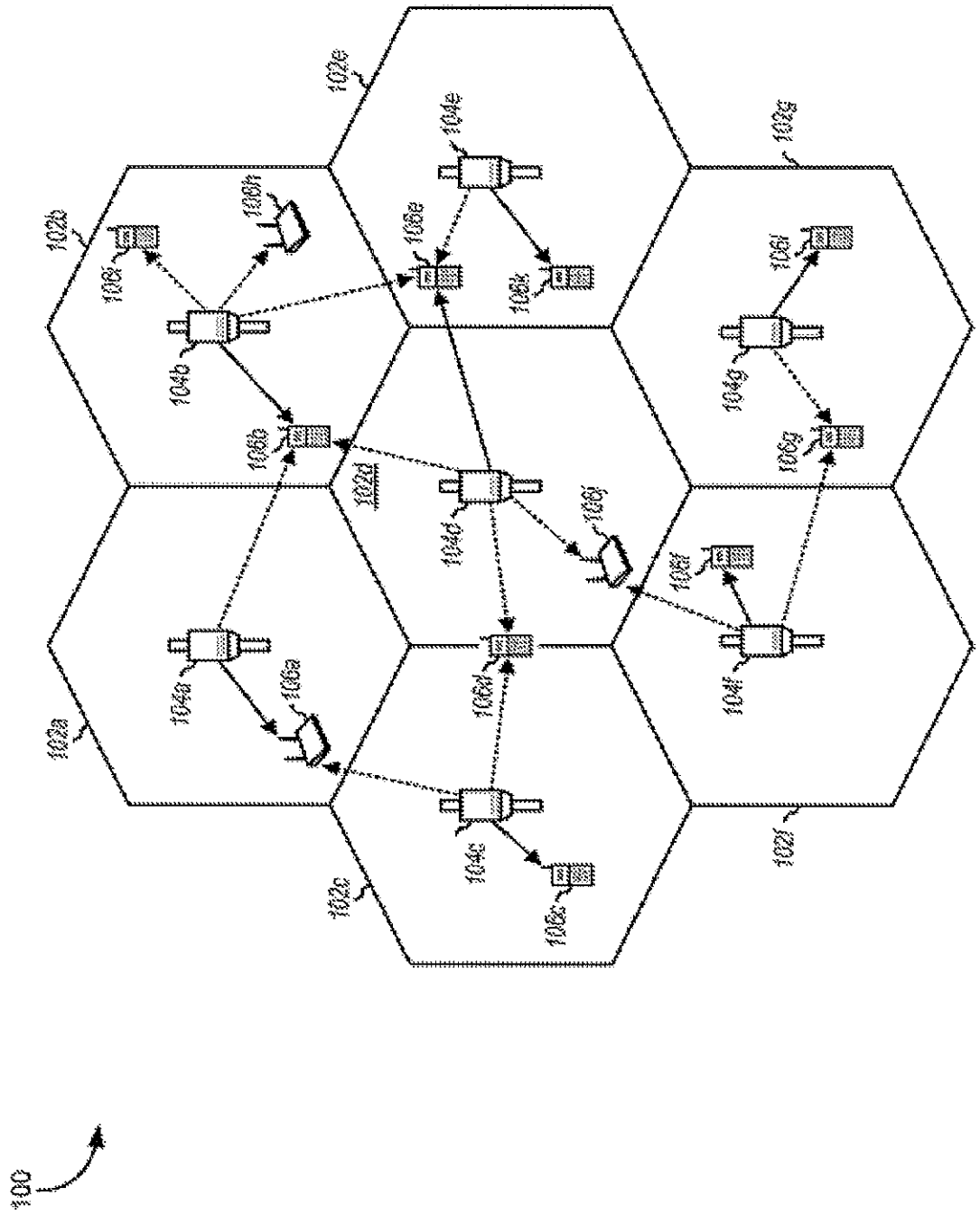

100
102a
102b
102c
102d
102e
102f
102g
104a
104b
104c
104d
104e
104f
104g
106a
106b
106c
106d
106e
106f
106g
106h
106i
106j
106k
106l

