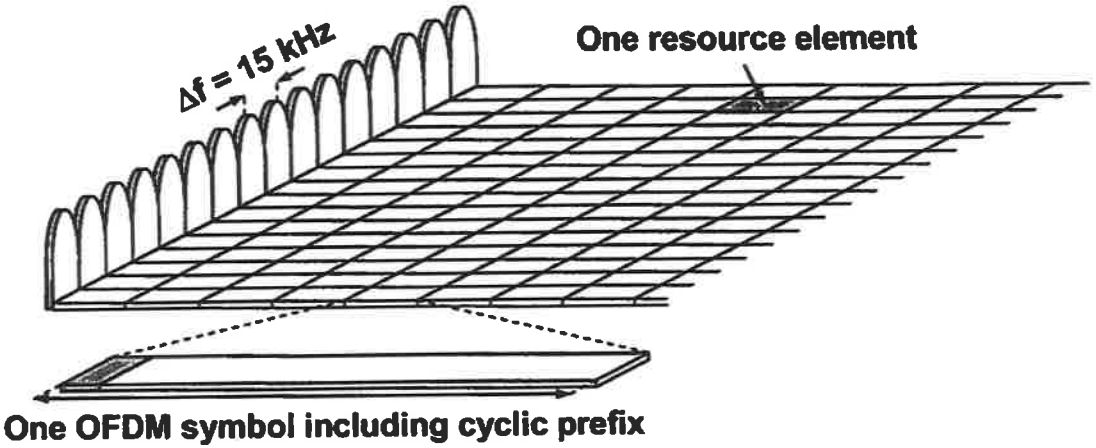


FIGURE 1

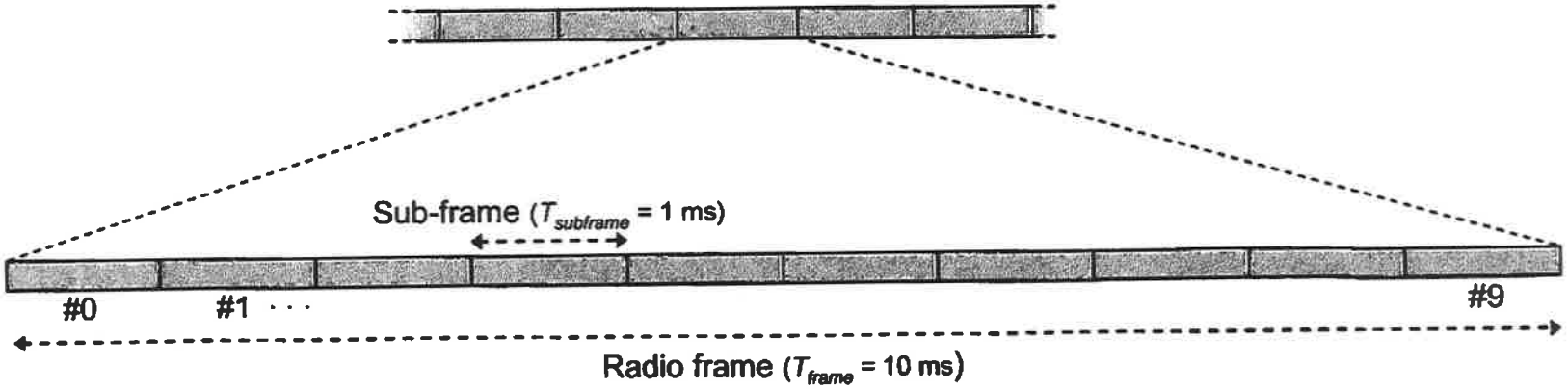


FIGURE 2

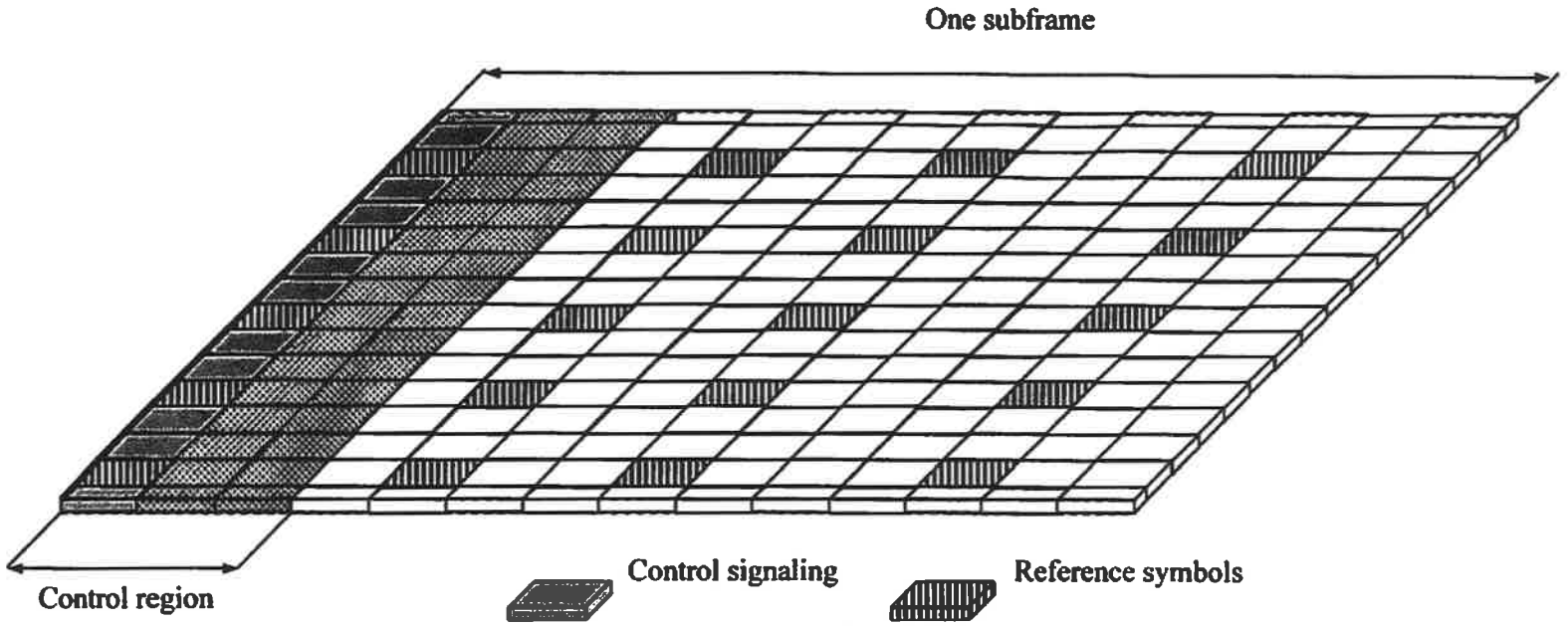


FIGURE 3

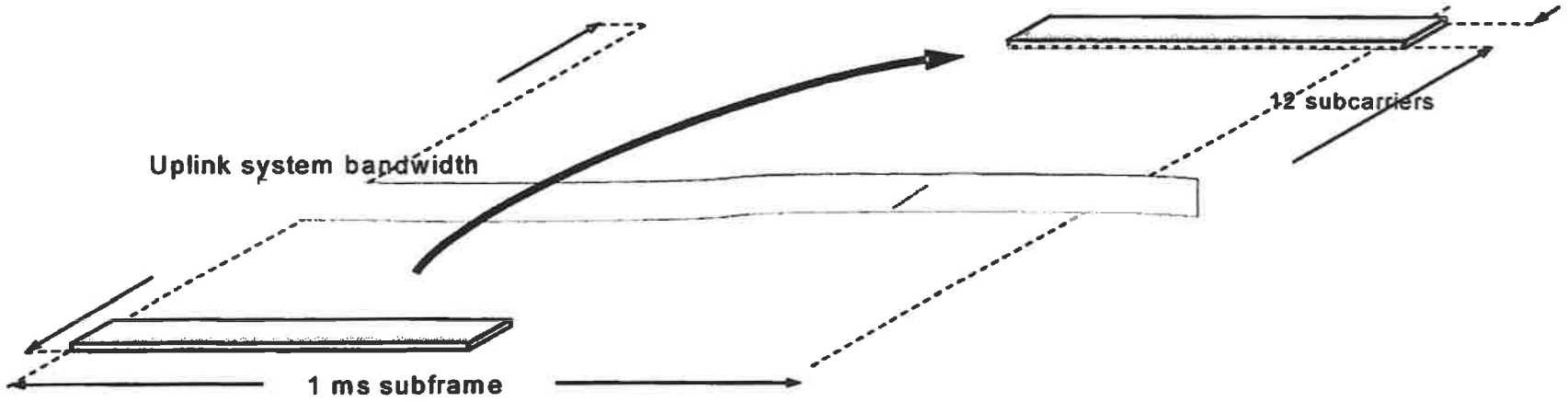
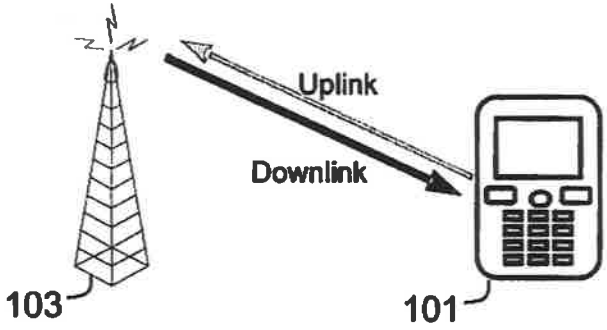


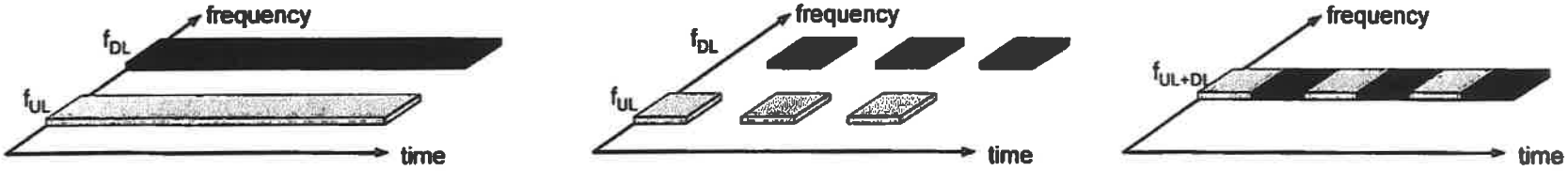
FIGURE 4



Aggregated bandwidth of 100 MHz

FIGURE 5





FDD

Half-duplex FDD
(terminalside only)

