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**(54) METHOD FOR DISCRETELY INDICATING RESOURCE ALLOCATION INFORMATION AND
METHOD FOR REDUCING LOAD IN INDICATING RESOURCE ALLOCATION INFORMATION**

Abstract**1. Technical field pertaining to the invention described in the scope of claims**

The present invention relates to an OFDMA-based wireless communication system, and more specifically, relates to a method for indicating resource allocation information in an OFDMA wireless communication system.

2. Technical problem to be solved by the invention

The purpose of the present invention is to provide a method for discretely indicating resource allocation information in a wireless network system supporting OFMDA, irrespective of the previous resource allocation information.

3. Key details of the invention's resolution method

The present invention, wherein the method for indicating resource allocation information in a wireless network system supporting OFDMA comprises step 1 for defining at least one or more Allocation Units having different sizes and shapes, and indexing the entire resource region for each of the defined Allocation Units; and, step 2 for indicating the resource information allocated to each terminal in the wireless network system, through the predetermined Allocation Unit information and the index value of the predetermined Allocation Unit.

4. Important uses of the invention

The present invention is used in OFDMA, and the like.

Representative figure

FIG. 3

Keywords

OFDMA, resource allocation, Allocation Unit

Specification

Brief Description of Figures

FIG. 1 is a figure that shows the frame structure of a Wibro [sic: WiBro] or IEEE 802.16 system, as an example of the frame structure applied in an OFDMA system related to the present invention.

FIG. 2 is a descriptive illustration of the method for indicating the resource allocation information defined in Table 95 (/101) of IEEE 802.16-2004.

FIG. 3 is an illustration of the Allocation Units having different shapes and sizes allocated to the entire resource region and indexed according to the present invention.

FIG. 4 is a resource allocation region illustration to indicate the resource allocation region for the plurality of users of the present invention.

FIG. 5 is an illustration to describe the allocation modes according to an embodiment of the present invention.

FIGS. 6a to 6b are illustrations of the case in which the corresponding terminal receiving allocation of a resource previously transmitted, like MAP_IE, to describe the method for reducing load arising in the indication of resource allocation information, yet another embodiment of the present invention.

Detailed description of invention

Purpose of invention

Technical field to which the invention pertains and background art

The present invention relates to an OFDMA-based wireless communication system, and more specifically, relates to a method for indicating resource allocation information in an OFDMA wireless communication system.

Demand exists for high-speed, high-quality data transmission to support a variety of multimedia services of improved quality in next-generation mobile communication. Recently, research has been very active regarding the orthogonal frequency-division multiple access (OFDMA) scheme, one of the technologies for satisfying this demand.

In this OFDMA scheme, combination allocation of resources to each of the users is performed through a plurality of subcarriers (Sub-Carrier) (e.g., 512 or 1024) in the frequency domain, and through a plurality of time slots (20 to 30) in the time domain, thereby transmitting uplink and downlink data therethrough.

FIG. 1 is a figure that shows the frame structure of a Wibro [sic: WiBro] or IEEE 802.16 system, as an example of the frame structure applied in an OFDMA system related to the present invention.

As illustrated in FIG. 1, the entire frequency band is divided into a plurality of sub-bands (band: Band; hereinafter referred to as "Bands".) (101, 102, 103). Bands consist of a plurality of bins (Bin, hereinafter referred to as "Bins".) or tiles (Tile, hereinafter referred to as "Tiles". Not shown in FIG. 1.).

These Bins or Tiles comprise a plurality of subcarriers. Here, Bins consist of nine consecutive subcarriers in one OFDM symbol, and one pilot tone and eight data tones are present. In addition, the Tiles consist of three to six consecutive subcarriers, and two pilot tones and 16 data tones exist.

Moreover, the time domain, in other words, the symbol(s), are divided into a preamble region (11), a diversity region (12), and an AMC region (13).

Where, the preamble region (11) transmits base station class, synchronization information, channel estimation, and system information; the diversity region (12) is the resource allocation region allocated for mobile users; and, the AMC region (13) is the resource allocation region to increase transmission speed through frequency selective adaptive modulation for mostly stationary users.

In addition, a safety channel (14) is present to prevent overlap.

The above-described resource allocation structure is defined in Table 95 (/101) of IEEE 802.16-2004 regarding the DL(/UL)-MAP IE (Information Element) indicating resource allocation information, specifically for the AMC band.

Where, Table 95 (/101) of IEEE 802.16-2004 is as shown in <Table 1>.

