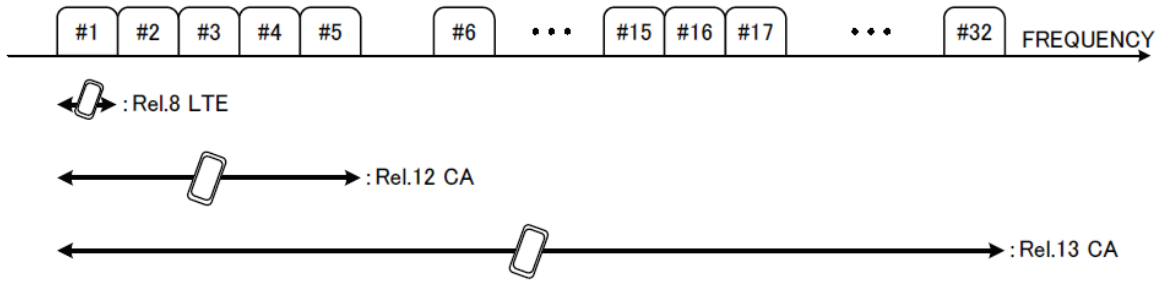

#1
#2
#3
#4
#5
#6
#15
#16
#17
#32
FREQUENCY
: Rel.8 LTE
: Rel.12 CA
: Rel.13 CA

FIG. 1

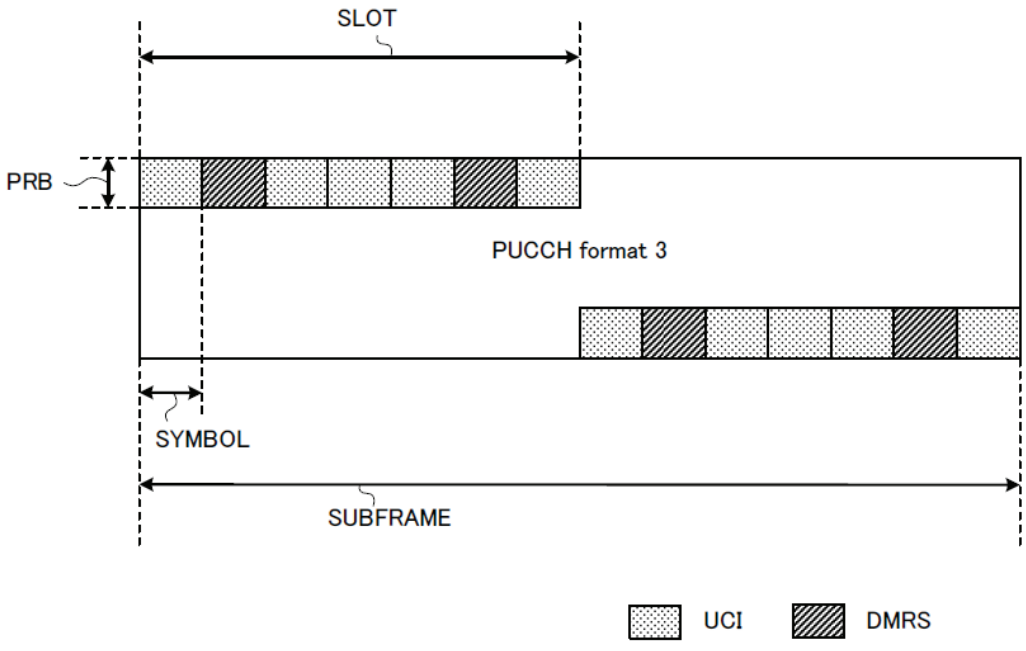

SLOT
PRB
PUCCH format 3
SYMBOL
SUBFRAME
UCI
DMRS

FIG. 2

FIG. 3A

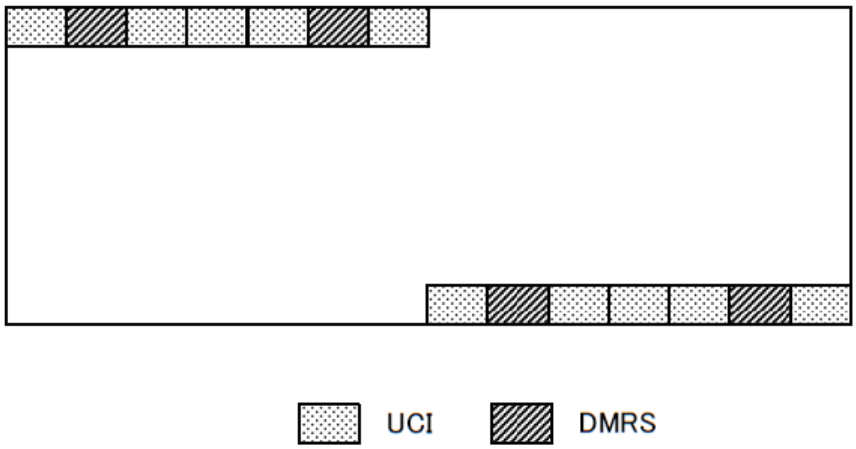