FIG. 1

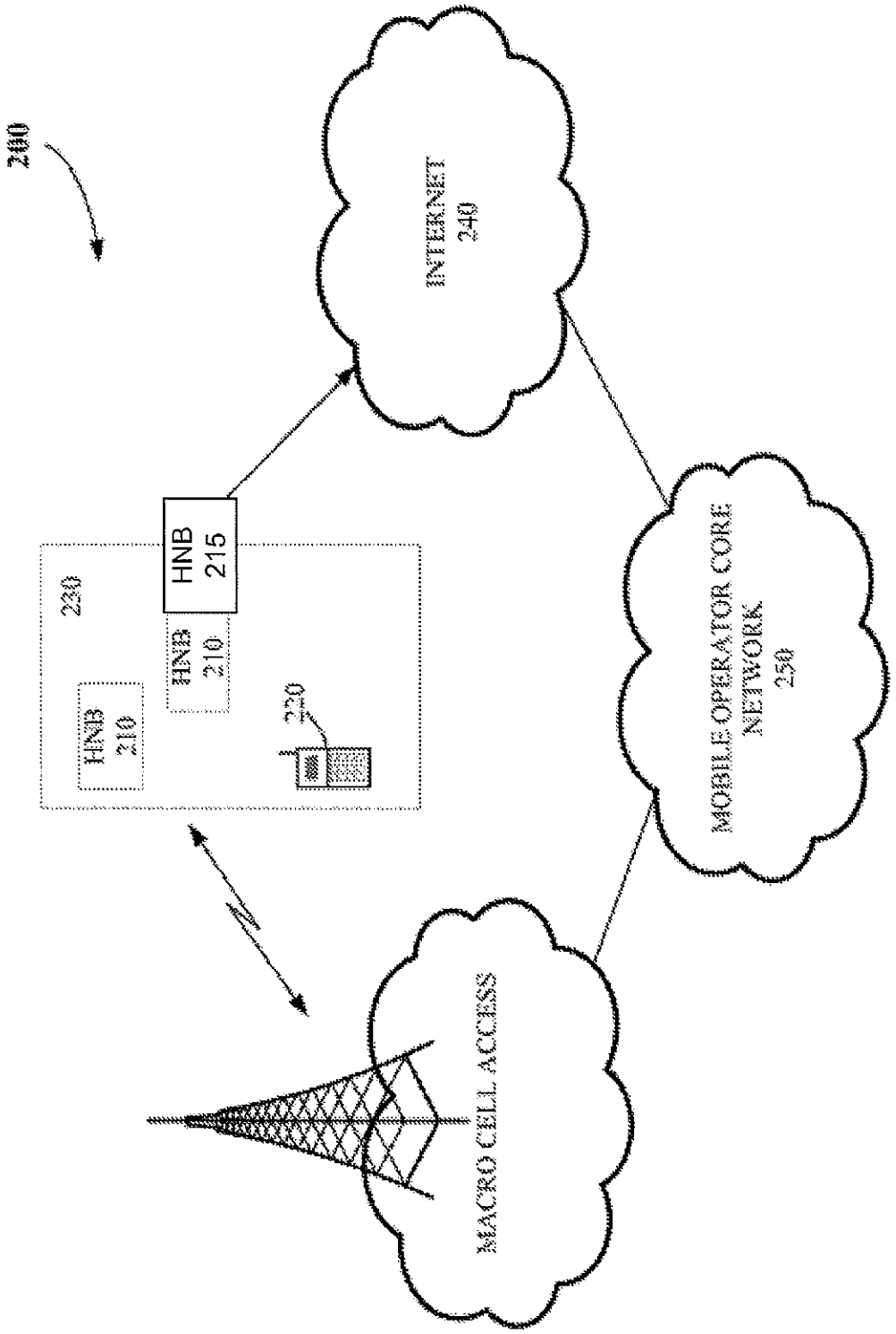

200
INTERNET
240
MOBILE OPERATOR CORE NETWORK
250
MACRO CELL ACCESS
230
HNB
215
HNB
210
HNB
210
220

FIG. 2

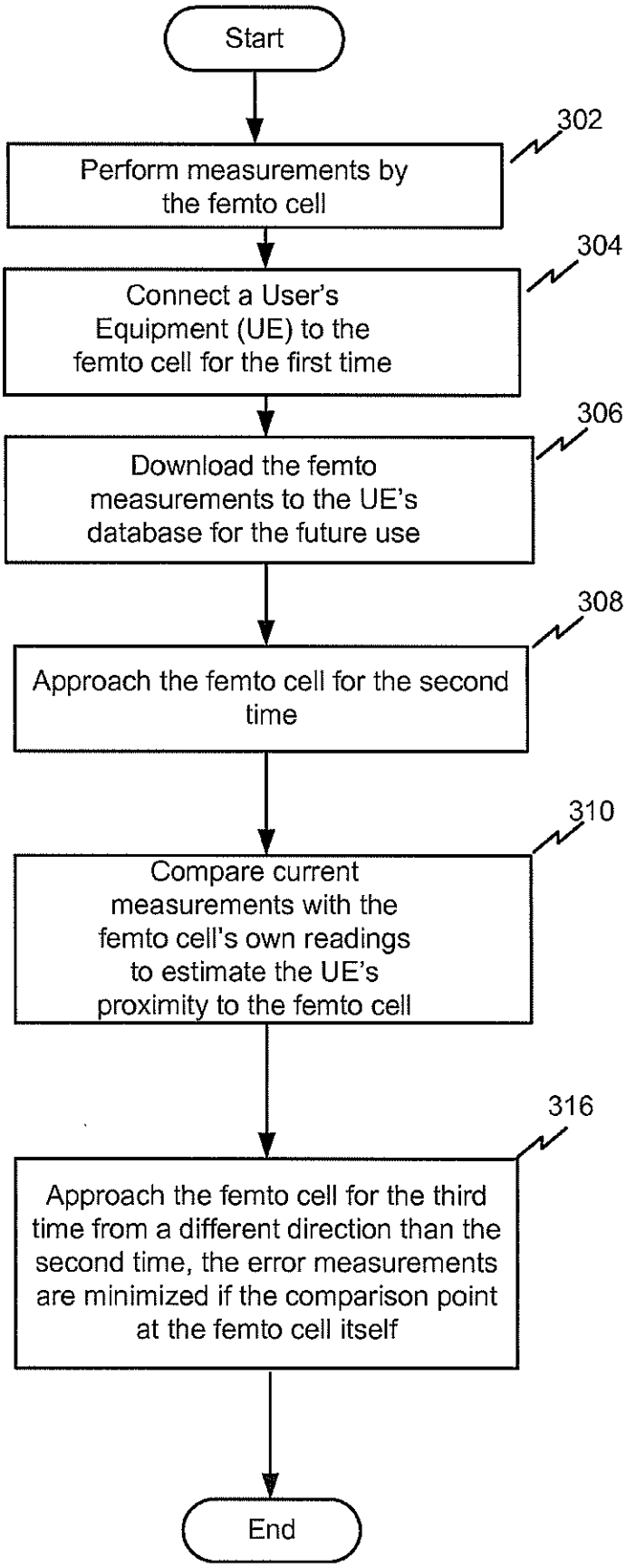

Start
302
Perform measurements by the femto cell
304
Connect a User's Equipment (UE) to the femto cell for the first time
306
Download the femto measurements to the UE's database for the future use
308
Approach the femto cell for the second time
310
Compare current measurements with the femto cell's own readings to estimate the UE's proximity to the femto cell
316
Approach the femto cell for the third time from a different direction than the second time, the error measurements are minimized if the comparison point at the femto cell itself
End

FIG. 3

SID/ NID	Femto ID	Macro BS Set	Pilot E_C/I_0 Threshold Vector	Mean Pilot Phase Vector	Pilot Phase Deviation Vector
A	A_1	$\mathbf{C}(A_1)$	$\mathbf{D}(A_1)$	$\mathbf{P}(A_1)$	$\mathbf{Q}(A_1)$
	A_2	$\mathbf{C}(A_2)$	$\mathbf{D}(A_2)$	$\mathbf{P}(A_2)$	$\mathbf{Q}(A_2)$
	A_3	$\mathbf{C}(A_3)$	$\mathbf{D}(A_3)$	$\mathbf{P}(A_3)$	$\mathbf{Q}(A_3)$

