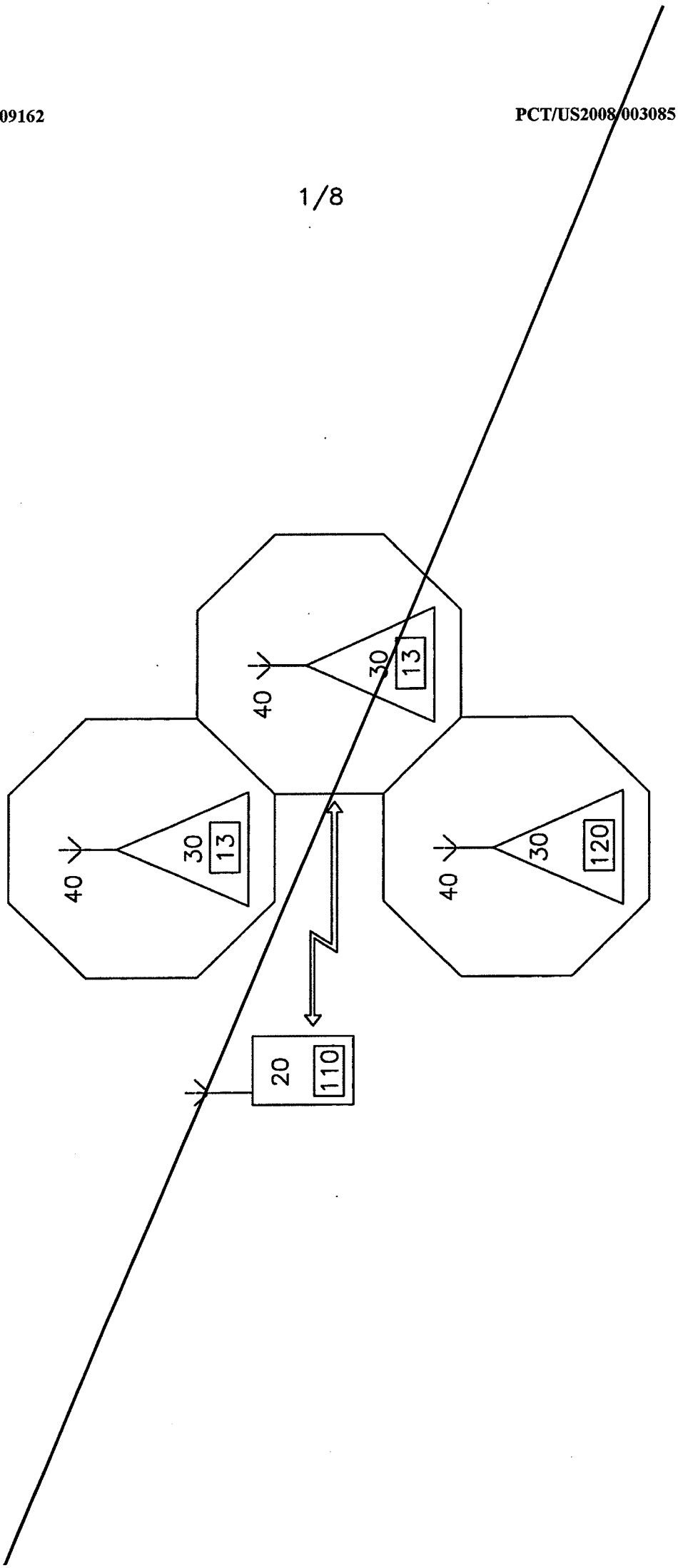


FIG.1

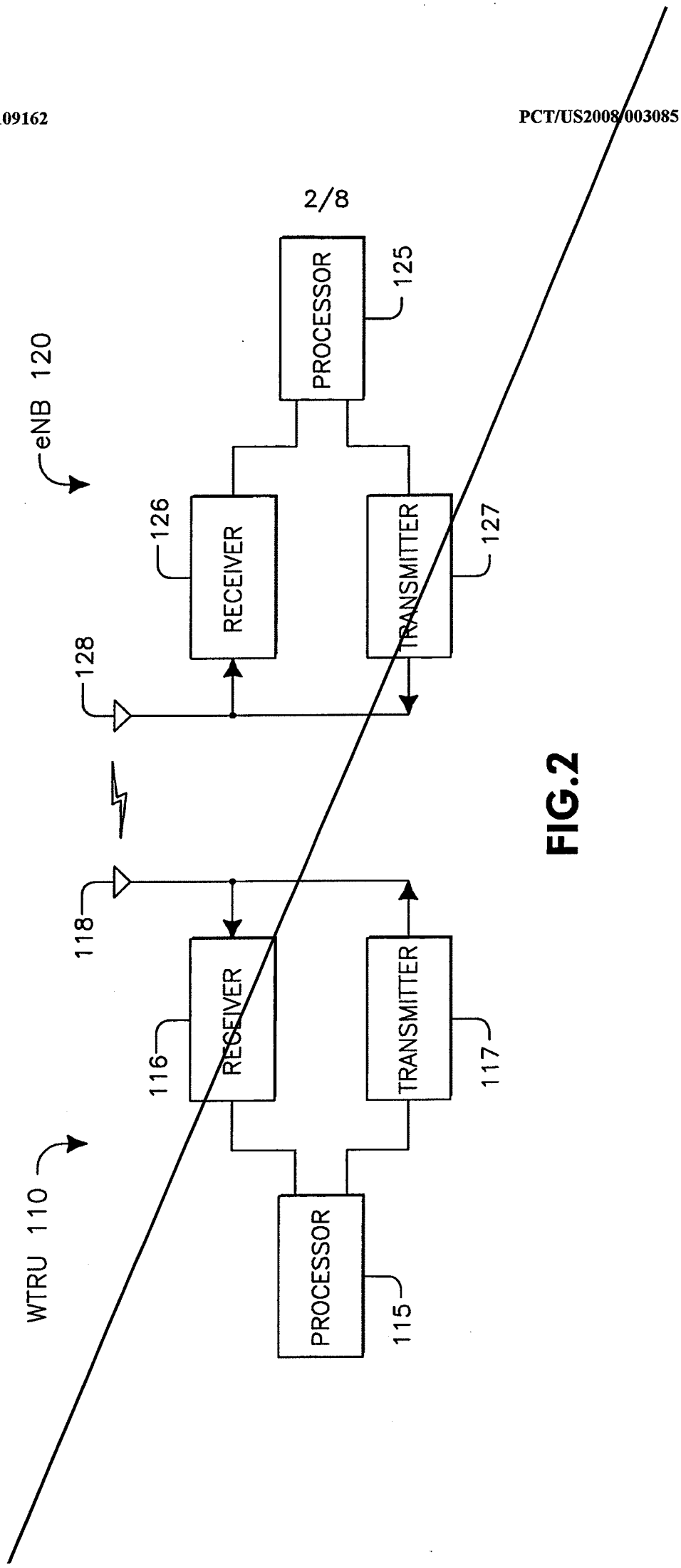

eNB 120
PROCESSOR
125
RECEIVER
126
TRANSMITTER
127
128
118
RECEIVER
116
TRANSMITTER
117
WTRU 110
PROCESSOR
115

FIG.2

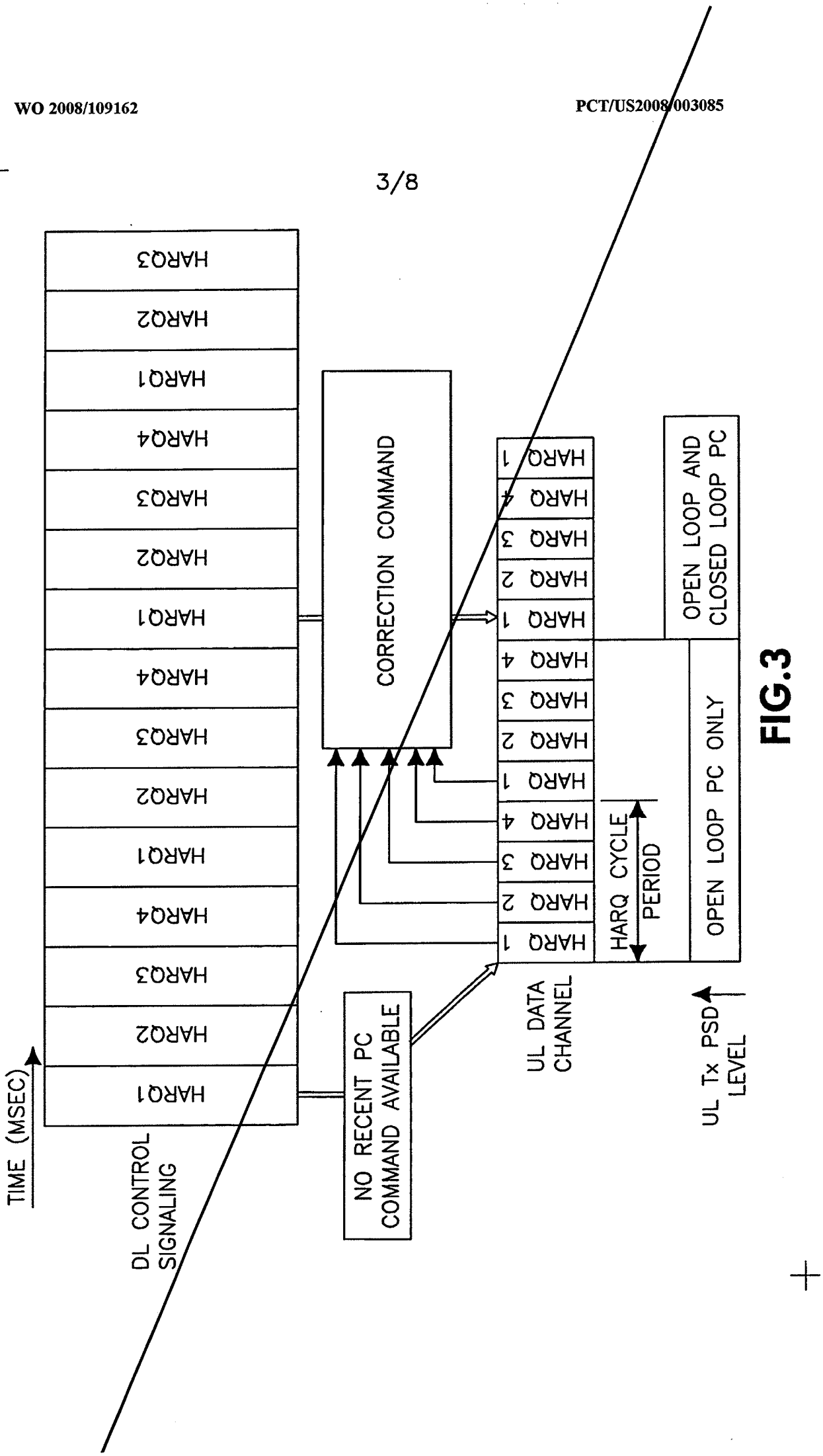

TIME (MSEC)
DL CONTROL SIGNALING
HARQ1
HARQ2
HARQ3
HARQ4
HARQ1
HARQ2
HARQ3
HARQ4
HARQ1
HARQ2
HARQ3
HARQ4
HARQ1
HARQ2
HARQ3
HARQ4
CORRECTION COMMAND
NO RECENT PC COMMAND AVAILABLE
UL DATA CHANNEL
HARQ 1
HARQ 2
HARQ 3
HARQ 4
HARQ 1
HARQ 2
HARQ 3
HARQ 4
HARQ 1
HARQ CYCLE PERIOD
OPEN LOOP PC ONLY
OPEN LOOP AND CLOSED LOOP PC
UL Tx PSD LEVEL

FIG.3

TIME (MSEC)
HARQ CYCLE PERIOD
DL CONTROL SIGNALING
HARQ1
HARQ2
HARQ3
HARQ4
HARQ1
HARQ2
HARQ3
HARQ4
NO PC COMMAND
PC COMMAND
HARQ 1
HARQ 2
HARQ 3
HARQ 4
HARQ 1
HARQ 2
HARQ 3
UL DATA CHANNEL
OPEN LOOP PC ONLY
OPEN LOOP AND CLOSED LOOP PC
UL Tx PSD LEVEL