TDD

FIGURE 6

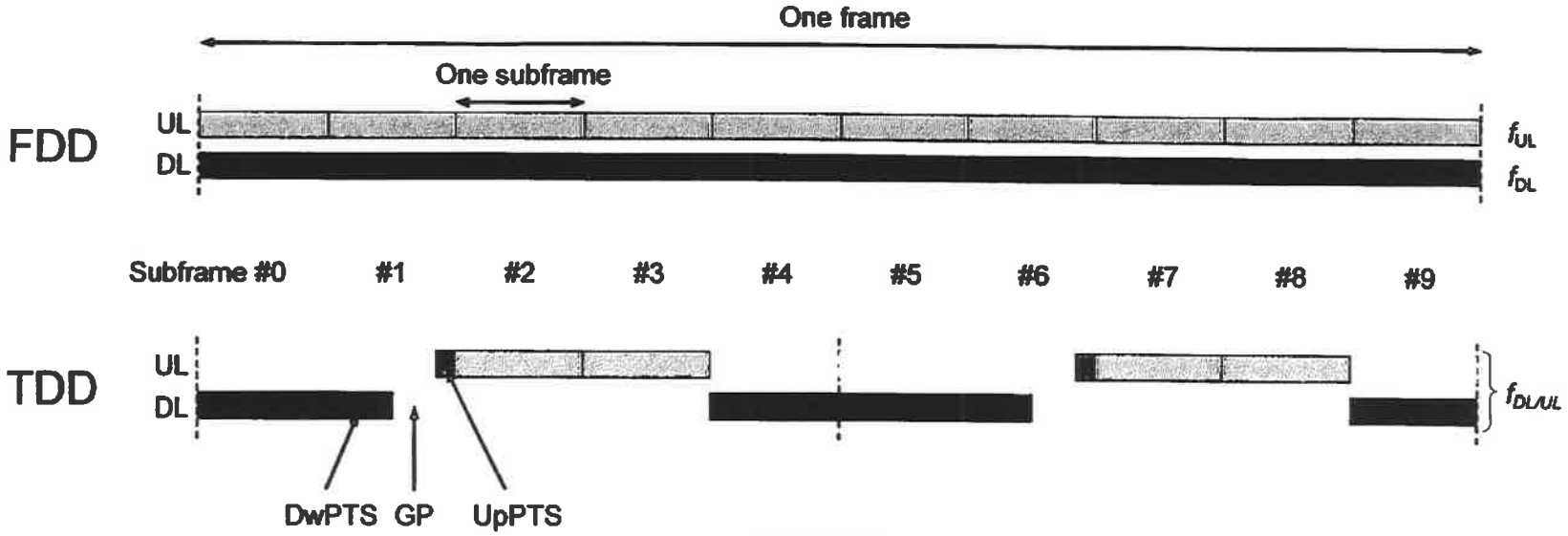

One frame
One subframe
FDD
UL
DL
f_{UL}
f_{DL}
Subframe #0
#1
#2
#3
#4
#5
#6
#7
#8
#9
TDD
UL
DL
$f_{DL/UL}$
DwPTS
GP
UpPTS

FIGURE 7

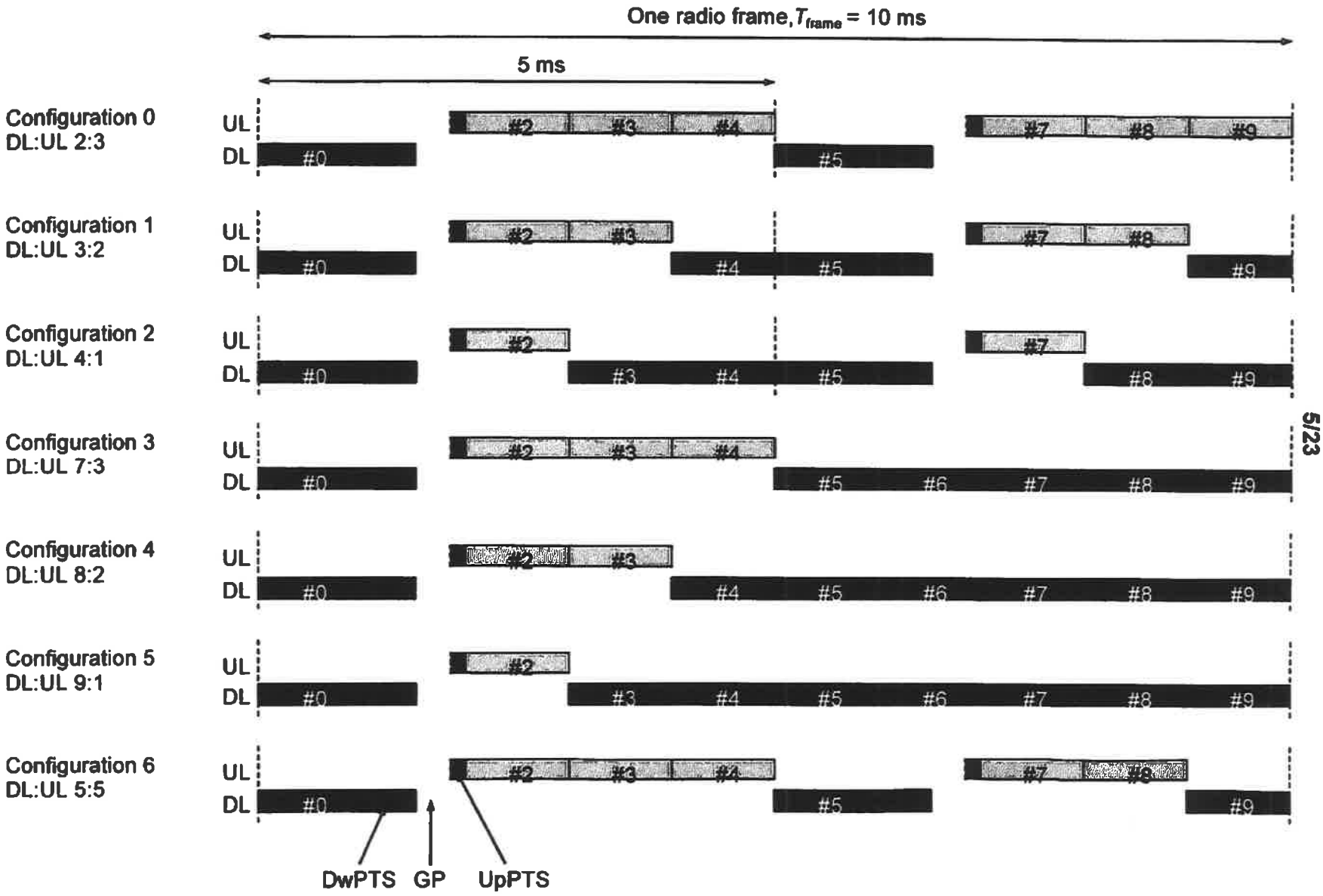

One radio frame, T_{frame} = 10 ms
5 ms
Configuration 0
DL:UL 2:3
Configuration 1
DL:UL 3:2
Configuration 2
DL:UL 4:1
Configuration 3
DL:UL 7:3
Configuration 4
DL:UL 8:2
Configuration 5
DL:UL 9:1
Configuration 6
DL:UL 5:5
UL
DL
#0
#2
#3
#4
#5
#6
#7
#8
#9
DwPTS
GP
UpPTS