FIG. 3B

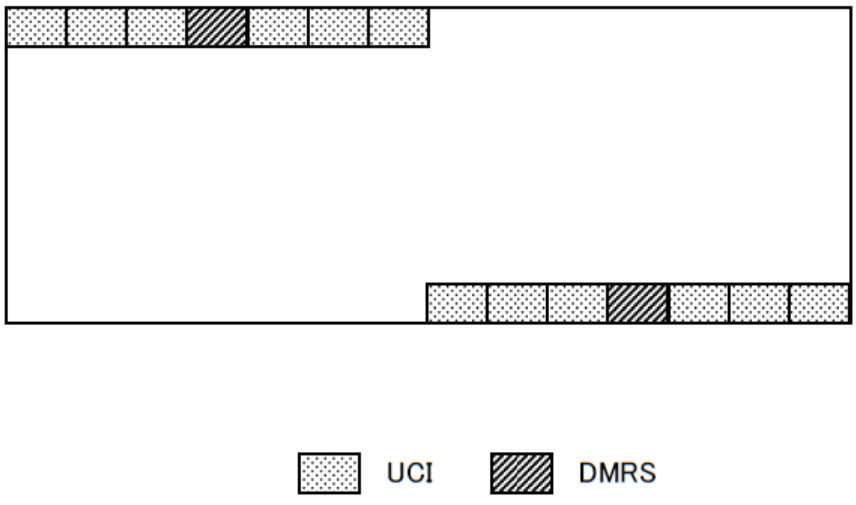


FIG. 4A

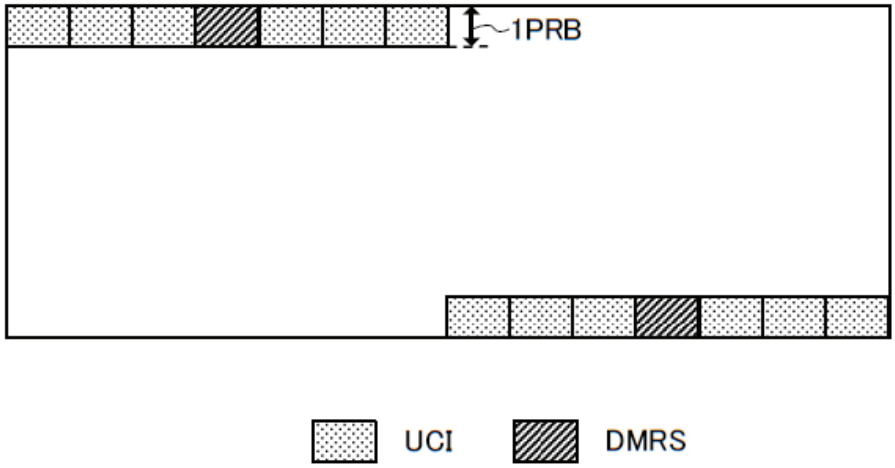


FIG. 4B

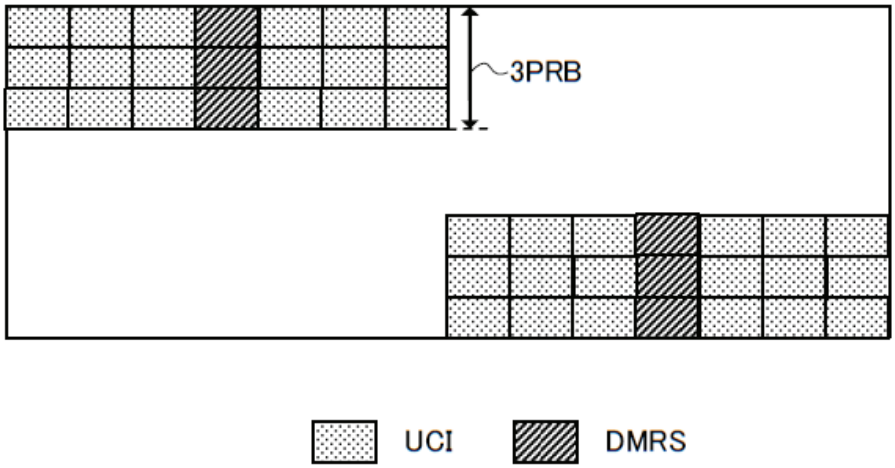


FIG. 5A

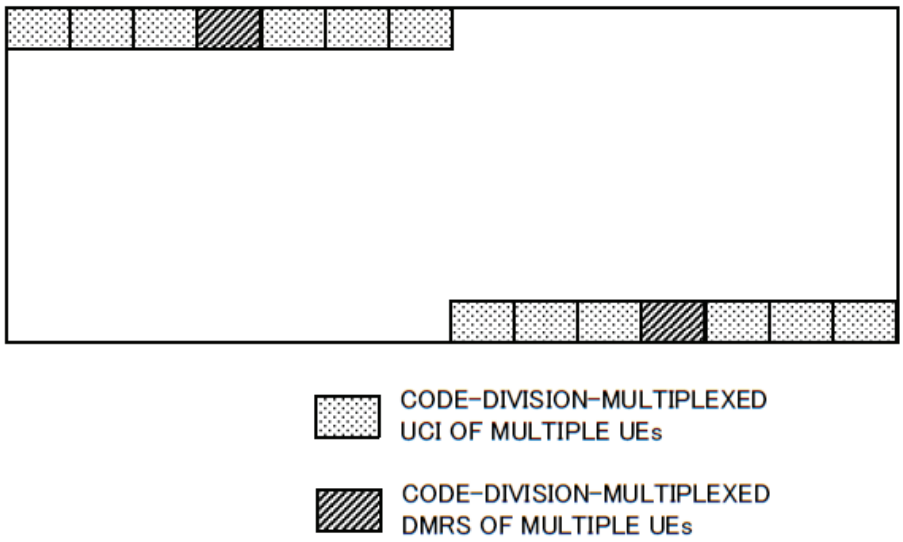

CODE-DIVISION-MULTIPLEXED
UCI OF MULTIPLE UEs
