

## 5 Documents

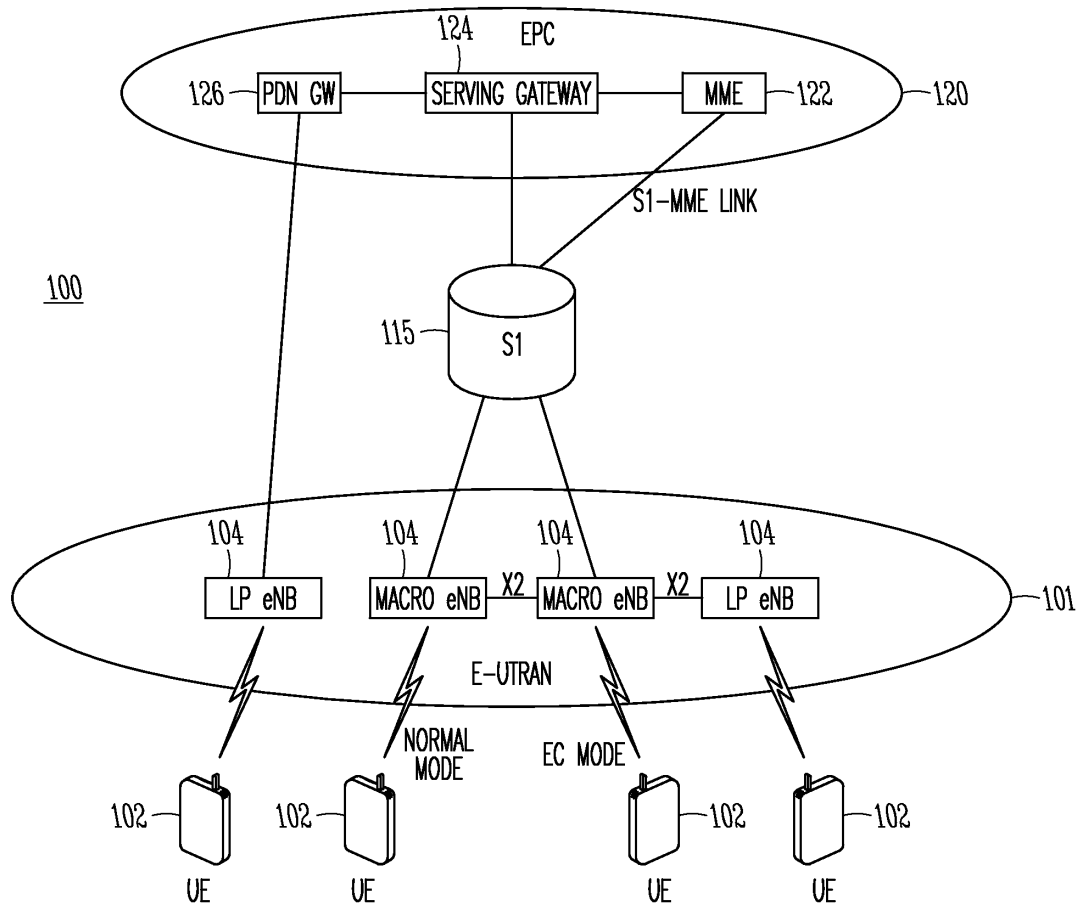
| Publication numbers             | Title                                                                                  | Current assignees            |
|---------------------------------|----------------------------------------------------------------------------------------|------------------------------|
| <a href="#">EP3257308 A1</a>    | Device, system and method employing unified flexible 5g air interface                  | INTEL                        |
| <a href="#">EP2982076 A2</a>    | Epdccch common search space design for one or more carrier types                       | INTERDIGITAL PATENT HOLDINGS |
| <a href="#">WO2019137311 A1</a> | Resource grid offset indication in mixed numerologies                                  | HUAWEI                       |
| <a href="#">EP3552329 A1</a>    | Techniques for unified synchronization channel design in new radio                     | QUALCOMM                     |
| <a href="#">EP2683098 A2</a>    | Method and apparatus for searching control information by terminal in multinode system | LG ELECTRONICS               |

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**Title**

(EP3257308)