[Table 1]

Syntax	Size	Notes
Compact_DL-MAP_IE () {		
DL-MAP Type =1	3 bits	
reserved	1 bit	Shall be set to zero
RCID_IE	variable	
N_{EP} code	4 bits	Code of encoder packet bits (see § 4.9.2.3.5)
N_{SCH} code	4 bits	Code of allocated subchannels (see § 4.9.2.3.5)
Nband	Nb-Band bits	Number of bands, 0 = use BITMAP instead
if (Nband == 0) {		
Band BITMAP	Nb-BITMAP bits	a-th LSB is 1 if a-th band is selected
} else {		
for (p=0; p<Nband; p++)		
Band Index	Nb-Index bits	Band selection
}		
Syntax	Size	Notes
Allocation Mode	2 bits	Indicates the subchannel allocation mode. 00 = same number of subchannels for the selected bands 01 = different number of subchannels for the selected bands 10 = total number of subchannels for the selected bands determined by N_{SCH} code and N_{EP} code 11 = reserved
reserved	2 bits	Shall be set to zero
if (Allocation Mode == 00){		
No. Subchannels	8 bits	
} else if (Allocation Mode == 01){		
for (p=0; p<band count; p++)		
No. Subchannels	8 bits	If Nband is 0, band count is the number of '1' in Band BITMAP. Otherwise band count is Nband.
}		
H-ARQ_Control_IE	variable	
CQICH_Control_IE	variable	
}		

Where, DL-MAP Type is a value for specifying the type of DL-MAP information element (IE). In addition, RCID_IE indicates the allocation of the information element. In addition, N_{EP} code and N_{SCH} code indicate the number of allocated subchannels, and instruct the coding and modulation method for DL burst. In addition, Nband indicates the band count, and if the band count is "0", the Bitmap is replaced. In addition, BandIndex [sic: Band Index] is a marker to identify individual Bands in the plurality of Bands.

In addition, the Allocation Mode will be described in somewhat more detail using FIG. 2.

FIG. 2 is a descriptive illustration of the method for indicating the resource allocation information defined in Table 95 (/101) of IEEE 802.16-2004.

As examined in <Table 1>, the method for indicating the resource allocation information defined in Table 95 (/101) of IEEE 802.16-2004 selects a Band, then designates the Allocation Mode (allocation mode), thereby indicating the resource allocation information.

The Allocation Mode consists of 2 bits and defines three types of modes.

In other words, it defines: a “00” mode for indicating that the same count is allocated to the subchannels of the selected band; a “01” mode for indicating that a different count is allocated to the subchannels of the selected band; and, a “10” mode for indicating that all subchannels of the band, decided and selected by the Nep code and Nsch code, have been allocated.

FIG. 2 (a) is an illustration of the “00” mode, examined by referring to FIG. 2 for these three types of modes.

As illustrated, it has four subchannels (21, 22, 23, 24) in one band, and each of the subchannels (21, 22, 23, 24) include regions (201-1, 201-2, 201-3) allocated to different users.

Where, Allocation Mode “00” indicates that newly allocated regions have been allocated at the same size to each of the subchannels. In other words, it indicates that regions (202-1, 202-2, 202-3, 202-4) of the same size for each of the subchannels (21, 22, 23, 24) have been linked to regions (201-1, 201-2, 201-3) allocated to other users, thereby being allocated.

In addition, FIG. 2 (b) is an illustration of the “01” mode.

As illustrated, it has four subchannels (21, 22, 23, 24) in one band, and each of the subchannels (21, 22, 23, 24) include regions (201-1, 201-2, 201-3) allocated to different users.

Where, Allocation Mode “01” indicates that newly allocated regions have been allocated at a different size to each of the subchannels. In other words, it indicates that regions (202-1, 202-2, 202-3, 202-4) of a different size for each of the subchannels (21, 22, 23, 24) have been linked to regions (201-1, 201-2, 201-3) allocated to other users, thereby being allocated.

In addition, FIG. 2 (c) is an illustration of the “10” mode.

As illustrated, it has four subchannels (21, 22, 23, 24) in one band, and each of the subchannels (21, 22, 23, 24) include regions (201-1, 201-2, 201-3) allocated to different users.

Allocation Mode “10” indicates that newly allocated regions have been allocated by completely filling the size of each of the subchannels decided by the Nep code and Nsch code. In other words, it indicates that the unoccupied regions of each subchannel (21, 22, 23, 24) for each of the subchannels (21, 22, 23, 24) are all sequentially filled (a, b, c, d).

However, the above-described method for indicating resource allocation information indicates the immediate sequential position at which the indicated resource allocation information follows the previous resource allocation information; therefore, there is a problem of decreased flexibility of resource allocation because blank spaces cannot be left between the resource allocation for each user.