FIG.4

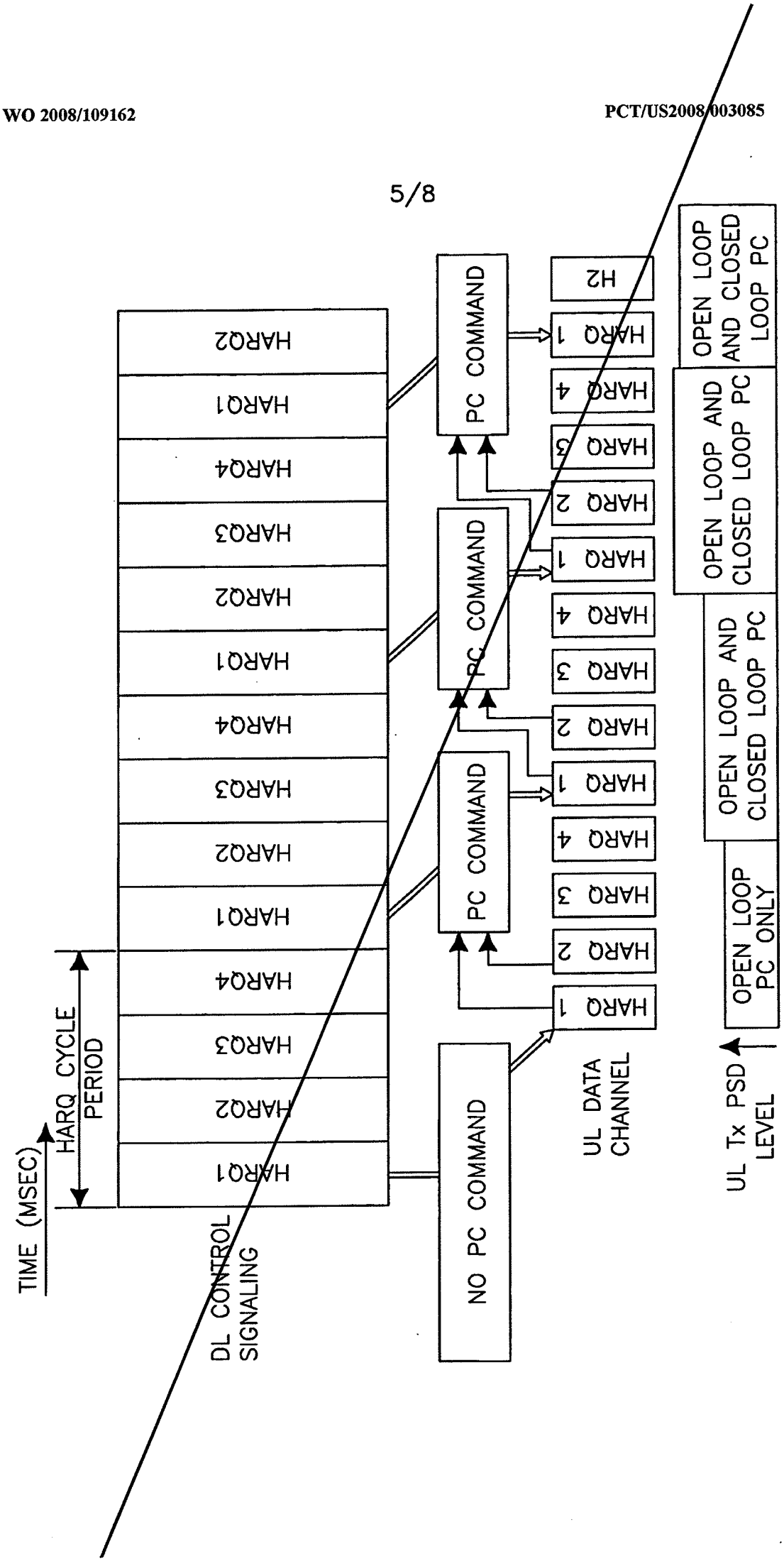

TIME (MSEC)
HARQ CYCLE PERIOD
DL CONTROL SIGNALING
HARQ1
HARQ2
HARQ3
HARQ4
NO PC COMMAND
PC COMMAND
UL DATA CHANNEL
H2
OPEN LOOP PC ONLY
OPEN LOOP AND CLOSED LOOP PC
OPEN LOOP AND CLOSED LOOP PC
UL Tx PSD LEVEL

FIG.5

TIME (MSEC)
HARQ CYCLE PERIOD
HARQ4
HARQ3
HARQ2
HARQ1
PC COMMAND
HARQ 4
HARQ 3
HARQ 2
HARQ 1
HARQ 4
HARQ 3
UL DATA CHANNEL
OPEN LOOP PC ONLY
OPEN LOOP AND CLOSED LOOP PC
UL Tx PSD LEVEL
HARQ2
HARQ1
HARQ4
HARQ3
HARQ2
HARQ1
PC COMMAND
H2
HARQ 1
HARQ 4
HARQ 3
HARQ 2
HARQ 1
PC COMMAND
OPEN LOOP AND CLOSED LOOP PC
PSDTx(AFTER DTX)

FIG.6

TIME (MSEC)
HARQ CYCLE PERIOD
HARQ4
HARQ3
HARQ2
HARQ1
ESINR ESTIMATION AND CORRECTION COMMAND
DTX PERIOD
HARQ 3
HARQ 4
HARQ 1
HARQ 2
H2
UL DATA CHANNEL
OPEN LOOP AND CLOSED LOOP PC
OPEN LOOP AND CLOSED LOOP PC (n-1)-th UPDATE INSTANT
UL Tx PSD LEVEL
PSDTx=(n)
n-th UPDATE INSTANT
OPEN LOOP AND CLOSED LOOP PC