Device, system and method employing unified flexible 5g air interface

**Images****Publication numbers with kind code & date**

|                               |    |            |               |
|-------------------------------|----|------------|---------------|
| <a href="#">EP3257308</a>     | A4 | 2018-11-14 | EP3257308     |
| <a href="#">US20180007673</a> | A1 | 2018-01-04 | US20180007673 |
| <a href="#">EP3257308</a>     | A1 | 2017-12-20 | EP3257308     |
| <a href="#">CN107210810</a>   | A  | 2017-09-26 | CN107210810   |
| <a href="#">WO2016/130175</a> | A1 | 2016-08-18 | WO2016130175  |

**Abstract**

(EP3257308)

An eNodeB (eNB), user equipment (UE) and method of providing a flexible Radio Access Technology (FRAT) are generally described. The information (resource allocation, partition information and numerology) of at least one of a plurality of RATs used by the eNB is provided to a UE. Each RAT has a flexible subcarrier spacing and symbol duration, which are integer multiples of a base subcarrier spacing and symbol duration, and is associated with at least one of different temporal and frequency resources. The symbol and/or frame structure of each RAT are independent. A Transmission Time Interval (TTI) boundary between the RATs is common, and the RATs comprise a common reference TTI duration. The information of the RATs is provided either via a different RAT than the RAT used by the UE for communication or via a dedicated carrier in the RAT used by the UE for communication.