In addition, it indicates the immediate sequential position in the previous resource allocation information; therefore, there is a problem in that it is dependent on the previous resource allocation information, thereby indication of resource allocation information must occur with all resource allocation information to date recognized.

Technical problem to be solved by the invention

The present invention has been proposed to resolve the above-described problems, and the purpose of the present invention is to provide a method for discretely indicating resource allocation information in a wireless network system supporting OFMDA, irrespective of the previous resource allocation information.

In addition, the present invention discretely indicates resource allocation information for individual users, and by doing so, the purpose of the present invention is to provide a method for indicating resource allocation information to provide flexibility in resource allocation.

In addition, the purpose of the present invention is to provide a method for reducing the load that arises in indicating allocation information for the corresponding resource allocation by indicating cases of a corresponding terminal being allocated the same resource as the previously transmitted MAP_{IE}.

Configuration and action of the invention

To achieve the above-described objective, the present invention, wherein the method for indicating resource allocation information in a wireless network system supporting OFDMA comprises step 1 for defining at least one or more Allocation Units having different sizes and shapes, and indexing the entire resource region for each of the defined Allocation Units; and, step 2 for indicating the resource information allocated to each terminal in the wireless network system, through the predetermined Allocation Unit information and the index value of the predetermined Allocation Unit.

In addition, the present invention, the method for indicating resource allocation information in the AMC region in a wireless network system supporting OFDMA, relating to the base station of the wireless network system allocating (N) resources for terminals within the base station comprises: step 1 for deciding whether to allocate the same resource allocation region as the previous (N-1) resource allocation region for a predetermined terminal within the base station; and, step 2 for indicating and transmitting, depending on the result of inspection of the step 1, that it is the same as the previous (N-1) resource allocation region, without indicating the resource allocation information of the corresponding terminal, if a terminal allocated the same resource allocation region is present.

Herein, a preferred embodiment of the present invention will be described in detail with reference to the accompanying figures. It should be noted that like elements in the figures are represented as like reference numerals and signs as much as possible even if they are indicated on different figures. Additionally, in the following description of the present invention, if it is judged that the detailed description of a related well-known function or configuration may unnecessarily obscure the essence of the present invention, the detailed description thereof will be omitted.

The indication of resource allocation information of the AMC region in the present invention defines Allocation Units having different sizes and shapes, and indexes the entire resource region for each of the Allocations Units, thereby the resource allocation information allocated to each of the users is indicated through the specific Allocation Unit and the index information of the corresponding Allocation Unit.

To this end, it first defines Allocation Units having different shapes and sizes, and must index the entire resource region for each of the Allocation Units; FIG. 3 is an illustration of this.

FIG. 3 is an illustration of the Allocation Units having different shapes and sizes allocated to the entire resource region and indexed according to the present invention.

FIGS. 3(a), 3(b), 3(c), and 3(d) are illustrations of the Allocation Units having different shapes and sizes allocated to the entire resource region and indexed according to the present invention. As illustrated, each of the Allocation Units may variously define these shapes and sizes. The Allocation Units of FIGS. 3(a), 3(b), 3(c), and 3(d) are merely illustrations to describe the present invention, and the invention is not limited thereto; usage may be done by defining suitable Allocation Units, depending on the operation of the system.

The Allocation Unit, which is the unit of resource allocation, may define using various types, depending on the time, frequency, code, direction of indexing, and the like.

First, in the case of time, the interval before the corresponding region may be divided into 1 slot, 1 symbol, or the like; and, in the case of frequency, may be divided into 1 Band, 1 bin, or the like. For the direction of indexing, may be divided into $\rightarrow$, $\downarrow$, or the like (in the case of $\downarrow$, when the band border is reached, $\rightarrow$).

The Allocation Units of FIGS. 3(a), 3(b), 3(c), and 3(d) are illustrated as consisting of one Band, one subcarrier, four subchannels, and one subchannel, respectively; and each is indicated as $\textcircled{a}$, $\textcircled{b}$, $\textcircled{c}$ and $\textcircled{d}$. In addition, it is illustrated that if the index value of each Allocation Unit is $\textcircled{a}$, it is indicated from $\textcircled{a}(0)$ to $\textcircled{a}(J-1)$; if it is $\textcircled{b}$, it is indicated from $\textcircled{b}(0)$ to $\textcircled{b}(K-1)$; if it is $\textcircled{c}$, it is indicated from $\textcircled{c}(0)$ to $\textcircled{c}(M-1)$; if it is $\textcircled{d}$, it is indicated from $\textcircled{d}(0)$ to $\textcircled{d}(N-1)$.

FIG. 4 is a resource allocation region illustration to indicate the resource allocation region for the plurality of users of the present invention.