FIG.7

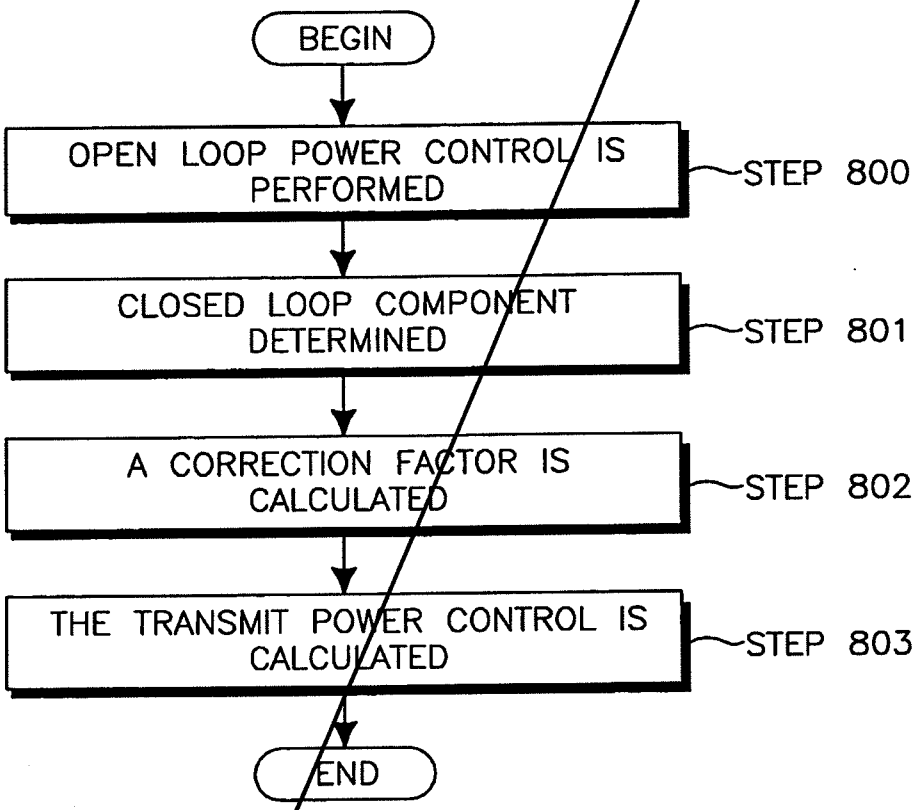

BEGIN
OPEN LOOP POWER CONTROL IS PERFORMED
STEP 800
CLOSED LOOP COMPONENT DETERMINED
STEP 801
A CORRECTION FACTOR IS CALCULATED
STEP 802
THE TRANSMIT POWER CONTROL IS CALCULATED
STEP 803
END