FIGURE 8

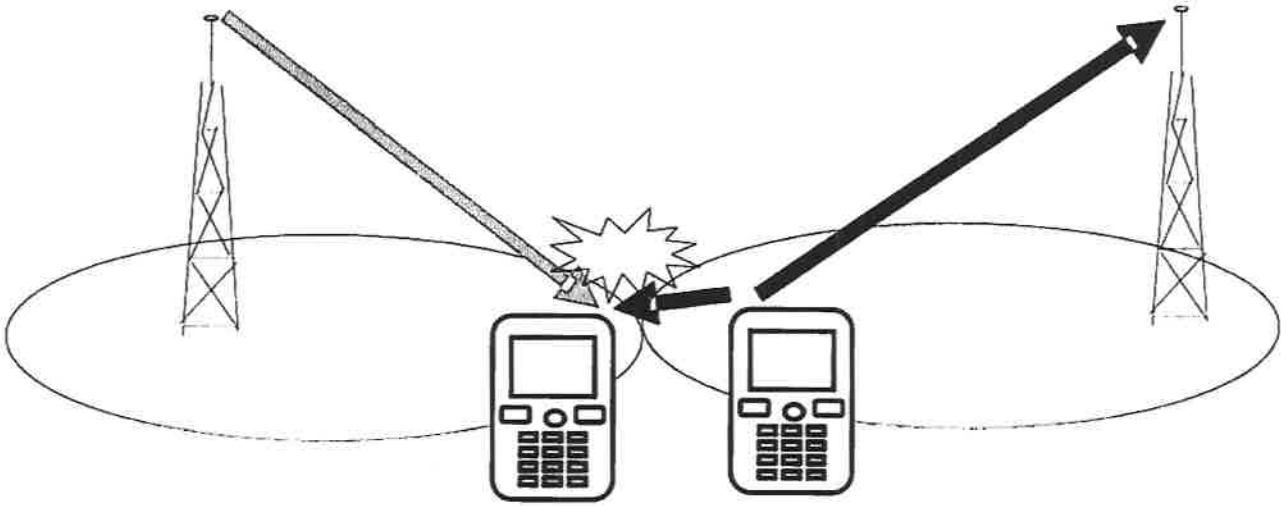


FIGURE 9

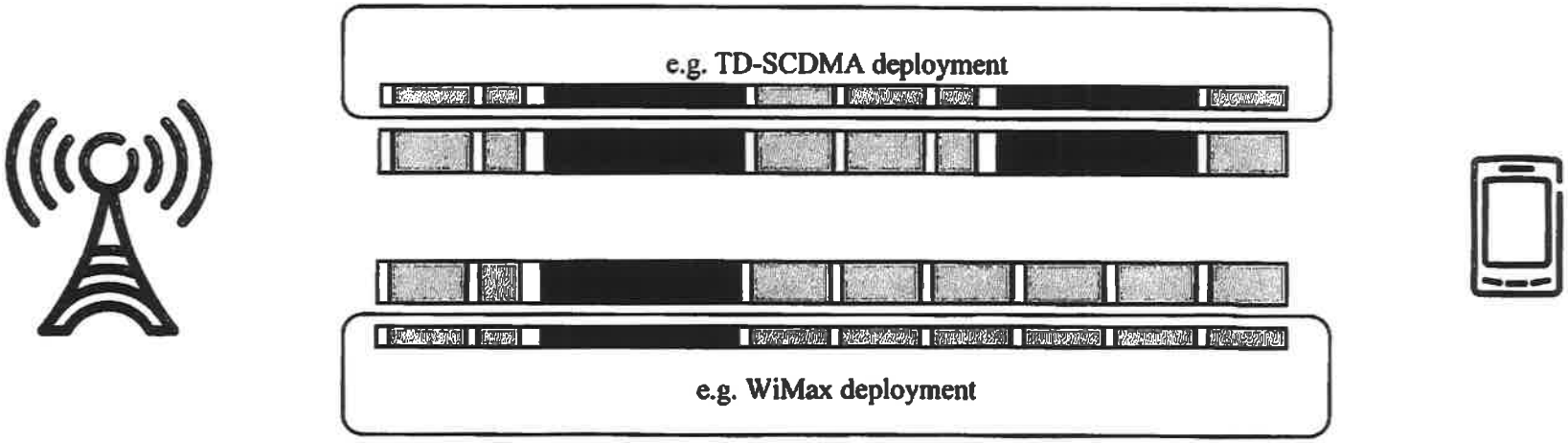


FIGURE 14

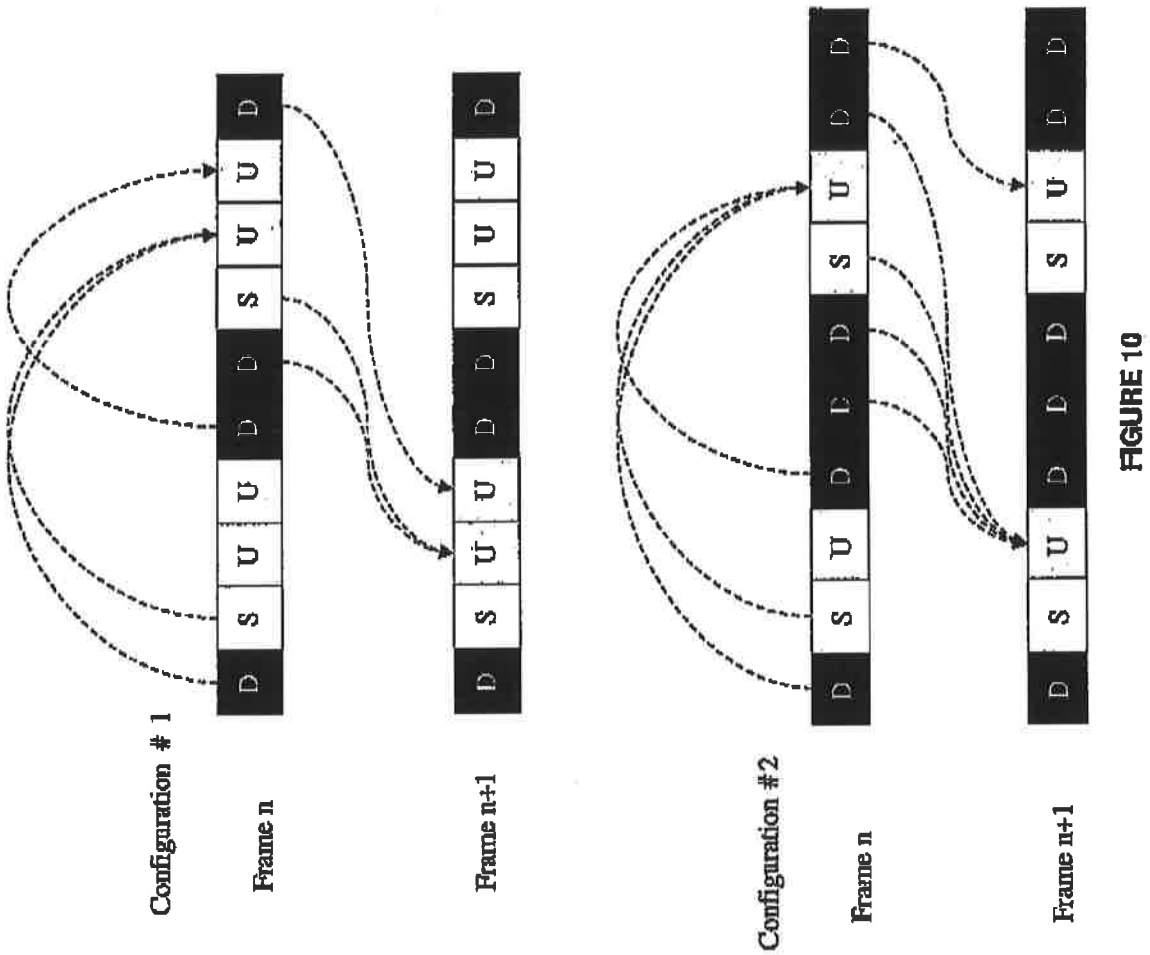

Configuration # 1
Frame n
Frame n+1
Configuration #2
Frame n
Frame n+1

FIGURE 10

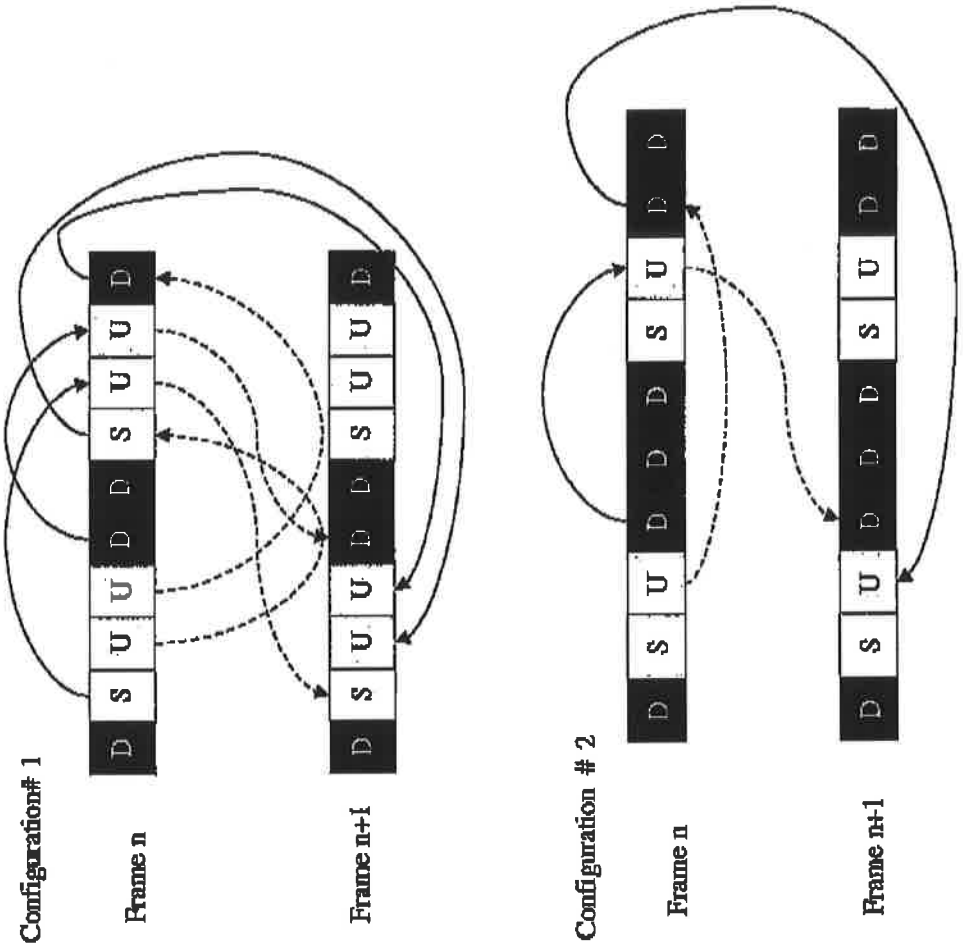

Configuration# 1
Frame n
Frame n+1
Configuration # 2
Frame n
Frame n+1

FIGURE 11

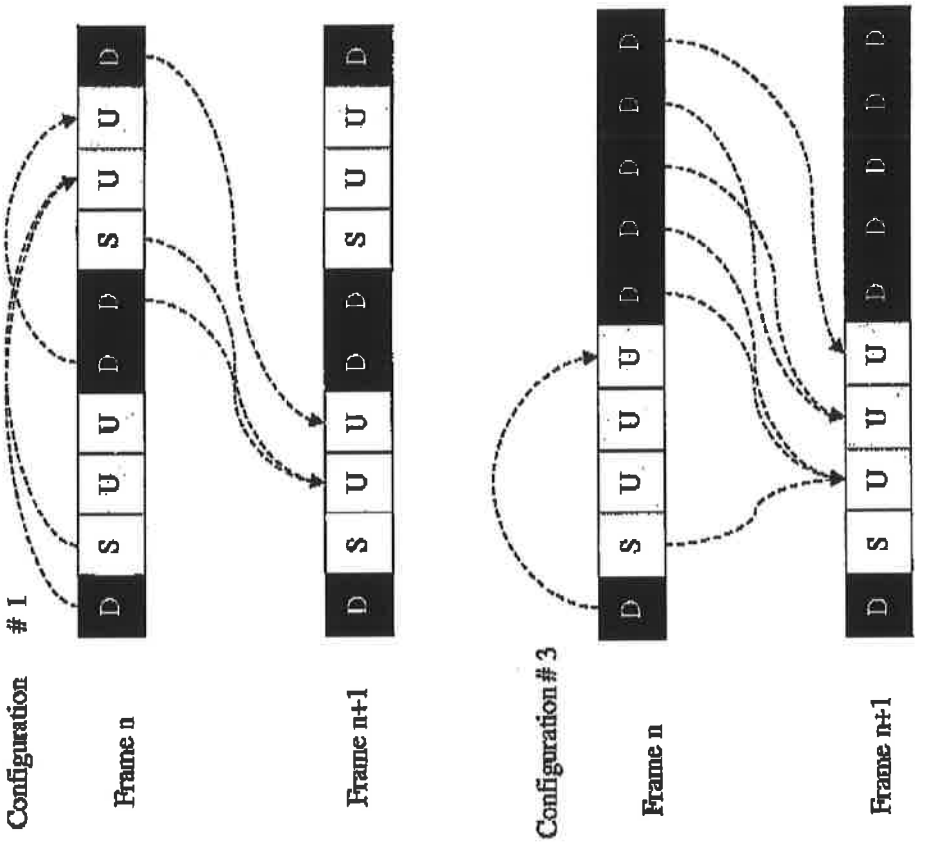

Configuration # 1
Frame n
Frame n+1
Configuration # 3
Frame n
Frame n+1

FIGURE 12

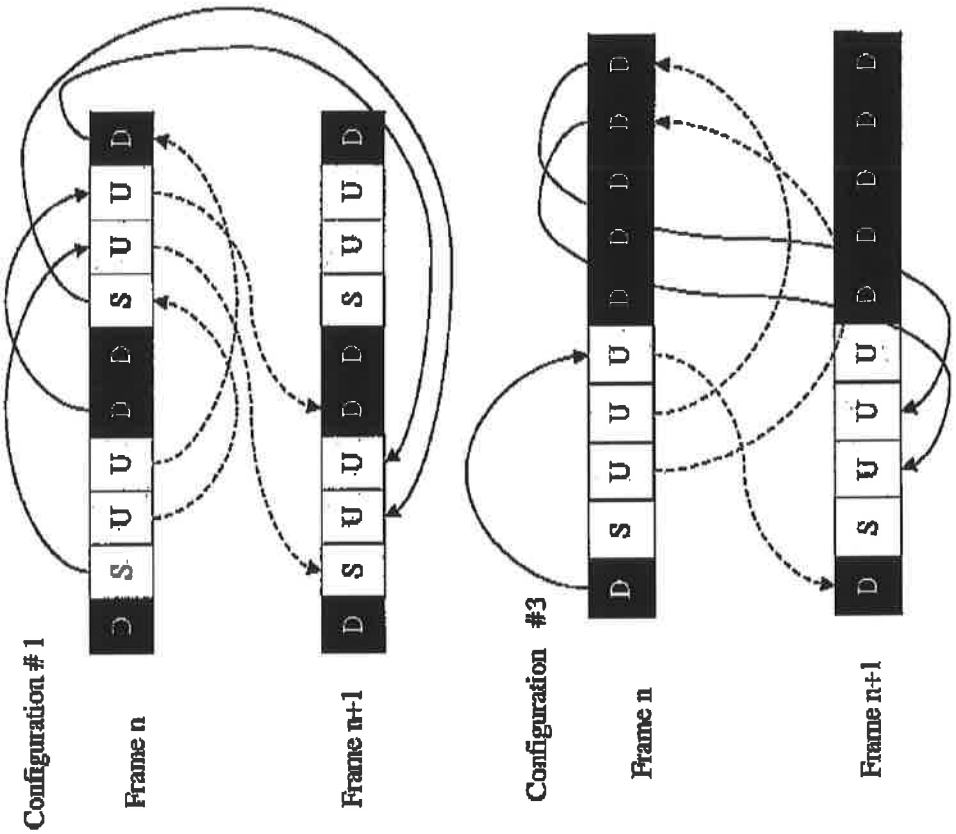

Configuration # 1
Frame n
Frame n+1