As illustrated in FIG. 4, the resource allocation region for a plurality of users consists of a variety of shapes, like A(401), B(402), C(403), D(404), E(405), F(406), and G(407).

If the resource allocation region of FIG. 4 is indicated using the Allocation Unit of FIG. 3, B(402) or C(403) may simply indicate with one Allocation Unit, as in $\textcircled{b}(2)$ or $\textcircled{c}(8)$.

In addition, A(401) may indicate $\odot(0)$, or $\odot(1)$. In this case, it has a sequential resource allocation region, and may simply indicate by designating the first Allocation Unit index and the total number of Allocation Units.

In addition, D(404) may indicate as $\odot(26)$, $\odot(27)$, $\odot(34)$, $\odot(35)$, $\odot(42)$, or $\odot(43)$. In this case, it has a rectangular-shaped resource allocation region, and may simply indicate by designating the first Allocation Unit index and the last Allocation Unit index.

The DL(/UL)-MAP IE (Information Element) for indicating resource allocation information of the AMC band according to the present invention is as shown in <Table 2>.

[Table 2]

syntax	size	notes
Compact DL_MAP IE{		
DL_MAP Type	3 bits	Extension type
RCID_IE	variable	
Nep_code	4 bits	
Nsch_code	4 bits	
Nae	4 bits	
Same AUT	1 bit	
Same AM	1 bit	
reserved	2 bits	
If(Same AUT == 1){		
AUT	4 bits	
}		
If(Same AM == 1){		
AM	4 bits	
}		
for(i=0;i<Nae;i++){		
If(Same AUT == 1){		
AUT	4 bits	
}		
If(Same AM == 0){		
AM	4 bits	
}		
If(AM == 00){		
Allocation Unit Index	Lau1 bits	
else if(AM == 01){		
Start Allocation Unit Index	Lau1 bits	
Number of Allocation Units	Nau1 bits	
else if(AM == 10){		
Start Allocation Unit Index	Lau1 bits	
End Allocation Unit Index	Lau1 bits	
}		
}		
H-ARQ_Control_IE	variable	
CQICH_Control_IE	variable	
If(byte boundary){		
Padding Nibble		
}		
}		

Where, DL-MAP Type is a value for specifying the type of DL-MAP information element (IE).

In addition, RCID-IE indicates the allocation of the information element. In addition, Nep code and Nsch code indicate the number of allocated subchannels, and instruct the coding and modulation method for DL burst.

In addition, Nae (Number of Allocation Elements) indicates the allocation element (Allocation Element) count, and means that one or more physically separated subchannels can be allocated to the corresponding burst. In addition, each of the physically separated subchannels are indicated by one allocation element.

Comparing <Table 2> and <Table 1> above confirms that there is a difference between AUT and AM. In other words, the present invention is related to AUT and AM.

Where, AUT shows the Allocation Unit type, and is as illustrated in FIGS. 3(a) to 3(d).

Describing this in detail, first, “Same AUT (Allocation Unit Type)” is for defining whether all allocation elements use the same Allocation Unit type. In the embodiment of the present invention, if “0”, it defines usage of a different Allocation Unit type, and if “1”, it defines usage of the same Allocation Unit type.

In addition, “Same AM (Allocation Mode)” is for defining whether all allocation elements use the same allocation mode. In the embodiment of the present invention, if “0”, it uses a different allocation mode, and if “1”, it defines usage of the same allocation mode.

As described above, after defining “Same AUT” and “Same AM (Allocation Mode)”, if it is the same AUT, indicates a predefined value to indicate what type the corresponding AUT is.

In addition, it verifies whether it is the same allocation mode, and if it is the same allocation mode, indicates that allocation mode. If the allocation mode is “00”, it means that it is allocated to one Allocation Unit, and if it is “01”, it means that the Allocation Units are consecutively allocated, and if it is “10”, it means that the Allocation Units are allocated in a rectangular shape. This will be examined in detail through FIG. 5, which will be described herein.

In addition, if the allocation mode is “00”, it indicates the corresponding allocation region through the index value of the corresponding Allocation Unit.

In addition, if the allocation mode is “01”, it indicates the corresponding allocation region through the index value of the starting Allocation Unit and the total Allocation Unit count.

In addition, if the allocation mode is “10”, it indicates the corresponding allocation region through the index value of the starting Allocation Unit and the index value of the ending Allocation Unit.

FIG. 5 is an illustration to describe the allocation modes according to an embodiment of the present invention.

FIG. 5(a) illustrates that if the allocation mode is “00”, the region for desired allocation may indicate with one Allocation Unit; therefore, it indicates the corresponding region as “i”, which is the index value of the corresponding Allocation Unit (500).