FIG.8

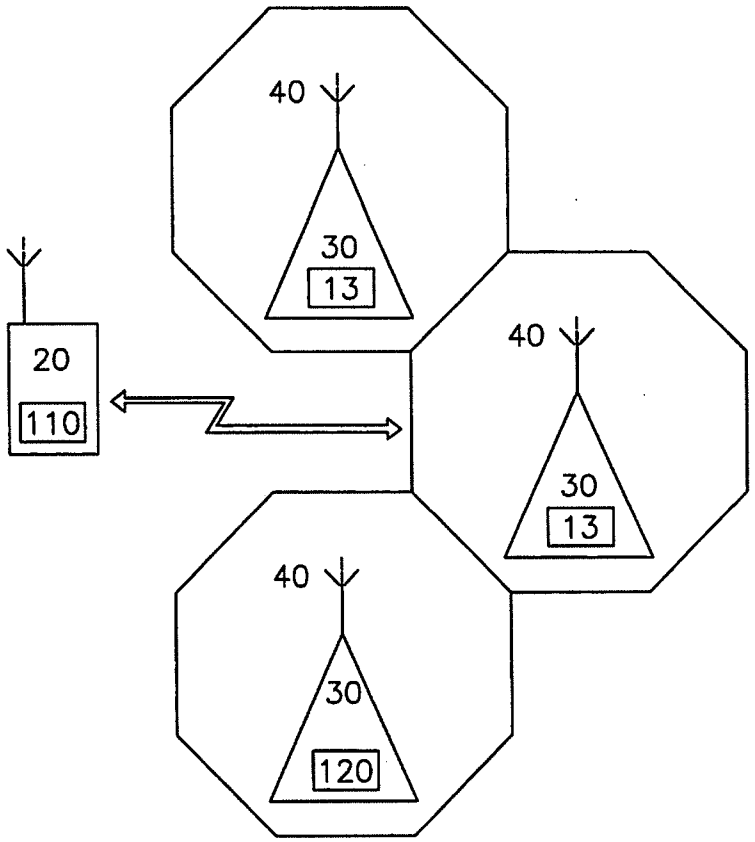


FIG.1

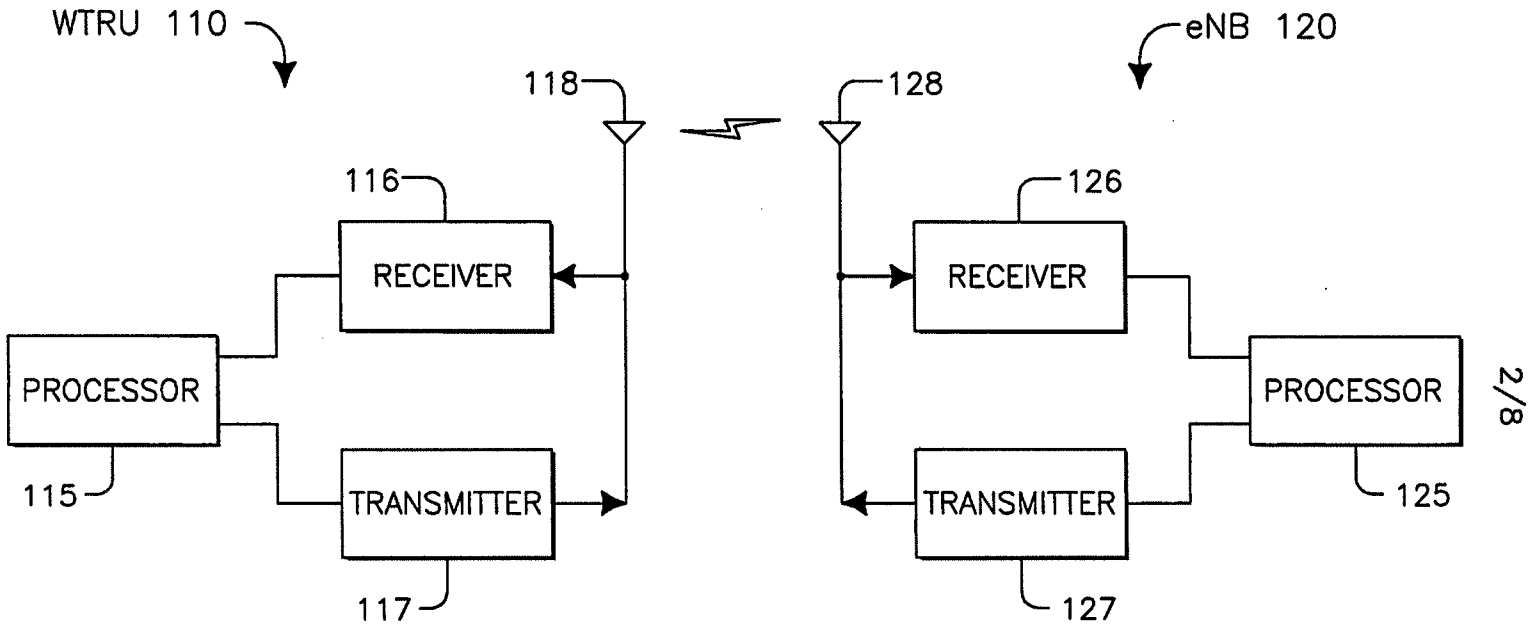

WTRU 110
eNB 120
118
128
116
126
RECEIVER
RECEIVER
PROCESSOR
PROCESSOR
115
TRANSMITTER
TRANSMITTER
125
117
127

FIG.2

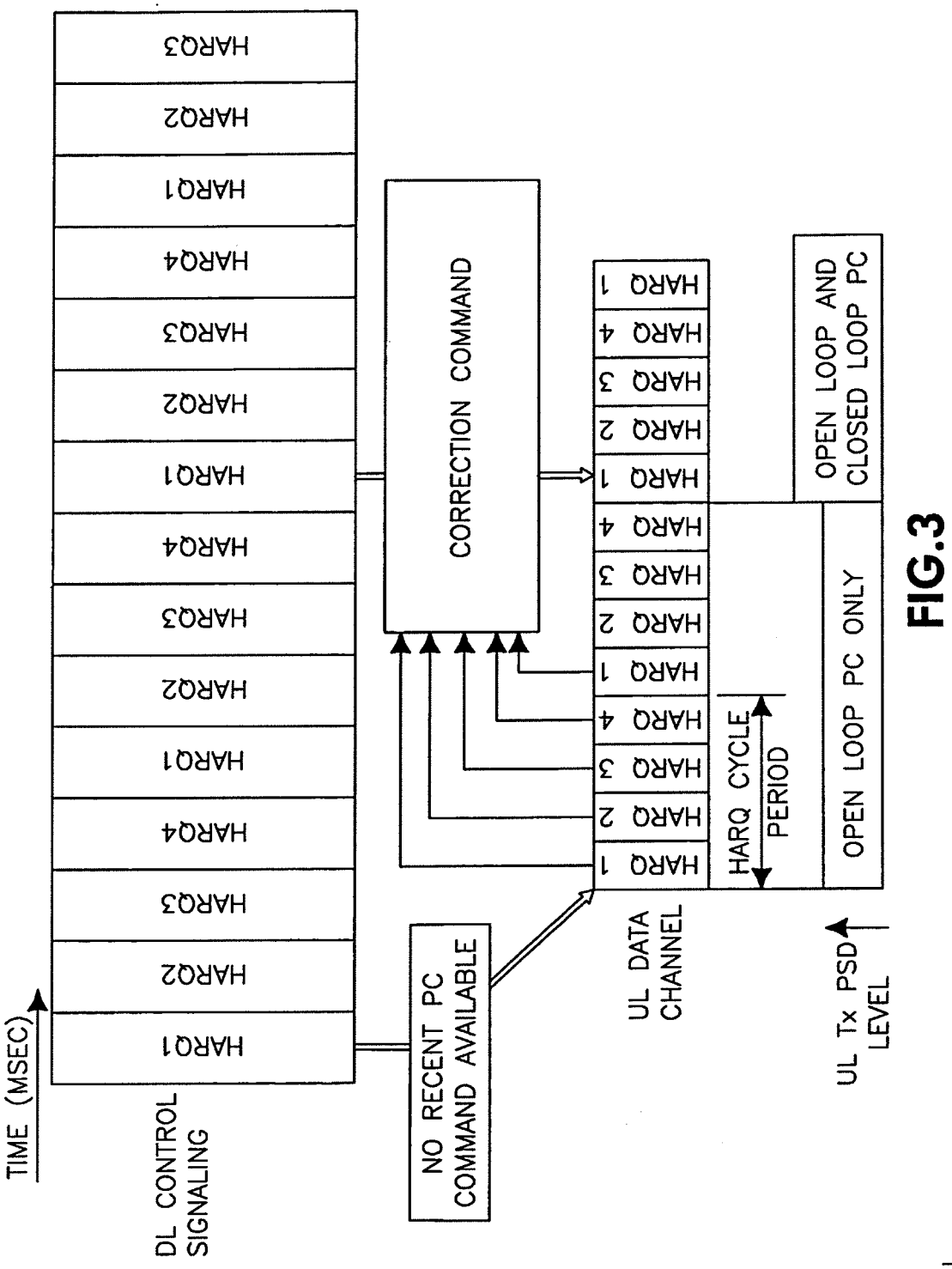

TIME (MSEC)
DL CONTROL SIGNALING
HARQ1
HARQ2
HARQ3
HARQ4
HARQ1
HARQ2
HARQ3
HARQ4
HARQ1
HARQ2
HARQ3
HARQ4
HARQ1
HARQ2
HARQ3
NO RECENT PC COMMAND AVAILABLE
CORRECTION COMMAND
UL DATA CHANNEL
HARQ 1
HARQ 2
HARQ 3
HARQ 4
HARQ 1
HARQ 2
HARQ 3
HARQ 4
HARQ 1
HARQ 2
HARQ 3
HARQ 4
HARQ 1
HARQ CYCLE PERIOD
OPEN LOOP PC ONLY
OPEN LOOP AND CLOSED LOOP PC
UL Tx PSD LEVEL