**Inventors**

FWU JONG-KAE

XIONG GANG

**Latest standardized assignees - inventors removed**

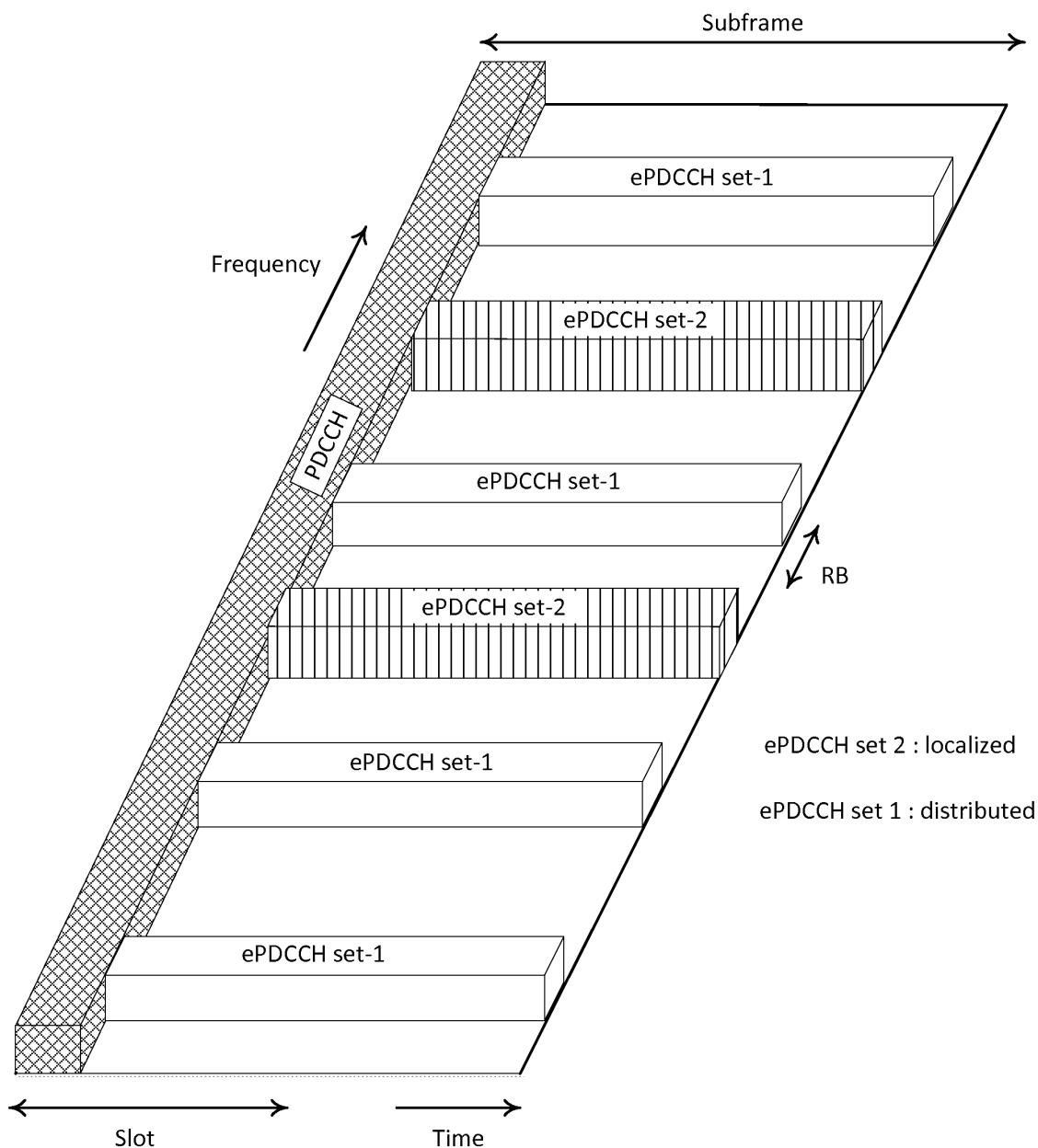
INTEL

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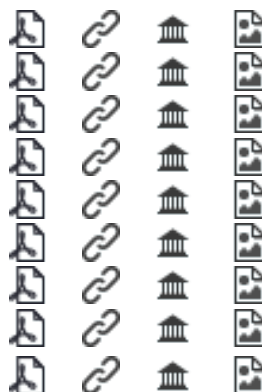
**Title**

(EP2982076)

Epdcc common search space design for one or more carrier types

**Images****Publication numbers with kind code & date**

|                               |    |            |               |
|-------------------------------|----|------------|---------------|
| <a href="#">CN110224799</a>   | A  | 2019-09-10 | CN110224799   |
| <a href="#">EP3509240</a>     | A1 | 2019-07-10 | EP3509240     |
| <a href="#">TW201921962</a>   | A  | 2019-06-01 | TW201921962   |
| <a href="#">CN105075170</a>   | B  | 2019-05-03 | CN105075170B  |
| <a href="#">US20160043849</a> | A1 | 2016-02-11 | US20160043849 |
| <a href="#">EP2982076</a>     | A2 | 2016-02-10 | EP2982076     |
| <a href="#">CN105075170</a>   | A  | 2015-11-18 | CN105075170   |
| <a href="#">TW201507497</a>   | A  | 2015-02-16 | TW201507497   |
| <a href="#">WO2014/165678</a> | A3 | 2014-11-27 | WO2014165678  |



WO2014/165678

A2 2014-10-09

WO2014165678

**Abstract**

(EP2982076)

Embodiments contemplate enhanced physical downlink control channel (EPDCCH). A user equipment (UE) or a wireless transmit/receive unit (WTRU) may receive a first type (e.g., type 1) EPDCCH common search space (CSS) subframe for example is a subset of subframes. The UE or WTRU may monitor first type downlink control information (DCI), for example perhaps within the first type EPDCCH CSS subframe, among other scenarios. A broadcast channel (e.g. MIB) may be received in the first type EPDCCH CSS. The UE or the WTRU may receive configuration information for a second type (e.g., type 2) EPDCCH CSS, for example from the first type EPDCCH CSS. A system information block (SIB) may be received in the second type EPDCCH CSS. The UE or the WTRU may monitor a second type DCI, for example perhaps in the second type EPDCCH CSS.

**Inventors**

LEE MOON-IL

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**Latest standardized assignees - inventors removed**