FIG. 5(b) illustrates when the allocation mode is “01” and shows that the allocation region consists of consecutive Allocation Units (511, 512, 513). The allocation region uses index value “j” of the starting Allocation Unit (511) and the total Allocation Unit count of “3” to indicate this.

FIG. 5(c) illustrates when the allocation mode is “10” and shows that the allocation region consists of a plurality of Allocation Units allocated in a rectangular shape. The allocation region uses index value “k” of the starting Allocation Unit (520), and index value “k + 10” of the ending Allocation Unit (530) to indicate this.

An analysis of the overhead size compared with the method of <Table 1>, when the resource allocation information is indicated through the above-described method, is as follows.

In the 802.16 (1024FFT mode) and WiBro Standard, if subchannels a and b corresponding to 12 and 6 symbols, respectively, in 2 non-consecutive Band[s] among the 24 Bands, are allocated to one terminal,

through <Table 1>, which is the conventional method,

a total of 38 bits are needed = 4 bits to indicate Nband + 16 bits for the Band Index (8*2 bits) for a and b + 2 bits to express the Allocation Mode, and 16 bits (8*2 bits) to express the No. Subchannels.

Conversely, examining with the assumption that an Allocation Unit corresponding to 1 Band*6 symbols is present, in the present invention,

(first, if an assumption is made that a total of 18 symbols are used for DL_Band AMC, an Allocation Unit Index up to 72 (=24 band*3) is used; thus, it makes it possible to express one Allocation Unit Index with 7 bits.)

it becomes possible to express with 30 bits = 4 bits for indicating the Allocation Unit Type + 4 bits for Nae + the Allocation Unit corresponding to a (2 bits for the Allocation Mode + 7 bits for the Start Allocation Unit Index + 4 bits for the number of allocation units) + the Allocation Unit corresponding to b (2 bits for the Allocation Mode + 7 bits for the Allocation Unit Index).

As described above, a variety of methods may be considered for adoption in the conventional WiBro or IEEE 802.16 Standard (802.16-2004), for the present invention.

The first, is a method used by setting one new type for indicating the MAP_IE method of the present invention in one extension mode of the DL_MAP IE type or the UL_MAP IE type field of Table 87 of the IEEE 802.16 Standard (802.16-2004).

The second, is a method used by indicating the MAP_IE method of the present invention using a reserved value of the DL_MAP IE type and UL_MAP IE type fields of Table 87 of the IEEE 802.16 Standard (802.16-2004).

The third is a method used by indicating whether the present invention is used, using 1 bit of the reserved field of H-ARQ compact_DL-MAP IE of Table 95 of the IEEE 802.16 Standard (802.16-2004).

The fourth is a method used by newly defining Table 95 of the IEEE 802.16 Standard (802.16-2004) to ensure that indication is possible by including the present invention and the conventional scheme.

FIGS. 6a to 6b are illustrations of the case in which the corresponding terminal receiving allocation of a resource previously transmitted, like MAP_IE, to describe the method for reducing load arising in the indication of resource allocation information, yet another embodiment of the present invention.

FIG. 6a shows that the resource allocation region for a plurality of users consists of a variety of shapes, like A (401), B (402), C (403), D (404), E (405), F (406), and G (407).

After the above-described resource allocation, subsequent resource allocation considers cases of consisting of A' (601), B' (602), C' (603), D' (604), E' (605), F' (606), and G' (607), as illustrated in FIG. 6b. In this case, like letters denote like terminals, and “'” means new resource allocation.

Examining the resource region allocated to each of the terminals by referring to FIGS. 6a and 6b confirms that A, C, D, F, and G are allocated different resources; however, B (402) and B' (602), E (405) and E' (605) are allocated the same resource for the same terminal.

In this case, if the base station consecutively allocates a resource of the same region to the same terminal, in consecutively allocating resources to each of the terminals through a scheduling operation, the transmitting by continually indicating new resource allocation information up to (e.g., B (402) and B' (602), E (405) and E' (605)) unnecessarily increases the load of MAP for indicating the resource allocation information.

Therefore, by adding a reserved region, or the like, of Table 95, or the like, of the IEEE 802.16 Standard (802.16-2004) for the field for indicating that the same resource has been allocated, it is possible to reduce the unnecessary load in indicating the resource allocation information.

In addition, it is also possible to indicate this by newly setting “11” as the value for indicating same resource allocation, which is the value of AM of <Table 2> of the method for discretely indicating resource allocation information described above.

For the base station to determine that the same resource has been allocated to the same terminal, the base station may determine that the same resource has been allocated to the same terminal through comparison of the newly allocated MAP_IE, and the transmitted MAP_IE stored and scheduled.

