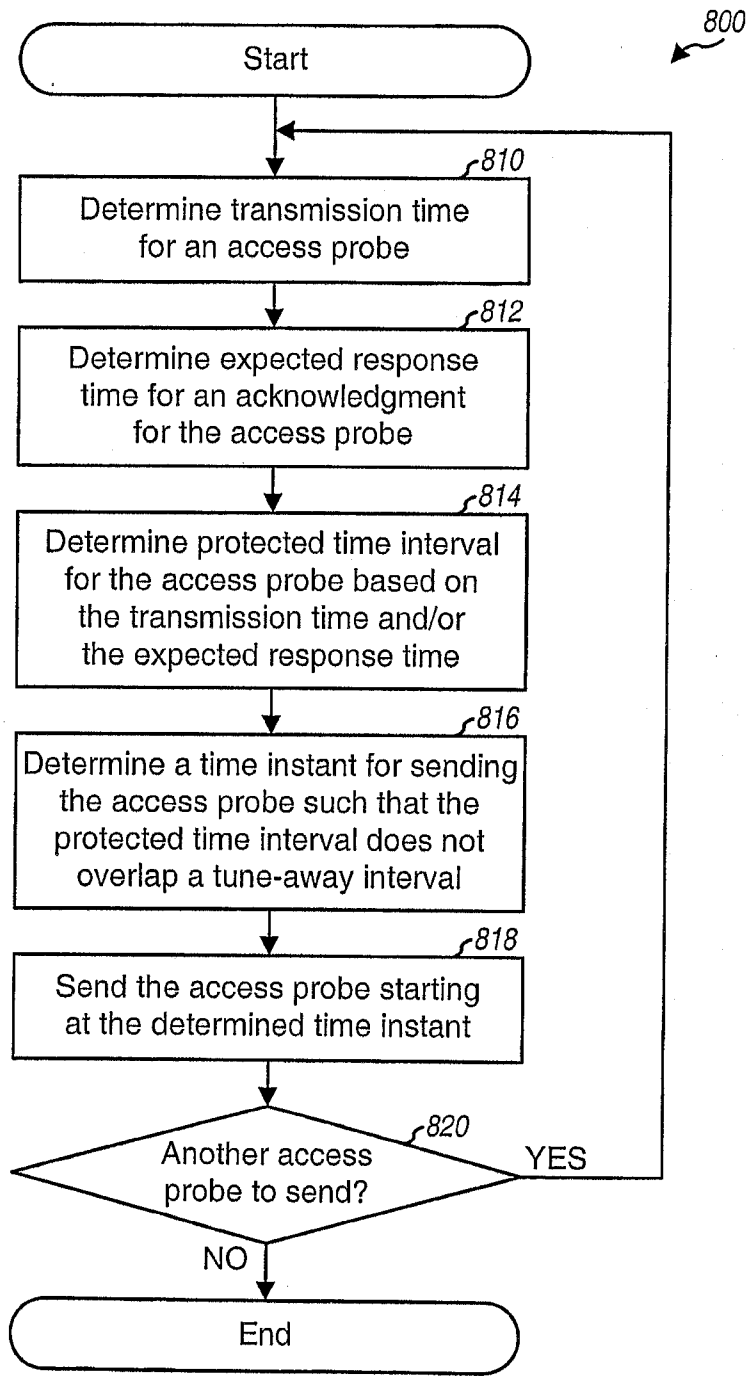

800
Start
810
Determine transmission time for an access probe
812
Determine expected response time for an acknowledgment for the access probe
814
Determine protected time interval for the access probe based on the transmission time and/or the expected response time
816
Determine a time instant for sending the access probe such that the protected time interval does not overlap a tune-away interval
818
Send the access probe starting at the determined time instant
820
Another access probe to send?
YES
NO
End

FIG. 8

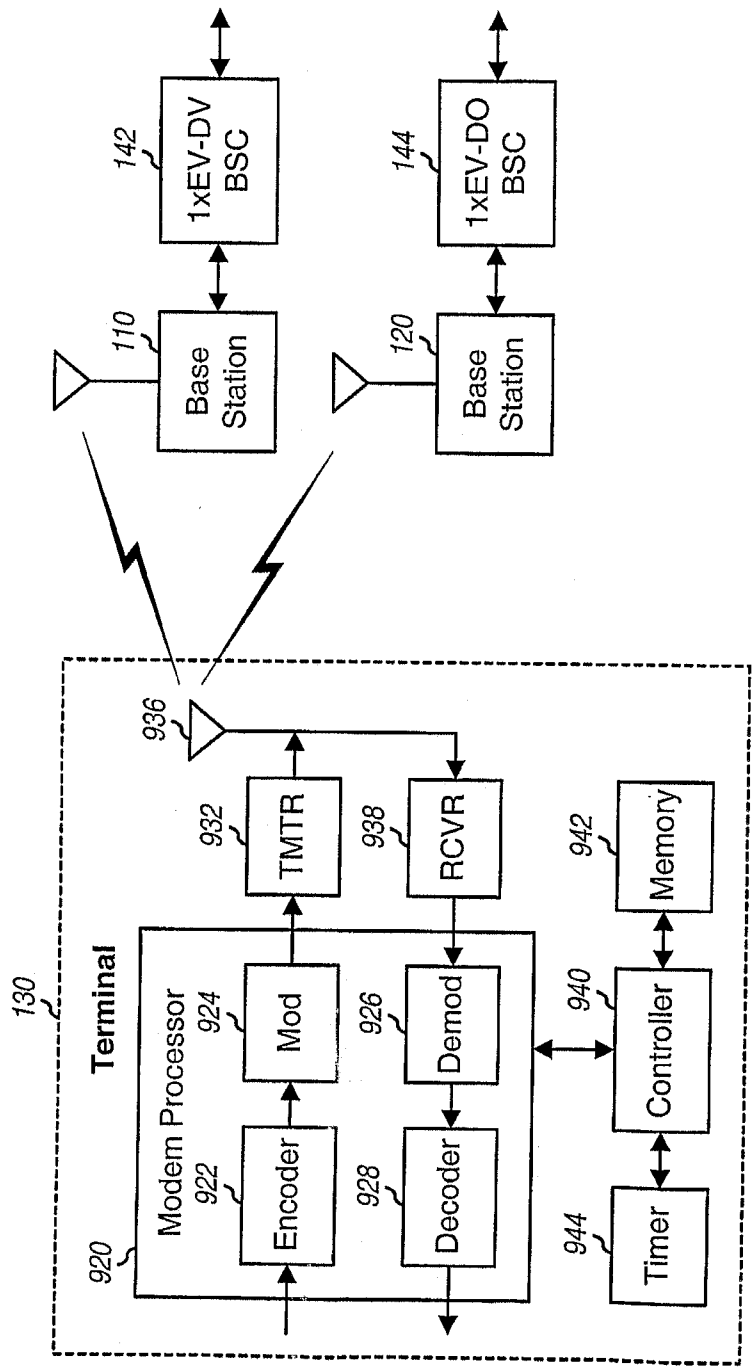

142
1xEV-DV BSC
144
1xEV-DO BSC
110
Base Station
120
Base Station
936
130
Terminal
932
TMTR
938
RCVR
942
Memory
Modem Processor
924
Mod
926
Demod
940
Controller
922
Encoder
928
Decoder
920
944
Timer

FIG. 9