CODE-DIVISION-MULTIPLEXED
DMRS OF MULTIPLE UEs

FIG. 5B

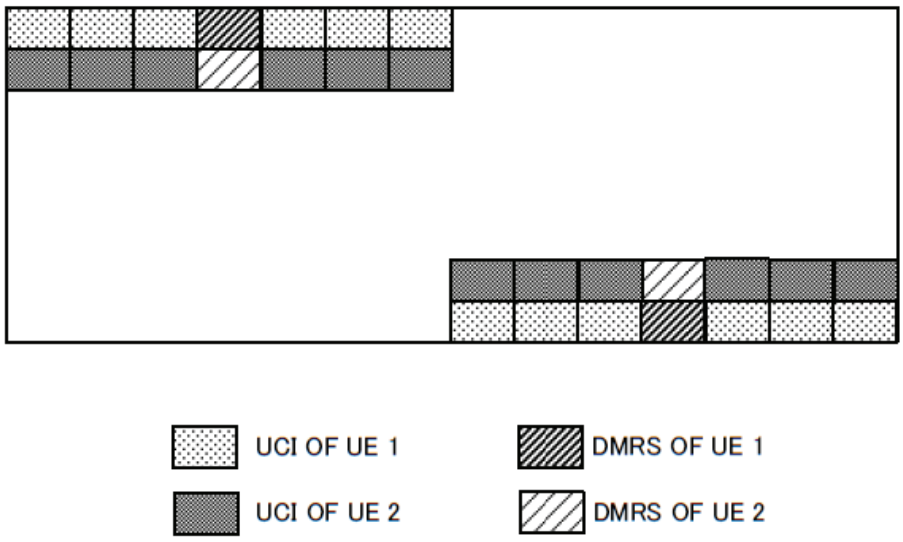

UCI OF UE 1
DMRS OF UE 1
UCI OF UE 2
DMRS OF UE 2

FIG. 6A

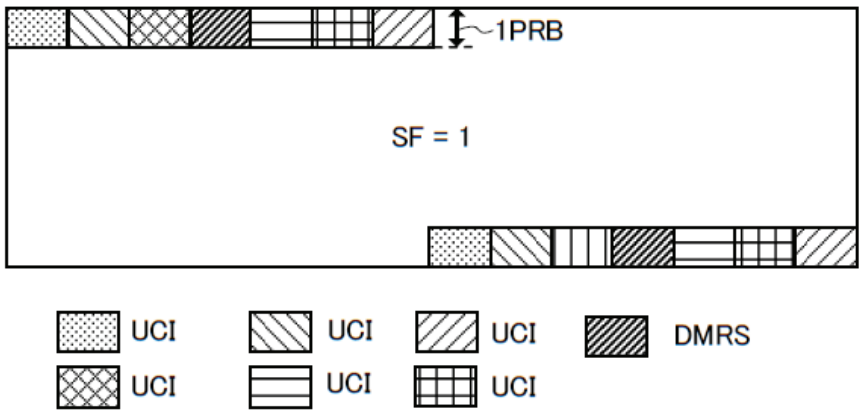


FIG. 6B

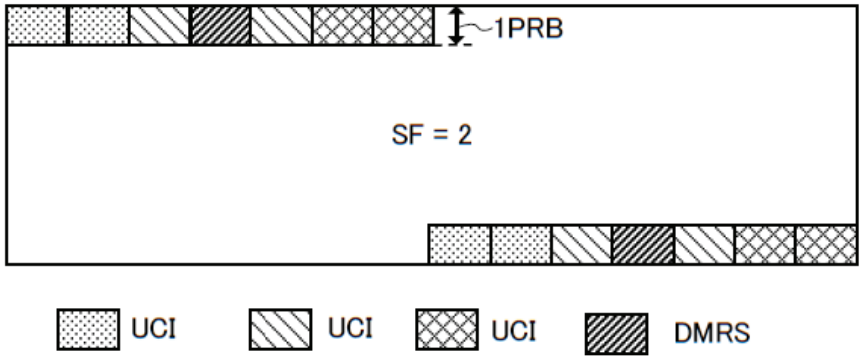