FIG.3

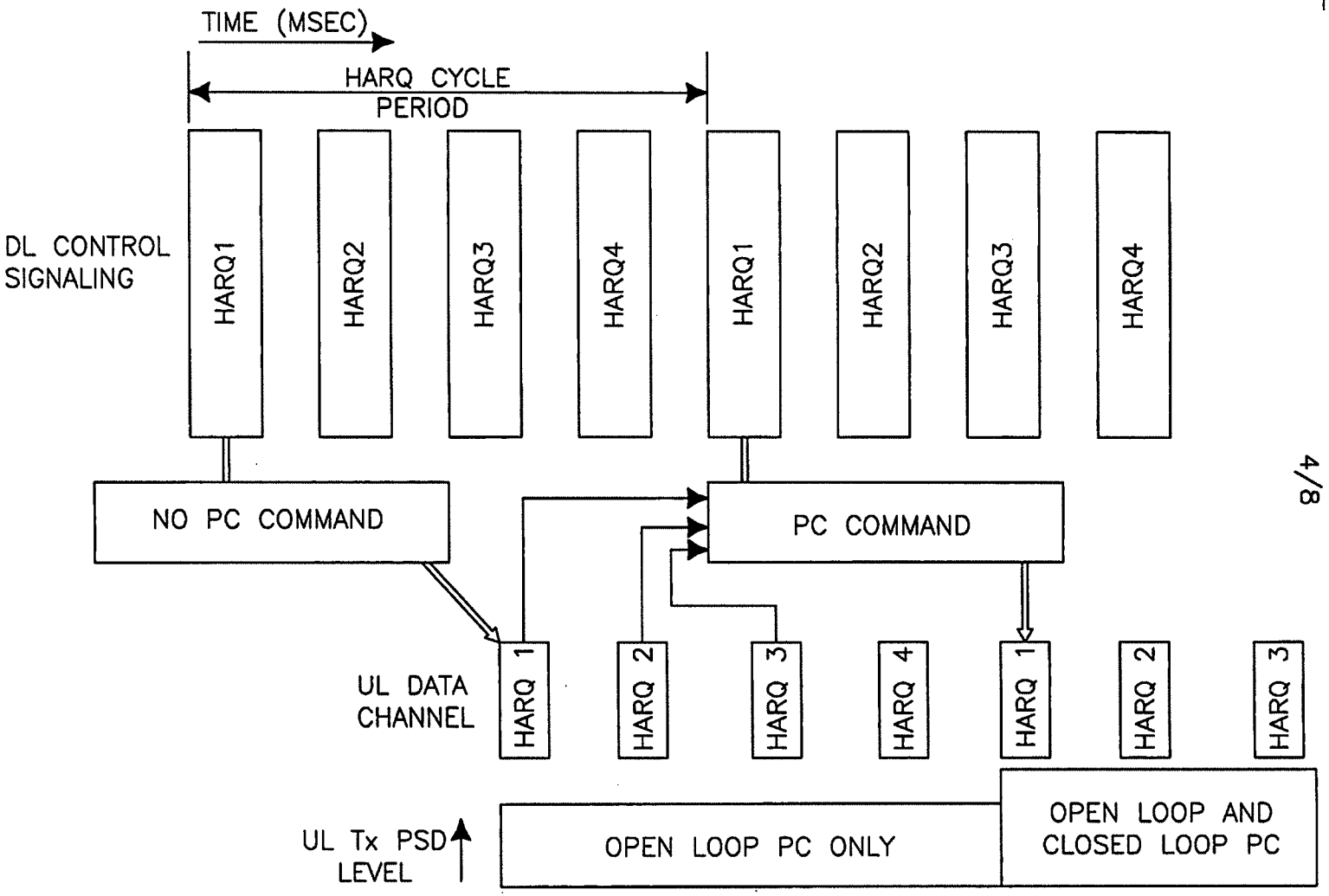

TIME (MSEC)
HARQ CYCLE PERIOD
DL CONTROL SIGNALING
HARQ1
HARQ2
HARQ3
HARQ4
HARQ1
HARQ2
HARQ3
HARQ4
NO PC COMMAND
PC COMMAND
UL DATA CHANNEL
HARQ 1
HARQ 2
HARQ 3
HARQ 4
HARQ 1
HARQ 2
HARQ 3
UL Tx PSD LEVEL
OPEN LOOP PC ONLY
OPEN LOOP AND CLOSED LOOP PC

FIG.4

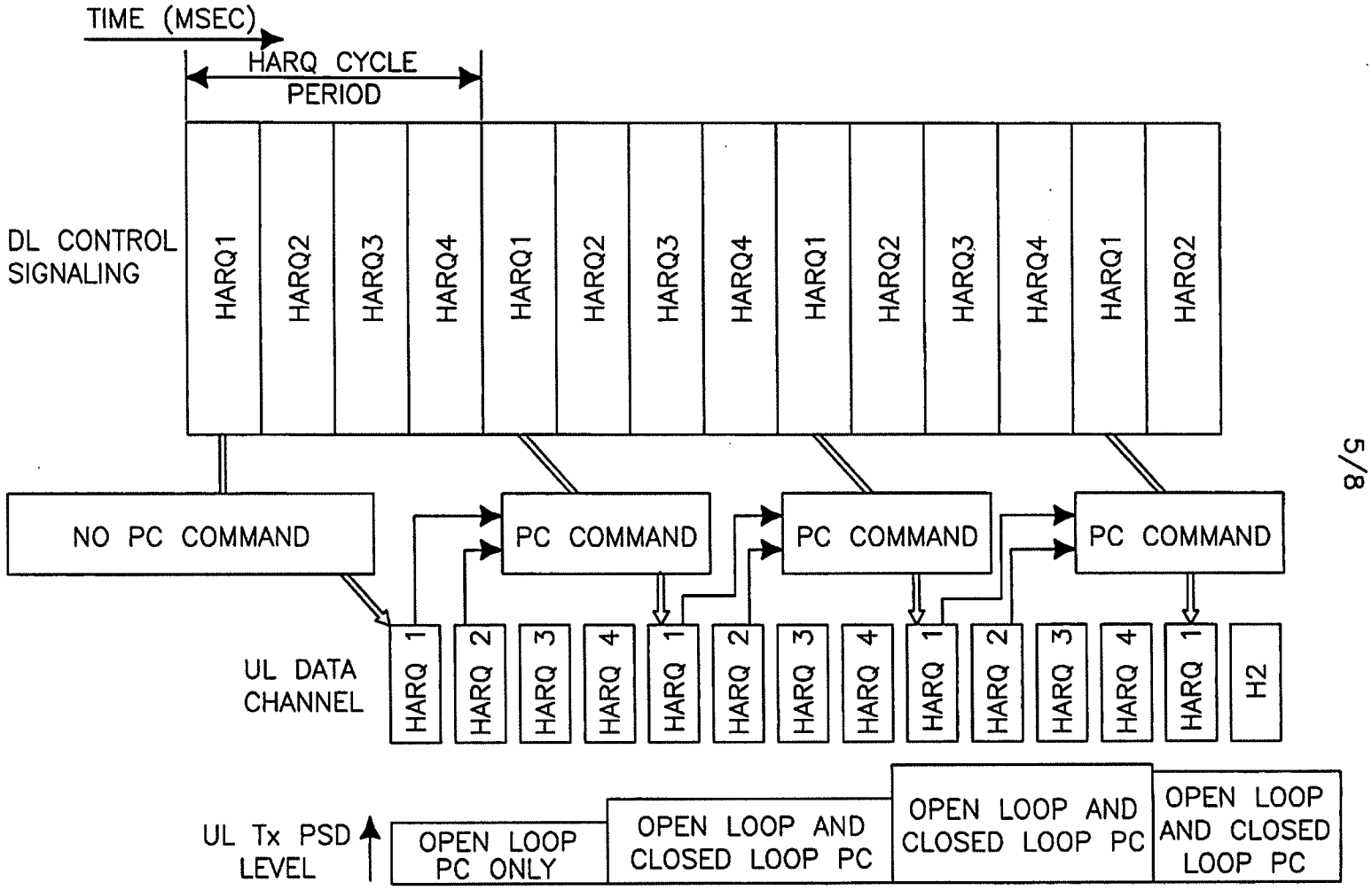

TIME (MSEC)
HARQ CYCLE PERIOD
DL CONTROL SIGNALING
HARQ1
HARQ2
HARQ3
HARQ4
NO PC COMMAND
PC COMMAND
UL DATA CHANNEL
H2
UL Tx PSD LEVEL
OPEN LOOP PC ONLY
OPEN LOOP AND CLOSED LOOP PC