FIG. 4

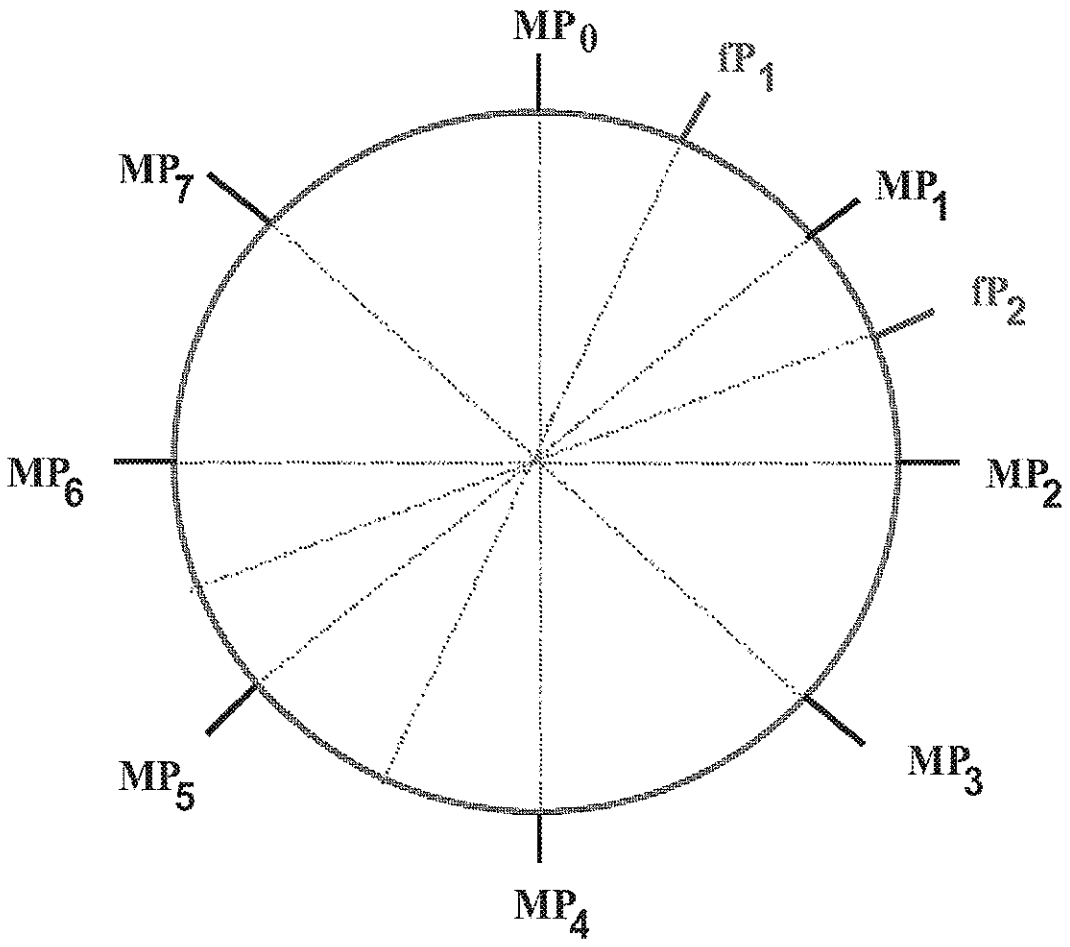


FIG. 5

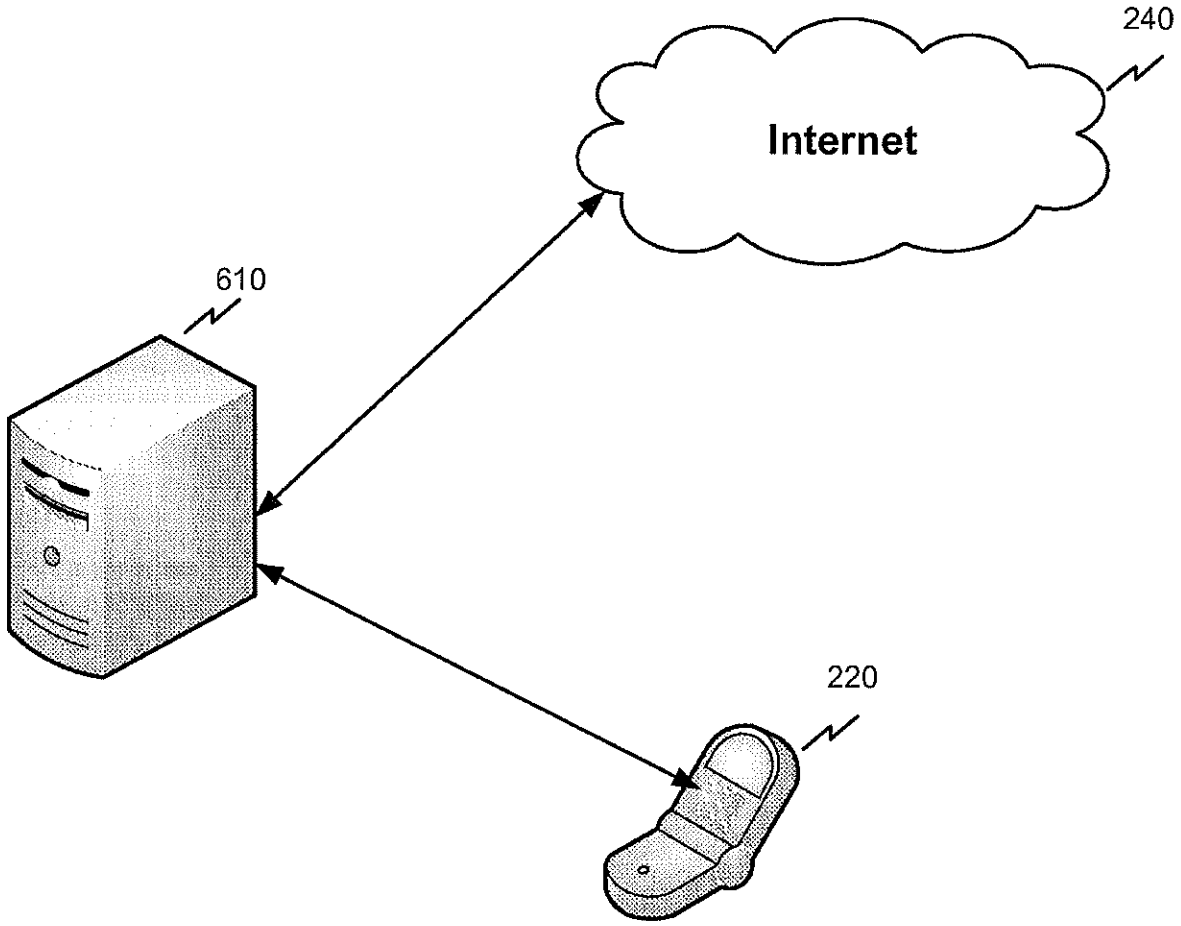


FIG. 6

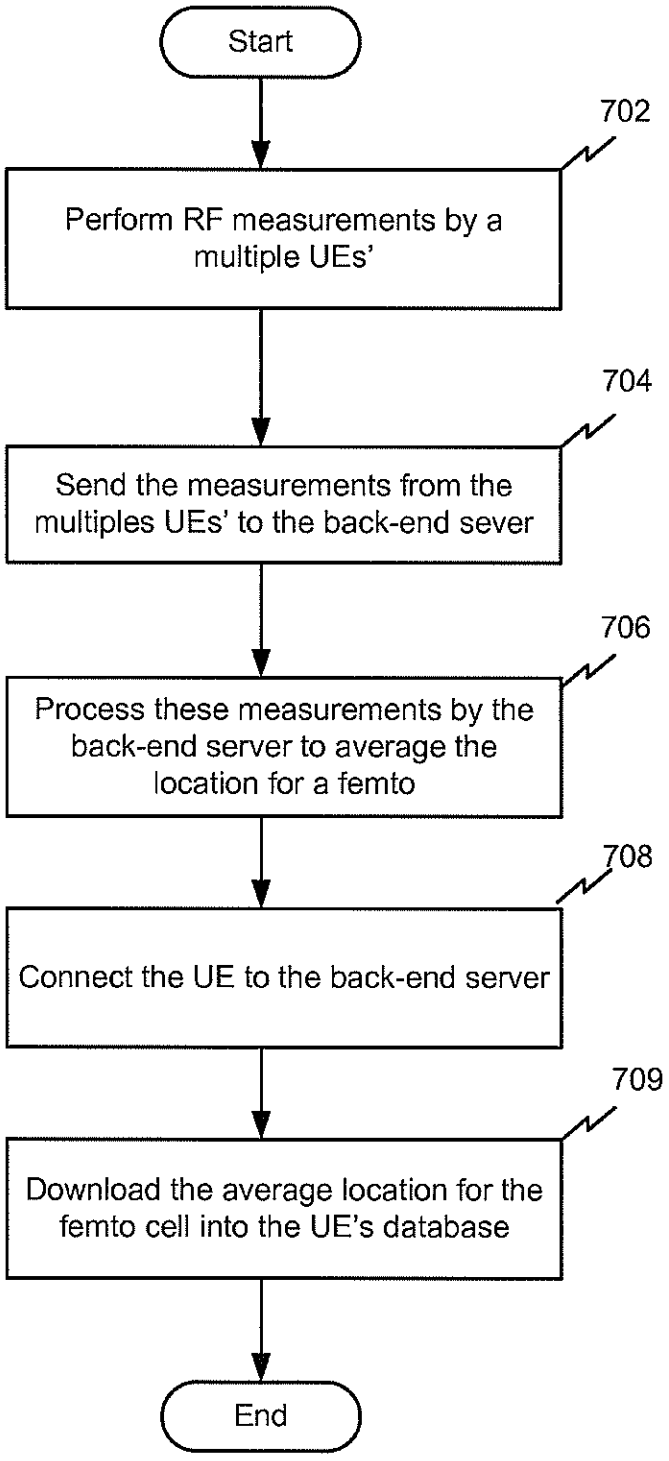

Start
702
Perform RF measurements by a multiple UEs'
704
Send the measurements from the multiples UEs' to the back-end sever
706
Process these measurements by the back-end server to average the location for a femto
708
Connect the UE to the back-end server
709
Download the average location for the femto cell into the UE's database
End