Configuration #3
Frame n
Frame n+1

FIGURE 13

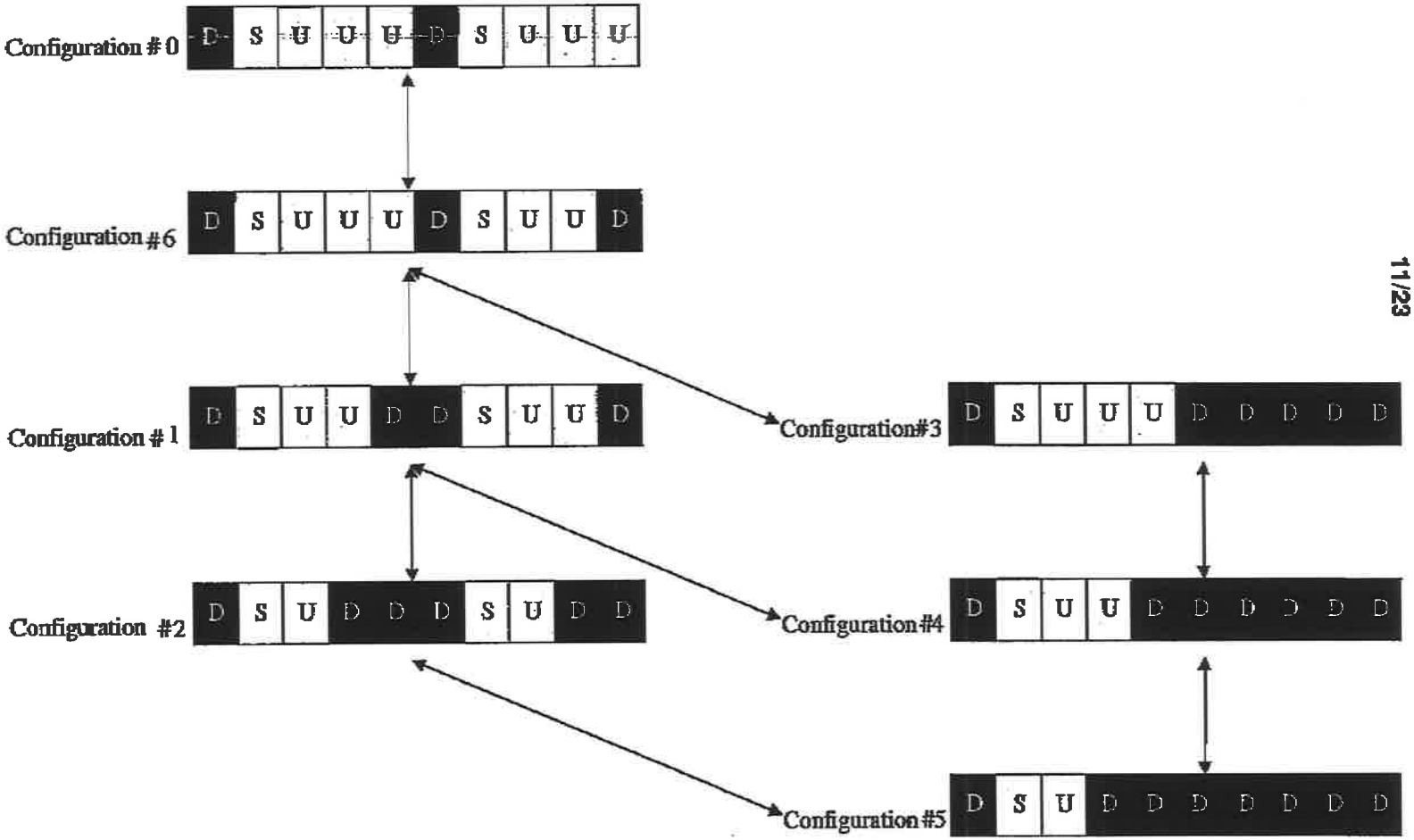
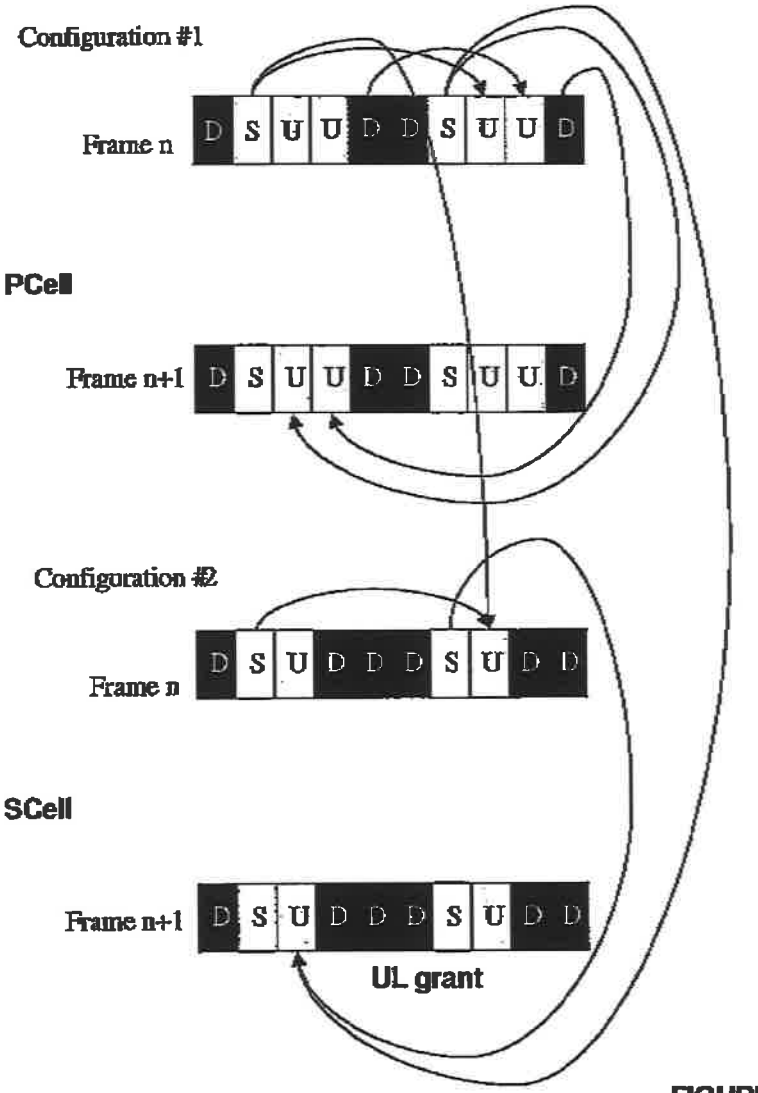

Configuration # 0
D S U U U D S U U U
Configuration #6
D S U U U D S U U D
Configuration # 1
D S U U D D S U U D
Configuration #3
D S U U U D D D D D
Configuration #2
D S U D D D S U D D
Configuration #4
D S U U D D D D D D
Configuration #5
D S U D D D D D D D

FIGURE 15


Configuration #1
Frame n
D S U U D D S U U D
PCell
Frame n+1
D S U U D D S U U D
Configuration #2
Frame n
D S U D D D S U D D
SCell
Frame n+1
D S U D D D S U D D
UL grant