FIG.5

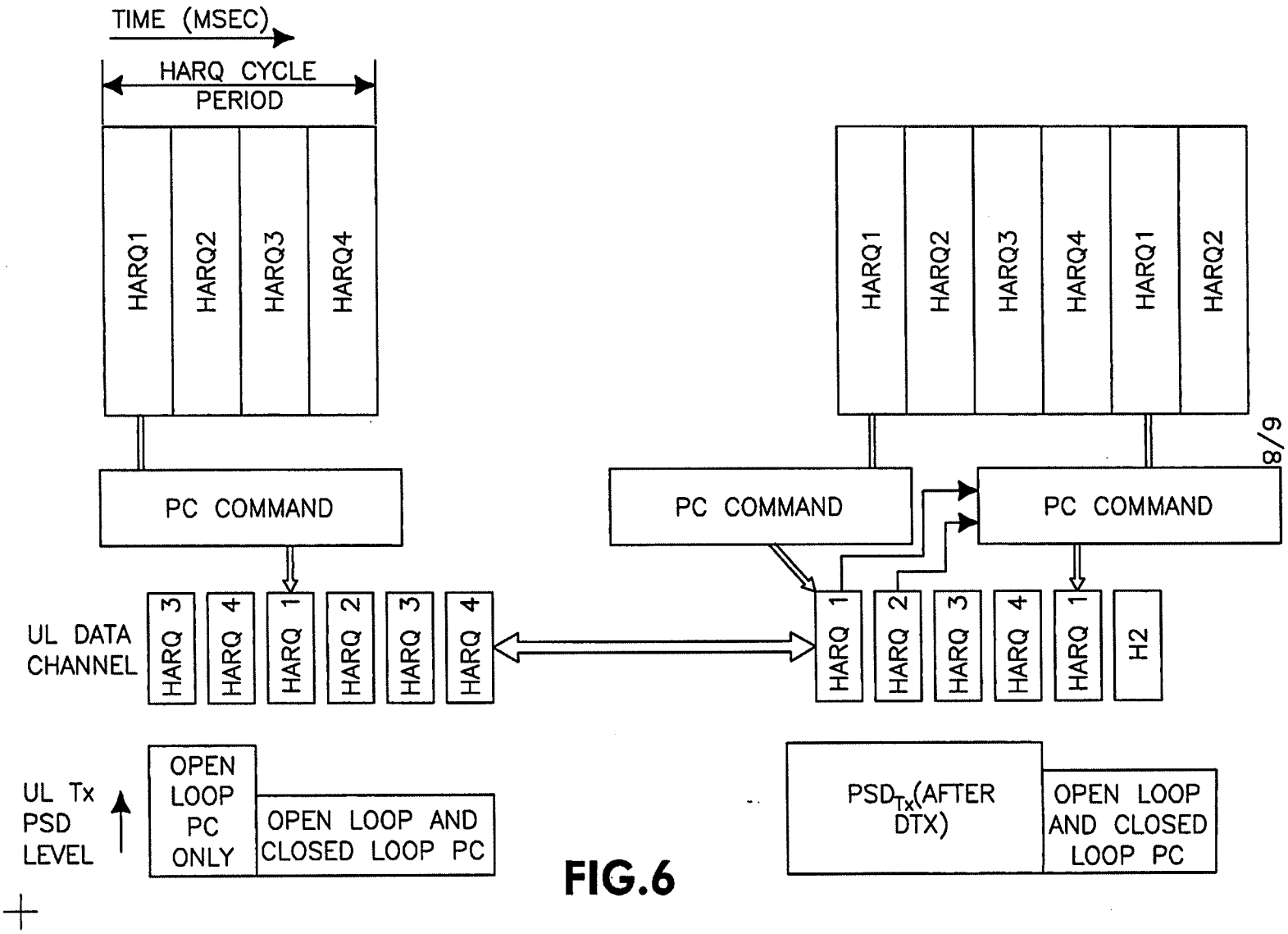

TIME (MSEC)
HARQ CYCLE PERIOD
HARQ1
HARQ2
HARQ3
HARQ4
HARQ1
HARQ2
HARQ3
HARQ4
HARQ1
HARQ2
PC COMMAND
PC COMMAND
PC COMMAND
UL DATA CHANNEL
HARQ 3
HARQ 4
HARQ 1
HARQ 2
HARQ 3
HARQ 4
HARQ 1
HARQ 2
HARQ 3
HARQ 4
HARQ 1
H2
UL Tx PSD LEVEL
OPEN LOOP PC ONLY
OPEN LOOP AND CLOSED LOOP PC
PSD$_{Tx}$(AFTER DTX)
OPEN LOOP AND CLOSED LOOP PC