FIG.7A

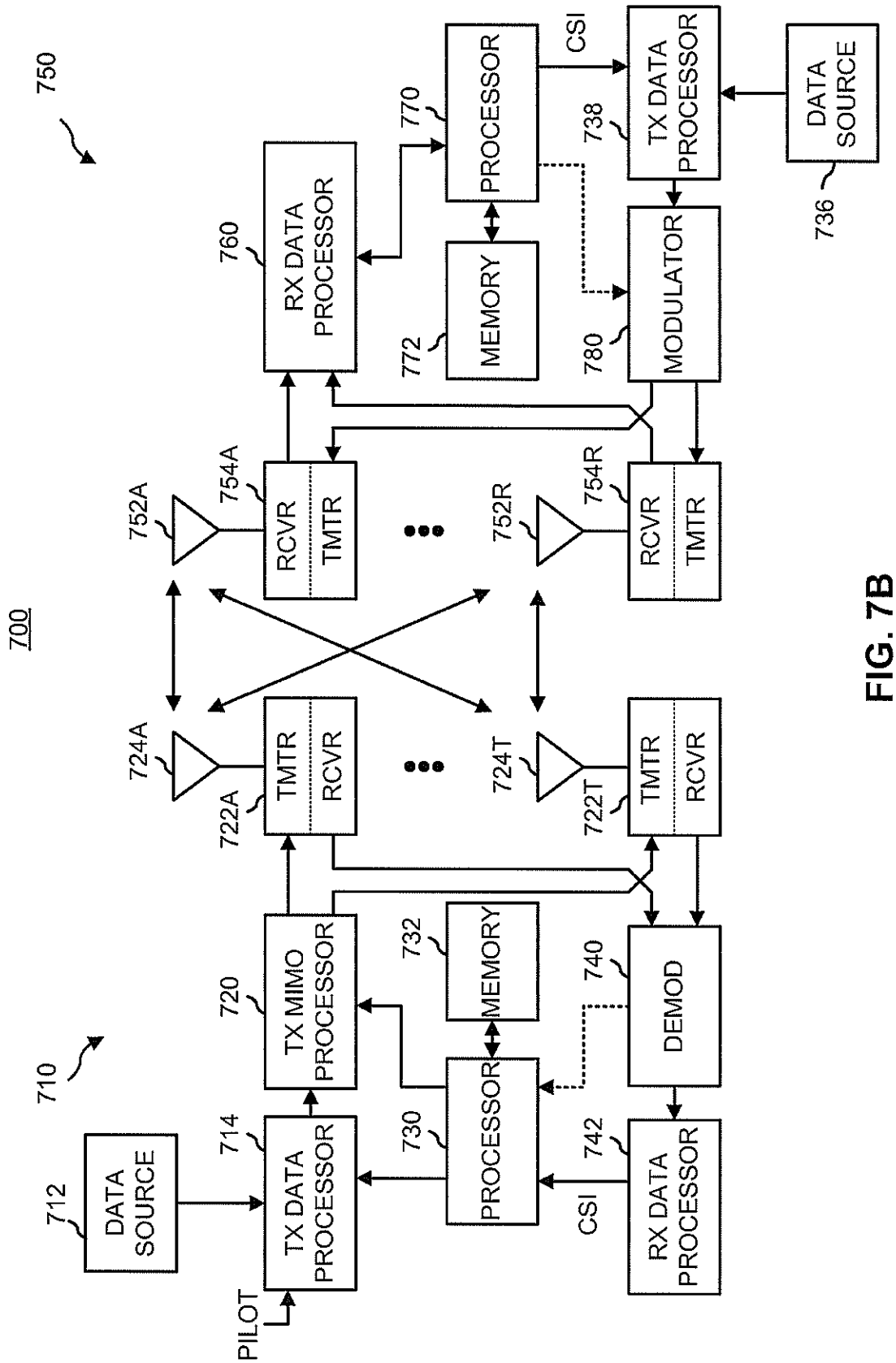

700
710
712
DATA SOURCE
714
TX DATA PROCESSOR
PILOT
720
TX MIMO PROCESSOR
722A
TMTR
RCVR
724A
724T
722T
730
PROCESSOR
732
MEMORY
740
DEMOD
742
RX DATA PROCESSOR
CSI
750
752A
752R
754A
754R
RCVR
TMTR
760
RX DATA PROCESSOR
770
PROCESSOR
772
MEMORY
780
MODULATOR
738
TX DATA PROCESSOR