As described above, the method of the present invention is embodied as a program, thus it may be stored on a recording medium (CD-ROM, RAM, floppy disk, hard disk, magneto-optical disk, or the like) in a computer-readable format.

A person skilled in the art pertaining to the technical field of the present invention, which has been described above, may make various substitutions, modifications, and changes without departing from the technical spirit of the present invention; thus, it shall not be limited by the aforementioned embodiment and accompanying figures.

Effect of the invention

The above-described present invention discretely indicates resource allocation information in a wireless network system supporting OFMDA, irrespective of the previous resource allocation information, thereby having an effect of providing flexibility in resource allocation.

In addition, the present invention has an effect of reducing the load that arises in indicating allocation information for the corresponding resource allocation by indicating cases of a corresponding terminal being allocated the same resource as the previously transmitted MAP_IE.

(57) Scope of claims

Claim 1.

A method for discretely indicating resource allocation information,

the method for indicating resource allocation information in a wireless network system supporting OFDMA (Orthogonal Frequency Division Multiple Access) comprising

step 1 for defining at least one or more Allocation Units having different sizes and shapes, and indexing the entire resource region for each of the defined Allocation Units; and

step 2 for indicating the resource information allocated to each terminal in the wireless network system, through the predetermined Allocation Unit information and the index value of the predetermined Allocation Unit.

Claim 2.

The method for discretely indicating resource allocation information of claim 1,

wherein the step 2 comprises,

step 3 for verifying whether resource information allocated to each of the terminals in the wireless network system is indicated, using the same Allocation Unit type;

step 4 for verifying whether resource information allocated to each of the terminals in the wireless network system is indicated, using the same allocation mode; and

step 5 for indicating the resource information depending on the allocation mode, using the index value of the predetermined Allocation Unit.

Claim 3.

The method for discretely indicating resource allocation information of claim 2,

characterized wherein the step 5,

when the allocation mode means that one Allocation Unit is allocated, indicates the corresponding allocation region through the index value of the corresponding Allocation Unit.

Claim 4.

The method for discretely indicating resource allocation information of claim 2,

characterized wherein the step 5,

when the allocation mode means that an Allocation Unit is consecutively allocated, indicates the corresponding allocation region through the index value of the starting Allocation Unit and the total Allocation Unit count used.

Claim 5.

The method for discretely indicating resource allocation information of claim 2,

characterized wherein the step 5,

when the allocation mode means that an Allocation Unit is allocated in a rectangular shape, indicates the corresponding allocation region through the index value of the starting Allocation Unit and the index value of the ending Allocation Unit.

Claim 6.

The method for discretely indicating resource allocation information of claim 2,

characterized wherein the step 5,

when the allocation mode means that the same resource allocation region is allocated as the previous resource allocation region for the corresponding terminal, does not indicate the resource allocation region.

Claim 7.

A method for reducing load in indicating resource allocation information,

the method for indicating resource allocation information in a wireless network system supporting OFDMA, relating to the base station of the wireless network system allocating (N) resources for terminals within the base station comprising

step 1 for deciding whether to allocate the same resource allocation region as the previous (N-1) resource allocation region for a predetermined terminal within the base station; and

step 2 for indicating and transmitting, depending on the result of inspection of the step 1, that it is the same as the previous (N-1) resource allocation region, without indicating the resource allocation information of the corresponding terminal, if a terminal allocated the same resource allocation region is present.