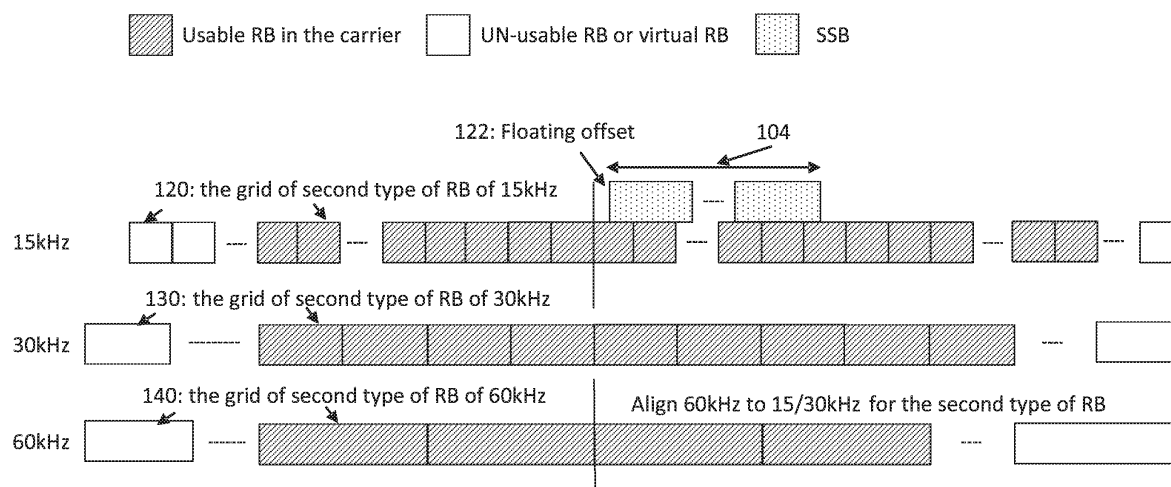
INTERDIGITAL PATENT HOLDINGS

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**Title**

(WO2019137311)

Resource grid offset indication in mixed numerologies

**Images****Publication numbers with kind code & date**

WO2019/137311

A1 2019-07-18

WO2019137311



US20190215216

A1 2019-07-11

US20190215216

**Abstract**

(WO2019/137311)

Systems and methods are provided for configuring an alignment between various resource grids. A base station transmits alignment information between a first resource grid or a first transmission using the first resource grid, and a second resource grid and a third resource grid. The first resource grid uses a first sub-carrier spacing (SCS) from a first set of SCSs, the second resource grid uses a second SCS from a second set of SCSs, the third resource grid uses a third SCS from the second set of SCSs. The base station transmits a synchronization sequence block (SSB) using the first resource grid, and the base station transmits a first physical downlink shared channel (PDSCH) in assigned resource blocks using at least one of the second resource grid and the third resource grid. A user equipment receives the alignment information, and determines the resource grids based on the alignment information so as to be able to receive the transmitted resource

blocks.

**Inventors**

ABDOLI JAVAD

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**Latest standardized assignees - inventors removed**