CSI
736
DATA SOURCE

FIG. 7B

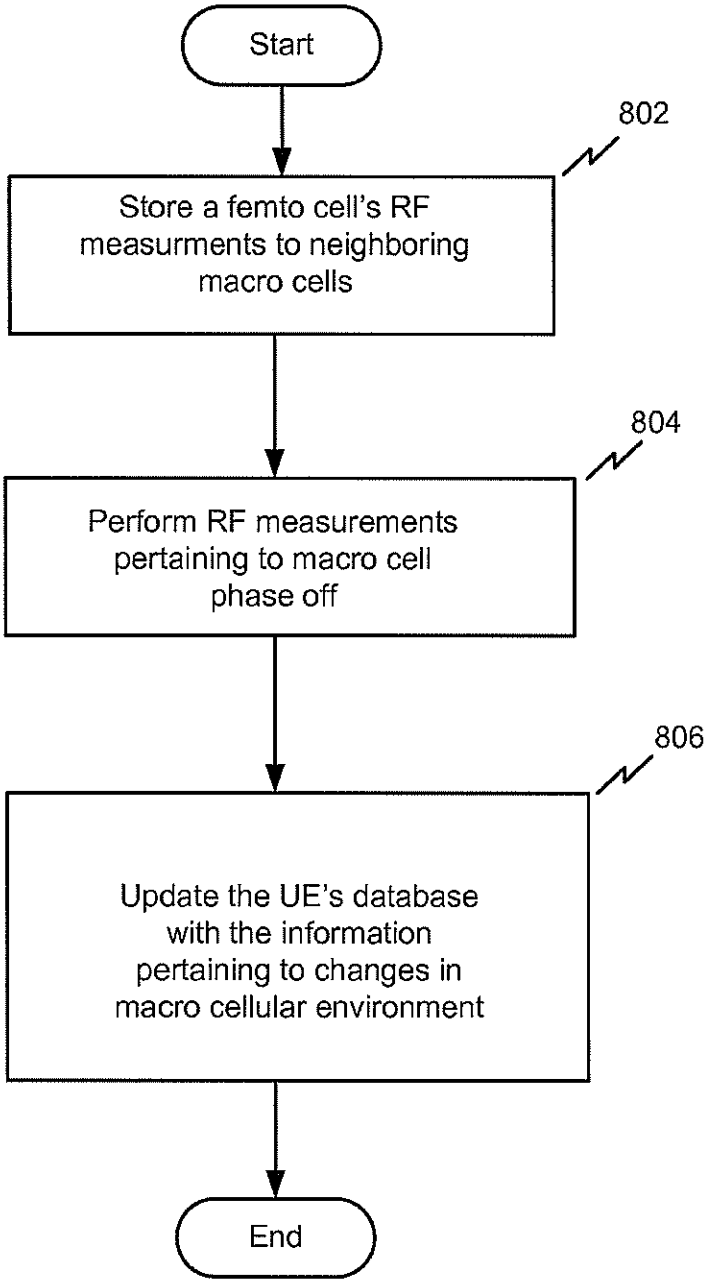

Start
802
Store a femto cell's RF measurments to neighboring macro cells
804
Perform RF measurements pertaining to macro cell phase off
806
Update the UE's database with the information pertaining to changes in macro cellular environment
End