Figures

FIG. 1

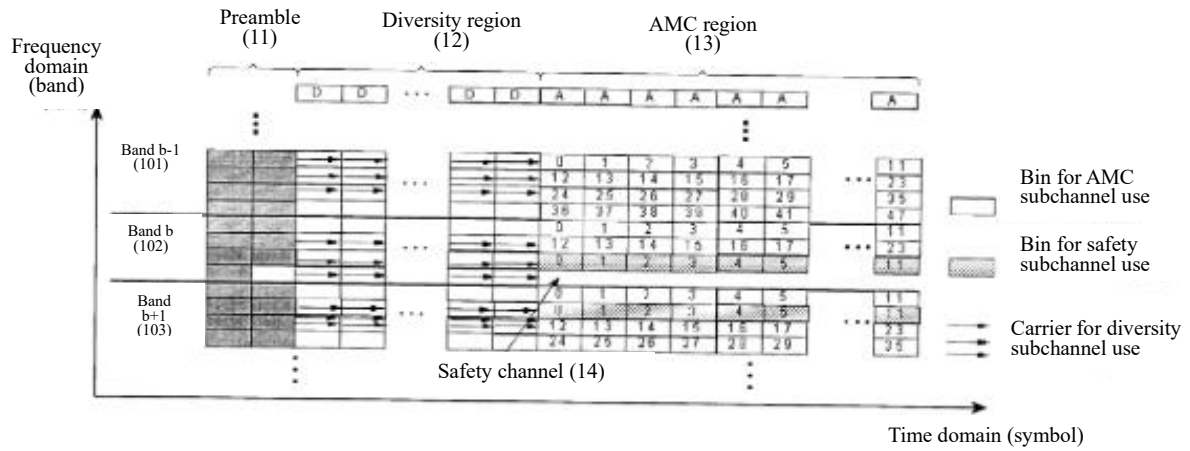


FIG. 2

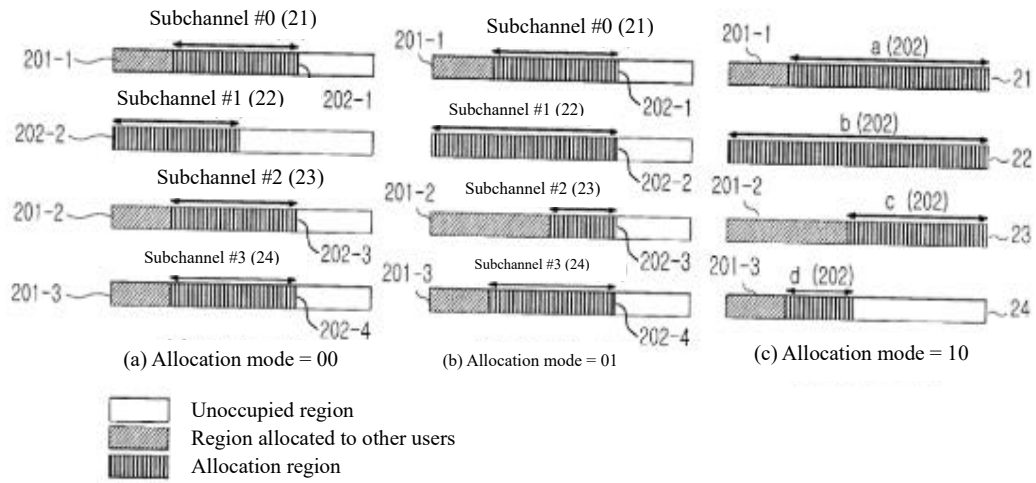


FIG. 3

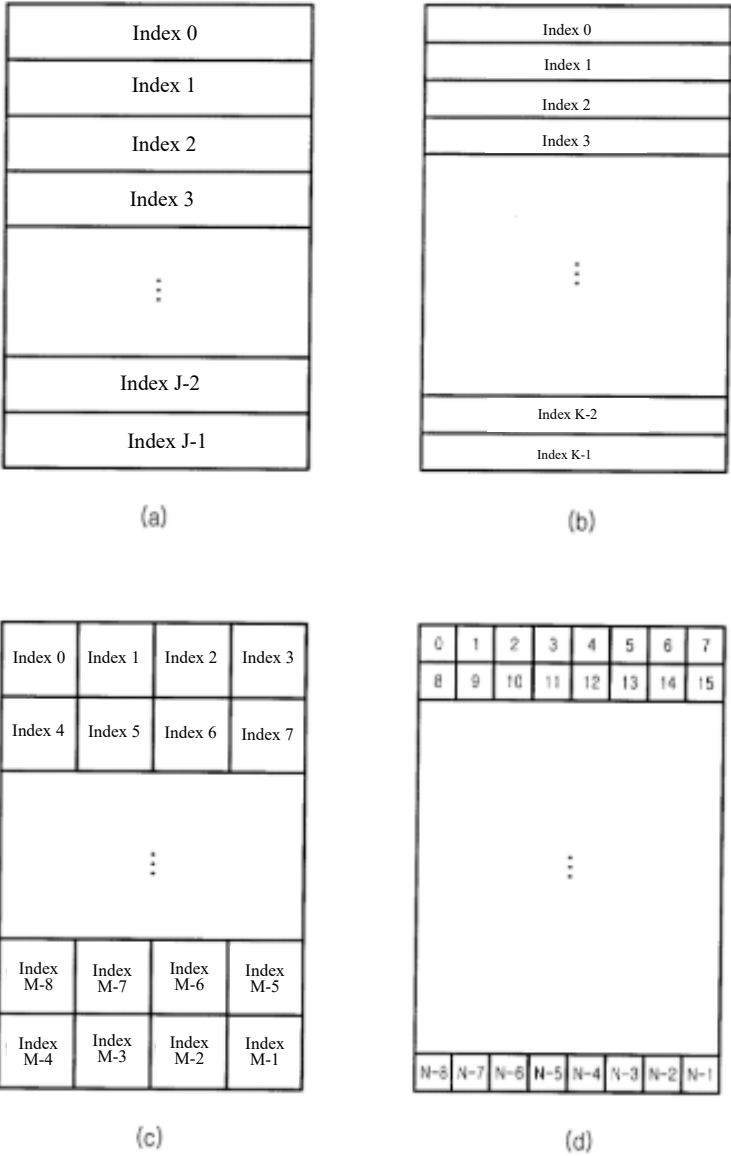


FIG. 4

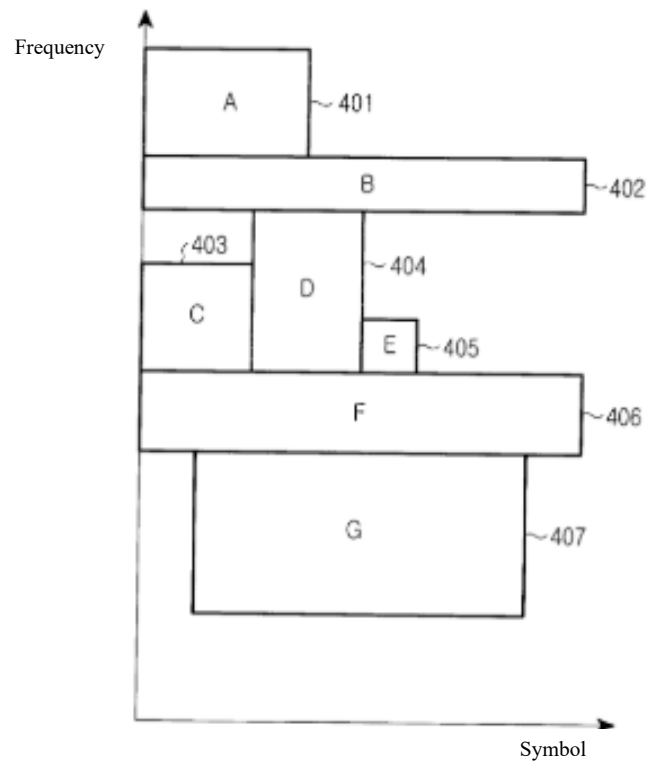
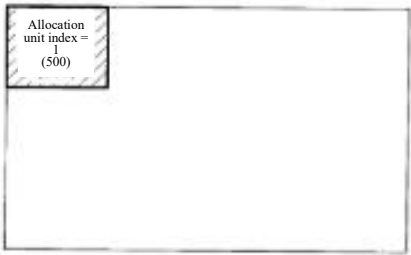
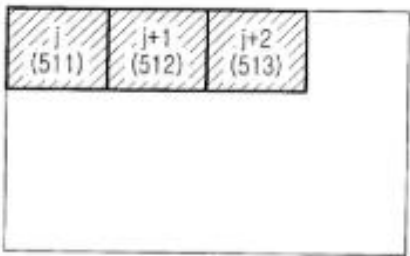


FIG. 5

(a) Allocation mode = 00



(b) Allocation mode = 01