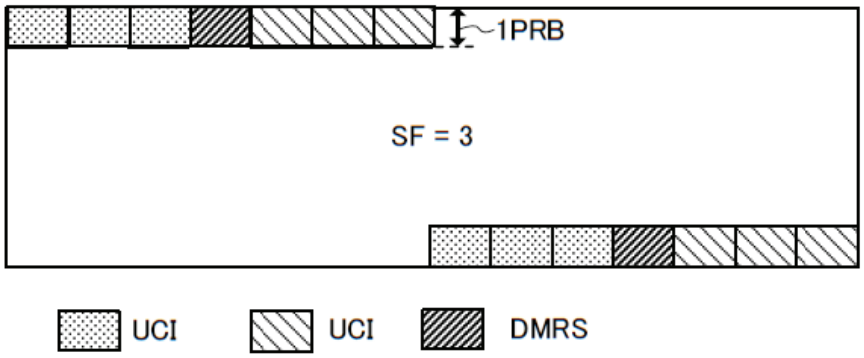


FIG. 6C



SF	PAYLOAD	MAXIMUM NUMBER OF UCI BITs
1	288	64
2	144	28
3	96	16

FIG. 7

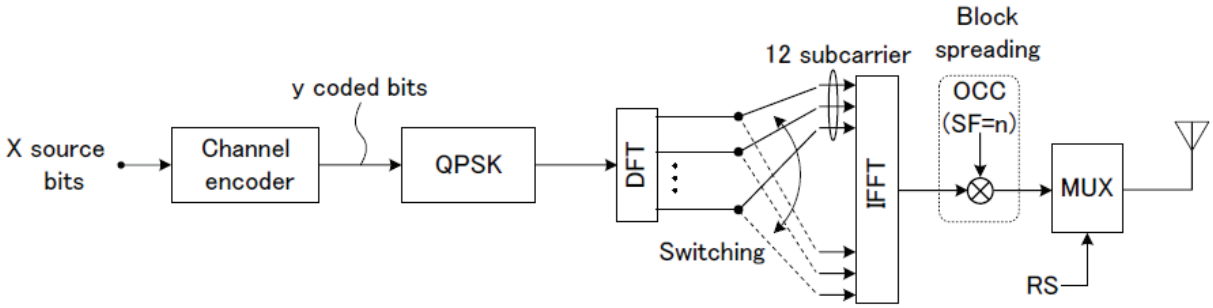

X source bits
Channel encoder
y coded bits
QPSK
DFT
12 subcarrier
Switching
IFFT
Block spreading
OCC (SF=n)
MUX
RS