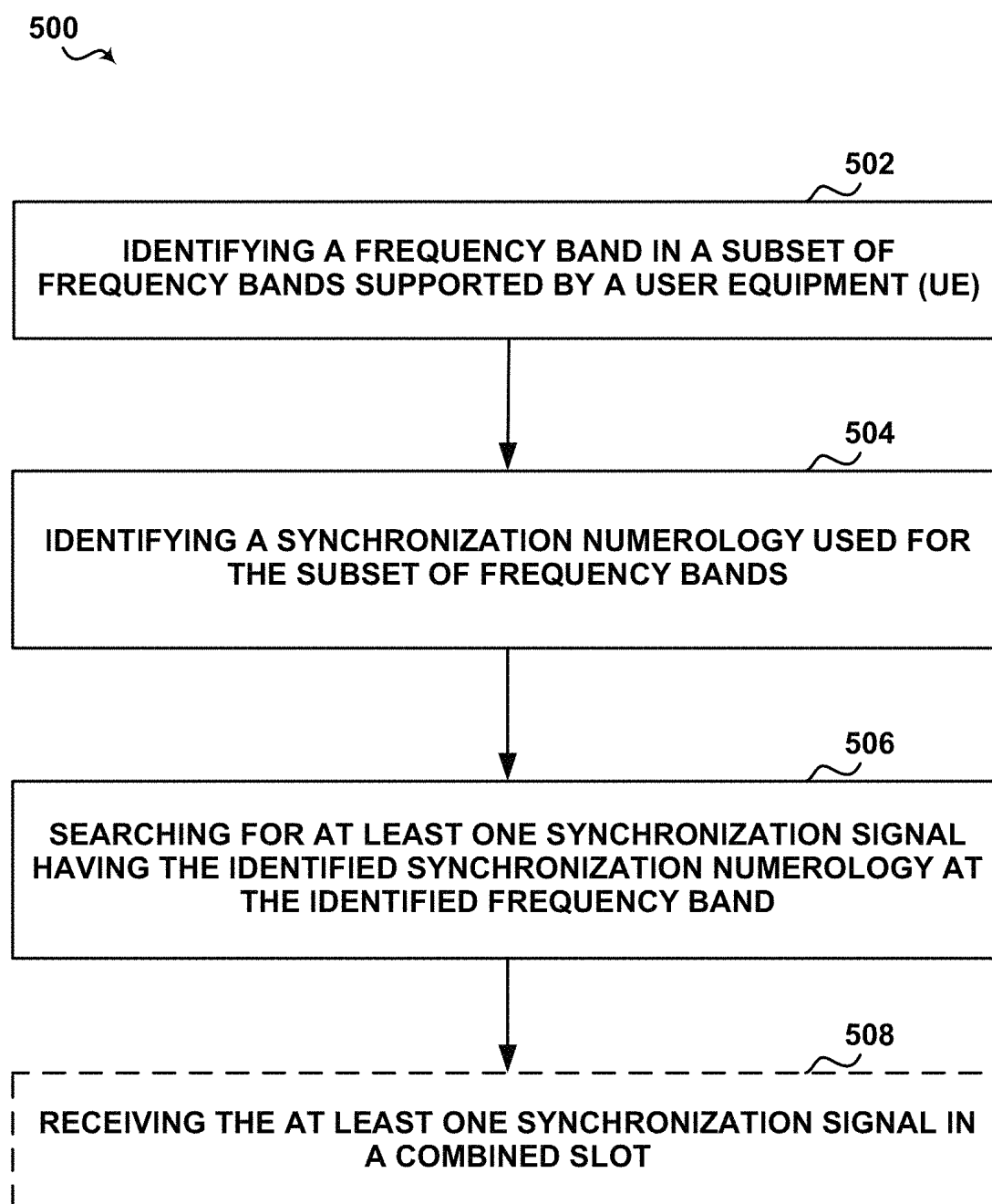
HUAWEI

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**Title**

(EP3552329)

Techniques for unified synchronization channel design in new radio

**Images****Publication numbers with kind code & date**

[EP3552329](#)

A1 2019-10-16

EP3552329

[CN110036582](#)

A 2019-07-19

CN110036582



|                                |    |            |                |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
|--------------------------------|----|------------|----------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <a href="#">US20190222409</a>  | A1 | 2019-07-18 | US20190222409  |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| <a href="#">IN201947017182</a> | A  | 2019-06-14 | IN201947017182 |  |  |  |  |
| <a href="#">US10250380</a>     | B2 | 2019-04-02 | US10250380     |  |  |  |  |
| <a href="#">TW201830913</a>    | A  | 2018-08-16 | TW201830913    |  |  |  |  |
| <a href="#">WO2018/111864</a>  | A1 | 2018-06-21 | WO2018111864   |  |  |  |  |
| <a href="#">US20180167195</a>  | A1 | 2018-06-14 | US20180167195  |  |  |  |  |

**Abstract**

(EP3552329)

Various aspects described herein relate to techniques for synchronization channel design and signaling in wireless communications systems (e.g., a 5th Generation (5G) New Radio (NR) system). In an aspect, a method includes identifying a frequency band supported by a user equipment (UE), identifying one or more frequency locations based on the identified frequency band, and the one or more frequency locations are a subset of synchronization raster points used for synchronization signal transmission. The method further includes searching for at least one synchronization signal based on the one or more identified frequency locations.

**Inventors**

LY HUNG

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**Latest standardized assignees - inventors removed**