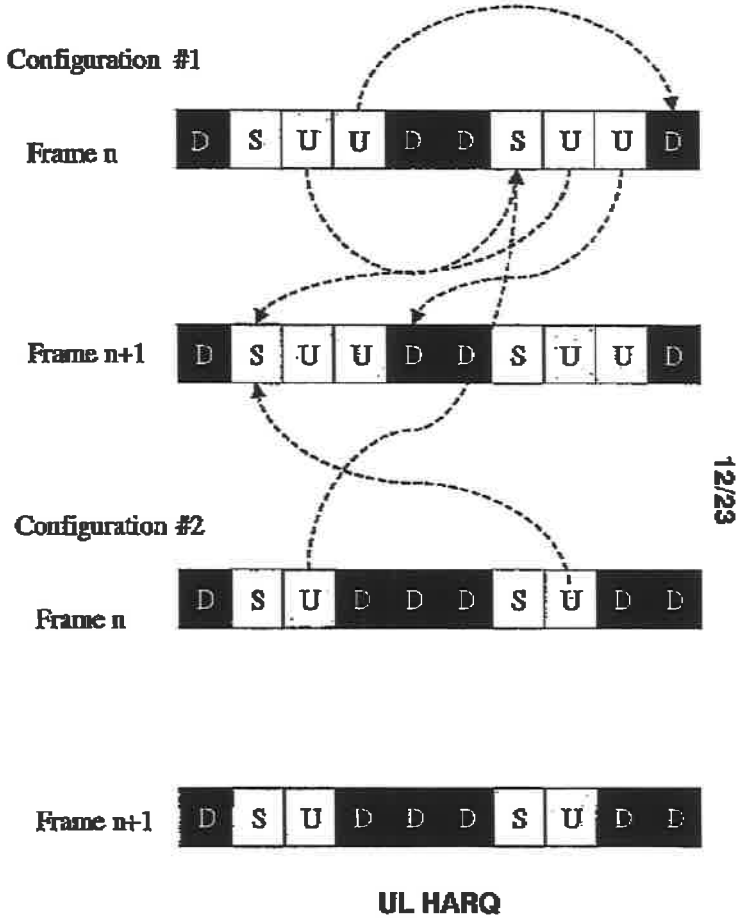
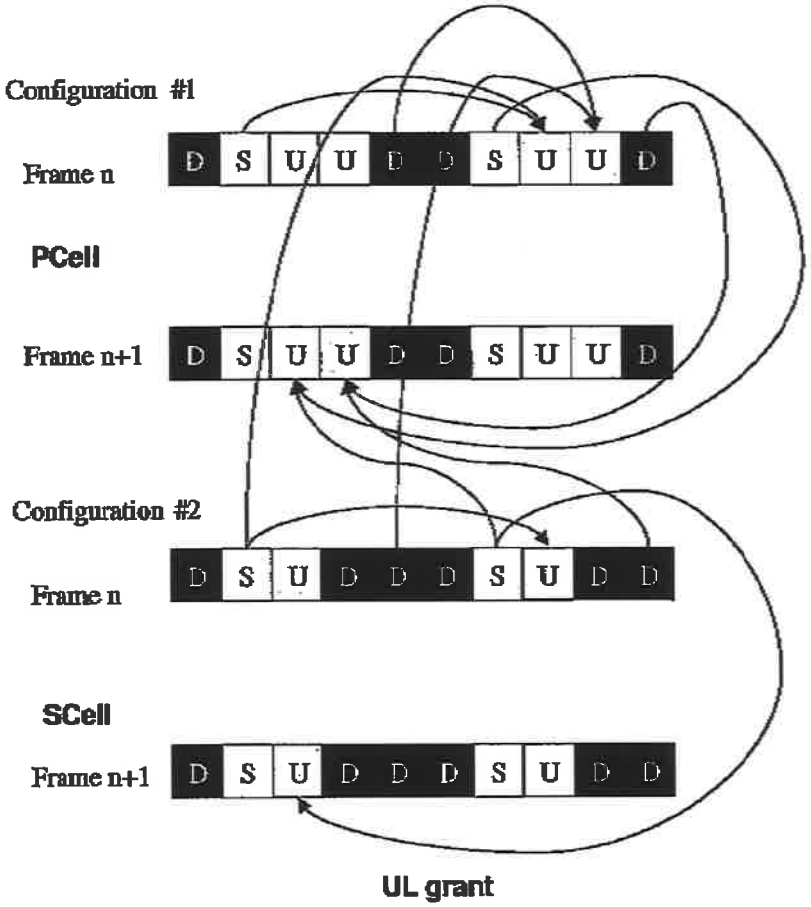

Configuration #1
Frame n
D S U U D D S U U D
Frame n+1
D S U U D D S U U D
Configuration #2
Frame n
D S U D D D S U D D
Frame n+1
D S U D D D S U D D
UL HARQ

FIGURE 16


Configuration #1
Frame n
D S U U D D S U U D
PCell
Frame n+1
D S U U D D S U U D
Configuration #2
Frame n
D S U D D D S U D D
SCell
Frame n+1
D S U D D D S U D D
UL grant

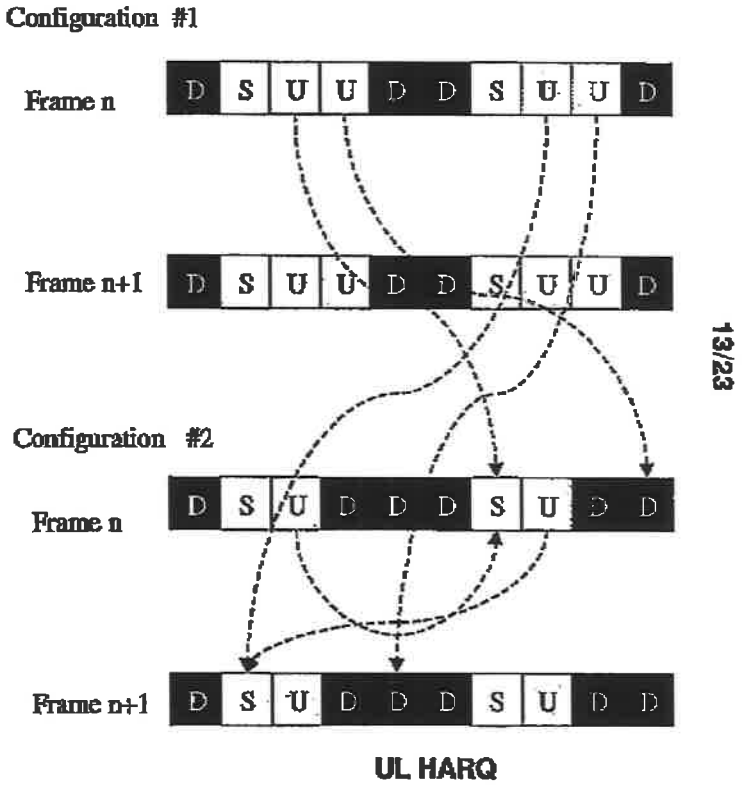

Configuration #1
Frame n
D S U U D D S U U D
Frame n+1
D S U U D D S U U D
Configuration #2
Frame n
D S U D D D S U D D
Frame n+1
D S U D D D S U D D
UL HARQ

FIGURE 17

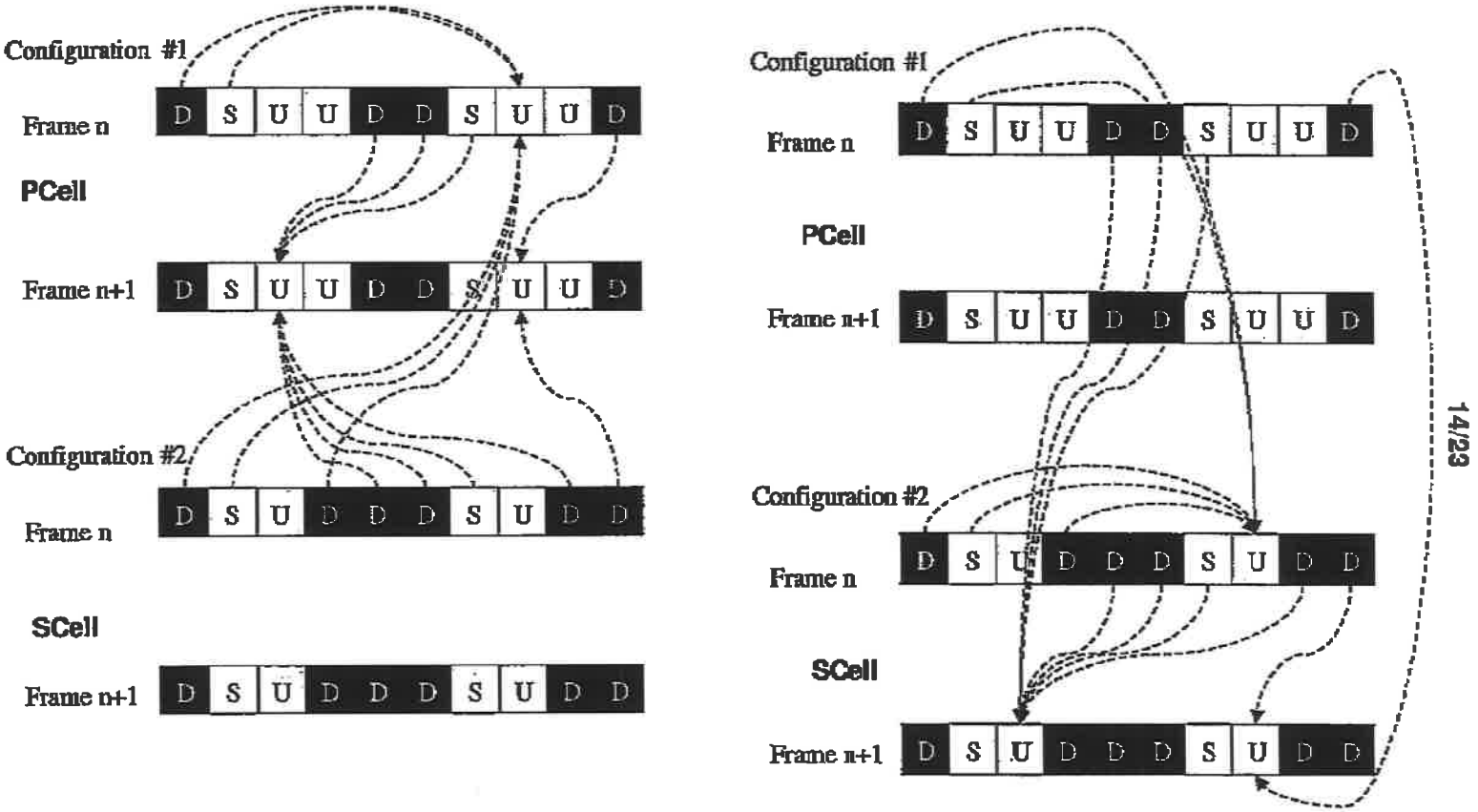

Configuration #1
Frame n
D S U U D D S U U D
PCell
Frame n+1
D S U U D D S U U D
Configuration #2
Frame n
D S U D D D S U D D
SCell
Frame n+1
D S U D D D S U D D
Configuration #1
Frame n
D S U U D D S U U D
PCell
Frame n+1
D S U U D D S U U D
Configuration #2
Frame n
D S U D D D S U D D
SCell
Frame n+1
D S U D D D S U D D