FIG. 8

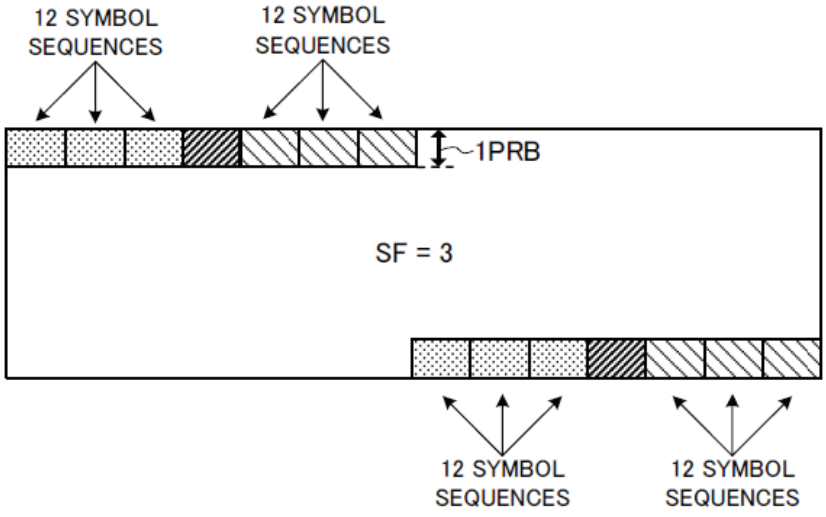

12 SYMBOL SEQUENCES
12 SYMBOL SEQUENCES
1PRB
SF = 3
12 SYMBOL SEQUENCES
12 SYMBOL SEQUENCES

FIG. 9

FIG. 10A

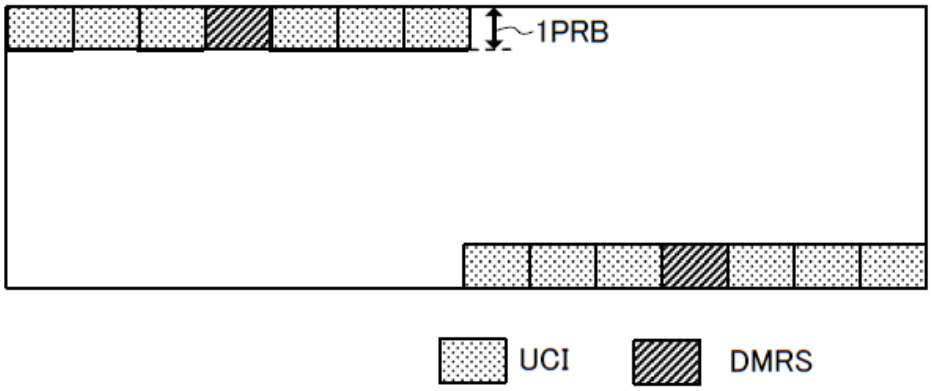


FIG. 10B

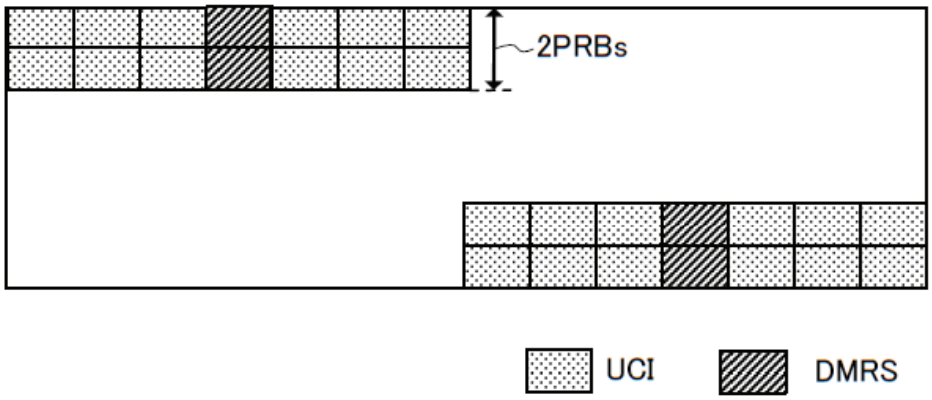
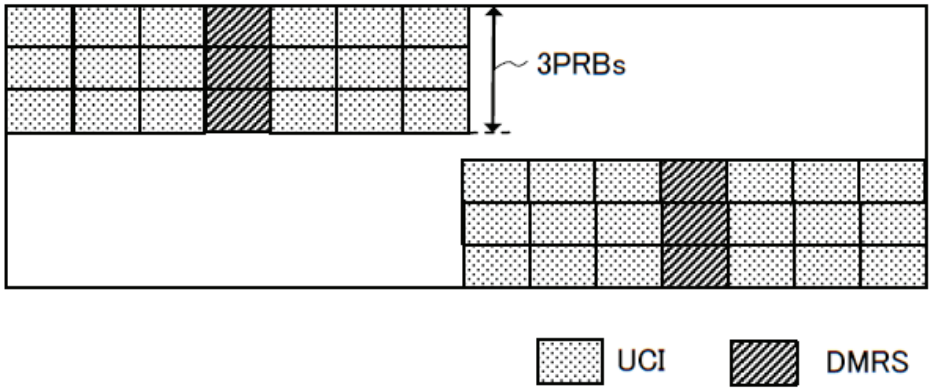