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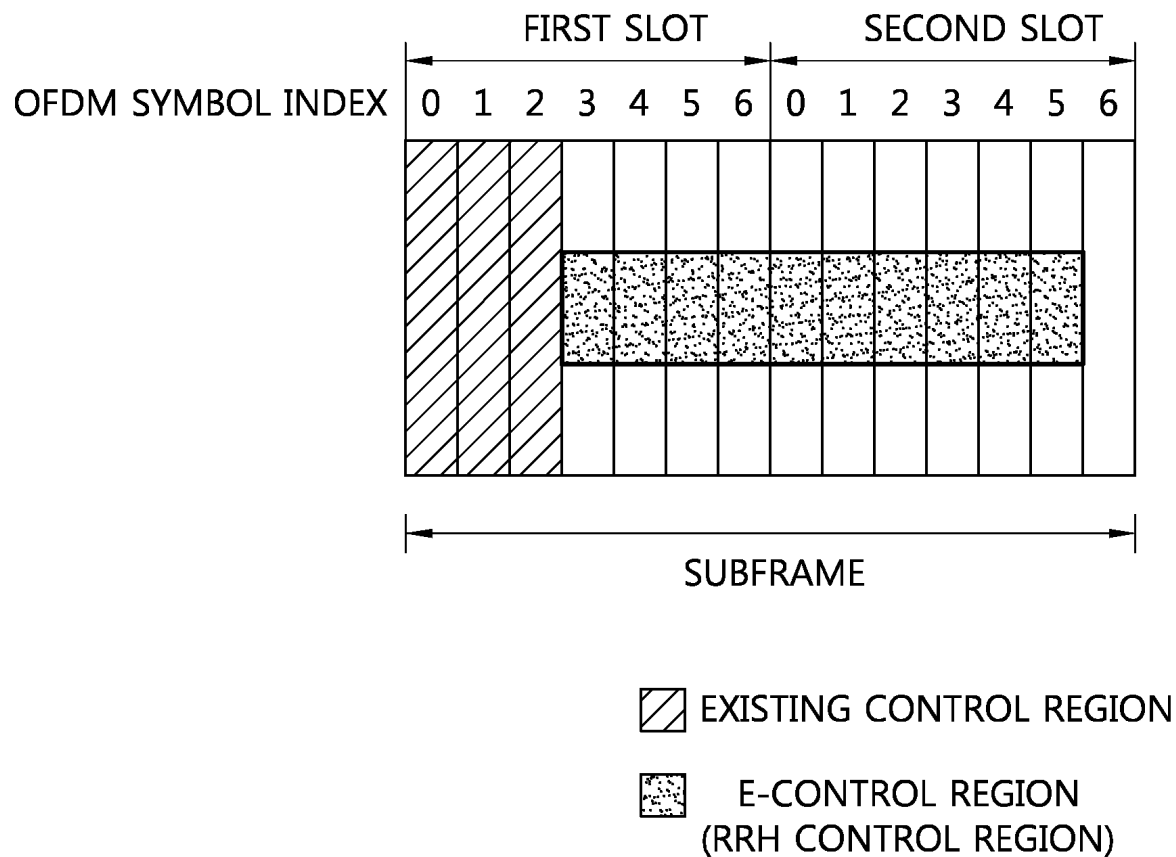
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**Title**

(EP2683098)

Method and apparatus for searching control information by terminal in multinode system

**Images**



### Publication numbers with kind code & date

|               |    |            |               |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
|---------------|----|------------|---------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| EP2683098     | B1 | 2019-05-15 | EP2683098     |  |  |  |  |
| US9923659     | B2 | 2018-03-20 | US9923659     |  |  |  |  |
| CN106027220   | A  | 2016-10-12 | CN106027220   |  |  |  |  |
| CN103404046   | B  | 2016-09-07 | CN103404046B  |  |  |  |  |
| US9432138     | B2 | 2016-08-30 | US9432138     |  |  |  |  |
| KR101555112   | B1 | 2015-10-01 | KR101555112   |  |  |  |  |
| JP5698390     | B2 | 2015-02-20 | JP5698390     |  |  |  |  |
| EP2683098     | A4 | 2015-01-07 | EP2683098     |  |  |  |  |
| JP2014511056  | A  | 2014-05-01 | JP2014511056  |  |  |  |  |
| EP2683098     | A2 | 2014-01-08 | EP2683098     |  |  |  |  |
| US20140003349 | A1 | 2014-01-02 | US20140003349 |  |  |  |  |
| US20140003379 | A1 | 2014-01-02 | US20140003379 |  |  |  |  |
| CN103404046   | A  | 2013-11-20 | CN103404046   |  |  |  |  |
| KR20130119484 | A  | 2013-10-31 | KR20130119484 |  |  |  |  |
| KR20130116350 | A  | 2013-10-23 | KR20130116350 |  |  |  |  |
| WO2012/118269 | A3 | 2012-10-26 | WO2012118269  |  |  |  |  |
| WO2012/118269 | A2 | 2012-09-07 | WO2012118269  |  |  |  |  |
| WO2012/118270 | A1 | 2012-09-07 | WO2012118270  |  |  |  |  |

## Abstract

(EP2683098)

Provided is a method for searching control information by a terminal in a multimode system, comprising a plurality of nodes and a base station, which is connected to and can control each of the plurality of nodes. The method comprises the following steps: receiving search space indication information from the base station; and searching for the control information within a wireless resource region which is indicated by the search space indication information, wherein the search space indication information is information which indicates a first search space or a second search space, the first search space being a wireless region in which a first type terminal, which is operated by a first radio access technology

(RAT), searches for the control information, and the second search space being a wireless region in which a second type terminal, which is operated by a second RAT, searches for the control information, wherein the terminal is the second type terminal.

**Inventors**

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