Start allocation unit index = j
Allocation unit count = 3

(c) Allocation mode = 10

k (520)	k+1 (521)	k+2 (522)	k+3 (523)
k+4 (524)	k+5 (525)	k+6 (526)	k+7 (527)
k+8 (528)	k+9 (529)	k+10 (530)	k+11 (531)

Start allocation unit index = k
End allocation unit index = k+10

FIG. 6a

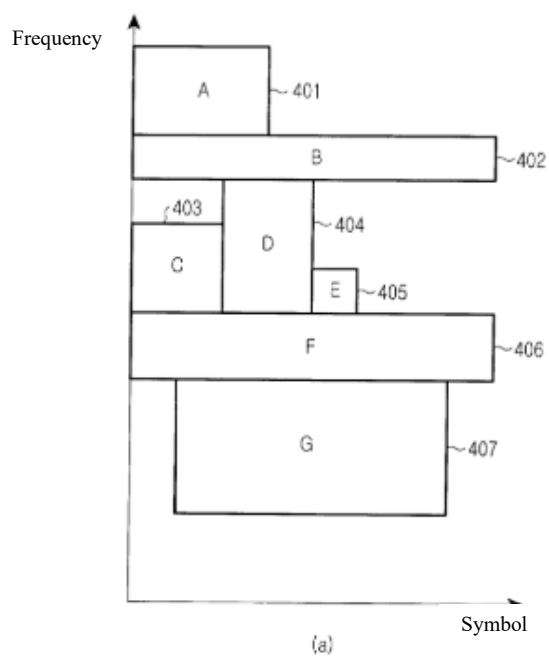


FIG. 6b