FIG. 10C



NUMBER OF PRBs	SF	PAYLOAD	MAXIMUM NUMBER OF UCI BITS
1	1	288	64
2	1	576	112
3	1	864	172

FIG. 11

FIG. 12A

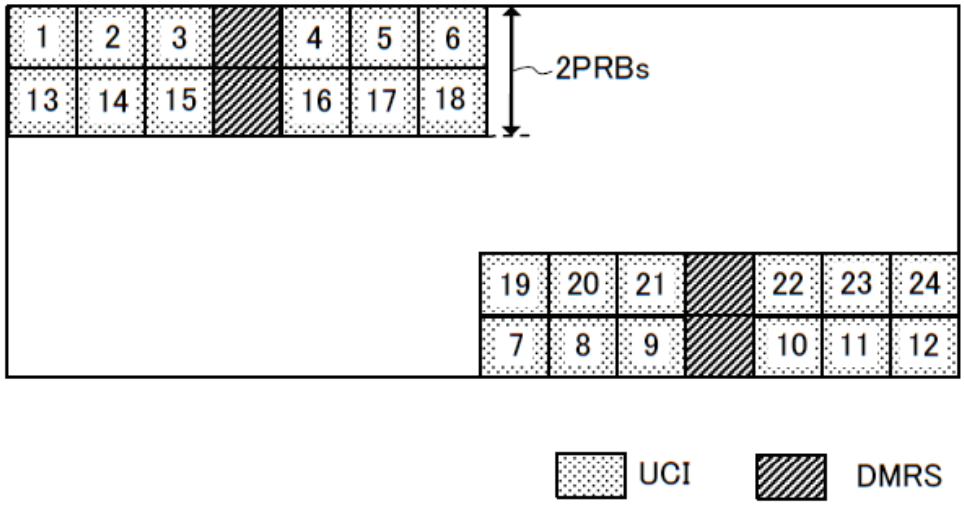
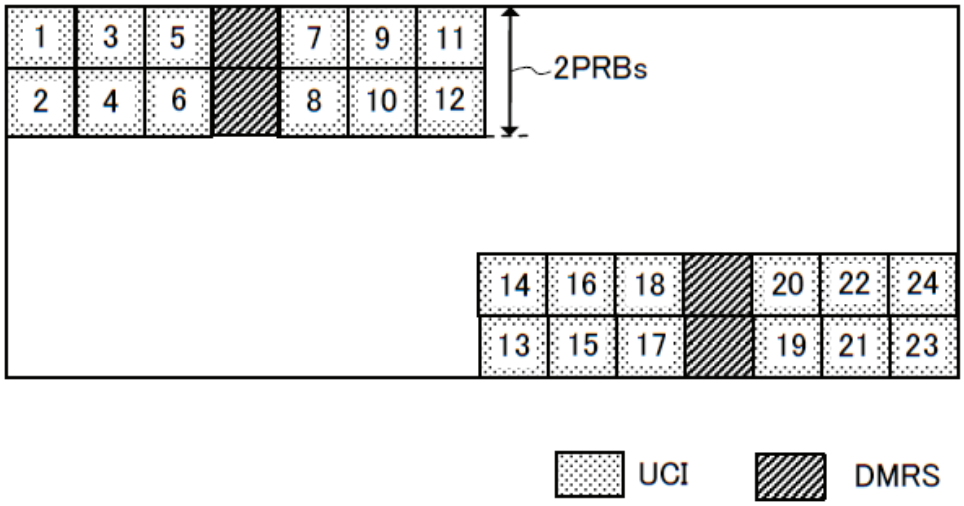