FIG. 8

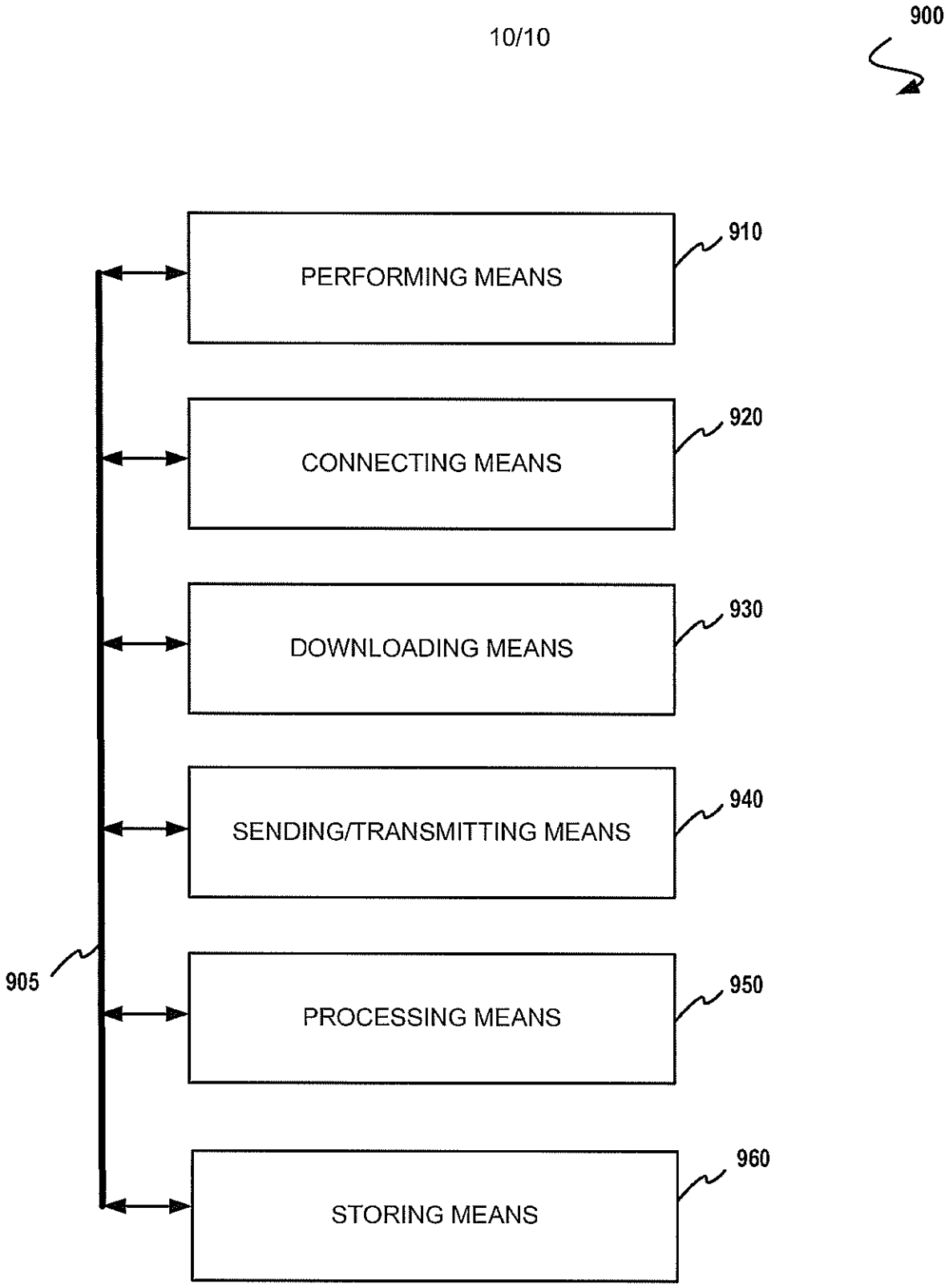

900
PERFORMING MEANS
910
CONNECTING MEANS
920
DOWNLOADING MEANS
930
SENDING/TRANSMITTING MEANS
940
905
PROCESSING MEANS
950
STORING MEANS
960

FIG. 9