FIG.6

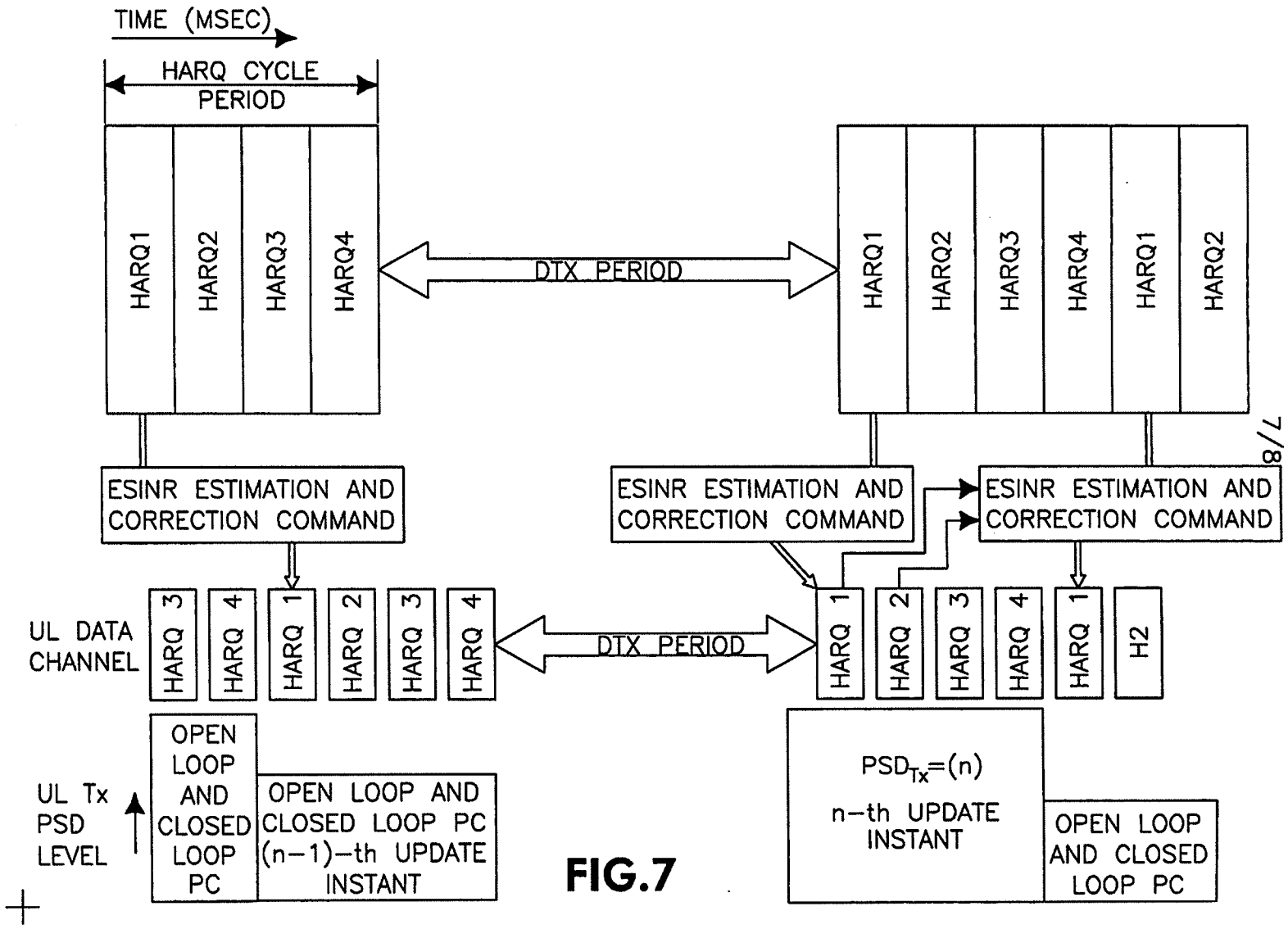

TIME (MSEC)
HARQ CYCLE PERIOD
HARQ1
HARQ2
HARQ3
HARQ4
DTX PERIOD
HARQ1
HARQ2
HARQ3
HARQ4
HARQ1
HARQ2
ESINR ESTIMATION AND CORRECTION COMMAND
ESINR ESTIMATION AND CORRECTION COMMAND
ESINR ESTIMATION AND CORRECTION COMMAND
UL DATA CHANNEL
HARQ 3
HARQ 4
HARQ 1
HARQ 2
HARQ 3
HARQ 4
DTX PERIOD
HARQ 1
HARQ 2
HARQ 3
HARQ 4
HARQ 1
H2
UL Tx PSD LEVEL
OPEN LOOP AND CLOSED LOOP PC
OPEN LOOP AND CLOSED LOOP PC (n−1)−th UPDATE INSTANT
PSD$_{Tx}$=(n)
n−th UPDATE INSTANT
OPEN LOOP AND CLOSED LOOP PC

FIG.7

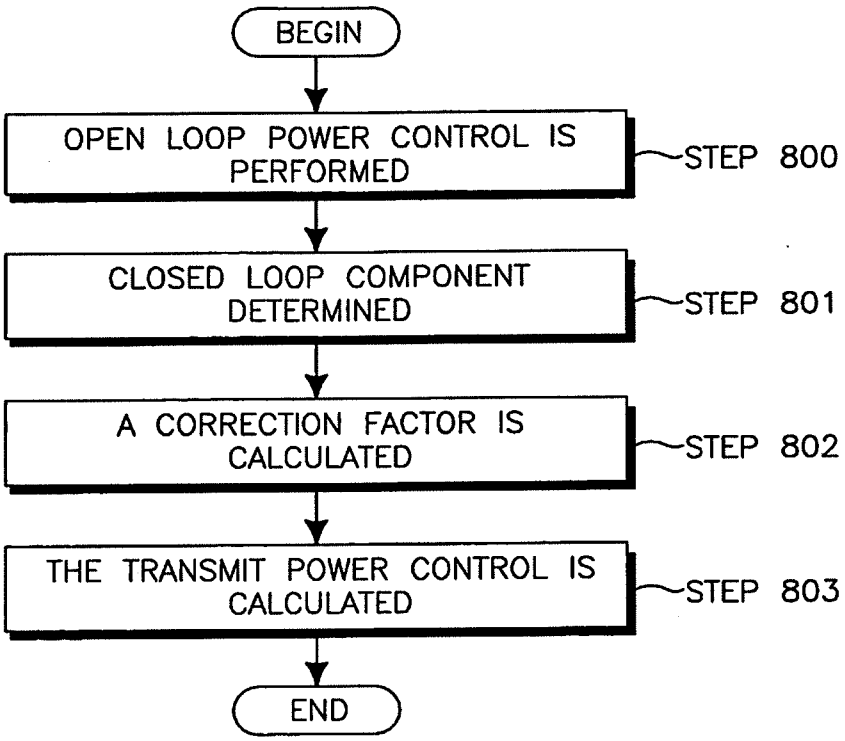

BEGIN
OPEN LOOP POWER CONTROL IS PERFORMED
STEP 800
CLOSED LOOP COMPONENT DETERMINED
STEP 801
A CORRECTION FACTOR IS CALCULATED
STEP 802
THE TRANSMIT POWER CONTROL IS CALCULATED
STEP 803
END

FIG.8