FIG. 12B



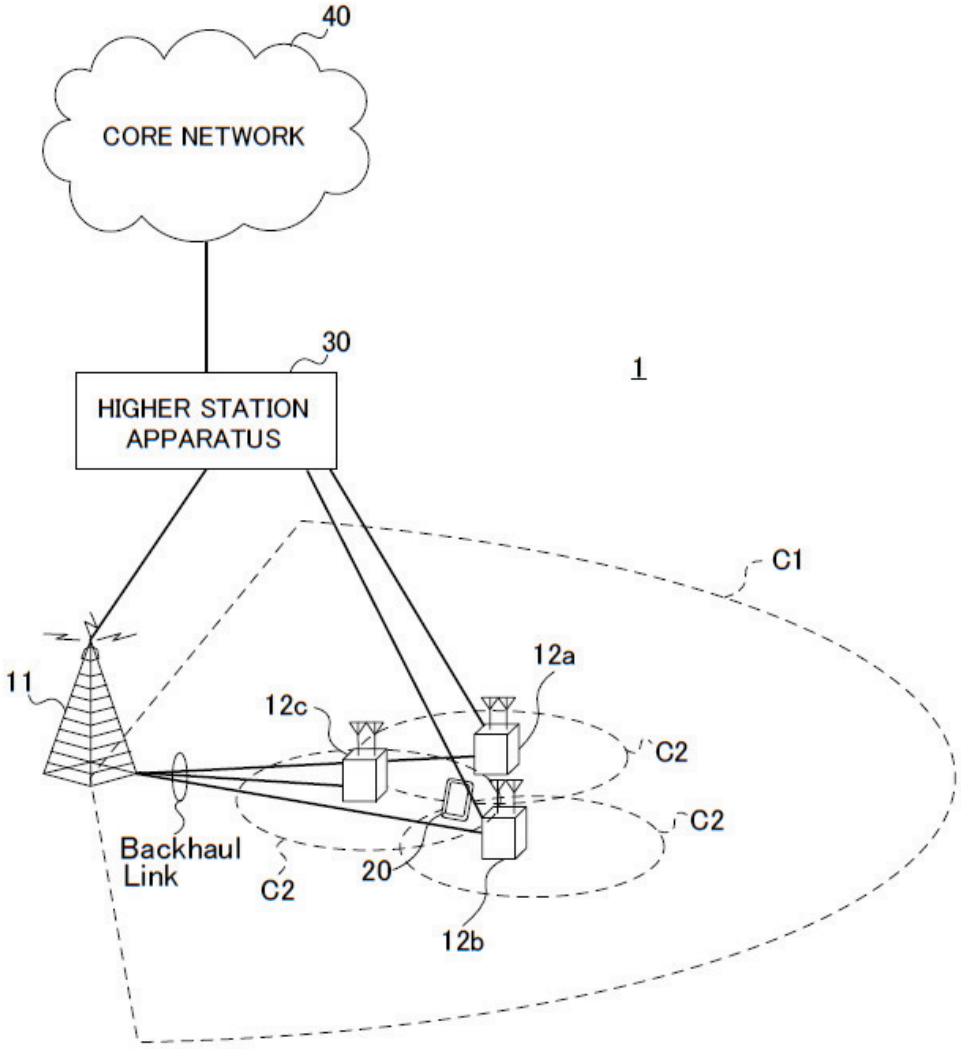

40
CORE NETWORK
30
HIGHER STATION APPARATUS
1
C1
11
12a
12c
C2
C2
Backhaul Link
C2
20
12b

FIG. 13

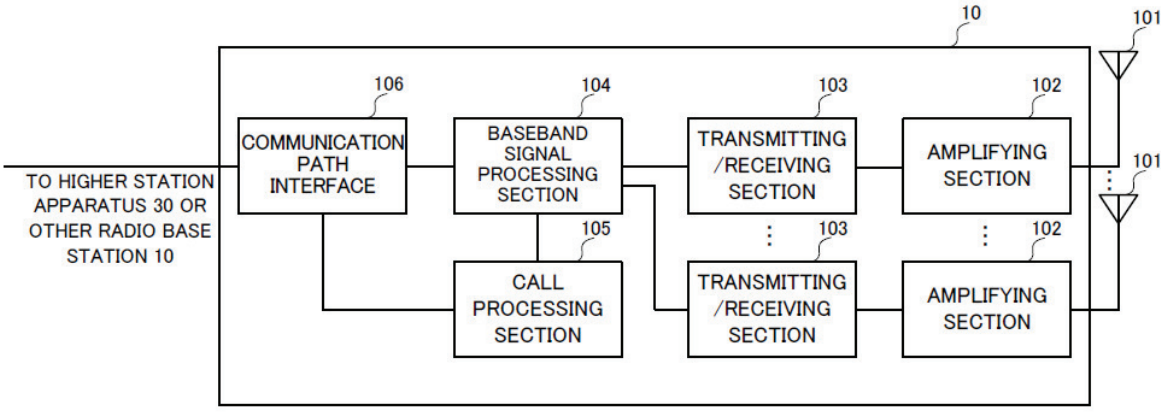

10
101
106
104
103
102
COMMUNICATION PATH INTERFACE
BASEBAND SIGNAL PROCESSING SECTION
TRANSMITTING /RECEIVING SECTION
AMPLIFYING SECTION
TO HIGHER STATION APPARATUS 30 OR OTHER RADIO BASE STATION 10
105
CALL PROCESSING SECTION
TRANSMITTING /RECEIVING SECTION
AMPLIFYING SECTION

FIG. 14

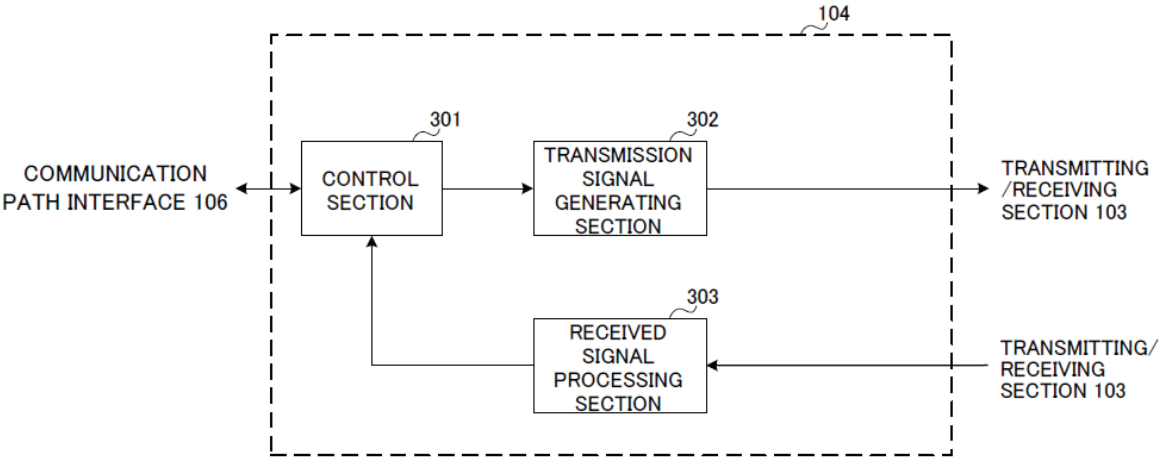

104
301
302
COMMUNICATION PATH INTERFACE 106
CONTROL SECTION
TRANSMISSION SIGNAL GENERATING SECTION
TRANSMITTING /RECEIVING SECTION 103
303
RECEIVED SIGNAL PROCESSING SECTION
TRANSMITTING/ RECEIVING SECTION 103