FIGURE 18

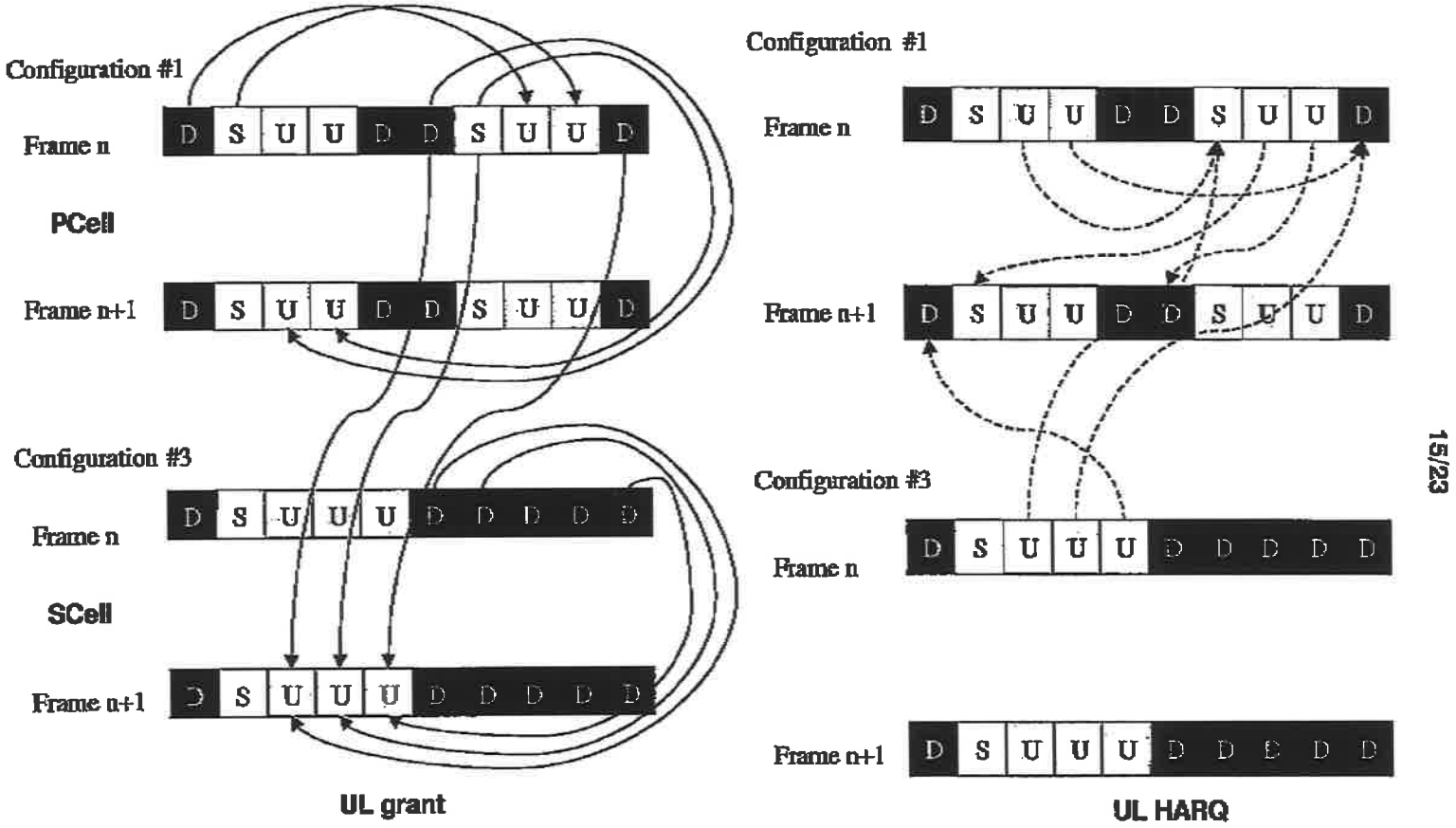
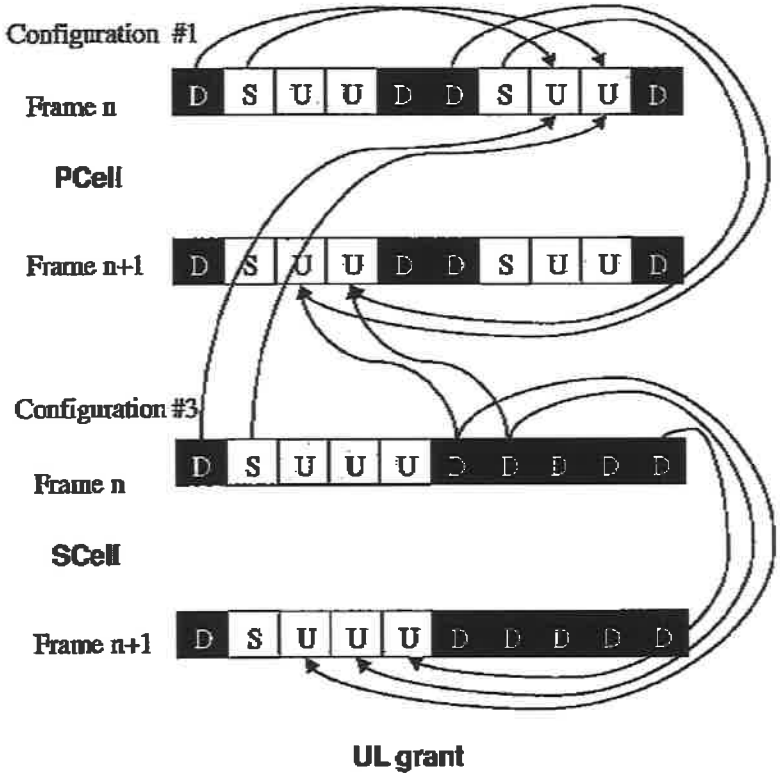

Configuration #1
Frame n
D S U U D D S U U D
PCell
Frame n+1
D S U U D D S U U D
Configuration #3
Frame n
D S U U U D D D D D
SCell
Frame n+1
D S U U U D D D D D
UL grant
Configuration #1
Frame n
D S U U D D S U U D
Frame n+1
D S U U D D S U U D
Configuration #3
Frame n
D S U U U D D D D D
Frame n+1
D S U U U D D D D D
UL HARQ

FIGURE 19


Configuration #1
Frame n
D S U U D D S U U D
PCell
Frame n+1
D S U U D D S U U D
Configuration #3
Frame n
D S U U U D D D D D
SCell
Frame n+1
D S U U U D D D D D
UL grant

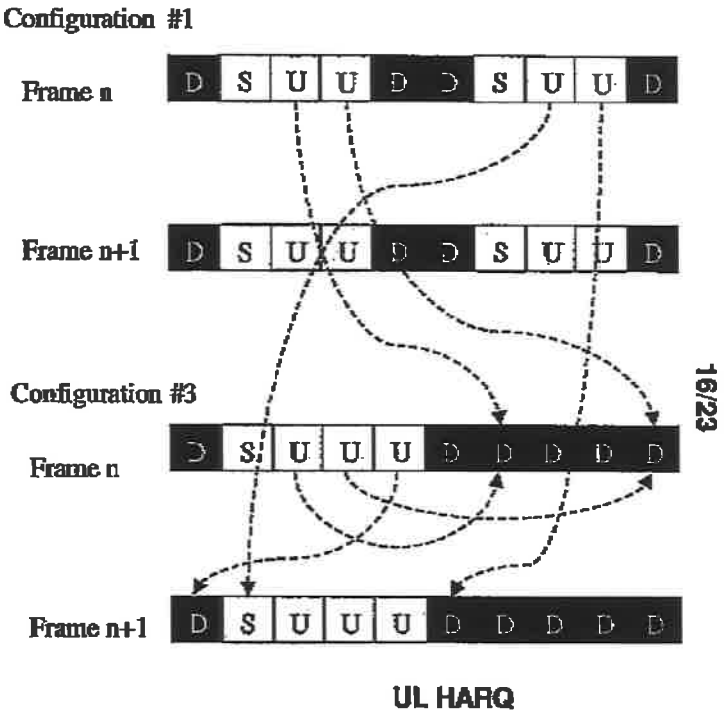

Configuration #1
Frame n
D S U U D D S U U D
Frame n+1
D S U U D D S U U D
Configuration #3
Frame n
D S U U U D D D D D
Frame n+1
D S U U U D D D D D
UL HARQ

FIGURE 20

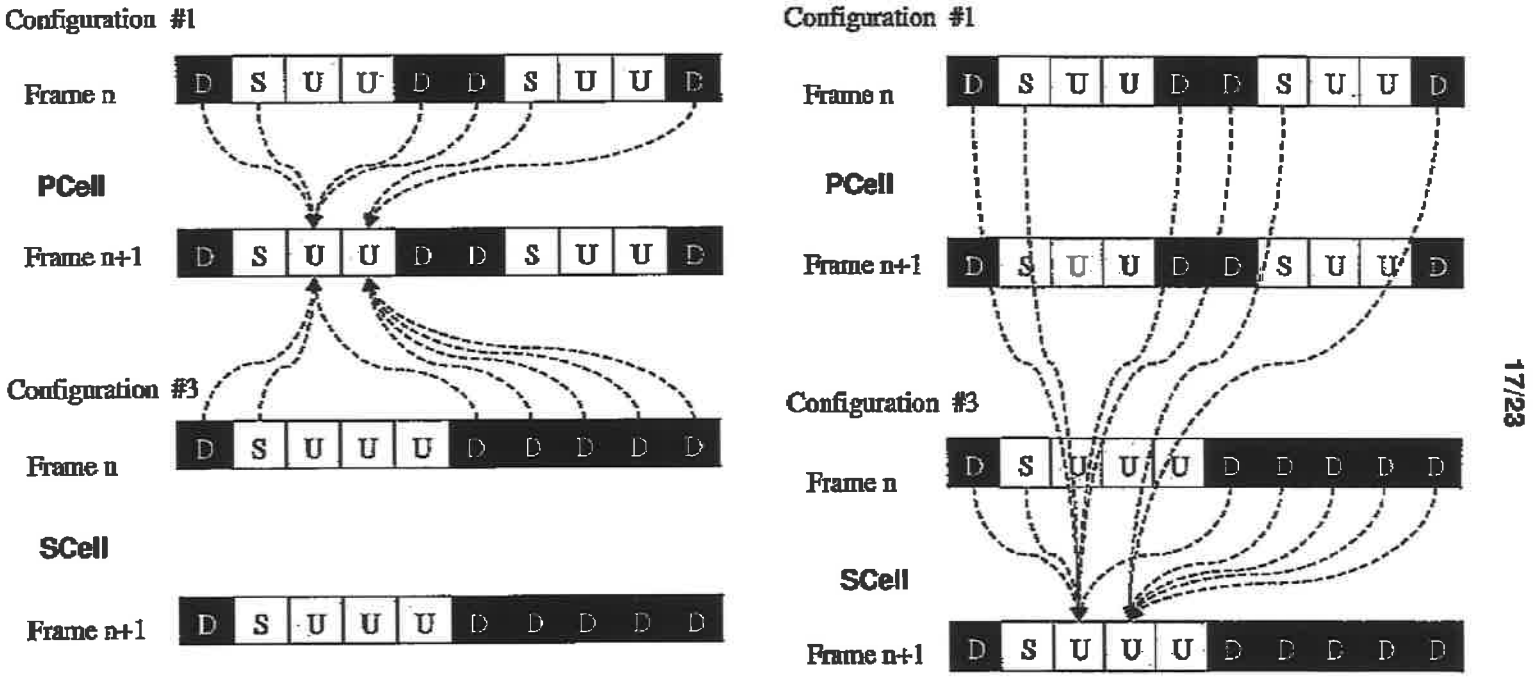

Configuration #1
Frame n
D S U U D D S U U D
PCell
Frame n+1
D S U U D D S U U D
Configuration #3
Frame n
D S U U U D D D D D
SCell
Frame n+1
D S U U U D D D D D
Configuration #1
Frame n
D S U U D D S U U D
PCell
Frame n+1
D S U U D D S U U D
Configuration #3
Frame n
D S U U U D D D D D
SCell
Frame n+1
D S U U U D D D D D

FIGURE 21

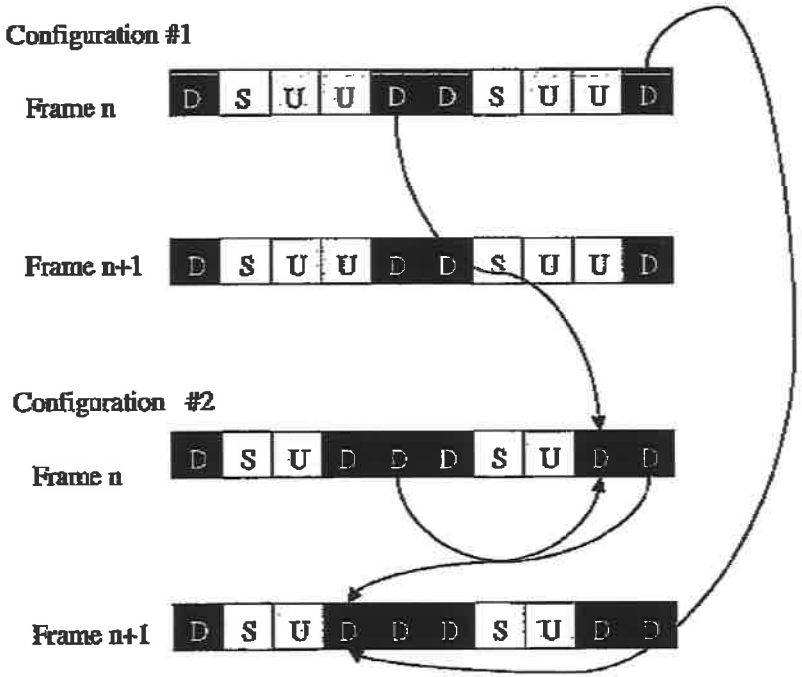


FIGURE 22

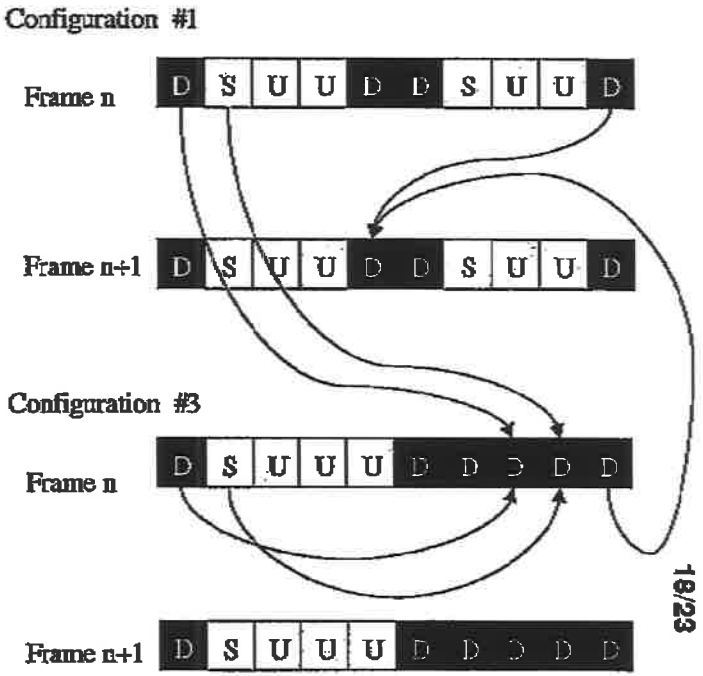


FIGURE 23

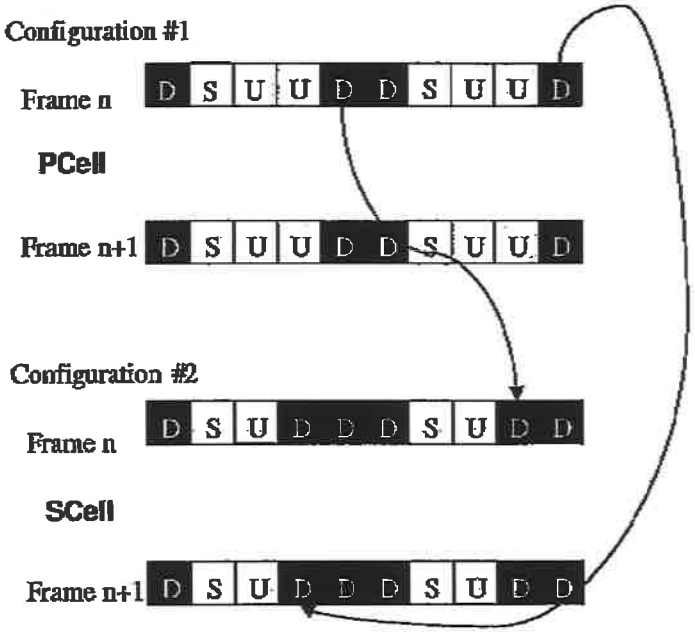


FIGURE 24

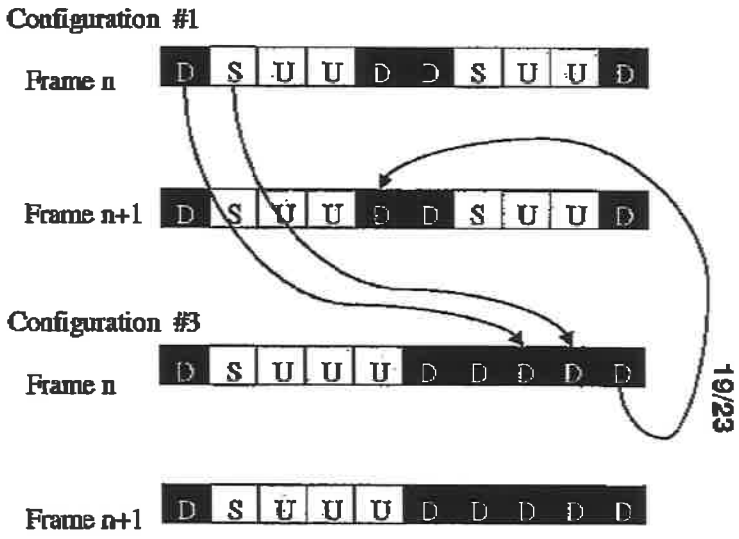


FIGURE 25

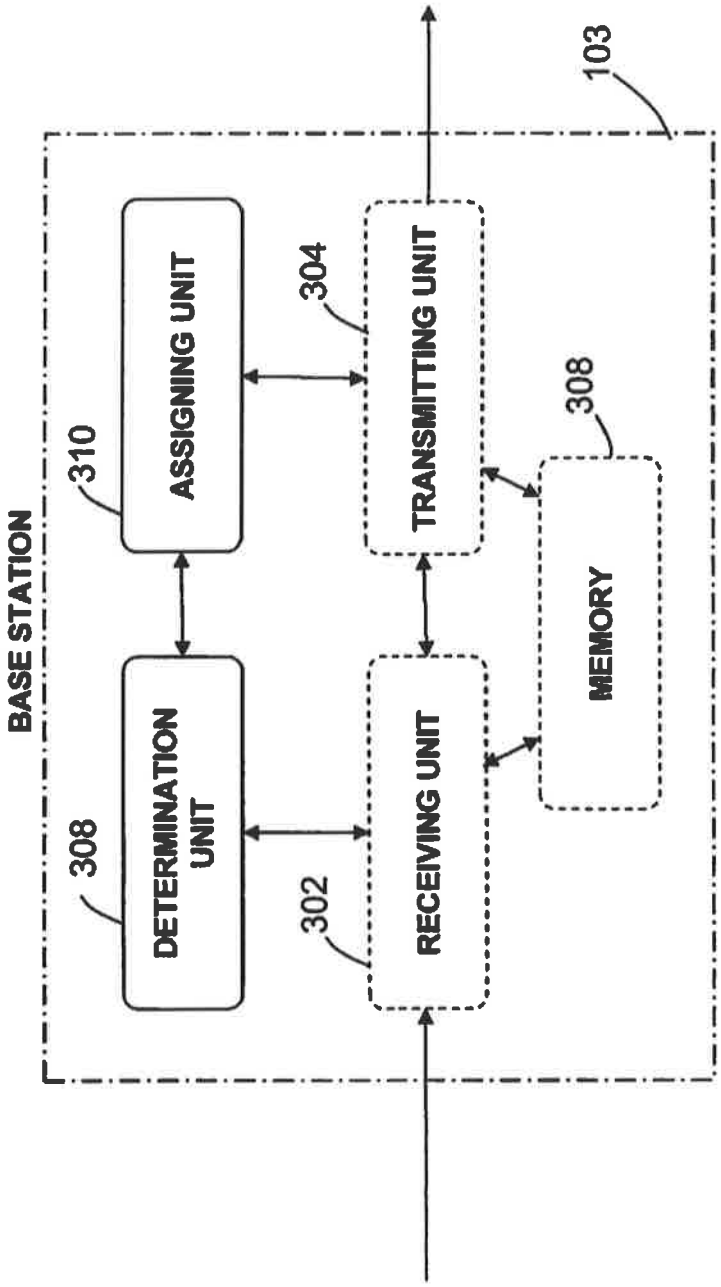

BASE STATION
103
ASSIGNING UNIT
310
304
TRANSMITTING UNIT
308
MEMORY
DETERMINATION UNIT
308
302
RECEIVING UNIT

FIGURE 26

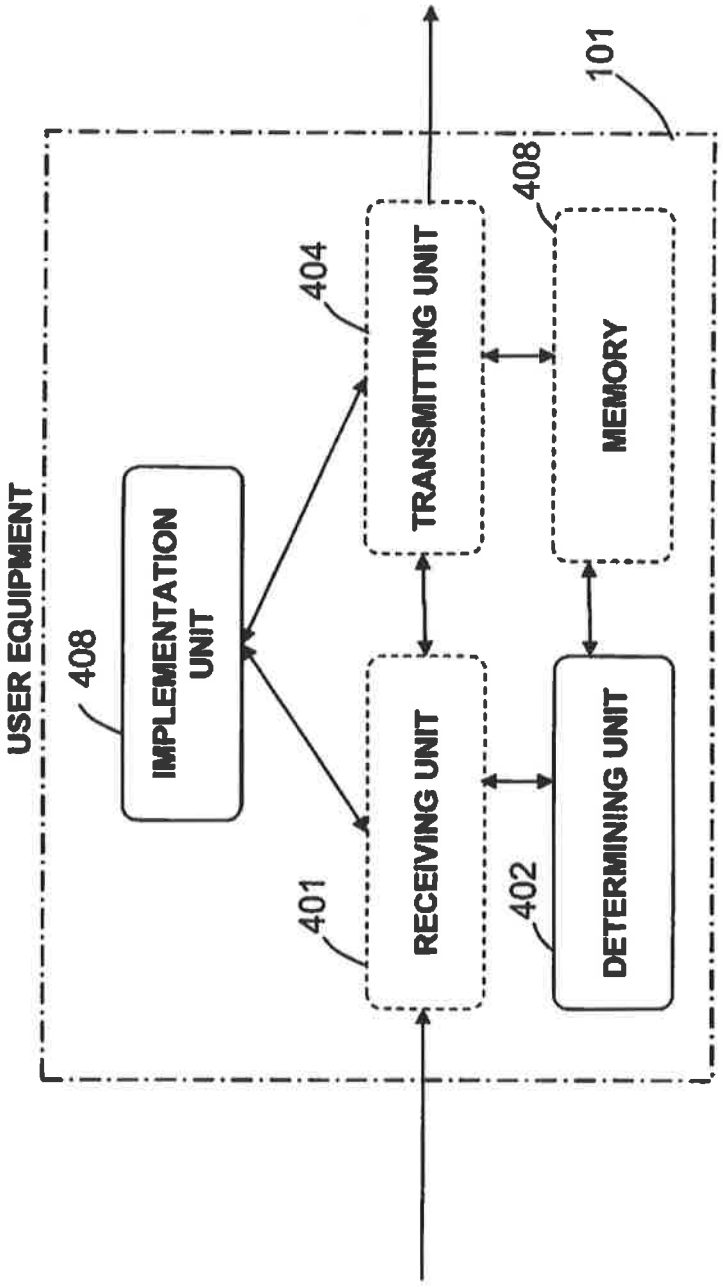

USER EQUIPMENT
101
IMPLEMENTATION UNIT
408
TRANSMITTING UNIT
404
MEMORY
408
RECEIVING UNIT
401
DETERMINING UNIT
402

FIGURE 27

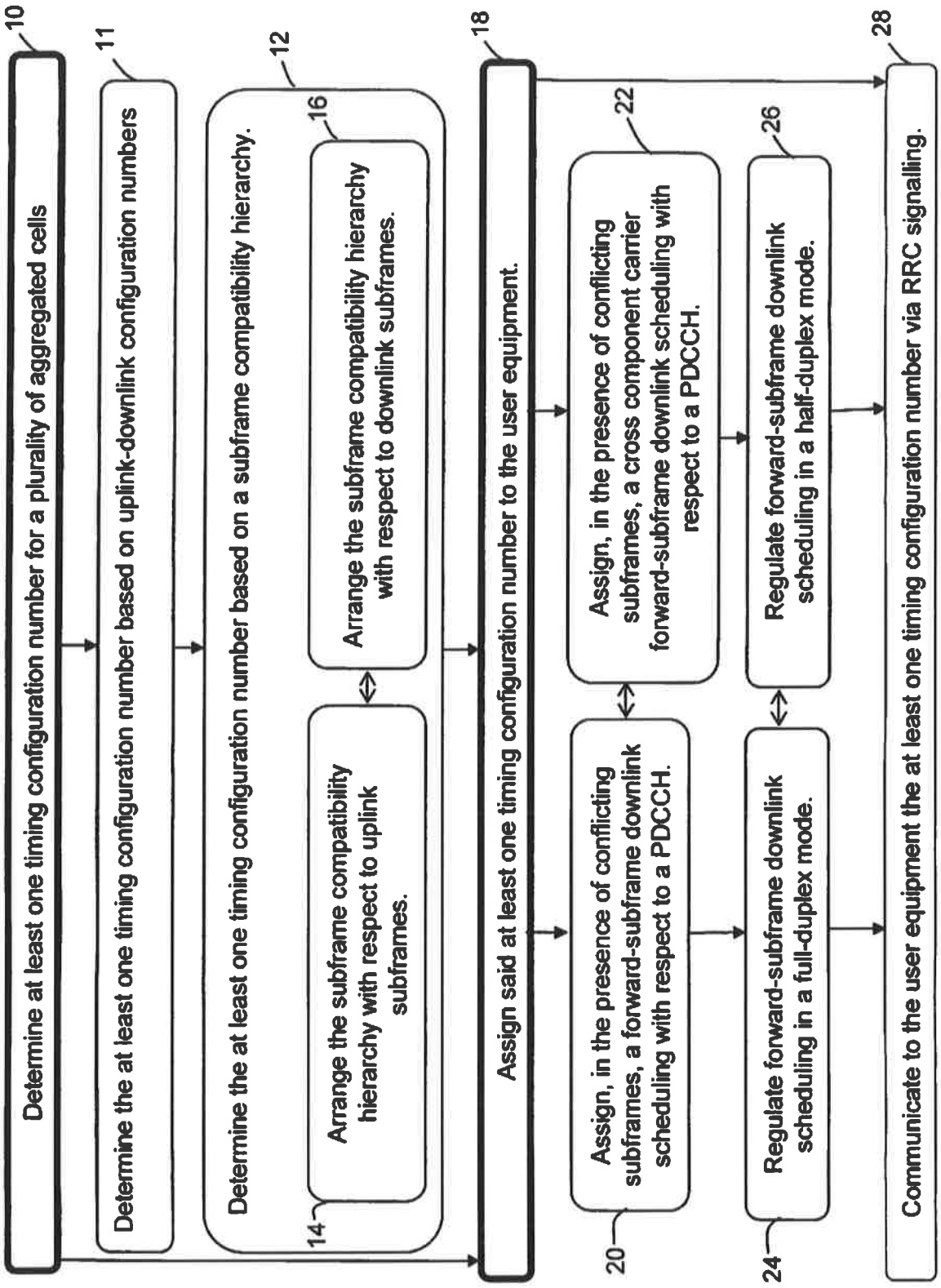

10
Determine at least one timing configuration number for a plurality of aggregated cells
11
Determine the at least one timing configuration number based on uplink-downlink configuration numbers
12
Determine the at least one timing configuration number based on a subframe compatibility hierarchy.
14
Arrange the subframe compatibility hierarchy with respect to uplink subframes.
16
Arrange the subframe compatibility hierarchy with respect to downlink subframes.
18
Assign said at least one timing configuration number to the user equipment.
20
Assign, in the presence of conflicting subframes, a forward-subframe downlink scheduling with respect to a PDCCH.