FIG. 15

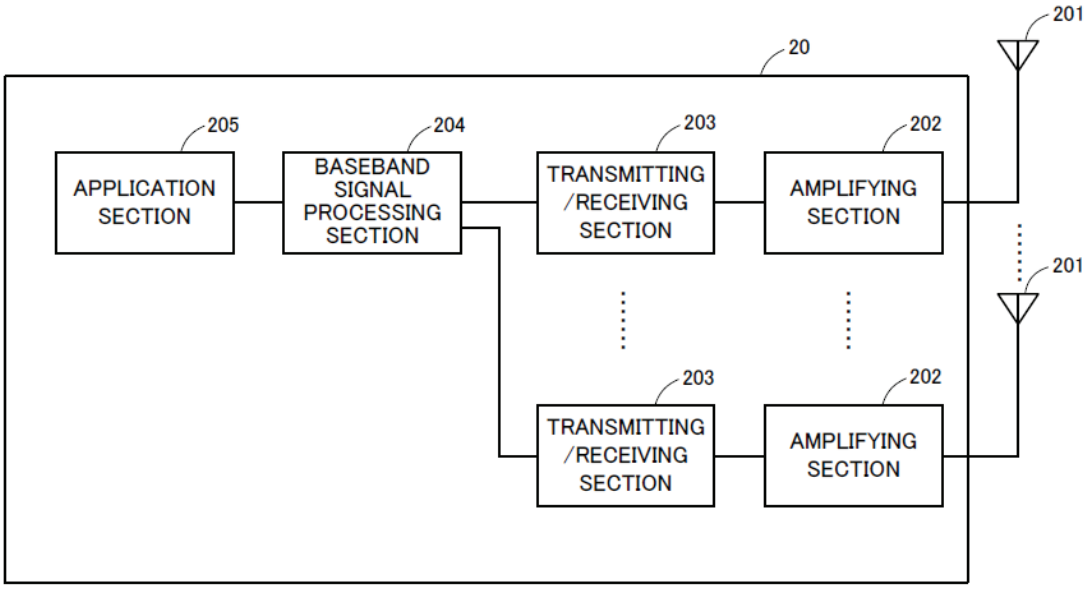

20
201
205
APPLICATION SECTION
204
BASEBAND SIGNAL PROCESSING SECTION
203
TRANSMITTING /RECEIVING SECTION
202
AMPLIFYING SECTION
201
203
TRANSMITTING /RECEIVING SECTION
202
AMPLIFYING SECTION

FIG. 16

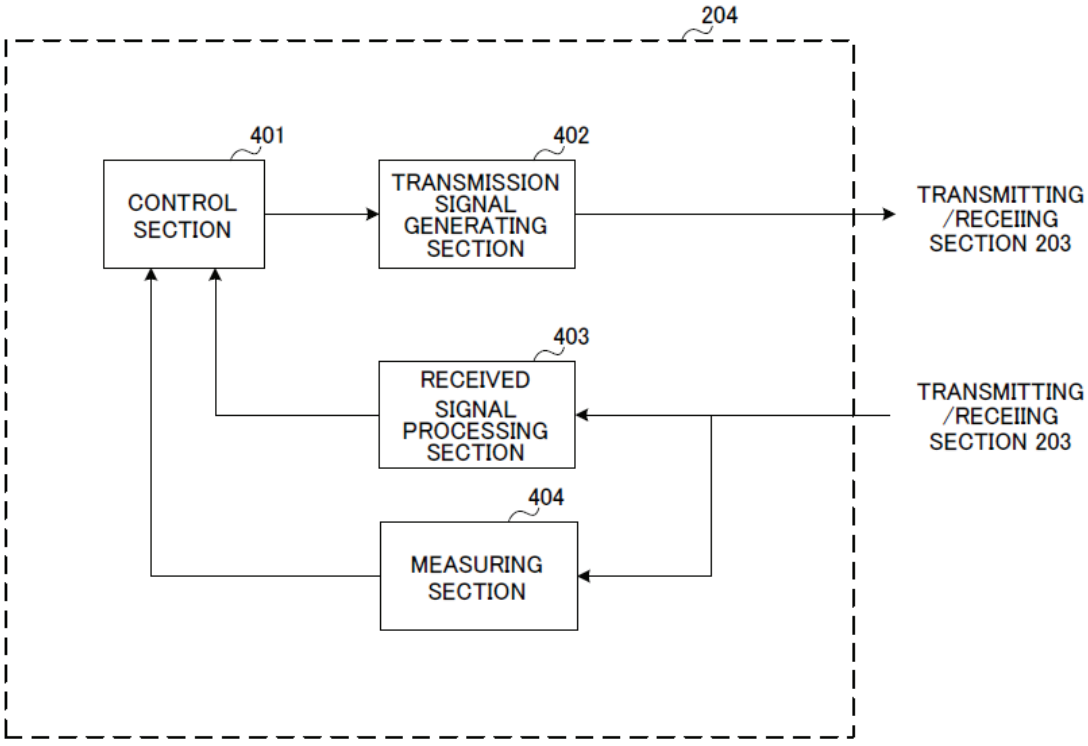

204
401
CONTROL SECTION
402
TRANSMISSION SIGNAL GENERATING SECTION
TRANSMITTING /RECEIING SECTION 203
403
RECEIVED SIGNAL PROCESSING SECTION
TRANSMITTING /RECEIING SECTION 203
404
MEASURING SECTION

FIG. 17