22
Assign, in the presence of conflicting subframes, a cross component carrier forward-subframe downlink scheduling with respect to a PDCCH.
24
Regulate forward-subframe downlink scheduling in a full-duplex mode.
26
Regulate forward-subframe downlink scheduling in a half-duplex mode.
28
Communicate to the user equipment the at least one timing configuration number via RRC signalling.

FIGURE 28

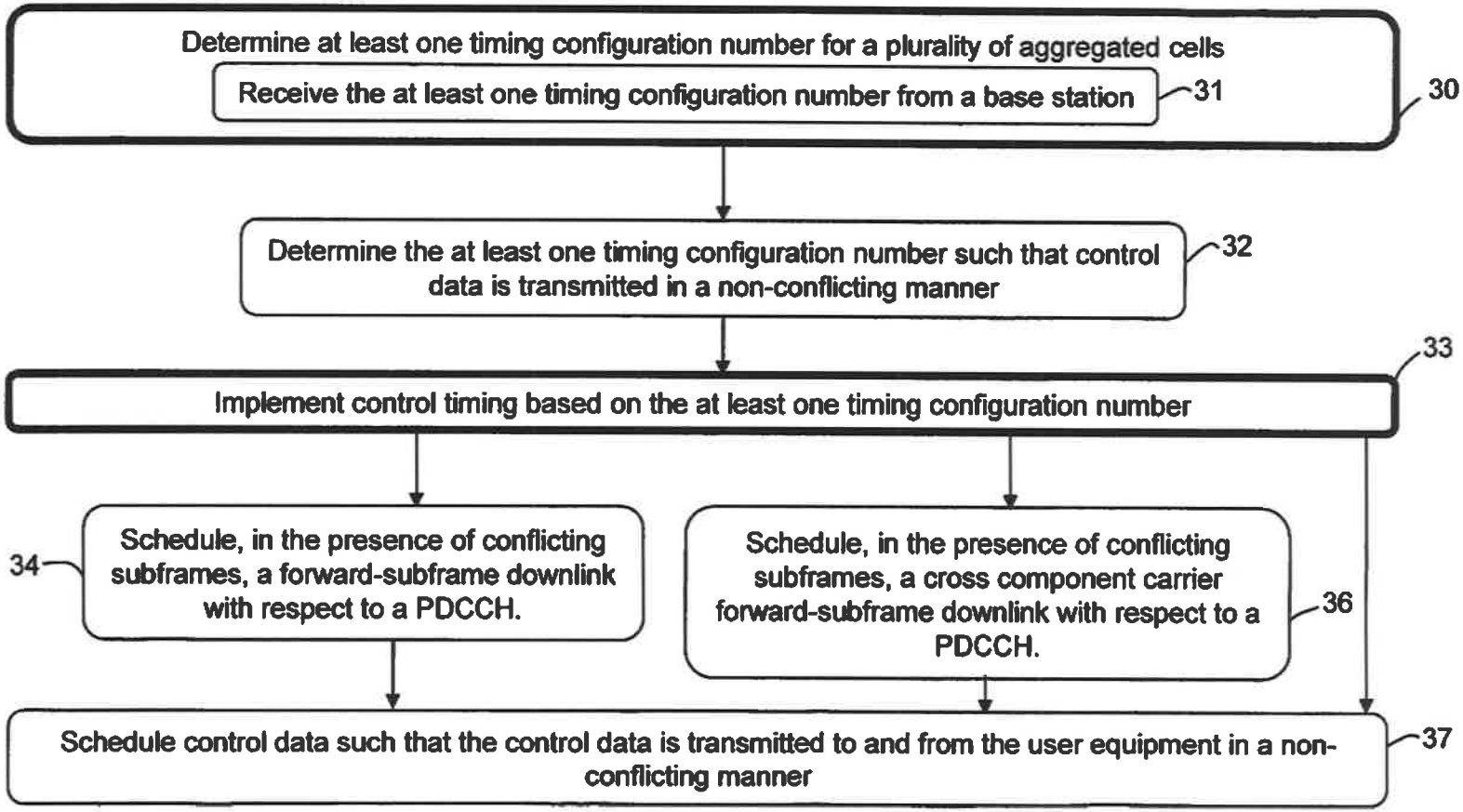

Determine at least one timing configuration number for a plurality of aggregated cells
Receive the at least one timing configuration number from a base station
31
30
Determine the at least one timing configuration number such that control data is transmitted in a non-conflicting manner
32
33
Implement control timing based on the at least one timing configuration number
34
Schedule, in the presence of conflicting subframes, a forward-subframe downlink with respect to a PDCCH.
Schedule, in the presence of conflicting subframes, a cross component carrier forward-subframe downlink with respect to a PDCCH.
36
Schedule control data such that the control data is transmitted to and from the user equipment in a non-conflicting manner
37

FIGURE 29